NATIONAL SKI PATROL

OUTDOOR EMERGENCY CARE

REFRESHER

CYCLE a 2005

study guide

COURTESY OF RAINIER MOUNTAINEERING, INC.

Introduction

Notice anything different? Unless your powers of observation don't click in until you're with a patient, you've probably figured out that all is not as it once was with your annual *Refresher Study Guide*. For one thing, the magazine into which this guide was inserted is not *Ski Patrol Magazine*. Nope, it's an exciting new offering called *On Scene™*, which is geared specifically to you and your fellow outdoor emergency care providers. Within its pages you'll find content designed to boost your expertise and enhance your relationship with the Outdoor Emergency Care® Program.

And that's not all. To coincide with Cycle A of the three-year schedule for refreshing all OEC content, the study guide you're now perusing has undergone a transformation to make it a better, more self-driven learning tool that will help you get more out of the annual OEC refresher. As you skim this new guide you'll find lots of information on the 2005 refresher as well as puzzles, study aids, references, and other materials that are bound to grab your interest. No, you're not *required* to pore over each of these educational offerings, but we bet you'll appreciate the opportunity they present to hone your skills and freshen up your knowledge of outdoor emergency care.

The parts of this guide that you *do* have to give careful consideration are the scenario-based "You Are the Rescuer" questions, which you must answer *before* attending your refresher and bring with you. But don't just complete this assignment and stop there. Review all of the topics and make notes on any information or areas on which you would like to focus or get more practice. Read the pertinent OEC content, log on to OECzone.com, and brush aside the mental cobwebs as you review those terms and concepts you may have forgotten.

Without question, you bring a number of strengths to the world of outdoor emergency care. This *Refresher Study Guide* can help you add to those strengths. Its purpose is to encourage you to continue your development as a top-notch OEC technician. But more than that it challenges you; prompting you to ask yourself, *What should I focus on this year to improve my emergency care skills?*

We invite you to use the tools in this guide as fully as possible. Then immerse yourself in the atmosphere of your refresher, renew old friendships, and bolster your confidence in the skills that are integral to the care you provide.

Remember, you're not alone in this endeavor. Your instructors are also in on the act, and they've been asked to come up with new ways to help you review and renew your skills. Each is hard at work creating interesting and thought-provoking refresher stations, where you'll have the time and assistance necessary to work and practice until you feel confident and can meet all refresher objectives this year . . . and then some.

As a provider of outdoor emergency care, you embody professionalism and commendable dedication to the well-being of your patients. We wish you a fulfilling refresher experience, and thank you for doing such an outstanding job!

REFRESHER PROGRAM

- The OEC refresher program offers OEC providers a continuing education opportunity to renew and demonstrate competency in required OEC knowledge and skills while using a variety of equipment and techniques.
- The OEC technician certification is valid for three years, and should be maintained by completing three consecutive annual refreshers. Members of the National Ski Patrol (NSP) must complete each of the refreshers to remain in good standing, as well as to maintain the OEC credential. The only NSP members exempt from this requirement are those registered candidate patrollers who are enrolled in an OEC course, those members who completed a full OEC course after May 31 of the current calendar year, and those members who are registered as medical associates (MD's and DO's).
- A refresher is *not* the equivalent of a challenge for a person with previous emergency care or medical training.
- An NSP member who wishes to renew active status from an inactive registration or a missed patrolling season must complete the refresher cycle(s) missed during the inactive period. (Only those OEC providers with a non-expired OEC certification may renew their certification by making up missed refreshers. Speak with an instructor if you have a current OEC certification and need to coordinate a make-up refresher.)
- Patrol training usually includes local patrol, area, and resort protocols not contained within NSP's Outdoor Emergency Care Program, and these skills are often taught in courses that run concurrent with OEC training. Your refresher may cover these non-NSP topics of instruction, which include:
  - CPR or AED certification
  - Chairlift evacuation procedures
  - Additional local patrol or on-the-hill training

The NSP is not responsible for the content, instruction, or scheduling of these refresher classes. Each patroller should consult with his or her local patrol, area, or resort for schedules, topics to be covered, and other requirements.

GET READY

- It's your responsibility to check with your patrol, region, or affiliate group to determine when and where the refresher will be held. If you have a conflict, contact the OEC region administrator or check your division website for an alternate date. Non-NSP members can check the geographic division website nearest them for refresher availability. *Do not* wait until the last minute to do this.
- Please notify your patrol representative or affiliate group leader in advance if you will not be able to attend your patrol or affiliate's refresher. Prearrange attendance at another refresher with the instructor of record or patrol representative for that area.
- Allow yourself plenty of time to study the *Outdoor Emergency Care* references listed in this study guide for Cycle A. All references are to the fourth edition of *Outdoor Emergency Care.*
- Review the refresher topics for this cycle.
- Read the "You Are the Rescuer" section of this study guide (formerly Scenario Discussion Forum), answer the questions that follow each scenario, and bring your answers to the refresher. This exercise is also available as a downloadable Word or PDF document in the Education/OEC section of the NSP website (www.nsp.org).
- Use the skill guides in the fourth edition *OEC* text to review and practice the skills you will be asked to demonstrate during this year's refresher.
- Get online and go to www.OECzone.com to check out the many learning tools, videos, and activities available to you.
- Dust off your aid belt, vest, or pack; restock it; and be ready to go!

WHAT TO BRING

- The *2005 Refresher Study Guide* with *completed* "You Are the Rescuer" questions.
- Your current OEC, CPR, and NSP member cards. (You may obtain a duplicate OEC card from the national office by mailing a check or money order for $5 [made payable to NSP] to the National Ski Patrol at 133 South Van Gordon St., Suite 100, Lakewood, CO 80228. Enclose a note asking for a new OEC card and *allow three to four weeks for delivery.*)
- A fully stocked aid belt, vest, or pack and any additional items required at the refresher you will be attending. Dress appropriately to participate in both indoor and outdoor refresher activities.

RECORD KEEPING

- If you attend another region or patrol/affiliate group's refresher, be sure the instructor of record has all the information he or she needs to verify your completion of the refresher on a supplemental roster submitted to the national office (see page 21 of this study guide). This roster must include your NSP membership ID number, name as it appears in national registration records, address, and patrol/group affiliation. To document your attendance for your patrol representative or group leader, use the 2005 Cycle A OEC Refresher Completion Acknowledgement form on page 21.
- Make sure the instructor of record signs and dates your OEC card on the line for Cycle A and returns it to you.
- Complete and hand in the 2005 Cycle A OEC Feedback Form found on page 23.

CPR POLICY (For NSP members only)

- All active NSP members must hold current professional rescuer-level CPR certification from the American Heart Association, the American Red Cross, the National Safety Council, the American Health and Safety Institute, or Medic First Aid.
- The certifying body need not issue a new certificate *unless* the certificate expires before the start of the upcoming ski season.
- All active NSP members must demonstrate their CPR skills each season, regardless of the certifying agency's requirements or the expiration date on the card.

You may notice that this *Refresher Study Guide* does not contain the Skill Guide "checklists" offered in previous years. This is because these educational resources are readily available in Appendix B of the fourth edition of *Outdoor Emergency Care* and can be studied there.

YOU ARE THE RESCUER

If there's one aspect of the OEC refresher that consistently elicits an overwhelmingly positive response in participant evaluations, it is the "You Are the Rescuer" section, found on pages 5–12. This section contains scenarios that allow you to place yourself at the scene as the first responder. Follow the directions below to outline how you'd handle the emergency, and also be prepared to discuss the scenarios at your refresher.

