

**2024**



# Outdoor Emergency Care SKILLS REFRESHER

**2024  
CYCLE B**



## OEC SKILLS REFRESHER GUIDE

This Supplement outlines what will be covered at a Hands-On Skills Refresher

*NJ Region Version*

# REFRESHER SKILLS CHECKLIST 2024

<b>2024 OEC Refresher Cycle B Skills Checklist</b>	<b>Each OEC Technician must perform the following skills</b>	<b>Each OEC Technician must participate in these as a team member</b>	<b>Instructor Sign Off</b>
<b>X = skills that must be performed as an individual or within a team.</b>			
<b>Each OEC Technician must perform the following skills:</b>			
Incorporate Shock management into all stations		x	
Incorporate <b>BSI</b> into all stations	x		
<b>Each OEC Technician must perform the following skills:</b>			
Demonstrate a power grip	x		
Demonstrate a power lift	x		
<b>Each OEC technician must lead one and participate in all others:</b>			
Demonstrate the following drags, lifts and carries. Choose one from each group			
<b>Moves when there is NO Suspicion of a spinal injury</b>			
Extremity lift		x	
Direct ground lift		x	
<b>Moves when you suspect a spinal injury</b>			
Draw sheet, plastic slider, or flat transfer lift, (BEAN lift - pelvic fracture)		x	
Log roll		x	
<b>Urgent moves: Choose one of the following individual skills</b>			
Shoulder drag	x		
Feet drag	x		
Blanket drag	x		
Underarm/wrist drag	x		
<b>Non-urgent moves: Choose one of the following skills</b>			
Human crutch	x		
Two-person assist		x	
Chair carry		x	
Fore and aft carry		x	
<b>Each OEC Technician must perform the following skills:</b>			
Demonstrate the following five parts of assessment			
Scene size up	x		
Primary patient assessment	x		
History taking	x		
Secondary patient assessment	x		
Reassessment	x		
Demonstrate the procedure for obtaining the following vital signs:			
Pulse (heart rate)	x		
Respiratory rate	x		
Blood Pressure	x		
Oxygen Saturation (can be done with respiratory/airway management)	x		
<b>Each OEC Technician must perform the following skills:</b>			
Describe and demonstrate how to manually open the airway and mouth using:			
Cross-finger technique	x		
Head tilt-chin lift maneuver	x		
Jaw-thrust maneuver	x		

Demonstrate the sizing and placement of:			
Oropharyngeal airway	x		
Nasopharyngeal airway	x		
Demonstrate how to place an oxygen tank into service using:			
Nasal cannula and	x		
Non-rebreather mask	x		
Demonstrate pulse oximeter (or do with assessment-see above)	x		
Explain and demonstrate the recovery position	x		
<b>Each OEC Technician must perform the following skill:</b>			
Demonstrate the steps for properly assisting with epinephrine auto-injectors	x		
<b>Each OEC Technician must perform the following skill:</b>			
Describe and demonstrate how to assess the abdomen (illness)	x		
<b>Each OEC Technician must lead one and participate in all others:</b>			
Describe and demonstrate how to manage a patient with a severe Gastrointestinal/Genitourinary/Reproductive emergency (illness)		x	
<b>Each OEC Technician must perform the following skill:</b>			
Describe and demonstrate how to assess injuries of the hip	x		
<b>Each OEC Technician must participate as a group:</b>			
Demonstrate how to care for injuries of the hip		x	
<b>Each OEC Technician must lead one and participate in all others:</b>			
Describe and demonstrate how to remove a helmet-supine		x	
Demonstrate the principle of "jams and pretzels"- Position 3A to 1		x	
<b>Each OEC technician must perform the following skill:</b>			
Describe and demonstrate how to assess a patient with abdominal or pelvic trauma	x		
<b>Each OEC technician must lead one and participate in all others:</b>			
Demonstrate how to manage a patient with abdominal or pelvic trauma		x	
Demonstrate how to manage an evisceration		x	
Demonstrate how to manage an impaled object in the abdomen or pelvis		x	
<b>Each OEC technician must participate as a group</b>			
Describe and demonstrate how to manage a pelvic fracture (pelvic sling) <b>NO log roll</b>		x	
Demonstrate BEAN/bridge Lift for pelvic fracture and must include full SMR		x	
<b>Each OEC technician must lead one and participate in all others:</b>			
Describe and demonstrate the assessment and emergency care of a patient suffering from each of the four types of heat-related illnesses:			
Heat syncope		x	
Heat cramps		x	
Heat Exhaustion		x	
Heat Stroke		x	
<b>Each OEC technician must lead one and participate in all others:</b>			
Demonstrate how to assess an adaptive athlete		x	
Demonstrate how to care for an adaptive athlete who is injured or ill:			
Physical disability		x	
Cognitive disability		x	
<b>Group Participation:</b>			
Discussion Cycle B Case Review # 1		x	
Discussion Cycle B Case Review # 2		x	

## RESCUE BASICS - OEC6 - Chapter 3:

⇒ BSI - Incorporate into every station.



Refer to OEC Skill 5-5, page 92 in the OEC 6<sup>th</sup> Ed.

### REMOVING CONTAMINATED GLOVES

#### SKILL GUIDE 3-1

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**Objective:** To remove contaminated gloves.

