# Wilderness and Remote First Aid

Instructor's Manual

American Red Cross

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# Wilderness and Remote First Aid

## Instructor's Manual


With Contributions by:

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Kent State University



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Content in the *Wilderness and Remote First Aid Instructor's Manual* is based on the *2010 Boy Scouts of America (BSA) Wilderness First Aid Curriculum and Doctrine Guidelines* and reflects the 2010 Consensus on Science for CPR and Emergency Cardiovascular Care and the 2010 Guidelines for First Aid. The *Wilderness First Aid Curriculum and Doctrine Guidelines* were developed through a task force facilitated by the BSA. The Wilderness and Remote First Aid course carefully follows these guidelines.

The emergency care procedures outlined in this manual reflect the standard of knowledge and accepted emergency practices in the United States at the time this manual was published. It is the reader's responsibility to stay informed of changes in the emergency care procedures.



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# Section 1: Administration

This manual is the main resource for Wilderness and Remote First Aid instructors. In addition to this manual, you should be familiar with the *American Red Cross Wilderness and Remote First Aid Emergency Reference Guide* and *Wilderness and Remote First Aid Pocket Guide* before you teach.

## COURSE PURPOSE

The primary purpose of the American Red Cross Wilderness and Remote First Aid course is to provide individuals a foundation of first aid principles and skills to be able to respond to emergencies and give care in areas that do not have immediate emergency medical services (EMS) response, such as wilderness and remote environments, including urban disasters, such as earthquakes and hurricanes.

## COURSE PREREQUISITES

Current adult CPR/AED certification is a prerequisite for participation in the Wilderness and Remote First Aid course. Participants must also be 14 years of age on or before the last scheduled session of the course.

## COURSE PARTICIPANTS

Participants may represent a broad range of backgrounds. Levels of education and experience may differ. Wilderness first aid is the assessment of and treatment given to an injured or ill person in a remote environment where definitive care by a health care provider and/or rapid transport is not readily available. Remote environments may also be created during disasters and therefore this course is valuable for those preparing to respond to such situations personally or with an organization, such as the American Red Cross. In this course, participants will learn how to prevent, recognize and respond to first aid emergencies based on their training. This course serves to meet the health and safety needs of those who are interested in the outdoors, live or work in remote areas or are preparing to respond to disaster locations. Participants could include hikers and backpackers, scout leaders and older scouts, boaters, farm workers, utility workers in remote areas, forest rangers, law enforcement and rescue crews, and disaster response team members.

## COURSE INSTRUCTORS

American Red Cross Wilderness and Remote First Aid instructors are authorized to teach the American Red Cross Wilderness and Remote First Aid course (Introduction and Lessons 1 through 17). Course instructors should be familiar with or have a background in wilderness and remote environments. Follow state regulations and local protocols for instructor requirements.

The Red Cross offers a variety of Health and Safety courses that Wilderness and Remote First Aid instructors are eligible to teach. Red Cross courses and presentations for youth and families include:

- Water Safety Presentations.
- First Aid for Youth
- First Aid and CPR for Students
- Family Caregiving.
- First Aid and Preparedness (Be Red Cross Ready).

### Co-Instructors and Instructor Aides

With the number of activities and in-depth scenarios, a lower instructor-to-participant ratio is helpful. For courses with large numbers of participants, co-instructors or instructor aides can enhance the course experience. Co-instructors and instructor aides offer several benefits:

- More help with logistics (scenario setup, equipment, food, demonstrations)
- Added safety for the group and individuals

Co-instructors must be currently authorized Wilderness and Remote First Aid instructors. Instructor aides must be currently certified in Wilderness and Remote First Aid. Co-instructors and instructor aides should agree to facilitate and be orientated to course goals, logistics and learning methodologies.

## COURSE LENGTH

The Wilderness and Remote First Aid course is designed to be taught in approximately 16 hours.* These estimates are based on:

- Teaching only the required lessons and activities.
- Six to 10 participants per instructor.
- The experience and abilities of participants.
- The experience and abilities of the instructor.
- Having the recommended amount of equipment available at each class session.

The course length includes the minimum time needed for practicing skills and conducting class activities. Since the times allotted in the lesson plans do not include breaks, you may have to build additional time into the course.

*Including additional activities will add to the total course time.

## REORGANIZING COURSE OUTLINES

Since course delivery depends on many factors, such as classroom space and availability, equipment and time, you may have to reorganize course outlines to meet your specific needs. If you reorganize the lesson plans, make sure that all of the course content is covered and all course objectives are met. All course objectives must be met for participants to receive certification.

Whether through the addition or deletion of topics, the content of this course may not deviate from the approved curriculum.

## TRAINING TO MEET A WORKPLACE CERTIFICATION REQUIREMENT

When offering the course to meet certification requirements, adapting the training does not mean that you can add, delete or change the content. To modify the course for a workplace with certification needs, the workplace representative should discuss the needs with the Red Cross Training Support Center representative prior to scheduling a course. The Red Cross Training Support Center representative should convey this information to you so that you can adequately prepare to deliver the course material. As an instructor, you should ask these questions:

- Why is the workplace customer offering this training?
- What is the background of course participants? This includes:
  - Previous first aid training.
  - Job responsibilities.
  - Educational background.
  - English as a second language.
- What site-specific information is known? This includes:
  - The type and frequency of past incidents of injury or sudden illness in the workplace.
  - Established emergency procedures. (Is there a written emergency action plan?)
  - The type and location of first aid supplies at the site.

These considerations will allow you to use specific examples relevant to participants and to emphasize topics that address particular needs within the workplace.

### Training as an Employee Benefit

In some cases, wilderness and remote first aid training is offered as an employee benefit rather than for certification or to meet other regulations.

Under such circumstances, if the employer does not require or want certification, it is possible to customize the course by presenting only those lessons that meet the employer's specific needs. These can be taught as stand-alone lessons or as seminar topics during a lunch hour, for example. Before training begins, the Red Cross Training Support Center must ensure that the employer understands that although the information to be conveyed is relevant and important, this type of training is not comprehensive and will not result in Red Cross certification for employees.

## CLASS SIZE

The recommended instructor-to-participant ratio in the class is one instructor for every six to 10 participants. Close supervision is necessary to ensure effective practice and participant safety. Instructors can run classes more effectively if the class size is small. This allows for more interaction between the instructor and participants and helps to keep the class within the recommended course times. If the class has more than 10 participants, the instructor should have co-instructors or aides to maintain the recommended ratios.

## ADDITIONAL ADULT SUPERVISION

The safety of all Red Cross course participants is paramount. For courses with youth present, ensuring participant safety includes providing adequate adult supervision before, during and after the class until everyone has gone home. The Red Cross recommends that whenever a Red Cross activity or event is conducted involving youth (younger than 18 years of age), two adults should always be present. For Red Cross courses, the first adult would be the course instructor. The second adult could be a co-instructor, an instructor aide, an instructor teaching another course in the facility, a parent accompanying a youth during the training, a building security employee, a receptionist, or another Red Cross employee or volunteer working in the facility. All Red Cross employees and volunteers must have a completed background check. Some states may define an adult as a person older or younger than 18 years of age. You should follow local regulations.

## CLASSROOM SPACE

The lessons in the Wilderness and Remote First Aid course require classroom and/or outdoor space for group discussions, completing activities, practicing skills and performing scenarios. The room should also be equipped with the necessary teaching aids and materials. It is strongly recommended that at least portions of this course are taught in an open, outdoor space that has ample room to complete skills and scenarios. Examples of outdoor spaces could include a grassy area outside a classroom, a local park or a nature trail. Ensure participants' safety at all times. When outdoors, this includes having the appropriate safety equipment and gear for the outdoor environment in which the course is taught, as well as appropriate clothing for participants. Because conditions can change with little or no warning in the outdoor environment, you should be prepared to change locations, stop the activity, move inside or take other actions to help keep participants safe.

Red Cross instructors must follow safety rules of the venue, park or facility where the course is being conducted.

## HEALTH PRECAUTIONS FOR COURSE PARTICIPANTS

Provide participants and, if necessary, their parents or guardians information about health requirements and safety before the course begins. The Sample Letter to Wilderness and Remote First Aid Course Participants, found in the appendices, is one way to communicate this information. Ask participants to tell you in advance if they are

concerned about their ability to perform a specific skill.

People with certain health conditions may hesitate to take part in the skill sessions. These conditions include a history of heart conditions, respiratory problems or other physical limitations. You should suggest that these participants discuss their participation with a parent, guardian or health care provider.

Inform participants who cannot demonstrate the skills taught in the practice sessions or scenarios that they cannot receive a Red Cross course completion certificate. Encourage them to participate to whatever extent possible. They may read the emergency reference guide and pocket guide, watch skill sessions and take part in class activities. The Red Cross advocates that instructors adjust activity levels to facilitate learning and to help meet course objectives whenever possible. Participants in Red Cross courses also can audit courses, which eliminates the requirements for course completion.

As a Red Cross Wilderness and Remote First Aid instructor, you must attempt to protect participants against health risks, and you must do your best to safeguard participants against any risk of injury while they are engaged in skill practice. Guidance for course modification for a participant with a disability is provided in the *Americans with Disabilities Act (ADA) Resource Guide*, located on the Instructor's Corner at *www.instructorscorner.org*. Health precautions for participants are included in Health Precautions and Guidelines During Training, found in the appendices, and should be sent to participants or their parents along with the sample letter before the course begins.

## MATERIALS, EQUIPMENT AND SUPPLIES

Required and optional materials, equipment and supplies are listed at the beginning of each lesson plan. Following are descriptions of each.

## Materials

***Wilderness and Remote First Aid Emergency Reference Guide (Stock No. 656235)***

All participants and the instructor must have a copy of the *American Red Cross Wilderness and Remote First Aid Emergency Reference Guide*. This emergency reference guide is an essential resource for Wilderness and Remote First Aid course participants. The emergency reference guide is designed to facilitate learning and understanding of the material presented in the lessons. It also provides participants with a resource before, during and after going into a wilderness or remote setting.

The emergency reference guide describes care for common injuries and illnesses. Instructors are not expected to teach all of the information contained in the emergency reference guide. It is a tool that participants can use outside the classroom when responding to a specific emergency. Participants are introduced to the emergency reference guide in the classroom during the Introduction to the Course and are encouraged to use the emergency reference guide throughout the course for skill sessions, activities and discussion questions.

***Wilderness and Remote First Aid Pocket Guide (Stock No. 656238)***

All participants and the instructor must have a copy of the *American Red Cross Wilderness and Remote First Aid Pocket Guide*. This pocket guide is an essential resource for Wilderness and Remote First Aid course participants. The pocket guide is designed to facilitate learning and understanding of the material presented in the lessons. It also provides participants with a resource before, during and after going into a wilderness or remote setting.

The pocket guide describes the steps for conducting primary and secondary assessments and provides prompts about care for common injuries and illnesses. It is a tool that participants can use outside the classroom to guide them when responding to an

emergency. Participants are introduced to the pocket guide in the classroom during the Introduction to the Course and are encouraged to use it throughout the course for activities, discussion questions, skill sessions and scenarios.

***Note:*** *The emergency reference guide and pocket guide are only sold as a participant set (Stock No. 656237).*

### *Wilderness and Remote First Aid Instructor's Manual (Stock No. 656236)*

Instructors must have a copy of the *American Red Cross Wilderness and Remote First Aid Instructor's Manual*. This provides Wilderness and Remote First Aid instructors with the information needed to prepare for and teach the Wilderness and Remote First Aid course and the tools needed to evaluate the performance of course participants.

The instructor's manual includes the following sections:

- **Section 1: Administration.** This section describes the organization of the course, provides administrative information about conducting the training, helps prepare instructors to teach and contains information about instructor responsibilities.
- **Section 2: Wilderness and Remote First Aid Course.** This section presents the course outline, learning objectives and comprehensive lesson plans for the Wilderness and Remote First Aid course.
- **Section 3: Appendices.** This section contains course-related information and support materials. Appendices are referenced where appropriate in this instructor's manual.

## Equipment and Supplies

### *First Aid Materials*

During the course, various commercial and improvised first aid materials will be used. Examples include EpiPen® training devices, occlusive dressings, roller bandages, triangular bandages, first aid tape, hypothermia wrap materials, insulating pads, materials for cervical collars and water disinfecting systems.

### *Disposable Gloves*

During skill sessions, participants **are required** to use non-latex disposable gloves. Practicing with non-latex disposable gloves in the classroom reinforces the importance of personal safety and emphasizes procedures for preventing the spread of bloodborne pathogens and other diseases.

Only non-latex disposable gloves, such as vinyl or nitrile, may be used during training because some people are sensitive to latex and may have an allergic reaction. Gloves should be provided in a variety of sizes.

If any participant starts experiencing skin redness, rash, hives, itching, runny nose, sneezing, itchy eyes, scratchy throat or signals of asthma, have that participant wash his or her hands immediately. If conditions persist or a participant experiences a severe reaction, have the participant stop training and seek medical attention right away.

### *Wilderness First Aid Kit and/or Backpack*

Assemble items for a wilderness and remote first aid kit prior to the course based on the kit items included in the emergency reference guide. Make sure sufficient material is at hand during the scenarios for the participants to successfully implement or improvise the appropriate treatment. The scenarios may be more realistic if participants are asked to bring their own equipment in a backpack. However, that is not always practical. Participants are encouraged to have their own wilderness first aid kit and/or backpack for the course, but it is not required.

### *Newsprint and Markers*

To reinforce key points and encourage participant responses, instructors may want to write and display information on newsprint. If newsprint

and markers are not available, you can use a chalkboard and chalk, a dry-erase board and markers, or transparencies and an overhead projector. For courses that are conducted outdoors, instructors can use an improvised personal flip chart, such as an inverted three-ring binder (turn the binder inside out so the front and back covers face one another and place on the ground like a teepee with the binder rings at the top). If none of these is available, have participants take notes.

#### *American Red Cross Identification*

American Red Cross banners, posters and name tags or name tents should be used during the training. These help to identify both the instructor(s) and the Red Cross as the training agency.

#### *Other Equipment*

Required and optional equipment is listed at the beginning of each lesson in the course outlines. Suggested materials for moulage can be found in Appendix 3-16. Make sure all equipment is ready and in working order before your course begins. If your facility does not have the necessary equipment, check with the Red Cross Training Support Center to see what is available. Follow all procedures for reserving equipment and supplies. There may be a rental fee for equipment. If you have signed an *Authorized Provider Agreement*, it may cover the use of equipment.

## CONDUCTING THE COURSE

The Wilderness and Remote First Aid course includes the Introduction to the Course and Lessons 1 through 17. To teach the Wilderness and Remote First Aid course, you must be an American Red Cross Wilderness and Remote First Aid instructor. The Wilderness and Remote First Aid course does not provide certification in CPR or AED.

The lesson plans as written follow the 2010 *Boy Scouts of America (BSA) Wilderness First Aid Curriculum and Doctrine Guidelines*. The lesson plans should be strictly followed when teaching courses intended to meet the BSA wilderness first aid requirement. Additional activities in this instructor's manual can be used to enhance the course content and provide participants with additional information. The additional lessons are not required for completion of the Wilderness and Remote First Aid course and cannot be used when teaching courses intended to meet the BSA wilderness first aid requirement. Teaching additional activities will add time to the total course time.

## Teaching the Lessons

Before teaching a lesson, you should read the lesson plan, review the appropriate pages in the emergency reference guide and pocket guide, and gather necessary materials, equipment and supplies.

Each lesson plan contains the following:

- Lesson Name
- Lesson Length
- Materials, Equipment and Supplies (required and optional equipment needed for the lesson)
- Lesson Objectives (specific course knowledge and skill objectives appropriate to the lesson)
- Topic Names
- Key Points (bullet points of essential content that must be taught in the lesson)
- Instructor's Notes (provides additional guidance)
- Activities (enhances participants' understanding of the course material; may include discussion and group activities)
- Additional Activities (enhances participants' understanding of the course material through optional activities)
- Skill Sessions (practice of skills by participants)
- Scenarios (Putting It All Together activities by participants)

- Wrap-Up (helps you and participants evaluate how well the learning objectives have been met)

Multiple teaching strategies are used throughout the course to keep participants moving, including activities and skill sessions. Rather than simply lecturing to participants, you can maximize learning by facilitating class discussion and interaction. Question-and-answer sessions are built into the course to help facilitate this interaction. The questions enable the participant to think about the question and draw on experience or prior knowledge and encourage participants to become familiar with and use the emergency reference guide and pocket guide.

## Teaching Strategies

Teaching Strategies, found in the appendices, discuss the different teaching strategies used in the Wilderness and Remote First Aid course, along with suggestions for making them effective.

The Wilderness and Remote First Aid course requires active participation in a classroom or field experience that grows in complexity from initial response principles to specific care recommendations. This course highlights the importance of critical thinking and decision making to take the appropriate action to give first aid care in a delayed-help environment. The course is intended to provide hands-on learning using realistic scenarios that present some of the realities of caring for someone in an environment with fewer resources and changing conditions.

## Evaluating Skills

You can evaluate skills by observing participants either individually or in small groups. Because of the class size, you must use your time wisely when checking participants' skills. If you see a participant performing a skill appropriately without assistance, while working with a partner or as part of a larger group, provide positive reinforcement and check him or her off on that skill. Further evaluation is not necessary. If you are unable to observe everyone in this manner, you may need to check the remaining participants individually.

If you notice that a participant is having difficulty performing a skill and you cannot easily correct the problem before the end of the course, discuss this with the participant and encourage enrollment in another class at a later date. Each participant must be able to successfully demonstrate the skills throughout the course. The criteria for successful completion differ depending on the skill. The criteria for the skills are located in the Skill Charts.

## Testing to the Objective

The Americans with Disabilities Act has led to a better understanding that people with disabilities and other conditions can excel as wilderness first aid responders. The skills they need to prevent injury or to save a life may need modification, but the result is the same. Instructors must focus on the successful completion of each objective as opposed to perfecting every individual skill exactly as it is presented in the materials. Additional information on adjustments to training can be found in the *Americans with Disabilities Act (ADA) Resource Guide* located on the Instructor's Corner at *www.instructorscorner.org*.

# WORKING WITH YOUR AUDIENCE

Understanding your audience will help you engage participants in the educational activities. If you can relate to your audience, you will be better able to facilitate the activities successfully,

help participants associate classroom information with personal experiences, provide a positive learning environment and maintain participants' self-esteem. You may have adults and youths from a variety of age groups in your course. Being aware of these differences before the course begins can help you anticipate any issues before they arise, such as varying levels of understanding and skill.

## Youth Culture

An important part of being culturally sensitive to youths is respecting their values, attitudes and beliefs. You can play an important role as an adult who listens, respects their opinions and offers an adult perspective to discussions. As a facilitator, encourage all participants to share their ideas during discussions and to take part in the skill-building activities.

## Growth and Development

Early adolescence is a time of rapid change and contrast. Because you may have youths from a variety of age groups in your course, you will need to be aware of these differences. Two youths of a similar age can be developing normally, yet appear and act distinctly different. This diversity can be present among the participants in areas such as:

- Reading levels, which may range from poor to good.
- Thinking abilities, which may range from concrete to abstract.
- Relationships with adults, which may be important to some but not to others.
- Decision making, problem solving and critical thinking.
- Communication, such as comfort discussing issues with the opposite sex or with adults.
- Peer relationships, in which some participants find peer approval extremely important, whereas others have no difficulty making individual decisions.

## Tips for Working with Youths

1. Avoid assumptions based on appearance.
   - You cannot always tell what young people are like by the way they look (e.g., clothing, jewelry or overall appearance).
2. Respect their opinions.
   - Participants may come from families that handle leadership or communication in a different manner than what is taught in this course. Show respect by maintaining an atmosphere of openness to differing points of view.
3. Stay current with youth culture.
   - When you stay informed of the ever-changing interests, styles and even music preferences of youths, you can take the first steps in connecting to their cultural experiences.
4. Model effective decision-making skills.
   - Whenever possible, ask participants questions that guide them in decision making and problem solving. Avoid giving the answer before providing the participants an opportunity to think critically.
5. Be mindful when organizing skill sessions.
   - Organize the skill sessions to minimize concerns individuals may have about working with one another. Because of the close physical contact involved in some of the lessons, participants may feel more comfortable working with their friends. Be sure to monitor participants to ensure they are able to focus and fully participate in the activities if they are working with friends.

# ACKNOWLEDGING COURSE PARTICIPATION

## Certification Requirements

Many agencies, organizations and individuals look to the Red Cross for formal training resulting in certification. Red Cross certification means that **on a particular date** an instructor verified that a course participant could:

- Demonstrate competency in each required skill taught in a course. *Competency* is defined as being able to perform each skill to meet the objective without guidance.
- If the written exam is required, pass the final written exam with a minimum grade of 80 percent. If the final written exam has more than one section, a minimum grade of 80 percent must be achieved on each section.

Achieving course certification does not imply any future demonstration of the knowledge or skill at the level achieved on the particular date of course completion.

To successfully complete the Wilderness and Remote First Aid course and receive a certificate indicating Wilderness and Remote First Aid, the participant must:

- Attend all class sessions.
- Participate in all skill sessions and activities.
- Demonstrate competency in all observable skills.
- Complete the scenarios.

An optional final written exam is included in the appendices if needed for certification. If the exam is required, participants must pass the final written exam with a minimum grade of 80 percent.

This certificate will be valid for 2 years from course completion date. There is no formal recertification course for Wilderness and Remote First Aid. Participants must take the course again to be recertified.

## Reporting Procedures

You must submit a completed *Course Record* and *Course Record Addendum* to the Red Cross Training Support Center within 10 working days of course completion. You can submit the *Course Record* in hard copy, by fax or by e-mail. Check with the Red Cross Training Support Center for procedures on submitting *Course Records*.

## Awarding Certificates

Discuss with the Red Cross Training Support Center the procedures for obtaining Red Cross course completion certificates. Sign the certificates before giving them to participants. If you receive certificates after the course is over, arrange to get them to participants.

## Reauthorization

To be reauthorized as a Wilderness and Remote First Aid instructor, you must teach or co-teach at least one Wilderness and Remote First Aid course within your authorization period.

## Course Evaluation

Receiving feedback from participants is important in any evaluation. Participants should have an opportunity to tell you what they thought about the course by completing evaluation forms in every course you teach. This information provides useful feedback about the course and your instruction, and it helps you and the Red Cross maintain quality courses.

An optional course evaluation form is in the appendices. Submit completed evaluation forms to the Red Cross Training Support Center along with the completed *Course Record*.

# INSTRUCTOR'S RESPONSIBILITIES

Your responsibilities as an American Red Cross Wilderness and Remote First Aid instructor include:

- Providing for the health and safety of participants by always ensuring that:
  - Other course equipment (first aid supplies) is clean and in good working order.
  - Participants are aware of health precautions and guidelines concerning the transmission of infectious diseases (Health Precautions

and Guidelines During Training, found in Appendix 3-1).
    - All participants have the physical ability to perform the skills and know to consult with you if they have concerns about their physical ability to do so.
    - The classroom and all practice areas are free of hazards.
- Being familiar with and knowing how to effectively use course materials and training equipment.
- Planning, coordinating and managing training, including advising the Red Cross Training Support Center in advance of any classes you are scheduled to teach.
- Informing participants about knowledge and skill evaluation procedures and course completion requirements.
- Creating a non-threatening environment conducive to achieving the learning objectives.
- Preparing participants to meet the course objectives.
- Providing participants an opportunity to evaluate the course.
- Adapting your teaching approach to match the experience and abilities of the participants, identifying participants who are having difficulty and developing effective strategies to help them meet course objectives.
- Supervising participants while they are practicing course skills and providing timely, positive and corrective feedback as they learn.
- Evaluating participants as they perform skills, focusing on critical performance steps as described in the skill charts.
- Administering and scoring the final written exam(s), if applicable.
- Conducting courses in a manner consistent with the course design.
- Issuing course completion certificates.
- Submitting completed *Course Records* and reports to the Red Cross Training Support Center within 10 working days of course completion.
- Being familiar with and informing participants of other Red Cross courses and programs.
- Being prepared to answer participants' questions or knowing where to find the answers.
- Identifying potential instructor candidates and referring them to the Red Cross Training Support Center.
- Abiding by the obligations in the *Instructor Agreement* and *Code of Conduct* and, if applicable, the *Authorized Provider Agreement*.
- Representing the Red Cross in a positive manner and providing a positive example by being neat in appearance and not practicing unhealthy behaviors, such as smoking, while conducting Red Cross courses.
- Promoting volunteer opportunities available through the Red Cross.

## AMERICAN RED CROSS HEALTH AND SAFETY SERVICES RESOURCES

Keep updated on the latest instructor information by regularly visiting the Instructor's Corner on the Red Cross Web site: *www.instructorscorner.org*. This site includes frequently asked questions, instructor updates, program updates and course-related forms. Before you begin a Wilderness and Remote First Aid course, find out how the Red Cross Training Support Center can support you.

# Section 2: Wilderness and Remote First Aid Course

## Course Outline

| Lesson | Time |
|---|---|
| Introduction to the Course: Wilderness and Remote First Aid Course Overview | 30 minutes |
| Wilderness and Remote First Aid Kits | 15 minutes |
| Assessment, Part 1—Primary (Initial) Assessment | 45 minutes |
| Assessment, Part 2—Secondary (Focused) Assessment | 1 hour, 45 minutes |
| CALLing for Help and Evacuation Considerations | 15 minutes |
| Shock and Heart Attack | 30 minutes |
| Chest Injuries | 30 minutes |
| Head (Brain), Neck and Spinal Injuries | 2 hours |
| Wounds and Wound Infection | 2 hours, 15 minutes |
| Bone and Joint Injuries | 2 hours, 15 minutes |
| Burns | 30 minutes |
| Abdominal Illnesses | 30 minutes |
| Hypothermia | 45 minutes |
| Heat-Related Illnesses | 1 hour |
| Lightning | 30 minutes |
| Altitude Illnesses | 30 minutes |
| Submersion Incidents (Drowning) | 35 minutes |
| Allergies and Anaphylaxis | 40 minutes |
| **Approximate Total** | **16 hours** |

***Instructor's Note:*** *This outline provides an overview of the course knowledge and skills to be taught in the American Red Cross Wilderness and Remote First Aid course. The Wilderness and Remote First Aid course is* ***16 hours*** *in length.*

*The course length includes the minimum time needed for practicing skills and conducting class activities. Since the times allotted in the lesson plans do not include breaks, you may have to build additional time into the course.*

*This outline helps you organize your course in a logical order. It is recommended that you follow the course lesson plans in this instructor's manual. However, since course delivery depends on many factors, such as the availability of classroom space, equipment and time, you may have to reorganize this outline. If you reorganize the lesson plan, make sure that all of the content in the lesson plans is covered and that all course objectives are met. All course objectives must be met for participants to receive certification.*

# Introduction to the Course: Wilderness and Remote First Aid Course Overview

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *American Red Cross Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *American Red Cross Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Course schedule (one for each participant)
- Wilderness and Remote First Aid Competency Check Sheet (one for each participant; Appendix 3-8)
- Health Precautions and Guidelines During Training (Appendix 3-1)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define wilderness first aid.
- Describe the difference between wilderness first aid and standard first aid.
- Articulate all course goals, requirements and resources.

***Instructor's Note**: Prior to the start of the class, verify that course prerequisites have been met:*

- *Verify that each participant has a current certificate in adult CPR/AED.*
- *Explain to participants that for the course to fulfill the requirements of the Boy Scouts of America wilderness first aid training, participants must be at least 14 years of age on or before the final scheduled lesson of this course.*
- *Verify the eligibility of participants by checking their proof of age, which can be a state identification card, birth certificate, passport or other government-issued photo identification.*

# TOPIC: WELCOME AND INTRODUCTIONS

Time: 5 minutes

## Activity:

- Welcome participants to the course, briefly introduce yourself, give your background and identify yourself as a Red Cross instructor. If applicable, have co-instructors or instructor aides introduce themselves and give their backgrounds.
- Have participants briefly introduce themselves by sharing their names, their reason for taking this course and their expectations for the course.
- Review facility policies and procedures, including emergency procedures. Point out the locations of fire exits, telephones, restrooms and drinking fountains. Also, identify the location of the automated external defibrillator (AED) and first aid kit. (Red Cross instructors must follow safety rules of the venue, park or facility where the course is being conducted. Know and follow the rules for proper use of gear and equipment.)
- Explain policies regarding eating and drinking in class. Show where participants are allowed to eat or drink in break areas, if appropriate.
- Review with participants Health Precautions and Guidelines During Training. If participants have an additional health form, collect them at this time.
- Ask participants to privately inform you if they have any medical condition or disability that will prevent them from taking part in the skill sessions.

# TOPIC: INTRODUCTION TO WILDERNESS AND REMOTE FIRST AID

Time: 5 minutes

## Key Points:

- **Wilderness first aid is the assessment of and treatment given to an injured or ill person in a remote environment where definitive care by a health care provider and/or rapid transport is not readily available.**
- **Other settings that are considered "remote" could include any occupational, recreational or other circumstance in which help is at least 1 hour away, such as after a natural or human-caused disaster.**
- **Wilderness and remote first aid is important to know.**
  - **Adventure, whether planned or not, is a balance of safety and risk.**
  - **The probability of sustaining an injury or becoming ill in a wilderness or remote setting exists every time you are out.**
  - **Although you cannot eliminate risk altogether, you can take steps to minimize risk by being prepared to respond to emergencies in a delayed-help environment.**
- **In this course, you'll learn how to prevent, prepare for and respond to first aid emergencies in a wilderness or remote setting.**

## Shout It Out

### Activity:

- Ask participants to respond to the following questions. Record the correct responses on newsprint.
  - Ask participants: **"What are specific activities or settings for which you might need to use wilderness first aid skills?"**

    ***Answers:*** *Responses could include the following activities and settings:*
    - *Camping*
    - *Hiking*
    - *Caving*
    - *Climbing*
    - *Aquatic activities*
    - *Farms or agricultural areas*
    - *Highways*
    - *Remote worksites*
    - *Natural or human-caused disaster areas*
    - *Residences in remote areas*
  - Ask participants: **"What are types of specific incidents for which you might expect to use wilderness first aid skills?"**

    ***Answers:*** *Responses could include the following incidents:*
    - *A person falls.*
    - *Something falls on a person (such as after a natural disaster, construction, climbing).*
    - *A person is exposed to an environmental extreme (such as cold or altitude).*
    - *A person receives an insect sting.*
    - *A person becomes ill from poor hygiene habits.*

# TOPIC: UNIQUE ASPECTS OF WILDERNESS AND REMOTE FIRST AID

Time: 5 minutes

### Key Points:

- **Numerous factors make applying wilderness or delayed-help first aid different than applying standard first aid.**
- **In what ways do wilderness or delayed-help first aid scenarios differ from standard first aid scenarios?**

  ***Answers:*** *Responses should include the following:*
  - *Time and distance to definitive care or emergency medical services (EMS) response*
  - *Environment and weather*
  - *Equipment and resources (preparedness and improvisation)*
  - *Terrain*

- *Special skills*
- *Attention to personal and group safety and well-being*

- **Time is the essential element that distinguishes wilderness first aid from standard first aid.**
- **When calling 9-1-1 or the local emergency number is not an immediate option, or when help could be an hour or even days away, managing the injured or ill person and scene may require a complex and multiphase response.**
- **Other factors that make wilderness and remote first aid different include:**
  - **Added mental and physical effort.**
  - **The use of additional skills and equipment to safely access the injured or ill person.**
  - **The use of additional skills to improvise equipment and successfully evacuate the injured or ill person.**
  - **The need to manage group dynamics in an emergency situation.**
- **The American Red Cross Wilderness and Remote First Aid course is designed to help you:**
  - **Apply knowledge and skills that you learn.**
  - **Analyze emergency situations.**
  - **Act safely using the resources at hand.**

# TOPIC: WHY WILDERNESS INCIDENTS OCCUR

Time: 5 minutes

## Key Points:

- **Wilderness incidents occur for a variety of reasons.**
- **Incidents may occur due to bad judgment, such as:**
  - **Traveling unprepared, with no water or other essentials.**
  - **Using inadequate equipment, such as an improper helmet or clothing.**
  - **Practicing poor sleep, hydration and hygiene habits.**
  - **Engaging in activities that exceed the abilities of one or more members of the group.**
  - **Getting separated or stranded from the group.**
- **Incidents may occur due to environmental conditions, such as:**
  - **Bad weather.**
  - **Darkness.**
  - **Falling rocks or branches.**
  - **An avalanche or rock/mudslide.**
  - **Disasters, such as earthquakes or hurricanes.**
- **Incidents may also occur because of equipment failure.**
- **Although not all factors that contribute to incidents are preventable, many can be prevented through adequate preparation, training and knowledge.**

# TOPIC: COURSE GOALS, REQUIREMENTS AND RESOURCES

Time: 8 minutes

## Activity:

- Explain to participants that now that they have an idea about why taking this course is important, you will let them know what they can expect throughout the training.
- Distribute the course schedule to participants and explain the details of your course. Explain that the American Red Cross Wilderness and Remote First Aid course is designed to be taught in approximately 16 hours. Additional time may be necessary for setup.
- Explain that the American Red Cross Wilderness and Remote First Aid course offers a combination of lessons, activities and scenarios that can be completed in a classroom or an outdoor setting, such as on a trail.
- Give a copy of the following to each participant:
  - *American Red Cross Wilderness and Remote First Aid Emergency Reference Guide*
  - *American Red Cross Wilderness and Remote First Aid Pocket Guide*
- Tell participants that the emergency reference guide is their main resource during training. Explain that it can also be used as a reference after class. Ask them to bring it to every class session and read it at home.
- Explain that the participant set includes a pocket guide that provides at-a-glance information about how to check and care for someone who is experiencing a first aid emergency. Explain that the pocket guide is made of water- and tear-resistant paper and is intended to be carried with their supplies.
- Explain to participants that, during the course, they should begin to put together a wilderness and remote first aid kit based on the recommended contents from the emergency reference guide. Refer participants to the list of first aid supplies in the emergency reference guide as a list of items they should carry with them in a wilderness and remote first aid kit. Participants should be aware of the items in their kit and know how to use them in an emergency. Have a complete wilderness and remote first aid kit to show participants as an example.
- If the course is being conducted in the outdoors, participants should have all the necessary gear and equipment for the activity in which they are participating.
- Distribute a Wilderness and Remote First Aid Competency Check Sheet to each participant. Explain that this sheet will be used during scenarios as a checklist of items to complete, from the SAMPLE history to care steps.
- Explain to participants that to receive a course completion certificate that is valid for 2 years, participants must:
  - Attend and participate in all sessions.
  - Demonstrate proficiency in the skills included on the Wilderness and Remote First Aid Competency Check Sheet.

## Key Points:

- **As a participant, you will maximize your learning experience by being conscious of the three phases: planning, experiencing and reflecting. This will help you develop the knowledge, skills and behaviors necessary to be competent and confident in wilderness and remote first aid.**
- **The planning phase includes learning about:**
  - **The types of injuries and illnesses that could occur in the wilderness and remote settings.**
  - **How to prevent injuries and illnesses.**
  - **The signs and symptoms of different injuries and illnesses.**
  - **What to do when injuries or illnesses occur.**
  - **Considerations for summoning help and with possible evacuations, such as the locations of the nearest ranger station, possible evacuation routes and available communications equipment.**

***Instructor's Note:*** *Specialized rescue skills are beyond the scope of the course and require additional specialized training and, therefore, are not included in the course.*

- **This knowledge is important to planning how to behave and making it possible to develop good habits.**
- **In the experiencing phase, you will put your plans into action using skill sessions and course scenarios. The scenarios "put it all together" and vary in level of complexity so that you experience a range of situations that require leadership, teamwork and decision making.**
- **In the reflecting phase, particularly after each scenario, you will consider what you experienced and how that affected any previous knowledge and experiences and how that may or may not affect future actions. This is a means of role-modeling for you during an actual emergency, when it is important to reflect on what has happened and why.**
- **During the reflecting phase, the intent is to talk openly about the experience from multiple points of view and help one another learn.**
- **As you move forward, you will find the reflecting phase naturally leads you back to the planning phase for the next experience.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about the course overview and what they can expect.

LESSON 1

# Wilderness and Remote First Aid Kits

## LESSON LENGTH

15 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe the contents of an adequate wilderness and remote first aid kit and their uses.
- Determine how to modify a wilderness and remote first aid kit based on the group size, trip duration, trip destination and time of year.
- Describe ways first aid can be improvised using items that they have on hand, such as personal belongings or from a campsite.

## TOPIC: WILDERNESS AND REMOTE FIRST AID KITS OVERVIEW

Time: 2 minutes

### Key Points:

- **Your primary resource for first aid supplies should be a first aid kit.**
- **Throughout this course, you will gain the knowledge and skills to give first aid in wilderness and remote settings and you will practice the skills using many of the supplies in the kit.**
- **The emergency reference guide includes a list of essential items and wilderness and remote first aid kit recommendations for the individual and for a group of eight people.**
- **Knowing how to improvise with items that you have on hand is essential.**

# TOPIC: YOUR WILDERNESS AND REMOTE FIRST AID KIT

Time: 11 minutes

## Activity:

- Ask participants: **"What do you think you should consider when determining what to put in your wilderness and remote first aid kit?"**
  ***Answers:*** *Facilitate a discussion and provide examples, as necessary, to ensure that the responses include:*
  - *The environment you will be in. Factors include:*
    - *Altitude (e.g., prescription medications for high altitudes or anti-itch topical agents for lower altitudes with biting insects).*
    - *Setting (e.g., if there are few trees, pack splints, or, if you anticipate humidity, bring fragrance-free powder to prevent chafing).*
    - *Seasonal considerations (e.g., high-sugar drink solution or ample amounts of sunscreen).*
    - *Type of terrain (e.g., if paddling or hiking long distances, bring blister supplies).*
  - *The number of people who will depend on the kit.*
  - *The number of days the kit will be in use.*
  - *What other group members have in their kits.*
  - *The distance you will be from definitive medical care.*
  - *The availability of rescue, such as access to helicopter evacuations.*
  - *Your first aid expertise and the expertise of other group members.*
  - *Pre-existing conditions of group members, such as diabetes.*
- Call on each participant to name one item they would carry in a first aid kit and what it would be used for.
  - List the item on newsprint that will be used throughout the course. If the group is large, one item per participant may suffice. For small groups, two or more rounds can be used to expand the list.
  - Participants should name one item at a time, thinking about what to bring rather than allowing the first person to name obvious items and then tune out.
  - If participants identify contents that are not appropriate or should not be used, be sure to point that out.
- Tell participants that, after each lesson on a different first aid procedure, they will be asked to add to the list any items that may be missing.
- Refer participants to the Wilderness and Remote First Aid Kit section of the emergency reference guide.
  - Tell them that the list they are building should include all these items by the end of the course.
  - Rather than discuss each item on the list in the emergency reference guide at this time, the items will be discussed in the context of specific procedures.

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications.*

Key Points:

- **Evaluate and repack your first aid kit before every trip.**
  - **Renew medications that have reached expiration dates.**
  - **Replace items that have been damaged by heat, cold or moisture.**
  - **Supply your kits depending on the environment.**
- **Do not fill your kit with items you do not know how to use. You—and all members of your group—must maintain a high level of familiarity with the proper uses of all the items in your wilderness and remote first aid kit.**
- **Encourage each group member to pack and carry a personal first aid kit to reduce the size and weight of the general (group) wilderness and remote first aid kit.**
- **Remember that knowledge and skill are more valuable in an emergency than the contents of a kit.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer any participants' questions about first aid kits.

# Assessment
## Part 1—Primary (Initial) Assessment

### LESSON LENGTH

45 minutes (approximately 1 hour, 10 minutes with Additional Activities)

### MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- Paper and pencil or pen (one for every six participants)
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)
- Non-latex disposable gloves (multiple sizes; at least one pair for each participant)
- Wilderness and Remote First Aid Competency Check Sheet (one for each group; Appendix 3-8)
- Moulage (wound makeup) (optional)

### LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe the importance of immediately establishing control of the scene.
- Describe the importance of establishing a safe scene, including checking for hazards and using standard precautions.
- Define mechanism of injury (MOI).
- Describe why MOI is important as a factor in assessment.
- Demonstrate how to perform a primary (initial) assessment, including assessing **a**irway, **b**reathing, **c**irculation, **d**isability and the **e**nvironment (ABCDEs).