- Carefully read these scenarios, each of which is based on an actual incident.
- Formulate answers to the questions that follow each scenario as if you were the rescuer at your local area, using additional paper if necessary. Bring your written answers to your refresher, and be prepared to participate in scheduled scenario discussions.
- Keep in mind that there are many correct answers and that the answers may vary depending on local policies and protocols.

CYCLE a 2005

Cycle A Topics, Chapters, and Skill Guides

TOPIC	CHAPTER (*OEC* fourth edition)	SKILL GUIDES (Appendix B, *OEC* fourth edition)
Annual Topics		
Shock Management (In-depth topic)	Chapter 9	Bleeding Control/Shock Management
Cold Injury Management (In-depth topic)	Chapters 2 and 15	
Assessment (Focused history and physical exam, responsive medical; vital signs)	Chapters 5, 7, and 30	Patient Assessment—Responsive Medical Patient Vital Signs Determination
Use of Oxygen and Airway Adjuncts	Chapter 6	Use of Oxygen and Airway Adjuncts: ● Oropharyngeal and Nasopharyngeal Airways ● Suctioning of the Oral Cavity ● Administration of Oxygen ● Use of Pocket Mask for Artificial Ventilation ● Use of Bag-Valve-Mask for Artificial Ventilations
Common Outdoor Injury Management	Chapters 24 and 25	
Neurological Injury Management	Chapter 26	
Cycle-specific Topics		
Orthopedic (Upper extremity injuries, injuries at or near joints, open fractures)	Chapters 24 and 25	Management of an Open Fracture
Environmental and Medical Emergencies (Major medical emergencies and snowsports emergencies)	Chapters 11, 12, 13, 14, and 16	
Specific Injuries (Burns, bleeding, bandaging, BSI, pediatric considerations, adaptive/special populations)	Chapters 2, 8, 19, 30, and 31	Bleeding Control/Shock Management
Transport and Extrication (Positioning Patients)	Chapter 27	Lifting Techniques—Long-Axis Drag Extrication from Difficult Positions (Jams and Pretzels)

Scenario I

On a weekday during the crowded Christmas holidays, a mountain host summons you to the scene of what he describes as a particularly serious accident. In his radio transmission the host warns, "This is really a bad one; you'd better have your gloves ready."

NICI SINGLETARY

As you begin to ski down from the top, you observe that the crowd at the accident scene must number more than 100. Upon arrival, you immediately note an alarming amount of blood on the snow. You see a male skier, covered with blood, who is sitting up and facing downhill. He's leaning back against another man who is applying pressure with an open palm to a laceration on the left side of the patient's neck. The involved bystander says, "I found this man much like he is now, sitting in the snow and covered with blood." Another witness standing nearby yells, "Someone skied across that guy's neck after he fell." When you kneel down to speak to the injured skier, you notice air bubbling from the neck wound as he tries to answer, but he is only able to get out a few words at a time.

On inspection, you find a 4-centimeter transverse laceration extending from the midline to the left anterior aspect of the man's neck. Bleeding from the laceration is partially controlled by the bystander's palm pressure and is not pulsating. The patient is diaphoretic, and his skin is cold and pale. His heart rate is weak and thready at 136 beats per minute, and his respirations are labored at 30 per minute. You note gurgling sounds and possible aspiration of blood on inspiration. He seems alert but very frightened. The patient denies hitting his head or losing consciousness, and says he has no other injuries. Your rapid body survey confirms this. Specifically, there is no cervical tenderness. A SAMPLE survey is not obtainable.

QUESTIONS

1. What probable injuries are portrayed in this scenario?

2. List eight signs and symptoms of compensated shock.

3. Describe, in the order of priority, the emergency care you would provide for this patient. (Discussion points: emergency care, personnel, equipment, transport).

continue answer on page 6

POINTS TO PONDER

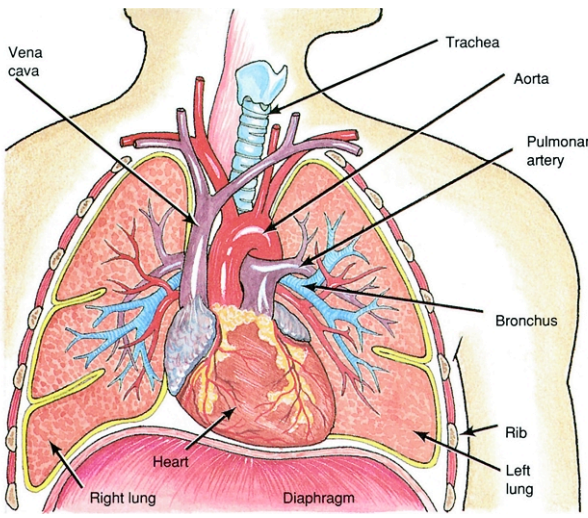
Penetrating neck injuries can cause profuse bleeding from laceration of the great vessels in the neck; either the carotid artery or jugular vein. The airway, the esophagus, and even the spinal cord can also be damaged by a penetrating injury. Air embolism is the phenomenon by which air is either sucked into the body's venous system through an injured vessel or enters the venous system subsequent to an altered pressure gradient at the tissue level (e.g., when a person experiences "the bends" in a diving accident).

In this scenario involving the internal jugular vein, ambient air could be sucked into the heart because it adjoins the lacerated vessel. A large amount of air introduced rapidly into the right atrium and right ventricle would lead to a cardiac arrest. You can control vessel hemorrhage and prevent air embolism in this man by 1) applying gentle continuous fingertip pressure over an *occlusive dressing* and gauze pads to close the vessel laceration and reduce blood loss from the site; and 2) keeping the patient's body flat or lowering the head a little to force the injured vessel to remain as full of blood as possible (*OEC* fourth edition, pages 510 and 545).

Laceration of the trachea is a very serious traumatic event that frequently causes acute and/or delayed life-threatening consequences. Blood from the injured tissue adjacent to the laceration is frequently drawn into and expelled out of the trachea with respiration or coughing, and in so doing produces audible hissing and sucking and visible bubbling, air frothing, and/or bloody sputum. Blood in the trachea also creates an uncomfortable physical irritation. These conditions all contribute to acute dyspnea (shortness of breath). If the bleeding is significant enough to cause aspiration into the bronchioles, serious inflammation of the lung tissue often results. The goal for the emergency field treatment of a tracheal laceration is to seal the traumatic gap in the trachea by applying an occlusive dressing over the injury site (*OEC* fourth edition, page 545).

Uncontrolled hemorrhage of a large vessel, whether vein or artery, quickly leads to hypovolemic shock (one of the three forms of cardiovascular shock). The rapidity with which this potentially devastating complication develops is usually related to the diameter of the vessel in question, the volume of blood it carries, and/or the anatomic area it drains. Hypovolemic shock is also produced by severe dehydration, a consequence of either critical fluid restriction or marked fluid loss.

Since the brain is very vascular and is almost completely drained by the internal jugular vein, the onset of hypovolemic shock would be rapid following a laceration of this vessel. The emergency care in this scenario, and in all cases of hypovolemic shock caused by blood loss, obviously centers on controlling hemorrhage from the bleeding site. With external bleeding, this is accomplished by gentle but firm continuous direct pressure to the segment in question. Other forms of cardiovascular shock include cardiogenic shock (pump failure) and neurogenic shock (vessel dilation). Septic shock and psychogenic shock (fainting) are sub-classes of the latter. Two non-cardiovascular causes of shock are respiratory insufficiency and anaphylaxis (*OEC* fourth edition, pages 268, 269, and 275).



COURTESY OF THE AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

This drawing illustrates the close anatomic proximity of the trachea (in blue), the carotid artery (in red), and the jugular vein (in purple).