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#### Skill

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**Criteria Met:** Determines the Scene is Safe, Initiates Standard Precautions, Introduces Self, & Obtains Permission to treat/help.

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The exterior of the opposite glove is grasped at the wrist.

---

The glove is folded over and peeled back, ensuring the glove is turned inside out.

The removed glove is held in the gloved dominant hand. The exterior is not touched.

---

Ungloved fingers are placed inside the cuff of the remaining glove.

---

The glove is peeled off the hand, turning the glove inside out.

---

Both gloves are turned inside out.

## ANATOMY AND PHYSIOLOGY - OEC6 - Chapter 6:

There are no skills associated with this chapter.

## PATIENT ASSESSMENT OBJECTIVES – OEC6 - Chapter 7, page 143:

⇒ Explain and demonstrate the following five parts of a patient assessment:

- a. Scene size-up
- b. Primary patient assessment
- c. History taking
- d. Secondary patient assessment
- e. Reassessment

⇒ Describe and demonstrate how to assess the following vital signs:

- a. Level of responsiveness
- b. Pulse
- c. Breathing rate
- d. Blood Pressure



Patient Assessment video: [https://www.youtube.com/watch?v=Ys4sEP5xd\\_c&t=8s](https://www.youtube.com/watch?v=Ys4sEP5xd_c&t=8s)

# PATIENT ASSESSMENT PROCESS

**Scene Size-up**

- Ensure scene safety
- Determine the MOI or NOI
- Take standard precautions
- Determine the number of patients
- Consider additional resources

**Primary Patient Assessment:**

- Form a general impression
- Control life-threatening bleeding (eXsanguination)
- Assess level of responsiveness (LOR)
- Rapidly assess airway, breathing, circulation, disability (ABCD)
- Obtain chief complaint
- Update dispatch of needs

**History Taking:**

- Investigate the chief complaint using SAMPLE
- Assess pain and other complaints using OPQRST

**Secondary Patient Assessment**

- Perform a physical exam
- Assess vital signs

**Reassessment:**

- Check effectiveness of treatment
- Repeat primary patient assessment and reassess vital signs
- Treat changes in patient's condition
- Prepare to hand off to a higher level of care

Patient Assessment Check-off Sheet

Scene Safety	
Intro / Permission	
BSI	
X (blood sweep)	
LOR	A+Ox4
A	B C D
Chief Complaint	
RADIO	Patient Injury Location
	Equip Help O2? ALS?
S	A M P L E
O	P Q R S T
Reassessment?	
Prioritize? Shock?	
Communication?	
Stabilized?	

Pulse: \_\_\_\_\_

Resp.: \_\_\_\_\_

Medic Alert

POSTERIOR

Medic Alert

C  M  S  Str.

Circulation  Motor  Sensory  Strength

C.M.S.  C.M.S.

[NJ Region]

## AIRWAY MANAGEMENT – OEC6 - Chapter 9, page 197.

- ⇒ Describe and demonstrate how to manually open the airway or mouth using the following techniques:
  - Cross-finger technique
  - Head tilt–chin lift maneuver
  - Jaw-thrust maneuver
- ⇒ Explain and demonstrate the recovery position.
- ⇒ Demonstrate the sizing and placement of an NPA, and an OPA.
- ⇒ Demonstrate how to place an oxygen cylinder into service.
- ⇒ Explain what a pulse oximeter is and demonstrate how it is used.

### TECHNIQUES FOR OPENING THE MOUTH AND AIRWAY:



Cross-finger technique for opening the mouth.



Jaw-thrust for opening the airway when a spinal injury IS suspected.



Head tilt chin lift for opening the airway when spinal injury is NOT suspected.

### RECOVERY POSITION:



1 - Extend patient's left arm overhead.



2 - Place patient's right hand to their left ear.



3 - Cross right ankle over left.



4 - Roll patient toward you, bring the right knee up to create tripod.



5 - Use patient's right elbow to help maintain a tripod position. Always ensure the airway remains open.

# INSERTING A NASOPHARYNGEAL AIRWAY

## SKILL GUIDE 9-3

**Objective:** To demonstrate how to insert a Nasopharyngeal Airway.

**Criteria met:** Determines the Scene is Safe, Initiates Standard Precautions, Introduces Self & Obtains Permission to treat/help.

- S – Size** the NPA by holding the tube against the side of the patient's face.
- The flange should rest against the nostril, the end should just touch the patient's lower earlobe on the same side of the face.
  - The outside of the tube should be slightly smaller than the nostril into which it will be placed.

**L – Lubricate** the adjunct.

- ◆ Apply a small amount of water-based lubricant along the entire length of the NPA tube.

**I – Insert** the device.

- ◆ Hold the tube between your thumb and first two fingers.
  - Place the bevel side of the tube toward the nasal septum.
  - Gently insert the tube into the nostril while following the curvature of the tube until the flange is flush with the nostril.
  - If an obstruction is met, pull the tube back slightly and reinsert, again while rotating the tube between your fingers.
  - Properly placed, the curvature of the tube will follow the natural curve of the nasal passage and lie in the distal portion of the nasopharynx directly above the larynx.