## LESSON 2

# TOPIC: ESTABLISHING CONTROL THROUGH LEADERSHIP

Time: 8 minutes

### Key Points:

- **Whether large or small, the nature of emergencies lends itself to confusion and emotion.**
- **If a situation gets out of hand, it quickly increases the risk of harm to all those involved and endangers the ability to care for an injured or ill person properly.**
- **Before the start of any wilderness trip or remote location experience, it is essential to discuss leadership in case of an emergency and learn which skills other group members have.**
- **The leader who emerges in one emergency situation may not be the leader in another. For example, someone who was a leader when caring for an ankle injury may later experience a heat-related emergency.**

## Shout It Out

### Activity:

- Encourage participants to respond. Write participants' responses on newsprint and recognize other relevant input given.
- Ask participants: **"What do you think are essential qualities of a leader?"**
  ***Answers:*** *Responses could include the following:*
  - *A good leader is competent, knows wilderness and remote first aid, is capable in the environment and is ready to act.*
  - *A good leader appears and acts confident.*
  - *A good leader speaks with quiet authority. Shouting is not necessary.*
  - *A good leader listens to the other members of the group.*

## Being a Good Leader and a Good Follower

### Key Points:

- **The primary goals of a leader in a first aid emergency are to do the greatest good for the greatest number in the shortest time, and to do no harm.**
- **Individual goals include:**
  - **Controlling scene safety.**
  - **Taking a big-picture view of the scene.**
  - **Caring for non-life-threatening and life-threatening conditions.**
  - **Providing evacuation direction for the group.**
- **As much as a good leader depends on his or her own knowledge and skill, a good leader also depends on cooperation and assistance from other people in the group.**

- **What can other members of the group do for the person and the leader?**
  ***Answers:*** *Responses could include the following:*
  - *Assume responsibility for tasks given.*
  - *Ask pertinent questions.*
  - *Provide the leader with information to make informed decisions.*

# TOPIC: CHECKING THE SCENE

Time: 10 minutes

## CHECK—CALL—CARE

### Key Points:

- **What are the three emergency action steps?**
  ***Answer:*** *The three emergency action steps are* **CHECK—CALL—CARE.**
- **What do each of those steps mean?**
  ***Answers:*** *Responses should include the following:*
  - *CHECK—Check the scene and the person.*
  - *CALL—Call 9-1-1 or the local emergency number.*
  - *CARE—Care for the conditions you find.*
- **In a wilderness or remote setting, the CHECK—CALL—CARE steps still apply. The steps are modified or expanded or they may be completed in a different order.**
- **No matter the situation, the emergency action steps always start with CHECK.**
- **In a delayed-help environment, the CHECK step includes CHECKing the scene, the person and the resources, such as equipment and other help that might be available.**
- **Why is CHECKing resources important in a delayed-help environment?**
  ***Answer:*** *The information gathered helps to develop a plan for getting help and caring for the person safely.*
- **The CALL step is modified depending on how difficult it is to summon help. The CALL for additional help may be delayed for a few minutes, a few hours or even days. In some situations, you may decide it is best to stay and wait for help or to take a person directly to help.**
- **The CARE step in a delayed-help environment includes giving initial and long-term care, involving periodic re-checks of the person's condition until help arrives.**

## What to Look for When CHECKing the Scene

### Key Points:

- **When CHECKing the scene, ensure scene safety, and determine the mechanism of injury (MOI) or nature of the illness.**
- **When CHECKing scene safety, ask yourself whether there are any observable dangers to you, the person and others involved. An unsafe scene can turn healthy people who are able to help into people needing help themselves.**

- **When CHECKing available resources, ask the following questions:**
  - **Is there someone to help me? Do I need other help?**
  - **How far away is additional help? Is there an easy way to call?**
  - **What supplies and materials do I have to help keep myself safe?**
  - **What supplies and materials do I have to care for the injured or ill person?**
- **Proper trip planning will help ensure that you have the available people and physical resources you need if an emergency occurs.**
- **Use standard precautions to prevent disease transmission, also known as establishing body substance isolation (BSI) precautions.**
- **Approach the person cautiously; be aware that in some cases the scene may become unsafe at any time.**
- **When determining the MOI, look for clues around the scene to help you figure out what happened to the person. For example, does it appear that he or she fell? What did the person land on?**
- **Avoid focusing on one particular aspect of the scene or person, so that you do not lose overall perspective or overlook other injuries or illnesses.**

## Shout It Out

### Activity:

- Ask participants: **"What diseases could be transmitted during the course of giving care?"**
  ***Answers:*** *Responses could include the following:*
  - *Meningitis*
  - *Tuberculosis*
  - *Hepatitis (A, B, C and D)*
  - *HIV*
  - *Flu*
  - *Skin infection*
- Ask participants: **"What are possible routes of transmission?"**
  ***Answers:*** *Responses could include the following:*
  - *Touching an infected person's body fluids*
  - *Touching bandages, dressings or other equipment that has been contaminated with body fluids*
  - *Inhaling airborne droplets when an infected person coughs or sneezes*
  - *Eating or drinking with a contaminated hand*
  - *Vector-borne, through animal and insect bites*
- Ask participants: **"How do you prevent disease transmission?"**
  ***Answers:*** *Responses could include the following:*
  - *Use a barrier to prevent disease transmission through contact with blood or other body fluids.*
  - *Wear gloves and discard them after each use.*
  - *Dispose of soiled materials in closed plastic bags.*
  - *Remove gloves by turning them inside out.*
  - *Use a mask when performing cardiopulmonary resuscitation (CPR) and rescue breathing.*

- *Cover any cuts you may have.*
- *Wash hands with soap and water before care, before giving care to another person and after giving care. You can use an alcohol-based hand sanitizer if no visible material is present and soap and water are not readily available.*
- *Avoid touching your mouth, nose and eyes while giving care.*
- *Avoid eating when giving first aid.*

## Making Emergency Moves

### Key Points:

- **You may need to move the person or yourself and the group if an immediate threat from an environmental hazard compromises safety.**
- **As a leader, you must balance the danger of any environmental threat against potential harm to the person from movement when deciding whether to move the person.**
- **You must also limit the number of people exposed to the hazard.**
- **When moving a person, support his or her head, neck and back. Keep the person's body in a straight line, and avoid any twisting movement.**

***Instructor's Note:*** *Refer participants to the emergency reference guide for descriptions of emergency moves.*

# TOPIC: CHECKING THE PERSON: PRIMARY (INITIAL) ASSESSMENT

Time: 10 minutes

### Key Points:

- **Once you determine the scene is safe and have approached the person, obtain consent. Identify yourself (if needed) and ask for consent to help.**
  - **Tell the person your level of training and ask for consent to give care. For example, say, "Hi, my name is _____ and I've been trained in first aid. Can I help you?"**
  - **Assume that a person who responds positively or does not respond negatively has agreed to care. If a person cannot respond, immediately begin the primary assessment and give care.**
- **Control the person and gather information.**
  - **Say to the person: "Please don't move until I know more about your condition."**
  - **Listen to the person, who may identify a chief complaint, saying something like "I twisted my knee and it really hurts."**
  - **If a head, neck or back injury is suspected, place a hand on the person's head, as a physical reminder, while asking the person to remain still.**

# LESSON 2

## Performing the Primary Assessment Using the ABCDE Method

### Key Points:

- **Once you have consent and the person is under control, perform the primary assessment.**
- **The goal of the primary assessment is to identify and care for any serious or potentially life-threatening conditions.**
- **What are some examples of life-threatening conditions?**
  ***Answers:*** *Responses should include the following:*
  - *Unconsciousness*
  - *No breathing or trouble breathing*
  - *Severe bleeding*
- **If you discover a life-threatening condition, stop and give care.**
- **The ABCDE method of assessment helps you remember to care for priorities first.**
- **ABCDE stands for airway, breathing, circulation, disability, and exposure injuries and environmental threats.**

***Instructor's Note:*** *Demonstrate the primary assessment on a participant or manikin as you cover the key points that follow. The actual skill should take about 30 seconds; demonstrating at actual speed and then explaining is helpful to set expectations for scenarios.*

### Key Points:

- **To assess the ABCDEs, follow these steps.**
  - **A = Check airway. A person who can speak has an open airway and is breathing.**
  - **B = Assess breathing. If an unconscious adult is not breathing or is not breathing normally, assume a cardiac emergency and begin CPR. For a child or a known drowning or respiratory emergency, give 2 rescue breaths before starting CPR.**
  - **C = Assess the person's circulation by scanning the body for severe bleeding. If you find *severe* bleeding, use direct pressure to control the bleeding.**
  - **D = Look for disability as a result of damage to the spinal cord. If you suspect a spinal injury, minimize movement of the head, neck and spine. Manually support the head in the position found and tell the person to remain still.**
  - **E = Assess the threat of the environment and expose any injuries. Look for exposure to extreme environmental conditions, especially extreme heat and cold weather, which can cause changes to the body's temperature and threaten a person's life. It is important to protect the person from extreme conditions, but, if necessary, you may expose part of the person's skin to assess the damage and to give care.**
- **If there are no life-threatening conditions, continue with the secondary assessment and SAMPLE history.**

## Re-Check Resources

### Key Points:

- **After performing the ABCDE assessment, ask yourself if there are any life-threatening conditions. If yes, then ask:**
  - **Is there an easy way to call for help? If yes, call and give care.**
  - **Do I have the resources to give care immediately and/or long term for this person?**
  - **Do I have the resources to move this person safely or provide a safe environment until help arrives or the person is healthy?**
  - **What group resources will contribute to the overall health and safety of everyone?**

# TOPIC: SCENARIO: CHECK

Time: 15 minutes

***Instructor's Note:*** *See Section 3: Appendices of this instructor's manual for information on setting and staging scenarios. Provide participants sufficient information up front, by physical setting and props or verbal descriptions, so that they are responding to parameters rather than having to assume them. Because participants are going to simulate responding to an emergency situation, provide only the information necessary for responders to make a decision and give care by prompting the responder/group on the conditions found, such as "Air goes in" instead of "Give a rescue breath." You will have time to debrief and build on scenarios later.*

- Ask participants to take to the practice area their wilderness first aid kits/packs (if available), emergency reference guides, pocket guides, Wilderness and Remote First Aid Report Forms/Rescue Requests, disposable gloves and any necessary materials and equipment to complete the scenario.
- Have participants get into groups of four or five. Identify one participant to be the note taker for the scenario and give him or her the report form/rescue request. Identify another participant to be the person. Have responders exit the room or close their eyes while you set up the scenario.
- Apply wound makeup (known as moulage) if desired. Directions for applying wound makeup can be found in Appendix 3-16.
- Explain the setup to participants. As the scenario progresses, tell participants it is raining or the temperature is starting to drop. Have the injured or ill person lie on the ground on his or her side and not move. Have the group start a short distance away so they begin with checking the scene for safety.
- Tell participants that they will need to find and refer to the appropriate material as part of this simulated emergency scenario, using everything they have learned up to this point in the course.
- Tell participants that they have themselves and what they brought as resources. If participants ask, they may use other items they find in the practice area.
- Prompt participants through the scenario as needed. Participant actions are in bold; instructor actions are in italics.

- Record each participant's actions in the scenario on the Wilderness and Remote First Aid Competency Check Sheet.

***Setup:*** *There is no moonlight, it is windy and the temperature is 40° F. There is lightning in the distance that is coming closer. Tommy/Tammy Tenderfoot went to sleep uncharacteristically early, saying he/she was not feeling so great. You smell toxic gas coming from the area of the tent and are worried. You go to check on him/her.*

| | |
|---|---|
| **Participant Action:** | **A leader emerges from the group, recognizes an emergency, provides leadership and checks for scene safety.** |
| *Instructor Action:* | *The scene is not safe. You smell toxic gas in the tent.* |
| **Participant Action:** | **Decides how to safely reach and move the person. Reaches the injured person, and demonstrates recognition of the emergency. Uses a signaling method to call for help. Monitors scene safety. Takes standard precautions to prevent disease transmission. Determines the MOI and checks consciousness.** |
| *Instructor Action:* | *Tommy/Tammy is unconscious.* |
| **Participant Action:** | **Checks airway.** |
| *Instructor Action:* | *The airway is open.* |
| **Participant Action:** | **Checks for breathing.** |
| *Instructor Action:* | *The person is breathing rapidly and shallowly.* |
| **Participant Action:** | **Checks for circulation.** |
| *Instructor Action:* | *The person is not severely bleeding and the skin is cool to the touch.* |
| **Participant Action:** | **Checks for disability.** |
| *Instructor Action:* | *There is no apparent disability.* |
| **Participant Action:** | **Checks the environment.** |
| *Instructor Action:* | *It is wet and cold and the person is only wearing a thin layer of clothing.* |

## Scenario Follow-Up

- Use the notes taken by the note taker and Wilderness and Remote First Aid Report Form/Rescue Request to remember specific care issues.
- Facilitate a discussion with participants by asking the following questions:

  **"What were the emergencies?"**

  ***Answers:*** *Responses should include the following:*
  - *Injured/ill person*
  - *Unconsciousness*
  - *Toxic gas inhalation*

  **"How was scene safety managed? How was the person protected during the assessment?"**

  ***Answers:*** *Responses will vary based on the performance of the leader and others in the group.*

  **"What did you learn? What would you change for the next scenario?"**

  ***Answers:*** *Responses will vary based on the performance of the group.*

**"If this were a real emergency, would you be prepared to respond? If not, what steps can you take to ensure that you are ready to respond to an emergency?"**
***Answers:*** *Responses will vary based on the group.*
**"If this were taking place in a wilderness setting, what additional issues would you need to be aware of?"**
***Answers:*** *Responses will vary based on the group.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about **CHECK—CALL—CARE** and performing a primary assessment.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

## Additional Activities

***Instructor's Note:*** The following activities are optional, if time permits.

### TOPIC: RISK LISTS[1]

Time: 15 minutes

### Activity:

- Divide participants into three groups, and provide each group with newsprint and markers.
- Have each group complete a list of 10 types of injuries or illnesses that might be encountered in a wilderness or remote environment. Then ask the groups to do the following:
  - Have the first group organize its 10 items in order of frequency (i.e., common occurrence).
  - Have the second group organize its 10 items in order of potential to disrupt a trip (e.g., frequency a trip is aborted or a participant is evacuated because of the problem).
  - Have the third group lists its 10 items according to seriousness (i.e., likelihood that the problem will result in death or major disability).
- Review each list with the larger group. Important points include:
  - The majority of wilderness and remote first aid emergencies do not require evacuation.
  - Different types of groups have different risk factors (e.g., senior citizens break bones easier, adolescent males make poor decisions based on abilities).
  - Being prepared for medical and traumatic events can make a life-saving difference.
  - Wilderness and remote first aid includes preventing, recognizing and caring for small issues to prevent bigger ones, as well as caring for life-threatening injuries and illnesses and making evacuation decisions.

[1] Boy Scouts of America. (1999). *National Camping School Trek Leader Lesson Plan.* p. 21.

## TOPIC: WHAT COULD GO WRONG?

Time: 10 minutes

### Activity:

- Divide participants into small groups of no more than six, and provide each group with newsprint and markers.
- Ask the groups to use words or pictures on the paper provided to create one horrendous scenario for wilderness first aid. Encourage them to include as much detail as possible in 2 minutes.
- Ask the groups to rotate their "horrendous scenario" sheets to another group.
- Tell the groups that they have 2 minutes to identify the scene safety issues and MOI in the scenario they received.
- Have each group report to the larger group what they identified and obtain any additions from the larger group, within reasonable time limits.

***Instructor's Note:***

- *If the additional activity was done during the lesson, return to that point in the lesson and proceed with the next topic/activity.*
- *If the additional activity was done at the conclusion of the lesson, do the wrap-up to conclude the lesson.*

# Assessment
# Part 2—Secondary (Focused) Assessment

## LESSON LENGTH

1 hour, 45 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Discuss the importance of a taking a personal history.
- Discuss how to take a history.
- Demonstrate taking a personal history by asking questions related to **s**igns and **s**ymptoms, **a**llergies, **m**edications, **p**ertinent past medical history, **l**ast intake and output, and **e**vents surrounding the incident (SAMPLE).
- Discuss the importance of a hands-on physical exam.
- Demonstrate a hands-on physical exam on a person.
- Discuss the importance of vital signs and their changes over time.
- Demonstrate how to take a set of vital signs, including:
  - Level of consciousness (LOC).
  - Respiratory rate (RR), rhythm and quality.
  - Heart rate (HR), rhythm and quality.
  - Skin color, temperature and moisture (SCTM).
- Discuss the importance of documentation.
- Demonstrate documentation in written and verbal form using information gathered using the **s**ubjective, **o**bjective, **a**ssessment and **p**lan (SOAP) format.

***Instructor's Note:*** *At this level of training, participants will demonstrate mastery of these objectives by following written class notes or resources—not from memory.*

# TOPIC: GETTING THE WHOLE PICTURE

Time: 10 minutes

## Key Points:

- **Once you have completed the primary assessment, conduct a secondary (focused) assessment.**
- **Performing a hands-on physical exam and doing a SAMPLE history provides you with the information you need to give care. What you find might cause you to reconsider call and evacuation decisions as well.**
- **The goals of the secondary assessment are to find every problem requiring first aid and to do no further harm.**
- **If you need to remove clothing or gear:**
  - **Always consider the environmental conditions, such as the cold and wet ground, when removing clothing from an injured person.**
  - **If you cut clothing, it may become useless, which could be dangerous in a remote environment. If you must cut clothing, cut along the seams for easier repair if necessary. If clothing is cut during the secondary assessment, attempt to repair it later.**
  - **Close clothing after checking the area to prevent possible hypothermia and to keep the person comfortable. Be sensitive to gender and cultural differences.**
- **One responder should do the exam for consistency, while a second person, if available, records the findings.**
- **The secondary assessment includes the SAMPLE history, a hands-on physical exam and documentation.**
- **In general, if the person is able to talk, start with SAMPLE to collect as much information as quickly as possible, in case he or she loses consciousness.**
- **If the person is unable to talk, refer to other members of the group and to completed medical forms carried by the group leader, if available. For those not part of an established group, bystanders might be able to provide you with answers to the SAMPLE history. You can also look for medical identification (ID) bracelets or necklaces.**
- **In either case, document signs and symptoms as you proceed, ideally using the Wilderness and Remote First Aid Report Form/Rescue Request.**
- **Just as you learned to look, listen and feel for breathing in cardiopulmonary resuscitation (CPR), you will need to apply the same concept to the secondary assessment.**
  - ***Look* for signs of injury and illness.**
  - ***Listen* to the person's words and responses to your touch.**
  - ***Feel* body parts.**

# TOPIC: TAKING A SAMPLE HISTORY

Time: 22 minutes

## Key Points:

- **The mnemonic SAMPLE helps guide you in gathering the history of a person and events surrounding the incident.**
- **Combining the SAMPLE history with the physical exam helps you make care and call/evacuation decisions.**
- **Speak calmly, and do not use leading questions. For example, say, "Describe your pain" instead of "Is it a sharp pain?"**
- **Be aware of your tone of voice, body language and eye contact.**
- **People usually feel better and respond better if they think you are nice—but do not make promises you cannot keep. If you gain trust, you must maintain trust.**

## The SAMPLE History

## Key Points:

- **S = Ask the person about his or her signs and symptoms (i.e., what hurts?). Is the person experiencing any pain, nausea, light-headedness or other things you cannot see? Does the person have red, swollen or bleeding body parts? Is the person confused or walking irregularly?**
- **A = Ask the person about his or her allergies. Are there any known allergic reactions? What happens? Has there been any recent exposure?**
- **M = Ask the person about any medications he or she might be taking. Are they over the counter or prescription? Why are they taking them? When was it last taken?**
  - **It may be helpful to locate and keep medications with the person.**
- **P = Ask the person for any pertinent past medical history. Has anything like this happened before? Is the person currently under a health care provider's care for anything? Does the person have any chronic (long-term) conditions?**
- **L = Ask the person about his or her last intake and output. When was food or drink last taken? How much? Is the person cold, hungry or exhausted? When did the person last urinate and defecate? Was it normal?**
- **E = Ask the person about the events leading up to the accident or illness. What led up to the events? When did it happen? Why did it happen?**

## SAMPLE History Skill Practice

## Activity:

- Divide participants into pairs, with one assuming the role of the interviewer and the other assuming the role of a conscious person who has experienced an injury or illness.
- The conscious person will provide answers to the SAMPLE history questions asked by the interviewer. Refer participants to the emergency reference guide or pocket guide to use while

interviewing the persons. Sample situations follow, but participants are encouraged to make up their own situation if they desire:

- **"While on a hike, a person's foot was briefly trapped while crossing over a downed tree across a path. There is now significant pain in the ankle and foot."**
- **"While clearing some downed limbs on a path, a person was apparently stung by something."**
- **"A person slipped on a muddy edge of a creek bed and landed on his or her arm while trying to catch him- or herself."**

- Tell the interviewer to record his or her findings on a Wilderness and Remote First Aid Report Form/ Rescue Request.
- Have the participants switch roles if time allows.
- Review results with the participants and remind them that they will need to do a SAMPLE history in every scenario in the course and in a real emergency.

# TOPIC: DOCUMENTATION

Time: 5 minutes

***Instructor's Note:*** *Have participants look at the Wilderness and Remote First Aid Report Form/Rescue Request while reviewing this information.*

## Key Points:

- **A responder's ability to remember details is usually reduced by stress and the chaos of an emergency.**
- **Specific information about the person will help rescue personnel make decisions about the type of evacuation and equipment needed.**
- **Retention of information is also important for medical and legal reasons.**
- **Write everything down as soon as possible as long as taking notes does not interfere with giving care. Use the Wilderness and Remote First Aid Report Form/Rescue Request to record the information.**
- **Use the acronym SOAP for cues on what information is needed to make informed decisions. SOAP stands for:**
  - **S = Finding out about subjective information.**
    - **What are the person's complaints?**
    - **What does the person think is happening?**
    - **What subjective information was learned through the SAMPLE history?**
  - **O = Obtaining objective information.**
    - **What are the physical exam results?**
    - **What are the person's vital signs?**
    - **What objective information was learned through the SAMPLE history?**
  - **A = Assessing the person and the situation.**
    - **Based on the information you have, what do you think is wrong?**

- **P = Planning your care.**
  - **What are you going to do immediately for the person?**
  - **Should you stay or evacuate? If evacuating, should you go fast or slow?**
  - **How will you continue to monitor the person for changes and developing needs?**

***Instructor's Note:*** *As you review the SOAP information, ask participants to identify sections of the Wilderness and Remote First Aid Report Form/Rescue Request that correlate with each type of information.*

# TOPIC: PERFORMING A HANDS-ON PHYSICAL EXAM

Time: 33 minutes

***Instructor's Note:*** *Explain to participants that in a few minutes they will practice a hands-on physical exam so you will not demonstrate checking the person head to toe now.*

## Key Points:

- **Using mechanism of injury (MOI) or SAMPLE information, record the circumstances of the incident to estimate the type and severity of injury or illness. With minor injuries or a minor accident, a complete exam may not be necessary.**
- **Do not make assumptions about the MOI, particularly if you did not witness the incident.**
- **Keep in mind that some individuals may not be aware of the severity of their own injuries.**
- **Check the person from head to toe systematically, ideally in this order: head, face, ears, neck, chest, abdomen, pelvis, genitalia, each arm, each leg and the back.**
- **Ask where it hurts and if it hurts when touched. Remember, do not cause any more harm.**
  - **Do not directly touch obvious fractures.**
  - **Feel everything else gently but firmly (except genitalia, unless there is suspected injury).**
- **What are examples of signs and symptoms?**
  ***Answers:*** *Responses should include the following:*
  - *Pale, sweaty skin*
  - *Nervousness*
  - *Unnatural position of limbs*
  - *Person is guarding an area or unable to move a part of the body*
- **Another mnemonic, DOTS, can help you determine whether there are any injuries or illnesses:**
  - **D = Deformities, such as depressions or indentations**
  - **O = Open injuries, such as penetrating wounds or cuts and scrapes**
  - **T = Tenderness from touch; common with burns, wounds and infection**
  - **S = Swelling anywhere**
- **Be aware of unusual smells, such as breath odor, or sounds, such as coughing.**
- **If you suspect an injury may be hidden beneath clothing, look beneath the clothing at the skin.**

- **Check circulation, sensation and motion (CSM) for each body part as follows:**
  - **As you examine each body part, ask about pain or sensation first.**
  - **Then look at the part and touch the part.**
  - **Only ask the person to move the part if no severe pain is experienced.**
- **Note any medical ID bracelets or necklaces.**
- **Check the person's pulse away from the injury and the heart, for example on the wrist or foot.**
- **For each hand and foot, check CSM as follows:**
  - **Pinch or scratch the foot or hand and ask the person whether he or she feels anything.**
  - **When asking for movement, start with small movements and then progress to larger ones.**
  - **If you suspect a fracture, do not ask the person to move the entire limb.**
- **If you suspect a head, neck or back injury, do not ask the person to sit up or move about.**

## Hands-On Physical Exam Skill Practice

### Activity:

- Have participants form groups of three. One person performs the exam, one person documents the exam and the other assumes the role of a conscious person. Use the same scenarios from the SAMPLE history activity. Participants should switch roles if time allows.
- Review results with the participants and remind them that they will need to do a hands-on physical exam in every scenario in the course and in a real emergency.

## Skills Chart: Hands-On Physical Exam

| | |
|---|---|
| **Checking the Head, Face and Ears** | ■ Feel for depressions in the skull.<br>■ Look for open injuries, swelling, damage to the eyes and fluid in the mouth, nose or ears.<br>■ Ask the person whether he or she has any vision problems. |
| **Checking the Neck** | ■ Feel both sides for pain or deformity.<br>■ Check for open injuries or swelling. |
| **Checking the Shoulders** | ■ Feel for pain. Press down on the shoulders, and then press inward toward the center of the body.<br>■ Look for symmetry between the shoulders.<br>■ Check the collarbone. |
| **Checking the Chest** | ■ Press both sides simultaneously.<br>■ Ask the person to inhale and exhale deeply. Look and listen for the ability to take a deep breath, uneven breathing movements of the chest wall and abnormal breathing sounds.<br>■ Press the sternum. |
| **Checking the Abdomen** | ■ Gently feel by pressing on all four quadrants (with the belly button as the central point) for pain using the flat part of the fingers of one hand.<br>■ Always start away from any known pain. |

## Skills Chart continued

| | |
|---|---|
| **Checking the Pelvis** | ■ Push by pressing downward on the two pelvic crests, and then press inward toward the center of the body.<br>■ Feel for and note whether bones are solid or mushy. |
| **Checking the Genitals** | ■ Check if, and only if, it seems relevant. If you need to check, take steps to protect the person's privacy.<br><br>***Instructor's Note:*** *Make it clear to participants that genitals must not be checked as part of skills practice.* |
| **Checking Each Arm and Hand** | ■ Check for symmetry.<br>■ Ask the person to press arms inward against your hands. Then ask the person to push arms outward against your hands.<br>■ Ask the person to grasp both your hands at once (checking for equal power).<br>■ Ask the person to make a fist with each hand.<br>■ Check CSM of each hand:<br>○ Circulation (warm and pink)<br>○ Sensation (touch)<br>○ Motion (ability to move) |
| **Checking Each Leg and Foot** | ■ Check with both hands, looking for symmetry.<br>■ Ask the person to press legs inward against your hands. Then ask the person to push legs outward against your hands.<br>■ Ask the person to push downward against your hands with toes (pointing toes). Then ask the person to flex foot toward head.<br>■ Check CSM of each foot:<br>○ Circulation (warm and pink)<br>○ Sensation (touch)<br>○ Motion (ability to move) |
| **Checking the Back** | ■ Roll the person (if found flat on his or her back) to assess the back. If you suspect a spinal injury, perform a log roll to check the person's back. If the person is found face-down, assess the back after the head.<br>■ Press on every bone of the spine.<br>■ This is an appropriate time to place the person on a pad for protection from the cold or wet ground. |

## LESSON 3

# TOPIC: TAKING VITAL SIGNS

Time: 30 minutes

### Key Points:

- **Vital signs are measurements of the physiologic processes necessary for normal functioning. They do not often tell you what is wrong, but they do tell you how the person is doing through snapshots of the body's essential functions.**
- **Changes in vital signs over time are indicators of changes in the condition of the person.**
- **Check vital signs early and keep checking. Record your findings, along with a description and the time vital signs are taken, on the Wilderness and Remote First Aid Report Form/ Rescue Request.**
- **Vital signs may be measured in a separate step or be incorporated into the hands-on physical exam. The basic set of measurements includes the following:**
  - **Level of consciousness (LOC)**
  - **Breathing or respiratory rate (RR)**
  - **Pulse or heart rate (HR)**
  - **Skin color, temperature and moisture (SCTM)**

***Instructor's Note:*** *Inform participants that normal values can be found in the emergency reference guide and pocket guide.*

## Level of Consciousness

### Key Points:

- **The LOC is a check on how well the brain is communicating with the outside world.**
- **Use the AVPU scale for quick reference when rating the LOC as follows:**
  - **A = Alert and able to answer orientation questions. Ratings are further designated as:**
    - ***A+O×4:*** **knows who (name), where (current location), when (day) and what happened.**
    - ***A+O×3:*** **knows who, where and when.**
    - ***A+O×2:*** **knows only who and where.**
    - ***A+O×1:*** **knows only who.**
  - **V = Responds only to verbal stimuli, for instance by grimacing or rolling away from your voice when you speak or shout.**
  - **P = Responds only to painful stimuli, such as a pinch.**
  - **U = Unresponsive to any stimuli.**

## Respiratory Rate

### Key Points:

- **To determine a person's RR, count the number of breaths per minute without telling the person what you are doing. A person who knows you are checking often alters their breathing rate in an attempt to be accommodating.**

- **Note the rhythm and quality of the respirations. Normal values for an adult are about 12 to 20 breaths per minute at a regular and unlabored pace. Document the number and any unusual noises associated with breathing.**
- **If it is difficult to check the rate of breathing by sight, place your hand where the person's chest and abdomen meet and count the number of movements in 1 minute.**
- **Note the presence of gurgling sounds or sputum coming from the person's mouth or nose.**

## Heart Rate

### Key Points:

- **To determine the person's HR, count the number of heartbeats per minute. To do so:**
  - **Locate the person's pulse at his or her wrist, at the brachial artery in the arm, or at the neck, ankle or top of the foot.**
  - **Use the first two fingers of your hand, not your thumb, to check the pulse.**
  - **Count the person's pulse for 30 seconds.**
  - **Multiply by two.**
- **Note the rhythm and quality of the pulse. Is it regular or irregular, weak or strong?**
  - **Normal heart rates are regular and strong and are typically between 60 and 100 beats per minute.**
- **Document the pulse rate, a description of the strength and regularity of the pulse, the time and the location it was taken on the body.**

## Skin Color, Temperature and Moisture

### Key Points:

- **When assessing SCTM, use these guidelines:**
  - **SC = Normal skin color is pink in non-pigmented areas, such as the inner surface of the lips and eyelids.**
  - **T = Temperature should be warm.**
  - **M = Moisture of the skin (skin should be dry to the touch).**

## Vital Signs Skill Practice

### Activity:

- Have participants return to their groups of three from the hands-on physical exam activity. One person takes vital signs, one person records the findings and the other assumes the role of the injured person. Encourage the responders to find the person's pulse in different places and compare the results for a peer check. Switch roles as time permits.
- Review results with the participants and remind them that they must check vital signs in every scenario in the course and in a real emergency.

## Ongoing Assessments

### Key Points:

- **Take all vital signs periodically and record the results, ideally on the same report form.**
- **Persons who are unstable should be reassessed at least every 5 minutes, or more often if indicated by the person's condition. Reassess stable persons every 15 minutes or as deemed appropriate by the person's condition.**
- **For minor injuries, frequent checking of vital signs may not be necessary.**
- **Note any worsening of vital signs and re-examine the person for missed injuries if this occurs.**

# TOPIC: RE-CHECKING RESOURCES

Time: 3 minutes

### Key Points:

- **You have checked the scene and performed primary and secondary assessments of the injured or ill person. Now, you will continue to gather information to give proper care for the person, determine which resources you need and make the decision to stay or evacuate.**
  - **Observe changing conditions that could endanger you and other rescuers or the person (e.g., nightfall or an approaching storm).**
  - **Note conditions that would make it difficult for you to get help.**
  - **Note whether you will have to move the person.**
  - **Think about resources, such as people available to help, communications, food, water, shelter, supplies and available transportation.**
  - **Use the Wilderness and Remote First Aid Report Form/Rescue Request and your emergency reference guide to help make decisions. These will be detailed in future lessons.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about performing a secondary assessment.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

# CALLing for Help and Evacuation Considerations

## LESSON LENGTH

15 minutes (approximately 30 minutes with Additional Activities)

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe four options for obtaining help and the factors for making the best choice.
- Discuss the options for calling from a delayed-help perspective.
- Demonstrate a call using the Wilderness and Remote First Aid Report Form/Rescue Request.
- Identify critical factors in ensuring a successful evacuation.
- Demonstrate planning and preparing the injured or ill person and the group for evacuation.

## TOPIC: CALL—EVACUATION EVALUATION OVERVIEW

Time: 2 minutes

### Key Points:

- **In a delayed-help environment, you will use the information in CHECK—CALL—CARE to help determine whether evacuation is necessary. You may find that:**
  - **A simple means of calling exists, for example a cell phone, that allows you to immediately call when a life-threatening incident has occurred.**

- No simple means of calling exists, but there are enough people to give care and collect information on the person's condition while others prepare to go for help or seek other means to call for help.
- No simple means of calling exists, and there are no additional resources to help with care and calling.

- Proper planning based on the needs of the person, changing environmental conditions and the resources available will help guide what to do and in which order to do it. This includes everything from the first aid needs of the person, to the roles of other group members, to the evacuation plan. Be sure you have all the necessary information before calling for help.

# TOPIC: GUIDELINES FOR EVACUATION: DECISION MAKING

Time: 3 minutes

## Key Points:

- In a delayed-help situation, you have four options for getting help. You must decide whether to:
  - Stay where you are and call, radio or signal for help.
  - Send another group member for help or, in extreme situations, leave the person alone to go for help yourself.
  - Transport the person to help.
  - Care for the person where you are until he or she has recovered enough to travel on his or her own.
- To decide the best approach, ask yourself these questions:
  - Is advanced medical care needed and, if so, what is the urgency of the care? Is it needed immediately or can it wait?
  - How likely is it that someone will come looking for the group and how likely is it that they will find the group?
  - Is there a way to call from the scene for help or advice?
  - If phone or radio communication is not possible, is there a way to signal for help?
  - If there is no way to call or signal for help:
    - Is there a way to safely transport the person to help?
    - Is it possible to give care where you are until the person can travel?
    - Is it safe to wait for help where you are?
- Even if no "best" plan exists, you may be able to reduce the risks to both you and the injured or ill person by following a few guidelines.
- You can also do more than one thing at a time, such as starting a slow evacuation while sending a group for additional help.

# TOPIC: GUIDELINES FOR MAKING A CALL

Time: 6 minutes

## Key Points:

- **If you have a means of quickly calling for help, first gather information to describe:**
  - **The person's condition.**
  - **Your location, including:**
    - **Global positioning system (GPS) coordinates.**
    - **Prominent landmarks, considering that some may not be visible at night.**
    - **In what way you have marked your area, if possible.**
    - **Mileage ONLY if you are sure of the distance and how long it took you to get to the spot. Do not give approximations.**
  - **Any other basic information that emergency medical services (EMS) or rescue personnel may need.**
- **In some situations, you may choose to summon help with commercial or improvised distress signals. There are two common types:**
  - **Signals given in groups of three, such as three whistle blasts**
  - **Ground-to-air signals**

## Shout It Out

## Activity:

- If participants have their gear, ask them to quickly find materials in their own gear that they could use to signal distress or mark their location for air or land rescue.
- If participants do not have their gear with them, ask them: **"In what ways could you signal distress or mark your location for air or land rescue based on what you would normally have in a remote location?"**

  ***Answers:*** *Responses and the reasons for use could include the following:*
  - *Flare guns can be seen and heard for long distances. However, be aware of hazards that may arise when marking your area with flare guns because fires could be sparked by the use of flares.*
  - *Smoke, mirrors or open, bright, color ponchos can be seen for long distances.*
  - *Whistles can be heard for long distances.*
  - *Various one-way radio beacons are available for both marine and wilderness use.*
- Tell participants that the CALL decisions, including how to call, should be simulated in all course scenarios.

## LESSON 4

# TOPIC: PROVIDING CONTINUED CARE WHILE WAITING FOR HELP

Time: 2 minutes

### Key Points:

- **In a delayed-help situation, continue to monitor the injured or ill person until outside help can be obtained.**
- **Continue to monitor vital signs and conduct a hands-on physical exam every 15 minutes for a stable person and every 5 minutes for an unstable person.**
- **Follow these guidelines when monitoring the person:**
  - **Continuously monitor a person who is unconscious.**
  - **Record what you find each time you re-check the person. Note any changes and the time the changes occurred on the report form/rescue request. Also, note any care given.**
  - **Re-evaluate the decision to evacuate as the environment, condition of the person or group changes.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about calling for help and evacuation considerations.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

## Additional Activities

***Instructor's Note:*** The following activities are optional, if time permits.

### TOPIC: EVACUATION CONSIDERATIONS OVERVIEW

Time: 2 minutes

### Key Points:

- **When a decision has been made to evacuate a person without outside help there are important steps to take to ensure that evacuation is successful.**
- **If you find there is no choice but to stay in place and wait for help, there are also steps you can take to minimize the risk to the person and to yourself.**
- **In any delayed-help situation, it is important to remain calm and follow the decided plan of action. Provide support and reassurance to the person and the group until EMS personnel arrive and take over.**

## TOPIC: GUIDELINES FOR SUCCESSFUL EVACUATION

Time: 9 minutes

# Shout It Out

### Activity:

- Tell participants that this activity will help them identify important considerations when making an evacuation decision.
- Have participants form three groups. Explain that you are going to read a scenario and assign each group a different evacuation decision.
- Ask participants to imagine the following scenario:
  **"A person has been injured in a kayak accident. She made it to shore, but is drowsy and hypothermic and possibly experienced a seizure. There are five group members who can assist you. It is now dark and beginning to rain. You are more than 2 miles from the closest ranger station, but you are on a regularly hiked trail. You have no easy access to calling and you make an evacuation decision to:"**
  - Group 1: Send someone for help.
  - Group 2: Care for the person until he or she is able to leave on his or her own.
  - Group 3: Transport the person to help.
- On newsprint, have each group generate a specific plan to implement their evacuation decision in as much detail as possible, in about 5 minutes. Encourage the use of the emergency reference guide, pocket guide and Wilderness and Remote First Aid Report Form/Rescue Request.
- Wrap up by asking participants which evacuation decision they think would be best in this scenario and why.

# Sending for Help

### Key Points:

- **Before sending anyone for help, consider whether tasks at the scene require everyone's help and that they know how to get back.**
- **If someone goes for help—whether it is you or another person—what written information should you bring with you?**
  ***Answers:*** *Responses should include the following:*
  - *The person's condition, medical information and characteristics, such as height and weight*
  - *A map indicating the person's location*
  - *A list of other members in the group*
  - *Available resources, including first aid supplies, transportation, shelter, communication/GPS equipment, food and water*
  - *A record of weather, terrain and access routes, if known*

- **If sending a person to use a vehicle to pick you up or to access additional help, remember to give them the keys to the vehicle!**
- **Make sure any party member can lead rescuers back to the person, which is more important than traveling quickly.**
  - **Always mark the way so the person can find the way back.**
  - **Look back regularly at the area that you just traveled to familiarize yourself with it for the return trip.**
  - **Use compass readings and maps, charts or GPS/handheld equipment when possible.**

## Leaving a Person Alone

### Key Points:

- **If you are alone with a person, it may be best to leave him or her and go get help.**
- **Before leaving a person:**
  - **Write down the route, the time you are leaving and when you expect to be back, and leave it with the person. Also verbally communicate this to a conscious person.**
  - **Write down information about the person's condition and location on the report form/ rescue request and take it with you.**
  - **Make sure the person has adequate and easily accessible food, water, shelter and an improvised urinal.**
  - **Re-check any splints or bandages.**
- **If the person is unconscious, place the person in the recovery position.**
  - **Be aware of the potential for nerve and blood vessel injury if the person lies on one arm for a prolonged period. It may be necessary to roll the person to the other side or pad the area before leaving.**
  - **Place the person in a modified H.A.IN.E.S. recovery position if a head, neck or back injury is suspected and you must leave the person alone.**
  - **Keep the person from becoming chilled or overheated.**

## Transporting the Person to Help

### Key Points:

- **Consider transporting a person to help if a vehicle or other means of transportation is available.**
- **What else should you consider when transporting a person?**
  ***Answers:*** *Responses should include the following:*
  - *The extent of the person's injuries*
  - *The distance to be traveled*
  - *Additional help available at the scene*
- **Do not attempt to transport a person with a possible head, neck or back injury unless you have the proper equipment and training.**

## Shout It Out

### Activity:

- Have participants get back into their three groups from the previous activity.
- Using the newsprint, have groups compare common requirements and risks of different plans, using the key points just discussed.
- Ask participants to determine what additional steps should be taken to ensure the safety of the person when left alone.

### TOPIC: GUIDELINES WHEN WAITING FOR HELP

Time: 4 minutes

## Setting Up a Temporary Shelter

### Key Points:

- **When unable to evacuate, bad weather or falling temperatures may become a problem for you, your group and the injured or ill person.**
- **Protect all involved parties from the environment by finding or building a shelter.**
- **There are three options for shelters:**
  - **Artificial shelter, such as a tent, bivouac sac or building**
  - **Natural shelter, such as a cave, overhang or windbreak**
  - **Shelter from tree branches, emergency blankets or tarps, or packed and dug-out snow**
- **The type of shelter you choose will depend on:**
  - **Where you are.**
  - **The resources available.**
  - **Whether you can move the person or need to construct a shelter over the person.**
- **Make sure any shelter is well ventilated. Do not take camp stoves into an enclosed shelter.**
- **An emergency candle will give off sufficient heat in a relatively enclosed space. If you use a candle, be careful of fire and make sure there is ventilation.**

## Scene Safety Considerations for a Helicopter Evacuation

### Key Points:

- **If a helicopter is sent to evacuate a person, qualified rescue personnel make the decisions if they should land and where to land.**
- **You can help ensure success by taking these steps:**
  - **Help identify the location of a flat, football field-sized area that has no slopes, large rocks or other obstacles.**
  - **Provide map and/or GPS coordinates in your rescue request.**
  - **Clear the area of debris and camping gear.**
  - **Secure any clothing or loose items.**
  - **Never approach a helicopter! Let personnel exit and come to you.**
  - **Make sure the person is ready to go.**
  - **Gather the entire group in an area well away from the landing zone.**
  - **Give appropriate documentation to the rescue team.**
  - **Manage group safety at all times.**

***Instructor's Note:*** *If the additional activity was done during the lesson, return to that point in the lesson and proceed. If the additional activity was done at the conclusion of the lesson, proceed to the Wrap-Up for the lesson.*

# Shock and Heart Attack

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define shock and discuss briefly the stages of shock.
- List the signs and symptoms of shock.
- Describe when shock may be a threat to life.
- Demonstrate the emergency treatment of shock.
- Describe the long-term care for a person in shock.
- Define heart attack.
- List the signs and symptoms of a heart attack.
- Demonstrate the emergency treatment of a heart attack.
- Describe the long-term care for a person having a heart attack.
- Describe situations that would require an evacuation versus a rapid evacuation.

## TOPIC: SHOCK AND HEART ATTACK OVERVIEW

Time: 2 minutes

### Key Points:

- **_Shock_ is a condition that results when the cardiovascular system is challenged, causing the person's brain and other body cells to receive an insufficient flow of oxygenated blood. The technical term for this is _inadequate perfusion._**
- **Shock can occur from a great variety of injuries and illnesses. These include, but are not limited to:**

- Loss of the necessary level of fluid in the body because of blood loss or dehydration.
- Loss of adequate pressure in the blood vessels of the body because of spinal cord damage or a severe allergic reaction.
- Heart attack.
- Psychogenic shock (fainting).

- A *heart attack* happens when the heart muscle does not receive an adequate supply of oxygen-rich blood.
- Heart attack (resulting from coronary heart disease) is the leading cause of death in the United States. It can, but does not always, lead to shock.
- Heart attack-induced shock makes the situation even more serious and likely fatal.
- You must be able to intervene with proper care, as well as know when the person needs a higher level of care than you can give.

# TOPIC: CHECKING AND CARING FOR SHOCK

Time: 14 minutes

## Signs and Symptoms

### Key Points:

- A person in shock progresses through several stages as he or she deteriorates.
- Though shock may occur for several reasons, the signs and symptoms are similar.
- What are the signs and symptoms of the early stages of shock?

  ***Answers:*** *Responses should include the following:*
  - *A level of consciousness (LOC) that is anxious, restless and/or disoriented.*
  - *A heart rate (HR) that is rapid and weak or otherwise irregular.*
  - *A respiratory rate (RR) that is rapid and shallow.*
  - *Skin color, temperature and moisture (SCTM) that is pale, cool and clammy (but may be pink and warm in some cases, such as if shock is the result of an allergic reaction or spinal injury).*
  - *Nausea (and sometimes vomiting), dizziness and excessive thirst.*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of shock if they are having trouble answering the question.*

- In the later stages, look, listen and feel for:
  - LOC that continually decreases; the person may become lethargic, apathetic and/or eventually unresponsive.
  - Heart rate in which the radial pulse (pulse at the wrist) grows increasingly rapid, weakens and eventually disappears.

