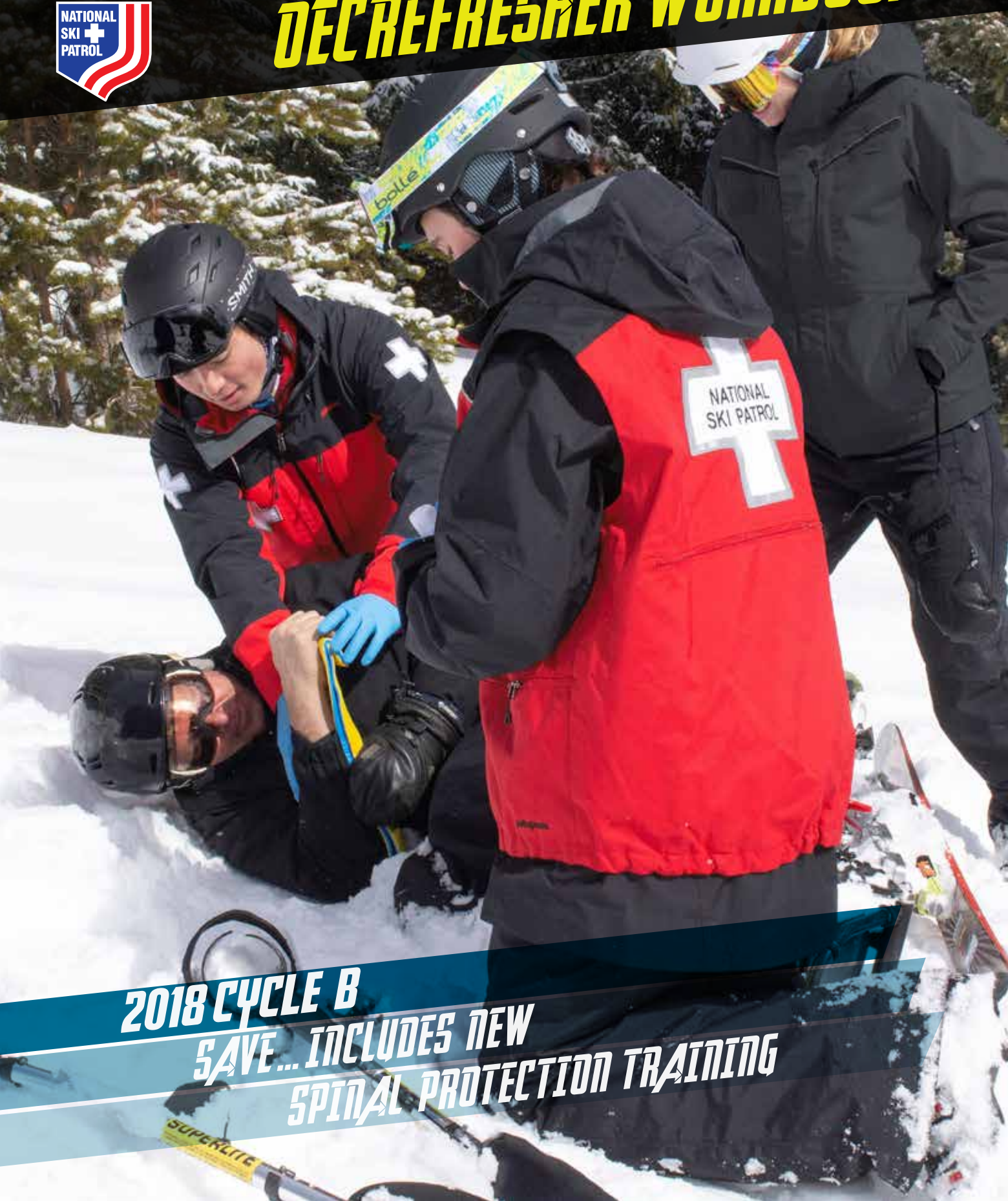


NAME: _____



DECREFRESHER WORKBOOK



2018 CYCLE B

SAVE... INCLUDES NEW

SPINAL PROTECTION TRAINING

2018 OUTDOOR EMERGENCY CARE (OEC) CYCLE B REFRESHER PROGRAM

STOP, THINK, AND UNDERSTAND THE CHANGES

This year, the *OEC Refresher Workbook* follows the same format as the 2017 workbook, focusing more on SKILLS than KNOWLEDGE-based objectives.

HOWEVER, there are some major changes. The first affects every technician and is an update to the *Outdoor Emergency Care Fifth Edition*. This update was directed by the National Medical Committee, supported by the National OEC Committee, and approved by the NSP board of directors.

A significant change to the *Outdoor Emergency Care Fifth Edition* concerns backboarding. A new term, **SPINAL PROTECTION**, has been introduced, since medical evidence shows that spinal immobilization through the use of long spine boards (backboards) is difficult to achieve. OEC technicians will be focusing on performing a superior patient assessment when a spinal injury is suspected and how to treat those individuals.

Pay special attention to the skills involving spinal protection, which is the first module in this workbook. In the assessment section of the refresher, we are asking the OEC technician to focus on injuries that directly involve the spine. The skill sheets printed in the workbook have been changed to focus on *spinal protection*.

The reason for this change is that recent medical-based evidence — which was not available when the *Outdoor Emergency Care Fifth Edition* was written — has revealed the need for spinal protection to only be implemented in specific cases. Spinal protection includes the use of long spine boards and other devices that protect the spine.

For those of you that attend a hybrid refresher, there will be some overlap with the online portion and the workbook pertaining to the new information regarding spinal protection. Traditional refresher attendees will have some further explanation of the new spinal protection information as well.

In addition, there are changes to the administrative portions of the workbook. You will notice the forms that were previously used by the instructor of record (IOR) and visiting patrollers have been removed. That information is now in the *Instructors Guide*, and will be the responsibility of every IOR to print copies and make available for any visiting OEC technician at their refresher.

Lastly, we are requiring that the *OEC Refresher Workbook 2018 Cycle B* not be kept by the IOR or the patrols. Due to the vital information in this workbook, we want all OEC technicians to be able to keep it as reference material. In order to ensure that the workbook is completed, we have added a signature requirement on the evaluation page. Every OEC technician should sign this form and leave it with the IOR.

FOR INSTRUCTORS, INSTRUCTOR of RECORD (IOR), and INSTRUCTOR TRAINERS (IT)

This year, the requirement for instructors will be to download and review the entire *Outdoor Emergency Care 2018 Cycle B Instructors Guide*. Using the *OEC 2018 Cycle B Instructors Guide* ensures that the information being provided to all OEC technicians is correct and accurate. Local protocol as it relates to spinal immobilization and spinal protection is not to be used in place of what is required as part of the OEC refresher. Local protocols can be reviewed after the refresher is completed.