**C – Check** the device.

- ◆ Confirm proper placement of the tube by listening to the patient's breath.
- ◆ You should be able to hear or feel air movement through the tube.
- ◆ If no air is detected, check to see if the patient is still breathing.
  - If the patient is not, assist the patient's ventilations.
  - If the patient is breathing, the tube may be obstructed, may need to be repositioned, or may need to be removed and resized. Rarely, foreign material inside the nose can obstruct the opening of the NPA.

### NASOPHARYNGEAL AIRWAY:



1 - SIZE



2 - LUBRICATE



3 - INSERT



4 - CHECK

## OROPHARYNGEAL AIRWAY:



### INSERTING AN OROPHARYNGEAL AIRWAY SKILL GUIDE 9-4

**Objective:** To demonstrate how to insert an OPA.

#### **Skill**

**Criteria met:** Determines the Scene is Safe, Initiates Standard Precautions, Introduces Self & Obtains Permission to treat/help.

#### **S – Size:**

- ◆ Hold the adjunct against the side of the patient's face with the flange adjacent to the corner of the patient's mouth.
- ◆ The tip of the adjunct should touch the angle of the jaw on the same side of the face.
- ◆ Alternatively, measure from the corner of the mouth to the earlobe on the same side of the face.

#### **I – Insert:**

- ◆ Open the patient's mouth using the cross-finger technique or push down of the chin.
- ◆ Insert the OPA, with the tip pointed up toward the roof of the mouth, until it is halfway into the mouth.

#### **C – Check Placement:**

- ◆ Rotate the adjunct 180 degrees so the tip faces toward the patient's tongue.
- ◆ The tongue should now lie along the curve of the OPA, and the external flange should rest against the patient's lips.
- ◆ In children, the device is not rotated. The tip is pointed toward the tongue, not the roof of the mouth when inserted.

## Oxygen Use:

Placing an O2 cylinder into service



Pulse Oximetry



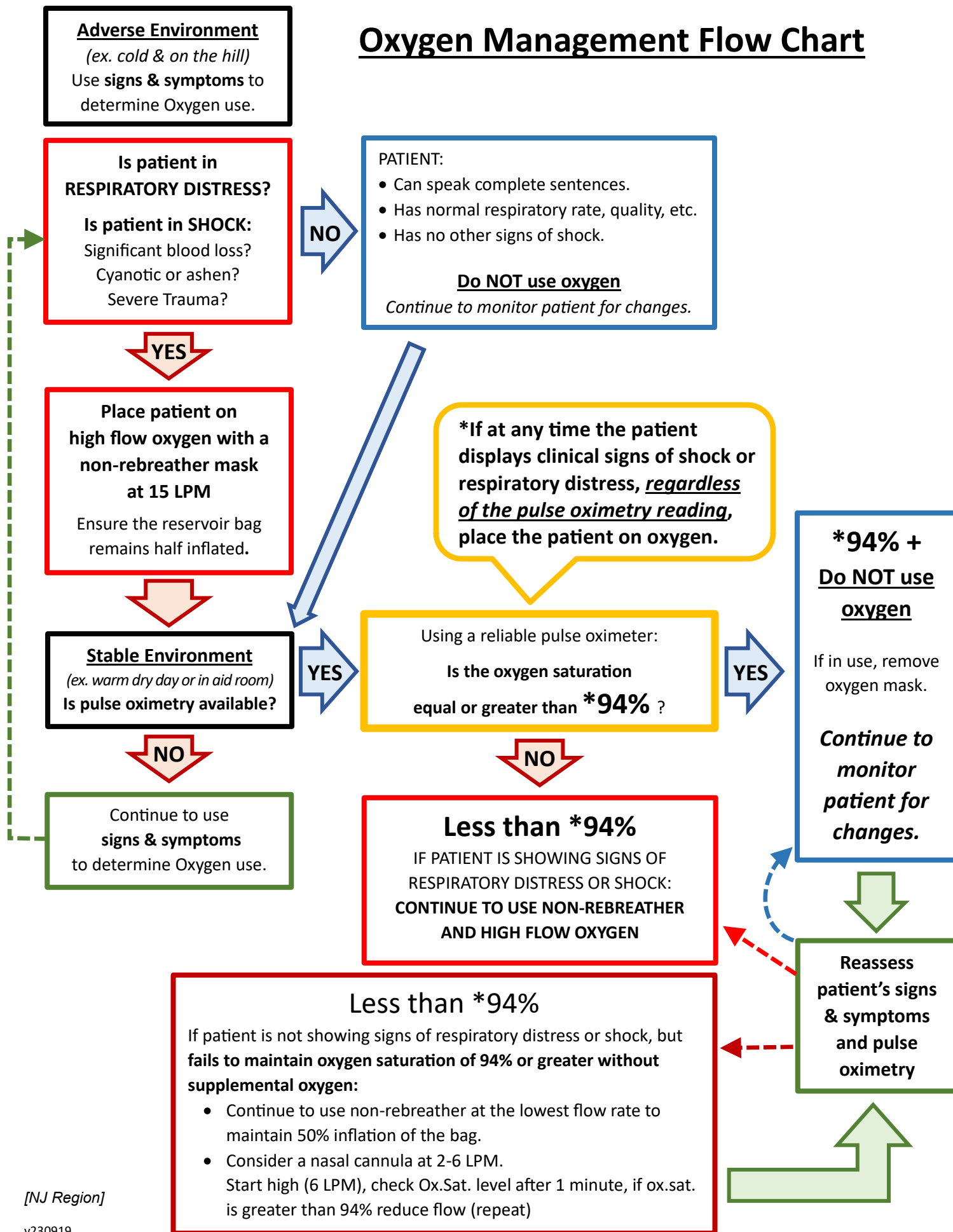
## SHOCK - OEC6 - Chapter 10 - page 223

- Control major bleeding, assess and correct any problems with ABCD's.
- Keep patient warm and dry. Administer high flow oxygen.
- Once pulse ox is available, titrate down if SpO2 is 94 % or above.
- Provide rapid transport.