# Care for Shock

## Key Points:

- **Always care for shock until the person is at a normal state for him- or herself.**
- **Shock that is not managed can lead to death.**
- **Options to care for shock are severely limited in the wilderness. Early recognition and management is critical.**
- **What steps can you take to help a person who is in shock?**

  ***Answers:*** *Responses should include the following:*
  - *Identify causes, such as bleeding or dehydration, and care for causes immediately.*
  - *Keep the person calm and reassured.*
  - *Keep the person lying down or in a position of comfort.*
  - *Maintain an open airway.*
  - *Monitor vital signs.*
  - *Maintain the person's normal body temperature (e.g., place on a sleeping pad to insulate from the ground or cover the person if he or she is shivering).*
- **What steps can you take for long-term management of shock?**

  ***Answers:*** *Responses should include the following:*
  - *If the person will be able to get to a hospital within a few hours, do not give food or fluids.*
  - *If evacuation will take longer, the person tolerates fluids and his or her mental status allows holding and drinking from a container, give sips of fluid.*
  - *Never give fluids to an unconscious person or to a person with a serious head or abdominal injury.*
  - *If the person vomits, wait before giving them any more to drink. Do not force anything by mouth.*

## LESSON 5

# TOPIC: CHECKING AND CARING FOR HEART ATTACK

Time: 5 minutes

## Shout It Out

### Activity:

- Remind participants that they learned about heart attacks in the cardiopulmonary resuscitation (CPR) class they took as a prerequisite for this course.
- Ask participants: **"What are signs and symptoms of heart attack?"**
  ***Answers:*** *Responses should include the following:*
  - *Complaint of center-chest discomfort, such as crushing, squeezing pain or heavy pressure*
  - *Pain, predominantly on the left side, that may radiate to the shoulder, down the arm or into the jaw*
  - *Nausea, sweating and shortness of breath*
  - *Denial of the possibility that this could be a heart attack*
  - *Unexplained fatigue*
  - *Sudden, sharp but short-lived pain outside the breastbone*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of a heart attack if they are having trouble answering the question.*

## Care for a Heart Attack

### Key Points:

- **If a person is experiencing the signs and symptoms of a heart attack, keep him or her physically and emotionally calm, in a position of comfort (usually not lying down) and warm.**
- ***Do not* allow the person to walk, even short distances.**
- **Call for help as soon as possible.**
- **Help the person self-administer two to four chewable low-dose aspirins (81 mg each) or one 325 mg aspirin, if he or she can swallow and has no known contraindications. Give aspirin only to adults (not children).**
- **Coated aspirin products or products meant for multiple symptoms/uses such as cold, fever and headache should not be used. Coated aspirin takes too long to dissolve to be effective but can be taken if it is all you have on hand.**
- **If the person has a strong radial pulse and has been prescribed nitroglycerin, assist in self-administering one pill under the tongue with the person sitting or lying down—but only if there is a pulse in the wrist. Follow the instructions on the prescription.**
- **If a person is unconscious and there is no movement or normal breathing, immediately begin CPR or use an automated external defibrillator (AED), if one is available.**

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications.*

# TOPIC: MAKING DIFFICULT DECISIONS DURING RESUSCITATION

Time: 5 minutes

## Key Points:

- **In delayed-help CPR situations, you may be faced with the difficult decision of determining how long to continue resuscitation efforts if the person's condition does not improve and help is hours away.**
- **Keep these things in mind:**
  - **You ultimately must make your own decision based on the information you have.**
  - **Some persons will die in a delayed-help situation because no emergency medical services (EMS) response is available.**
  - **CPR will not sustain a person's life indefinitely.**
- **Survival chances are not good if there is direct injury to the heart, such as a heart attack, or a trauma, such as a crushing or penetrating wound to the heart.**
- **There is a better chance of CPR being effective if the person experienced hypothermia, a lightning strike or drowning.**
- **Some general rules to follow:**
  - **Continue CPR until you notice an obvious sign of life, another trained person arrives and takes over, EMS personnel arrive and take over, you become too exhausted or the scene becomes unsafe.**
  - **Performing CPR for too long may create an unsafe scene for you and the rest of the group (physically and mentally).**

# TOPIC: GUIDELINES FOR EVACUATION

Time: 2 minutes

## Key Points:

- **Deciding whether to evacuate slowly or rapidly is an important part of your care for shock and heart attack.**
- **Evacuate any person with signs and symptoms of shock that do not stabilize or improve over time.**
- **GO FAST to rapidly evacuate any person with decreased mental status or worsening vital signs, especially if the person's heart rate continues to increase. The person will need to be carried.**
- **GO FAST to rapidly evacuate anyone whom you assess as having a heart attack. The person will need to be carried.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about shock and heart attack.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 6

# Chest Injuries

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- Non-latex disposable gloves (multiple sizes; at least one pair for each participant)
- Occlusive dressing (both commercial and improvised, as examples)
- First aid tape

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Demonstrate a field assessment of a person with a chest injury.
- Describe the emergency treatment of and long-term care for:
  - Fractured rib/clavicle.
  - Pneumothorax.
  - Tension pneumothorax.
  - Flail chest.
  - Sucking chest wound.
- Describe situations that would require an evacuation versus a rapid evacuation.

## TOPIC: CHECKING AND CARING FOR CHEST INJURIES

Time: 5 minutes

### Key Points:

- **Any significant injury to the chest may lead to difficulty breathing, which is potentially serious and life threatening.**
- **Responders must be able to:**
  - **Properly identify and provide first aid for all chest injuries.**
  - **Recognize a serious chest injury.**
  - **Know when a person needs assistance and how quickly it is needed.**
- **A focused assessment of the chest is critical.**

- **What are some signs and symptoms that may indicate a chest injury?**
  ***Answers:*** *Responses should include the following:*
  - *Deformity, open injuries, tenderness and swelling (DOTS)*
  - *Windpipe/trachea pushed to one side of the neck*
  - *Abnormal breathing*
  - *After exposing the chest and back:*
    - *Bleeding or holes, with or without bubbles, and bruising*
    - *Unusual noises like gurgling*
    - *Abnormal chest rise*
  - *Person's guarding of a particular area*
  - *While exerting some pressure with your hands:*
    - *Cracking or crumbling sounds or depressions*
    - *Pain or point tenderness along the ribs or the clavicle*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of chest injuries if they are having trouble answering the question.*

# TOPIC: CHECKING AND CARING FOR SPECIFIC INJURIES

Time: 15 minutes

## Key Points:

- **Now that you have learned how to assess chest injuries, we will look more closely at how to assess and care for specific types of chest injuries.**
- **Chest injuries include injuries to the ribs or the lungs, flail chest and sucking chest wounds.**

## Rib Injuries

## Key Points:

- **What are possible signs and symptoms that might indicate a rib injury?**
  ***Answers:*** *Responses should include the following:*
  - *Pain in the rib or clavicle area*
  - *Complaints of an increase in pain when taking a deep breath*
  - *Discoloration, bruising or swelling that may indicate that a rib is broken*
  - *Guarding the injury from being moved or touched*
  - *A point where the pain is most intense if you gently touch along the rib*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of rib injuries if they are having trouble answering the question.*

- **Protect a simple fractured rib by supporting the arm on the injured side with a sling-and-swathe. This may also help to ease some discomfort. Do not wrap a band snugly around the person's chest.**

***Instructor's Note:*** *The sling-and-swathe procedure is described in the Bone and Joint Injuries section of the instructor's manual and emergency reference guide.*

- **Encourage the person to regularly take deep breaths, even if it hurts, to keep the lungs clear of fluid, particularly if an evacuation will be lengthy. Be aware of increasing difficulty in breathing.**
- **A person may find comfort by holding a bulky jacket or pillow against his or her side.**

## Lung Injuries

### Key Points:

- **Lung injuries can lead to *pneumothorax*, a condition in which air escapes the lung and collects in the chest. This is characterized by:**
  - **Increased difficulty breathing.**
  - **Rising level of anxiety.**
- **Pneumothorax can worsen until the person is unable to breathe adequately, a condition known as *tension pneumothorax*. This may result in death.**
- **Suspicion of a pneumothorax calls for rapid evacuation.**
- **There is no treatment available at the wilderness first aid level for a lung injury. The person may find some comfort with the treatment for a fractured rib, but advanced medical care is still necessary.**

## Flail Chest

### Key Points:

- **When several ribs are broken in several places, a free-floating section of chest wall, called a *flail segment*, may result.**
- **The flail segment will move in opposition to the rest of the chest wall during breathing.**
- **Flails are not common, but when they occur they are a life-threatening condition that requires immediate evacuation. The speed of evacuation can make the difference between life and death.**
- **You may need to give rescue breaths during the evacuation.**
- **Taping a bulky dressing over the flail may allow the person to breathe easier. *Do not* place tape entirely around the chest, however, because that can lead to increased difficulty in breathing.**

## Sucking Chest Wound Demonstration

### Activity:

- Tell participants: **"A sucking chest wound is characterized by an open wound that bubbles and makes noises when the person breathes."**

- Tell participants: **"If an impaled object is causing the wound, do not remove it. Instead, immobilize the object and seal the wound as best as you can."**
- Demonstrate how to give care for a sucking chest wound as you talk participants through the steps in the skill chart.
- As you demonstrate the first step, hold up and pass around an example of an occlusive dressing.
- Tell participants: **"An *occlusive dressing* is a covering for a wound that does not let air or water pass through it, such as clear plastic."**
- Ask participants: **"What are some other materials that could be improvised for use as an occlusive dressing?"**

  ***Answers:*** *Responses could include the following:*
  - *Foil packaging*
  - *A plastic poncho piece*
  - *A plastic bag*

## Skill Chart

| | |
|---|---|
| **Caring for a Sucking Chest Wound** | 1. Follow standard precautions to prevent disease transmission.<br>2. Immediately cover the hole using an *occlusive dressing.*<br>3. Tape the dressing down securely on three sides.<br><br>***Note:*** *If the person has difficulty breathing, remove the dressing. A tension pneumothorax could be developing. Removing the plastic may allow air in the chest to be released. If removing the dressing does not help breathing, consider gently pushing a gloved finger into the hole to release trapped air. If an object is sticking out of the chest, stabilize and pack it*—do not *remove the object.* |

# TOPIC: GUIDELINES FOR EVACUATION

Time: 3 minutes

## Key Points:

- **GO SLOW when evacuating any person with a suspected fractured rib. Often, a person with this injury is able to walk.**
  - **A simple fractured rib must be evaluated by a health care provider.**
  - **Be sure to watch the person for increased difficulty breathing.**
- **GO FAST to rapidly evacuate any person who has sustained a chest injury associated with increased difficulty breathing. In this circumstance, the person must be transported.**
- **When evacuating a person with flail chest, transport the person on his or her side with the injured side down or in another position of comfort.**

# TOPIC: PREVENTING CHEST INJURIES

Time: 5 minutes

## Shout It Out

### Activity:

- Explain to participants that preventing chest injuries is important because many cannot be treated within the wilderness or remote setting.
- Encourage participants to respond to the following questions:
  - Ask participants: **"What are possible chest injuries you could anticipate in the wilderness or a remote location?"**

    ***Answers:*** *Responses will vary depending on participants, but could include the following:*
    - *Bullets or arrow penetration*
    - *Blunt force from falling or being struck by an object, including a motor vehicle or while riding a horse*
    - *Irresponsible handling of equipment leading to a chest injury*
  - Ask participants: **"What are smart ways to prevent chest injuries from occurring while in the wilderness?"**

    ***Answers:*** *Responses should include the following:*
    - *Use proper equipment. For example, ice axes should have guards that are removed only when conditions warrant.*
    - *Use caution during hunting seasons.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about chest injuries.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

# Head (Brain), Neck and Spinal Injuries

## LESSON LENGTH

2 hours

## MATERIALS, EQUIPMENT AND SUPPLIES

- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Scenario cue cards (one for each group; Appendix 3-10)
- Insulating pads (one for every two participants)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)
- Moulage (wound makeup) (optional)
- Non-latex disposable gloves (multiple sizes; at least one pair for each participant)
- Wilderness and Remote First Aid Competency Check Sheet (one for each group; Appendix 3-8)
- Materials for cervical collar
  - Improvised: Extra clothing, foam sleeping pad and towels

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Demonstrate a field assessment for injuries to the head.
- List the signs and symptoms of a closed head injury and a skull fracture.
- Describe the emergency treatment of and long-term care for a head injury.
- Describe how some head injuries could be prevented.
- List the most common mechanisms of injury (MOIs) for spinal trauma.
- List the signs and symptoms of spinal injury.
- Demonstrate a field assessment for injuries to the spine.
- Demonstrate how to properly restrict spinal motion with an improvised collar.
- Discuss the importance of proper lifting and moving of persons.

# LESSON 7

- Demonstrate a one-rescuer roll from back to side, side to back and face-down to back with placement of a protective pad underneath the person.
- Demonstrate a two- and three-rescuer roll from back to side, side to back and face-down to back with placement of a protective pad.
- Demonstrate **b**ody **e**levation **a**nd **m**ovement (BEAM) of a person.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Describe how some spinal injuries could be prevented.

## TOPIC: HEAD (BRAIN), NECK AND BACK INJURIES OVERVIEW

Time: 6 minutes

### Key Points:

- **Head (brain), neck and back injuries are among the most delicate of emergencies.**
- **Even when an injury does not seem severe, injuries to the head or spine can often progress to be serious or life threatening.**
- **The brain is a critical organ that relies on a constant flow of blood. If this flow is interrupted by trauma or internal factors, the entire body is at risk.**
- **Anyone who has received a significant blow to the head or face runs the risk of bleeding and swelling of the brain. This is especially dangerous because there is little room inside the head for swelling to occur. There may or may not be obvious external injuries.**
- **Internal injury to the brain may also occur in the form of a stroke—with catastrophic results.**
- **The brain may also cease to function without enough sugar in individuals with diabetes or shock victims.**
- **Brain injuries can cause death relatively quickly.**
- **Adequate care for a head or brain injury is not possible in the wilderness. Prevention should be one of your top priorities.**
- **Approach activities safely.**
- **Always wear a helmet approved for specific activities, such as biking, climbing and skiing.**
  - **Helmets must fit the user and be held in place with a non-stretching chin strap.**
  - **Wearing a helmet does not eliminate the potential of a serious injury, but it does reduce the risk.**

# TOPIC: CHECKING AND CARING FOR HEAD AND BRAIN INJURIES

Time: 10 minutes

## Superficial Scalp Injury

### Key Points:

- **Scalp wounds are head injuries that may lead to heavy bleeding or the growth of a goose egg-sized bump.**
- **Such wounds are rarely a serious threat if the skull is intact and the brain is relatively undamaged.**
- **Care for wounds as appropriate:**
  - **For a bleeding scalp, apply several dressings with your gloved hand. Press gently because the skull may be fractured. If you feel a depression, spongy area or bone fragments, do NOT put direct pressure on the wound. Control bleeding with diffuse pressure.**
  - **For a bump, apply a cold pack, remembering to protect skin with a barrier.**

## Mild Brain Injury

### Key Points:

- **Look for signs and symptoms of a mild brain injury. These include:**
  - **Short-term loss of consciousness or no loss at all.**
  - **Short-term amnesia.**
  - **Briefly blurred vision.**
  - **Nausea.**
  - **Headache.**
  - **Dizziness.**
  - **Lethargy.**
- **To care for mild brain injury:**
  - **Care for the wound as appropriate.**
  - **Monitor the person for 24 hours.**
  - **Awaken the person every 2 hours to check for signs and symptoms of serious brain injury.**

## Serious Brain Injury

### Key Points:

- **An injury may or may not involve a skull fracture. Signs and symptoms of a skull fracture include:**
  - **A depression in the skull. (*Do not* push on the area.)**
  - **A fracture that is visible where the scalp has been torn.**

- Bruising around both eyes (raccoon eyes) or behind both ears.
- Clear cerebrospinal fluid and/or blood weeping from the nose or ears.

- If the skull is fractured, give care for a serious brain injury.
- Look for signs and symptoms of serious brain injury. These include:
  - Long-term loss of consciousness during which the person does not respond to aggressive stimulation, such as shouting or tapping.
    - Generally, the longer a person is unconsciousness, the more serious the injury.
    - Unconsciousness is life threatening.
  - Mental status deterioration—from disoriented, to irritable, to combative, to coma.
  - Personality changes.
  - Loss of coordination/balance and/or speech.
  - Debilitating headache.
  - Visual disturbances.
  - Inability to move or sense touch in an extremity.
  - Seizures.
  - Persistent nausea and vomiting.
  - Relapse into unconsciousness.
  - Eyes that do not respond to light appropriately or equally.
    - Check pupil response, one eye at a time, by shading the eyes with a hand and then exposing the pupils to light.
    - In a dark environment, check pupils by shining a light into the eyes.
    - Both pupils should contract promptly and evenly. Note any differences.
- In later stages, look for signs and symptoms that include:
  - A heart rate that slows to less than 40 beats per minute (BPM), then speeds up.
  - An erratic respiratory rate.
  - Unequal pupils.
- Although a skull fracture may not be obvious, a person may at first appear to have recovered but later may start to deteriorate. Even if there is no evidence of a skull fracture, you must watch for signs and symptoms of brain injury.
- To give care for a serious brain injury:
  - If there is an obvious head or brain injury, assume that there could also be a cervical (neck) or spinal injury and immobilize the person.
  - Keep the person calm and reassured.
  - Evacuation will be needed.

# TOPIC: GUIDELINES FOR EVACUATION

Time: 5 minutes

## Key Points:

- Evacuate any person who does not respond initially to aggressive attempts at stimulation after a blow to the head.

- **GO SLOW to evacuate a person who is responsive and shows no indications of serious head injury. The person may walk if able.**
  - **Before allowing a person to walk, test balance by asking him or her to stand still with his or er eyes closed. Swaying or falling may indicate a brain injury.**
  - **Make sure the terrain is safe. If the terrain does not allow for a second person to assist directly, do not allow the person to walk out.**
- **GO FAST to rapidly evacuate any person with signs and symptoms of a severe head or brain injury, especially a skull fracture, stroke or decreased mental status. Always carry a person with a serious head injury.**
- **During evacuation, it is critically important to establish and maintain an airway in an unconscious person.**
  - **You can usually keep an airway open by keeping the person in a stable side position, called the high arm in endangered spine (H.A.IN.E.S.) position.**
  - **Alternatively, if a person has been placed on a rigid backboard for a spinal injury, elevate the head end of the board approximately 6 to 8 inches.**
  - **If evacuation is done on mountainous terrain, transport the person with his or her head uphill.**

# TOPIC: OVERVIEW AND PREVENTION OF SPINAL INJURIES

Time: 9 minutes

## Key Points:

- **The *spinal cord* is a bundle of nerves protected by the *spinal column*, a series of bones that includes the neck and runs down the center of the back.**
- **Damage to the spinal cord may result in permanent paralysis or death.**
- **What do you think you can do to prevent spinal injuries from occurring?**
  ***Answers:*** *Responses should include the following:*
  - *Approach activities safely in general.*
  - *Only climb with the appropriate safety equipment in place.*
  - *Always enter the water feetfirst the first time. Never dive headfirst into unknown waters or into water that has less than 7 to 9 feet of unobstructed depth, based on the organization's or facility's policy.*
  - *Fasten seatbelts when riding in a vehicle.*
  - *Only ski with bindings that release in the event of a fall.*

## Highly Suspect Mechanisms of Injury

### Key Points:

- **You should suspect an injury to the spine based on how the person was injured, known as the mechanism of injury (MOI).**
- **For what types of MOI should you suspect a spinal injury?**
  ***Answers:*** *Facilitate a discussion to ensure that responses include the following:*
  - *Compression/axial loading, such as a fall from a height or landing on the head or spine*
  - *Falls on the buttocks that transmit force to the spine*
  - *Any fall of a distance greater than the person's height*
  - *Excessive flexion, as when the chin is forced to the chest*
  - *Excessive extension or rotation, such as tumbling downhill without skis releasing*
  - *Pulling/jerking of the head from the neck*
  - *Penetration, as from a gunshot or arrow in the area of the spine*
  - *Sudden and violent deceleration*
  - *When any helmet is broken during an incident*
  - *Any diving mishap*
  - *A motor vehicle crash involving a driver or passengers not wearing safety belts*
  - *Any incident when a person is thrown, as from a motor vehicle or by an animal*
  - *Any incident involving a lightning strike*
- **A person who is found unconscious for unknown reasons should always be considered spine injured.**

# TOPIC: CHECKING AND CARING FOR SPINAL INJURIES

Time: 22 minutes

## Checking for Spinal Injuries

### Key Points:

- **In the primary assessment, if you suspect spinal injury, especially a cervical (neck) injury, the person should be kept still. Use your hands or those of another bystander to keep the head still until secondary care can be given. This is referred to as *manual stabilization*.**
- **When dealing with a spinal injury, it is especially important to help the person stay calm.**
- **Injury to the bones may not always lead to damage of the nerves, but it is an indicator that spinal precautions should be taken.**
- **Proper management of a person with suspected damage to the spine is critical to prevent spinal cord damage (if it has not occurred already).**

- **Look, listen and feel for signs and symptoms of spinal injury. These signs and symptoms include:**
  - **Spine pain or tenderness to touch.**
  - **Obvious injury to the spinal column.**
  - **Altered sensations in the extremities, such as numbness, tingling, unusual weakness, inability to move, or unusual hot or cold sensations.**
  - **Respiratory difficulty.**
  - **Loss of bowel control.**
  - **Signs and symptoms of shock.**

## Caring for Spinal Injuries

### Key Points:

- **When caring for spinal injuries, the priority is management of the airway, breathing, circulation, disability and environment (ABCDEs). To do so:**
  - **Use a modified jaw thrust to open or maintain the person's airway, if needed.**
  - **Remove a helmet only if it interferes with breathing.**
  - **Prevent further injury by immobilizing the head, neck and back.**
  - **Repeat a hands-on physical periodically.**
  - **Observe the person and record these observations for at least 24 hours.**
  - **Check circulation, sensation and movement (CSM) before and after any movement of the person.**
- **In a delayed-help situation, you may need to apply a cervical collar to restrict motion. The person's head and body must be aligned.**
  - **If the person's neck lies at an odd angle, straighten it with slow, gentle movements to line it up with the rest of the spine. This typically improves the airway and makes immobilization easier.**
  - **If movement causes pain or meets resistance, stop and immobilize the person's head as it lies.**
  - **If a person with a possible spinal injury is found contorted into an odd body position, straighten him or her with slow, gentle movements of one body part at a time. This typically makes the person more comfortable and provides for better immobilization.**
- **Cervical collars, even commercial products, cannot totally stabilize the cervical spine. Maintain manual stabilization, if possible, until the person's whole body is stabilized on a rigid litter or stretcher.**

## Cervical Collar Skill Practice

### Activity:

- Tell participants that they are going to practice applying a cervical collar using an improvised piece of equipment.
- Ask participants to divide into groups of three. Have groups take turns role-playing the person and the responder.

- Ask participants to look through their backpacks or the teaching area to find good choices for an improvised cervical collar. Be sure that participants have access to at least the following:
  - Extra clothing
  - Foam sleeping pad, cut to fit
  - Hats with brims, such as a ball cap
  - SAM® Splints
  - Towels
  - Hip belts
- Have the person lie on his or her back. The responder uses the items he or she selected as an improvised cervical collar to restrict movement.
- Have partners switch roles and repeat.
- When the skill practice is complete, gather the group and ask participants to shout out any advantages and disadvantages of their choices and explain their answers. Encourage other participants to agree or disagree with those perceptions.

## Skill Chart

| | |
|---|---|
| **Applying a Cervical Collar** | 1. Once the spine is in normal alignment, restrict spine motion with a cervical collar.<br>2. Improvise a cervical collar, such as by rolling extra clothing or by cutting off the end of a foam sleeping pad, to fit the person's neck.<br>3. Place the collar completely around the person's neck and tape it into place.<br>4. If an improvised collar varies in thickness, the thickest part should be placed between the chin and chest.<br>5. Replace manual stabilization with mechanical immobilization.<br>■ Place solid objects on either side of the head to keep it stable from side to side.<br><br>***Note:*** Do not *exert pressure on the trachea or windpipe.* |

### Key Points:

- **If you are alone and need to free up your hands for further action, place solid objects by each ear of the person to restrict head movement from side to side. For example, you could place filled stuff sacks or tightly rolled bulky clothing taped together over the person's forehead and chin.**
- **In the wilderness or other remote area, the wait for a stretcher (often referred to as a litter) may be long. Attempting to move a spine-injured person without a litter creates great risk for the person and rescuers and is not recommended.**
- **When a litter is available, you may be asked to help. Use the free of any movement (FOAM) technique to eliminate movement by using an adequate amount of padding and straps.**
  - **Fill any open space with pads, such as under the knees, in the small of the back and anywhere there is space that could allow the person to shift.**

- **The person's head should always be strapped down last.**
- **Proceed with care.**

- **Using the FOAM technique directly where the person lies may also provide additional comfort if help is significantly delayed.**

# TOPIC: TECHNIQUES FOR MOVING A SPINE-INJURED PERSON

Time: 30 minutes

## Log Rolling Skill Practice

### Activity:

- Tell participants they would use the log roll technique to move a person with a suspected spinal injury:
  - Onto his or her side to check for back injuries.
  - Onto a pad.
  - From a side position to his or her back.
  - From a face-down position to his or her back.
- Ask participants to divide into pairs. Have partners take turns role-playing the person and the responder.
- Have the person begin in a face-down position. The responder log rolls the person to the side position and then to the back on an insulating pad.
- Have partners switch roles and repeat.
- Next, ask participants to combine into groups of four or five.
- Have participants take turns role-playing persons and responders. Working in groups, have them practice rolling from a face-down position to the side position and then to the back on an insulating pad.

## Skill Chart

| | |
|---|---|
| **Performing a Log Roll** | 1. Have one responder position him- or herself at the person's head and perform manual stabilization. Position the person's arms at his or her sides.<br>2. At the command of that responder, roll the person as a unit, keeping the neck and back in line.<br>3. Continue to hold the person stable while another responder checks the back for injuries.<br>4. Roll the person onto his or her back using the same precautions. |

***Instructor's Note:*** *Have participants remain in their groups while explaining short-distance transfer.*

## Short-Distance Transfer Technique

### Key Points:

- **If you must move a person to give care, improve comfort or protect the person from the environment, use a short-distance transfer.**
- **Move a person only as necessary or when the risk for further injury is low. Further harm can be done during an improper transfer.**
- **When moving a spine-injured person, always follow these guidelines:**
  - **Maintain ABCDEs.**
  - **Transfer only after initial pain and the person's fear have subsided.**
  - **Plan movement so the person is moved only once.**
  - **Prepare any insulating materials or shelter before the person is moved.**
  - **Rehearse the transfer process and practice directions before moving the person.**
  - **The responder at the person's head is the leader who will call out the directions.**
  - **Protect the person's entire body during the move, always keeping it in a straight line.**
- **Use the body elevation and movement technique, or BEAM technique, to move a person a short distance when there are other responders available to help. For example, you may need to move a person into a tent for warmth. This is *not* an emergency move.**

## BEAM Skill Practice

### Activity:

- With participants still in their groups of four or five, have one person in each group volunteer to role-play the injured person. The other members of each group will perform the BEAM technique.
- Select one group to model the BEAM technique under your direction.
- After the demonstration, have the group members incorporate all of the guidelines for moving a spine-injured person, such as planning and rehearsing the movements that will be undertaken, and practice the BEAM technique.

## Skill Chart

| | |
|---|---|
| **Performing the BEAM Technique** | 1. Designate and prepare the spot to which the injured person will be carried.<br>2. Have one responder position him- or herself at the injured person's head and perform manual stabilization.<br>3. Have the other responders kneel on one knee on both sides of the person. These responders should gently slide their hands under the person.<br>4. While still kneeling and at the command of the responder at the head, the group should lift the person as a unit with as little spine movement as possible. On a second command, the group should move to a standing position.<br>5. The group should carry the person to the designated spot and then, at the command of the responder at the head, the group should lower the person, first to the level of a kneeling position and then to the ground. |

# TOPIC: PERFORMING A FOCUSED SPINE ASSESSMENT

Time: 5 minutes

### Key Points:

- **If you initially suspected spinal injury because of MOI or if no one saw the injury occur, perform a focused spine assessment after completion of the full assessment.**
- **A focused spine assessment helps you determine whether it is appropriate to discontinue spinal immobilization if no signs and symptoms develop.**
- **A focused spine assessment includes a *second* check to ensure that the person:**
  - **Is fully reliable and is assessed on the AVPU scale as at least A+O×3. The person should appear sober and without distractions, such as severe pain or deep psychological distress.**
  - **Is free of altered sensations in the extremities, such as tingling.**
  - **Has positive CSM in all extremities.**
  - **Has grip strength and the ability to lift legs against resistance.**
  - **Denies having spinal pain and tenderness when the spine is palpated.**
  - **Is able to move his or her head forward and side to side without resistance or pain.**
- **If all of these conditions are met, discontinue spinal immobilization.**

## LESSON 7

# TOPIC: GUIDELINES FOR EVACUATION

Time: 1 minute

### Key Points:

- **GO FAST to rapidly evacuate any person with the signs and symptoms of spinal cord injury.**
- **Possible spinal injury is serious. Always seek professional evacuation by an organized rescue party.**

# SCENARIO: SPINAL INJURY

Time: 30 minutes

***Instructor's Note:*** *See Section 3: Appendices of this instructor's manual for information on setting and staging scenarios. Provide participants sufficient information up front, by physical setting and props, verbal descriptions or cue cards, so that they are responding to parameters rather than having to assume them. Because participants are going to simulate responding to an emergency situation, provide only the information necessary for responders to make a decision and give care by prompting the responder/group on the conditions found, such as "Air goes in" instead of "Give a rescue breath." You will have time to debrief and build on scenarios later.*

- Ask participants to take their wilderness first aid kits/packs (if available), emergency reference guides, pocket guides, Wilderness and Remote First Aid Report Forms/Rescue Requests, disposable gloves and any necessary materials and equipment to complete the scenario to the practice area.
- Have participants get into groups of four or five. Identify one participant to be the note taker for the scenario and give him or her the report form/rescue request. Identify another participant to be the person. Provide him or her with the scenario cue cards that describe the person's role. Have responders exit the room or close their eyes while you set up the scenario.
- Apply wound makeup (known as moulage) if desired. Directions for applying wound makeup can be found in Appendix 3-16.
- Have the person lie on the ground on his or her side and not move. Have the group start a short distance away so they begin with checking the scene for safety.
- Tell participants that they must find and refer to the appropriate material as part of this simulated emergency scenario, using everything they have learned up to this point in the course.
- Tell participants that they have themselves and what they brought as resources. If participants ask, they may use other items they find in the practice area.
- Prompt participants through the scenario as needed. Participant actions are in bold; instructor actions and actions found on cue cards are in italics. The participant role-playing the injured person will have cue cards to advise the responder of his or her condition.
- Record each participant's actions in the scenario on the Wilderness and Remote First Aid Competency Check Sheet.

***Setup:*** *It is early morning in late August. There is no imminent danger from the weather. Damaged tree branches are still falling, and the ground is wet. The temperature is 65° F. Your group is providing disaster relief with the American Red Cross after a tornado in a rural area. There are downed trees and there is no power. You see a person who appears to be injured lying on the ground in front of a house. There is a woman standing outside with him/her. A ladder, shingles and tools near where the person is lying indicate that he/she may have been working on a damaged roof before experiencing a fall.*

| | |
|---|---|
| **Participant Action:** | **A leader emerges from the group, recognizes an emergency, provides leadership and checks for scene safety.** |
| *Instructor Action:* | *The scene is safe.* |
| **Participant Action:** | **Decides how to safely reach the person. Reaches the injured person and demonstrates recognition of the emergency. Simulates call for help. No emergency medical service (EMS) personnel are available for 2 hours because of the disaster and there is no road access. Establishes and monitors scene safety by keeping people out of the way and watching for falling branches and dangerous debris. Determines the MOI. Checks for consciousness.** |
| *Cue Card:* | *The person is conscious.* |
| **Participant Action:** | **Checks for level of consciousness (LOC) by asking whether the person knows his/her name, if he/she knows the location and what day it is, and if he/she knows what happened.** |
| *Cue Card:* | *The person only knows his/her name and where he/she is.* |
| **Participant Action:** | **Determines that the person has an LOC of A+O×2. Checks for airway and breathing.** |
| *Instructor Action:* | *The airway is open and the person's breathing is fast and shallow.* |
| **Participant Action:** | **Checks for circulation.** |
| *Instructor Action:* | *The person has a fast pulse, and the skin is cool to the touch. The person is not severely bleeding.* |
| **Participant Action:** | **Checks for disability.** |
| *Instructor Action:* | *There is no movement of the legs.* |
| **Participant Action:** | **Checks the environment.** |
| *Instructor Action:* | *It is wet and cold. Rain has begun to fall and branches are now falling dangerously close to the person.* |
| **Participant Action:** | **Has group member establish manual stabilization. Begins a secondary assessment.** |
| *Instructor Action:* | *During the hands-on physical exam, you find a goose egg-sized bump on the front of the person's head with mild abrasions.* |
| **Participant Action:** | **Conducts SAMPLE history with the person and the person's friend. Asks about signs and symptoms.** |
| *Cue Card:* | *The person's head hurts and vision is blurred.* |
| **Participant Action:** | **Asks about allergies.** |
| *Cue Card:* | *No allergies are reported.* |

| | |
|---|---|
| **Participant Action:** | **Asks about medications.** |
| *Cue Card:* | *The person takes a daily multivitamin.* |
| **Participant Action:** | **Asks about pertinent past medical history.** |
| *Cue Card:* | *The person has none.* |
| **Participant Action:** | **Asks about last intake and output.** |
| *Cue Card:* | *The person had some juice before starting to work on the roof.* |
| **Participant Action:** | **Asks about events leading up to the incident.** |
| *Cue Card:* | *The person was working on the roof, but got dizzy and fell.* |
| **Participant Action:** | **Completes a hands-on physical exam and checks vitals.** |
| *Cue Card:* | *There are no other injuries.* |
| **Participant Action:** | **Checks breathing.** |
| *Instructor Action:* | *The person is breathing about 18 breaths per minute.* |
| **Participant Action:** | **Checks pulse.** |
| *Instructor Action:* | *The person has a fast pulse of 110 beats per minute.* |
| **Participant Action:** | **Gives care for a potential spinal injury by stabilizing the head, neck and back. Monitors for shock. Washes abrasion and applies dressing and bandages. Applies cold pack or ice to the bump on the head.** |
| *Instructor Action:* | *The person is stabilized but is showing signs of hypothermia.* |
| **Participant Action:** | **Gives care to prevent hypothermia by log rolling the person onto a pad and insulating the rest of body. Using BEAM, moves the person to the garage.** |
| *Instructor Action:* | *Demonstrate and have participants go through glove removal skill.* |

## Scenario Follow-Up

- Use the notes taken by the note taker and Wilderness and Remote First Aid Report Form/Rescue Request to remember specific care issues.
- Facilitate a discussion with participants by asking the following questions:
  - **"What were the emergencies?"**
    ***Answers:*** *Responses should include the following:*
    - *Disaster*
    - *Possible spinal injury*
    - *Abrasion and bump on head*
    - *Possible brain injury*
    - *Underlying medical condition that led to fall*
  - **"How was scene safety managed? How was the person protected during the assessment?"**
    ***Answers:*** *Answers will vary based on the group.*
  - **"What complications did you find in caring for the person?"**
    ***Answers:*** *Responses should include the following:*
    - *Hypothermia*
    - *Wet and rainy environment*

- **"How was the Wilderness and Remote First Aid Report Form/Rescue Request helpful? What will be helpful to EMS personnel from the rescue request?"**
  ***Answers:*** *Responses should include the following:*
  - *Know how to prioritize with other requests*
  - *Prepare hospital and responders*
- **"What did you learn? What would you change for the next scenario?"**
  ***Answers:*** *Responses will vary based on the group.*
- **"If this were a real emergency, would you be prepared to respond? If not, what steps can you take to ensure that you are ready to respond to an emergency?"**
  ***Answers:*** *Responses will vary based on the group.*
- **"If this were taking place in a wilderness setting, what additional issues would you need to be aware of?"**
  ***Answers:*** *Responses will vary based on the group.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about head (brain), neck and spinal injuries.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 8

# Wounds and Wound Infection

## LESSON LENGTH

2 hours, 15 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Tourniquet materials
- Dressing and bandage materials
- Paper and pencil or pen (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)
- Scenario cue cards (Appendix 3-10)
- Non-latex disposable gloves (multiple sizes; at least one pair for each participant)
- Wilderness and Remote First Aid Competency Check Sheet (one for each group; Appendix 3-8)
- Moulage (wound makeup) (optional)
- Materials for ear, nose and teeth activity:
  - Water, cooking oil, alcohol, wound gel, a cold pack, temporary filling material, candle wax, sugarless gum, a rolled gauze pad, milk, salt and a cell phone

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define serious bleeding.
- Demonstrate control of bleeding, including direct pressure, packing the wound and tourniquets.
- Define abrasion, laceration and blister.
- Demonstrate wilderness treatment for abrasions, lacerations and blisters, including the use of improvisation.
- Describe the signs, symptoms and treatment of wounds and skin infections.
- Describe personal and camp hygiene and its role in prevention of skin infections.

- Demonstrate proper wound-cleaning techniques, including pressure irrigation, scrubbing and rinsing.
- Define and describe care for common medical problems related to ears, nose and teeth.
- Describe care and prevention of bites from mosquitoes, ticks and venomous snakes.
- Describe situations that would require an evacuation versus a rapid evacuation.

# TOPIC: WOUNDS AND WOUND INFECTION OVERVIEW

Time: 5 minutes

## Key Points:

- **Goals for the management of wounds include stopping serious blood loss and cleaning wounds and keeping them clean to increase comfort, prevent infection and promote healing.**
- **Consider all wounds contaminated. Wear gloves while you clean wounds and give care. Change dressings often. Always wash your hands before and after giving care.**
- **Some wounds are easily cared for while others can be life threatening.**
- **What wound types can you think of?**
  ***Answers:*** *Responses should include the following:*
  - *Contusions*
  - *Abrasions*
  - *Lacerations*
  - *Avulsions*
  - *Puncture wounds*

***Instructor's Note:*** *Participants may describe wounds in an effort to identify them. Refer participants to their emergency reference guides to find the types of wounds if they are having trouble answering the question.*

- **A *contusion* is a wound characterized by the pooling of blood underneath the skin, which appears bluish. A contusion is a sign of internal tissue damage. It may be minor if isolated over bone, but significant if over softer tissue (e.g., abdomen or back).**
- **An *abrasion* is the scraping of the outer layer of skin and may bleed some. Abrasions are usually not life threatening but can be painful and often are infected.**
- **A *laceration* is a cut through multiple layers of skin. It may have flowing blood or spurting blood. Lacerations can be serious.**

## LESSON 8

# TOPIC: CHECKING AND CARING FOR BLEEDING WOUNDS

Time: 30 minutes

### Key Points:

- **Unfortunately, accidents cannot always be prevented. Knowing how to assess and care for wounds is just as important as knowing how to prevent them from occurring.**
- **There is often bleeding associated with wounds. When assessing a bleeding wound, look for signs and symptoms that may indicate serious or life-threatening blood loss. These include:**
  - **Life-threatening arterial bleeding, characterized by blood that spurts from a wound each time the person's heart beats.**
  - **Venous bleeding, which can also be serious, characterized by blood that flows smoothly and rapidly from a wound.**
- **A quick visual scan of the person is often enough to detect serious bleeding—but not always!**
- **Check inside the clothing of someone wearing bulky winter gear or rain gear.**
- **Remove clothing around the wound to see the actual cause and determine the severity of the wound and then give proper care.**
- **Check beneath someone who is lying in sand, rocks, snow or any other terrain that might disguise bleeding.**
- **Severe bleeding can also be internal, so monitor for signs of bruising and shock.**

## Applying Direct Pressure

### Activity:

- Explain to participants that applying direct pressure is often the ideal way to control external bleeding.
- Ask for a volunteer and demonstrate the skill using disposable gloves.
- Have participants refer to their emergency reference guides as you show them how to apply direct pressure.
- As you demonstrate the skill, ask participants what they would do if the bleeding were severe.
- As you demonstrate the skill, ask participants to identify what they could use for controlling external bleeding if they did not have dressings and bandages available.

## Skill Chart

| | |
|---|---|
| **Applying Direct Pressure** | 1. Follow standard precautions to prevent disease transmission.<br>2. Apply direct pressure on the bleeding wound with your hand, or have the injured person apply direct pressure. Ensure that you have a barrier between your hand and the wound.<br>○ If there is time, place a sterile dressing on the wound before applying pressure. If there is no time, grab anything absorbent to press into the wound.<br>3. In cases of severe bleeding, pack the wound initially with your gloved fingers, then switch to packing with an absorbent material and/or a pressure dressing, in addition to applying direct pressure. |

### Key Points:

- **Some types of bleeding wounds should not be cared for with direct pressure.**
  - **If you suspect a skull fracture, pressure may push cracked bone fragments into the person's brain. Instead, cover the wound with a bulky dressing and press lightly.**

***Caring for Impalements***

### Key Points:

- **If an object is impaled deep in the body, it may interfere with major blood vessels or organs. *Do not* remove an impaled object unless it interferes with urgent first aid, such as cardiopulmonary resuscitation (CPR).**
- **Control severe bleeding by:**
  - **Packing bulky dressings around the object.**
  - **Applying gentle pressure.**
  - **Immobilizing the object by bandaging around it.**
  - **Reducing the size and weight of the object if possible, for example, by sawing off a tree limb.**
- **A small impaled object in the skin, such as a splinter, can be removed with tweezers.**

## Using a Tourniquet

### Key Points:

- **A tourniquet can be used on an arm or a leg if blood loss is *uncontrolled* by direct pressure, bleeding is tremendous and death is imminent. For example, a tourniquet may be appropriate when you cannot reach the wound because of entrapment, multiple injuries or the size of the wound.**
- **Tourniquets are rarely necessary, but if one is necessary to control bleeding, apply the tourniquet and keep it on continuously until the person reaches definitive medical care.**

- **DO NOT remove the tourniquet unless advised to do so by a health care provider (by phone or radio while awaiting help).**

## Using a Tourniquet: Demonstration

### Activity:

- Ask for a volunteer. Have participants watch you demonstrate applying a tourniquet.
- Only simulate tightening the tourniquet. *Do not* apply the tourniquet to yourself or others with enough pressure to stop the pulse beyond the site.