The evaluation form completed at the end of the refresher workbook should be reviewed with the IOR, instructors, and IT to improve the local refresher.

WHAT TO DO TO PREPARE FOR, AND COMPLETE, THIS YEAR'S REFRESHER

1. Enroll online. Your IOR will provide the course number and instructions on how to complete your enrollment. The enrollment process is the same for all refreshers, regardless of format.
2. Review/complete the material.
 - a. *Outdoor Emergency Care Refresher Workbook 2018 OEC Cycle B* – must be completed.
 - b. *Outdoor Emergency Care Fifth Edition*.

3. Update your NSP record.
 - a. Check your personal profile in the “Member Resources“ section of www.nsp.org to ensure that your information is correct, or call the national office at 303-988-1111.
4. Complete the online refresher course (if using the hybrid format).
 - a. Access the online course by checking with the patrol where you are attending the refresher.
 - b. Follow the directions carefully and completely, and have your *Outdoor Emergency Care Fifth Edition* ready.
 - c. Print your certificate and take it with you to the refresher event. If your IOR will accept an electronic version, you may save your certificate as a PDF and email it to your IOR. If you do not have a certificate, you may not be allowed into the refresher.
5. Gather materials for the refresher event.
 - a. This completed *Outdoor Emergency Care Refresher Workbook 2018 OEC Cycle B*, AND the printed certificate (unless electronically sent to IOR) from the online portion (hybrid only).
 - b. Your current OEC, CPR, and NSP member cards. Your OEC card should have a blank space in the Cycle B section.
 - c. A fully stocked aid belt, vest, or pack, and any additional items required at the refresher you will attend.
 - d. Weather-appropriate clothing for both indoor and outdoor refresher activities.
6. Practice the skills that are identified in the *Outdoor Emergency Care Refresher Workbook 2018 OEC Cycle B*.
 - a. Review the skills checklist on page 30 for the skills you will be reviewing during your refresher.
 - b. Practice your *Outdoor Emergency Care Fifth Edition* skills so that you can feel more comfortable at your refresher event.
7. Attend your skills refresher event.
 - a. Check with your local patrol to ensure that you are completing the appropriate refresher format requirements (traditional vs. hybrid).
 - b. If you complete a refresher with another patrol, contact their IOR before you attend to ensure that you are preparing for the appropriate refresher format (traditional vs. hybrid). Be sure that you complete, and the host IOR signs, the **Visitors’ Completion Form** available in the *OEC 2018 Cycle B Instructors Guide* on the NSP website. The IOR where you are attending your refresher should provide a copy for you.

WHAT TO KNOW IN ORDER TO COMPLETE THIS YEAR’S REFRESHER

PROGRAM CONTENT: OBJECTIVES OVERVIEW (MAJOR TOPIC GROUPINGS) CYCLE B

Each module lists chapter and objective number. Keyword search for e-readers is in ***bold italics***.

- » *Rescue Basics (Chapter 3)*
- » *Moving, Lifting, and Transporting Patients (Chapter 5)*
- » *Anatomy & Physiology (Musculoskeletal, Gastrointestinal, and Genitourinary) (Chapter 6, pages 187-191 and 195-200)*
- » *Patient Assessment (Chapter 7)*
- » *Airway Management (Chapter 9); Shock (Chapter 10)*
- » *Allergies and Anaphylaxis (Chapter 14); Gastrointestinal and Genitourinary Emergencies (Chapter 16)*
- » *Musculoskeletal Injuries (Chapter 20)*
- » ***Spinal Protection: IMPORTANT NEW INFORMATION to be read in this workbook***
- » *Head and Spine Injuries (Chapter 21)*
- » *Cold Related Emergencies (Chapter 25); Heat Related Emergencies (Chapter 26)*
- » *Outdoor Adaptive Athletes (Chapter 32)*
- » *Case Reviews*

PROGRAM PROCESS

The OEC Refresher Program is a standardized program that provides OEC technicians with an annual opportunity to update, renew, and demonstrate competency in specific OEC skills and knowledge. During each refresher cycle, OEC technicians review required material and demonstrate proficiency in all specified skills and information as outlined in this workbook. This refresher process is an excellent opportunity to hone and improve clinical skills.

Verification of OEC technician competency in fundamental knowledge, skills, and scenario management is the basis of the OEC Refresher Program. OEC technician certification is maintained by completing three consecutive annual refreshers. All NSP members must complete each of the refreshers (Cycles A, B, and C) to maintain their OEC certification. The only NSP members exempt from this requirement are mountain hosts, alumni, associates, registered candidate patrollers enrolled in an OEC course, members who complete a full OEC course after May 31 of the current year, and members registered as physician partners (M.D. or D.O.).

The OEC Refresher Program does not provide a means for a person with previous emergency care or medical training to challenge the OEC course. Additionally, the annual refresher covers a third of the OEC Program curriculum requirements and does not meet the requirements for certification under the full OEC Program.

An inactive NSP member returning to active status must hold a current OEC technician card, complete any missed cycle(s) that occurred during the inactive period, and pay dues for any missed season(s). If the OEC technician card expired during the inactive registration period, the member may need to retake an OEC course. Please refer to the *National Ski Patrol Policies and Procedures* for guidelines on registering as an NSP member and other OEC technician refresher requirements.

THE REFRESHER

For each refresher, OEC technicians must complete all of the following components:

- » **the didactic, or information portion (either online or in person);**
- » **the *Outdoor Emergency Care Refresher Workbook 2018 OEC Cycle B*; and,**
- » **the skills component at a refresher event.**

In order to receive credit for this refresher cycle, OEC technicians must successfully complete one of the following refresher types:

- » **The “traditional” refresher format consists of two steps:**
 1. The OEC technician reviews and completes the assignments, skills, and cases in this *Outdoor Emergency Care Refresher Workbook 2018 Cycle B*; and,
 2. Completes a knowledge and skill-based refresher event, where they will demonstrate their OEC skills and discuss the cases they have reviewed.
- » **The “hybrid” refresher format consists of three steps. Please note that the didactic portion of the objectives in the hybrid option is split between the refresher workbook and the online component.**
 1. The OEC technician reviews and completes the assignments, skills, and cases in this *Outdoor Emergency Care Refresher Workbook 2018 OEC Cycle B*; and,
 2. Completes the online refresher exercise that reviews the knowledge-based portion of the refresher; and,
 3. Completes a skill-based refresher event, where they will demonstrate their OEC skills and discuss the cases they have reviewed.

