

NAME: _____

OUTDOOR EMERGENCY CARE

REFRESHER WORKBOOK * CYCLE C 2019

A large white cross is centered on a red background. The text "NATIONAL SKI PATROL" is written in bold black capital letters across the center of the cross.

NATIONAL SKI PATROL

**BEYOND OEC: BY DECEMBER 31, 2019,
PATROLLERS AND CANDIDATES MUST
COMPLETE THE ICS.100 COURSE. FOR MORE
INFORMATION, PLEASE CONTACT YOUR
PATROL DIRECTOR.**



2019 OUTDOOR EMERGENCY CARE (OEC) CYCLE C REFRESHER PROGRAM

INTRODUCTION

Welcome to the 2019 Outdoor Emergency Care (OEC) Cycle C Refresher Program. The purpose of this Outdoor Emergency Care Refresher Workbook 2019 OEC Cycle C is to provide you with a “snapshot” view of this year’s material so that you can be well-prepared for your refresher. To get the most out of this review, it is important to spend time reviewing the Outdoor Emergency Care Fifth Edition, focusing especially on the topics listed in this year’s Cycle C Refresher.

The Instructor of Record (IOR) for your refresher is the point of contact for any questions that may arise regarding your attendance at an OEC refresher. Annual OEC refreshers are conducted at the patrol, section, region, or division levels. Contact your OEC administrator for refresher details.

2019 CYCLE C VISITOR'S COMPLETION FORM:

THIS PORTION IS FOR YOUR PATROL REPRESENTATIVE

2019 CYCLE C OEC REFRESHER VISITOR'S COMPLETION FORM

Have this portion of the form signed by the Instructor of Record (IOR) at the refresher, **then return it to your NSP patrol representative. DO NOT SEND TO NSP national office.**

This verifies that you have attended and successfully completed all requirements for the 2019 OEC Refresher.

Please print.

OEC Technician Name: _____ NSP ID # _____

OEC Refresher Course Number: _____ Location of refresher _____

The above candidate successfully completed the requirements of the 2019 OEC Refresher and has been added to the electronic roster for course completion.

Instructor of Record (print name) _____

Instructor of Record Signature: _____

THIS PORTION IS FOR THE INSTRUCTOR OF RECORD (IOR)

2019 CYCLE C OEC REFRESHER VISITOR'S COMPLETION INFORMATION FOR THE IOR

VISITING OEC Technician: Prior to your arrival, fill out this portion and leave it with the Instructor of Record. **DO NOT SEND TO NSP national office.**

Please print.

OEC Technician Name: _____ NSP ID # _____

Certificate of completion (online) provided to IOR: YES NO

Email: _____ Phone: _____

OEC Technician's patrol/affiliation: _____

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

1. Enroll on-line. Your Instructor of Record (IOR) will provide the course number and instructions on how to complete your enrollment. The enrollment process is the same for either refresher format.
2. Review/complete the material.
 - a. *Outdoor Emergency Care Refresher Workbook 2019 OEC Cycle C* – must be completed;
 - b. *Outdoor Emergency Care Fifth Edition*.
3. Update your NSP record.
 - a. Check your personal profile on www.nsp.org to ensure that your information is correct. After signing in, see your profile where it says “Hi, Name” near the top right. Email memberservices@nsp.org with any questions.
4. Complete the online refresher course (if using the hybrid format).
 - a. To access the online course, check with the IOR where you will be 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 2019 OEC Cycle C*, 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 C section.
 - c. A fully stocked aid belt, vest, or pack, and any additional items required for the refresher.
 - d. Weather-appropriate clothing for both indoor and outdoor refresher activities.
6. Practice the skills that are identified in the *OEC Refresher Workbook 2019 Cycle C*.
 - a. Review the skills check list on page 29
 - 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 patrol IOR 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 Visitor's Completion Form available on page 2 of this workbook.

REMINDER ABOUT ICS-100 requirement: In June 2018, the NSP board of directors approved a motion requiring all patrollers and new candidates to complete the FEMA ICS-100 course. Current patrollers have until 12.31.19 to complete the requirement. Please contact your Patrol Representative or Patrol Director for more information.

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

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

- » *Rescue Basics (Chapter 3)*
- » *Incident Command and Triage (chapter 4)*
- » *Anatomy & Physiology (Endocrine, Lymphatic and Reproduction Systems) (chapter 6 pages 191, 193, 195; 201, 203-206 and 206, 207)*
- » *Patient Assessment (chapter 7)*
- » *Airway Management (chapter 9)*
- » *Shock (chapter 10)*
- » *Substance Abuse and Poisoning (chapter 12)*
- » *Principles of Trauma (chapter 17)*
- » *Musculoskeletal Injuries (chapter 20)*
- » *Head and spine injuries (chapter 21)*
- » *Face Eye and Neck Injuries (chapter 22)*
- » *Thoracic Trauma (chapter 23)*
- » *Cold Related Emergencies (chapter 25)*
- » *Pediatric Emergencies (chapter 30)*
- » *Behavioral Emergencies and Crisis Response (chapter 33)*
- » *Obstetric and Gynecologic Emergencies (chapter 34)*
- » *Special Operations and Ambulance Operations (chapter 35)*
- » *Case Review*

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 patroller 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 alumni, associates, mountain hosts, 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 but does not meet the requirements for certification under the full OEC program.