## Skills Chart

| | |
|---|---|
| **Using a Tourniquet** | 1. Tie a band of soft material, about 1–2 inches wide, around the limb, approximately 2 inches (approximately two finger widths) above the wound but not over a joint. *Do not* use anything narrow, such as a rope or a string, as a tourniquet.<br>2. Tie a short sturdy stick or another rigid object into the material and twist it. This is called the windlass technique.<br>3. Tighten the tourniquet until the flow of bleeding stops—and no more. This technique will cause pain but is necessary to stop arterial blood flow.<br>○ Note the time when you apply the tourniquet.<br>○ Tag the person in an obvious place with information about when and where the tourniquet was placed.<br>○ *Do not* cover the tourniquet with clothing. |

***Instructor's Note:*** *Commercial emergency tourniquets are available and recommended. Follow the manufacturer's instructions.*

### Key Point:

- **If a tourniquet is necessary for a lower leg wound and bleeding is *not* stopped when the tourniquet is placed near the wound, relocate the tourniquet to just above the knee. This may work better because it is easier to compress the artery against the femur.**

## Group Discussion

### Activity:

- Tell participants that in this activity they will decide which technique represents the best way to care for a specific bleeding wound while in the wilderness.
- Ask participants to break into groups of four or five people.
- Read each scenario to the participants, then allow them a brief amount of time to decide as a group how to best control bleeding. Repeat until all three scenarios have been discussed.
  - **"An arrow from a hunting mishap impales a person's thigh."**
    ***Answer:*** *Stabilize the object, pack around the arrow and provide direct pressure around the dressing.*
  - **"An all-terrain vehicle (ATV) rolls over and the person is ejected. The hands-on physical exam reveals a depression on the top of the head with significant bleeding."**
    ***Answer:*** *Cover the wound with a bulky dressing and press lightly.*
  - **"A chainsaw jumps from a log and cuts a person's unprotected leg. Bleeding is persistent and soaks through the initial dressing and three subsequent dressings."**
    ***Answer:*** *Apply direct pressure and add more dressings. Consider using a pressure bandage to supplement direct pressure from hands. If the bleeding becomes life threatening (shock) or you are unable to provide direct pressure (e.g., scene is not safe or you are alone), consider using a tourniquet.*

# TOPIC: WOUND CLEANING, CLOSING AND DRESSING

Time: 15 minutes

## Wound Cleaning

### Key Points:

- **After bleeding is controlled, proper wound cleaning, closing and dressing will prevent most wound infections. Cleaning also speeds healing and reduces scarring.**
- **Wash your hands and put on clean, non-latex disposable gloves before washing in and around the wound.**
- **Vigorously wash and rinse dirty wounds with large amounts of water. Plan to use at least 1 quart of disinfected water/potable water (i.e., water that is safe to drink). Making water potable is covered later in the course.**
- **Ideally, you should use an irrigation syringe to direct a high-pressure stream of water into the wound. Because of the risk of splashing, follow standard precautions to prevent disease transmission. To use an irrigation syringe:**
  - **Draw water into the syringe, hold it about 2 inches above and perpendicular to the wound and push down forcefully on the plunger.**
  - **Keep the wound tipped so the water runs out.**

- **If an irrigation syringe is not available, what could you use to improvise?**
  ***Answers:*** *Responses could include the following:*
  - *A biking water bottle*
  - *The lid of a standard water bottle, by melting a pinhole in the center*
  - *A clean plastic bag, by punching a pinhole in the bag*
- **If you irrigate with something other than disinfected water/potable water, follow irrigation with a final flush of disinfected water or potable water.**
- **When cleaning a wound, you may need to remove large pieces of debris with tweezers or a gauze pad. Flaps of skin may need to be held open during this process.**
- **Do not use hydrogen peroxide, rubbing alcohol or tincture of iodine because they can further damage tissues.**

***Cleaning Abrasions***

### Key Points:

- **If cared for within approximately 10 minutes, abrasions can be treated by simply applying a thick layer of wound gel and covering with a sterile dressing and then a bandage.**
- **If cared for later, abrasions should be scrubbed clean with a gauze pad or a clean, soft cloth and soap and water. Follow scrubbing with irrigation or rinsing. Apply wound gel, then a dressing and a bandage.**

***Cleaning Lacerations and Puncture Wounds***

### Key Points:

- **Wash the skin around lacerations and punctures before thorough irrigation of the wound. There is no definitive amount of water to use when irrigating a laceration, but plan on using at least a quart.**
- **Puncture wounds need considerable irrigation because of their depth and potential for infection, especially with animal bites.**

## Guidelines for Dressings and Bandages

### Key Points:

- **A dressing is the primary covering of a wound. Ideally, it should be sterile, non-adherent, porous, resistant to bacteria and easy to use.**
- **Wounds heal faster and with less scarring if they are kept slightly moist with an wound gel or with a dressing that holds in the body's moisture, such as a microthin film dressing. Microthin film dressings have the added advantages of being see-through and water repellant. If you use a microthin film dressing, *do not* use an ointment.**

- **The dressing should completely cover the wound and ideally extend a ½ inch or so beyond the wound's edge.**
- **Ideally, dressings should be changed at least once every 24 hours. Transparent film dressings, however, may be left in place until healing is complete.**
- **If the dressing sticks while you are trying to change it, soak it with disinfected water and then remove it.**
- **Bandages hold the dressing in place. They should be snug enough to hold the dressing in place but not so tight that they cut off circulation.**
- **Bandages do not need to be sterile. They can be improvised, such as clean cotton strips, or be commercially available, such as roller gauze or self-adhering or elasticized gauze.**
- **Do not hide rings or anything that could cut off circulation if swelling occurs.**
- **Check bandages often.**

## Wound Closing and Dressing

### Key Points:

- **In most cases, if it is necessary to hold open a laceration to irrigate it thoroughly, it should be held closed with wound closure strips or thin strips of tape after cleaning.**
- **How do you close wounds that are less than ½ inch?**
  ***Answers:*** *Responses should include the following:*
  - *By using closure strips; apply one end of one strip to one side of the wound and another to the opposite side. By using the opposing strips as handles, pull the wound edges together, pulling the skin as close as possible to where it should lie naturally.*
  - *By applying wound gel*
  - *By covering with a dressing and bandage*

***Instructor's Note:*** *If participants are having difficulty answering the question, refer them to the emergency reference guide for help.*

- **If wound gapes more than ½ inch, do not close the wound in the field. Wait for a health care provider's care after evacuation.**
- **If hair gets in the way of laceration closure, clip hair short, but do not shave it.**
- **Leave open large dirty wounds; wounds that expose bones, tendons or ligaments; and wounds caused by animal bites because they are difficult to clean well enough to prevent infection.**
- **After irrigating the wound with large amounts of clean running water, cover it with sterile gauze. Pack open an exceptionally dirty wound with moist sterile gauze and cover with dry gauze to allow it to drain until a health care provider can be consulted.**

***Instructor's Note:*** *Tell participants that they will need to demonstrate the steps of cleaning, dressing and bandaging a wound during the upcoming scenario.*

# TOPIC: CARING FOR AND PREVENTING FRICTION BLISTERS AND CHAFING

Time: 10 minutes

## Key Points:

- **Friction blisters are a particular wound that results from forces that cause aggressive rubbing of outer layers of skin against inner layers. When this happens, the tough outer layer of skin separates from the sensitive inner layer and fluid fills the space created between the layers.**
- **Blisters feel better when deflated, and controlled draining is far better than having them rupture inside a dirty sock.**
- **Chafing occurs from excess friction, often in the groin area and between the thighs.**

## Prevention

## Key Points:

- **What are some ways to prevent friction blisters?**

  ***Answers:*** *Responses should include the following:*
  - *Wear properly fitted boots that are well broken in, with two pairs of socks.*
  - *Wear gloves to protect hands.*
  - *Train before a trek by using the same equipment that will be used to trek.*
  - *STOP as soon as you detect a hot spot and protect the area with moleskin or tape.*
  - *Retie your boots before downhill treks to prevent your foot from sliding forward.*
  - *Take off boots to let feet dry when in camp or during trail breaks.*
  - *Create a positive atmosphere within your group to encourage self-reporting because novice hikers might not know of the consequences of ignoring warning signs, might not have materials to cover hot spots or might be embarrassed to speak up.*
- **Strategies to prevent chafing include:**
  - **Wearing loose pants and underwear when hiking if it is not too cold. This allows sweat to be absorbed, and dry skin chafes less often.**
  - **Applying a layer of lubricating ointment (such as petroleum jelly), antiperspirant, or fragrance-free baby powder or cornstarch to chafe-prone areas before hiking.**
  - **Changing from swimwear to dry clothes after paddling or fording streams.**

## Care for Friction Blisters

### Key Points:

- **The goal of caring for friction blisters is to prevent further injury.**
- **Early treatment of hot spots can prevent blister formation; therefore, awareness of warning signs is important.**
- **To care for a friction blister:**
  - **Clean around the site thoroughly.**
  - **Sterilize the point of a needle or a knife, and open the blister wide enough to easily massage the fluid out. Leaving the roof of the blister intact will make it feel better and heal faster.**
  - **Wash the wound with soap and water whether the roof of the blister is still intact or rubbed away.**
  - **In all cases, apply a dressing that limits friction. Many commercial products are available that are ideal for this purpose. This also prevents the blister from refilling with liquid.**

### Activity:

- Explain to participants that they can build a moleskin donut to further protect an area with a friction blister.
- Using supplies from the first aid kits displayed for the class, explain and demonstrate the following steps of building a moleskin donut:
  - Use a rounded piece of moleskin with a hole cut in the center.
  - Center the blister site in the hole and fill the hole with ointment. A wound gel is preferable, but any lubricating ointment will work.
  - Place tape or a strip of moleskin over the hole to keep the gel in place.

# TOPIC: CARING FOR EAR, NOSE AND TEETH PROBLEMS

Time: 13 minutes

### Key Points:

- **Now let's switch gears and focus on common ear, nose and teeth problems, which can ruin the enjoyment of the wilderness.**
- **If something is lodged in the ear, *do not* use force to remove it. Rinse it out with water if it is small.**
- **Outer ear infections, or swimmer's ear, hurt more when you pull on the earlobe. If pain persists after care, seek trained medical help.**
- **Middle ear infections do not increase in pain when the earlobe is tugged and are often accompanied by vertigo (dizziness) and cold symptoms. These infections necessitate the attention of a health care provider.**

- **Most nosebleeds are not serious, but it is possible for noses to bleed from the back and for blood to run down the throat. These posterior nosebleeds necessitate rapid evacuation and a health care provider's attention.**
- **To control bleeding, have the person, or you, pinch the meaty part of the nose, just below the bridge, while the person is leaning forward. Hold for several minutes.**
- **Nosebleeds that result from trauma can be very brisk but generally stop within 15 to 20 minutes and usually do not recur. If the nose is deformed from the trauma, it is best to consult with a health care provider within 10 days.**
- **Spontaneous nosebleeds frequently recur and are prone to recurrence until the scab heals firmly, which takes about 10 days. Ask the person not to blow his or her nose because this tends to remove the clot and restart the bleeding.**
- **Blood running down the throat when leaning forward may indicate a serious nose bleed. The person will require rapid evacuation and the attention of a health care provider.**
- **If a filling has fallen out or a cavity has developed, pain usually first occurs when cold, food or the tongue hits the spot.**
- **An infected tooth is indicated by pain and swelling in the gum and cheek near the tooth. Discoloration of the gum may be visible. For infections, antibiotic therapy is usually required; initiate immediate evacuation.**
- **You may salvage a knocked-out tooth if you can get it back in the empty socket.**

## Find and Teach: Ear, Nose and Teeth Problems

### Activity:

- Have participants bring their emergency reference guide to the practice area.
- Have the following items out on a table: water, cooking oil, alcohol, wound gel, a cold pack, temporary filling material, candle wax, sugarless gum, a rolled gauze pad, milk, salt and a cell phone.
- Ask participants to divide into three groups and assign each group ears, nose or teeth. Have some newsprint and markers for each group.
- Explain to participants that each group will have about 5 minutes to refer to their emergency reference guides to write down a "shopping list" for which items can be used to treat the body part they were assigned.
- Next, have each group collect the items they need from the table. They should then explain to the larger group how they would use the items when giving care.
- Provide feedback as needed to ensure that each group properly describes the following uses of improvised and specific first aid items.

  Ears

  ***Answers:*** *Items and responses should include the following:*
  - *Water to rinse out an object lodged in the ear*
  - *Cooking oil to suffocate and possibly remove an insect from an ear*
  - *Water and vinegar or alcohol for outer ear infections, or swimmer's ear*

Nose

***Answers:*** *Items and responses should include the following:*

- *Gauze for continued bleeding*
- *Cold packs for a blow to the nose*
- *Cell phone to initiate immediate evacuation in the case of posterior bleeding*

Teeth

***Answers:*** *Items and responses should include the following:*

- *Temporary filling material, candle wax or sugarless gum to temporarily replace a missing filling*
- *Rolled gauze pad to control bleeding from a knocked-out tooth*
- *Milk to help preserve a missing tooth*
- *Cold packs for some relief from infected tooth pain*
- *Salt and warm water to use as a rinse for an infected tooth in cases of delayed evacuation*

***Instructor's Note:*** *Refer participants to their emergency reference guides for full descriptions of first aid for ear, nose and teeth problems.*

# TOPIC: CARING FOR AND PREVENTING BITES FROM INSECTS AND VENOMOUS SNAKES

Time: 5 minutes

## Key Points:

- **Insects and snakes are prevalent in the wilderness, and knowing how to prevent and care for bites and stings is important.**
- **Common insect bites and stings include those from mosquitoes, ticks, bees and wasps. Although primarily a nuisance, bites, particularly from mosquitoes and ticks, may carry the risk of disease.**
- **Venomous snakes of the United States include pit vipers and coral snakes. The risk of death from a bite is low.**

## Shout It Out

### Activity:

- Tell participants that they are now going to complete an activity to assess what they already know about diseases that can be transmitted through the bite of a mosquito or a tick.
- Tell participants: **"Diseases can be transmitted through the bites and stings of insects and other animals."**

- Ask participants to: **"Name as many diseases or infections you can think of that are transmitted through a mosquito, tick or snakebite."**
  ***Answers:*** *The responses could include the following:*
  - *West Nile virus (mosquitoes)*
  - *Rocky Mountain spotted fever (ticks)*
  - *Colorado tick fever (ticks)*
  - *Q fever (ticks)*
  - *Lyme disease (ticks)*
  - *Tetanus (ticks and snakebites)*

## Fact or Fiction?

### Activity:

- Explain to participants that you are going to make some statements about mosquito, tick and snakebites and that they will need to determine whether the statement is fact or fiction.
- Explain the process outlined below:
  - The instructor will make the statement provided in bold below.
  - Participants may use their emergency reference guides to make the determination, if necessary. However, some of the answers are not covered in the material.
  - Once the participants are confident in their answers, have them shout it out.
  - If the statement is fiction, have the first participant who answered correctly explain what is incorrect about the statement and what is actually correct.
- Make any corrections or clear up any confusion as necessary.

**Statements**

- **"To treat mosquito bite itch, use a topical, over-the-counter agent and avoid scratching the bite."**
  ***Answer:*** *Fact. Topical, over-the-counter agents can treat mosquito bite itch. In all cases, avoid scratching to prevent open wounds that may become a source for infection.*
- **"Products containing DEET (diethyltolumide) are the most effective repellents. You should use concentrations of DEET that are higher than 30 percent because it makes it more effective as a repellant."**
  ***Answer:*** *Fiction. Concentrations of DEET higher than 30 percent do not improve repellency, but they do require re-application less often.*
- **"The combination of permethrin on clothing and an appropriate insect repellent on skin prevents about 50 percent of bites from disease-bearing mosquitoes and ticks."**
  ***Answer:*** *Fiction. Studies show the combination of permethrin on clothing and an appropriate insect repellent on skin can prevent nearly 100 percent of bites from disease-bearing mosquitoes and ticks.*
- **"There is no effective repellant for light infestations of flies, gnats and mosquitoes."**
  ***Answer:*** *Fiction. Picaridin—available only in 7 percent concentration in the United States—is effective for light infestations of flies, gnats and mosquitoes.*

- **"In the United States, ticks may carry one of at least eight diseases. Depending on the specific pathogen, the tick must feed from several hours to several days to pass enough germs to cause disease."**
  ***Answer:*** *Fact. A health care provider should evaluate any illness that develops after removal of an embedded tick. If the tick was attached for more than 48 to 72 hours, the person should see a health care provider upon returning home.*
- **"Perform body checks for ticks twice daily when hiking and camping in tick-infested country and immediately remove any ticks that are found."**
  ***Answer:*** *Fact.*
- **"Covering a tick with petroleum jelly is an effective way to smother it."**
  ***Answer:*** *Fiction. Even if smothered with petroleum jelly, nail polish or other common recommendations, ticks still have enough oxygen to continue feeding.*

## Prevention Strategies

### Key Points:

- **How can you prevent mosquito and tick bites?**
  ***Answers:*** *Responses should include the following:*
  - *Avoid exposure during prime biting times, usually dawn and dusk.*
  - *Be sure tents have adequate netting on doors and windows.*
  - *Set camps well away from high-risk areas, such as standing water, swampy ground and dense brush.*
  - *Use mosquito repellant on your skin and clothing, sleeping bags and tents.*

## Venomous Snakebites

### Key Points:

- **Snakebites are puncture wounds that might cause infections, including tetanus, and might also introduce poisonous venom.**
- **Envenomation through a snakebite happens when there is an injection of poison into the body. Signs and symptoms include:**
  - **One or more fang marks.**
  - **Localized pain.**
  - **Swelling, possibly of the entire limb.**
  - **Nausea, vomiting and tingling (moderate).**
  - **Shock, coma and paralysis that occur hours after the bite (severe).**
  - **Necrosis (tissue death) of the bitten area (looks black).**

- **With all snakebites, keep the person physically and emotionally calm, and follow these steps:**
  - **Gently wash the bite site.**
  - **Apply an elastic (pressure immobilization) bandage to slow the spread of venom from the lymph nodes. You should still be able to slip a finger between the bandage and skin.**
  - **Keep the bite site lower than the level of the person's heart.**
  - ***Do not* cut or suck the bite area. Do not apply ice, suction or a tourniquet.**
  - **Go for help. The person should not walk unless it is unavoidable in evacuating the person.**
  - **Snakebites must be evaluated by a health care provider.**

# TOPIC: TREATING AND CARING FOR WOUND INFECTION

Time: 15 minutes

## Signs and Symptoms

### Key Points:

- **Any wound could potentially become infected.**
- **What signs and symptoms may indicate an infection?**
  ***Answers:*** *Responses should include the following:*
  - *Increasing pain, redness and swelling, which are primary indicators of serious infection*
  - *Increasing heat at the site*
  - *Pus that smells foul, increases and grows darker in color*
  - *Appearance of red streaks just under the skin near the wound*
  - *Systemic fever*
- **It is important to maintain an up-to-date series of shots for immunization to prevent tetanus infections. If a person has a wound infection, he or she should see a health care provider upon returning home for a possible tetanus booster.**
- **For any large bruised areas, bites or poisoning incidences, outline the affected area in pen and indicate the time that the wound occurred to help you determine whether the area is growing progressively. Act early if signs of infection are seen.**

## Caring for Wound Infection

### Key Points:

- **Adequate cleaning, dressing and bandaging can prevent most wound infections.**
- **Re-clean the wound with water.**
- **Allow the wound to re-open and let it drain. You may need to encourage the process by soaking the area in water as hot as the person can tolerate. Afterward, pack the wound with moist, sterile gauze to keep it draining, and dress it with dry, sterile gauze.**

- **Re-clean and repack the wound twice a day during an extended evacuation.**
- **Re-apply wound gel and re-dress the wound as needed.**
- **Monitor the wound site closely.**

## Group Discussion: Personal and Site Hygiene to Prevent Disease Transmission

### Activity:

- Explain to participants that maintaining a high level of personal and site hygiene reduces the risk for skin infections and many communicable diseases.
- Ask participants to break into two groups. Give each group a piece of paper and something to write with.
- Designate one group the "personal hygiene" group, and the other the "site hygiene" group. Ask each group to make a list of what good hygiene practices they could follow to prevent infections or disease transmission.
- One representative from each group should share answers with the class:

  Personal Hygiene

  ***Answers:*** *Responses should include the following:*
  - *Hand washing with soap and water once daily and before meal preparation and after bowel movements and urinating*
  - *Use of hand sanitizers as a substitute for soap and water (if there is no visible matter on your hands)*
  - *Healthy eating and hydration, a proper amount of sleep and good hand hygiene (These tasks prevent the majority of illnesses that can lead to injury in remote environments.)*
  - *Body washing (It is not mandatory but should be considered on extended trips. Stay at least 200 feet from natural water sources.)*
  - *Powdering the groin, underarms and feet with talcum powder during cold or inclement weather (This can provide protection from moisture and accumulating body odor and oils.)*

  Site Hygiene

  ***Answers:*** *Responses should include the following:*
  - *Do not sleep with food or scented products near you.*
  - *Avoid cooking and sleeping in the same clothes.*
  - *Keep the camp setting clear of food debris to reduce the risk of attracting animals.*
  - *Setup should have separate defined areas for cooking, food storage and sleeping.*
  - *The "bathroom" area should separate from the camp site by at least 200 feet.*

## Gynecologic Hygiene

### Key Points:

- **Women may begin menstruating at an unexpected time because of physical or mental stresses of a trip—so be prepared. Carry tampons and pads in a first aid kit. They also serve as good absorbent materials in an emergency.**

- **Normal bleeding should not exceed one soaked pad per hour for 4 consecutive hours.**
- **If dealing with preteens and teenagers, consider discreetly pulling the boys to the side before a trip starts to make them aware that gynecologic emergencies may happen, and that they should be respectful and sensitive to their female counterparts. Promoting a safe and respectful group will benefit everyone.**
- **Store used hygiene products according to protocol for the location and activity.**

# TOPIC: GUIDELINES FOR EVACUATION

Time: 10 minutes

## Key Points:

- **With a wound or wound infection, you must decide whether to evacuate a person and whether to evacuate fast or slow.**
- **GO SLOW to evacuate any person with a wound that cannot be closed in the field.**
- **GO FAST to rapidly evacuate any person with a wound that:**
  - **Is heavily contaminated.**
  - **Opens a joint space or body cavity.**
  - **Involves tendons or ligaments.**
  - **Was caused by an animal bite.**
  - **Is deep and on the face.**
  - **Involves impalement.**
  - **Was caused by a crushing injury.**
  - **Is infected or does not improve within 12 hours of care or that spreads to other parts of the body.**
- **GO FAST to rapidly evacuate any person with signs and symptoms of a serious infection. If more than one person on the trip breaks out in skin boils or abscesses, you should be concerned about group contamination with methicillin-resistant *Staphylococcus aureus* (MRSA), a serious staphylococcal infection, and immediately evacuate to seek advanced medical care.**

# SCENARIO: CONTROLLING SEVERE BLEEDING

Time: 30 minutes

***Instructor's Note:*** *See Section 3: Appendices of this instructor's manual for information on setting and staging scenarios. Provide participants sufficient information up front, by physical setting and props, verbal descriptions or cue cards, so that they are responding to parameters rather than having to assume them. Because participants are going to simulate responding to an emergency situation, provide only the information necessary for responders to make a decision and give care by prompting the responder/group on the conditions found such as "Air goes in" instead of "Give a rescue breath." You will have time to debrief and build on scenarios later.*

- Ask participants to take to the practice area their wilderness first aid kits/packs (if available), emergency reference guides, pocket guides, Wilderness and Remote First Aid Report Forms/Rescue Requests, non-latex disposable gloves and any necessary materials and equipment to complete the scenario.
- Have participants get into groups of four or five. Identify one participant to be the note taker for the scenario and give him or her the report form/rescue request. Identify another participant to be the person. Provide him or her with the scenario cue cards that describe the person's role. Have responders exit the room or close their eyes while you set up the scenario.
- Apply wound makeup (known as moulage) if desired. Directions for applying wound makeup can be found in Appendix 3-16.
- Have Katie/Karl Kayaker move away from the group or along the trail if applicable. Set up the scene by having the kayakers near the water, but not in it. If in a classroom, have participants in the back of the room and the kayakers in the front. Have Katie/Karl lie face-up. Tell participants that the person's clothing is wet, but do not actually wet the clothing.
- Tell participants that they must find and refer to the appropriate material as part of this simulated emergency scenario, using everything they have learned up to this point in the course.
- Tell participants that they have themselves and what they brought as resources. If participants ask, they may use other items they find in the practice area.
- Prompt participants through the scenario as needed. Participant actions are in bold; instructor actions and actions found on cue card are in italics. The participant role-playing Katie/Karl will have cue cards to advise the responder of their condition.
- Record each participant's actions in the scenario on the Wilderness and Remote First Aid Competency Check Sheet.

***Setup:*** *It is April. Your group is hiking into a camp at dusk along a river's edge, and you notice kayakers boating near rapids. A group of kayakers on the near shore yells to your group for help. One of the kayakers, Katie/Karl, is lying face-up on the shore. The victim appears to have been injured by debris in the river after being ejected from his/her kayak. What do you do*?

| | |
|---|---|
| **Participant Action:** | **A leader emerges from the group, recognizes an emergency, provides leadership and checks for scene safety.** |
| *Instructor Action:* | *The scene is safe.* |
| **Participant Action:** | **Decides how to safely reach the person. Reaches the injured person, and demonstrates recognition of the emergency. Simulates call for help.** |
| *Instructor Action:* | *There is no cell phone reception in the area.* |
| **Participant Action:** | **Uses a signaling method to call for help. Establishes and monitors scene safety by keeping people out of the way and back from the river's edge. Determines the mechanism of injury (MOI). Checks for consciousness.** |
| *Cue Card:* | *The person is conscious.* |
| **Participant Action:** | **Checks for level of consciousness (LOC) by asking whether the person knows his/her name, if he/she knows the location and what day it is, and if he/she knows what happened.** |
| *Cue Card:* | *The person knows his/her name, where he/she is located and when it happened.* |

| | |
|---|---|
| **Participant Action:** | **Determines the person has an LOC of A+O×3. Checks for airway and breathing.** |
| *Instructor Action:* | *The airway is open and the person's breathing is slow and shallow.* |
| **Participant Action:** | **Checks for circulation.** |
| *Instructor Action:* | *The person has a fast pulse, and the skin is cool. The person is bleeding.* |
| **Participant Action:** | **Checks for disability.** |
| *Instructor Action:* | *There is a major laceration on the person's right arm that is bleeding profusely and a short stick is impaled in the person's right side, along the abdomen.* |
| **Participant Action:** | **Checks the environment.** |
| *Cue Card:* | *It is wet and cold and the person is starting to shiver. Darkness is setting in.* |
| **Participant Action:** | **Gives care for hand laceration, including controlling bleeding and cleaning and bandaging the wound. Disinfects water to use to clean the wound. Gives care for impalement by packing around the wound and bandaging it in place. Conducts SAMPLE history with help from friend. Asks about signs and symptoms.** |
| *Cue Card:* | *The friend is unsure of symptoms.* |
| **Participant Action:** | **Asks about allergies.** |
| *Cue Card:* | *The friend knows of no allergies.* |
| **Participant Action:** | **Asks about medications.** |
| *Cue Card:* | *The friend knows of no medications.* |
| **Participant Action:** | **Asks about pertinent past medical history.** |
| *Cue Card:* | *The friend knows of no pertinent past medical history.* |
| **Participant Action:** | **Asks about last intake and output.** |
| *Cue Card:* | *The friend states that the person decided not to eat and just kept boating.* |
| **Participant Action:** | **Asks about events leading up to the incident.** |
| *Cue Card:* | *The two were kayaking down the river. The friend did not witness the person's boat capsize, but he/she was able to get the person to the shore. The friend says the person threw up when they got to shore.* |
| **Participant Action:** | **Completes a hands-on physical exam and vitals check.** |
| *Instructor Action:* | *No other injuries found during the hands-on physical exam.* |
| **Participant Action:** | **Checks breathing.** |
| *Instructor Action:* | *The person is breathing about 9 breaths per minute.* |
| **Participant Action:** | **Checks pulse.** |
| *Instructor Action:* | *The person has a fast pulse of 110 beats per minute.* |
| **Participant Action:** | **Gives care to prevent hypothermia for both Katie/Karl and the friend (changing out of wet clothing, giving warm water to drink, hypothermia wrap). Monitors airway, breathing and circulation and for possible shock. Creates an evacuation plan to move Katie/Karl.** |
| *Instructor Action:* | *Demonstrate and have participants go through glove removal skill.* |

## Scenario Follow-Up

- Use the notes taken by the note taker and Wilderness and Remote First Aid Report Form/Rescue Request to remember specific care issues.
- Facilitate a discussion with participants by asking the following questions:
  - **"What were the emergencies?"**
    ***Answers:*** *Responses should include the following:*
    - *Kayaking accident*
    - *Major laceration on arm with profuse bleeding*
    - *Impalement of person's abdomen*
  - **"How was scene safety managed? How was the person protected during the assessment?"**
    ***Answers:*** *Responses will vary based on the group.*
  - **"In what ways does completing a hands-on physical exam and getting a SAMPLE history help you?"**
    ***Answers:*** *Responses should include the following:*
    - *Identifying other injuries*
    - *Identifying underlying causes*
    - *Identifying further complications*
  - **"When is it appropriate to delay a hands-on physical exam and getting a SAMPLE history?"**
    ***Answer:*** *When a life-threatening condition is found during the primary assessment.*
  - **"What complications did you find in caring for the person?"**
    ***Answers:*** *Responses should include the following:*
    - *Possible hypothermia*
    - *Possible water aspiration*
    - *Involvement of a second person*
  - **"Under what situations should evacuation be delayed in a GO FAST situation?"**
    ***Answer:*** *When person and/or rescuer safety is compromised.*
  - **"What did you learn? What would you change for next scenario?"**
    ***Answers:*** *Responses will vary based on the group.*
  - **"If this were a real emergency, would you be prepared to respond? If not, what steps can you take to ensure that you are ready to respond to an emergency?"**
    ***Answers:*** *Responses will vary based on the group.*
  - **"If this were taking place in a wilderness setting, what additional issues would you need to be aware of?"**
    ***Answers:*** *Responses will vary based on the group.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about wounds and wound infection.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 9

# Bone and Joint Injuries

## LESSON LENGTH

2 hours, 15 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)
- Non-latex disposable gloves (multiple sizes; at least one pair for each participant)
- Splinting materials
  - SAM® Splint, triangular bandages
  - Improvised: Hiking poles, waist belts, sleeping pads, extra clothing
  - Materials for securing splints
- Scenario cue cards (Appendix 3-10)
- Moulage (wound makeup) (optional)
- Wilderness and Remote First Aid Competency Check Sheet (one for each group; Appendix 3-8)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define strain, sprain, fracture and dislocation.
- List the signs and symptoms of a strain, sprain, fracture and dislocation.
- Demonstrate a field assessment for injuries to bones and joints.
- Define RICE (**r**est, **i**mmobilization, **c**old and **e**levation).
- Describe the use of RICE.
- Demonstrate and/or describe the emergency treatment, including the use of improvisation, for:
  - Strains and sprains.
  - Fractures.
  - Dislocations, including realignment of fingers, toes, patella and shoulder.

- Describe the emergency treatment for:
  - Angulated fractures.
  - Open fractures.
- Describe the long-term care for injuries to bones and joints.
- Describe how to prevent some bone and joint injuries.
- Describe situations that would require an evacuation and situations that would require a rapid evacuation.

# TOPIC: BONE AND JOINT INJURIES OVERVIEW

Time: 3 minutes

## Key Points:

- **Injuries to the musculoskeletal system—bones, ligaments, muscles, tendons and cartilage—are among the most common in wilderness activities.**
- **Although you may not always be able to determine exactly what is wrong, the care is the same regardless.**
- ***Strains* are overstretched muscles or the tendons that attach muscles to bones.**
- ***Sprains* are injuries to ligaments (the bands holding bones to bones at joints).**
- **A *fracture* is a complete break, chip or crack in a bone. A fracture can be either open or closed.**
  - **With an *open fracture,* there is an open wound in the skin over the fracture. In some cases, the broken bone actually sticks out or is visible through the wound.**
  - **With a *closed fracture*, there is no break in the skin.**
  - **Closed fractures are more common, but open fractures are more dangerous because they have the risk of both infection and severe bleeding.**
- **A *dislocation* is the movement of a bone in a joint away from its normal position. This movement is usually caused by a violent force tearing the ligaments that hold the bones in place. With a dislocation, the bone ends in a joint are no longer properly aligned.**

# TOPIC: GUIDELINES FOR PREVENTING BONE AND JOINT INJURIES

Time: 3 minutes

## Key Points:

- **What steps do you think you can take to prevent bone and joint injuries?**
  ***Answers:*** *Responses should include the following:*
  - *Paying attention to safety*
  - *Wearing adequate and properly fitted footwear*
  - *Engaging in pre-trip physical conditioning*
  - *Setting up the camp, home or work site so there are as few tripping hazards as possible*

# TOPIC: CHECKING FOR STRAINS, SPRAINS AND FRACTURES

Time: 15 minutes

## Key Points:

- **What signs and symptoms may indicate a bone or joint injury?**

  ***Answers:*** *Facilitate a discussion so that responses include the following:*
  - *Deformity, open injuries, tenderness and swelling (DOTS)*
  - *Moderate or severe pain or discomfort (including from muscle spasms or from touching the area, called point tenderness)*
  - *Bruising (may take hours to appear)*
  - *Inability to move or use the affected body part normally*
  - *Broken bone or bone fragments sticking out of a wound*
  - *Bones grating or sounds of bones grating*
  - *Feeling or hearing a snap or pop at the time of injury*
  - *Loss of circulation, sensation or motion (CSM) beyond the site of injury, including tingling, cold or bluish color*
  - *Mechanism of injury (MOI), such as a fall, that suggests the injury may be severe*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of a bone or joint injury if they are having trouble answering the question.*

- **In the wilderness, the primary goal of your initial evaluation should be to determine whether the injured body part is "usable." As you check the person, think about how the body normally looks and feels.**

## Skill Session: Checking a Possible Bone and Joint Injury

### Activity:

- Ask participants to find a partner and designate who will be the injured person and who will be the responder.
- Lead responders through the steps in the Skills Chart. While leading them through the steps, answer questions about the hands-on physical exam and SAMPLE history that would give clues as to what is injured.
- Explain to participants that these first steps help determine whether you are dealing with an extremity that has a sprain or strain and may be usable, or a fractured extremity, which is unusable and requires splinting.
- Explain to participants that loss of a pulse, numbness, tingling and inability to move are all signs of serious fracture-related complications. Explain that they will practice applying various types of splints later in this lesson.
- Have participants switch roles and use the emergency reference guide to guide them through the steps of evaluating an injury. Monitor for technique and provide feedback.
- Explain that assessing dislocations will be covered later in this lesson.

## Skills Chart

| | |
|---|---|
| **Evaluating a Bone or Joint Injury** | 1. Have the person rest and relax in a comfortable position. Have the person remove rings, bracelets or watches from the injured extremities.<br>2. If necessary, remove clothing carefully as you check the area and take a look at the injury. Replace the clothing once you have checked the area. Remove a shoe only if CSM is affected, the footwear is wet or the footwear makes assessment or care impossible.<br>3. Ask how the injury happened and whether there are any painful areas.<br>4. Visually inspect the entire body from head to toe. Compare the two sides of the body. Then carefully check each body part. Look, listen and feel for DOTS. Notice whether the person can easily move the injured part or if he or she guards it to prevent movement. |
| **Suspected Sprain or Strain** | 1. Have the person actively move the joint and then evaluate the amount of pain involved. Manipulate the joint with your hands and evaluate the pain response.<br>2. If the joint appears usable, have the person test it with his or her body weight. |
| **Suspected Fracture** | 1. Determine whether the injured part looks broken by comparing it to the uninjured side.<br>2. Ask the person whether he or she thinks the part is broken. Injured people are often correct in their assessments.<br>3. Gently touch the injured area and look for these signs of a fracture:<br>○ The person reacts to your touch.<br>○ The muscles appear to be spasming.<br>○ The injured area feels unstable.<br>○ One spot hurts noticeably more than others.<br>4. Check for CSM beyond the site of the injury. |

# TOPIC: CARING FOR STRAINS, SPRAINS AND FRACTURES

Time: 50 minutes

### Key Points:

- **Whether or not the injury is usable, the general care for bone and joint injuries is RICE, which stands for:**
  - **Rest: *Do not* allow the injury to be used for at least the first half hour. (A strained area can be used depending on how much pain the person feels. A good rule is that if it hurts to use it, *do not* use it.)**

- **Immobilization: Prevent further harm by keeping the injured area still. You will learn how to immobilize different types of injuries later in this lesson.**
- **Cold: Reduce the temperature of the injury site as much as possible without freezing.**
  - **A mixture of water and ice works best. It conforms to the shape of the anatomy involved. *Do not* put ice directly on skin—put it in a plastic bag and wrap it in a shirt or sock.**
  - **If you do not have ice, soak the injury in cold water or apply chemical cold packs, if available.**
  - **Another option (during warmer months) is to wrap the injury in wet cotton and let evaporation cool the damaged area.**
- **Elevation: Keep the injury higher than the person's heart. *Do not* elevate if moving the injured area causes pain.**

- **After about 20 minutes of RICE, remove the cold and let the joint warm naturally for 10 to 15 minutes before testing to determine whether the joint can be used.**
- **For long-term care, the injury will heal faster if RICE is repeated 3 to 4 times a day until pain and swelling subside.**

## Splinting

### Key Points:

- **In a wilderness or remote setting, the person most likely will need to be moved. The general rule in the delayed-help situation is: "When in doubt, splint!"**
- **A splint should restrict movement of the broken bone or bones, prevent further injury and maximize the person's comfort until a medical facility can be reached.**
- **A splint must be made of something rigid enough to provide support. Always place padding between the splint and the body part. Padding should fill all the spaces within the system to prevent movement of the injury.**
- **Useful items in your first aid kits for securing splints include large triangular bandages, tape, elastic wraps and roller gauze.**
- **Lightweight commercial splints are available as additions to your first aid kits.**
- **You can also improvise by using materials you have on hand to create splints.**

## Find and Shout Out

### Activity:

- Ask participants to find splinting materials in their equipment or in the classroom. Tell them that when choosing materials for splinting, they are only limited by their imagination.
- Ask participants to gather materials for the next practice session. Provide any additional splinting materials so that the following types of items are available:
  - Padding
    - Sleeping bags
    - Foamlite pads, which can be cut to fit the problem
    - Extra clothing

    - Soft debris from the forest floor stuffed into extra clothing
    - Rolls of sterile dressings
  - Rigid materials
    - Sticks
    - Tent poles
    - Ski/trekking poles
    - Oars or paddles
    - Ice axes
    - Lightweight camping chairs
    - Internal and external pack frames
    - SAM® Splints
  - To secure splints in place
    - Bandanas
    - Strips of clothing
    - Pack straps
    - Belts
    - Rope
    - Triangular bandages
    - Tape
    - Elastic wraps
    - Roller gauze
- Explain to participants that they should be careful not to use material or equipment that is necessary for other essential purposes. Assess what is available for usable materials and, if possible, use materials belonging to the injured or ill person.