OTHER PROGRAM REQUIREMENTS

CPR for active NSP members: Patroller members must ensure that they maintain a current professional rescuer level CPR certification and demonstrate their CPR skills annually to an agency-approved certified CPR instructor, regardless of the requirements of the certifying agency or the expiration date on their card. This requirement is not meant to be part of the annual OEC refresher. For a complete list of the NSP-approved CPR certifying agencies, please see the *National Ski Patrol Policies and Procedures*.

Local patrol training, such as local patrol requirements, area needs, lift evacuation, CPR, AED, and other on-hill/on-trail training, is arranged through your home patrol and is NOT officially part of the OEC refresher process. The NSP is not responsible for the content, instruction, or scheduling of this training, so it is important to communicate with your local patrol regarding these requirements.



READ ALL ABOUT IT: IMPORTANT NEWS! SPINAL PROTECTION UPDATES

ASSESSMENT: USE OF A BACKBOARD

Backboard usage in the prehospital setting in the U.S. has changed over the last several years. Evidence-based medicine has shown that many patients may not need to be placed on a hard plastic or wooden board, and in some rare cases this may cause more problems. As a patroller, many of us have been placed on a board during training. After about 15 or 20 minutes, the firm surface can become very uncomfortable, as pressure points may cause pain.

It is the conclusion of the National Medical Committee that current medical evidence in 2017 demonstrates the practice of “spinal immobilization,” where backboards with straps are used to secure a conscious victim of trauma during extrication and transport for a possible spinal injury, may be overused and sometimes unnecessary.

Securing a conscious injured person to a backboard is a procedure with potential consequences. The patient is subjected to pain, apprehension, potential injury to skin from pressure points, and some limitations of airway protection when supine (especially if the person vomits).

Although physical application of the backboard is done the same way, the **ASSESSMENT** of who goes on the board has been modified. This will allow patrollers

using a **complete and comprehensive** assessment to use backboards in line with current evidence-based medicine. If you really think about it, a backboard does not immobilize a patient’s spine; it only offers **SPINAL PROTECTION**.

When assessing for spinal protection, considerations include mechanism of injury, reliability of the assessment, and the results of the exam.

MECHANISM OF INJURY

Was there a significant potential for spinal injury? If you have one of the following mechanisms of injury, the likelihood of the need for spinal protection is increased, and your assessment is critical. Common examples include the following, but this is not a comprehensive list.

- High-speed collision of skier/rider with a fixed object (high-impact-trauma)
- Falling from a ski lift
- Avalanche burial
- A fall greater than 2.5-3 times a patient’s height
- A high-speed motor vehicle accident with a fatality, ejection from the vehicle, or an unrestrained passenger
- A pedestrian or bicyclist struck by a motor vehicle
- A major bicycle or motorcycle accident
- High-voltage electrical shock or lightning strike

RELIABILITY OF ASSESSMENT

To determine if your assessment is **reliable**, an evaluation of the patient's mental status needs to be done:

- Is the patient alert and oriented, responding normally to a verbal command?
- Can the person respond appropriately when asked about a sensory stimulus (e.g., can you feel me touching your fingers/toes)?
- Can you rule out intoxication or altered mental status?
- Can the patient respond appropriately to questions and your exam?
- Can the patient focus on your questions, rather than a distracting injury?
- Can a younger pediatric patient answer your questions appropriately?

If the answer is no to any or all of the above questions, then you need to consider this in your physical assessment.

EXAM

Perform a **thorough** physical exam, looking for:

- Deformity or step-off of the spinal alignment
- **Midline** tenderness over the spine (not flank or rib tenderness)
- Loss of sensation (numbness) or motor function distal to a possible spinal injury
- Flexor or extensor posturing to painful stimuli
- Skull depression or fracture
- Cerebral spinal fluid leak from the nose or ears
- Sacral or *posterior pelvic* pain when side-to-side compression is performed

SPINAL PROTECTION

Spinal protection is limiting the movement of the spine. Transfer of the patient (e.g., using a log roll) to the spinal protection device should be done with careful attention to limiting spinal motion. Devices may include a gurney, toboggan, vacuum mattress, or a backboard. We will still log roll and protect the spine of someone who needs spinal protection. A padded gurney or toboggan is a firm surface that may be used as a spinal protection device, as long as the patient is secured to it.

Spinal protection is REQUIRED when there is:

- **Exam findings associated with a potential spinal injury.**
- **Mechanism of injury with significant potential for spinal injury WITH an alteration of the mental status such that a reliable physical exam cannot be done.**
- **Multiple injuries in an unresponsive trauma patient.**
- **A patient who has become unresponsive, without a witness present, so the mechanism of unresponsiveness is unknown.**

Under rare circumstances when a thorough, complete, detailed exam *is not possible* on the hill, a backboard with straps is used as a transportation device until in the first aid room. Continued use of a backboard is not necessary if spinal protection is not supported by a more complete examination in the first aid room. **This process is not “spinal clearance” because the backboard was used as a transportation device.**

A cervical collar is required if the cervical spine is the site of the injury, the patient is unconscious, or the neck is unable to be adequately examined. If a collar is needed, the entire spine requires protection.

If you have positive findings for your spinal exam distal to the cervical spine, but NO evidence of cervical spine injury, then a cervical collar and head blocks are not required in combination with spinal protection.

Standing backboards are used rarely. They should only be used when necessary and indications are appropriate. In instances where someone is standing or walking and displays physical findings (as noted in the EXAM section above) that are indicative of needing spinal protection, they should be lowered on the spinal protection device. Lowering a patient should be done with as little rotation of the spine as possible. Cervical spine stabilization should be applied if exam findings indicate. *Saying “my back hurts” without physical findings does not require spinal protection.* After evaluation, if the patient still refuses to move because their “back hurts,” use the standing backboard technique for transportation purposes only. Once in the patrol room, re-evaluate the patient.

Spinal protection is **NOT NEEDED** for:

- Low-energy incidents, even with minor physical findings (example: a contusion near the spine).
- “Just in case” there is an injury or a low level of probability.
- A headache, brief loss of consciousness, or concussion in a patient who is now alert and oriented and has no findings.
- Patients who are up and walking at the scene with a mechanism of injury with the potential for spinal injury without documented physical findings or symptoms.
- Penetrating injuries, unless near the midline spine area.
- “My back hurts,” without any of the findings noted above.

MECHANISM OF INJURY

- High-speed collision
- Falling from a ski lift
- Avalanche burial
- A fall greater than 2.5-3 times a patient's height
- High-speed motor vehicle accident with fatality, ejection, or unrestrained occupant
- Pedestrian or bicyclist struck by motor vehicle
- Major bicycle or motorcycle wreck
- High-voltage electrical shock or lightning strike

RELIABILITY OF ASSESSMENT

- Is the patient alert and oriented, responding normally for verbal commands?
- Can they respond appropriately when asked about sensory stimulus?
- Is there intoxication or altered mental status?
- Can they respond to questions and your exam?
- Patient's strong focus on a distracting injury mitigates trust of the remainder of exam.