VITAL VOCABULARY

air embolism The presence of air in the veins, which can lead to cardiac arrest if it enters the heart.

cardiogenic shock Shock caused by inadequate function of the heart or pump failure.

compensated shock The early stage of shock, in which the body can still compensate for blood loss.

decompensated shock The late stage of shock, when the blood pressure is falling.

hypovolemic shock Shock caused by fluid or blood loss.

irreversible shock The final stage of shock, resulting in death.

neurogenic shock Circulatory failure caused by paralysis of the nerves that control the size of the blood vessels, leading to widespread vessel dilation; seen in spinal cord injuries.

occlusive dressing Dressing made of Vaseline® gauze, aluminum foil, or plastic that prevents air and liquids from entering or exiting a wound.

CHECK IT OUT

- Bleeding Control/Shock Management Skill Guide, Appendix B, *OEC* fourth edition
- All Use of Oxygen and Airway Adjuncts Skill Guides, Appendix B, *OEC* fourth edition

ONLINE OUTLOOK

Interested in testing your ability to recognize shock? Go to www.OECzone.com, then click on the link to Chapter 9 in the Online Outlook section.

Rescuer Tips

Shock is a complex physiologic process that gives subtle signs to its presence before it becomes severe. These early signs relate very closely to the events that lead to more severe shock, so it is even more important than usual to know the underlying processes thoroughly. If you understand what causes shock, you will be able to recognize it in many patients before it gets out of control. **–*OEC* fourth edition, page 268**

Scenario II

It is nine o'clock on a Tuesday night—about an hour until hill closure—and the temperature is hovering near zero. You are called to the bottom of an expert run that ends directly above a restaurant, where two people have reportedly been injured. The restaurant is closed. Approaching the scene from below, you see an adult male holding both arms and looking under the wooden deck on the slope side of the restaurant.

As you draw near, the man tells you that he is a local paramedic and that, while skiing, he lost his balance and slid into the deck. He says he extended his arms to brace himself and that although he is certain both wrists are broken he is okay for now and able to self-splint for a while. He then gestures toward the deck and says that seconds after he slid into the landing he saw a second skier lose control and slide *under* the deck. You then notice a skier beneath the deck, with only his legs protruding.

MARY RABAGLIA

The deck floor is only about 18 inches off the ground. It is extremely dark, so you pull a small flashlight from your pack and shimmy underneath. Aiming your flashlight's beam into the shadows you see a young boy lying supine. Upon questioning him, you learn—between his sobs—that he is 10 years old and that he "hurts real bad" in his left arm, above the elbow. Further questioning reveals that the injured area feels wet, sticky, and warm. You ask if he hit his head or "passed out" at any time and he says no. He appears alert and oriented, and tells you that he is not hurting anywhere else.

When you are close enough to gently touch his hand and wrist on the injured side, you palpate a strong, rapid pulse. He feels your touch and is able to weakly grasp your hand. Your rapid body survey, albeit limited because of the confined space, fails to reveal any other injury. Specifically there is no cervical tenderness. You gently apply a little downward tension on the injured elbow and slowly place the injured forearm across the patient's abdomen, asking him to stabilize the arm with his opposite hand.

By now, several other rescuers have arrived on the scene, and with their help you extricate the boy from under the deck. When you are finally able to expose and examine the left upper arm, you find what looks to be a very unstable midshaft humerus fracture with blood oozing from a 3-centimeter posterolateral laceration. No other injuries are detected. A SAMPLE survey is noncontributory.

You are now able to check the other patient. He also denies having lost consciousness, is fully oriented, and has swelling of both wrists, which are mildly deformed. Sensation

is intact in both hands, although finger motion is limited because of pain in both wrists. His radial pulses are full bilateral. No other injuries are detected. His SAMPLE survey is also noncontributory.

QUESTIONS

1. What probable injuries are portrayed in this scenario?

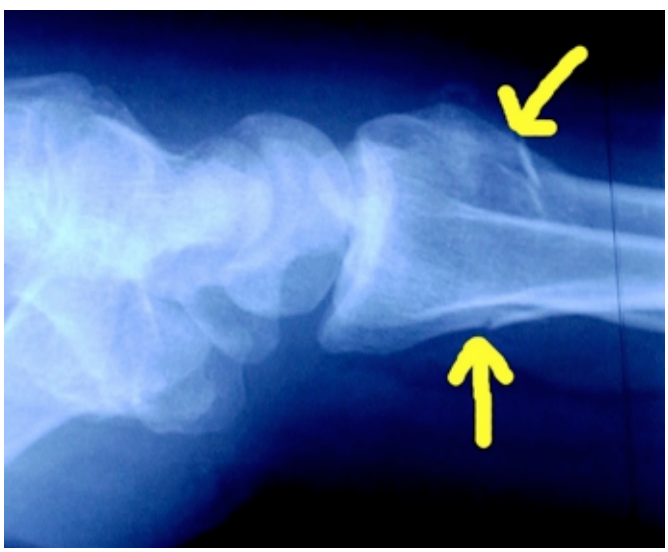
2. How would you extricate the boy?

3. Describe, in the order of priority, the emergency care you would provide for these patients. (Discussion points: emergency care, personnel, equipment, transport, notification of parents and management)

POINTS TO PONDER

Fractures of the humerus occur either proximally, in the midshaft, or distally at the elbow. Fractures of the midshaft humerus occur more often in young patients, usually as the result of a violent direct blow. If circulation, motion, and sensation (CMS) in the hand are normal, apply a padded long-arm wire ladder splint and a sling and swathe. If CMS functions are abnormal, consider applying gentle longitudinal traction to realign the fracture fragments before splinting them. Check your local area protocol before proceeding with this alignment technique (*OEC* fourth edition, pages 617-618).

Almost all instances of external bleeding can be controlled simply by applying direct local pressure to the bleeding site. Pressure stops the flow of blood and permits normal coagulation to occur. If a wound continues to bleed despite use of direct pressure, try placing additional pressure over a proximal pressure point or pulse point (*OEC* fourth edition, pages 255-256).



NICI SINGLETARY

X-ray of a non-displaced wrist fracture

NICI SINGLETARY

X-ray of an open humerus fracture

Rescuer Tips

If possible, complete all immobilization of fractures and treatment of other injuries before moving the patient.

Positioning guidelines for transport:

- **Head downhill—lower extremity and pelvic injuries**
- **Head uphill—upper extremity injuries.**

—*OEC* fourth edition, page 641

VITAL VOCABULARY

closed fracture A fracture in which the overlying skin is not broken.

crepitus A grating or grinding sensation that occurs when fractured bone ends rub together.

open fracture Any break in a bone in which the overlying skin has been violated.

position of function A hand position in which the wrist is slightly dorsi-flexed and all finger joints are moderately flexed.

CHECK IT OUT

- Extrication from Difficult Positions (Jams and Pretzels) Skill Guide, Appendix B, *OEC* fourth edition
- Management of an Open Fracture Skill Guide, Appendix B, *OEC* fourth edition

ONLINE OUTLOOK

Review material and test your knowledge on fractures. Go to www.OECzone.com, then click on the link to Chapter 25 in the Online Outlook section.

Scenario III

It is a sunny, bitter-cold morning. At 10:15, the patrol dispatcher calls the patrol's top shack to relay details of a call placed via cell phone to the local sheriff's department. Before his cell phone's battery died, the caller said he was with a skier who'd injured his shoulder in Slippery Chutes, a frequently skied area on U.S. Forest Service land about 300 yards slightly uphill of your resort's boundary line. The area is comprised of four steep, narrow chutes, and the injured skier is reported to be in Chute #2. The dispatcher says the sheriff's department lost contact with the caller before they could get any further information. Attempts to reconnect with the reporting party failed.