# Oxygen Management Flow Chart



## ALLERGIES AND ANAPHYLAXIS – OEC6 - Chapter 14, page 299


⇒ Demonstrate the steps for properly assisting with an epinephrine auto-injector.




Samples of Epinephrine Auto-injectors



Auvi-Q readied for use

 How to use the Auvi-Q, view the You tube video: <https://www.youtube.com/watch?v=bZI5vXwZUOg>

 How to use an Epi pen, view the you tube video: <https://www.youtube.com/watch?v=LYQQAix811Y>



Assisting a patient with an epinephrine auto-injector: Ensure that the medication is prescribed for this patient and not expired. Remove the safety cap, and instruct the patient to grasp it with their dominant hand. Be sure their thumb is not over the end of the auto-injector. Have the patient place the tip against their outer mid-thigh. Have the patient firmly push against their outer thigh until the needle deploys. Listen for audible click. Maintain firm pressure for 10 seconds. Remove and properly dispose of used auto-injector. Massage area for 10-20 seconds. Note the time and dose at which the medication was administered. Follow manufacturer's instructions.

## MUSCULOSKELETAL INJURIES – OEC6 - Chapter 20 – pages 433, 447, and 466

- ⇒ Describe and demonstrate how to assess injuries in the following parts of the body:
  - Pelvis
  - Hip
- ⇒ Demonstrate how to care for the following injuries:
  - Pelvis
  - Hip

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.



KEEP THE AFFECTED EXTREMITY IN POSITION FOUND, PAD ANY AND ALL VOIDS WITH BLANKETS, PILLOWS, BACKPACKS, ETC



Gently secure the patient on a long spine board. Note: With a hip or proximal femur fracture, a backboard is used as a splinting tool and transportation device. Please consider this may be a distracting injury.

## MOVING, LIFTING, & TRANSPORTING PATIENTS - Chapter 5 – pages 86 - 105

All photos from OEC 6 unless noted.

- ⇒ Demonstrate the following:
  - Power grip
  - Power lift
- ⇒ Demonstrate these moves that can be used when there is not a spinal injury.
  - Extremity lift
  - Direct ground lift
- ⇒ Demonstrate these moves that can be used when you suspect a spinal injury.
  - Draw sheet or plastic slider or flat transfer lift
  - Log roll
- ⇒ Demonstrate the following urgent moves:
  - Shoulder drag
  - Feet drag
  - Underarm wrist drag
- Blanket drag
- ⇒ Demonstrate the following nonurgent moves:
  - Human crutch
  - Two-person assist
  - Chair carry
  - Fore and aft carry
- ⇒ Describe and demonstrate the use of the various types of devices for lifting and moving patients.
  - Long spine board (LSB)
  - Scoop stretcher
  - Portable stretcher
  - Basket/stokes stretcher
  - Sitting-lifting device

Remember: always use good body mechanics when lifting.



**POWER GRIP:**

- Place your hands, palms up, approximately 10 inches apart.
- Reach underneath the object that is being lifted and firmly grasp the object, closing your hands.
- If possible, loop your thumb over your index and middle fingers.



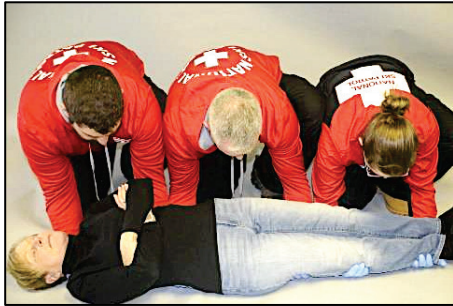
**POWER LIFT:** Maintain a wide stance with feet shoulder-width apart. Bend your knees and squat, keeping your back straight and your shoulders over the spine. Firmly grasp the item to be lifted with power grip. Keep your back straight and your head up.

**MOVES WHEN THERE IS NO SUSPICION OF SPINAL INJURY:**

**Extremity Lift:**



**Direct Ground Lift:**



**MOVES WHEN THERE IS SUSPICION OF SPINAL INJURY:**

**Draw Sheet Plastic Slider or Flat Transfer Lift:**



**Log Roll:** (Should not be used when there is suspicion of a pelvic fracture. Try using a BEAN/Bridge Lift.)



(Mad River Mountain Ski Patrol)