## Key Points:

- **When splinting a person, prepare the splinting materials ahead of time. Limit as much movement as possible to prevent internal injuries.**
- **Plan splints to hold the injury in the position of function—a natural, neutral position for the body part—or as close to position of function as possible. Functional positions include:**
  - **Spine, including neck and pelvis, in-line, with padding in the small of the back.**
  - **Legs almost straight with padding behind the knees for slight flexion.**
  - **Feet at 90 degrees to legs.**
  - **Arms flexed to cross the heart.**
  - **Hands in a functional curve with padding in the palms.**
- **A shoe left on the foot can act as a splint. Remove a shoe only if CSM is affected, the footwear is wet or the footwear makes assessment or care impossible.**
- **Also, remember to gently remove rings, watches, boots or anything else that could restrict blood flow once swelling occurs.**

## Skill Session: Splinting

### Activity:

- **Ask participants to find a partner and designate the roles of injured person and responder.**
- **Have each responder practice one skill with his or her partner as the injured person. Have the first set of responders care for a person who has a suspected fracture in the lower leg.**
- **Once participants have completed the skill, have them switch roles. Have the next set of responders care for a person who has a suspected elbow fracture.**
- **Participants should follow the principles in the emergency reference guide and pocket guide and use the splinting materials gathered earlier to care for the injuries.**
- **Use the Skills Chart to guide participants through the steps, if necessary.**
- **After assessing their skills, share with the group good examples and problematic areas (e.g., too loose to support or loosens with movement; no padding; missed immobilizing joint above or below).**

## Skills Chart

| | |
|---|---|
| **Applying a Splint to a Long Bone** | 1. Support the injured body part above and below the site of the injury.<br>2. Check for CSM.<br>3. Apply splint (options):<br>○ Anatomic—For legs, place several folded triangular bandages above and below the injured body part. Place the uninjured body part next to the injured body part. Tie triangular bandages securely above and below the injured body part.<br>○ Soft—Place several folded triangular bandages above and below the injured body part. Gently wrap a soft object (a folded blanket or pillow) around the injured body part. Tie triangular bandages securely with knots above and below the injured body part.<br>○ Rigid—Place several folded triangular bandages above and below the injured body part. Place the rigid splint (board) under the injured body part and the joints that are above and below the injured body part. Tie several folded triangular bandages above and below the injured body part.<br>4. Re-check CSM.<br><br>***Note:*** *If you are not able to check warmth and color because a sock or shoe is in place, check for sensation and ask the injured person how it feels.* |

## Skills Chart continued

| | |
|---|---|
| **Applying a Sling-and-Swathe (sling and binder)** | 1. Support the injured body part above and below the site of the injury.<br>2. Check for CSM.<br>3. Place a triangular bandage under the injured arm and over the uninjured shoulder to form a sling.<br>4. Tie the ends of the sling at the side of the neck. Pad underneath the knot.<br>5. Bind the injured body part to the chest with a folded triangular bandage. You may need to tie the two together.<br>6. Re-check CSM.<br><br>***Note:*** *If a rigid splint is used on an injured forearm, immobilize the wrist and elbow with a sling and then bind the arm to the chest using folded triangular bandages to create a swathe.* |

### Key Points:

- **A splint should be long enough to restrict the movement of the joints above and below a broken bone, or restrict the movement of the bones above and below an injured joint.**
- **After splinting, check CSM often to ensure circulation is not cut off by wraps that are too tight.**

## Shout It Out: Splinting Specific Fractures

### Activity:

- Explain to participants that the *Wilderness and Remote First Aid Emergency Reference Guide* provides details for splinting specific fractures. Explain that this activity provides examples of the different ways to splint specific fractures, as well as makes them familiar with the content in the emergency reference guide.
- Have participants refer to their emergency reference guides, find the specific fractures and state the answers for how to splint specific fractures. Be sure to call on different participants.
- Ask participants: **"How do you splint a jaw fracture?"**
  ***Answer:*** *Hold a jaw fracture in place with a wide wrap that goes around the head. Be sure the wrap can be removed quickly if the person feels like vomiting.*
- Ask participants: **"How do you splint a collarbone (clavicle) fracture?"**
  ***Answer:*** *Secure a collarbone (clavicle) fracture with a sling-and-swathe. Slings can be made from triangular bandages or improvised by lifting the tail of the person's shirt up over the arm on the injured side and pinning it in place. Be sure the sling lifts the elbow to take pressure off the shoulder.*
- Ask participants: **"How do you splint a finger or toe?"**
  ***Answer:*** *Secure a finger or toe to nearby uninjured fingers or toes with padding between the digits and then tape.*

- Ask participants: **"How do you splint an upper arm fracture?"**
  ***Answer:*** *Secure an upper arm (humerus) fracture by placing it in a sling-and-swathe. Leaving the elbow free sometimes eases the pain. Secure the broken bone to the person's chest wall with a wide soft wrap.*
- Ask participants: **"How do you splint a rib fracture?"**
  ***Answer:*** *Splint a rib fracture by supporting the arm on the injured side with a sling-and-swathe. Do not wrap a band snugly around the person's chest. Encourage the person to take regular, deep breaths, even if it hurts, to keep the lungs clear. Be sure to watch the person for increased difficulty breathing.*
- Ask participants: **"How do you splint a pelvis or hip fracture?"**
  ***Answer:*** *Secure the legs comfortably to one another. Be sure to watch the person for signs and symptoms of shock due to internal bleeding, which is common with pelvic fractures. Conforming wraps with jackets or sheets around the pelvis will provide some support and security.*

***Instructor's Note:*** *If you wish to conduct a second skill session so participants can practice splinting for these specific fractures, follow the format as outlined in the previous splinting skill session.*

## Caring for Complicated Fractures

### Key Points:

- ***Angulated fractures,*** **which leave the bone in a distorted, unnatural position, and *open fractures*, which expose the body to infection, both require specific care.**
- **To care for an open fracture, irrigate the wound and dress it appropriately.**
- **If bone ends stick out of the wound, and a health care provider is longer than 4 to 6 hours away:**
  - **Control any bleeding.**
  - **Clean the wound and bone ends without touching them.**
  - **Apply gentle in-line traction to the fracture to pull the bone ends back under the skin.**
  - **Dress the wound.**
- **Splint the fracture. Infection is likely, but bones survive better if pulled back inside the body.**
- **With an angulated fracture, the bones must be straightened through gentle in-line traction. In-line traction can be painful to the person. To do this:**
  - **Pull in the direction in which the bones are pointing. This will relax the muscle and reduce the pain. The sooner this movement takes place, the better.**
  - **Slowly and gently move the broken bone back into normal alignment.**
  - ***Do not* use force.**
  - ***Do not* continue if the person complains of increasing pain.**
- **Once the injured part is aligned, splint the injury.**
- **If you are unable to successfully align the injury, splint as best you can.**

# TOPIC: CHECKING AND CARING FOR DISLOCATIONS

Time: 27 minutes

***Instructor's Note:*** *Have participants locate each skill in the emergency reference guide so they can follow along as you explain the care for each type of dislocation. This allows them to become familiar with this resource and may help them better understand the skills through the written description and any supporting photographs.*

## Key Points:

- **A person with a dislocation will have pain in the joint and a loss of normal range of motion.**
- **The joint will "look wrong."**
- **Many dislocations can only be managed in the field by splinting them in the most comfortable position.**
- **In other cases, the joint can be put back in its normal position, or realigned, through a process called *reduction.* If attempting a reduction, be sure to:**
  - **Work quickly but calmly. Usually, the sooner a reduction is done, the easier it is on the injured person and the responder.**
  - **Encourage the person to relax, with particular concentration on the injured joint.**
  - **Stop if the pain increases dramatically.**
  - **Splint the injury after the joint is back in its normal position.**

## Specific Dislocations

*Anterior Shoulder Dislocations*

## Key Points:

- **Anterior shoulder dislocations are the most common type of dislocations that occur in the field. One approach that is often used to reduce a shoulder dislocation is the *Stimson technique*. The advantage to this approach is that there is little chance of harming the person. The disadvantage is that it takes a bit of time and is not always successful. To use the Stimson technique, follow these steps:**
  - **Position the person face-down across a rock or log with the arm on the injured side dangling down vertically.**
  - **With a soft cloth, tie something of about 5 to 10 pounds of weight to the dangling wrist. Do not have the person hold the weight.**
  - **Wait. This process takes 20 to 30 minutes to work. The goal is to have the bone slide back into the socket.**
- **The key to success is for the person to be relaxed and to allow the gentle pull of the weight to tire the chest and back muscles, allowing the shoulder to return to its normal position. Too much weight will cause increased spasms and prevent this method from working.**

- **A person with a shoulder dislocation can perform a similar technique on him- or herself to put the shoulder back in place. Standing or sitting, the person should pull the injured arm straight forward, away from the body, by gripping the wrist with the opposite hand.**
- **The injured person should perform the technique right away. Otherwise, the dislocation will cause the chest muscles to spasm so much that the technique probably will not work.**
- **As soon as the reduction is completed, the injured person should be placed in a sling-and-swathe. *Do not* swathe the person if he or she must use the arm in an emergency, such as escaping from an overturned raft.**

*Finger or Toe Dislocations*

### Key Points:

- **To put a dislocated finger or toe back in its normal position:**
  - **Keeping the injured finger or toe partially flexed (bent), pull on the end with one hand while gently pressing the dislocated joint back into place with your other thumb.**
  - **Place a gauze pad between the injured finger or toe and neighboring finger or toe.**
  - **Tape the fingers together.**
  - ***Do not* tape directly over the joint itself.**

*Kneecap (Patella) Dislocations*

### Key Points:

- **It is usually easy to put a dislocated kneecap back into its normal position by taking the following steps:**
  - **Apply gentle traction to the leg to straighten it out. This may cause the kneecap to pop back into place without any further treatment.**
  - **If the kneecap does not pop back into place after the leg is straightened, massage the thigh and use your hand to push the kneecap gently back into normal alignment.**
  - **Apply a splint that does not put pressure on the kneecap. This way, the person may be able to walk.**

## TOPIC: GUIDELINES FOR EVACUATION

Time: 5 minutes

### Key Points:

- **With a usable body part after injury, the person's degree of discomfort will determine the need to evacuate the person more than anything.**
- **Evacuate anyone with unusable body part injuries and with first-time dislocations (except perhaps dislocations of the outer joints of the fingers and toes).**

- **Go FAST to rapidly evacuate any persons with angulated fractures, open fractures, fractures of the pelvis, hip or femur (thigh), more than one long bone fracture (e.g., femur [thigh bone] and tibia [shin bone]), and injuries that create a decrease in CSM beyond the injury.**

# SCENARIO: BONE AND JOINT INJURY

Time: 30 minutes

***Instructor's Note:*** *See Section 3: Appendices of this instructor's manual for information on setting and staging scenarios. Provide participants sufficient information up front, by physical setting and props, verbal descriptions or cue cards, so that they are responding to parameters rather than having to assume them. Because participants are going to simulate responding to an emergency situation, provide only the information necessary for responders to make a decision and give care by prompting the responder/group on the conditions found, such as "Air goes in" instead of "Give a rescue breath." You will have time to debrief and build on scenarios later.*

- Ask participants to take to the practice area their wilderness first aid kits/pack (if available), emergency reference guides, pocket guides, Wilderness and Remote First Aid Report Forms/Rescue Requests, non-latex disposable gloves and any necessary materials and equipment to complete the scenario.
- Have participants get into groups of four or five. Identify one participant to be the note taker for the scenario and give him or her the report form/rescue request. Identify another participant to be the injured person. Provide him or her with the scenario cue cards that describe the injured person's role. Have responders exit the room or close their eyes while you set up the scenario.
- Apply wound makeup (known as moulage) if desired. Directions for applying wound makeup can be found in Appendix 3-16.
- Have the person sit or lie next to a wall or in a corner and have books or chairs along the floor by the person. If in the wilderness, have the person sit at the bottom of a hill or ravine, if one is available. If not, place the person on uneven ground. Choose a location that provides obstacles for giving care but does not compromise the safety of the group. Have the person sit or lie in a position to guard the injury. Have the group start a short distance away so they begin the scenario by checking the scene for safety.
- Tell participants that they must find and refer to the appropriate material as part of this simulated emergency scenario, using everything they have learned up to this point in the course.
- Tell participants that they have themselves and what they brought as resources. If participants ask, they may use other items they find in the practice area.
- Prompt participants through the scenario as needed. Participant actions are in bold; instructor actions and actions found on the cue card are in italics. The participant role-playing the injured adult leader will have cue cards to advise the responder of his or her condition.
- Record each participant's actions in the scenario on the Wilderness and Remote First Aid Competency Check Sheet.

# LESSON 9

***Setup:*** *You are all volunteers in a trail restoration project in a wilderness area. An adult leader falls on a downed branch and rolls down a 5-foot embankment. You are able to call a ranger station, but based on your location, help is at least an hour away.*

| | |
|---|---|
| **Participant Action:** | **A leader emerges from the group, recognizes an emergency, provides leadership and checks for scene safety.** |
| *Instructor Action:* | *The scene is safe.* |
| **Participant Action:** | **Decides how to safely reach the person. Reaches the injured person, and recognizes the emergency.** |
| *Instructor Action:* | *A person is injured.* |
| **Participant Action:** | **Calls ranger station. Establishes the MOI.** |
| *Cue Card:* | *Fell 5 feet and landed in a ravine.* |
| **Participant Action:** | **Checks for consciousness.** |
| *Instructor Action:* | *The person has a level of consciousness (LOC) of A+O×4.* |
| **Participant Action:** | **Checks for airway and breathing.** |
| *Instructor Action:* | *The airway is open and the person is breathing regularly.* |
| **Participant Action:** | **Checks for circulation.** |
| *Instructor Action:* | *The person has a regular pulse and is not bleeding severely.* |
| **Participant Action:** | **Checks for disability.** |
| *Cue Card:* | *The person cannot move one ankle and one shoulder.* |
| **Participant Action:** | **Checks the environment.** |
| *Instructor Action:* | *There are no significant environmental factors.* |
| **Participant Action:** | **Begins a secondary assessment with SAMPLE history. Asks about symptoms.** |
| *Cue Card:* | *The person has pain and cannot move extremities.* |
| **Participant Action:** | **(If moulage is used, should locate injured area.) Asks about allergies.** |
| *Cue Card:* | *The person has no allergies.* |
| **Participant Action:** | **Asks about medications.** |
| *Cue Card:* | *The person does not take medication.* |
| **Participant Action:** | **Asks about pertinent past medical history.** |
| *Cue Card:* | *The person reports no pertinent past medical history.* |
| **Participant Action:** | **Asks about last intake and output.** |
| *Cue Card:* | *The person has not been drinking and is very thirsty. He/she forgot his/her water bottle and did not want to tell anybody.* |
| **Participant Action:** | **Asks about events leading up to the incident.** |
| *Cue Card:* | *The person did not see a branch because of sweat in his/her eyes.* |
| **Participant Action:** | **Completes a hands-on physical exam.** |
| *Cue Card:* | *There are no other injuries.* |
| **Participant Action:** | **Checks breathing.** |
| *Instructor Action:* | *The person is breathing about 12 breaths per minute.* |
| **Participant Action:** | **Checks pulse.** |
| *Instructor Action:* | *The person has a strong pulse of 90 beats per minute.* |

**Participant Action:** **Gives care by giving a "usability assessment"; RICE; splints shoulder using sling-and-swathe and splints leg to ground; and gives small sips of water.**

*Instructor Action:* *Demonstrate and have participants go through glove removal skill.*

## Scenario Follow-Up

- Use the notes taken by the note taker and Wilderness and Remote First Aid Report Form/Rescue Request to remember specific care issues.
- Facilitate a discussion with participants by asking the following questions:
  - **"How was scene safety managed? How was the person protected during the assessment?"**
    ***Answers:*** *Answers will vary based on the group.*
  - **"How were LOC and airway, breathing, circulation, disability and environment (ABCDEs) checked?"**
    ***Answers:*** *Answers will vary based on the group.*
  - **"What relevant information did you find out during the physical exam and SAMPLE history?"**
    ***Answers:*** *Responses should include the following:*
    - *Shoulder strain*
    - *Ankle sprain*
    - *Possible dehydration*
  - **"What influenced your splinting decisions?"**
    ***Answers:*** *Responses could include the following:*
    - *Materials*
    - *The need to move the person*
  - **"What are your evacuation plans?"**
    ***Answers:*** *Responses will vary based on the group.*
  - **"What did you learn? What would you change for the next scenario?"**
    ***Answers:*** *Responses will vary based on the group.*
  - **"If this were a real emergency, would you be prepared to respond? If not, what steps can you take to ensure that you are ready to respond to an emergency?"**
    ***Answers****: Responses will vary based on the group.*
  - **"If this were taking place in a wilderness setting, what additional issues would you need to be aware of?"**
    ***Answers****: Responses will vary based on the group.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about bone and joint injuries.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 10

# Burns

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- *Wilderness and Remote First Aid Pocket Guide* (one for each participant)
- Paper and pencil or pen

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define types of burn injuries.
- Define and demonstrate the proper management of superficial, partial-thickness and full-thickness burns in short- and long-term settings.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Identify ways to prevent burn injuries.

# TOPIC: BURNS OVERVIEW

Time: 5 minutes

## Identifying Types of Burns by Source

### Activity:

- Using four sheets of newsprint, write a different type of burn on each sheet:
  - Heat
  - Chemical reactions
  - Electricity
  - Radiation
- Explain to participants that each header reflects a different type of burn.
- Ask participants: **"What sources can cause each of these different types of burns?"** Record their responses on the appropriate sheet of newsprint.

***Answers:*** *Responses should include the following:*

- *Heat*
  - *Fires*
  - *Boiling water*
  - *Steam*
  - *Hot pot*
  - *Melting substances, such as plastic or tar*
- *Chemical reactions*
  - *Pesticides*
  - *Chemical fuels*
  - *Battery acid*
- *Electricity*
  - *Electrical current*
  - *Lightning*
- *Radiation*
  - *Sun*

# TOPIC: PREVENTING BURNS

Time: 5 minutes

## Key Points:

- **You should always use caution during any activity with a risk of burn injuries.**
- **What steps can you take to prevent each of these different types of burns?**

  ***Answers:*** *Responses should include the following:*

  - *Heat*
    - *Always cook in a designated cooking area.*
    - *Position your stove and self to allow easy escape in the event of fire. For example, do not sit in front of a stove that is on a picnic table.*
    - *Never cook or use an open flame inside of a tent.*
    - *Use caution when around campfires.*
  - *Chemical reactions*
    - *Follow label directions for use and handling.*
  - *Electricity*
    - *Take precautions to avoid lightning injuries, such as knowing local weather patterns and finding a safe spot.*
  - *Radiation*
    - *Use a sunscreen with a sun protection factor (SPF) of 15 or higher. Apply prior to sun exposure if possible.*
    - *Wear ultraviolet (UV)-blocking sunglasses and a wide-brimmed hat.*
    - *Take extra precautions at high altitudes and around snow and water.*

# TOPIC: CHECKING AND CARING FOR BURNS

Time: 10 minutes

## Stop the Burning

### Key Points:

- **Burns can continue to injure tissue for a long time. No first aid will be effective until the burning process has stopped.**
- **Before checking a burn, you must take some initial steps to stabilize the situation.**
  - **Remove the person from the source of the burn or remove the source from the person and remove any immediate danger, if you can do this safely.**
  - **Stop the burning process, the faster the better—within 30 seconds, if possible.**
  - **Be immediately suspicious of possible airway complications in situations with:**
    - **Burns to the face and/or neck.**
    - **Soot in the mouth and/or nose.**
    - **Singed facial hair.**
    - **A dry cough that accompanies the burn.**

## Stop the Burn

### Activity:

- Refer back to the newsprint from the first activity.
- Ask participants: **"For each type of burn, how could you stop the burning process?"** Record their responses on the appropriate sheet of newsprint.

  ***Answers:*** *Responses should include the following:*
  - *Heat*
    - *Remove from heat source.*
    - *Smother flames.*
    - *Flush with large amounts of water. (Do not try to remove tar, melted plastic or other material stuck to the burn.)*
  - *Electricity*
    - *Turn off electricity.*
    - *Flush with large amounts of water.*
  - *Chemical reactions*
    - *If dry chemical, brush off dry chemicals or remove clothing first.*
    - *Flush with large amounts of water.*
  - *Radiation*
    - *Move into a shaded area.*
    - *Flush with large amounts of water.*

## Checking Burns

### Key Points:

- **Specific burn care depends on your assessment of the source, the depth and the extent of the injury.**
- **The signs and symptoms help determine the depth of the burn—superficial burn, partial-thickness burn or full-thickness burn.**
- **What are the signs and symptoms of a superficial burn?**
  ***Answers:*** *Responses should include the following:*
  - *Skin that is red and painful*
  - *Possible swelling*
- **What are the signs and symptoms of partial-thickness burns?**
  ***Answers:*** *Responses should include the following:*
  - *Skin that is red, painful and swollen*
  - *Blisters, which sometimes form more than an hour after cooling*
- **What are the signs and symptoms of full-thickness burns?**
  ***Answers:*** *Responses should include the following:*
  - *Skin that is painless—although partial-thickness burns may surround full-thickness burns*
  - *Skin that is pale and stiff, if the burn was caused by scalding*
  - *Skin that is charred, if the burn was caused by fire*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of the different types of burns if they are having trouble answering the questions.*

## Palmar Surface

### Activity:

- Explain to participants that the Rule of Palmar Surface helps determine the percentage of total body surface area (TBSA) that is covered by the burn.
- Have each participant hold one hand in front of his or her face, with the palm open and thumb and fingers extended.
- Using your hand as a demonstration, show participants your palmar surface—the inner surface of the palm and fingers. Explain that this equals about 1 percent of the TBSA.
- Explain that when determining the TBSA, they should use the person's palmar surface to determine the percent of TBSA that is burned. The more TBSA burned, the more serious the injury.
- Have participants select a partner. Have them estimate the percentage of TBSA for the following burn areas on their partners:
  - The outside of the arm from the shoulder to the elbow
  - The back from the shoulder blade to the hip bones
- Provide feedback and direction as necessary to ensure that participants are accurately estimating the percentage of TBSA.

## Caring for Burns

### Key Points:

- **In the case of major electrical burns, for example from lightning or electrocution, give care for any cardiac or respiratory emergencies first.**
- **After assessment and removal of the source of the burn, burns can be treated more fully.**
- **Manage airway, breathing, circulation, disability and environment (ABCDEs) and keep the person well-hydrated.**
- **Follow appropriate guidelines for caring for specific burn injuries.**
  - **Expose the burn fully, but *do not* remove clothing that is melted onto the burn.**
  - **Cool or flood the burn with cold water for at least 20 minutes.**
  - **Leave burn blisters intact.**
  - **Remove jewelry from the burned area, if possible, to prevent complications resulting from swelling.**
  - **Dress a minor burn with a thin layer of wound gel.**
    - **If wound gel or dressings are not available, leave the burn alone. The burn surface will dry into a scab-like covering that provides a significant amount of protection.**
  - **Cover the burn with a gauze pad or a thin layer of roll gauze.**
    - **To improvise a covering, apply clean clothing.**
    - **Covering wounds reduces pain and loss of moisture through evaporation.**
  - ***Do not* pack burn wounds or the person in ice.**
  - **Elevate burned extremities to minimize swelling. Swelling slows healing and encourages infection.**
  - **Encourage the person to gently and regularly move burned areas as much as possible.**
- **In addition to the aforementioned guidelines for care, protect the person from shock and hypothermia.**
- **Re-dress the injury twice a day by:**
  - **Removing old dressings by soaking them off with clean, tepid water if needed.**
  - **Rewashing the wound to remove the old wound gel.**
  - **Applying a clean covering.**
- **Re-dressing or re-examining a burn for infection will most likely be very painful. If evacuation is imminent (within hours to a day)—leave the burn alone.**

# TOPIC: GUIDELINES FOR EVACUATION

Time: 8 minutes

### Key Points:

- **Assessment helps you decide how to care for the person and whether rapid evacuation is necessary.**

- **GO FAST to rapidly evacuate any person who has trouble breathing or a person with signs of smoke inhalation (singed nasal hair, soot in the mouth or the nose).**
- **GO FAST to rapidly evacuate any person with a major burn, defined as:**
  - **A partial- or full-thickness burn that covers 10 percent or more of the person's TBSA.**
  - **A partial- or full-thickness burn that is circumferential (wrapping around the body part), covering the entire hand, foot or other body part.**
  - **Serious burns of the head, face, neck, hands, feet or genitals.**
  - **A full-thickness burn that covers more than 5 percent of the TBSA.**
  - **Burns caused by chemicals, explosions or electricity.**
  - **Any partial- or full-thickness burn to a child or an elderly person (younger than about 5 years of age or older than about 60 years of age).**
- **Pain is a useful burn assessment tool in determining whether evacuation is necessary. If the person is in a lot of pain, he or she needs the care of a health care provider; therefore, rapid evacuation is necessary.**

## Evacuation Evaluation

### Activity:

- Divide the class into small groups. Give the following scenario to each group, either written or verbally: **"A 16-year-old female is sitting at a picnic table, boiling water for a meal. The pot spills boiling water into her lap. She is screaming in pain. You see a scalding burn that is white and skin sloughing off. The burn area covers the top of both thighs and her right arm from the elbow to about her wrist."**
- Ask each group to make an initial evacuation decision and to write down three additional pieces of information they would seek. Encourage them to use the pocket guide and emergency reference guide.

  ***Answers:*** *The person has partial- and full-thickness burns to about 10 percent of her TBSA. This necessitates a rapid evacuation. Additional pieces of information participants could seek include:*
  - *Is there a stream or source of water nearby to flush the burn?*
  - *What is the depth of burn?*
  - *Is the hot water still on her clothes?*
  - *Is the stove still on?*
- Provide feedback about their decisions and answer any participants' questions.
- Remind participants that the person needs continual cooling of the area until advanced medical care arrives.

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about burns.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 11

# Abdominal Illnesses

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)
- Multiple types of water disinfecting systems
- Table or other suitable area for display of water disinfecting supplies

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Demonstrate a field assessment for abdominal pain and/or discomfort.
- List the indications (signs and symptoms) of serious abdominal pain and/or discomfort.
- Define and describe the treatment of and long-term care for stomachache and diarrhea.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Describe personal and camp hygiene and their role in prevention of abdominal problems.

## TOPIC: ABDOMINAL ILLNESSES OVERVIEW

Time: 2 minutes

### Key Points:

- **Abdominal pain and discomfort can be a common wilderness problem, ranging from mild and non-threatening to serious and life threatening.**
- **You may never know the source of the problem, but you must be able to manage mild problems and know when a problem is serious and evacuation is needed.**
- **While taking the SAMPLE history, ask appropriate questions about abdominal pain and discomfort.**

- To assess abdominal problems, press gently on the four quadrants of the abdomen with your fingers placed flat against the abdomen, starting in the quadrant furthest away from the pain and moving toward it.
- Note the results of your assessment on the Wilderness and Remote First Aid Report Form/ Rescue Request. Also, note any changes over time on the report form.

# TOPIC: CHECKING AND CARING FOR ABDOMINAL PAIN AND DISCOMFORT

Time: 15 minutes

## Stomachache

### Key Points:

- *Gastritis* is an inflammation of the lining of the stomach and tends to cause stomachaches.
- Signs and symptoms of stomachaches include:
  - Gradually increasing widespread abdominal discomfort that is often worse in the lower abdominal region.
  - Intermittent cramping.
  - Nausea and vomiting.
  - Diarrhea.
- To care for stomachaches:
  - Keep the person well-hydrated.
  - Provide a bland diet, if the person is not vomiting.
  - Maintain good personal and group hygiene.

## Diarrhea

### Key Points:

- A person with diarrhea experiences frequent, loose, watery stools, and typically has gastroenteritis (stomach flu).
- *Gastroenteritis* is a mild inflammation of the gastrointestinal tract.
- To care for diarrhea:
  - If mild, have the person drink water or diluted, clear, non-citrus fruit juices or sports drinks.
  - If persistent, diarrhea requires more aggressive replacement of the electrolytes lost in the stool. If available, give a carbohydrate-electrolyte solution such as a commercial sports drink or fruit juice. Oral rehydration solutions, such as a solution of 1 teaspoon of salt and 8 teaspoons of sugar combined with 1 quart of water may also be given.
  - If the person is not vomiting, rice, grains, bananas and potatoes or other bland diet items are good choices. The person should avoid fats, dairy products, caffeine and alcohol.
- Over-the-counter medications for watery diarrhea are available.

***Instructor's Notes:***

- The person should only take medication if he or she can swallow and has no known contraindications. Persons should read and follow all label or health care provider instructions.
- Refer participants to their emergency reference guides for information on other conditions, such as Giardia (a parasite that causes severe diarrhea) as well as signs, symptoms and care as it pertains to abdominal injury and illness.

## Serious Abdominal Pain Discussion

### Activity:

- Explain to participants that severe abdominal pain is a sign of a more serious illness.
- Ask participants: **"What signs and symptoms would you expect differentiate a common stomachache from more serious abdominal pain?"**
  ***Answers****: Record participants' responses on newsprint. Facilitate a discussion to ensure that the following responses are included. If necessary, prompt participants by asking questions that are asked during a SAMPLE history or during a hands-on physical exam and refer participants to their emergency reference guides:*
  - *A fever higher than 102° F, which may be characterized by chills or shivers*
  - *Persistent pain for more than 12 hours, especially if the pain is constant*
  - *Localized pain, especially if the person guards or protects the area*
  - *Tenderness, abdominal rigidity (stiffness) and/or distention (swelling)*
  - *Pain increases with movement, jarring or when the foot strikes the ground when walking*
  - *Blood in the vomit, feces or urine:*
    - *In vomit, blood may look like coffee grounds.*
    - *In feces, blood may look black like tar.*
    - *In urine, blood appears light brown to reddish.*
  - *Nausea, vomiting and/or diarrhea for more than 24 hours, especially if the person is unable to stay well-hydrated*
  - *Pain associated with the signs and symptoms of pregnancy or vaginal bleeding and shock*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of severe abdominal issues if they are having trouble answering the question.*

- Explain to participants that to care for serious abdominal pain, they should:
  - Manage airway, breathing, circulation, disability and environment (ABCDEs).
  - Watch and care for shock as appropriate.

# TOPIC: GUIDELINES FOR EVACUATION

Time: 1 minute

## Key Points:

- **Evacuation may be necessary for a person with an abdominal illness. (Evacuation is not necessary if the person is improving.)**
- **GO SLOW to evacuate any person with persistent abdominal discomfort.**
- **GO FAST to rapidly evacuate any person with signs and symptoms of a serious abdominal problem.**

# TOPIC: PREVENTING ABDOMINAL PROBLEMS

Time: 10 minutes

## Personal and Camp Hygiene

### Key Points:

- **Poor hygiene habits in the wilderness may be the primary source of abdominal problems.**
- **What good hygiene should you practice to prevent abdominal problems?**

  ***Answers:*** *Facilitate a discussion to ensure that the following responses are included:*
  - *Use soap and water to wash and clean hands before food preparation and after using the bathroom. Hand sanitizer is acceptable if hands have no visible debris on them.*
  - *Do not eat leftover food unless it has been stored once cool and then completely reheated.*
  - *Bury human waste at least 200 feet from water sources.*
  - Do not *use a personal spoon to take food from a container. For example, pour food into a container instead of having everyone scoop food out with their hands.*
  - Do not *share personal items, such as spoons, cups, water bottles and lip balm, toothbrushes or drinking containers.*
  - *Keep kitchen gear clean. Make sure to rinse all soap or detergent from dishes.*
  - *Disinfect all drinking water. (Water disinfection methods will be discussed herein.)*

***Instructor's Note:*** *Remind participants about safety when cooking food to avoid injuries, such as burns, and illnesses.*

- **What are ways to disinfect water?**

  ***Answers****: Responses should include the following:*
  - *Boiling*
  - *Chemical treatment*
  - *Filtration devices (or a combination of filtering and iodine or chlorine)*
  - *Ultraviolet light devices*

# LESSON 11

## Disinfecting Water

### Activity:

- On a table or other suitable display area, assemble the items, devices, equipment and manufacturer's directions (all methods other than boiling are done with commercial products) needed to disinfect water using the four ways listed herein.
- Divide participants into four groups. Assign each group one of the four ways to disinfect water:
  - Boiling
  - Chemical treatment
  - Filtration devices (or a combination of filtering and iodine or chlorine)
  - Ultraviolet light devices
- Have participants retrieve water purification/disinfection devices from the display area that you have assembled.
- Allow 2 to 3 minutes for participants to prepare to describe to the rest of the class how to disinfect water using the assigned method, devices and equipment. Correct any inaccurate information or fill in any important missing information.
- As each group makes their presentation, be sure that the following points are covered:

  Boiling
  - Bring water to a rolling boil (half-inch bubbles from the bottom) for 1 minute and leave covered for several minutes.
  - All microorganisms are killed at 212° F (100° C). Water boils at lower temperatures at higher elevations. This is acceptable as long as the water maintains a rolling boil for at least 1 minute.
  - Boiling water will kill most types of disease-causing organisms as long as a high heat is reached and maintained.

  Chemical treatment
  - Use a chlorine bleach-based disinfectant or povidone-iodine-based disinfectant.
  - Follow manufacturer's directions, especially for cold environments such as mountains, because decreased temperature requires longer contact time for proper disinfection.
  - Not all chemical treatments are effective against *Giardia* or *Cryptosporidium*.

  Filtration devices (or a combination of filtering and iodine or chlorine)
  - Follow manufacturer's directions.
  - Regularly clean or replace pores:
    - A 5-micron or less filter traps *Giardia*.
    - A 0.2-micron or less filter traps bacteria.[1]
  - Discard cracked devices.
  - Consider adding chemical resins to kill viruses.
  - Using iodine to disinfect water is not recommended for people with allergies to iodine, people with thyroid disease or pregnant women.
  - Bleach will kill some, but not all, types of disease-causing organisms.

[1] Wilderness Medical Society. 1989. Field Water Disinfection Position Statement.

Ultraviolet light devices

- Follow manufacturer's directions.
- Lamp replacement is a key maintenance requirement.
- Look for a model equipped with a warning device to alert the owner when lamp intensity falls below the germicidal range.
- Ultraviolet light devices are fragile.

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about abdominal illnesses.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 12

# Hypothermia

## LESSON LENGTH

45 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- Paper and pen or pencil (one for each participant)
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- Hypothermia wrap materials
  - Improvised wrap materials: Tarp, tent fly, garbage bags, space blankets, sleeping pad or bag, water bottles/heat pack and extra clothing

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe the mechanisms of heat loss versus heat gain.
- Define hypothermia.
- List the signs and symptoms of mild and severe hypothermia.
- Demonstrate the emergency treatment of and describe the long-term care for mild and severe hypothermia.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Describe the prevention of hypothermia.

***Instructor's Note:*** *Prepare for this lesson by writing the five statements from the Myth or Reality Activity on newsprint. You should also have the practice area set up ahead of time for the Making a Hypothermia Wrap Skill Session.*

# TOPIC: HYPOTHERMIA OVERVIEW

Time: 5 minutes

## Myth or Reality

### Activity:

- Explain to participants that this lesson begins with an activity to answer some myths about hypothermia.
- Ask participants to make a list of numbers one through five. As you read each numbered statement, write down whether the statements are “myth” or ”reality.” A follow-up will be done later in the lesson.
  1. **“70° F or below describes cold water.”**
  2. **“A living body always produces heat.”**
  3. **“Hypothermia is contagious and if one person is treated, all should be treated.”**
  4. **“A person with severe hypothermia complains a lot of being cold.”**
  5. **“Wet clothing from either rain or sweat can contribute to hypothermia.”**

### Key Points:

- **The human body constantly generates heat via metabolism.**
- **In what other ways does the body generate heat?**
  ***Answers:*** *Responses should include the following:*
  - *Basal metabolic activity through digestion, such as through proper food intake*
  - *Adding external heat, such as solar heat*
  - *Muscular activity, such as shivering or exercise*
- **At the same time, heat is constantly shed by:**
  - **Radiation from the skin.**
  - **Conduction via contact with cold material, such as the ground.**
  - **Convection via the movement of air across the skin.**
  - **Evaporation of moisture from the skin.**
- **The human thermoregulatory system typically balances heat gain and heat loss to keep the body core temperature around 99.6° F (98.6° F oral temperature).**
- ***Hypothermia* occurs when the body’s core temperature lowers to a point at which normal brain or muscle function is impaired.**
- **Hypothermia may be mild, moderate or life threatening.**
- **It does not have to be cold for a person to get hypothermia.**

# TOPIC: CHECKING AND CARING FOR MILD TO MODERATE HYPOTHERMIA

Time: 10 minutes

## Checking for Mild to Moderate Hypothermia

### Key Points:

- **Signs and symptoms of mild hypothermia include:**
  - **Shivering.**
  - **The "umbles," a group of symptoms that include:**
    - **The inability to perform complex tasks, or the "fumbles."**
    - **Confusion, apathy and sluggish thinking, or the "grumbles."**
    - **Slurred speech, or the "mumbles."**
    - **Altered gait, or the "stumbles."**
  - **The person is able to eat and talk, and usually complains of feeling cold.**
- **Signs and symptoms of moderate hypothermia include:**
  - **A worsening of the "umbles."**
  - **Uncontrollable violent shivering.**
  - **Confusion or unusual behavior.**
  - **Impaired judgment.**
- **Hypothermia can affect anyone in your group, including you, thus impairing judgment and affecting the ability to perform assigned roles and affecting safety.**

## Caring for Mild to Moderate Hypothermia

### Key Points:

- **A person with mild to moderate hypothermia is still trying to warm up internally.**
- **What are ways that you could warm up someone with mild to moderate hypothermia?**

  ***Answers:*** *Responses should include the following:*
  - *Change the environment to prevent heat loss.*
  - *Replace wet clothes with something dry.*
  - *Move out of the wind and cold and into some kind of shelter, even if the only shelter available is the protection of waterproof, windproof clothing.*
  - *Cover all exposed skin, including the head and neck.*
  - *If able, eat and drink simple carbohydrates to help natural heat production in the body.* **Do not** *drink caffeine and/or alcohol.*
  - *Insulate the person from the ground.*
  - *Bundle the person in dry insulation.*
  - *Have him or her snuggle with warm people, such as in a sleeping bag.*

- *Place hot water bottles or chemical heat packs near the person's heart and in his or her armpits and groin area (but not against bare skin).*
- *If the person can still exercise easily, keep him or her moving after initial care.*

- **Keep in mind that:**
  - **Fluids are more important than solids to a cold person.**
  - **A warm, sweet drink will add a small amount of heat, but a lot of simple sugar for energy (e.g., warm gelatin dessert). It can also help raise the person's spirits.**
  - **Even cold fluids are better than no fluids.**
  - **If the person goes to sleep, wake him or her periodically.**
  - **A person with moderate hypothermia may think that he or she is not cold and may begin to take clothing off. The person has an altered mental status and must be kept warm and bundled up.**
- **If the person can still exercise or flex muscles easily, he or she may continue activity after initial care.**
- **If the person *cannot* exercise easily, do all you can to keep him or her warm and encourage inner heat production.**
- **Wait until the person returns to normal and is able to exercise muscles before you keep moving.**

# TOPIC: CHECKING AND CARING FOR SEVERE HYPOTHERMIA

Time: 22 minutes

## Checking for Severe Hypothermia

### Key Points:

- **A person with severe hypothermia has lost the ability to generate an appreciable amount of heat.**
- **What are the signs and symptoms of severe hypothermia?**

  ***Answers:*** *Responses should include the following:*
  - *Shivering stops.*
  - *Muscle rigidity increases.*
  - *Mental state worsens, moving from stupor to coma.*
  - *State of awareness is semiconscious or unconscious.*
  - *Pulse and respiration rates decrease to a point to which they are difficult to detect, but still are present.*
  - *Complaining stops.*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of severe hypothermia if they are having trouble with answering the question.*

## Caring for Severe Hypothermia

### Key Points:

- **Handle a person with severe hypothermia gently—roughness can overload a cold heart and stop it.**
- **If the person is not breathing, perform cardiopulmonary resuscitation (CPR) for at least 3 minutes prior to any movement.**
- **Take steps to keep the person warm, just like with mild to moderate hypothermia.**
- **Warming the body too quickly or moving the person too much will likely send cold blood to his or her core, causing body temperature to drop even further. This can be fatal because the heart does not function properly when it is cold.**

***Instructor's Note:*** *A slight drop may occur in any re-warming situation as cold blood from the extremities slowly makes its way to the core. However, rapid blood movement can be fatal.*

- **Use a "hypothermia wrap" vapor barrier to trap any heat still left in the person.**
  - **Wrap the person with a tent fly, a sheet of plastic, garbage bags or something similar.**
  - **The hypothermia wrap should resemble a cocoon or a "burrito" that is open only to the mouth and nose.**
- ***Do not* try to force food or drink.**
- **Care for severe hypothermia even if the person appears dead.**
- **Call for help immediately—*do not* try to evacuate the person unless it can be done gently.**

## Myth or Reality Follow-up

### Activity:

- Review answers to the myth and reality statements.
  1. 70° F or below describes "cold water."
     ***Answer:*** *Reality. Water does not have to be freezing to cause hypothermia. A water temperature of 70° F is almost 30° F colder than your normal body temperature, and it is the water temperature estimate that most experts consider "cold" and requires caution.*
  2. A living body always produces heat.
     ***Answer:*** *Reality. However, it may not always be enough to sustain life.*
  3. Hypothermia is contagious and if one person is treated, all should be treated.
     ***Answer:*** *Myth. However, if one person in a group is hypothermic, the leader should address it with everyone, especially for assistance getting the person proper food, shelter, hydration and dry clothes.*
  4. A person with severe hypothermia complains a lot of being cold.
     ***Answer:*** *Myth. The person is too lethargic to complain and is giving up. A severely hypothermic person also no longer shivers.*

5. Wet clothing from either rain or sweat can contribute to hypothermia.
   ***Answer:*** *Reality. Wet clothing can contribute to hypothermia.*

## Skill Session

### Activity:

- Ask a volunteer to role-play a person with severe hypothermia to demonstrate a hypothermia wrap with the help of the group.
- Ask participants: **"What type of items can you use to create the hypothermia wrap?"**
  ***Answers:*** *The following types of items can be used for a hypothermia wrap:*
  - *Tarp*
  - *Tent fly*
  - *Garbage bags*
  - *Sleeping pad or bag*
  - *Water bottles*
  - *Heat packs*
  - *Extra dry clothing (e.g., dry sock or shirt)*
- Have participants gather around the practice area as you demonstrate how to make a hypothermia wrap.
- Explain to participants that they should assume that the person has already been determined to have severe hypothermia. Use the opportunity to review the signs and symptoms that led you to that conclusion.

## Skill Chart

| | |
|---|---|
| **Making a Hypothermia Wrap** | 1. Prepare by placing a vapor barrier on the ground to protect the person from air moisture (e.g., tarp, tent fly, garbage bags).<br>2. Place insulation on top of the vapor barrier (i.e., sleeping pad or bag).<br>3. Place the person, ideally with no wet clothes on, in a sleeping bag or a blanket, and then place them onto the prepared area.<br>4. Wrap warm water bottles or heat packs with extra clothing and place by the head, neck, armpits and groin.<br>5. Prevent radiation and convectional heat loss by wrapping the person in anything windproof.<br>6. Pay close attention to details; the only portion of the person's body that should be exposed to the elements is the mouth and nose.<br>7. Check and re-check the person. |

# TOPIC: GUIDELINES FOR EVACUATION

Time: 1 minute

## Key Points:

- **Persons who recover from mild to moderate hypothermia may remain in the field.**
- **GO FAST to rapidly evacuate any person with severe hypothermia. Do this with extreme gentleness.**

# TOPIC: PREVENTING HYPOTHERMIA

Time: 5 minutes

## Preventing Hypothermia

## Key Points:

- **It is far easier to maintain core temperature than to regain core temperature.**
- **There are three steps in preventing hypothermia from occurring:**
  1. **Prevent heat loss.**
  2. **Terminate exposure.**
  3. **Detect warning signs early.**
- **What you wear can have a major effect on preventing hypothermia.**
- **What types of clothing should you wear to prevent hypothermia and why?**
  ***Answers:*** *Responses should include the following:*
  - *Such materials as silk, wool and synthetics or other clothing designed to wick moisture away from the skin help retain body heat even when wet. The layer of clothing nearest the skin should be silk, polypropylene or other synthetics, which will wick away perspiration into the outer layers of clothing.*
  - *Layers of clothing can help you stay dry. Be sure to take off layers before sweating starts and add layers back before chilling occurs.*
  - *Wear a hat because a significant amount of heat can be lost through the head when exercising, shivering or at rest.*
  - *Make sure your hands and feet are protected with gloves and socks.*
  - *Wear rain gear and boots to stay dry when needed.*
- **Is there any type of clothing you should avoid?**
  ***Answer:*** *Avoid wearing cotton clothing in a wilderness or remote environment.*
- **What you eat and drink can also have an effect on preventing hypothermia.**
- **What steps related to eating and drinking can you take to help prevent hypothermia?**
  ***Answers:*** *Responses should include the following:*
  - *Stay well-hydrated.*
  - *Avoid alcohol and caffeine.*
  - *Eat regularly, especially carbohydrates and sugars.*

- **Staying active, but maintaining a pace that prevents overexertion by resting often, can help prevent heat loss.**
- **Know the weather conditions before you go out.**

***Terminating Exposure***

## Key Points:

- **If you cannot stay dry and warm, get out of the wind and rain!**
- **Set up camp early, before your energy is exhausted and your coordination and judgment are impaired.**

***Early Detection***

## Key Points:

- **Watch yourself and one another for behaviors or exposures that could lead to heat loss and for signs of hypothermia.**
- **Care for signs and symptoms early, and if one person is cared for, monitor others for signs and symptoms.**
- **Being cold affects judgment—believe the signs and symptoms, not the person.**

***Instructor's Note:*** *Refer participants to their emergency reference guides for information on frostbite and immersion foot.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about hypothermia.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 13

# Heat-Related Illnesses

## LESSON LENGTH

1 hour

## MATERIALS, EQUIPMENT AND SUPPLIES

- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define heat cramps, heat exhaustion, heat stroke and hyponatremia.
- Describe the prevention of heat-related illnesses.
- List the signs and symptoms of heat cramps, heat exhaustion, heat stroke and hyponatremia.
- Describe the emergency treatment of and long-term care for heat cramps, heat exhaustion, heat stroke and hyponatremia.
- Describe situations that would require an evacuation versus a rapid evacuation.