The first patroller dispatched to the area enters and sweeps Chute #2 but is unable to locate the injured or reporting party. You are dispatched to check adjacent chutes and, shortly thereafter, receive word that a second person on

ANDY PETERSON

a cell phone has called to report he is on scene with the injured person, about two-thirds of the way down Chute #3. The caller has confirmed a right shoulder injury but said he

was unable to get additional information from the patient, whom he described as being "in a daze."

When you arrive on scene at 10:40, you find that the patient apparently fell and jabbed his poles into the snow to keep from sliding and is wedged in the middle of the narrowest part of the chute, between two rocky spines. Access is very difficult. Assessment reveals a markedly deformed right shoulder with pain and tenderness. The right forearm is slightly abducted and externally rotated at the shoulder, and the patient is unwilling to move his upper arm (locked shoulder), or bring his forearm toward his chest.

The patient—who tells you he's 17—is oriented to person, place, and date, but he seems slow to respond to your questions. You do learn, however, that he fell forward on an outstretched arm at the top of the chute during his first run of the day, thinks he has been down for more than an hour, and is unable to get himself down the rest of the chute. Checking his right radial pulse, you find it is 54 beats per minute. Respirations are shallow at 12 breaths per minute. The capillary refill is delayed to three seconds in both hands. A subsequent check of his vital signs at 10:50 reveals the pulse is 58 and respirations remain shallow at 12.

QUESTIONS

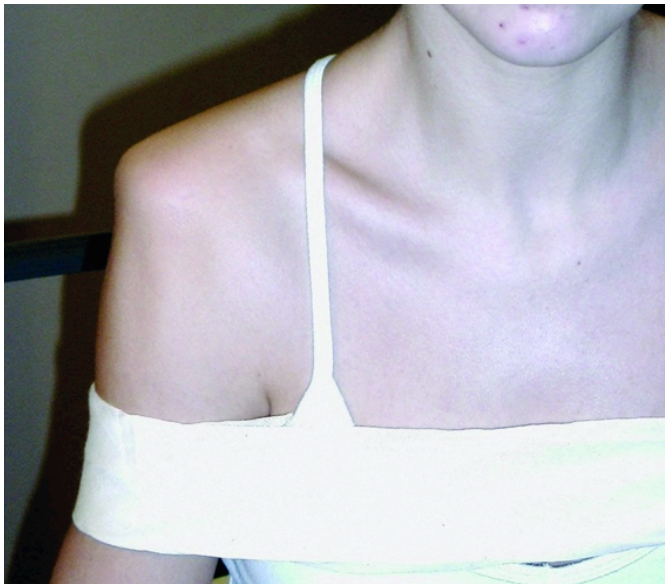
1. What injuries/illnesses do you suspect in this scenario? Why? List four additional signs or symptoms also associated with each of the injuries/illnesses.

2. Describe, in the order of priority, the emergency care you would provide for this patient.

3. What special considerations are warranted to successfully manage this patient's care and rescue?

4. Does your resort or area of responsibility have a protocol for initiating an out-of-area rescue (involving, for instance, a skier or snowboarder, snowmobiler, hiker, or victim[s] of a plane crash)? If so, review that protocol and discuss what other resources might be tapped to

assist in such a rescue. How would members of your rescue group be involved, if at all?



NICI SINGLETARY

Anterior dislocation of the shoulder

POINTS TO PONDER

Without the aid of diagnostic equipment, the extent of bone and joint injury is often difficult to determine—but there's still much an emergency care provider can do to help the patient. The principles of care require that the rescuer always consider the mechanism of injury, assess signs and symptoms, stabilize the ABCs, prevent further injury, and transport the patient to subsequent care.

Injury associated with a complex joint, such as the shoulder, may be particularly painful and present great danger to the distal circulation and innervation of the adjacent limb due to the variety of anatomical structures in and around the joint, e.g., tendons, skeletal muscle, ligaments, articular cartilage, nerves, blood vessels, and bone. With an anterior dislocation of the shoulder, because the humeral head sits anterior and inferior to the glenoid of the shoulder, it is *anatomically impossible* for the forearm to be brought across the chest until the dislocation is reduced. The rescuer must employ ingenuity in packaging the joint to provide adequate stability for transport over irregular terrain (*OEC* fourth edition, pages 576-595; 616-617).

The cold environment always poses a threat to human physiology, which functions best when the body's core temperature is 98.6° F (37° C). Protective structures, such as the skin and fatty tissue; and compensatory mechanisms, such as vasoconstriction, increased metabolism, and shivering, have limited ability to stabilize the core temperature in the narrow range of optimal function. Additional external factors, such as inadequate clothing, moisture, wind, low temperature, cloud cover, and contact with snow, significantly speed heat loss and can overwhelm the body's ability to maintain optimal temperature. Injured, ill, or inactive patients are particularly susceptible to cold injury, with death occurring in more than 50 percent of patients with severe hypothermia. Preventing further heat loss must always be high on the list of winter emergency care priorities, with rewarming of the body core initiated as soon as is safe, practical, and necessary. Remote locations pose particular challenges that must be addressed when planning any given rescue response (*OEC* fourth edition, pages 28-37; 414-422).

Whether in a vast mountain setting or a modest urban resort, frequently the ski patrol is called upon to come to the rescue of injured or ill persons who fall outside the normal purview of patrol activity. The focus of the Scenario III discussion will be on reviewing details of your area's protocol for initiating out-of-area rescue or off-resort response. Where does the responsibility lie for covering such a rescue or response? Is the patrol responsibility limited to maintaining resort coverage? If response is appropriate, who makes the decision for the resort patrol to respond? What safety concerns must be addressed before crossing the area boundary? What specialized equipment is available, e.g., high-angle rescue gear, snowshoes, backcountry litter, snowmobile, etc.? Who is equipped and able to travel outside the area boundary? Which agencies must be notified in the case of initiating an out-of-area rescue? What local resources may be tapped for personnel and/or equipment and how does your patrol contact and mobilize those resources? (*OEC* fourth edition, pages 24-25; 42-43, 50-53).

VITAL VOCABULARY

abduction Motion of a limb away from the midline.

adduction Motion of a limb toward the midline.

core temperature The temperature of the central part of the body (i.e., the heart, lungs, and vital organs).

dislocation Disruption of a joint, in which ligaments are damaged and the bone ends are no longer in normal contact.

hypothermia A fall in body temperature to below 95°F (35°C).

point tenderness Tenderness that is sharply localized at the site of the injury, found by gently palpating along the bone with the tip of one finger.

CHECK IT OUT

Review Skill Drills 24-1, 24-2, 24-4, and 24-5 in *OEC* fourth edition.

ONLINE OUTLOOK

Test your knowledge of the assessment and care of bone and joint injuries by completing the Online Chapter Pretest for Chapter 25 at www.OECzone.com.

Want to know more about hypothermia? Go to www.OECzone.com, then click on the link to Chapter 15 in the Online Outlook section. Also see "Stay Out of the Cold with Facts about Hypothermia" on page 28 of *On Scene.*

Documentation Tips

Straightening or splinting an injured limb can compromise distal functions, just as the initial injury can. Record the status of distal circulation, motor, and nervous function (neurovascular status) both before *and* after splinting. At a minimum, your written record should describe these functions before splinting, and confirm that they were the same immediately after splinting and upon rescue squad transfer. For any but the shortest on-the-hill transports, also indicate the results of reassessments as part of your ongoing assessment. ***–OEC* fourth edition, page 590**

Other Important Cycle A Topics

The following are additional study pages offered as food for thought. Although you're not required to write down the emergency action you'd take (as you are for the "You Are the Rescuer" scenarios), this material is included to refresh your memory and stimulate your interest in other Cycle A subjects.