**URGENT MOVES:**

**Shoulder Drag:**



**Feet Drag:**



**Underarm-Wrist Drag:**



**One Rescuer Blanket Drag:**



**NON-URGENT MOVES:**

**Human Crutch:**



**Two-Person Assist:**



**Fore-Aft Carry:**



**Chair Carry:**

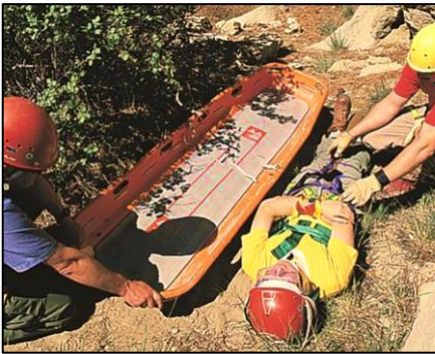


**DEVICES FOR MOVING PATIENTS:**

**Backboard/long Spine Board:**



### Basket/Stokes:



### Portable Stretcher:



### Sitting-Lifting Device:



### Scoop Stretcher:



## SPINE, BRAIN, AND NERVOUS SYSTEM INJURIES - Chapter 21 - page 509

- ⇒ Describe and demonstrate how to remove a helmet.
- ⇒ Explain and demonstrate the principle of “jams and pretzels.”

### REMOVING A HELMET FROM A SUPINE PATIENT:



1. First patroller aligns and stabilizes c-spine.

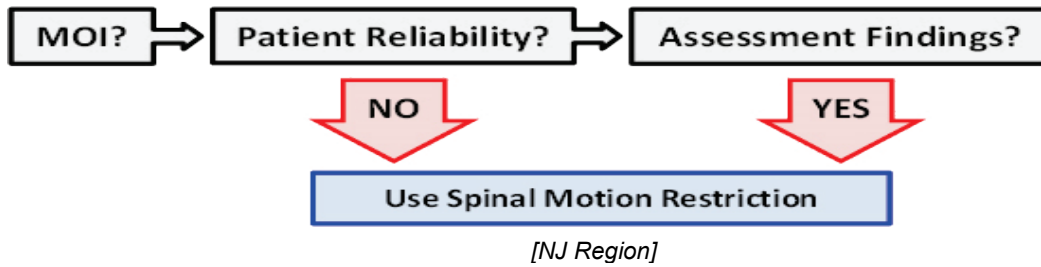


2. Second patroller removes goggles as necessary, undoes helmet strap, and takes c-spine stabilization from the chin and occiput.



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

## SPINAL MOTION RESTRICTION ALGORITHM:



### SMR Details:

#### Determine Mechanism of Injury

- Falling from an aerial ski lift
- Any burial eg: avalanche or tree well.
- Any fall greater than a height of 3 feet, elderly adult fall from standing or anyone falling down 5 or more stairs
- A pedestrian or bicyclist struck by a motor vehicle
- A motor vehicle collision that includes
  - Death of one or more occupants.
  - The patient was unrestrained (no seatbelt or airbag to restrain) and/or was ejected from the vehicle.
  - The vehicle was a bicycle, a motorcycle, a snowmobile, or an all-terrain vehicle (ATV), especially if no helmet was worn.
- A skier/snowboarder/cyclist who has collided with another skier/snowboarder/cyclist or a fixed object such as a tree or lift tower.
- High voltage electrical shock or lightning strike

#### IMPORTANT!

**MOI is no longer a reason for using SMR.**

Some MOI (noted on the left) raise the index of suspicion that SMR **may** be an appropriate treatment **and** that further assessment is necessary to determine that the use of SMR is required.

[NJ Region]

#### Reliability of Assessment

- Is the patient alert and oriented?
- Responding normally to verbal commands?
- Can they respond appropriately when asked about sensory stimulus?
- Can you rule out all signs of intoxication with alcohol or drugs or any altered mental status?
- Can they respond appropriately to questions and your exam?
- Can the patient focus on your questions rather than a distracting injury? (i.e. severe pain from a fracture)
- Can a younger pediatric patient answer your questions appropriately?

If you answer no to any of these:

Use Spinal Motion Restriction (long spine board with cervical collar or large vacuum mattress)

#### Exam Findings

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

If the exam reveals any of these:

## THE PRINCIPLES OF JAMS AND PRETZELS:

The goal of positioning an injured patient is to move the person, especially one with a suspected spinal injury, into Position 1, either on the ground or on a backboard, without causing any damage to the spinal cord or further neurologic injury. When a patient lies supine in the anatomic position, the back of the person's head (occiput), shoulders, buttocks, calves, and heels are all in the same line. In this position, the three important posterior reference points are the head, shoulders, and hips, and the three important anterior reference points are the nose, naval, and toes.

The process of placing a patient into anatomic alignment is termed stabilized extrication. The goal of stabilized extrication is to align the patient such that the three posterior reference points remain aligned in both the vertical and horizontal planes. The key to performing stabilized extrication, then, is to keep these three reference points both aligned and in the same plane while the patient is being moved.



**POSITION 1**



**POSITION 1A**



**POSITION 2**



**POSITION 2A**



**POSITION 3**



**POSITION 3A**



REFER TO OEC SKILL Pages 535 – 538.

When a patient is found in a position similar to 3A move them slowly into position 3. If they are found in a position similar to 2A, move them slowly into position 2. From Position 2 or 3, a patient may be log rolled onto a spine board or into position 1. Always move in small increments.