SPINAL PROTECTION

EXAM FINDINGS

- Deformity or step-off of the spinal alignment
- MIDLINE tenderness over the spine, (not flank or rib tenderness)
- Loss of sensation (numbness) or motor function distal to possible spinal injury
- Flexor or extensor posturing to painful stimuli
- Skull depression or fracture
- Cerebral spinal fluid leak from nose or ears
- Sacral or posterior pelvic pain when side-to-side compression is performed

SPINAL PROTECTION REQUIRED WHEN:

- Exam findings associated with potential spinal injury.
- MOI with significant potential for spine injury **WITH** an alteration of mental status such that a reliable physical exam cannot be done.
- Multiple injuries in an unresponsive trauma patient.
- A patient who has become unresponsive, without a witness present, so the mechanism of unresponsiveness is unknown.

NEW INFORMATION

HEAD AND SPINE INJURIES (CHAPTER 21)

- 21-8** Demonstrate how to properly assess and treat a patient with *head, neck, spine, or back injury*. Major emphasis on assessing whether spinal protection is needed.
- 21-9** Demonstrate how to maintain proper *spinal alignment* while placing a patient onto a long spine board from a lying position. Strapping is not necessary.
- 21-10** Describe and demonstrate how to *remove a helmet* from a lying position (teams of two).

Your assessment will begin like every other assessment:

Scene size-up: Initiate BSI. Determine scene safety and mechanism of injury. Following the latest protocol provided on pages 5-7, begin your patient assessment. Palpate each vertebra as you walk your fingers down the spine. Pay particular attention for a step-off deformity or any other abnormality.



Begin palpating along the spinal midline at the back of the skull; continue down the cervical, thoracic, and lumbar spine.



Conclude the physical exam of the spinal column by palpating the sacrum and coccyx. If during the pelvic examination you find sacral or posterior pelvic pain, spinal protection is appropriate.



Step-off deformity means the bones are not lined up properly, which can be seen and/or felt by the examiner. This is what a step-off deformity looks like; notice the spinal column is no longer aligned normally.

CHECK CMS ON ALL FOUR EXTREMITIES



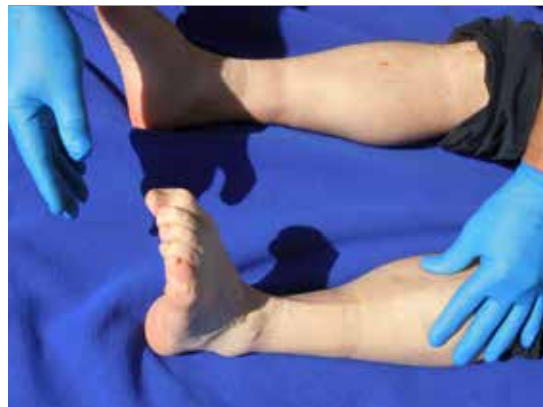
1. Check circulation, capillary refill, and skin color.



2. Check motion and sensation.



3. Check circulation, capillary refill, and skin color.



4. Check motion and sensation.

In a cold environment, exposing extremities to the skin may not be desirable until the patient is in a warm setting.

Posturing, a response to painful stimuli, indicates the need for spinal protection:

Decerebrate-extensor posturing:

abnormal extension of arms and legs, downward pointing of toes, and arching of the head; due to an injury to the brain at the level of the brainstem.



Decorticate-flexor posturing:

abnormal flexing of the arms and clenching fists and extending legs; due to an injury along the nerve pathway between the brain and the spinal cord.



Spinal protection using a log roll, place a patient onto a long spine board.

(Skill Guide Supine Patient: Log roll onto a long spine board, page 734.)

Objective: To demonstrate the ability to log roll a patient onto a backboard.

- » Determines scene is safe.
- » Introduces self, obtains permission to treat/help.
- » Initiates Standard Precautions.
- » Rescuer one kneels above patient's head and takes/maintains spinal stabilization.
- » Rescuers two, three, and four kneel along one side of the patient.
- » Rescuer two assesses CMS, kneels beside the patient's shoulder/upper chest, and grasps the patient's shoulder/hip.
- » Rescuer three positions backboard beside the patient and kneels at the patient's hips, grasps the patient's hips, overlapping hands with rescuer two and above the knee.
- » Rescuer four kneels beside the patient's knee/lower leg, grasps the patient's upper thigh, overlapping with rescuer three.
- » Rescuer one directs the roll, ensuring that all rescuers are ready to roll the patient toward them as a unit.
- » Rescuer two slides backboard into position, tilting the backboard, and then palpates the patient's spine for any injuries.
- » Rescuer one directs other rescuers in lowering the patient onto the backboard as a unit.
- » Rescuer two ensures that the patient is centered on the backboard; if needed, the patient is re-centered on the board using axial movements.
- » Rescuers secure the patient on the backboard in the usual method.
- » Reassess CMS.

HELMET REMOVAL FROM A SUPINE PATIENT



1. First patroller aligns and stabilizes c-spine.



2. Second patroller removes goggles as necessary, undoes helmet strap, and takes c-spine stabilization from the chin and occiput.



3. First patroller pulls the helmet axially from the patient's head with forward rotation of the helmet.

RESCUE BASICS (CHAPTER 3) AND MOVING, LIFTING, AND TRANSPORTING PATIENTS (CHAPTER 5)

- 3-10 Describe and demonstrate how to ensure *scene safety*, including use of *BSI*.
- 5-2 Describe and demonstrate a *power grip*.
- 5-3 Describe and demonstrate a *power lift*.
- 5-7 Describe and demonstrate the following *drags, lifts, and carries* (IN TEAMS; CHOOSE THREE of the following)
 - » *Shoulder drag* (page 137)
 - » *Extremity lift* (page 143)
 - » *BEAN (bridge) lift* (page 144)
 - » *Human crutch* (page 138)
 - » *Fore and aft carry* (pages 140-141)
 - » *Chair carry* (page 139)
 - » *BEAM lift* (page 144)
 - » *Draw sheet carry* (page 145)

RESCUE BASICS — SCENE SAFETY

Begin your scene size-up as you approach.



MOVING, LIFTING, AND TRANSPORTING PATIENTS

Power grip and power lift



The power grip is the tightest grip.



Protect your back, lift with your legs!



Lift as a unit.

TECHNOLOGY THAT MOVES YOU

OPEDIX TORQUE REFORM TECHNOLOGY is the scientific answer to improved kinetic health. Our patented technology is incorporated into high-performance apparel to help keep your body dynamically aligned, and you performing at your peak.