## TOPIC: HEAT-RELATED ILLNESS OVERVIEW

Time: 5 minutes

### Key Points:

- **Heat-related illness describes a range of problems associated with very warm to hot air temperatures.**
- **In addition to air temperatures, what other factors can increase the risk for heat-related illness?**
  ***Answers:*** *Responses could include the following:*
  - *High humidity*
  - *Being overweight or out of shape*
  - *Being very young or very old*
  - *Being unaccustomed to heat*
  - *Taking certain drugs, such as antihistamines*
  - *Continued exertion/activity*
  - *Being dehydrated*

- ***Heat cramps*** **are painful muscle spasms that usually occur in the legs and abdomen. They are often the first signal that the body is having trouble with the heat.**
- ***Heat exhaustion*** **is a result of a combination of factors. These include heat stress, water and electrolyte loss (most often via sweat), and inadequate hydration, usually by a person who has been exercising.**
- ***Heat stroke*** **occurs when a person's core body temperature produces heat faster than it can be shed. The person may be overexerting him- or herself and/or is seriously dehydrated.**
- ***Hyponatremia*** **results when the blood sodium level falls too low to maintain normal body function. This is usually the result of drinking too much water and failing to eat or during extended periods of exertion.**

# TOPIC: PREVENTING HEAT-RELATED ILLNESS

Time: 7 minutes

## Key Points:

- **What steps do you think you can and should take to avoid heat-related illnesses from occurring?**

  ***Answers***: *As participants respond, expand on their answers to ensure that the following points are covered:*
  - *Stay well-hydrated. Base your hydration on routine discipline and good habits and not on thirst. Guidelines include the following:*
    - *Consume water before exercising. (About 400 to 600 ml, or about 14 to 20 oz of water approximately 2 hours before exercising is recommended.)*
    - *Consume water during exercise. (About 150 to 350 ml, or about 5 to 12 oz of water for every 15 to 20 minutes of exercise is recommended.)*
    - *Drink water or sports drinks during long bouts of exercise. (If exercise lasts for more than 1 hour, adding 4 to 8 percent carbohydrates and electrolytes, such as with a sports drink, is recommended.)*
    - *Replace fluids after exercise. (Urine output that is clear and relatively copious is an indication of adequate hydration.)*
    - *Eat low-salt snacks regularly. (It is practically impossible to drink too much water as long as you eat regularly.)*
    - *Avoid alcohol and caffeinated drinks.*
  - *Wear baggy, loosely woven clothing that allows evaporation of sweat.*
  - *Keep your head covered and your face shaded.*
  - *Keep yourself fit, and allow time for acclimatization when you are new to a hot environment.*
    - *Go slow the first few days.*
    - *Avoid exercising during the hottest times of day.*
  - *Beware of drugs that increase the risk for heat-related illness, including alcohol and antihistamines.*
  - *Regulate activity to avoid unnecessary heat or stress.*
  - *Rest in the shade often.*

## LESSON 13

# TOPIC: CHECKING AND CARING FOR HEAT CRAMPS

Time: 3 minutes

## Checking for Heat Cramps

### Key Points:

- **Heat cramps are painful muscle spasms that usually occur in the legs and abdomen.**

## Caring for Heat Cramps

### Key Points:

- **Help the person move to a cool place to rest.**
- **If available, give an electrolyte-carbohydrate solution such as a commercial sports drink or fruit juice. Water may also be given.**
- **Lightly stretch the muscle and gently massage the area.**
- ***Do not* give salt tablets.**
- **When cramps stop, the person usually can resume activity. Monitor the person for further signals of heat-related illness.**

# TOPIC: CHECKING AND CARING FOR HEAT EXHAUSTION

Time: 9 minutes

## Checking for Heat Exhaustion

### Key Points:

- **When heat-related illnesses occur, it is essential to recognize the signs and symptoms early and give care.**
- **Look, listen and feel for signs and symptoms of heat exhaustion. These include:**
  - **Sweating.**
  - **Tiredness and feeling lethargic.**
  - **Skin that appears pale and sweaty or flushed.**
  - **Headache.**
  - **Nausea and sometimes vomiting.**
  - **Thirst and decreased urine output (urine is yellowish).**
  - **Dizziness if person stands quickly.**
  - **Elevated heart rate and respiratory rate.**
  - **Slightly elevated core temperature (not typical).**

## Caring for Heat Exhaustion

### Key Points:

- **Have the person stop activity and rest, preferably in a cool, shady spot.**
- **Replace lost fluids and salt.**
  - **If available, give small amounts of a cool fluid such as a commercial sports drink or fruit juice.**
  - ***Do not* use salt tablets—they are too concentrated.**
- **Loosen or remove as much clothing as possible.**
- **Wet down and fan the person to increase the rate of cooling.**
- **Allow a drowsy person to sleep.**
- **Recovery may take up to 24 hours.**
- **When the person feels OK, he or she may continue, but continue to observe him or her for recurrences.**

# TOPIC: CHECKING AND CARING FOR HEAT STROKE

Time: 13 minutes

## Checking for Heat Stroke

### Key Points:

- **Look, listen and feel for signs and symptoms of heat stroke. These include:**
  - **Core temperature rising to 105° F (104° F oral temperature) or more.**
  - **Disorientation and bizarre personality changes.**
  - **Skin turning hot and dry or moist.**
  - **Elevated heart rate and respiratory rate.**
  - **Headache.**
  - **Seizures.**

## Caring for Heat Stroke

### Key Points:

- **Once the human brain gets too hot, it is a true emergency, and only rapid cooling will save the person.**
- **Remove the person from the hot environment!**
- **Ideally, remove any heat-retaining clothing from the person, and immerse him or her up to the neck in cold water until he or she regains base-level alertness. Immersion is recommended when a large enough source of water is available.**
- **Without a large source of cold water, take off any heat-retaining clothes and drench the person with cold water.**

- Concentrate cooling efforts on the head and the neck.
- Use cold packs on the neck, armpits, groin, hands and feet.
- Fan the person constantly to increase evaporation.

- Monitor the person closely and cease cooling efforts when a normal mental status returns.
- Give cool water or a sports drink to drink when, or if, the person is able to accept and drink it.
- *Do not* give fever-reducing drugs.
- Have the person see a health care provider as soon as possible, even if he or she appears to have recovered.
- Keep a careful watch on the person during evacuation because relapses are common.

# TOPIC: CHECKING AND CARING FOR HYPONATREMIA

Time: 20 minutes

## Checking for Hyponatremia

### Key Points:

- A hyponatremic person appears to have heat exhaustion—but giving more water can be harmful.
- Hyponatremia is commonly referred to as water intoxication.
- Use these guidelines to distinguish between heat exhaustion and hyponatremia:
  - Persons with heat exhaustion typically have a low output of yellowish urine (urinating every 6 to 8 hours) combined with thirst.
  - Hyponatremic persons have urinated recently and the urine was probably clear.
  - Hyponatremic persons will also claim to have been drinking a lot of water and/or deny being thirsty.
- Look, listen and feel for signs and symptoms of hyponatremia. These include:
  - Headache.
  - Weakness and fatigue.
  - Light-headedness.
  - Muscle cramps.
  - Nausea with or without vomiting.
  - Sweaty skin.
  - Normal core or oral temperature.
  - Normal or slightly elevated pulse and respirations.
  - Increasing level of anxiety.
- More severe symptoms include disorientation, irritability and combativeness.
- If untreated, hyponatremia may result in seizures, coma and death.

## Caring for Hyponatremia

### Key Points:

- **A person with mild to moderate signs and symptoms and normal mental status can most often be cared for in the field.**
- **Have the person rest in the shade and have him or her gradually eat salty foods. Do not have the person drink anything. This will help the kidneys re-establish a sodium balance.**
- **If a person is well-hydrated, it is harmless to restrict fluids while re-establishing a sodium balance.**
- **Once the person develops hunger and thirst combined with normal urine output, the condition is resolved.**

## SAMPLE History Practice

### Activity:

- Tell participants that you are going to read two different scenarios to them. They are to ask you SAMPLE history questions as a group so they can determine which heat-related illness each person is experiencing and identify what care to give. Encourage participants to refer to their emergency reference guides for help. Read the following aloud:

  Scenario 1

  - *"***A 24-year-old man who is slightly overweight is competing in a short-distance triathalon. He says he drank 3 to 4 quarts of water. He is stumbling running up a large hill and he stops at your first aid station."**

    Respond to participants with the following answers as they ask you SAMPLE history questions:
    - Signs and symptoms: pink, warm, wet skin; pulse 64 beats per minute; nausea; feels off-balance
    - Allergies: seasonal to pollen
    - Medications: Benadryl, taken last night
    - Pertinent past medical conditions: shoulder surgery 2 months ago
    - Last intake and output: consumed water at each aid station and last urinated during the swim portion
    - Events leading up to incident: "Was doing good and now I feel just out of it." If probed further, the person also did not want to dehydrate during the race so he drank lots of water the night before.
  - Ask participants: **"What condition is this person experiencing, and what care should be given?"**

    ***Answer:*** *The condition is hyponatremia. Remove the person from heat, have the person rest and cool the person to care for hyponatremia.*

Scenario 2

- "**A 68-year-old woman who is in excellent physical condition is working on a wilderness characteristic survey. She is sweating while carrying camera equipment, then becomes confused and vomits. A co-worker is present and has observed her condition."**
  Respond to participants with the following answers as they ask you SAMPLE history questions:
  - Signs and symptoms: vomiting; pulse 90 beats per minute; red, hot, sweaty skin; combative; confused speech

  Because the woman is confused the co-worker answers the questions:
  - Allergies: bees
  - Medications: daily vitamins
  - Pertinent past medical conditions: last year she had a heat exhaustion episode while on a bird hike
  - Last intake and output: granola bar and she cannot recall the last time the person urinated
  - Events leading up to incident: hiking in the sun
- Ask participants: **"What condition is this person experiencing, and what care should be given?"**
  ***Answer:*** *The condition is heat stroke. Remove the person from the heat, loosen her clothing and immerse her in cold water until normal mental status returns.*

# TOPIC: GUIDELINES FOR EVACUATION

Time: 1 minute

## Key Points

- **It is important to know when heat-related illness requires evacuation or rapid evacuation.**
- **GO SLOW to evacuate any person who does not fully recover from heat exhaustion or mild hyponatremia.**
- **GO FAST to rapidly evacuate any person who has an altered mental status due to heat-related illness or hyponatremia or experiences a seizure as a result of heat stroke.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about heat-related illnesses.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

# Lightning

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- Insulating material (improvised)
- Lightning Safety Activity Sheet (three or four copies; Appendix 3-9)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe how lightning can cause injury and/or death.
- Describe the prevention of a lightning-induced injury and/or death.
- Describe the emergency treatment of and long-term care for lightning-induced injuries, including respiratory arrest and cardiac arrest.
- Describe situations that would require an evacuation versus a rapid evacuation.

## TOPIC: LIGHTNING OVERVIEW

Time: 2 minutes

### Key Points:

- **Lightning strikes can cause harm in a variety of ways. These include:**
  - **A *direct strike*, when a person is hit.**
  - **A *splash*, when the strike jumps from its direct target to hit a person.**
  - **A *ground current*, when the electrical charge from lightning radiates out from its strike point and reaches the person through the ground.**
  - **A *long conductor*, when an object the person is touching, such as a fence, is hit.**
  - **A *blast injury*, when the exploding air throws the person or debris hits a person.**

## LESSON 14

# TOPIC: LIGHTNING INJURIES AND CARE

Time: 7 minutes

## Types of Injuries Caused by Lightning

### Key Points:

- **Lightning strikes are dangerous and can cause serious injury.**
- **What body systems are affected by lightning?**
  ***Answer:*** *All body systems can be affected by lightning.*
- **Lightning strikes may produce several types of injuries. These include:**
  - **Cardiac or pulmonary arrest.**
  - **Neurological problems, such as a loss of consciousness (LOC), paralysis or seizures.**
  - **Blindness and deafness, which are often temporary.**
  - **Burns, which are typically superficial and feathery or fern-like. These can potentially occur at the lightning entrance and exit sites, as well as internally.**
  - **Trauma from the strike itself, or being thrown. Examples include fractures and internal bleeding.**

## Caring for Lightning Injuries

### Key Points:

- **When the scene is safe, do a primary and secondary assessment of the person and get a SAMPLE history and vital signs. Scene safety is based on the 30-30 rule described later in this lesson.**
- **Start cardiopulmonary resuscitation (CPR) immediately, if needed.**
- **Treat other injuries as appropriate.**
- **Be ready to treat secondary issues, such as hypothermia in a wet injured person.**

# TOPIC: GUIDELINES FOR EVACUATION

Time: 2 minutes

### Key Points:

- **GO FAST to rapidly evacuate anyone who has been struck by lightning.**
- **What if the person seems to have recovered soon after the injury?**
  ***Answer****: Serious problems sometimes develop later from a lightning strike, so the evacuation guideline would still be GO FAST.*

# TOPIC: PREVENTING LIGHTNING INJURIES

Time: 17 minutes

## Shout It Out

### Activity:

- Tell participants that you want to find out what they know about lightning safety.
- Ask participants: **"What are things you should avoid during a lightning storm?"**
  ***Answers**: Responses should include the following:*
  - *High places and high objects, such as tall trees*
  - *Open places (e.g., lakes, being above the timberline)*
  - *Damp, shallow caves and tunnels*
  - *Overhangs*
  - *Flood zones*
  - *Places obviously struck in the past*
  - *Long conductors, such as fences*

### Key Points:

- **Know local weather patterns. Lightning storms tend to roll in quickly on summer afternoons.**
  - **Plan turn-around times (the amount of time you need to get back) in lightning-prone areas, based on your knowledge of the area, and stick to the plan.**
- **Plot storms using the following method:**
  - **When the flash of lightning precedes the boom of thunder by 5 seconds, the storm is approximately 1 mile away.**
  - **Follow the 30-30 rule: Seek a safe location when the storm is no less than 6 miles away; that is, 30 seconds from flash to boom. Stay in the safe location for 30 minutes after the storm passes.**

## Finding a Safe Spot

### Activity:

- Divide participants into groups of two or three. Provide each group a copy of the Lightning Safety Activity Sheet. Assign each group either the "A" side or the "B" side of the activity sheet.
- Explain to participants that they should imagine lightning approaching. Using the assigned scene, give participants about 3 minutes to review the scene and circle the areas they would identify as a safe spot during a lightning storm.
- Review the correct answers aloud, using the instructor's answer key.

### Key Points:

- **Specific steps can be taken to reduce the chance of lightning injuries.**
  - **Move downhill.**
  - **Do not stay in a meadow.**
  - **Seek uniform cover, such as low rolling hills or trees of about the same size, a low spot among rocks, or deep, dry caves.**
  - **Take shelter in a steel-framed building. Avoid telephones, support columns, contact with anything connected to electrical power and contact with metal. Remove any metallic frame packs and do not stay near them.**
  - **Take shelter in a hard-topped motor vehicle. Keep the windows rolled up and avoid contact with metal.**
  - **If you are boating or swimming, get to land and move away from the shore. Water also conducts electricity.**
  - **Pick safe campsites based on the criteria just mentioned.**
- **Be sure everyone in a group understands these guidelines.**
- **When deciding whether the scene is safe, remember that lightning *can* strike twice in the same place.**

## Assuming a Safe Position When Outdoors

### Activity:

- Have participants stand up and assume a safe position as you describe it.
- Tell participants that to assume a safe position when outdoors, they should do the following:
  - If available, place an insulator on the ground (e.g., sleeping pad, life jacket).
  - Take off any metal-framed pack and toss hiking poles away from the group.
  - Squat or sit in a tight body position on the insulator.
  - Do not lie down.
  - If you feel your hair stand on end or your skin get tingly, cover your ears with your hands, close your eyes and get your head close to your knees.
- Tell participants that they should spread groups out wide with about 100 feet or more between individuals, but that they should try to keep everyone in sight.

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about lightning.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

# Altitude Illnesses

## LESSON LENGTH

30 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- Pencils or pens and paper
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- Wilderness and Remote First Aid Report Form/Rescue Request (one for each participant; Appendix 3-7)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Define altitude illnesses, including acute mountain sickness (AMS), high altitude cerebral edema (HACE) and high altitude pulmonary edema (HAPE).
- List the signs and symptoms of AMS, HACE and HAPE.
- Describe the emergency care of and long-term care for AMS, HACE and HAPE.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Describe the prevention of AMS, HACE and HAPE, including the process of acclimatization.

# TOPIC: ALTITUDE ILLNESSES OVERVIEW

Time: 4 minutes

### Key Points:

- **Altitude illnesses occur when people at a high altitude do not have enough oxygen in their blood (hypoxia) because the barometric air pressure is too low.**
- **As you gain altitude, air grows "thinner" and less oxygen is inhaled with each breath.**
- **The most common altitude illness is acute mountain sickness, or AMS.**
- **AMS commonly occurs in a person who has recently reached an altitude of around 6500 to 8000 feet. If signs and symptoms of AMS appear at lower altitudes, they are more likely the result of another condition, such as dehydration or heat illness. Left untreated, AMS may progress to more severe conditions, such as:**

- **_High altitude cerebral edema_, or HACE, which is caused by fluid accumulating in brain tissue. If untreated, it can result in death.**
- **_High altitude pulmonary edema_, or HAPE, which is caused when fluid collects in the air spaces of the lungs. If enough fluid collects, the person cannot breathe adequately, and death may result.**

# TOPIC: CHECKING AND CARING FOR ALTITUDE ILLNESSES

Time: 10 minutes

## Group Think

### Activity:

- Have participants divide into three groups and assign each group an altitude illness.
- Give each group something to write on and something to write with, such as newsprint and markers or pencil and paper.
- Have participants use their emergency reference guides and prior knowledge to write down the signs and symptoms and care steps of their assigned altitude illness.
- Once each group is finished, have them present the information they have recorded to the group.
- Ensure that each group covers the following points and fill in any missing information at the end of each group's presentation:

  <u>For acute mountain sickness</u>
  - Signs and symptoms of AMS include:
    - Headache.
    - Loss of normal appetite.
    - Nausea, with or without vomiting.
    - Insomnia.
    - Unusual weariness and exhaustion, also known as lassitude.
    - There are no characteristic physical findings for AMS.
  - To care for AMS:
    - Descend or stop ascent and wait for improvement before going higher. Continuing ascent with symptoms is not recommended. If the illness progresses, descent is mandatory. When in doubt, descend.
    - To provide more advanced care, administer oxygen if available and if trained to do so. This is especially helpful during sleep.
    - Give aspirin or acetaminophen for headaches if the person is able to swallow and has no known contraindications.
    - If prescribed and recommended by the person's health care provider, help the person self-administer medication for altitude illness, such as acetazolamide or dexamethasone, based on label instructions. Many people with AMS usually respond to medication within 12 to 24 hours.

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications. Anyone going to an altitude greater than around 6500 to 8000 feet should discuss medication with his or her personal health care provider.*

For high altitude cerebral edema

- Signs and symptoms of HACE include:
  - Loss of coordination, or ataxia. An ataxic person cannot walk a straight line or stand straight with their feet together and eyes closed.
  - Severe headache that is unrelieved by rest and medication.
  - Bizarre changes in personality.
  - Possible seizures or coma.
- To care for HACE:
  - Severely ill persons must descend as soon as possible.
  - In addition to descent, provide oxygen if available and if trained to do so.
  - Keep the person from becoming chilled or overheated.
  - If prescribed and recommended by the person's health care provider, help the person self-administer medication, such as dexamethasone, for altitude illness, based on label instructions.
  - Use a portable hyperbaric chamber, if available. Do not use a portable hyperbaric chamber instead of descending.

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications. Anyone going to an altitude greater than 8000 feet should discuss medication with his or her personal health care provider.*

For high altitude pulmonary edema

- Signs and symptoms of HAPE include:
  - A dry cough initially, with shortness of breath even at rest.
  - Shortness of breath becomes more pronounced.
  - Possible chest pain.
  - Cough that becomes more productive, first producing frothy sputum, later producing reddish sputum.
- To care for HAPE:
  - Severely ill persons must descend as soon as possible. A descent of 1000 to 1500 feet may produce remarkable results.
  - In addition to descent, provide oxygen if available and if trained to do so.
  - Keep the person from becoming chilled or overheated. This is especially important in HAPE because cold weather increases pulmonary artery pressures and makes HAPE worse.
  - Use a portable hyperbaric chamber, if it is available. Do not use a portable hyperbaric chamber instead of descending.

# TOPIC: GUIDELINES FOR EVACUATION

Time: 10 minutes

## Key Points:

- **A person with AMS should stop ascending until the symptoms resolve.**
- **A person with AMS does not require evacuation unless the symptoms do not resolve with descent. If the illness gets worse, descent is mandatory.**
- **GO FAST to rapidly evacuate any person with HACE or HAPE to a lower altitude (descend at least 1000 to 1500 feet). Anyone with HACE or HAPE must be evaluated by a health care provider as soon as possible after a lower altitude is reached.**

## Writing a Report

### Activity:

- Tell participants that they will practice writing a Wilderness and Remote First Aid Report Form/Rescue Request of a person with an altitude illness.
- Pass out a Wilderness and Remote First Aid Report Form/Rescue Request to each participant.
- Have participants go through the steps of checking the person (primary and secondary assessments) while you assume the role of someone with AMS or HACE. Role-play for no more than 4 minutes.
- After role-playing, allow about 4 minutes for the participants to complete the report forms/rescue requests, providing as much detail as possible.
- Facilitate a discussion about the writing experience.

# TOPIC: PREVENTING ALTITUDE ILLNESSES

Time: 4 minutes

## Key Points:

- **Most altitude illnesses are preventable.**
- **Although not guaranteed, there are several ways to reduce the incidence and severity of altitude illness.**
- **Making a staged ascent is the most critical factor in preventing altitude illness. The key is to gain altitude no faster than your body can acclimatize to it. To make a staged ascent:**
  - **Increase the altitude of overnight camps gradually.**
  - **If possible, camp no higher than 8000 feet the first night, with an increase of no more than 1000 to 1500 feet per night.**
  - **If a trip starts at an altitude higher than 9000 feet, spend two nights acclimatizing at that altitude before proceeding higher.**
  - **Proceed higher during the day, if you wish, but return to a lower elevation to sleep (climb high, sleep low).**

- **Eat a high-carbohydrate diet.**
  - **A diet of at least 70 percent carbohydrates reduces symptoms of AMS by about 30 percent at altitudes higher than approximately 16,000 feet.**
  - **Start this diet 1 to 2 days before reaching 16,000 feet.**
- **Maintain an appropriate exercise level until you are acclimatized. Avoid excessive shortness of breath and fatigue.**
- **Stay well-hydrated to offset increased fluid loss at high altitudes.**
- **When going to altitudes greater than around 6500 to 8000 feet, talk to your health care provider about prescription drugs, such as acetazolamide, dexamethasone and nifedipine, to prevent illness. The use of medications is not recommended as a routine measure and you should always check with your health care provider before the trip to ensure that the medication is appropriate for you.**

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications. Anyone going to an altitude greater than around 6500 to 8000 feet should discuss medication with his or her personal health care provider.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about altitude illnesses.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

LESSON 16

# Submersion Incidents (Drowning)

## LESSON LENGTH

35 minutes

## MATERIALS, EQUIPMENT AND SUPPLIES

- Newsprint and markers
- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- Reaching and throwing equipment, such as the following:
  - Mat or blanket
  - Poles to extend reach, such as a walking stick or tree branch
  - Ring buoy
  - Throw bags
  - Life jacket
  - Water jug with line attached
  - Heaving line
- Targets for *Reach* and *Throw*

***Instructor's Note:*** *Set up an area with two targets, one approximately 5 feet away and the other approximately 15 feet away, with a simulated shoreline. Area should be free from hazards and allow objects to be thrown for practice.*

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe briefly the general sequence of events during a submersion (drowning) incident.
- Describe the safest and most efficient means of removing a submersion victim from the water.
- Describe the emergency treatment of and long-term care for a near-drowned person.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Describe how to prevent some submersion incidents.

# TOPIC: SUBMERSION INCIDENTS OVERVIEW

Time: 5 minutes

## Key Points:

- **Submersion incidents include situations in which a person has died or nearly died from drowning.**
- **Drowning is one of the most common causes of accidental death.**
- **Most submersion incidents are easily preventable if someone understands and reduces the risks.**
- **In what types of activities do you participate that there would be a drowning risk?**
  ***Answers:*** *Responses could include the following:*
  - *Fording streams*
  - *Seining for bait*
  - *Swimming*
  - *Snorkeling*
  - *Scuba diving*
  - *Surfing*
  - *Boating*
  - *Backpacking (hiking with a backpack near or crossing mountain streams)*
- **Many situations can lead to submersion incidents. Incidents can happen not only to non-swimmers and poor swimmers, but also to good swimmers.**

## How Submersion Incidents Lead to Death

## Key Points:

- **Submersion incident victims typically go through a series of events that varies little from individual to individual.**
  - **A non-swimmer can go under in less than a minute, as can someone who is injured, ill or hypothermic.**
  - **The person panics and struggles fiercely while holding his or her breath.**
  - **The heart rate speeds up and blood pressure rises.**
  - **Involuntary swallowing of water is common. The drive to breathe becomes overpowering, and the person inhales water.**
  - **Most people experience *laryngospasm*, which is an involuntary constriction of the muscles of the upper airway to keep the water out of the lungs.**
  - **The laryngospasm leads to *asphyxia*, which is an inadequate intake of oxygen, causing a loss of consciousness.**
  - **Respiratory arrest and then cardiac arrest soon follow.**
  - **At some point, the laryngospasm relaxes. Water then enters the lungs.**

## LESSON 16

# TOPIC: PREVENTING SUBMERSION INCIDENTS

Time: 4 minutes

- **What steps can you take to prevent drowning?**

  ***Answers:*** *Facilitate a discussion to ensure that the following responses are given:*
  - *Ensure that at least one qualified, responsible adult who is trained to respond to water-related emergencies is present during any water-based activity.*
  - *Only swim in areas that are safe for swimming.*
  - *Know how to swim and have an appropriate level of fitness when involved in water-related activities.*
  - *Never swim alone.*
  - *For all boating activities, wear an appropriate U.S. Coast Guard-approved life jacket that is the proper size and fit. Some life jackets are specifically designed for boating activities, such as wind surfing, water skiing and whitewater boating.*
  - *Wear an appropriate and properly fitted helmet for whitewater boating and other boating with a risk for head injury.*
  - *Do not dive in shallow water.*
  - *All water entry should be feet first in water with less than 7 to 9 feet of unobstructed depth based on the organization's or facility's policy.*
  - *Do not swim or participate in water-based activities under the influence of any mind-altering substance.*
  - *Exercise care when crossing or traveling near rivers and streams, including unfastening your backpack in case you fall.*
  - *Do not try to stand up in fast moving water—float downstream feet first while using your arms to get the shore. Stand up only when safe.*
  - *Limit poor swimmers to shallow water.*

# TOPIC: RECOGNIZING A SUBMERSION EMERGENCY

Time: 5 minutes

## Key Points:

- **To help a person in trouble in the water, you must first recognize that someone is in trouble and then move them to safety, without putting yourself in danger.**
- **Timely recognition of a person in trouble is vital to successful rescue and care.**
- **The way a person behaves can indicate that he or she is having trouble in the water, such as:**
  - **The way the person is breathing.**
  - **The position of the body.**
  - **How the person uses the arms and legs.**
  - **The ability to make progress in the water.**

- **What behaviors indicate that a person is having trouble in the water and needs assistance?**
  ***Answers:*** *Responses should include the following:*
  - *Can breathe and might call for help*
  - *Can float, scull or tread water; might wave for help*
  - *Could be in horizontal, vertical or diagonal body position, depending on means of support*
  - *Makes little or no forward progress; less and less able to support self*
- **What behaviors indicate that a person is an active drowning victim and needs assistance?**
  ***Answers:*** *Responses should include the following:*
  - *Struggles to breathe; cannot call out for help*
  - *Arms to sides alternately moving up and pressing down; no supporting kick*
  - *Vertical body position*
  - *No forward progress (has only 20 to 60 seconds before submerging)*
- **What behaviors indicate that a person is a passive drowning victim and needs assistance?**
  ***Answers:*** *Responses should include the following:*
  - *Not breathing*
  - *No arm or leg action*
  - *Horizontal or vertical body position; could be face-down, face-up or submerged*
  - *No forward progress*

***Instructor's Note:*** *Tell participants they can refer to their emergency reference guides if they are having trouble answering the questions.*

# TOPIC: REACH, THROW, ROW, GO

Time: 16 minutes

## Key Points:

- **Attempting to save a drowning person requires skilled and practiced actions, *some of which are beyond the skills acquired in this course.***
- **Prior to an activity that involves water, always be sure to gather rescue aids and discuss and practice procedures.**
- **Do not neglect to monitor the safety of everyone. If you need to focus on an individual in trouble, have someone else continue to monitor the safety of others.**
- **Why should rescuer safety be the priority?**
  ***Answer:*** *If the rescuer is not safe, then the rescuer could also become a victim.*
- **Follow *Reach, Throw, Row, Go* guidelines to get a drowning victim safely out of the water. Ensure that you talk to the victim throughout the rescue to keep him or her calm and aware of your presence.**
  1. ***Reach* with your hand or foot, clothing, a stick, a paddle or anything that allows you to remain safely on land or in a boat.**

2. ***Throw*** **something that floats to the person so he or she can hold onto it. You can also throw a rope and tow the person to safety.**
3. ***Row*** **to the person or access the person in some sort of watercraft, using reaching or throwing devices as appropriate, with safety as a top priority.**
4. ***Go*** **only if you are a good swimmer *with water rescue training* and when it is possible to safely reach the victim.**
   - **Swim with a flotation aid to an actively drowning person, and hand him or her the device so the victim cannot grab you.**
   - **Recovery of an unconscious person may require a surface dive and contact tow.**

- **In turbid (murky) water, limit water depth and/or require participants to wear flotation devices to make underwater recovery easier if an incident occurs.**

***Instructor's Note:*** *The same* Reach, Throw, Row, Go *progression is used in unsafe water conditions, but the risk to the rescuer may become unacceptable. For example, rescue of a kayaker pinned in whitewater calls for expertise from specialized training in swift-water rescue. Only undertake activities for which you have proper training.*

## Diving and Spinal Injury

- **Diving headfirst into shallow water is a major cause of sports-related spinal injury:**
  - **If a person exhibits signs of a spinal injury in the water and is breathing, minimize his or her movement.**
  - **Have a responder who is trained in water rescue provide in-line stabilization in the water, if needed.**
  - **If breathing is absent, providing cardiopulmonary resuscitation (CPR) takes precedence.**

## Throwing Assists

### Activity:

- Explain to participants that they will practice throwing assists on dry land.
- Allow them about 30 seconds to gather materials from what you have on hand that could be used to help a person in trouble in the water.
- Tell participants that they should use a throwing assist to rescue someone beyond their reach in a pool or body of water.
- Explain that to perform a throwing assist, they should throw the victim a buoyant object tied to a line. The victim can then grasp the object and be pulled to safety.
- Show participants the ring buoy and throw bag. Explain that a ring buoy is a common piece of equipment around swimming pools and on boats. Throw bags are commonly used for water rescue in a natural environment.
- Demonstrate a throwing assist using a throw bag. Explain to participants that they will be using throw bags because they are practicing on land and throw bags are not damaged by repeatedly striking the ground.

- Divide the participants into three groups and have them practice this skill.
- Line the groups up about 5 and 15 feet from the preplaced targets.
- Let participants try to toss the throw bag at the target. Accuracy is rated by tossing the throw bag over the object so that the rope strikes the target.
- Tell participants they can refer to the emergency reference guide while they practice this skill.
- Repeat the activity until all the participants have the opportunity to toss the throw bag.
- Remind participants that if the victim is in a current, throw the rope so it lands upstream.

## Skill Chart

| | |
|---|---|
| **Throwing Assist** | 1. Get into a stride position; the leg opposite your throwing arm is forward.<br>2. Step on the end of the line with your forward foot.<br>3. Shout to get the victim's attention. Make eye contact and say that you are going to throw the object now. Tell the victim to grab it.<br>4. Bend your knees, and throw the object to the victim. Try to throw the object upwind and/or up current, just over the victim's head, so that the line drops within reach.<br>5. When the victim has grasped the object or the line, slowly pull him or her to safety. Lean away from the water as you pull.<br>6. If the object does not reach the victim, quickly pull the line back in and throw it again. Try to keep the line from tangling, but do not waste time trying to coil it. If using a throw bag, partially fill the bag with some water, and throw it again. |

# TOPIC: CARING FOR A NEAR-DROWNED PERSON

Time: 2 minutes

### Key Points:

- **When CHECKing the person, look, listen and feel for the following:**
  - **Unconsciousness**
  - **Airway**
  - **Breathing**
  - **Circulation**
  - **Disability**
  - **Environmental conditions**
- **If the person is unconscious and not breathing, give 2 rescue breaths. If the chest clearly rises, immediately begin CPR.**
  - **If the chest does not clearly rise with the initial breath, retilt the head before giving the second breath.**
  - **If the second breath does not make the chest rise, the airway may be blocked. After each subsequent set of chest compressions and before attempting breaths, look for an object and, if seen, remove it. Continue CPR.**

- ○ ***Do not*** **attempt to clear the person's lungs of water.**
- ○ **Be ready to roll the person to clear the airway if water or vomit comes up.**

- **If the person has a suspected head, neck or back injury, take steps to immobilize the spine.**
- **To learn how to provide in-line stabilization for suspected head, neck and back injuries in the water for both face-up and face-down victims, you should enroll in water rescue courses, such as American Red Cross Lifeguarding or Basic Water Rescue.**
- **For any victim of a submersion incident, care for shock, hypothermia or other conditions as appropriate, including anything that might have caused the person's distress in the water (e.g., diabetic emergency).**

***Instructor's Note:*** *Scuba diving introduces risks from breathing compressed air. Certified scuba divers are trained to avoid, recognize and arrange care for such problems. Care may require transport to a hyperbaric chamber.*

# TOPIC: CALLING FOR HELP—GUIDELINES FOR EVACUATION

Time: 1 minute

## Key Points:

- **Aspiration of even a small amount of water into the lungs requires prompt medical follow-up, even if a submerged victim responds promptly to resuscitation.**
- **GO FAST to rapidly evacuate any person who was unconscious during a submersion incident, no matter how short a time.**
- **GO FAST to rapidly evacuate any person with signs and symptoms of respiratory problems after a submersion incident. The problems could become life threatening.**
  - ○ **Secondary drowning is an aftereffect of water entering the lungs that may take several days to appear. This can be fatal.**

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about submersion incidents.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

# Allergies and Anaphylaxis

## LESSON LENGTH

40 minutes (approximately 1 hour with Additional Activity)

## MATERIALS, EQUIPMENT AND SUPPLIES

- *Wilderness and Remote First Aid Emergency Reference Guide* (one for each participant)
- EpiPen® training devices (one for every two participants)
- Final written exams, answer sheets and answer key (optional)
- Participant Course Evaluation Form (optional)

## LESSON OBJECTIVES

After completing this lesson, participants will be able to:

- Describe the basics of an allergic response and its treatment and prevention.
- Define anaphylaxis.
- List the signs and symptoms of anaphylaxis.
- Describe the function of epinephrine.
- Describe conditions under which an injection of epinephrine will be considered.
- Describe the use of EpiPen® and Auvi-Q® epinephrine injections systems.
- Describe the function of oral antihistamines in anaphylaxis.
- Discuss when and how much oral antihistamine will be used.
- Describe situations that would require an evacuation versus a rapid evacuation.
- Describe how some allergic reactions including anaphylaxis could be prevented.

## TOPIC: ALLERGIES AND ANAPHYLAXIS OVERVIEW

Time: 10 minutes

### Key Points:

- **The immune system produces and releases histamines and other substances in response to the presence of foreign allergens. An *allergic reaction* occurs when there is an overproduction and excessive release of these substances.**
- **Allergic reactions can be divided into two stages: non-life-threatening and life threatening.**

- ***Anaphylactic shock*** **is a severe, life-threatening allergic reaction.**
- ***Epinephrine*** **is a prescription drug that reverses the effects of an overproduction of histamines. The EpiPen® and Auvi-Q® are two auto-injection systems widely available.**
- **Allergens can be ingested, inhaled, injected or absorbed.**
- **What kinds of substances can cause allergic reactions?**
  ***Answers:*** *Responses should include the following:*
  - *Foods*
  - *Drugs*
  - *Pollen*
  - *Bee venom*
  - *Plant oils*
- **How might you find out a person is allergic to something if they cannot talk to you?**
  ***Answers:*** *Responses should include the following:*
  - *Medical identification (ID) tag or bracelet*
  - *Medical form*
  - *Bystander*
  - *Friend*
  - *Medications (EpiPen®)*
  - *Pre-trip interview*

# TOPIC: CHECKING AND CARING FOR ALLERGIES AND ANAPHYLAXIS

Time: 12 minutes

## Non-Life-Threatening Allergies

### Key Points:

- **What are signs and symptoms of non-life-threatening allergic reactions?**
  ***Answers:*** *Responses should include the following:*
  - *Hives or rash*
  - *Itching*
  - *Gastrointestinal complaints, such as nausea (in individuals with food allergies)*

***Instructor's Note:*** *Refer participants to their emergency reference guides to find the signs and symptoms of allergic reactions if they are having trouble answering the question.*

- **To care for non-life-threatening allergies, remove the allergen or move the person away from the allergen, and help the person self-administer an oral antihistamine, if he or she can swallow and has no known contraindications.**

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications.*

## Anaphylaxis

### Key Points:

- **Anaphylaxis is a severe allergic reaction and is a life-threatening emergency.**
- **Signs and symptoms can appear in as few as 5 minutes and most often within 45 minutes to 1 hour.**
- **Be sure to keep everyone calm.**
- **Look for a medical ID tag or bracelet that may warn of a severe allergy or may tell you if the person is prescribed an auto-injector.**
- **Determine whether the substance that triggered the allergic reaction is still present and if the reaction is likely to happen again.**

*Checking and Caring for Life-Threatening Anaphylaxis*

- **Look, listen and feel for signs and symptoms of anaphylaxis. Any of the following three scenarios should lead you to suspect anaphylaxis:**
  - **A specific combination of signs and symptoms. First, look for any skin symptom, such as hives, itchiness or a red or flushed face, or look for swollen lips. Then, check for trouble breathing or signs of shock, such as pale, cool and sweaty skin; lightheadedness; weakness; or anxiety.**
  - **When you suspect someone has come into contact with an allergen, look for at least two of the following signs and symptoms: a skin symptom or swollen lips; difficulty breathing; signs of shock; or nausea, vomiting or cramping.**
  - **You know someone has come into contact with an allergen and shows any signs or symptoms of shock.**
- **The only way to reverse anaphylaxis is with epinephrine.**
- **Epinephrine is available commercially and by prescription only. It is injected into the person's thigh by a spring-loaded syringe. Two widely available auto-injectors are the EpiPen® or Auvi-Q®.**
- **Make sure everyone in your group is aware of who has allergies, and that the person carries an epinephrine auto-injector.**
- **Also make sure you and at least one other person know where the person carries his or her epinephrine auto-injector.**
- **Epinephrine can be ruined by extremes of cold and heat and must be protected from these elements.**

- **If a person is experiencing anaphylaxis:**
  - **Remove the allergen or move the person away from the allergen.**
  - **Immediately help the person self-administer epinephrine.**
  - **A second dose should only be given when advanced medical help is delayed and symptoms do not improve or improve and get worse again.**
    - **EpiPen® auto injectors only provide one dose per syringe.**
  - **After the injection of epinephrine and once the person can breathe and swallow easily:**
    - **Help the person self-administer an oral antihistamine to continue suppressing the overproduction of histamines, if the person can swallow and there are no known contraindications.**
    - **Keep the person well-hydrated.**

***Instructor's Note:*** *The person should only take medication if he or she can swallow and has no known contraindications. Individuals should read and follow all label or health care provider instructions. Check state and local regulations regarding use of prescription and over-the-counter medications.*

## Skill Session

### Activity:

- Ask for a volunteer to be your partner and role-play a person with anaphylaxis.
- Demonstrate the use of the EpiPen® system, and discuss the approach for the Auvi-Q® system.
- Ask participants to take turns demonstrating the use of the EpiPen® with a partner.

## Skills Chart

| **How to Use the EpiPen®** | 1. Check the label to confirm that the prescription of the auto-injector is for this person.<br>2. Check the expiration date of the auto-injector. If it has expired, *do not* use it. If the medication is visible, confirm that the liquid is clear and not cloudy. If it is cloudy, *do not* use it.<br>3. Locate the outside middle of one thigh to use as the injection site.<br>4. Grasp the auto-injector firmly in your fist and pull off the safety cap with your other hand.<br>5. Hold the tip (needle end) near the person's outer thigh so that the auto-injector is at a 90-degree angle to the thigh. Do not place thumb over end.<br>6. Quickly and firmly push the tip straight into the outer thigh (it will go through light clothing). You will hear a click.<br>7. Hold the auto-injector firmly in place for 10 seconds, then remove it from the thigh and massage the injection site for several seconds.<br>8. Handle the auto-injector carefully, placing it in a safe container. Give the used auto-injector to the more advanced medical personnel who take over care. |
|---|---|

# TOPIC: GUIDELINES FOR EVACUATION

Time: 3 minutes

## Key Points:

- **Some allergic reactions and anaphylaxis require rapid evacuation while others do not.**
- **Non-life-threatening reactions that can be managed in the field do not require evacuation.**
- **GO FAST to rapidly evacuate anyone treated for anaphylaxis. During evacuation, the person should be well-hydrated and kept on a regimen of oral antihistamines.**

# TOPIC: PREVENTING ALLERGIC REACTIONS

Time: 3 minutes

## Shout It Out: Preventing Allergic Reactions

### Activity:

- Ask participants: **"How can you prevent a person from having an allergic reaction?"**
  ***Answers:*** *Responses should include the following:*
  - *Avoid contact with known allergens.*
  - *Avoid taking a known allergen on a trip (for example, not having peanuts in trail mix if someone is allergic to peanuts).*
  - *Be aware if a member of your group could experience a severe reaction to an allergen.*
  - *Make sure that everyone in the group is aware of the different types of allergens.*

# TOPIC: WRAP-UP

Time: 2 minutes

- Answer participants' questions about allergies and anaphylaxis.
- Have participants brainstorm any additions to the first aid kit list based on this lesson.

# LESSON 17

## TOPIC: CLOSING

Time: 10 minutes

***Instructor's Note:*** *An optional final written exam is available if needed for certification. If participants are taking this course to meet Boy Scouts of America requirements, the exam should not be given. If conducting the final written exam, do so prior to this Wrap-Up.*

### Activity:

- Answer participants' questions about allergies and anaphylaxis and/or any other topic covered in this course.
- Have participants brainstorm any additions to the first aid kit list.
- Congratulate participants for completing the American Red Cross Wilderness and Remote First Aid course.
- Thank them for participating in the class.
- Distribute certificates to participants or inform them about how they will be receiving their certificates. Issue an *American Red Cross Universal Certificate* indicating Wilderness and Remote First Aid to participants who have:
  - Demonstrated competency in all required skills.
  - Attended the entire class session.
  - Participated in all skill sessions and scenarios.
- Tell participants that the Wilderness and Remote First Aid certification is valid for 2 years and that they should contact their local chapter to recertify before their certification expires.
- Distribute the Participant Course Evaluation Form, Appendix 3-3, to participants and ask them to complete the form before leaving (optional).

# Additional Activity

***Instructor's Note:*** The following activity is optional, if time permits.

## TOPIC: FINAL WRITTEN EXAM

Time: 20 minutes

### Activity:

- Tell participants that they will now take a multiple-choice exam.
- Tell participants that they may not refer to any materials during the exam.
- Hand out an exam and answer sheet to each participant and tell participants to use a pencil, write only on the answer sheets and mark answers clearly.
- Tell participants to come to you or raise their hands when they have finished the exam or if they have any questions.
- Grade the exams using the answer key.
- Return exams to the participants so that they can review any missed questions, and provide them with appropriate feedback.
- Collect all graded answer sheets and exams from participants before leaving the class.
- If a participant fails the exam, ask him or her to see you after class to schedule a retest.

# Section 3: Appendices

## Appendix 3-1: Health Precautions and Guidelines During Training

The American Red Cross has trained millions of people in first aid and cardiopulmonary resuscitation (CPR) using manikins as training aids.

The Red Cross follows widely accepted guidelines for cleaning and decontaminating training manikins. **If these guidelines are adhered to, the risk of any kind of disease transmission during training is extremely low.**

To help minimize the risk of disease transmission, you should follow some basic health precautions and guidelines while participating in training. You should take precautions if you have a condition that would increase your risk or other participants' risk of exposure to infections. Request a separate training manikin if you:

- Have an acute condition, such as a cold, a sore throat or cuts or sores on your hands or around your mouth.
- Know you are seropositive (have had a positive blood test result) for hepatitis B surface antigen (HBsAg), indicating that you are currently infected with the hepatitis B virus.*
- Know you have a chronic infection indicated by long-term seropositivity (long-term positive blood test results) for the hepatitis B surface antigen (HBsAg)* or a positive blood test for anti-human immunodeficiency virus (HIV) (that is, a positive test result for antibodies to HIV, the virus that causes many severe infections, including acquired immunodeficiency syndrome [AIDS]).
- Have had a positive blood test result for hepatitis C. (To obtain information about testing for individual health status, visit the Centers for Disease Control and Prevention Web site at *www.cdc.gov/ncidod/diseases/hepatitis/c/faq.htm*.)
- Have a condition that makes you unusually likely to get an infection.