**Consider:** How will you extricate your patient from the following positions to a supine position?

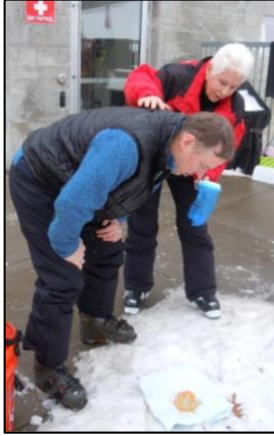


# GASTROINTESTINAL, GENITOURINARY, & REPRODUCTIVE SYSTEM EMERGENCIES

## Chapter 16 - page 337

- ⇒ Describe and demonstrate how to assess the abdomen.
- ⇒ Describe and demonstrate the management of a patient with a gastrointestinal, genitourinary, or reproductive emergency.

- BSI
- Rule out traumatic injury.
- Determine the nature of illness (NOI).



### Assessing the abdomen of an ill patient:

- Palpate all four quadrants of the abdomen.
- Remember OPQRST
- Treatment is supportive until definitive medical care can be obtained.



## ABDOMINAL AND PELVIC TRAUMA OBJECTIVES - Chapter 24 - page 583

- ⇒ Describe and demonstrate how to assess a patient with abdominal or pelvic trauma.
- ⇒ Describe and demonstrate how to manage a patient with abdominal or pelvic trauma.
- ⇒ Describe and demonstrate how to manage an abdominal evisceration.
- ⇒ Describe and demonstrate how to manage an impaled object in the abdomen or pelvis.
- ⇒ Describe and demonstrate how to manage a pelvic fracture.
- ⇒ Skill to include pelvic binder, BEAN/bridge lift and full SMR

### ABDOMINAL EVISCERATION:

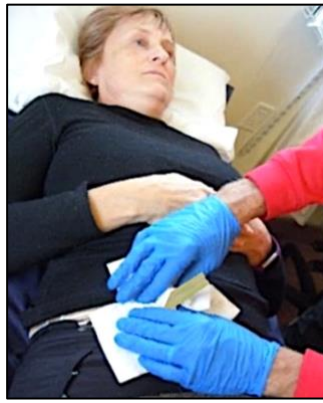


Abdominal contents that eviscerate and are left out pose the risk of drying out; this can affect the survivability of the organ as well as the patient's overall condition. If possible, gently remove any gross contamination first, replace the contents and cover the area with a sterile dressing moistened with sterile water or saline solution. If the opening is very small it may be better to leave the contents out; do not use force. You may also consider leaving them out if transport time to definitive care is short.

## IMPALED OBJECTS:



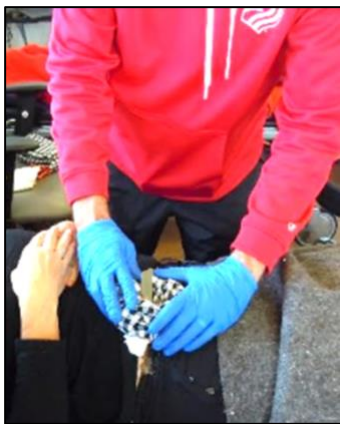
Expose the wound.



Manually stabilize the object and control bleeding.



Titrate Oxygen to 94% or above.



Further stabilize the object with a bulky dressing. If the length of an impaled object compromises transport or rescue operations, you may need to cut the object to allow for transport. However, do not remove the object unless absolutely necessary to transport; doing so could lead to life-threatening hemorrhage. Keep the impaled object stationary when shortening it, as movement could cause additional internal injury.

## PELVIC FRACTURE:

When suspecting a pelvic fracture, it is best to NOT log roll the patient. A direct lift, BEAN or bridge lift is the preferred method of moving the patient to a long spine board. A pelvic fracture is a distracting injury, therefore if a pelvic sling is required, SMR including c-collar and headblocks should be used.

### The BEAN Lift:



REFER TO OEC SKILL 5-5, PAGE 92 IN THE OEC 6<sup>th</sup> EDITION

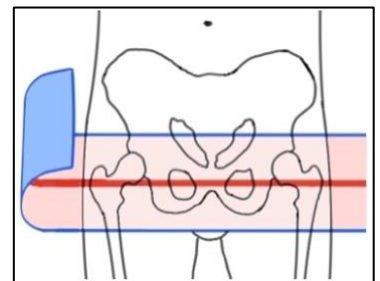
## STABILIZING A PELVIS USING A SHEET:



Refer to OEC skill 24-1, pages 591-593 in the OEC 6<sup>th</sup> Edition.

**USING A COMMERCIALLY PREPARED PELVIC BINDER:** There are different manufacturers of commercially prepared pelvic binders. Follow the manufacturer's instructions. For instructions on how to use the SAM pelvic sling, watch the 2-person training video in the link provided.

 Pelvic sling link to video: <https://www.youtube.com/watch?v=5A7GuEEsP5Q&t=3sStore>



Be highly suspicious of possible spinal injuries and use spinal motion restriction as appropriate. Because this is usually a very painful distracting injury, spinal motion restriction with a collar is recommended. Lift the knees approximately 6 to 8 inches or to a position of comfort and place a blanket or other padded material under the knees prior to securing the straps. When the patient has a possible pelvis or hip fracture or an abdominal injury, you may need to place the straps just above or below the injury, but never place them tightly across the abdomen.

## HEAT-RELATED EMERGENCIES - Chapter 26 – pages 616 - 623

- ⇒ Describe and demonstrate the assessment and management of a patient suffering from each of the four types of heat-related illness.