An NSP member returning to active status after being in the temporarily not patrolling 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 manual for guidelines on registering as an NSP member and other OEC Technician refresher requirements.

Directions to find a copy of the current NSP Policies and Procedures document:

Go to the NSP website (NSP.org) and log in. Click on the “Member Resources” tab. From this drop-down menu, select the “Governance” link. Read the introduction, scroll down, and click on the current Policies and Procedures manual. If you have problems email memberservices@nsp.org.

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 2019 OEC Cycle C*, 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 case review in this *Outdoor Emergency Care Refresher Workbook 2019 OEC Cycle C*; and,
2. Complete a knowledge and skill-based refresher event, to demonstrate OEC knowledge, skills and discuss the case review.

» **The “hybrid” refresher format consists of three steps.**

1. The OEC technician reviews and completes the assignments, skills, and case review in this *Outdoor Emergency Care Refresher Workbook 2019 OEC Cycle C*.
2. Complete the online refresher exercise that reviews the knowledge-based portion of the refresher.
3. Complete a skill-based refresher event, where they will demonstrate their OEC skills and discuss the case review.

OTHER PROGRAM REQUIREMENTS

CPR for active NSP members: Active NSP 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* manual.

Local patrol training, such as local patrol requirements, area needs, lift evacuation, CPR, AED, and other onhill/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.

INSTRUCTIONS FOR USING YOUR OUTDOOR EMERGENCY CARE REFRESHER WORKBOOK 2019 OEC CYCLE C

To use this year's Refresher Workbook, begin by reviewing the skills objectives that will be covered in each section, which are listed at the top, below the section title. Objectives are identified by the chapter, and the order in which they are found in that chapter. Example 3-10, "Describe and demonstrate how to ensure scene safety" tells you the objective can be found in chapter 3, and is the 10th objective. You then go through chapter three until you locate that particular objective.

Questions that must be answered will have the page numbers listed for reference. Corresponding Skill Guides, when cited, also have page numbers for your reference. Key word searches for e-reader users are shown in ***bold italics***.

NEW THIS YEAR; for those who are completing a traditional refresher (NO on-line portion): In an effort to help you prepare for your refresher event, we have included a list of the knowledge objectives that you will be reviewing.

2019 REFRESHER CYCLE C KNOWLEDGE OBJECTIVES

Rescue Basics chapter 3

- 3-3 Describe the ***"fight or flight"*** response.
- 3-6. Describe the five ***modes of disease transmission***.
- 3-7 Define the following terms:
 - ***Pathogen***
 - ***Standard precautions***
 - ***Body substance isolation (BSI)***
 - ***Hazardous material***
- 3-8 List common personal protective equipment used by OEC Technicians

Incident Command and Triage chapter 4

- 4-1. Define the ***incident command system***.

Anatomy and Physiology chapter 6

- 6-1. Define the following terms:
 - ***Anatomy***
 - ***Body system***
 - ***Cell***
 - ***Homeostasis***
 - ***Organ***
 - ***Physiology***
 - ***Tissue***
- 6-5 Identify and describe the fundamental ***anatomy and physiology*** of the ***endocrine, lymphatic, and reproductive body systems***.

Patient Assessment chapter 7 (Skills only objectives)

Airway Management chapter 9

- 9-9. List four tips for the safe use of ***oxygen***.

- 9-6 List the indications of, and uses for, the following airway adjuncts: NPA, OPA.

Shock chapter 10

- 10-1. Define ***shock***.
- 10-5. Compare and contrast the ***three stages of shock***.
- 10-6. List the ***four types of shock***.
- 10-7. Describe how the ***body compensates for shock***.
- 10-8. List the classic ***signs and symptoms of shock***.

Substance Abuse and Poisoning chapter 12

- 12-1. List and describe the ***four ways a drug enters and moves*** through the body.
- 12-2. List the four routes of ***absorption***.
- 12-3. Define the following terms:
 - ***poison***
 - ***substance***
 - ***substance abuse***
 - ***toxin***
- 12-4. List and describe three commonly ***abused substances***, and the signs and symptoms associated with their use.
- 12-7. List and describe two emergency sources for ***poison-related or chemical-related information***.

Principles of Trauma chapter 17

- 17-1. Define the following terms:
 - ***Kinematics***
 - ***Mechanism of injury***
 - ***Index of suspicion***
- 17-2. Compare and contrast ***high-velocity injuries and low-velocity injuries***.
- 17-3. Compare and contrast the ***five mechanisms of injury***.
- 17-5 Describe the management of a trauma patient in a wilderness setting.