**If you decide that you should have your own manikin, ask your instructor whether he or she can provide one for you to use.** You will not be asked to explain why in your request. The manikin will not be used by anyone else until it has been cleaned according to the recommended end-of-class decontamination procedures. Because the number of manikins available for class use is limited, the more advance notice you give, the more likely it is that you can be provided a separate manikin.

## GUIDELINES

In addition to taking the precautions regarding manikins, you can further protect yourself and other participants from infection by following these guidelines:

- Wash your hands thoroughly before participating in class activities.
- Do not eat, drink, use tobacco products or chew gum during class.
- Clean the manikin properly before use.
  - For some manikins, this means vigorously wiping the manikin's face and the inside of its mouth with a clean gauze pad soaked with either a fresh solution of liquid chlorine bleach and water (¼ cup sodium hypochlorite per gallon of tap water) or rubbing alcohol. The surfaces should remain wet for at least 1 minute before they are wiped dry with a second piece of clean, absorbent material.
  - For other manikins, it means changing the manikin's face. Your instructor will provide you with instructions for cleaning the type of manikin used in your class.
- Follow the guidelines from your instructor when practicing skills, such as clearing a blocked airway with your finger.

## PHYSICAL STRESS AND INJURY

Successful course completion requires full participation in classroom and skill sessions, as well as successful performance in knowledge and skill evaluations. You will be participating in strenuous activities, such as checking an unconscious person on the ground in an outdoor setting. If you have a medical condition or disability that will prevent you from taking part in the skill sessions, please discuss possible modifications with your instructor. If you are unable to participate fully in the course, you may "audit" the course and participate as much as you can or desire. To audit a course, you must let the instructor know before the training begins. You **will not** be eligible to receive a course completion certificate.

**A person with a hepatitis B infection will test positive for HBsAg. Most people infected with hepatitis B will get better within a period of time. However, in some people, hepatitis B infections will become chronic and will linger for much longer. These people will continue to test positive for HBsAg. Their decision to participate in CPR training should be guided by their health care provider. After a person has had an acute hepatitis B infection, he or she will no longer test positive for the surface antigen but will test positive for the hepatitis B antibody (anti-HBs). People who have been vaccinated for hepatitis B will also test positive for the hepatitis B antibody. A positive test for anti-HBs should not be confused with a positive test for HBsAg.*

# Appendix 3-2: Sample Letter to Wilderness and Remote First Aid Course Participants

Dear Course Participant,

Thank you for enrolling in the American Red Cross Wilderness and Remote First Aid course. The date(s), time(s) and location of the class meetings, as well as directions, are listed below.

Date(s):
Time(s):
Location:
Directions:

The primary purpose of the Red Cross Wilderness and Remote First Aid course is to provide individuals a foundation of first aid knowledge and skills to be able to respond to emergencies and give care in areas that do not have immediate emergency medical services (EMS) response, such as wilderness and remote environments. In this course you will also develop leadership skills and learn how to help prevent, plan for and respond to emergencies.

Successful course completion requires participation in all course activities and skill sessions. Some practice sessions may require strenuous physical activity, including walking uphill or on uneven terrain. Please wear layers of comfortable clothing appropriate for all weather conditions. You are encouraged to check with your health care provider before participating in the skill sessions of this course. If you need any accommodations or modifications or if you have any questions regarding your ability to participate fully in this course, please contact your course instructor or Red Cross chapter before the course begins. Before attending the first class, please be sure you have read the attached document, Health Precautions and Guidelines During Training.

It is suggested that you bring with you any supplies you would normally have on hand for either a day hike or a backpacking trip (or other setting based on audience) to best replicate the equipment that you may be required to use in an emergency situation. These supplies may include, but are not limited to, a day pack or backpack, a tent and ground cloth/tarp, a sleeping bag, a foam sleeping pad, a flashlight or headlamp, a hat, sunscreen and a first aid kit. Additional items to bring include:

1. [Items selected by instructor]
2.
3.
4.
5.

Upon successful completion of the Red Cross Wilderness and Remote First Aid course, you will receive a Red Cross certificate indicating Wilderness and Remote First Aid, which is valid for 2 years.

**If you or your parents or guardians (for minors) have questions, please call the local Red Cross chapter at**

(_____)_____-_____.

Sincerely,

[Your name]
American Red Cross Instructor
[Chapter Name]

**Attachment:** Health Precautions and Guidelines During Training

# Appendix 3-3: Wilderness and Remote First Aid Participant Course Evaluation Form

Thank you for participating in this American Red Cross course. We would like you to tell us what you thought about the training. Your honest responses will help us make the course better. This survey is completely **voluntary** and **anonymous**. To keep this anonymous, please do not write your name on the evaluation form. Thank you for your feedback.

**Date:** _____
**Instructor:** _____
**Location of Training:** _____

1. Which part of this training was most helpful? Why?

2. Which part of this training was least helpful? Why?

| **Please circle only <u>one</u> response to the following statements about the course.** | **Strongly Disagree** | **Disagree** | **Agree** | **Strongly Agree** | **Neither Agree nor Disagree** |
|---|---|---|---|---|---|
| 3. The instructor was well prepared. | 1 | 2 | 3 | 4 | ? |
| 4. The instructor presented information clearly. | 1 | 2 | 3 | 4 | ? |
| 5. The instructor was able to answer my questions. | 1 | 2 | 3 | 4 | ? |
| 6. The instructor valued my opinions and listened to my ideas. | 1 | 2 | 3 | 4 | ? |
| 7. I had enough time to practice skills. | 1 | 2 | 3 | 4 | ? |

| | | | | | |
|---|---|---|---|---|---|
| 8. I received appropriate feedback from the course instructor during skill practice and scenarios. | 1 | 2 | 3 | 4 | ? |
| 9. As a result of the training, I feel better prepared to respond to an emergency. | 1 | 2 | 3 | 4 | ? |
| 10. I am satisfied with the training. | 1 | 2 | 3 | 4 | ? |
| 11. I would recommend this training to my friends and others. | 1 | 2 | 3 | 4 | ? |

12. Did all the equipment work properly? Yes No
    If no, what equipment did not work? _____
13. Was the learning environment safe and helpful? Yes No
14. Have you ever had this training before? Yes No
    How long ago: _____ years _____ months
15. How did you hear about this American Red Cross course?

Please write additional comments or suggestions about this training below.

The information in this section helps us learn more about the people we reach with our educational programs.

Gender:
_____ Female
_____ Male

Age: _____ (years)

Race/ethnicity:
_____ African American
_____ Asian/Pacific Islander
_____ Hispanic/Latino (including Mexican or South or Central American heritage)
_____ Native American/Alaska Native
_____ White (non-Hispanic)
_____ Other, including multiethnic

**Thank you for completing this evaluation!**

# Appendix 3-4: Teaching Strategies

## FACILITATING DISCUSSION

Many of the activities and discussions in this course make use of facilitation principles, with the course instructor serving as the facilitator.

Facilitation is based on the concept of pushing, pulling and balancing information. Push skills have to do with information flowing mostly from facilitator to participants. Pull skills are used when the facilitator engages participants through the use of interactive exercises and by asking and answering questions or using other approaches that actively involve participants in their own learning, such as with the use of open-ended questions. Balance skills involve managing the push and pull of information to keep the learning process moving and to maximize learning.

When facilitating classroom discussion and participant responses, keep in mind the following points:

- Maximize class interaction. Do not simply lecture to participants.
- Use pull skills to engage participants in classroom discussions and to keep discussions on topic or to provide necessary information.
- Pull skills are also useful to solicit responses from other participants to prevent one participant from dominating the discussion.
- Promote an open exchange of information and ideas by asking open-ended questions (i.e., questions that begin with "who," "what," "when," "where," "why" or "how"), waiting for responses, listening, managing silence and referring participants' questions back to the group for discussion and resolution.
- Ensure effective discussion sessions by giving and receiving feedback, maintaining an open perspective, setting the climate, staying on topic and managing time effectively.

Facilitation techniques allow you to evaluate participants' knowledge and understanding throughout the course. Additionally, facilitation:

- Gives you the opportunity to evaluate the group's needs and focus the activities around those needs.
- Allows you to build on participants' previous knowledge and skills.
- Allows participants to associate previous knowledge and skills with new information.
- Allows participants to learn from one another.
- Keeps participants engaged and interested throughout the course.

## EDUCATIONAL ACTIVITIES

The educational activities in the American Red Cross Wilderness and Remote First Aid course:

- Are learner focused and involve ongoing evaluation of participants, beginning when they enter the classroom.
- Teach participants to use their senses to solve problems.

- Balance teaching new information with teaching lifelong processes such as decision making and critical thinking.
- Allow participants to associate information with their personal experience.

## Lectures

Instructor presentation, or lecture, is sometimes the most effective way to deliver information; however, because lecture is a passive way for participants to learn, it should be kept as brief as possible. Too much lecturing causes participants to become disengaged, resulting in less-effective learning. Key points are specific lecture content that instructors must communicate to participants. When lecturing, it is often helpful to use the PowerPoint presentations or to write the bullet points on newsprint, a chalkboard or a dry-erase board before the class to facilitate the learning process. This also helps you meet the varying learning styles of participants (i.e., some are auditory learners, whereas others are visual learners).

### *Questions and Answers in Key Points*

Many of the key points in this course have been designed in a question-and-answer format. This technique makes the lectures more interactive and gives students the opportunity to apply previous knowledge. Because these lectures are aimed at getting students to start thinking about the concepts they will learn, do not focus on whether a participant answers the question correctly. Instead, use push/pull facilitation skills and positive, corrective feedback to guide participants to the correct answers.

### *Conducting Question-and-Answer Sessions*

As you lead question-and-answer sessions throughout the course, ask for volunteers to provide answers. Waiting up to 10 seconds for an answer can help encourage hesitant participants to answer. Call on participants by name if you are having a hard time finding volunteers. Also, do not insist that all participants provide answers. Participants can still gain from this format even if they appear reluctant to answer.

Ideal responses are provided for each of the lecture questions in two formats. Answers labeled "Responses could include" are examples of one or more possible correct answers. For these questions, an example of a correct answer is provided in case participants are unable to come up with the correct answer(s) on their own. Answers labeled "Responses should include" are the correct answer(s) that must be covered during the lecture. In this case, instructors must provide any or all of the answers if participants are unable to come up with the correct answer(s) on their own.

### *Shout It Out*

Question-and-answer activities can be conducted in a number of ways. In a Shout It Out activity, the instructor provides an open-ended question that participants can freely answer without raising a hand or waiting to be called. This activity uses rapid recall of information, adds energy to the classroom and helps the instructor assess knowledge before moving on to another topic. These activities can be conducted in large or small groups cooperatively or as a competition. One example of a Shout It Out question is: "What materials do you have in your pack that you could use to splint a leg?"

## Group Exercises

This course also uses group exercises to meet the learning needs of this age group and promote interaction. When conducting group exercises, the instructor should choose both the size and the makeup of the groups. Form groups using the fewest number of participants necessary to conduct the exercise. Keeping the group size small will help avoid potential group dynamics issues and establish a comfortable environment for the exchange of ideas.

Form new groups for each activity. Alternating group members between activities promotes class cohesion, avoids situations in which one or more participant feels left out and eliminates friendships from taking precedence over learning. Using an arbitrary selection criterion each time you form groups will help you vary group makeup and give participants the chance to interact with many different classmates. For example, try using selection criteria such as finding the person in class whose birthday is closest to yours and form a pair, finding the person who lives the farthest from you and form a pair or finding the other people in class whose birthday is in the same season as yours (winter, spring, summer or fall) and form a group.

## Small-Group Exercises

Small-group exercises consist of two to four participants working together to solve a problem or complete an activity. These exercises allow participants to use one another's knowledge to solve problems and learn from one another's experiences.

## Large-Group Exercises

Large-group exercises use large numbers of participants or the whole class to solve a problem or complete an activity. When the entire class works together, it provides an opportunity to exchange ideas, discuss problems and think about the many ways to solve a problem.

## Role-Playing

Role-playing is used to practice new skills and develop empathy by giving participants the opportunity to experience how another person may feel in a given situation. Role-playing also allows participants to experience the emotions related to the situation. Participants draw from their own experiences and observations and act out a particular situation.

Follow these guidelines when conducting role-play:

- Explain the objective of the role-playing activity.
- Use prepared materials to give each player a written description of the character he or she will play or provide a detailed description of the overall situation.
- Tell participants they will be role-playing and help them identify their roles.
- Before the action begins, allow the players time to talk about their roles and the situation, but do not let them rehearse.
- Set the stage by describing the role-play situation to the observers and introduce the roles and fictitious names of the players.
- Tell observers what to look for during the role-playing activity.
- Start the role-playing activity and let it continue until the interaction slows or the desired information is provided, usually no longer than a few minutes.

## Brainstorming

Brainstorming is used to identify as many solutions to a problem as possible. In brainstorming, there are no right or wrong answers. Ask participants to begin naming as many solutions as possible and record these responses for all to see.

When conducting a brainstorming session, remember that:

- Ideas are wanted in quantity—the more, the better.
- Criticism is not allowed.
- All ideas should be recorded.
- Ideas do not have to be practical or thought to be "right."
- The ideas of others may be combined and improved on.
- No individual credit is given. Brainstorming is a team effort.

# CONDUCTING SKILL SESSIONS

Skill sessions are a critical component of most Red Cross courses that result in certification. Skill sessions should be well organized and well managed. During the skill sessions, participants are learning and perfecting skills. These sessions should include direction and instruction, ample practice time, instructor reinforcement, corrective feedback and encouragement to ensure participants' success. Plan the skill sessions to reinforce learning objectives. During the skill sessions, you are responsible for:

- Demonstrating a skill or skill components and/or guiding participants through a skill.
- Keeping the sessions running smoothly.
- Providing sufficient time for all participants to practice each skill.
- Identifying errors promptly and providing appropriate feedback to help participants improve their skills.
- Encouraging participants to improve their skills.
- Checking each participant for skill competency.
- Ensuring a safe environment during the skill sessions.

## Orienting Participants to Skill Sessions

Orienting participants to the skill sessions will help them get started quickly and practice more efficiently. Participants should practice in groups of two or three. Some skill sessions require participants to practice on a partner. Practice on a "real" person is important because participants can experience giving care to someone and understanding how care is experienced.

### *Scenarios*

Scenarios help to reinforce learning by giving participants opportunities to practice skills and decision making in various situations. In Wilderness and Remote First Aid, they are included as part of several lessons and are used as a determining factor in assessing the successful completion of the course. To best replicate the settings of course scenarios, a majority of skill sessions should be conducted in outdoor settings whenever possible and safe.

It is the instructor's responsibility to simulate the emergency while ensuring class safety and facilitating meaningful learning. To ensure safety and meaningful learning, the instructor should carefully evaluate and select the scenario venue. Additionally, the instructor should be prepared to give a detailed description of the scenario and have all necessary materials and equipment readily available.

Scenarios in outdoor settings sometimes become real, or turn into situations in which the scenario injured or ill person becomes uncomfortable. For example, a person pretending to be hypothermic might become excessively cold during a scenario, a person might find a splint applied too tightly or a person might discover they are lying on an ant hill when their rescuer tries to perform manual spine stabilization. Even the best instructor may have difficulty preventing these problems. Therefore, instructors and participants should consider how to handle situations that turn real. Scenario injured or ill persons should always have a way out of the scenario.

## Coaching Versus Prompting Participants

The desired outcome of each skill session is for participants to correctly demonstrate a skill from beginning to end without receiving any assistance from you or a partner or referring to the participant materials. Since participants learn at different rates, bring different levels of knowledge and learn in different ways, you will find yourself generally coaching or guiding participants as they initially learn skill elements. Coaching occurs in the initial phases of skill practice and allows you to give participants information they need to establish a sequence, timing, duration and the technique of a particular skill. When coaching, also known as guided practice, you provide information such as the sequence of steps in a skill. Statements such as "check the scene for safety" or "check the person for consciousness" are examples of coaching.

Once guided practice ends and independent demonstration of a skill begins, the instructor changes tactics and shifts to prompting. Prompting allows instructors to assess that a participant is able to make the right decision at the right time and give the appropriate care.

Because participants are expected to demonstrate skills without any assistance, when prompting an individual, provide only the information necessary for the participant to make a decision and give care. In other words, the instructor should give information only about the conditions found. For example, say, "The child is unconscious" instead of "Call 9-1-1" or "Breaths do not go in" instead of "Give a rescue breath."

## Partner Practice

Practicing on a partner has been included in this training to provide participants with experience in giving care to a real person. One participant acts as the injured or ill person while the other gives care. Participants change roles so that each participant has a chance to practice the skill. During partner practice, be sure participants do not engage in horseplay, which can lead to injury. To ensure a satisfactory comfort level, it is better to allow participants to choose their partners. Some Wilderness and Remote First Aid participants may be reluctant to practice with participants of the opposite sex. Instructors should accommodate participants' preferences. It is important that partner pairs be rotated, or one partner will gain most of the skills while the other partner misses a critical learning experience.

## Instructor-Led Practice

Instructor-led practice can be used to focus participants on a skill or part of a skill. It is particularly useful for introducing new skills that build on previously learned skills or for safety reasons. With this method, the instructor guides participants through each step of a skill, checking on participants to ensure that all in the group complete the steps properly as the instructor calls them out.

When you lead the practice, position yourself so that you can see everyone. It may help to have partners' heads pointing in the same direction and the participants in the same relative position next to them. Being able to see everyone allows you to monitor skill performance, as well as ensure participant safety.

## Reciprocal Practice

Reciprocal practice occurs when course participants guide, provide feedback and check one another's skill performance against the skill sheets. The goal is for a participant to correctly demonstrate a skill without any assistance from his or her partner or participant materials. During reciprocal practice, move among participants and observe to ensure that they are appropriately practicing the skills and are receiving feedback from their partners. Provide feedback as appropriate and assistance as needed. Remember, if you can observe a participant correctly demonstrate a skill from start to finish without assistance, you may check off that person's skill on the progress log. No further demonstration of that skill is required.

## Station Practice

In station practice, participants move from one station to another and practice new skills or add parts to the skills already learned. Station practice works best when there is a co-instructor or an instructor aide to assist with the observation of the skills being demonstrated. Other factors that may affect your decision to choose station practice include class size, available space, equipment, resources and the age and maturity of the participants.

## How Participants Learn Skills

You should closely supervise participants during skill sessions. The time for learning and refining skills in this course is relatively short. Therefore, skill sessions, particularly the first one, are demanding of the instructors. By carefully planning the first session and commending participants for practicing correctly, you can create a positive learning environment.

The skills taught will likely be new to most participants and may require frequent one-on-one attention. Keeping in mind the following list of skill characteristics will allow for more effective skill sessions:

- Course skills are complex. Participants often have some difficulties when they first begin.
- Skills are learned by hands-on practice. Immediate success in demonstrating the skill is unlikely. Refinements in technique take time.
- Skills require a defined sequence of movements. Participants should consistently follow this sequence when learning skills.
- Learning times for each skill differ because some skills are easier than others.
- Participants have different learning rates. Take individual differences into account when teaching any course.
- Skills, especially the individual components of opening the airway and checking for breathing and a pulse, are quickly forgotten. Frequent practice improves skill retention.

## Helping Participants Practice Correctly

Practicing a skill only aids learning when the skill is performed correctly. One of your most difficult challenges as an instructor is to ensure that participants practice correctly. You should continually monitor all participants, watching for errors participants make while practicing. Try to correct problems as soon as possible so that participants will practice the skill correctly. While you are working closely

with one participant, check others with an occasional glance. Correct any major problems you notice to keep participants from continuing to practice incorrectly. Encourage participants to ask questions if they are unsure how to perform any part of a skill.

A positive learning environment is important. Participants perform best when you keep them informed of their progress. When participants are practicing correctly, provide positive feedback. If participants are practicing incorrectly, provide specific corrective feedback. Before saying what they are doing wrong, tell them what they are doing correctly. Then, tactfully help them improve their performance.

Other strategies for corrective feedback include the following:

- If the error is simple, explain directly and positively how to correct the skill performance. Be specific when providing feedback. For example, if the participant is having trouble finding the proper site for epinephrine administration, you might say, "The steps leading up to administration are good; now try finding the muscle in the thigh before administration. That will be the spot you want to aim for."
- Show the participant what he or she should be doing. For the previous example, you might have to demonstrate the administration on the person doing the skill.
- Explaining why participants should perform a skill in a certain way may help them remember how to perform the skill correctly. For example, if a participant continually forgets to check for a scene for safety before assessing a person, you might remind the participant that the rescuer can quickly become the person because of an unsafe scene.
- If a participant has an ongoing problem with a technique, carefully observe what he or she is doing. Give specific instructions for performing the technique the correct way and lead the participant through the skill. It may be helpful to have the participant repeat the steps back to you for reinforcement.
- Emphasize the critical performance steps to focus the participants on those skills that make a difference in the successful completion of a skill.
- During skill sessions, resist telling anecdotes. This can distract or confuse participants.
- Remind participants what they are doing right and what they need to improve. Use phrases such as, "Your idea to use that pole as a splint is great, but try to immobilize the arm a little better with another bandage." Help participants focus on the **critical** components of each skill.

## PARTICIPANTS WITH DISABILITIES

People with disabilities and other conditions can perform the skills in the Wilderness and Remote First Aid course. The skills needed to care for persons in a wilderness or remote setting may need modification, but the result is the same. Instructors should focus on the critical components of a skill that are needed to successfully meet the objective, rather than perfection of every part of a skill. Instructors must always teach to the standards set forth but must be aware that participants may modify how a skill is accomplished and still meet the objective, which allows them to receive certification in the course. See the *Americans with Disabilities Act (ADA) Resource Guide* on Instructor's Corner at *www.redcross.org* for more information.

As a Red Cross instructor, you may conduct a course that includes a person with a disability. Participants with a physical disability include those who are deaf or hard of hearing, legally blind, lack full use of limbs, have breathing difficulties or have other physical problems. Participants with mental disabilities include people with a variety of cognitive challenges. When individuals with a disability or

other condition can successfully meet course objectives, he or she should receive a course completion certificate. If a participant cannot meet the course objectives due to disability or other condition, this should be communicated to the participant as early as possible. The participant may be able to continue, but not gain certification.

## Helping Participants Overcome Physical Challenges

To help a participant overcome a physical challenge, you may modify the delivery of course materials as follows:

- Increase the amount of time you spend with each participant.
- Allow frequent rest periods.
- Help participants modify the techniques necessary for successful skill completion.

# PEOPLE WITH READING DIFFICULTIES AND DISABILITIES

If you believe that a class includes participants who have reading difficulties or disabilities, you should discuss any reading challenges with those participants individually and privately, without attracting the attention of the rest of the class. You should make modifications that will allow the individual to participate fully in class, such as reading to them.

## Identifying People with Reading Difficulties or Disabilities

Course participants will do some reading during this course. The course may include people with reading difficulties or disabilities. You must be prepared to detect any such difficulties and provide those participants with every opportunity to succeed, including modifications. A participant may have difficulty reading because English is his or her second language. Through observation, you may be able to detect that an individual has reading difficulties.

Problems with reading skills may be present when:

- A participant does not follow along with written material or turn pages as the instructor reads.
- A participant says that he or she:
  - Forgot his or her glasses.
  - Has not done well in educational settings.
  - Does not do well in testing situations.

## Helping Participants with Reading Difficulties or Disabilities

You may administer an oral exam if a participant has difficulty with the written exams.

# Appendix 3-5: Class Safety

As an American Red Cross Wilderness and Remote First Aid instructor, you must make the teaching environment as safe as possible. If it is not safe, the quality and effectiveness of your course will be compromised. Participants who feel they are at risk for injury or illness may become distracted. These same feelings also may affect your ability to teach.

Effective injury prevention starts with your awareness that hazards may be present. Safety awareness will help you recognize hazards so that they may be corrected or controlled. In many cases, you will have to make others aware of the importance of safety.

## INJURY PREVENTION STEPS

Many factors affect the safety of your program. You can take several steps to help increase class safety and prevent injury in class. These include the following.

### Supervision

Maintain adequate supervision at all times. Never leave your class unattended. An improperly supervised class faces potential safety-related problems. For example, participants could get into an argument or a stranger could enter the teaching area. Ensure that all participants are accounted for throughout each lesson. If you have scheduled breaks during the course, you should maintain adequate supervision of the participants. For added safety during training involving youth, more than one adult must be in the facility where the course is being conducted. In addition to the course instructor, the second adult could be a co-instructor, chapter staff member or parent. After you have finished for the day, ensure that participants have been picked up by a parent or guardian and have left the facility and are not waiting alone on the premises for rides home. If possible, avoid situations in which you would be alone with a minor.

### Instructor Preparation

You can improve the safety of your course by being thoroughly prepared. Careful preparation includes considering possible hazards and managing safety concerns before a course starts. Often you can foresee hazards and take steps to eliminate or control them long before participants arrive. Review the lesson plans before the course begins to make sure you have everything you need. Carefully set up your skill practice and scenario areas so participants have enough room to practice and will not bump into tables or chairs or trip over branches, rocks or other obstructions.

If this course takes place in an area with no nearby indoor facility or shelter, the instructor should file a pre-trip plan with local or regional authorities or let a responsible person know the group's destination, the projected path of travel, and when the group expects to return.

## Assisting Instructors or Co-Instructors

The recommended instructor-to-participant ratio is one instructor for every six to 10 participants in the class. If the class has more than six participants, the instructor should have a co-instructor or aide. Assisting instructors and co-instructors can help decrease risks by giving more supervision and reducing the instructor-to-participant ratio. They also increase participation and learning by providing more attention to individual participants.

To determine your staffing needs, consider the different ages of participants, the course level and, if possible, the individual abilities of participants in the course. If your course has a large number of participants, you may need additional help. When using assisting instructors, co-instructors or instructor aides, clearly define their roles and responsibilities. Doing so will help eliminate confusion and lapses in supervision. Remember that you are ultimately responsible for your participants' safety.

## Instructor Aides

Instructor aides can be individuals who may not meet the minimum age requirement to be instructors but who have expressed an interest in becoming instructors and want or need more experience or may wish to help with a course without actually being an instructor. General duties and responsibilities of instructor aides include:

- Handling registration and record keeping.
- Setting up classrooms and/or scenarios and handing out supplies.
- Assisting with equipment (e.g., setup, cleaning and distribution of materials).
- Helping participants with skill practice or small group activities.

Instructor aides must always be under the direct supervision of an instructor and should never be left alone to supervise course participants. Instructor aides may not evaluate or certify participants' performance.

The purpose of instructor aide training is to train individuals who wish to assist Wilderness and Remote First Aid instructors in conducting the basic-level course but who are not eligible or do not wish to become instructors.

An instructor aide must possess a basic-level certificate in the applicable program or course for which he or she wishes to assist. The training of instructor aide candidates can be performed by a Wilderness and Remote First Aid instructor or an instructor trainer. Contact the local Red Cross chapter to obtain further information about instructor aide training.

## Participants

Be sure participants know and follow the rules and regulations of each facility. The instructor should also ensure that each participant has all of the required materials, equipment and supplies to safely complete the course before leaving the classroom setting. Explain and enforce all rules and regulations consistently. Cooperation from the participants will minimize hazards in the class. After the course, be sure that participants have been picked up by a parent or guardian and have left the facility and are not waiting alone on the premises for rides home. If the parent or guardian is not present to pick up the participant after the course, attempt to contact the individual responsible for the participant and wait with the participant until the parent or guardian arrives.

## Safety Equipment and Instructional Aids

Ask the manager of your teaching facility to provide you with an orientation about the location and use of the phone, safety equipment and any materials, equipment and supplies provided by the facility for use during the course. Additional contact should be made with the appropriate agency, supervisor, attendant or other authority regarding the available services and unique safety concerns for the selected outdoor teaching space. Check to be sure that all instructional aids and safety equipment are available and in good working order.

## Teaching Environment

The indoor teaching environment may have hazards, such as electrical cords stretched across the floor, which should be eliminated or minimized. When selecting the outdoor teaching space, the instructor should select an area with solid, flat ground free of potholes, large rocks, surface roots or other hazards. Outdoor environments change unpredictably and can create new hazards with little or no notice. The instructor must be aware of changes in the environment and with course participants that could affect safety and take corrective action—in some case this may mean stopping activity or changing locations.

As part of normal preparation for outdoor teaching, the instructor should always have a backup plan and be prepared to cancel or suspend class in the event of inclement weather. Weather that may require course cancelation or suspension may include weather that is too warm or too cold for the group's level of experiance and equipment, heavy rain that may cause flooding or landslides, heavy snowfall, high winds or ice. Additional considerations should be made for each specific course environment.

Document and report any facility concerns to the facility manager and/or program administrator, and retain a copy for your records. Adjust your program to reduce risks to your participants, if you cannot completely eliminate them. Note these conditions on the *Course Record*.

## Classroom Management

Maintaining clear, consistant, enforcable rules can contribute greatly to keeping course participants safe. To maintain a safe teaching environment, it is important that the course instructor maintain rules for safe instruction, such as prohibiting course participants from running, swimming or separating from the group.

Do not venture into areas that are beyond your leadership abilities, technical knowledge and experience. Without special training, instructors should avoid any environment in which they are not trained to lead groups, including confined spaces, high-angle or steep areas and aquatic environments. The instructor must not allow course participants to enter areas or engage in activities that the instructor is not trained to supervise, regardless of participant experience or training.

## Facility Policies and Procedures

Know the location of emergency equipment, telephones, first aid supplies, automated external defibrillators (AEDs), fire exits, restrooms and additional personnel. Also make sure you know where emergency phone numbers are posted, including those for police, emergency medical services (EMS) personnel, fire fighters, poison control, park ranger service, camp care takers, security and facility management. You will not have time to find this information when an emergency occurs.

All facility policies and procedures should be in writing and available to you. You should have your own copy. Be sure your duties and responsibilities are clearly documented to avoid misunderstandings.

## COSTS RELATED TO SAFETY

It costs money to provide enough proper equipment for participants and to maintain the facility correctly and safely. However, neglecting to minimize or eliminate hazards effectively may be far more costly in the long run. Budgetary concerns do not justify poor safety practices. Inadequate safety procedures can lead to injury and lawsuits, both of which can be extremely expensive.

## THE AMERICAN RED CROSS AS A RESOURCE

Keep updated on the latest instructor information by visiting the Instructor's Corner on the Red Cross Web site at *www.instructorscorner.org*. This site features frequently asked questions, instructor and program updates and course-related forms. The Red Cross Training Support Center may also have additional information and resources, as well as additional equipment and instructional aids you can use. Before you start your course, find out how the Red Cross Training Support Center can support you.

# Appendix 3-6: Wilderness and Remote First Aid Final Written Exams, Answer Sheet and Answer Keys

- ❑ Final Written Exams
- ❑ Answer Sheet
- ❑ Answer Keys

# AMERICAN RED CROSS WILDERNESS AND REMOTE FIRST AID FINAL WRITTEN EXAM

## Exam A

**Important:** Read all instructions before beginning the exam.

**Instructions:** Mark all answers in pencil on the separate answer sheet. Do not write on exam. The questions on this exam are multiple choice. Read each question carefully. Then choose the best answer and fill in that circle on your answer sheet. If you wish to change an answer, erase your first answer completely. Return this exam with your answer sheet to your instructor when you are finished.

1. After CHECKing the scene, your goal is to:
   a. Provide cardiopulmonary resuscitation (CPR).
   b. Identify and care for any immediate threats to life.
   c. Assume leadership.
   d. Recognize emergency.

2. Once you have determined that the person is free from immediate threats to life, you should perform a secondary assessment. Why is this necessary?
   a. To find every problem requiring first aid
   b. To prevent any future legal action against the responder
   c. To ensure that the person has accurately completed the pre-trip health report
   d. To allow sufficient time for the person to calm down and recover from the incident

3. Normal heart rate range is between:
   a. 12 and 20 beats per minute
   b. 35 and 70 beats per minute
   c. 60 and 100 beats per minute
   d. 75 and 110 beats per minute

4. On the AVPU scale, a person who can tell you his or her name and where he or she is located but who cannot provide other information is:
   a. A+O
   b. A+O×1
   c. A+O×2
   d. A+O×3

5. LOC refers to:
   a. Last oral reference.
   b. Level of consciousness.
   c. Liquid or RICE.
   d. Length of rest prior to evacuation.

6. What does the “E” stand for in SAMPLE history?
   a. Energy level of the person
   b. Events leading up to the accident or illness
   c. Extent of pain on a scale of 1 to 5
   d. Extra resources available to assist in the response

7. The mnemonic SOAP reminds you to record information about the person and your plan for care. Which question is an example of the type of information you are trying to document in the “S” in SOAP?
   a. What do you think is wrong?
   b. What are you going to do immediately for the person?
   c. What are the person’s complaints?
   d. If evacuation is necessary, should it be fast or slow?

8. A person who “fumbles, grumbles, mumbles and stumbles,” sometimes referred to as “the umbles,” and who is shivering is showing signs and symptoms of:
   a. Brain injury.
   b. Mild or moderate hypothermia.
   c. Severe dehydration.
   d. Heat exhaustion.

9. Your group is hiking in Nepal and has just gone above 10,000 feet. One person has trouble on the trail and slips several times during the day. The person then complains of a headache, which progressively worsens throughout the day. What would be the most appropriate treatment for this person?
   a. Resting at the next campsite for a day or two to treat muscle soreness
   b. Drinking more water to treat dehydration
   c. Arranging for immediate helicopter evacuation to treat a stroke
   d. Descending to provide care for acute mountain sickness

10. What is the proper order for attempting to rescue an active drowning person?
    a. Throw, Reach, Go, Row
    b. Row, Throw, Reach, Go
    c. Go, Reach, Throw, Row
    d. Reach, Throw, Row, Go

11. What is an occlusive dressing?
    a. A wet dressing to protect burns
    b. A dry dressing to promote healing
    c. A dressing for ocular (eye) injuries
    d. An airtight dressing that does not allow air or water to pass through

12. Each of the following is a consideration when determining whether, when and how to evacuate a person **EXCEPT:**
    a. How to use a signal mirror
    b. Terrain and distance to be crossed
    c. Strength of the members of the party
    d. How long before help arrives

13. Wounds that gape more than _____ should not be closed in the field, rather the person should be evacuated for closure of the wound by a health care provider.
    a. ¼ inch
    b. ½ inch
    c. 1 inch
    d. 1½ inches

14. You have determined that a person has heat stroke. How should you care for that person?
    a. Take off any heat-retaining clothes and immerse the person in cold water.
    b. Have the person drink at least 16 ounces of a solution of water with a pinch of salt.
    c. If the person is able, have him or her move to a cooler area and then eat something cold, such as ice cream.
    d. Have the person self-administer fever-reducing drugs.

15. You are giving care to a person who has fallen. The arm is fractured with bone ends sticking out. He is anxious, restless and disoriented. His heart rate is rapid and weak and his breathing is shallow. He says that he feels nauseous and dizzy. What condition is he experiencing?
    a. Shock
    b. Hypothermia
    c. Stroke
    d. Allergic reaction

16. Which of the following are steps you can take to prevent lightning injuries?
    a. Know weather patterns, adhere to the 30-30 rule and assume a safe position.
    b. Assume a safe position, keep everyone in the group as close together as possible and plan turn-around times.
    c. Plan turn-around times, pick safe campsites and seek shelter under high objects.
    d. Be sure everyone understands the guidelines, go to where lightning has struck before and know the 30-30 rule.

17. Steps to reduce an anterior shoulder dislocation include all **EXCEPT**:
    a. Position the person face-down across an object so the injured arm dangles down vertically.
    b. Apply a rigid splint.
    c. With a soft cloth, tie about 5 to 10 pounds of weight to the wrist.
    d. Wait 20 to 30 minutes while encouraging and promoting relaxation of the person.

18. After splinting, where on the person should you check for circulation, sensory and movement (CSM)?
    a. In the fingers of both hands
    b. In the toes of both feet
    c. Above the site of the injury
    d. Beyond the site of the injury

19. For which of the following do you evacuate, but go slow?
    a. Severe hypothermia
    b. Persistent abdominal discomfort
    c. Signs and symptoms of severe head injury, especially a skull fracture, stroke and/or a decrease in mental status
    d. Signs and symptoms of spinal cord injury

20. Which of the following is a true statement as it relates to bone and joint injuries?
    a. If you suspect a bone or joint injury, the general rule is: When in doubt, splint.
    b. Lightweight commercial splints should be used when splinting, except in extreme emergencies.
    c. Splints should hold the injured area in as straight a line as possible.
    d. Because there is little that can be done in a wilderness or remote situation to reduce pain, the comfort of the person is not a major consideration while giving care.

21. When caring for wounds, the goals are to stop serious blood loss, clean wounds and keep them clean, and:
    a. Encourage the person to stay in the shade.
    b. Get the person to a health care provider for medical care as soon as possible.
    c. Treat wounds to increase comfort and promote healing.
    d. Move to a location with running water to ensure appropriate practices to prevent disease transmission.

22. Almost all bleeding can be safely stopped with:
    a. Direct pressure.
    b. Pressure bandages.
    c. A tourniquet.
    d. Elevation and ice.

23. When moving a spine-injured person, such as using a log roll to check the back for injuries or to transfer him or her out of the elements, the commands should be given by the:
    a. Scene leader.
    b. Group leader.
    c. Person who is holding the head.
    d. Person responsible for keeping the feet in a straight line.

24. A person experiencing anaphylaxis often has the following signs and symptoms:
    a. Severe headache and extreme nausea
    b. Rapid heart rate and itching at the site of the bite
    c. Trouble breathing or signs of shock and swollen lips or a skin symptom such as hives.
    d. Extremely high body temperature followed by a rapid drop in body temperature

25. Wearing loose clothing and applying a layer of lubricating ointment and antiperspirant to certain areas of the body are ways to prevent:
    a. Chafing.
    b. Ticks.
    c. Mosquito bites.
    d. Dehydration.

# AMERICAN RED CROSS WILDERNESS AND REMOTE FIRST AID FINAL WRITTEN EXAM

## Exam B

**Important:** Read all instructions before beginning the exam.

**Instructions:** Mark all answers in pencil on the separate answer sheet. Do not write on exam. The questions on this exam are multiple choice. Read each question carefully. Then choose the best answer and fill in that circle on your answer sheet. If you wish to change an answer, erase your first answer completely. Return this exam with your answer sheet to your instructor when you are finished.

1. Almost all bleeding can be safely stopped with:
   a. Direct pressure.
   b. Pressure bandages.
   c. A tourniquet.
   d. Elevation and ice.

2. Once you have determined that the person is free from immediate threats to life, you should perform a secondary assessment. Why is this necessary?
   a. To find every problem requiring first aid
   b. To prevent any future legal action against the responder
   c. To ensure that the person has accurately completed the pre-trip health report
   d. To allow sufficient time for the person to calm down and recover from the incident

3. On the AVPU scale, a person who can tell you his or her name and where he or she is located but who cannot provide other information is:
   a. A+O
   b. A+O×1
   c. A+O×2
   d. A+O×3

4. What does the "E" stand for in SAMPLE history?
   a. Energy level of the person
   b. Events leading up to the accident or illness
   c. Extent of pain on a scale of 1 to 5
   d. Extra resources available to assist in the response

5. The mnemonic SOAP reminds you to record information about the person and your plan for care. Which question is an example of the type of information you are trying to document in the "S" in SOAP?
   a. What do you think is wrong?
   b. What are you going to do immediately for the person?
   c. What are the person's complaints?
   d. If evacuation is necessary, should it be fast or slow?

6. A person who "fumbles, grumbles, mumbles and stumbles," sometimes referred to as "the umbles," and who is shivering is showing signs and symptoms of:
   a. Brain injury.
   b. Mild or moderate hypothermia.
   c. Severe dehydration.
   d. Heat exhaustion.

7. Your group is hiking in Nepal and has just gone above 10,000 feet. One person has trouble on the trail and slips several times during the day. The person then complains of a headache, which progressively worsens throughout the day. What would be the most appropriate treatment for this person?
   a. Resting at the next campsite for a day or two to treat muscle soreness
   b. Drinking more water to treat dehydration
   c. Arranging for immediate helicopter evacuation to treat a stroke
   d. Descending to provide care for acute mountain sickness

8. What is an occlusive dressing?
   a. A wet dressing to protect burns
   b. A dry dressing to promote healing
   c. A dressing for ocular (eye) injuries
   d. An airtight dressing that does not allow air or water to pass through

9. After CHECKing the scene, your goal is to:
   a. Provide cardiopulmonary resuscitation (CPR).
   b. Identify and care for any immediate threats to life.
   c. Assume leadership.
   d. Recognize emergency.

10. Each of the following is a consideration when determining whether, when and how to evacuate a person **EXCEPT:**
    a. How to use a signal mirror
    b. Terrain and distance to be crossed
    c. Strength of the members of the party
    d. How long before help arrives

11. Wounds that gape more than _____ should not be closed in the field, rather the person should be evacuated for closure of the wound by a health care provider.
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12. What is the proper order for attempting to rescue an active drowning person?
    a. Throw, Reach, Go, Row
    b. Row, Throw, Reach, Go
    c. Go, Reach, Throw, Row
    d. Reach, Throw, Row, Go

13. LOC refers to:
    a. Last oral reference.
    b. Level of consciousness.
    c. Liquid or RICE.
    d. Length of rest prior to evacuation.

14. You have determined that a person has heat stroke. How should you care for that person?
    a. Take off any heat-retaining clothes and immerse the person in cold water.
    b. Have the person drink at least 16 ounces of a solution of water with a pinch of salt.
    c. If the person is able, have him or her move to a cooler area and then eat something cold, such as ice cream.
    d. Have the person self-administer fever-reducing drugs.

15. You are giving care to a person who has fallen. The arm is fractured with bone ends sticking out. He is anxious, restless and disoriented. His heart rate is rapid and weak and his breathing is shallow. He says that he feels nauseous and dizzy. What condition is he experiencing?
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    c. Stroke
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16. Which of the following are steps you can take to prevent lightning injuries?
    a. Know weather patterns, adhere to the 30-30 rule and assume a safe position.
    b. Assume a safe position, keep everyone in the group as close together as possible and plan turn-around times.
    c. Plan turn-around times, pick safe campsites and seek shelter under high objects.
    d. Be sure everyone understands the guidelines, go to where lightning has struck before and know the 30-30 rule.

17. You and a friend are giving care to a person who complains of center-chest discomfort and pain on the left side that radiates from to the shoulder and down the arm. You think the person is having a heart attack. Should this person be evacuated? If so, how should the evacuation occur?
    a. Evacuation is not necessary as long as the signs and symptoms start to subside within 5 minutes.
    b. Stay in place with the person, but send another person to bring back help.
    c. Evacuate slowly—GO SLOW—supporting the person as you walk out together.
    d. Evacuate rapidly—GO FAST—carrying the person.

18. Steps to reduce an anterior shoulder dislocation include all **EXCEPT**:
    a. Position the person face-down across an object so the injured arm dangles down vertically.
    b. Apply a rigid splint.
    c. With a soft cloth, tie about 5 to 10 pounds of weight to the wrist.
    d. Wait 20 to 30 minutes while encouraging and promoting relaxation of the person.