**Table 26-1 Comparing Conditions Resulting from Heat Stress**

Variable	Heat Cramps	Heat Exhaustion	Heatstroke
Pathophysiology	Sodium and water loss	Sodium and water loss, hypovolemia	Failure of heat-regulating mechanisms
Mental and neurologic status	Normal	Normal and mild confusion	Altered, delirium, seizures
Temperature	May be mildly elevated	Usually mildly elevated	Usually > 40.0°C (104°F)
Skin	Cool, moist	Pale, cool, moist	Dry, hot, but sweating may persist, especially with exertional heatstroke
Muscle cramping	Severe	May or may not be present	Absent

**Table 26-2 Differentiating Between Heat Exhaustion and Heatstroke**

Finding	Heat Exhaustion	Heatstroke
Occurs in high environmental temperatures?	Yes	Yes
May be associated with exercise	Yes	Yes
Patient collapses	Possible	Yes
Level of responsiveness	Anxious	Significant altered mental status, progresses to coma
Elevated core body temperature	Yes, usually below 40°C (104°F)	Yes, may be higher than 40°C (104°F)
Pulse rapid	Yes	Yes
Breathing rapid	Yes	Yes
Responds to treatment in field or aid room	Yes, rapidly	Condition may worsen despite treatment
Shock, hypotension present	No	Yes
Action to take in the field	Treat in the field	Evacuate and initiate treatment
Treatment	Cooling, rehydration	Rapid cooling

Pages 619 & 623 in the OEC 6<sup>th</sup> Edition.

## Case Review #1



The Resort you are associated with offers both winter skiing/boarding opportunities and mountain biking in the summer. The goal of this case review is to put you in charge of preparing for an upcoming Mountain bike race being run at your resort, specifically concentrating on heat related emergencies. Consulting with you is your Medical Advisor, who will be present during the Race. The following information is discussed.

Weather conditions for the bike race are challenging. The ambient temperature is expected to reach 94 degrees Fahrenheit, with the relative humidity at 60%, towards the middle of the race. Prior discussions with the race officials and the Medical Advisor, concentrated on preparing and dealing with heat related emergencies. E-mails have been sent out to participants reminding them to stay hydrated, and to eat salty snacks. However, you don't feel that enough has been done to prepare the Patrollers working the race or for that matter enough equipment preparation at the two aid stations. The first aid station is positioned by the snow making retaining pond at the top of steep 2.5-mile climb, and the other aid station is located at the end of the race, by the main chalet.

In order to help patrollers better understand heat related emergencies, Dr. Allen has asked that you and other patrollers review Chapter 26 in the OEC 6<sup>th</sup> edition.

Consider the four kinds of heat related emergencies along with their signs and symptoms. Be prepared to discuss at your hands-on skills refresher.

To provide the proper medical care for heat related emergencies, what items you would need and want at each of the aid stations? Be prepared to discuss at your hands-on skills refresher.

Towards the end of the race a contestant crosses the finish line and immediately collapses. Staggering back up the racer tells you that they are hot and exhausted. Upon further questioning, it is stated that at the last rest stop he went to the bathroom and his urine appeared extremely dark. The racer is slow to answer your questions and you observed profound changes in their mental status. The racer is complaining of nausea, dizziness and is sweating excessively. List the steps that a Patroller would take to help this individual. What tools did you list above that may be helpful in this situation? Does this individual require an ambulance?

## MANAGEMENT OF HEAT-RELATED EMERGENCIES:

In most cases of heat illness, move patients to a cooler location as soon as possible and/or shade patients from direct exposure to the sun (Figure 26-5). The nature of further care is based on the cause of the suspected heat-related illness. If you suspect heat stroke, attend to any threats to life identified in your primary assessment. Provide appropriate hydration and any needed supportive measures. If the patient's oxygen saturation is less than 94%, provide oxygen.



**Figure 26-5** Remove patients from direct sunlight and begin to cool them immediately.

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## POTENTIAL TREATMENT OPTIONS FOR HEAT-RELATED ILLNESS:



If the patient can swallow, rehydrate with cool water, a cool electrolyte containing solution, or  $\frac{1}{4}$  -  $\frac{1}{2}$  tsp. of table salt added to water. Consider where should you place ice packs.



## ADAPTIVE ATHLETES - Chapter 32, page 737

- ⇒ Describe and demonstrate how to assess an adaptive athlete.
- ⇒ Describe and demonstrate how to care for an adaptive athlete who is injured or ill.



### Case Review #2

You are called to the Tubing Park to assist another patroller with an injury. Upon your arrival the other patroller is caring for an adult with a knee injury and you are requested to check out the second patron approximately thirty feet away.

You observe a young adult sitting on the ground next to their tube at the bottom of the run. The tubing lane has been closed by the attendant and the scene is safe. A helpful bystander is asking the individual if they can get up. The young person replies, "Yes", moves around a bit, but makes no significant attempt to stand. You observe no obvious signs of injury or distress.

You introduce yourself and ask their name. He replies, "Tom". Tom also tells you he is 19. You ask Tom if he would like help and he replies, "Yes".

When you ask him what happened he tells his big brother smashed into him, pointing at the person with the knee injury. You ask Tom if he is hurt and he says, "yes" but offers nothing more. You ask him what hurts and he replies, "I'm okay". After a few more questions, you realize Tom is answering nearly every question you ask with "yes" or what he might expect you would want to hear.