Adaptive Skiers

You and your patrol partner come across an adaptive skier who has collided with a tree. The patient is still strapped into his sit-ski and you find that he is alert, oriented, and not complaining about pain—although he tells you he heard a sickening "crunch" when he hit the tree. Your assessment reveals that the sit-skier has suffered an obvious, open tib/fib fracture. However, he cannot feel this injury due to his paraplegia.

You complete your exam, including a rapid body survey that rules out a head or cervical spine injury. You then call for assistance, bandage and splint the injured limb, and transport the patient to your aid room to await ambulance transport to the hospital.

In the aid room your patient begins to exhibit some puzzling signs and symptoms. These include profuse sweating, flushed skin, goose bumps, headache, blurred vision, and an erection. Moreover, he begins to feel very anxious. You take the man's vital signs and discover that his blood pressure is dangerously high. He tells you that usually it is well within normal limits. What is going on?

Your patient may be suffering from a condition known as autonomic dysreflexia, or A.D., a syndrome characterized by massive and imbalanced physiological responses to painful stim-

LONDON SCHERTZER

Adaptive skier in a bi-ski

uli among people with spinal cord injury. In essence, nerve damage that accompanies the paraplegia prevents the patient from feeling anything below the spine injury level. Therefore, pain from a new injury or discomfort from other circumstances—such as a full catheter bag or restrictive clothing that is cutting off circulation—goes unnoticed. Nevertheless, neurotransmitters such as norepinephrine and dopamine dump into the person's system. Since the "telephone lines" that transmit information are damaged, the back-up of information can cause piloerection, skin pallor, severe vasoconstriction, and elevation of blood pressure. Autonomic dysreflexia can be very serious and should be considered a medical emergency, so early recognition and treatment is a must (*OEC* fourth edition, page 780).

WHAT CAUSES AUTONOMIC DYSREFLEXIA?

Any number of circumstances can trigger A.D. These include lower extremity constriction (including scrotal compression) caused by bunched up clothing, quick splints, or tight backboard or toboggan straps; contact with sharp objects; fractures and other injuries; or something as simple as a full bladder, blisters, or sunburn. And remember, injuries not felt by the paraplegic patient can also cause A.D.

WHAT CAN YOU AS AN OEC PROVIDER DO?

Prevention is the key. When dealing with a paraplegic patient, it is critical that rescuers check straps and clothing *frequently*. Swelling can cause straps that initially fit correctly to become constrictive. Run your hands behind the patient's hips, buttocks, and lower legs to check for bunched up or twisted clothing. Also check for wet socks. Ask the patient if he or she needs to urinate or if he or she has a catheter bag that needs to be emptied.

If transport delays are encountered, remove the patient's clothing (taking care to respect privacy as much as possible), gently towel off him or her, and replace wet clothing with dry clothes or blankets. Monitor the vital signs (especially blood pressure) and notify incoming aid units of the potential for A.D., especially if the patient develops signs of the condition. Above all, transport the patient rapidly to a medical facility.

Hypothermia is especially a concern in an injured paraplegic with a long toboggan transport time. –*OEC* fourth edition, page 780

ASK YOURSELF

1. What is autonomic dysreflexia, and why is it important for OEC providers to know about it?
2. What are some of the signs/symptoms of A.D?
3. What can you do to help minimize the occurrence of A.D. in a patient with a preexisting spinal cord injury?

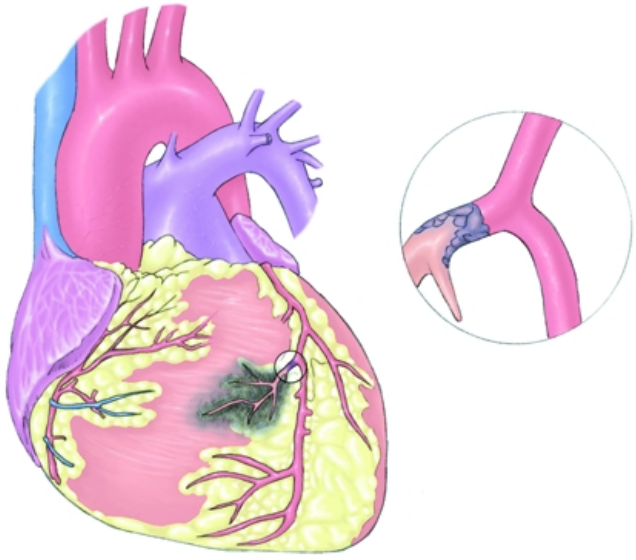
FOR MORE INFORMATION

To review your knowledge of autonomic dysreflexia, read chapter 31 of *OEC* fourth edition and "Adaptive Awareness 101: Meeting the Needs of All Guests" in the winter 2003 issue of *Ski Patrol Magazine.*

Cardiovascular Emergencies

Suppose that you are working in your patrol's aid room and the following two patients walk in. Patient #1 is a 54-year-old male who is complaining of substernal chest pain, radiating into his jaw and left arm. He is nauseated, diaphoretic, and feeling anxious. Patient #2 is a 58-year-old female who is "just feeling pooped." She feels she has suddenly run completely out of energy, and just wants to lie down in your aid room for a few minutes. She denies any significant medical history.

What could these two patients have in common? If you answered, "a heart attack," you might be right.



COURTESY OF THE AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

Acute myocardial infarction (heart attack)

FACTS

- According to the Centers for Disease Control, heart disease is still the number one killer of adults in the United States—claiming more lives each year than cancer and accidents combined.
- Once thought to be the bane of middle-aged males, heart attacks (acute myocardial infarction, or AMI) and heart disease now kill as many women as men.
- Heart attacks in women often go undiagnosed because the signs and symptoms may be very subtle.

WHAT CAN YOU AS AN OEC PROVIDER DO?

1. Recognize the possibility that heart attack or heart disease can exist even in young people and women. Don't suffer from "middle-aged, obese, type-A male" tunnel-vision.

2. Be prepared by having an automated electronic defibrillator (AED) close by—but out of sight of the patient.
3. Activate EMS quickly.
4. Remain absolutely calm, and don't allow your patient to become upset. Don't say to your patient, "Well, you might be having a heart attack." Suggest instead that there could be lots of things going on and that you want to get him or her to the hospital so doctors can conduct appropriate tests. Remember, it's not your place to make a definitive diagnosis.
5. Arrange for transport to a hospital. It's better to send a patient with a possible cardiac emergency to the hospital only to have it turn out to be indigestion, than to fail to mobilize the EMS system and have the person die from a major AMI.
6. Monitor vital signs every 5 minutes while waiting for advanced life support personnel to arrive.
7. Administer oxygen.
8. Keep the patient quiet and in a position of comfort (which may be sitting up). Don't let him or her walk around!

ASK YOURSELF

1. What are the signs and symptoms of cardiac emergencies?
2. What parts of the SAMPLE survey are most important to your assessment of a patient with cardiac symptoms?
3. What are the indicators for the application of an AED?

FOR MORE INFORMATION

To review your knowledge of cardiovascular emergencies, read chapter 11 of *OEC* fourth edition and check out the skill guides in Appendix B for Patient Assessment—Responsive Medical Patient and Vital Signs Determination. Also go to www.OECzone.com, then click on the link to chapter 11 in the Online Outlook section.

Burns

Burns—which can be caused by heat, toxic chemicals, electricity, and ultraviolet radiation from the sun—are among the most serious and painful of injuries. It goes without saying that proper emergency care of a burn may increase a patient's chances of survival and decrease the risk or duration of a long-term disability. Although a burn may be the patient's most obvious injury, you should always perform a complete assessment to determine whether there are other serious injuries.

NICI SINGLETARY

First-degree burn (yellow arrow); second-degree burn (red arrow)

NICI SINGLETARY

Second-degree burn, scald

DEPTH OF BURNS

Superficial burns (first degree): This type of burn involves only the top layer of skin, the epidermis. The skin turns red, but does not blister or actually burn through. The burn site is painful. Sunburn is a good example of a superficial burn.