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    b. In the toes of both feet
    c. Above the site of the injury
    d. Beyond the site of the injury

20. For which of the following do you evacuate, but go slow?
    a. Severe hypothermia
    b. Persistent abdominal discomfort
    c. Signs and symptoms of severe head injury, especially a skull fracture, stroke and/or a decrease in mental status
    d. Signs and symptoms of spinal cord injury

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    a. If you suspect a bone or joint injury, the general rule is: When in doubt, splint.
    b. Lightweight commercial splints should be used when splinting, except in extreme emergencies.
    c. Splints should hold the injured area in as straight a line as possible.
    d. Because there is little that can be done in a wilderness or remote situation to reduce pain, the comfort of the person is not a major consideration while giving care.

22. When caring for wounds, the goals are to stop serious blood loss, clean wounds and keep them clean, and:
    a. Encourage the person to stay in the shade.
    b. Get the person to a health care provider for medical care as soon as possible.
    c. Treat wounds to increase comfort and promote healing.
    d. Move to a location with running water to ensure appropriate practices to prevent disease transmission.

23. When moving a spine-injured person, such as using a log roll to check the back for injuries or to transfer him or her out of the elements, the commands should be given by the:
    a. Scene leader.
    b. Group leader.
    c. Person who is holding the head.
    d. Person responsible for keeping the feet in a straight line.

24. A person experiencing anaphylaxis often has the following signs and symptoms:
    a. Severe headache and extreme nausea
    b. Rapid heart rate and itching at the site of the bite
    c. Trouble breathing or signs of shock and swollen lips or a skin symptom such as hives.
    d. Extremely high body temperature followed by a rapid drop in body temperature

25. Wearing loose clothing and applying a layer of lubricating ointment and antiperspirant to certain areas of the body are ways to prevent:
    a. Chafing.
    b. Ticks.
    c. Mosquito bites.
    d. Dehydration.

# AMERICAN RED CROSS WILDERNESS AND REMOTE FIRST AID FINAL WRITTEN EXAM ANSWER SHEET

**Name:** _____ **Date:** _____

## Circle one:

**Exam A or Exam B**

| | | | | |
|---|---|---|---|---|
| **1.** | (a) | (b) | (c) | (d) |
| **2.** | (a) | (b) | (c) | (d) |
| **3.** | (a) | (b) | (c) | (d) |
| **4.** | (a) | (b) | (c) | (d) |
| **5.** | (a) | (b) | (c) | (d) |
| **6.** | (a) | (b) | (c) | (d) |
| **7.** | (a) | (b) | (c) | (d) |
| **8.** | (a) | (b) | (c) | (d) |
| **9.** | (a) | (b) | (c) | (d) |
| **10.** | (a) | (b) | (c) | (d) |
| **11.** | (a) | (b) | (c) | (d) |
| **12.** | (a) | (b) | (c) | (d) |
| **13.** | (a) | (b) | (c) | (d) |
| **14.** | (a) | (b) | (c) | (d) |
| **15.** | (a) | (b) | (c) | (d) |
| **16.** | (a) | (b) | (c) | (d) |
| **17.** | (a) | (b) | (c) | (d) |
| **18.** | (a) | (b) | (c) | (d) |
| **19.** | (a) | (b) | (c) | (d) |
| **20.** | (a) | (b) | (c) | (d) |
| **21.** | (a) | (b) | (c) | (d) |
| **22.** | (a) | (b) | (c) | (d) |
| **23.** | (a) | (b) | (c) | (d) |
| **24.** | (a) | (b) | (c) | (d) |
| **25.** | (a) | (b) | (c) | (d) |

# AMERICAN RED CROSS WILDERNESS AND REMOTE FIRST AID FINAL WRITTEN EXAM ANSWER KEY

## Exam A

| | | | | |
|---|---|---|---|---|
| 1. | a | ● | c | d |
| 2. | ● | b | c | d |
| 3. | a | b | ● | d |
| 4. | a | b | ● | d |
| 5. | a | ● | c | d |
| 6. | a | ● | c | d |
| 7. | a | b | ● | d |
| 8. | a | ● | c | d |
| 9. | a | b | c | ● |
| 10. | a | b | c | ● |
| 11. | a | b | c | ● |
| 12. | ● | b | c | d |
| 13. | a | ● | c | d |
| 14. | ● | b | c | d |
| 15. | ● | b | c | d |
| 16. | ● | b | c | d |
| 17. | a | ● | c | d |
| 18. | a | b | c | ● |
| 19. | a | ● | c | d |
| 20. | ● | b | c | d |
| 21. | a | b | ● | d |
| 22. | ● | b | c | d |
| 23. | a | b | ● | d |
| 24. | a | b | ● | d |
| 25. | ● | b | c | d |

# AMERICAN RED CROSS WILDERNESS AND REMOTE FIRST AID FINAL WRITTEN EXAM ANSWER KEY

**Exam B**

| | | | | |
|---|---|---|---|---|
| **1.** | ● | b | c | d |
| **2.** | ● | b | c | d |
| **3.** | a | b | ● | d |
| **4.** | a | ● | c | d |
| **5.** | a | b | ● | d |
| **6.** | a | ● | c | d |
| **7.** | a | b | c | ● |
| **8.** | a | b | c | ● |
| **9.** | a | ● | c | d |
| **10.** | ● | b | c | d |
| **11.** | a | ● | c | d |
| **12.** | a | b | c | ● |
| **13.** | a | ● | c | d |
| **14.** | ● | b | c | d |
| **15.** | ● | b | c | d |
| **16.** | ● | b | c | d |
| **17.** | a | b | c | ● |
| **18.** | a | ● | c | d |
| **19.** | a | b | c | ● |
| **20.** | a | ● | c | d |
| **21.** | ● | b | c | d |
| **22.** | a | b | ● | d |
| **23.** | a | b | ● | d |
| **24.** | a | b | ● | d |
| **25.** | ● | b | c | d |

# Appendix 3-7: Wilderness and Remote First Aid Report Form/Rescue Request

## Report Form

Injured or Ill Person's Name: Age:

Date: Time Started:

**Primary (Initial) Assessment**
Consciousness
Airway
Breathing
Circulation
Disability
Environment and Expose

**Evacuation Evaluation**
Time of incident: _____AM/PM
Mechanism of Injury (MOI)/Nature of Illness: (circle all that apply)
Fall Illness Cold Burn Allergy
Bite or Sting Other _____
Brief Description of Incident



**Secondary (Focused) Assessment**
Level of Consciousness
Signs and Symptoms
Allergies
Medications
Pertinent Past Medical History
Last Intake/Output
Events Leading Up to the Incident

| Vital Signs | Initial | Ongoing | Ongoing | |
|---|---|---|---|---|
| Time | | | | |
| LOC (AVPU) | | | | |

**Hands-On Physical Exam**

<table>
<tr><td>Head/Neck</td><td>Breathing (Rate and Quality)</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Chest</td><td>Pulse (Rate and Quality)</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Abdomen</td><td>Skin (Color, Temperature, Moisture)</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Pelvis</td><td>CSM</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Legs/Arms</td><td>Pupils</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Back</td><td colspan="5" rowspan="2">Injured or Ill Person's Address</td></tr>
<tr><td></td></tr>
<tr><td rowspan="2">Completed by<br>Level of Training</td><td colspan="5">Notify (Name and Phone Number)</td></tr>
<tr><td colspan="5">Relationship</td></tr>
</table>

## Rescue Request

| | |
|---|---|
| **Exact location (include map if possible)** | First Aid Given |
| **Area Description** | |
| **Terrain** | |
| **On-Site Plans** | |
| ☐ **Stay** | |
| ☐ **Evacuate to** | |
| **Stay overnight: Yes or No** | **Evacuation Plan** |
| **On-site equipment** | |
| **Evacuation needed for** | |
| **Equipment needed** | |
| **Party members remaining** | |
| Name<br>Notify/Phone | |

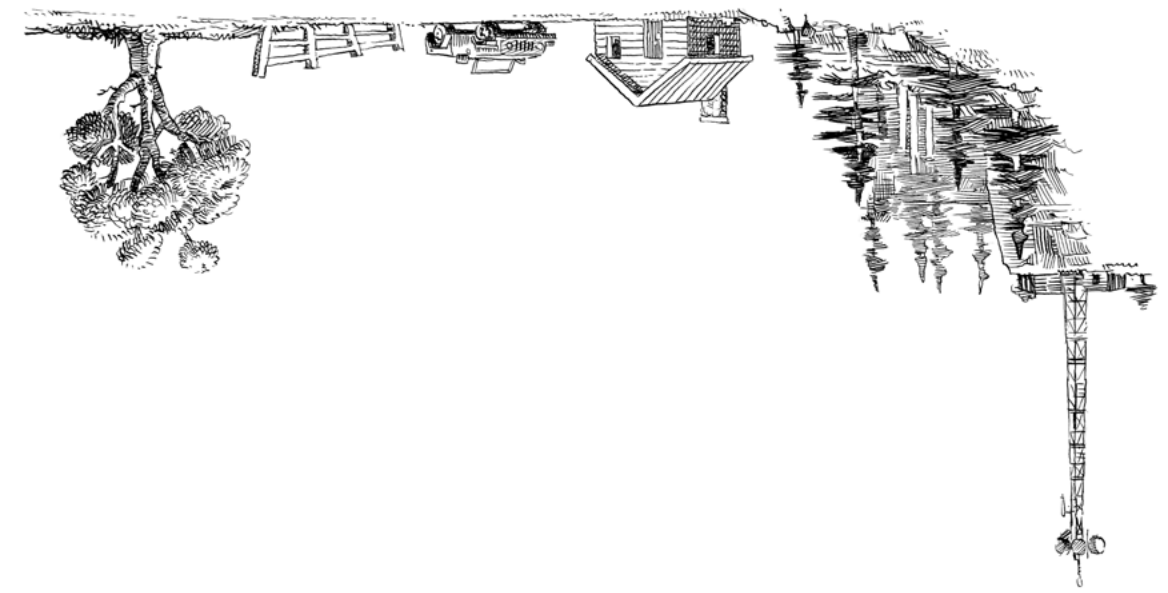
# Appendix 3-8: Wilderness and Remote First Aid Competency Check Sheet

Instructor's Name _____ Date _____

| | | Participant Name | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Address scene safety (self, group); initiate 'Call' decision making | | | | | | | | |
| Determines mechanism of injury/nature of illness | | | | | | | | |
| Determines number of injured or ill persons | | | | | | | | |
| Takes standard precautions | | | | | | | | |
| Considers stabilization of spine | | | | | | | | |
| **Primary (Initial) Assessment** | | | | | | | | |
| Determines level of consciousness (LOC) | | | | | | | | |
| Determines chief complaint | | | | | | | | |
| **A**irway and **B**reathing | Assesses and assures adequate ventilation | | | | | | | |
| Circulation | Assesses and controls major bleeding | | | | | | | |
| | Assesses skin (color, temperature, moisture) | | | | | | | |
| **D**isability | DOTS and CSM | | | | | | | |
| **E**xpose and **E**nvironment | Life threatening: heat, cold, smoke, etc. | | | | | | | |
| **SAMPLE History** | | | | | | | | |
| **S**igns and Symptoms (assess history of present illness/injury) | | | | | | | | |

| | Participant Name | | | | | | |
|---|---|---|---|---|---|---|---|
| **A**llergies | | | | | | | |
| **M**edication | | | | | | | |
| **P**ertinent past medical history | | | | | | | |
| **L**ast intake and output | | | | | | | |
| **E**vent leading to present illness/injury | | | | | | | |
| **Hands-on physical exam** (head to toe, including back) | | | | | | | |
| Gives care | | | | | | | |
| Verbalizes ongoing assessment/Maintains written records | | | | | | | |
| **Evacuation consideration: Timely and appropriate** | | | | | | | |
| **Group Roles** | | | | | | | |
| Takes or verbalizes standard precautions | | | | | | | |
| Addresses scene safety (self, group) | | | | | | | |
| Contribute to 'Call' decision making | | | | | | | |
| Follows leader's directions | | | | | | | |
| Provides materials and equipment | | | | | | | |
| Clear and appropriate use of Wilderness and Remote First Aid Report Form/ Rescue Request | | | | | | | |
| Addresses long-term needs (assessment of vitals, records, environment) | | | | | | | |

# Appendix 3-9: Lightning Safety Activity Sheet



# Appendix 3-10: Scenario Cue Cards

Respond at appropriate points in the scenario based on the conditions listed on the cue cards.

## HEAD (BRAIN), NECK AND SPINAL INJURIES

***Setup:*** *It is early morning in late August. The weather is mild. Your group is providing disaster relief with the American Red Cross after a tornado in a rural area. There are downed trees and there is no power. You see a person who appears to be injured lying on the ground in front of a house. There is a woman standing outside with him/her. A ladder, shingles and tools near where the person is lying indicate that he/she may have been working on a damaged roof before experiencing a fall.*

## Cue Card Responses:

You are conscious.
You only know your name and where you are.
Your head hurts and your vision is blurred.
You have no allergies.
You take a daily multivitamin.
You have no pertinent past medical history.
You had some juice before starting to work on the roof.
You were working on the roof, but got dizzy and fell.
You have no other injuries.

## WOUNDS AND WOUND INFECTION

***Setup:*** *It is April. Your group is hiking into a camp at dusk along a river's edge, and you notice kayakers boating near rapids. A group of kayakers on the near shore yells to your group for help. One of the kayakers, Katie/Karl, is lying face-up on the shore. The person appears to have been injured by debris in the river after being ejected from his/her kayak. What do you do*?

## Cue Card Responses:

You are conscious.
You know your name, where you are located and when it happened.
It is wet and cold and you are starting to shiver. Darkness is setting in.
You or your friend is unsure of symptoms.
You or your friend knows of no allergies.
You or your friend knows of no medications.
You or your friend knows of no pertinent past medical history.
You or your friend states that you decided not to eat and just kept boating.
You and your friend were kayaking down the river. Your friend did not witness your boat capsize, but your friend was able to get you to the shore. Your friend says you threw up when you got to shore.

## BONE AND JOINT INJURIES

***Setup:*** *You are all volunteers in a trail restoration project in a wilderness area. An adult leader falls on a downed branch and rolls down a 5-foot embankment. You are able to call a ranger station, but based on your location, help is at least an hour away.*

## Cue Card Responses:

You fell 5 feet, and landed in a ravine.
You cannot move one ankle and one shoulder.
You have pain and cannot move extremities.
You have no allergies.
You do not take medication.
You report no pertinent past medical history.
You have not been drinking and are very thirsty. You forgot your water bottle and did not want to tell anybody.
You did not see a branch because of sweat in your eyes.
You have no other injuries.

# Appendix 3-11: Wilderness and Remote First Aid Instructor Essentials Jigsaw Activity

***Directions:*** *Work with your base group to answer the questions for your group number—the answers to these questions can be found in your materials. When you are finished, your instructor trainer will ask you to form pairs (one or more groups of three if there are an odd number of participants) with a member from one of the other groups. Each partner will share the answers to the questions assigned to their base group with the other member(s). Be sure that members of your base group pair with members from each of the other base groups. After the pairs have finished sharing the answers with one another, return to the base group and fill out the Wilderness and Remote First Aid Instructor Essentials Knowledge Check (which your instructor trainer will provide). Once all base groups have completed their knowledge check, the class will review the answers as a group.*

## BASE GROUP 1

1. What is the recommended minimum class size for a Wilderness and Remote First Aid course?

2. What steps must you take with the Red Cross before you can teach a Wilderness and Remote First Aid course?

3. If it is unsafe or not conducive to learning outside, can you teach the entire course indoors?

4. If you have a large class, can you have an instructor aide conduct a scenario while you conduct another at the same time?

5. What forms must be completed at the conclusion of a course?

## BASE GROUP 2

1. What is the minimum age for participating in a Wilderness and Remote First Aid course?

2. Are Wilderness and Remote First Aid instructors authorized to teach any additional Red Cross courses?

3. What is the recommended course length for the Wilderness and Remote First Aid course?

4. What is the recommended instructor-to-participant ratio?

5. An additional adult is needed to teach the course if one or more participants are younger than 18 years of age. Why?

## BASE GROUP 3

1. What are the prerequisites for participating in the Wilderness and Remote First Aid course?

2. What are the requirements for awarding participants Wilderness and Remote First Aid course completion certificates?

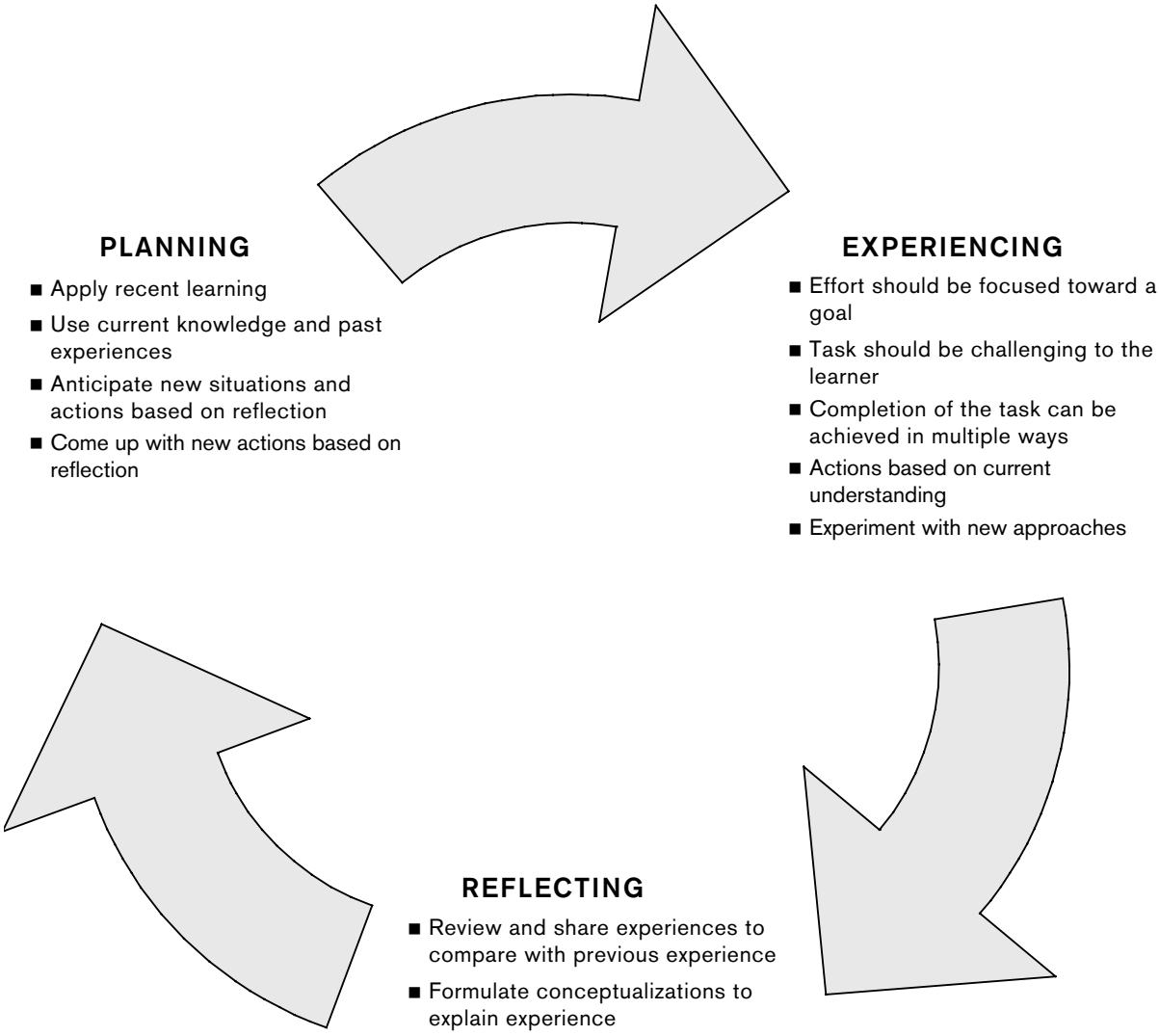
3. Are the additional activities necessary to meet the *Boy Scouts of America (BSA) Wilderness and First Aid Curriculum and Doctrine Guidelines*?

4. In terms of the *Wilderness and Remote First Aid Instructor's Manual*, what are Key Points?

5. If a person can fully meet the lesson objectives but cannot complete a skill specifically as it is presented in the materials due to a disability, can he or she still receive a course completion certificate?

# Appendix 3-12: Experiential Learning Cycle

## EXPERIENTIAL LEARNING CYCLE[1,2,3]




[1]Kolb, David. *Experiential Learning: Experience as the Source of Learning and Development.* Englewood Cliffs, New Jersey: Prentice Hall, 1984.
[2]Lewin, Kurt. *A Dynamic Theory of Personality.* New York: McGraw-Hill, 1935.
[3]Lewin, Kurt, and Grabbe, Paul. "Conduct, Knowledge and Acceptance of New Values." *Journal of Social Issues* 1(3) (1945): 56-64.

# Appendix 3-13: Group Development Stages

## GROUP DEVELOPMENT STAGES[4,5]

| Stage | Group Behaviors/Characteristics | Instructor Actions |
|---|---|---|
| Forming | ▪ Individuals typically avoid disagreeing with one another<br>▪ Individuals act politely, friendly toward one another<br>▪ Group is hesitant to begin tasks/activities<br>▪ Group often looks to leader/instructor for direction | |
| Storming | ▪ Individuals begin disagreeing with others in the group<br>▪ Some individuals begin feeling left out or not listened to, may withdraw<br>▪ Some individuals begin dominating the group (e.g., talking all the time, not listening to other's ideas).<br>▪ Some individuals begin to emerge as leaders<br>▪ Group shows increased focus on tasks/ activities and team dynamics | |
| Norming | ▪ Individuals begin trusting one another<br>▪ Group shows increased teamwork and cohesion<br>▪ Group begins to succeed at tasks<br>▪ Group may exhibit less innovation and groupthink may emerge | |
| Performing | ▪ Individuals fully trust one another<br>▪ Group is able to handle conflict<br>▪ Group is able to act autonomously<br>▪ Group begins to develop a sense of identity and pride<br>▪ Group is able to successfully complete tasks/activities | |

[4]Tuckman, Bruce. "Development Sequence in Small Groups." *Psychological Bulletin* 63 (1965): 384-399.
[5]Tuckman, Bruce, and Jensen, Mary Ann. "Stages of Small Group Development Revisited." *Group and Organizational Studies* 2 (1977): 419-427.

# Appendix 3-14: Leadership Styles

***Directions:*** *Working with your base group, attempt to estimate the weight of the backpack in ounces using each of the leadership styles listed below. Make sure a different group member acts as leader for each style.*

## EXECUTIVE

### Part A

The executive leadership style focuses much more on completing tasks than openly communicating with group members. The executive leader tells others how to act. In this leadership style, the leader has ultimate authority over when and how to make decisions.

As the leader, solicit some input from the group but do not allow time for discussion—the final estimate is yours and yours alone. You should reject any estimates or reasoning with which you do not agree. The group should rely on the leader to make the decision.

Estimate _____ ounces

### Part B

As an instructor:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

In a wilderness or remote first aid emergency situation:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

## DEMOCRATIC

### Part A

The democratic leadership style is one in which the leader and other group members share in group decisions. The democratic leader balances getting things done with gaining support and buy-in from all members of the group. In this leadership style, the leader solicits input from the group and decides when and on which solutions to vote.

As the leader, take time to listen to the group members' ideas, then lead the group in voting. The majority decides which estimate to use. In the case of a tie, the leader decides how to reach a majority.

Estimate _____ ounces

## Part B

As an instructor:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

In a wilderness or remote first aid emergency situation:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

# HANDS-OFF

## Part A

The hands-off leadership style focuses on empowering group members to complete tasks on their own. The hands-off leader avoids overly focusing on completing the task or the emotional needs of the group. In this leadership style, the leader looks to the group for input and expertise and delegates when necessary and appropriate.

As the leader, determine which group member is most qualified to estimate the weight of the backpack and use his or her guess.

Estimate _____ ounces

## Part B

As an instructor:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

In a wilderness or remote first aid emergency situation:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

## SYMPATHETIC

### Part A

The sympathetic leadership style focuses on the feelings of all group members more than completing tasks efficiently or quickly. The sympathetic leader tries to listen to and acknowledge all members. In this leadership style, the leader works to get group members to accept and support the final decision.

As the leader, encourage each member of the group to offer their best estimates, then take the average of the lowest and highest estimates.

Estimate _____ ounces

### Part B

As an instructor:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

In a wilderness or remote first aid emergency situation:

1. When would using this leadership style be effective? _____
   _____
2. When would using this leadership style be ineffective? _____
   _____

# Appendix 3-15: Inclement Weather Course Safety Guide

## INCLEMENT WEATHER

As a general rule, the course instructor should fully assess all weather (e.g., wind, rain, snow) and inspect course participant clothing to determine if conditions are safe for participation. The decision regarding course activity during inclement weather should be based solely on the welfare and safety of the course participants and instructor. Whenever there is a risk of injury to participants, the activity must be canceled and rescheduled. The loss of instructional or recreational time must never influence an instructor's decision to cancel or reschedule an event based on safety.

## HOT WEATHER

Activity increases the core temperature of the body. Under moderate environmental conditions, the temperature-regulating mechanism of the body provides for adequate heat dissipation. However, under extremely hot and humid conditions, the body temperature will continue to rise, eventually presenting a serious danger to participants.

The Heat Index serves as a guide to help determine when various combinations of air temperature and humidity present an environmental risk to course participants. Using the Heat Index and the associated activity limitations chart, the instructor should plan course activities to reflect weather restrictions.[6]

| TEMPERATURE | % RELATIVE HUMIDITY | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| 85 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 93 | 95 | 97 | 99 | 102 | 105 | 108 |
| 90 | 84 | 85 | 86 | 87 | 88 | 90 | 91 | 93 | 95 | 96 | 98 | 100 | 102 | 106 | 109 | 113 | 117 | 122 | | |
| 95 | 88 | 90 | 91 | 93 | 94 | 96 | 98 | 101 | 104 | 107 | 110 | 114 | 119 | 124 | 130 | 136 | | | | |
| 100 | 93 | 95 | 97 | 99 | 101 | 104 | 107 | 110 | 115 | 120 | 126 | 132 | 138 | 144 | | | | | | |
| 105 | 97 | 100 | 102 | 105 | 109 | 113 | 118 | 123 | 129 | 135 | 142 | 149 | | | | | | | | |
| 110 | 102 | 105 | 108 | 112 | 117 | 123 | 130 | 137 | 143 | 150 | | | | | | | | | | |
| 115 | 107 | 111 | 115 | 120 | 127 | 135 | 143 | 151 | | | | | | | | | | | | |
| 120 | 111 | 116 | 123 | 130 | 139 | 148 | | | | | | | | | | | | | | |
| 125 | 116 | 123 | 131 | 141 | | | | | | | | | | | | | | | | |
| 130 | 122 | 131 | | | | | | | | | | | | | | | | | | |

[6]Source: National Oceanic and Atmospheric Administration. "NOAA's National Weather Service Heat Index." http://www.nws.noaa.gov/om/heat/index.shtml (accessed October 2009.)

| Heat Index | Category | Actions |
|---|---|---|
| Less than 80 | | No suggested actions |
| 80 to 89 | Caution | Reduce vigorous activity. Encourage hydration. |
| 90 to 104 | Extreme Caution | Limit vigorous activity. Enforce hydration. |
| 105 to 129 | Danger | Light activity only outdoors. Enforce hydration. |
| 130 or higher | Extreme Danger | Outdoor activities should be canceled or moved to a cooler venue. |

Each person will respond differently to the effects of heat and humidity. When conditions are borderline, instructors should monitor participants for signs of a heat-related emergency. Instructors must modify and/or cancel activities before conditions become dangerous.

## COLD WEATHER

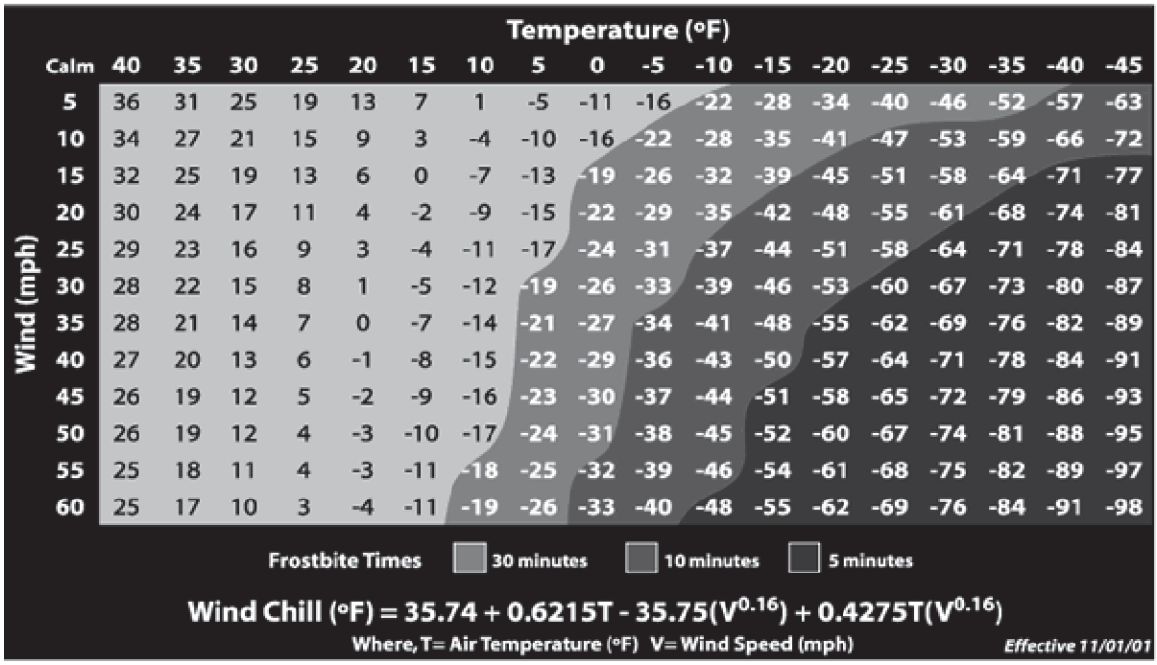
Activity usually generates enough heat to keep participants warm in cold weather. However, participants who are not dressed for the conditions may be at increased risk for hypothermia, especially during wet and windy conditions. Wet clothing can contribute to hypothermia and during wet and windy conditions, hypothermia can occur even when the temperature is warm. It is the course instructor's responsibility to monitor weather conditions and temperature and their impact on learners, and to reschedule or change locations as necessary.

### Windchill

The windchill temperature is a measure of how cold it feels outside. This measure is based on temperature and wind speed. As wind speed increases, so does the rate of heat loss on exposed skin, making the temperature feel colder than it actually is. When temperatures are below 40° F, the windchill temperature can lead to frostbite in 30 minutes or less. During cold weather, limit the time participants spend outdoors, based on the chart on the next page. In some cases, this may mean moving the class to a warmer area for lessons and using the outdoors for scenarios. In other cases, this may mean postponing the course altogether.

[7]

# NWS Windchill Chart



| Wind (mph) \ Temperature (°F) | Calm | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | 36 | 31 | 25 | 19 | 13 | 7 | 1 | -5 | -11 | -16 | -22 | -28 | -34 | -40 | -46 | -52 | -57 | -63 |
| 10 | | 34 | 27 | 21 | 15 | 9 | 3 | -4 | -10 | -16 | -22 | -28 | -35 | -41 | -47 | -53 | -59 | -66 | -72 |
| 15 | | 32 | 25 | 19 | 13 | 6 | 0 | -7 | -13 | -19 | -26 | -32 | -39 | -45 | -51 | -58 | -64 | -71 | -77 |
| 20 | | 30 | 24 | 17 | 11 | 4 | -2 | -9 | -15 | -22 | -29 | -35 | -42 | -48 | -55 | -61 | -68 | -74 | -81 |
| 25 | | 29 | 23 | 16 | 9 | 3 | -4 | -11 | -17 | -24 | -31 | -37 | -44 | -51 | -58 | -64 | -71 | -78 | -84 |
| 30 | | 28 | 22 | 15 | 8 | 1 | -5 | -12 | -19 | -26 | -33 | -39 | -46 | -53 | -60 | -67 | -73 | -80 | -87 |
| 35 | | 28 | 21 | 14 | 7 | 0 | -7 | -14 | -21 | -27 | -34 | -41 | -48 | -55 | -62 | -69 | -76 | -82 | -89 |
| 40 | | 27 | 20 | 13 | 6 | -1 | -8 | -15 | -22 | -29 | -36 | -43 | -50 | -57 | -64 | -71 | -78 | -84 | -91 |
| 45 | | 26 | 19 | 12 | 5 | -2 | -9 | -16 | -23 | -30 | -37 | -44 | -51 | -58 | -65 | -72 | -79 | -86 | -93 |
| 50 | | 26 | 19 | 12 | 4 | -3 | -10 | -17 | -24 | -31 | -38 | -45 | -52 | -60 | -67 | -74 | -81 | -88 | -95 |
| 55 | | 25 | 18 | 11 | 4 | -3 | -11 | -18 | -25 | -32 | -39 | -46 | -54 | -61 | -68 | -75 | -82 | -89 | -97 |
| 60 | | 25 | 17 | 10 | 3 | -4 | -11 | -19 | -26 | -33 | -40 | -48 | -55 | -62 | -69 | -76 | -84 | -91 | -98 |



## THUNDERSTORMS AND LIGHTNING

Whenever a thunderstorm or other inclement weather is approaching or lightning has been sighted, all outdoor activities should be postponed until the storm has cleared. Plot storms using the following method:

- When the flash of lightning precedes the boom of thunder by 5 seconds, the storm is approximately 1 mile away.
- Follow the 30-30 rule: Seek a safe location when the storm is no closer than 6 miles away. That is 30 seconds from flash to boom. Stay in the safe location for 30 minutes after the storm passes.

Because instructors are in an ideal position to model appropriate behavior, it is important to practice lightning safety. Move to a safe location at the first sign of lightning.

[7]Source: National Weather Service. "NWS Windchill Chart." http://www.nws.noaa.gov/om/windchill/images/windchill.gif (accessed November 2009).

# Appendix 3-16: Moulage Madness

## SUGGESTED MOULAGE KIT CONTENTS

- Alcohol prep pads
- Ash
- Black chalk (finely ground)
- Blood (simulated), thick, medium and thin
- Blue and red carpenter's line chalk
- Brushes
- Burgundy spray-on hair color (spray on for instant bruising or as a bruising base)
- Cotton balls
- Cotton swabs
- Diaper rash cream
- Disposable cups
- Drop cloth
- Effervescent antacid tablets
- Fiber supplement (such as Metamucil)
- Foam wedges
- Glycerin
- Hair clips
- Lipstick in light and dark red
- Mirror
- Paper towels
- Petroleum jelly
- Popsicle®/craft sticks
- Rubber cement
- Safety pins
- Scissors
- Small putty knives
- Smooth penne pasta, rolled putty or properly cleaned and sanitized chicken bones
- Sponges
- Spoon
- String, rubber bands and coffee stirrers (to simulate capillaries, veins and tendons)
- Syringe, irrigation tip
- Toothpicks
- White eye shadow
- White grease paint

## MOULAGE RECIPES

# Simulated Skin

In a large bowl, mix together two 13-ounce jars of petroleum jelly, three 16-ounce boxes of corn starch or white flour, and 2 to 4 tablespoons of cocoa powder (change amount according to desired color). Alter ingredient ratios for desired consistency. Use gloved hands to mix contents. In the event of warm weather, substitute cocoa powder with black chalk.

## Thin Blood

Mix 16 ounces of liquid laundry starch, 2 ounces of red food coloring and five drops of blue food coloring.

## Medium Thickness Blood

Empty the contents of a 16-ounce bottle of corn syrup into a container; add 2 teaspoons or 200 drops of red food coloring, 13 drops of blue food coloring and 15 drops of yellow food coloring. Mix well. This preparation is perishable and should be used immediately. Do not use this preparation in warm outdoor environments.

## Medium Blood for Warm Outdoor Environments

Mix 16 ounces of red dish soap, 4 tablespoons of red food coloring and four drops of blue food coloring.

## Thick Blood

Mix the contents of one 16-ounce can of red automotive grease, 30 drops of red food coloring and 30 drops of blue food coloring.

## Sweat

Mix three parts glycerin and one part water in a spray bottle.

## "Shocky" Skin

Apply white eye shadow or diaper rash cream to lips by blotting. Adjust the amount used to obtain the desired effect.

## Abrasion Base

Gently heat the contents of three to four full tubes of red or reddish lipsticks (50 percent dark, 50 percent light). Off-color reds can be combined with the bright red. Heat lipsticks in a small stainless steel cup on a stovetop or in a small plastic cup in the microwave. Apply using a flat sponge.

## Bruise Powder (Chalk)

Combine carpenter's line chalk in a ratio of five parts blue to two parts red. Keep the mixture uniform by careful measurement. As another option, apply burgundy spray-on hair color to the affected area.

## Burn Base

Mix 2 teaspoons of fiber supplement with 2 teaspoons of warm water and stir. Apply the mixture immediately to the affected area in a thin paste and let set for 2 to 3 minutes to thicken to a jelly-like consistency.

## MOULAGE INJURIES

### Abrasions

Apply abrasion base to the designated area with sponge. Drip thick blood around the wound area, ensuring consistent splatter direction. Place small bits of sand, rock or plant material in the wound to enhance the effect.

### Bruising

Apply a small amount of abrasion base to the bruise area. Apply small amounts of bruise powder over the affected area.

### Burns/Blisters

Apply abrasion base to the designated area with a sponge then add a layer of burn base. Let the burn base set for 2 to 3 minutes, until it thickens to a jelly-like consistency.

Use a thin, blunt tool to pull the mixture away from the skin in several places. Use dark lipstick and abrasion base to show charred portions of simulated burn. With syringe plunger in, insert a syringe into petroleum jelly and pull out the plunger, sucking petroleum jelly into the syringe.

Using a thin, blunt tool, raise the burn mixture away from the skin while placing the pointed syringe under it. Push in the plunger to create pockets of petroleum jelly in several places for a blister effect. Apply very small amounts of thick blood in some of the “open wounds.”

Sprinkle bruise powder and ash to add another layer to the designated area.

### Impalements

Match the artificial skin to the skin color of the person (adding corn starch, cocoa or ground black chalk as needed). Smooth the artificial skin onto the surface of the person’s skin with fingers or tools, blending the edges. Put the object to be impaled into the artificial skin, making sure to close the gap carefully. Use rubber cement to glue the object to the artificial skin, if necessary. Add a very small amount of abrasion base around the wound edges. Apply thick blood to the wound entry and around the wound as needed. Be sure to follow the flow of gravity when applying blood.

### Compound Fractures

Follow the directions for Impalements (see above). Insert an appropriate material (dried pasta, rolled putty) in the wound area at a realistic angle to indicate a fracture. Apply a small amount of thick blood at the fracture site.

### Lacerations

Match the artificial skin to the skin color of the person (adding corn starch, cocoa or ground black chalk as needed). Apply a small amount of abrasion base around the general wound area. Smooth the artificial skin onto the surface of the person’s skin with fingers or tools, blending the edges. Create an opening or slit with a Popsicle® stick. Make the laceration look jagged. Apply thick blood inside the wound, placing it to follow the natural flow of gravity. Apply different thicknesses of blood to complete the effect (for warm outdoor environments, use black chalk as a substitute for cocoa).

# Appendix 3-17: Practice-Teaching Self-Evaluation Form

Name: _____ Date: _____

Skill: _____

| **Criteria** | | **Comments** | **Changes for Next Time** |
|---|---|---|---|
| Did I follow the lesson plan? | YES NO | | |
| Did participants have enough time to practice? | YES NO | | |
| Did I provide accurate information? | YES NO | | |
| Did I use my teaching area effectively? | YES NO | | |
| Did I provide an accurate demonstration of the skill? | YES NO | | |
| Did I provide effective feedback? | YES NO | | |
| Did the participants' skills improve? | YES NO | | |

# Appendix 3-18: Practice-Teaching Feedback and Evaluation Form

Name: _____ Date: _____

Skill: _____

**Ranking**

**1 = Strongly Disagree**

**2 = Disagree**

**3 = Agree**

**4 = Strongly Agree**

| **Criteria** | **Rank** | **Comments** |
|---|---|---|
| Followed written lesson plan | 1 2 3 4 | |
| Made frequent eye contact with participants | 1 2 3 4 | |
| Organized presentation logically | 1 2 3 4 | |
| Managed time well | 1 2 3 4 | |
| Delivered accurate and specific information | 1 2 3 4 | |
| Was able to answer questions asked by the group | 1 2 3 4 | |
| Gave clear explanations of practice teaching and skills to be taught | 1 2 3 4 | |
| Started practice efficiently | 1 2 3 4 | |
| Noticed participant errors | 1 2 3 4 | |
| Gave appropriate feedback | 1 2 3 4 | |
| Provided accurate demonstrations when needed | 1 2 3 4 | |
| Used appropriate class organization for the skills being taught | 1 2 3 4 | |
| Used appropriate learning activities, games or drills for the skills being taught | 1 2 3 4 | |
| Used appropriate equipment and teaching aids | 1 2 3 4 | |

# Appendix 3-19: Scenario Setup and Practice-Teaching Assignment 2 Evaluation Form

Name: _____ Date: _____

## Scenario: Check

Using the Scenario: Check from the Primary Assessment Lesson in the *Wilderness and Remote First Aid Instructor's Manual*, practice leading a scenario. Identify one member of the group to play the role of instructor and another to play the role of the injured or ill person; assign roles for the remaining members. Use your instructor's manual as a resource and develop a plan for conducting the scenario, based on the criteria below. Even though you will each play different roles, all members are expected to fully contribute to the development and execution of the scenario. Be prepared to discuss your process for developing the plan as well as individual contributions.

| **Criteria** | | **Comments** |
|---|---|---|
| Group members exhibit behaviors that are consistent with that group's level of experience with scenarios | YES NO | |
| Participants assigned realistic roles that support the lesson objectives associated with the scenario | YES NO | |
| Participants assigned roles that make the scenario realistic | YES NO | |
| Scenario scene, including moulage, set up effectively (realistic and challenging) and safely | YES NO | |
| Instructor uses facilitation and experiential learning techniques | YES NO | |
| Instructor leads effective Scenario Follow-Up session | YES NO | |
| All instructor candidates participate in the planning and execution of the scenario | YES NO | |

# Index

American Red Cross

# I am trained, empowered and prepared. I am the American Red Cross.

## Training for Emergencies in Wilderness and Remote Environments

Whether you're teaching lifesaving skills to scouts, outdoor enthusiasts or employees working in a remote environment, our Wilderness and Remote First Aid course gives your students the skills they need to respond to an emergency when help may be delayed. Course participants must be at least 14 years of age and possess current certification in adult CPR/AED.

## Wilderness and Remote First Aid Topics

- Head (Brain), Neck and Spinal Injuries
- Hypothermia
- Allergies and Anaphylaxis
- Bone and Joint Injuries
- Wounds and Wound Infection
- Heat-Related Emergencies
- Altitude-Related Illnesses
- Burns
- And more

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Based on the Boy Scouts of America
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