You quickly observe Tom has several typical physical characteristics of someone with Down Syndrome. You also note that his skin is rather pale and his pulse is difficult to palpate with a rate of 110.

How can you best proceed with assessing this individual for injuries? What challenges may you be faced with and how might you overcome them?

After completing a thorough secondary patient assessment, you are concerned that Tom may have an Abdominal Injury. What may have led you to this conclusion? How will you proceed in caring for Tom?

How might this scenario be different if the individual has an Autism Spectrum Disorder, does not make eye contact, and moves away from any physical contact?

Note: You will be asked to perform an assessment and care for this patient at your hands-on skills refresher.



**Assessing an Adaptive Athlete:** Begin like all assessments; scene safety and size up, and BSI.

*A great assessment is vital to successful care of any patient!*

**Communication:** Speak directly with the patient using a clear voice and calm demeanor. Introduce yourself, ask how you can help them. If they are unable to provide this information, then ask the guide or companion how you can help. Listen carefully.

**When communicating with someone with a physical impairment:**

- Greet and treat them as you would any patient. Explain what you wish to do and why.
- Address the athlete, not the guide or companion unless necessary.
- Ask how you can help. They will know how to best care for them and their equipment.

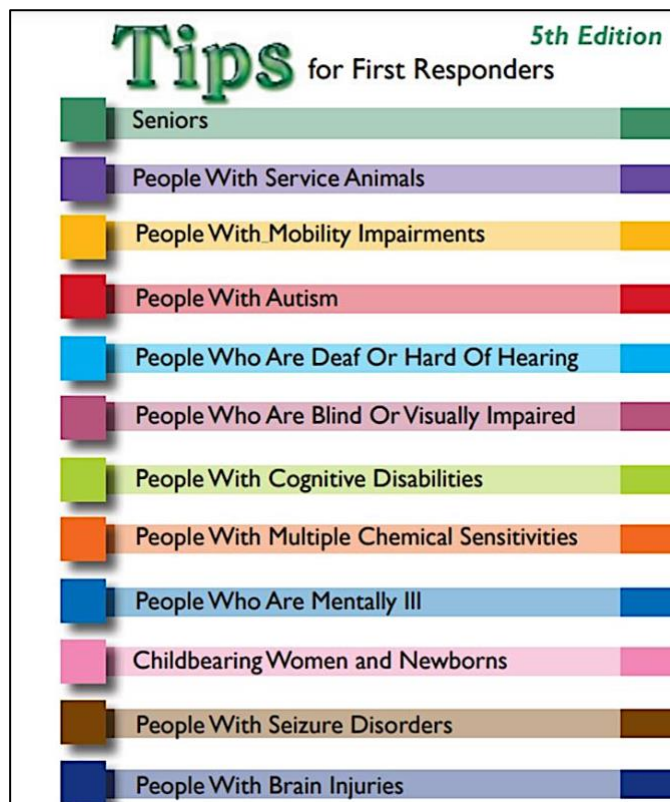
**When loading and transporting visually impaired individuals in a toboggan, be sure to:**

- Explain in advance what you are doing.
- Communicate clearly.
- Explain to them the scene, who is assisting, and the procedure
- Speak directly to them and not through their guide.

**When communicating with someone with a cognitive impairment:**

- Remain at eye level to the athlete as much as possible.
- Use clear and concise language, not medical terms or complex ideas.
- State one question, one instruction, or one piece of information at a time.
- Allow extra time for the athlete to process words and to respond.
- Eliminate distractions when possible.

'Tips for First Responders' cards: click on the link: [https://unmhealth.org/services/development-disabilities/programs/\\_media/fifth-edition-tips-sheet.pdf](https://unmhealth.org/services/development-disabilities/programs/_media/fifth-edition-tips-sheet.pdf)





## **MANAGEMENT AND TRANSPORT OF ADAPTIVE ATHLETES:**

### **CARING FOR YOUR ADAPTIVE ATHLETE PATIENT:**

Most medical or trauma problems that adaptive athletes have are treated the same as other patients.

- Some of these injuries are cared for differently based on the impairment.
- Splinting may require adaptation; certain preexisting problems may need to be addressed.
- It may be necessary to demonstrate how to put a splint on another patroller before putting it on the patient.
- When managing adaptive athletes' injuries, how you communicate with the patient is key.

In patients with preexisting spinal cord problems, OEC technicians should be alert for potential causes of autonomic dysreflexia, a true medical emergency, during both assessment and management.



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Getting a physically disabled athlete out of their specialized equipment and caring for the injury requires gentle care, planning, coordination, common sense, a lot of help, and ingenuity. Evaluate the situation and do what is easiest and safest for the patient.

Lifting, transferring, or transporting a cognitively impaired athlete:

- Show them in advance the steps that will be taken
- Show them the equipment that will be used
- Explain who is assisting you and the procedure to move them.
- Explain securing them in the toboggan for transport, and demonstrate how the equipment will work in advance.

***For more information on any of these topics, be sure to refer to your OEC 6<sup>th</sup> ed.***

## Acknowledgements:

### 2024 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@nspsperves.org](mailto:refresher@nspsperves.org)

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