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PATIENT ASSESSMENT (CHAPTER 7)

- 7-4 Describe and demonstrate how to perform a *primary assessment* and manage the ABCDs.
- 7-5 Describe and demonstrate how to perform a *secondary assessment*; **focus on detailed assessment of the entire spinal column.**
- 7-9 Describe how to obtain a **SAMPLE** history.

SAMPLE

Identify the components of SAMPLE; complete the form below:

S: _____

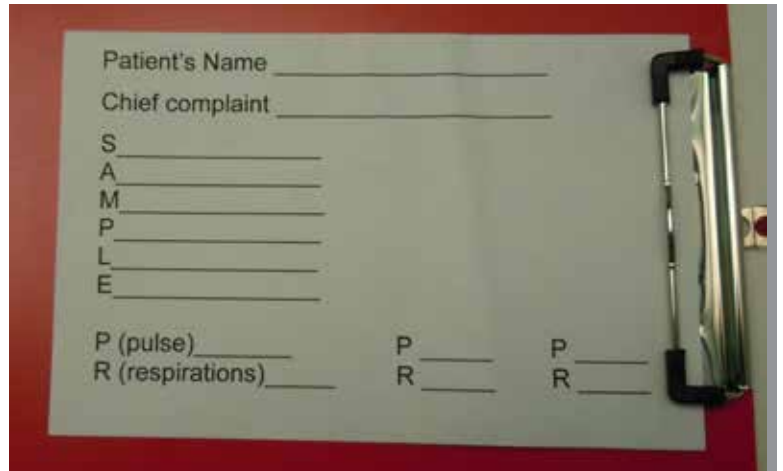
A: _____

M: _____

P: _____

L: _____

E: _____



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The CPR mask that can withstand harsh environments, cold, extreme altitude, and crushing forces. NuMask's Intraoral CPR mask was designed to overcome the inherent limitations of traditional facemasks. The NuMask works intraorally; behind the lips and in front of the teeth, like a snorkel for a leak-free fit every time.

"This is a product all patrollers should have in their packs."
- David H. Johe, MD, Chairman NSP Medical Committee



- 1/10th the size of your current mask
- Trim-to-size OPA
- Easier to learn, use, and remember
- Optional hands-free ventilation
- Radically improves ventilation

Endorsed by the NSP Medical Committee 

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ASSESSMENT

In every situation or incident, the scene size-up and primary assessment are relatively the same. Approach your patient(s) carefully; if you become injured, you aren't able to help your patient(s).

When performing the secondary head-to-toe exam, start at the head and work down through the trunk, abdomen, back, pelvis, lower extremities, and then the upper extremities. Develop a systematic approach, so nothing is missed. Below you will see the skill guides side-by-side for a trauma patient and a medical patient.

During your skills refresher, you will have an opportunity to practice your assessment skills.

The Spinal Protection module focuses on a complete and detailed spinal assessment.

PATIENT ASSESSMENT — TRAUMA PATIENT (Skill Guide page 253-254)

Objective: To demonstrate the proper assessment of a trauma patient, to determine a baseline, and to select the appropriate transport method.

Scene Size-Up

- Determines that scene is safe.
- Introduces self, obtains permission to assist/treat.
- Initiates Standard Precautions.
- Determines the MOI (mechanism of injury) — patient's chief complaint.
- Identifies the number of patient(s) and the LOR (level of responsiveness) of each.
- Forms general impression; evaluates any extrication issues for each patient(s); considers c-spine stabilization/protection.

Primary Assessment

- Assesses airway, breathing, circulation, and disability (ABCDs).
- Manages/treats life threats.
- Checks for and controls any major bleeding.
- Confirms and monitors LOR (AVPU or GCS).
- Calls for transport, equipment, and/or additional assistance, and EMS if needed.

Secondary Assessment

- Performs head-to-toe detailed body assessment, checking DCAP-BTLS.
- Exposes and inspects injury to identify level of emergency and formulate treatment plan.
- Obtains SAMPLE history from patient and/or witness (if available).
- Obtains baseline set of vitals.
- Provides interventions per local protocols.
- Treats for shock.
- Maintains spinal protection, if applicable.
- Prepares patient for transport.
- Reassesses vital signs and primary assessment.

PATIENT ASSESSMENT — MEDICAL PATIENT (Skill Guide page 255)

Objective: To demonstrate the proper assessment of a medical patient and to determine a baseline with a specific complaint.

Scene Size-Up

- Determines that the scene is safe.
- Introduces self, obtains permission to examine/treat.
- Initiates Standard Precautions.
- Determines NOI (nature of illness) — patient's chief complaint.
- Identifies the number of patient(s) and the LOR of each.
- Forms general impression; evaluates any extrication issues; considers spinal precautions.

Primary Assessment

- Assesses airway, breathing, circulation, and disability (ABCDs).
- Assists breathing, manages/treats life threats.
- Confirms and monitors LOR (AVPU or GCS).
- Calls for transport, equipment, personnel, and EMS if needed.

Secondary Assessment

- Performs detailed head-to-toe body assessment/physical exam.
- Obtains SAMPLE history.
- Based on the chief complaint, gathers information by asking OPQRST questions.
- Obtains baseline vital signs.
- Provides interventions per local protocols.
- Treats for shock.
- Maintains spinal protection, if applicable.
- Prepares patient for transport.
- Reassesses vital signs and primary assessment.

CRITICAL INTERVENTIONS: AIRWAY MANAGEMENT (CHAPTER 9) AND SHOCK (CHAPTER 10)

- 9-2 Describe and demonstrate how to manually open the airway or mouth:
- » *Head-tilt/chin-lift*
 - » *Jaw thrust*
 - » *Crossed finger*
- 9-4 Describe and demonstrate how to place a patient into the **recovery position**.
- 9-6 Demonstrate the proper methods for choosing the correct size and inserting:
- » *Oropharyngeal airway*
 - » *Nasopharyngeal airway*
- 9-8 Describe and demonstrate how to properly set up an **oxygen tank** for use.
- 10-9 Describe and demonstrate the management of **shock**, neurological focus.

AIRWAY MANAGEMENT

Methods commonly used to open the airway and mouth.



1. Head-tilt/chin-lift



2. Jaw thrust



3. Crossed finger

If a patient is unresponsive and spinal injury is suspected, use a _____ to open the airway (pages 295-296).

When using a nasal cannula, the oxygen flow rate is _____ liters per minute (LPM).

When using a nonrebreather mask, the flow rate is _____ liters per minute (LPM) (pages 311 – 312).

The recovery position is used for unresponsive patients not suspected of having a spinal injury.