Partial-thickness burns (second degree): These burns involve the epidermis and some portion of the dermis. These burns do not destroy the entire thickness of the skin, nor is the subcutaneous tissue injured. Typically, the skin is moist, mottled, and white to red in color. Blisters are common. Partial-thickness burns cause intense pain.

Full-thickness burns (third degree): These burns extend through all skin layers and may involve subcutaneous layers,

NICI SINGLETARY

Mixed second- and third-degree burns (third-degree at tip of arrow)

muscle, bone, or internal organs. The burned area is dry and leathery and may appear white, dark brown, or even charred. Some full-thickness burns feel hard to the touch. Clotted blood vessels or subcutaneous tissue may be visible under the burned skin. If the nerve endings have been destroyed, a severely burned area may have no feeling. However, the surrounding and less severely burned areas may be extremely painful. Severe burns are typically a combination of superficial, partial-, and full-thickness burns.

EXTENT OF BURNS

One way to estimate the surface area that has been burned is to use the "Rule of Nines." This formula divides the body into sections, each of which is approximately 9 percent of the total surface area. The diagrams on page 16 depict separate Rule of Nines for adults and children, since the head of an infant or child is relatively larger than the head of an adult and the legs are relatively smaller.

EMERGENCY CARE OF THERMAL BURNS

1. Follow BSI precautions (see page 17).
2. Move the patient away from the burning area.
3. Immerse the area of injury in cool, sterile water or saline solution, or cover with a clean, wet, cool dressing if the skin or clothing is hot.
4. Administer oxygen if the patient has a critical burn. Also, realize that a patient who has burns about the face has likely inhaled smoke or fumes and may suddenly develop respiratory distress.
5. Rapidly estimate the burn's severity. Next, cover the burn area with a dry, sterile dressing.
6. Check for traumatic injuries or other medical conditions.
7. Treat the patient for shock and prepare to transport.
8. Cover the patient, since an extensive burn can make the person susceptible to hypothermia.
9. Provide prompt transport to a higher level of care.

CHEMICAL BURNS

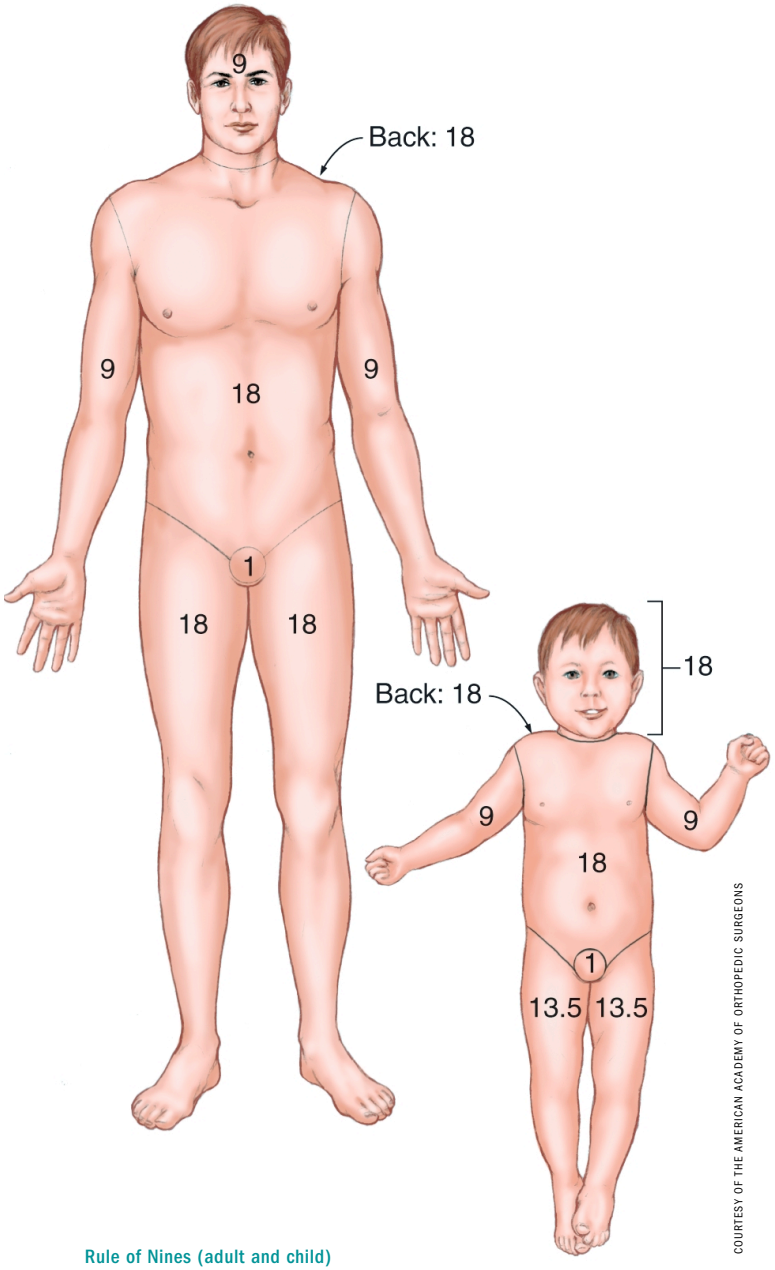
Most chemical burns are caused by strong acids or strong alkalis. Rescuers need to wear appropriate protective gear. In cases of severe chemical burns or exposure, consider mobilizing a hazardous materials team. Emergency care for chemical burns is much the same as that for thermal burns. Additional consideration should be given, however, to removing the chemical from the patient and removing contaminated clothing. Because some dry chemicals can interact with water, first brush the chemical off the patient's skin. Then, treat the situation as you would contamination by a wet chemical—by flushing the area with cool, sterile water or saline solution for 15 to 20 minutes.

ELECTRICAL BURNS

Electrical burns can result from contact with high- or low-voltage electricity. For electricity to flow, there must be a complete circuit between the electrical source and the ground. Since the human body is mainly made up of water it makes an excellent conductor for electricity. Thus, an electrical burn occurs when the body, or part of it, completes a circuit.

Those providing emergency care must be keenly aware of their surroundings, since rescuers can be seriously injured or killed if they try to assist a patient who is still in contact with a live electrical source. Always assume a downed power line is live.

Once the scene is secured and safe, you'll want to examine the patient for an entrance and exit wound. While the entrance wound may be small, the exit wound will probably be extensive and deep. There are two specific things to be aware of: 1) the internal damage is always more severe than the external signs, with massive damage occurring to deep tissues, and 2) the patient may go into cardiac arrest. If indicated, start CPR and apply an automated external defibrillator. If CPR is not indicated, administer oxygen and monitor closely for respiratory and cardiac arrest. Treat soft-tissue injuries, splint fractures, and transport promptly.



COURTESY OF THE AMERICAN ACADEMY OF ORTHOPEDIC SURGEONS

Rule of Nines (adult and child)

ASK YOURSELF

1. What is the Rule of Nines as it pertains to the human body?
2. What can I do as a rescuer to assure my well-being in the instance of a chemical burn? Of an electrical burn?
3. In a chemical burn situation, why would you want to brush off any residue powder from the body before flushing a contaminated area?

FOR MORE INFORMATION

For a complete review of burns, please refer to Chapter 19 in *OEC* fourth edition. Also go to www.OECzone.com, then click on the link to Chapter 19 in the Online Outlook section.

Dressings and Bandages

All wounds require dressings and bandages, and as you might expect there are many different types of both. Emergency care providers should be familiar with the function and application of each dressing and bandage available to them. They must also be familiar with various kinds of splints, which not only provide firm support but can also help control bleeding.