1. Raise patient's left arm overhead.



2. Move their right hand to left ear.



3. Cross right leg over left leg.



4. Roll patient onto their left side as a unit toward you.



5. Bring right leg up to stabilize the patient on their side.



OXYGEN TANK SETUP (PAGES 320-321)

During your skills refresher, you will be asked to assemble the tank. You will have the opportunity to familiarize yourself with the equipment at your area. This photo shows a tank, regulator, two wrenches, and various O-rings that may be available.



INSERTING NASOPHARYNGEAL AIRWAY (NPA) (PAGE 323)

Objective: To properly insert a nasopharyngeal airway into a patient.

- » Initiate Standard Precautions.
- » Size the airway. Place the flange against the nostril; the end should touch the patient's lower earlobe.
- » Coat the tip and the entire length with a water-based lubricant.
- » Insert the lubricated airway into the larger nostril with the curvature following the floor of the nose. If you are using the right nare, the bevel should face the septum. If using the left nare, insert the airway with the tip of the airway pointing upward, which will allow the bevel to face the septum.
- » Gently advance the airway. If using the left nare, insert the nasopharyngeal airway until resistance is met, then rotate the nasopharyngeal airway 180 degrees into position. This rotation is not required if using the right nostril.
- » Continue until the flange rests against the skin. If you feel any resistance or obstruction, remove the airway and insert it into the other nostril.



INSERTING AN OROPHARYNGEAL AIRWAY (OPA) (PAGE 324)

Objective: To measure and insert an oral airway into an adult.

- » Initiate Standard Precautions.
- » Hold the adjunct against the side of the face with the flange adjacent to the corner of the patient’s mouth.
- » Size the airway by measuring from the patient’s earlobe to the corner of the mouth or from the corner of the mouth to the angle of the jaw.
- » Open the patient’s mouth with the cross-finger technique. Hold the airway upside down with your other hand. Insert the airway with the tip facing the roof of the mouth and slide it in until it is halfway into the mouth.
- » Rotate the airway 180 degrees.
- » Insert the airway until the flange rests on the patient’s lips.

SHOCK

Briefly describe how you manage a patient with shock (pages 347-348).

Briefly describe neurogenic shock (page 341).

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MEDICAL EMERGENCIES: ALLERGIES AND ANAPHYLAXIS (CHAPTER 14) AND GASTROINTESTINAL AND GENITOURINARY EMERGENCIES (CHAPTER 16)

- 14-5 Describe and demonstrate the steps for properly using portable *epinephrine auto-injectors*.
- 16-4 Describe and demonstrate how to assess the abdomen.
- 16-5 Describe and demonstrate how to manage a patient with a severe *gastrointestinal/genitourinary emergency*.

ALLERGIES AND ANAPHYLAXIS

Fast-acting epinephrine auto-injectors are used to treat severe allergic reactions/anaphylaxis. In severe cases, the patient may require additional doses of epinephrine; this is especially true for prolonged transport situations. A second dose is indicated if the patient's symptoms have not resolved within 10 minutes, or if they recur. See pages 447-449 for more information regarding epinephrine and assisting with auto-injectors.



1. Verify patient's prescription.



2. Assist the patient with the injection.

Most auto-injectors may be administered through clothing.

Some auto-injectors have voice prompts to assist the patient and OEC technician with administration.



1. Verify patient's prescription.



2. Ready the device for use.



3. Assist the patient with the injection.



Samples of epinephrine auto-injectors. (AUVI-Q and EpiPen)



A sample of an AUVI-Q readied for use.

GASTROINTESTINAL AND GENITOURINARY EMERGENCIES



BSI, rule out traumatic injury. Determine the nature of illness (NOI).

Assess and palpate all four quadrants of the abdomen. Remember OPQRST (pages 228-229).

Treatment is supportive until definitive medical care can be obtained.

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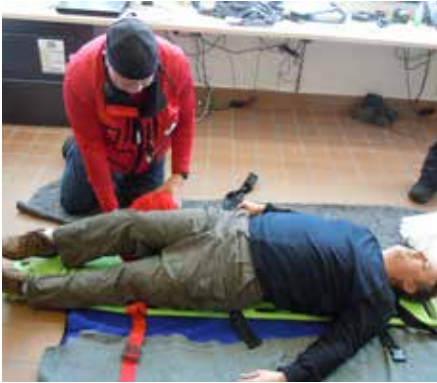



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MUSCULOSKETETAL EMERGENCIES (CHAPTER 20)

20-2.4 and 20-3.3 Describe and demonstrate how to assess and care for each specific injury:

- » *Hip injury*
- » *Proximal femur*



1



2



3



4



5

When assessing a patient with a hip injury, it may be difficult to tell the difference between a dislocated hip or proximal femur fracture. When treating, check CMS distal to the injury. Photos 1, 2, and 3: Keep affected extremity in position found, pad any and all voids with blankets, pillows, backpacks, etc. Photos 4 and 5: Gently secure the patient on a long spine board. **Note:** in a hip or proximal femur fracture, a backboard is used as a splinting tool and transportation device. The backboard is not used for spinal protection unless a spinal injury is suspected.

ABDOMINAL AND PELVIC TRAUMA (CHAPTER 24)

- 24-4 Describe and demonstrate how to assess a patient with *abdominopelvic trauma*.
- 24-6 Describe and demonstrate how to manage an *evisceration*.
- 24-7 Describe and demonstrate how to manage an *impaled object* in the abdomen or pelvis.
- 24-8 Describe and demonstrate how to manage a *pelvic fracture* (pelvic sling).

TREATING AN ABDOMINAL EVISCERATION



1



2



3

Photo 1: Initiate BSI, expose wound, do not attempt to put eviscerated structures back into the abdomen. Photos 2 and 3: Apply a sterile dressing moistened with sterile water or saline. If sterile fluids are not available, use water clean enough to drink. Do not use pond or stream water. Do not allow eviscerated abdominal contents to dry out.

TREATING AN ABDOMINAL INJURY: IMPALED OBJECT



1



2

Photos 1 and 2: Initiate BSI, expose the wound, manually stabilize the object, and apply sterile gauze around the object.



3



4



5

Photos 3, 4 and 5: Apply a bulky stabilizing dressing. Secure in place.

TREATING A PELVIC FRACTURE: A PELVIC SLING CAN BE FASHIONED FROM A SHEET.