In general, dressings and bandages have three primary functions: control bleeding, protect the wound, and prevent further contamination and infection.

STERILE DRESSINGS

Many dressings are available in compact, commercially sterilized packages. Gauze pads are appropriate for smaller wounds, and adhesive-type dressings are useful for minor wounds. Occlusive dressings, made of Vaseline® gauze, aluminum foil, or plastic, prevent air and liquids from entering (or exiting) the wound. Occlusive dressings would be used to cover sucking chest wounds, abdominal eviscerations, and neck injuries.

BANDAGES

Bandages are used to keep dressings in place. You can use soft roller bandages, rolls of gauze, triangular bandages, or adhesive tape. (You can also fashion bandages out of clothing or other pieces of material, such as bandanas.) Roller bandages are often the easiest to use, but tape is sometimes a better choice for holding large or small dressings in place. (Wet environments can make tape less adhesive, so you may need to improvise with a combination of roller bandages and tape.) Be aware, however, that some patients may be allergic to adhesives.

Never use elastic bandages, because the swelling that often accompanies injuries can make compressive bandages more tight, thus impairing circulation and causing harm. No matter what bandage you use, always check the patient's distal pulse after application.

ASK YOURSELF

1. What bandages do I carry in my pack?
2. What sizes of dressings do I carry?
3. Do I have enough thick, non-sterile dressings to quickly cover a major wound?
4. Am I carrying an occlusive dressing?

FOR MORE INFORMATION

For a complete review of dressings and bandages, please refer to chapter 19 in *OEC* fourth edition. Also go to www.OECzone.com, then click on the link to Chapter 19 in the Online Outlook section.

BRIAN W. ROBB

Compression dressing and roller bandage

J. SELKOWITZ/SELKOPHOTO

Removing bloody snow from the slope

Body Substance Isolation

The danger of exposure to infection by viruses and other communicable diseases carried by blood and other body substances is a concern for emergency care providers, but the risk can be reduced by following simple, common-sense measures. Always follow body substance isolation (BSI) precautions to protect yourself and your patient. Rescuers should regard all body substances as potentially infectious.

RESCUER SAFETY

Remember the following elements of BSI:

- Hand washing
- Gloves
- Eye protection
- Masks and gowns
- Patient care equipment
- Stretcher, blankets, bed linens, and non-disposable clothing
- Resuscitation devices
- Disposal and clean-up

HAND WASHING

While all aspects of BSI are important, this discussion centers on that first one. Hand washing is perhaps the easiest yet most effective way to control disease transmission. The longer that pathogens stay with you, the greater their chance of getting through the body's natural barriers (i.e., skin and mucous membranes in the eyes, nose, and mouth). Wash your hands before performing a procedure, after glove removal, and between patients. If your eyes, nose, and/or mouth get splashed by a body fluid, immediately flush the area with clean water and follow local exposure control policies. Do you know what they are at your area?

ASK YOURSELF

1. How many pairs of exam gloves do I carry in my pack?
2. Do I carry hypo-allergenic gloves, since latex gloves are made from a substance that may cause anaphylactic shock in some individuals?
3. What else do I carry in my pack that I could use for protection and body substance isolation?
4. If I have to clean body fluid off a chair in the aid room, what solution would I mix for appropriate clean-up? What are the recommended ratios?

FOR MORE INFORMATION

For a complete review of BSI, please refer to chapter 2 of *OEC* fourth edition.

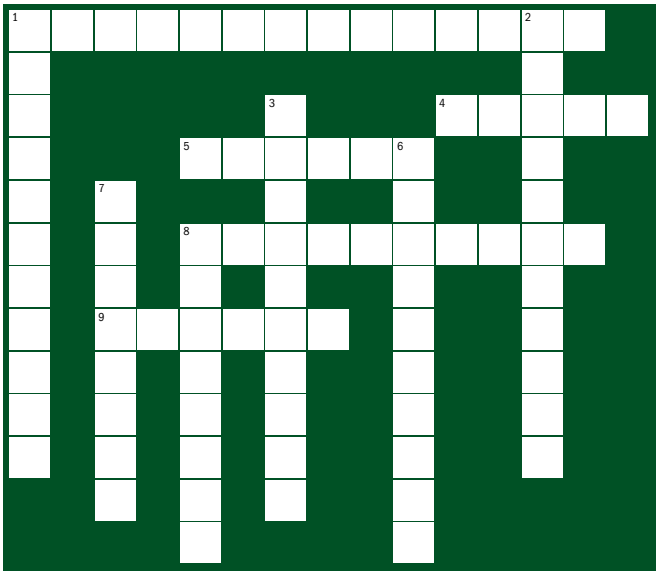
Neurological Injury

What better way to tap into your neurological acumen than by working on a few puzzles? The following exercises provide a fun way to test your knowledge about head and spinal injuries and the considerations for managing them in an emergency setting.

NEUROLOGICAL MATCH

Match these terms to their definitions.

___ sensory nerves	A Regulates voluntary activities
___ meninges	B Temporary loss of brain function
___ brain stem	C Transmit touch, taste, and pain
___ somatic nervous system	D Pairs of spinal and cranial nerves
	E Long process of a neuron
___ concussion	F Memory loss of pre-injury events
___ cerebral edema	G Gray matter
___ axon	H Tissue around brain and spinal cord
___ retrograde amnesia	
___ cerebrum	I Swelling of the brain
___ peripheral nervous system	J Controls life functions



NEUROLOGICAL CROSSWORD PUZZLE

Across

1. Vertebrae are separated and cushioned by an _____ disk.
4. _____ nerves send information from the central nervous system to muscles.
5. An injury in which the brain has been injured but the skin has not been broken is a _____ head injury.
8. A temporary loss of brain function without actual physical damage is known as a _____.
9. Bleeding from a scalp wound is best controlled with _____ pressure.

Down

1. The actions that we do not consciously control are _____ activities.
2. Inability to remember events after an injury is called _____ amnesia.
3. _____ nerves are found only in the brain and spinal cord.
6. To pull apart the spine along its length is known as _____.
7. Bleeding outside the dura and under the skull is called an _____ hematoma.
8. _____ is the largest part of the three subdivisions of the brain, sometimes called the "gray matter."

BRIAN W. ROBB

Immobilization of cervical spine and head

BACKBOARD AND CERVICAL COLLAR EXERCISE

Number the following actions to reflect the proper sequence of care.

Backboard

___ Secure the legs and feet.
___ Use padding as needed.
___ Maintain in-line stabilization.
___ Perform a four-person log roll on command.
___ Maintain access to the airway.
___ Assess CMS in each extremity.
___ Check and adjust straps.
___ Secure the upper torso.
___ Secure the head.
___ Perform a long-axis drag to center patient on the board.
___ Examine the patient's back.
___ Secure the pelvis.
___ Position the backboard and hands.
___ Secure the shoulder girdle.
___ Reassess CMS in each extremity.

Cervical Collar

___ Ensure the collar fits properly.
___ Measure for proper collar size.
___ Wrap the collar around the patient's neck.
___ Place chin support snugly.

What's Your Learning Style?

OEC providers clearly have an interest in medical issues, so you probably know your blood pressure and cholesterol level. But when it comes to boosting your OEC knowledge, do you know what your learning style is?

As adults, we're typically quite a few years removed from our formative educational years, and when we study new materials or learn new techniques we find ourselves in discovery mode—learning what works for us and, more often, what doesn't. And it's not just new techniques; think about annual refreshers, too. How many times have you been at a refresher when, all of a sudden, a skill you've had questions about becomes crystal clear after a colleague says or does something that makes it click in your brain? Wouldn't it be nice if somewhere along the line another individual had taken the time to show you how to find your learning style, so you wouldn't have to go through the trial-and-error technique?