1



2



3



4



5



6



7

Outdoor Emergency Care Fifth Edition, Pelvic stabilization (page 806)

1. Fold a sheet lengthwise until it is approximately 10-18 inches wide and place it crosswise on a long spine board where the patient's pelvis will be. (Photos 1 and 2)
2. Maintaining spinal alignment, log roll the patient so that the buttocks are positioned on the sheet with the sheet 1-2 inches above the top of the iliac crest (which is what the belt rides on). (Photo 3)
3. Draw the two ends of the sheet together over the symphysis pubis and compress the greater trochanters of the femur. (Photo 4)
4. Gently pull the ends of the sheet tight. (Photo 4)
5. Tie the two ends of the sheet using an overhand knot, or wrap the two sheet ends around each other and secure in place using one or two nylon cable ties. (Photos 5, 6, and 7)

Keep the patient's knees slightly flexed, and pad under the legs/knees with a rolled-up blanket. Secure the patient's knees and ankles with cravats, padding any voids. (Refer to the spinal protection article at the beginning of this workbook regarding use of a cervical collar.)

Pelvic sling: if using a manufactured pelvic splint, refer to the manufacturer's instructions or visit their website for specific instructions and application video.



ENVIRONMENTAL EMERGENCIES AND SPECIAL POPULATIONS: COLD RELATED EMERGENCIES (CHAPTER 25)

- 25-7** Describe and demonstrate the assessment and treatment of a patient with *cold related injury*.
25-8 Describe and demonstrate the assessment and emergency care of a patient with *frostbite*.
25-9 Describe and demonstrate the assessment and emergency care of an *avalanche victim*.



HYPOTHERMIA

Prevent further heat loss, remove wet clothing as appropriate, warm with a blanket, protect from wind, and insulate them from the ground. Prepare to transport your patient; move them gently to a shelter, if available. Put a hat on the patient, and apply warm packs. A vapor barrier (plastic sheet, large trash bag, or space blanket) can be added to eliminate heat loss and protect the insulation from getting wet. For more information, refer to pages 827-828 of the *Outdoor Emergency Care Fifth Edition*.

FROSTBITE

Rapidly rewarm affected body part. Warm water should be 102-104 F. Do not rub the frostbitten skin.



CARE OF AN AVALANCHE VICTIM

Refer to the *Outdoor Emergency Care Fifth Edition*, Chapter 25, pages 831-832, and Chapter 35, pages 1120-1123.

HEAT RELATED EMERGENCIES (CHAPTER 26)

- 26-3** Describe and demonstrate the assessment and emergency care of a patient suffering from each of the four types of *heat-related illnesses*:
- » *Heat syncope*
 - » *Heat cramps*
 - » *Heat exhaustion*
 - » *Heat stroke*



Rapidly cool your patient, and develop a plan to move them to a climate-controlled indoor area and definitive medical care as necessary. While awaiting transport, you can use a blanket, sheet, or umbrella to provide shade for your patient. If fully alert, encourage them to drink cool water, or a quart of cool water with 1/4-1/2 teaspoon table salt added, or an electrolyte solution if available. Apply ice packs to areas such as neck, axilla (armpits), and groin.

Of the four types of heat-related illnesses, which is a life-threatening emergency?

_____ (pages 852-854)

ADAPTIVE ATHLETES (CHAPTER 32)

32-7 and 32-8

Describe and demonstrate how to assess and care for an *adaptive athlete* who is ill or injured:

- » *Intellectual disability*
- » *Physical disability*

CASE REVIEW 1

You are on your usual Saturday mountain ski patrol. It is a sunny but cold day. Your rotation takes you to an intermediate rated slope when you come across a group of folks huddling over a skier.

Once you have made the scene safe, you then radio your location and the injury location to your patrol dispatch. At the scene is a 50-plus-year-old male lying on his right side strapped into his sit-ski. His friends are very concerned. Your general impression finds this patient in extreme discomfort. His host, who was skiing with him, tells you he is a disabled skier, and it is rare for him to fall over. After the scene size-up, you identify him as a 54-year-old skier who describes to you that he lost his balance and flipped his sit-ski on top of himself as he slid. He states that he tried to stop sliding with his right arm, and he came to rest on his right side.

He is experiencing a "lot of anxiety" since he fell and states that he has been out all day with no breaks and this is the first mishap he has had. His anxiety is getting worse, and he is developing a headache and blurred vision. His original chief complaint was pain to the right arm, which took the brunt of the fall, and is showing as "deformed." It appears that the wrist is deformed and angulated. Exam will find a pulse.

He is alert and oriented and is communicating appropriately with you. He describes the pain as an 8 out of 10. Your exam produces no other findings other than the possible fracture of the right arm.

You ask his friend, who is the host for the day, to assist you with removing his sit-ski as you focus your care on the fractured right arm.



1. What considerations should you have used during your primary and secondary assessment?
2. What communication skills make for a safe, consistent, and effective exam?
3. How might it be best to manage his extreme anxiety, blurred vision, and headache?
4. What concerns do you have about the equipment?
5. What might be the best way to have his host help you with the equipment?
6. Discuss your method of transportation for the patient and the equipment.
7. Could this patient be suffering from autonomic dysreflexia, and what might be the causes?



CASE REVIEW 2

It is a sunny and busy day at your resort. You are a mountain bike patroller and get a call of an injury on the upper half of the trail called “Terror.” You respond that you are en route to the injury. You arrive five minutes later to find a dad with his 15-year-old son off the side of a trail. The dad had called 911 to report his son was injured.

You arrive to find the 15-year-old male with a severely deformed left ankle.

Attempting to obtain a SAMPLE report, you find his answers to your questions are not making sense. The patient avoids eye contact and seems delayed in responding. It is concerning to you until his father tells you his son has autism spectrum disorder.

The child is rather quiet, and other than tears, you depend upon the communication with the dad to help assess your scene and situation.

There is no bleeding, but the deformity is very apparent, and he is guarding the injury. You alert the mountain all-terrain vehicle team to bring your equipment and to help with the transport down the mountain.

1. What is autism spectrum disorder?
2. How does your knowledge of his disorder change how you would manage this patient?
3. Why is a careful exam important with this patient?
4. How would you have the parent interact with you in caring for his son?
5. Does your first aid care differ for this patient?

Note: These case reviews represent only a small sample of the adaptive athlete population. For more information, refer to Chapter 32 of your *Outdoor Emergency Care Fifth Edition*.



TIPS FROM AN ADAPTIVE ATHLETE/PATROLLER

The following tips were provided to the OEC Refresher Committee from Chad Walker, a Central Division adaptive patroller. Mr. Walker has incomplete paraplegia and patrols in a sit-ski.

- » Whenever possible, speak directly to the adaptive athlete. Treat them like any other patient; however, you may have to use a PCA (Personal Care Assistant) or lesson instructor when an individual has a non-verbal condition. “We all want to be treated as normally as possible, and can sense when others are uncomfortable around us.”
- » Ask the adaptive athlete directly about their condition. Inquire about what body parts work, what doesn’t work, and any exterior prosthetic to watch out for (leg bag, etc.). Be sure to ask for assistance from the patient as needed.
- » Mr. Walker doesn’t recommend asking a bystander to transport any adaptive equipment off the hill. Adaptive equipment should be transported with or alongside the patient. One option would be securing the device to a toboggan and bringing it down.

OEC REFRESHER 2018 CYCLE B SKILLS CHECKLIST	Each OEC technician must perform the following skills	Each OEC technician must participate as a team member	Instructor sign-off
Overall Objectives (to be covered in each station):			
Describe and demonstrate how to ensure scene safety, including use of BSI.	X		
Describe and demonstrate the management of shock, neurological focus.	X		
Each OEC technician must perform the following skills:			
Describe and demonstrate how to perform a primary assessment and manage the ABCDs.	X		
Describe and demonstrate how to perform a secondary assessment; focus on detailed assessment of the entire spinal column.	X		
Describe how to obtain a SAMPLE history.	X		
Each OEC technician must perform the following skills:			
Describe and demonstrate a power grip.	X		
Describe and demonstrate a power lift.	X		
Describe and demonstrate the following drags, lifts, and carries (IN TEAMS; CHOOSE THREE of the following).			
Shoulder drag		X	
Extremity lift		X	
BEAN (bridge) lift		X	
Human crutch		X	
Fore and aft carry		X	
Chair carry		X	
BEAM lift		X	
Draw sheet carry		X	
Each OEC technician must perform the following skills:			
Describe and demonstrate how to manually open the airway or mouth using the following:			
Head-tilt/chin-lift	X		
Jaw thrust	X		
Crossed finger	X		
Describe and demonstrate how to place a patient into the recovery position.	X		
Demonstrate the proper methods for choosing the correct size and inserting:			
Oropharyngeal airway	X		
Nasopharyngeal airway	X		
Describe and demonstrate how to properly set up an oxygen tank for use.	X		
Each OEC technician must perform as indicated:			
Describe and demonstrate the steps for properly using portable epinephrine auto-injectors.	X		
Describe and demonstrate how to assess the abdomen.	X		
Describe and demonstrate how to manage a patient with a severe gastrointestinal/genitourinary emergency.		X	
Each OEC technician must lead one and participate in all others:			
Describe and demonstrate how to assess and care for each specific injury:			
Hip injury		X	
Proximal femur		X	

OEC REFRESHER 2018 CYCLE B SKILLS CHECKLIST	Each OEC technician must perform the following skills	Each OEC technician must participate as a team member	Instructor sign-off
Each OEC technician must perform an assessment and participate in placement onto a spinal protection device (long spine board). Strapping not necessary. (NEW INFORMATION)			
Demonstrate how to properly assess and treat a patient with head, neck, spine, or back injury. Major emphasis on assessing whether spinal protection is needed.	X		
Demonstrate how to maintain proper spinal alignment while placing a patient onto a long spine board from a lying position. Strapping is not necessary.		X	
Describe and demonstrate how to remove a helmet from a lying position (teams of two).		X	
Each OEC technician must:			
Describe and demonstrate how to assess a patient with abdominopelvic trauma.	X		
Each OEC technician must lead one and participate in all others:			
Describe and demonstrate how to manage an evisceration.		X	
Describe and demonstrate how to manage an impaled object in the abdomen or pelvis.		X	
Describe and demonstrate how to manage a pelvic fracture (pelvic sling).		X	
Each OEC technician must lead one and participate in all others:			
Describe and demonstrate the assessment and treatment of a patient with a cold related injury.		X	
Describe and demonstrate the assessment and emergency care of a patient with frostbite.		X	
Describe and demonstrate the assessment and emergency care of an avalanche victim.		X	
Each OEC technician must lead one and participate in all others:			
Describe and demonstrate the assessment and emergency care of a patient suffering from one of the four types of heat-related illnesses.			
Heat syncope		X	
Heat cramps		X	
Heat exhaustion		X	
Heat stroke		X	
Each OEC technician must lead one and participate in all others:			
Describe and demonstrate how to assess and care for an adaptive athlete who is ill or injured.			
Intellectual disability		X	
Physical disability		X	
Group			
Case Review discussion		X	

REFRESHER EVALUATION FORM

Name (optional): _____

Date: _____

Home Patrol: _____

Refresher Location: _____

- The refresher was well-organized.
 Strongly agree Agree Neutral Disagree Strongly disagree
- The presentations were clear and well-prepared.
 Strongly agree Agree Neutral Disagree Strongly disagree
- At the skills stations, I understood what I needed to do at each one.
 Strongly agree Agree Neutral Disagree Strongly disagree
- The equipment we used was in good condition, and there was enough to go around.
 Strongly agree Agree Neutral Disagree Strongly disagree
- The instructor(s) provided fair feedback of my skills.
 Strongly agree Agree Neutral Disagree Strongly disagree
- The refresher was run in a relaxed, positive manner.
 Strongly agree Agree Neutral Disagree Strongly disagree
- Did you use your *Outdoor Emergency Care Fifth Edition* to review the refresher topics and complete your workbook?
 Yes No
- The refresher workbook was helpful in preparing for this refresher.
 Strongly agree Agree Neutral Disagree Strongly disagree
- The refresher workbook reviewed the skills required for this year's refresher cycle.
Did the instructors incorporate this material into the skills stations? Yes No
- Overall, I would rate this refresher:
 Excellent Very good Good Needs improvement

11. What are the strengths of the refresher?

What could be improved in the refresher? By my instructors?

My instructors did an excellent job of:

We welcome your comments and suggestions for improving NSP OEC programs. Please be as specific as possible, and use another sheet of paper if needed.

2018 CYCLE B OEC REFRESHER COMMITTEE STATEMENT

The mission of the OEC Refresher Committee is to provide assistance to all Outdoor Emergency Care technicians so that they may effectively review Outdoor Emergency Care content and skills each year and render competent emergency care to the public they serve. The objectives of the program are to:

- Provide a source of continuing education of all OEC technicians.
- Provide a method for verifying OEC technician competency in OEC knowledge and skills.
- Review the content of the OEC curriculum over a three-year period.
- Meet local patrol and area training needs in emergency care.

Email the Refresher Committee at refresher@nspserver.org

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Backcountry photo: George Angelo
Cover photo: Candace Horgan

CUT HERE IF NEEDED

VERIFICATION OF WORKBOOK COMPLETION

Your name: _____ completed the *OEC Refresher Workbook 2018 Cycle B* as required by the National Ski Patrol. I answered the questions and understand the information in the workbook and the material referenced in the *Outdoor Emergency Care Fifth Edition*.

Submit this portion of the form to the refresher instructor of record. Keep your workbook with you to use as a reference.

Date submitted to the instructor of record: _____

Refresher location: _____