If you know your style, you can employ a few simple techniques to "learn deeper" while reading or viewing information. To learn deeper means to embed the material, understand it fully, and increase your recall. So give some thought to how you learn. For example, do you absorb more information listening to a lecture, watching a video presentation, reading about a topic, or by actually doing the task? The key is to know how much of what type(s) of input is best for you personally.

Did you know that successful learning typically occurs through a combination of input? Education theory suggests that in a 24-hour period most learners remember 10 percent of what they read, 26 percent of what they hear, and 30 percent of what they see. However, that retention rate increases to 50 percent if the input is something they both see *and* hear, 70 percent if they repeat the input verbally, and 90 percent if they describe (i.e., verbalize) and demonstrate an understanding of the information at the same time. So, most of us learn OEC skills best when seeking input from several sources.

Many educators characterize learning styles based on whether a person is primarily a visual, auditory, or kinesthetic learner. For instance, when learning a given skill, one person may gain better understanding by reading about the skill or seeing a demonstration; another might prefer to hear how the skill is performed; and a third might learn best by actually doing the skill. (And, as mentioned, most people rely on a combination of learning styles to process information.)

Below is a mini "Learning Styles Inventory." Answer the questions, score yourself, and then read over the suggested list of things that can help you be a better learner. If you'd like to know more about learning styles, consult your local college or university's library or the Internet. Three sites geared toward adult learners are: www.metamath.com/lsweb/dvclearn.htm; www.berghuis.co.nz/abiator/lsi/lsiframe.html; and www.engr.ncsu.edu/learningstyles/ilsweb.html.

LEARNING STYLES INVENTORY

Rate yourself on the following scale:
1 = Never applies to me;
2 = Sometimes applies to me;
3 = Often applies to me.

Section I

1. _____ I remember information better when I write things down or get a picture of it in my head.
2. _____ When trying to remember someone's name, it helps me to write it down.
3. _____ It's hard for me to focus when music is playing or people are talking.
4. _____ I prefer to work in a quiet area with no distractions.

Total for Section I = _____

Section II

1. _____ When learning how to do something, it's better if I'm shown or told, versus having to read about it.
2. _____ My writing doesn't look neat to me, and I even have a hard time reading other people's handwriting.
3. _____ I remember things that I hear better than things that I read or see.
4. _____ My eyes tire fast if I'm reading, and it helps if I use a card or finger to keep my place while reading.

Total for Section II = _____

Section III

1. _____ I learn best when someone just shows me how to do it and then I practice.
2. _____ I'm not very good at giving verbal directions to others.
3. _____ I don't like studying at a desk; I do better when I can freely move around.
4. _____ I can become oriented to a new place very easily; I don't get lost in strange places.

Total for Section III = _____

How did you score? Did you accumulate more points in one section than another, or did you have generally equal point tallies in all three categories? Scoring 9 to 12 points in any one section indicates you are a strong learner in that focus area. However, don't be surprised if you have a combination score

indicating you learn better when styles are combined. Review the list below for some tips that can make learning easier for you.

Section I: Visual Learners (9–12 points)

1. Write things down! Draw pictures, use graphs, and highlight things.
2. When learning something new, get a picture of it. Take the time to write a summary of what you just read or heard.
3. Watch films, presentations, and demonstrations or view pictures that can enhance the material.

Section II: Auditory Learners (9–12 points)

1. Record lectures, then listen to them again. Record your own summary or notes and listen to them.
2. Talk to yourself when learning or reviewing material. Say aloud new words or phrases, pay attention to how they sound, and listen to yourself.
3. Read aloud what you have written and make sure it has the right details.
4. Make an effort to discuss the material with others. Quiz each other verbally.

Section III: Kinesthetic Learners (9–12 points)

1. Demonstrate or role-model the task, even if it's just for you.
2. Build your own model; re-write the material on your computer to increase your "touch" on the material.
3. Memorize material by repeating it during exercise or another physical activity.

Remediation Is a Bad Word! Or Is It?

The dictionary defines **remediation** as "the act of correcting a deficiency, or the process of overcoming learning problems." With regard to material covered at the refresher, the assumption is that you've learned the OEC skills and simply need to "brush off the rust" following a period of disuse. Skill remediation is only necessary if you require additional assistance in understanding a concept, in other words, if you need help *scraping* off the rust.

So why does the possible need for remediation create fear in our hearts? Most of us think of it as the dreaded refresher station that we must attend if we are unable to perform a required skill. Others question the need for it. They argue that we have all been through an OEC course, and we have some level of field experience. The refresher should easily shake out the cobwebs and prepare us for another season.

Yeah, right! The truth is, a small number of refresher attendees show up unprepared and then expect the instructors to miraculously "refresh" their knowledge and skills for them. Some OEC providers have been required to re-do skills, visit a remediation station, or receive an mark of "incomplete" at their refresher. This can cause embarrassment and may seem to be the epitome of a bad day during an otherwise fun social occasion at the start of the season. But it really should be viewed as an opportunity to sharpen skills that otherwise might become a huge liability later in the field.

Keep in mind that the goal of the refresher is to present an effective annual review of OEC content and skills to ensure that we provide competent emergency care to the public we serve. So, if you haven't spent time prior to the refresher reviewing the information in the fourth edition of *Outdoor Emergency Care* and practicing the skills required for the current cycle, expect to be in need of remediation. Even if you do spend time reviewing and studying the material in advance, you may find yourself out of practice and in need of extra assistance. Be grateful the opportunity for extra help exists—no doubt, your patients are.

CYCLE a 2005

OEC REFRESHER

Completion Acknowledgment

(Designed for use by visiting OEC technicians)

Have this form signed by the instructor of record at the refresher and return it to your NSP patrol representative, patrol director, or group leader to verify that you have attended and successfully completed all requirements for the 2005 refresher. *Please print.*

OEC Technician Name

NSP or OEC ID #

Patrol/Affiliate Group Registered With

Refresher Location Date

Name of OEC Instructor of Record

Signature of OEC Instructor of Record

CYCLE a 2005

OEC REFRESHER

Supplemental Roster Information

(Designed for use by visiting OEC technicians)

After completing the refresher, fill out this form and submit it to the instructor of record. This will help the instructor document your completion of this year's OEC refresher requirements for the national office. *Please print.*

OEC Technician Name

NSP or OEC ID #

Address

City State Zip

E-mail Address

Patrol/Affiliate Group Registered With

Refresher Location and Date

OEC Instructor of Record

CYCLE a 2005

OEC Refresher Committee Mission Statement

The mission of the OEC Refresher Committee is to provide assistance to all members and affiliate organizations, so that they may effectively review Outdoor Emergency Care content and skills each year and render competent emergency care to the public they serve. Take a moment and let us know how we can make your refresher better!

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CYCLE a 2005

OEC REFRESHER

Feedback Form

Please fill out and return this form to the instructor of record before you leave this refresher. *Please print.*

Name (optional): Your Patrol/Affiliate Group:

Division: # of years patrolling: EMT or Paramedic? Nurse or M.D.?

	YES, WHY?	NO, WHY?
Refresher Overall Do you feel your skills have been refreshed adequately to prepare you for the upcoming season?		
Stations and Presentations Were the stations realistic, challenging, and informative?		
Station Equipment Was the equipment adequate and available?		
Refresher Study Guide Did the *Refresher Study Guide* help you prepare for the refresher?		

1. Which station helped you the most, and why?

2. Which station helped you the least, and why?

3. Are there any skills that you need to practice more? Which ones?

Additional Comments

For more information about the topics covered in the Cycle A 2005 *Refresher Study Guide*, visit

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