Musculoskeletal Injuries chapter 20

20-1.4. List the six types of *musculoskeletal injuries*.

20-1.8. Define the following terms; be *leg injury*

specific:

- *dislocation*
- *fracture*
- *sprain*

Head and Spine Injuries chapter 21

21- 3 Describe common *traumatic injuries* involving the *neck*.

Face Eye and Neck Injuries chapter 22

22-2. List possible causes of *eye injuries*.

22-5. Identify the important structures of the *anterior and posterior neck*.

22-6. List the signs and symptoms of emergencies of the *neck and upper airway*. Define emergent injuries, and emergencies.

22-8. List the signs and symptoms of emergent injuries to the *face, eye, and neck*.

Thoracic Trauma chapter 23

23-1. List the major anatomical structures of the *thoracic cavity*.

23-3. Describe the *pathology of the following thoracic injuries:*

- *Flail chest*
- *Pneumothorax*
- *Hemothorax*
- *Tension pneumothorax*
- *Sucking chest wounds*
- *Pericardial tamponade*

23-4. List the *signs and symptoms of various thoracic injuries*.

Cold-Related Emergencies chapter 25

25-1 List and define the four mechanisms of heat loss.

Pediatric Emergencies chapter 30

30-1. List and describe the *anatomical and physiological differences between children and adults*.

30-3. List the normal range of *vital signs* for each *pediatric age group*.

30-4. Understand and be able to incorporate *communication tips and techniques for assessing and interacting with a pediatric patient*.

30-5. Describe the signs and symptoms of *respiratory distress and failure in a child*.

30-6. List and describe the signs and symptoms of various pediatric disorders.

30-7. List the most common cause of cardiac arrest in pediatric patients.

30-8. List common causes of seizures in pediatric patients.

30-9. List five indicators of potential *child abuse and neglect*.

Behavioral Emergencies and Crisis Response chapter 33

33-1. Define the following terms:

- *behavior*
- *behavioral emergency*

33-2. Compare and contrast *neurosis and psychosis*.

33-3. List and explain four factors that can cause *stress* or lead a person to behave strangely.

33-4. List the signs and symptoms of common *behavioral emergencies*.

33-5. Identify techniques to help maintain rescuer safety when responding to a *behavioral emergency*.

Obstetric and Gynecologic Emergencies chapter 34

34-1. Identify the major *anatomical structures* within the *pelvic cavity*.

34-2. List the functions of the *female genitourinary and reproductive system*.

34-4. List three causes of *abdominal pain of gynecologic or obstetrical origin*.

34-5. List four possible causes of *vaginal bleeding*.

34-6. List the three stages of a normal *pregnancy*.

34-7. List three possible consequences of *abdominal trauma in a pregnant patient*. Combine with 34-12

34-8. Describe four possible complications of *pregnancy*.

34-11. Describe the process of assisting an *emergency delivery*.

34-12. Describe the management of a *pregnant patient with abdominal trauma*. Combine with 34-7

Special Operations and Ambulance Operations chapter 35

35-1. Define *special operations*.

35-5. Describe *HAZWOPER*.

35-6. Identify the purpose of the *International Hazard Classification System* diamond placard system.

35-7. List and describe the three *hazard control zones*.

RESCUE BASICS CHAPTER 3

Describe and demonstrate how to ensure *scene safety*, including use of *BSI*.

Is the scene shown below safe to enter? _____; Why? _____

Incident Command and Triage chapter 4

Describe and demonstrate how to use the *"ID-ME" triage system*.

Describe and demonstrate how to use the *START triage system*.

CASE REVIEW 2019 OEC REFRESHER CYCLE C

While reviewing the Case Review, please keep in mind the following:

- *The yellow smoke represents a propane explosion.*
- *To demonstrate smoke (for contrast) the color yellow was used.*
- *This is NOT a Hazmat situation.*
- *There is no risk of secondary explosion.*

It is a sun filled Saturday around 12:30 pm, at your resort. The fall extravaganza is in full swing with mountain biking, hiking, and a host of other activities. A full complement of Ski Patrol is there to help with any emergencies. A gentle wind is blowing down the slope towards the main chalet, which feels refreshing in the 40-degree weather. Upon sitting down to grab a quick lunch outside the main chalet, you hear and feel a loud explosion on the back side of the building. Windows rattle and break; dishes and tables vibrate in the dining area. People begin to scream and run out the exits. Within two minutes, seven cell phone calls are made to 911 declaring an emergency. You get up and run towards the blast area. Upon arriving, you see a cloud of billowing smoke. You notice that this is the general direction of the snowmaking equipment and propane gas cylinder storage. You radio the patrol room for help, but do not fully engage the scene at this time as you are trying to determine whether it is safe to enter. Meanwhile, a private ambulance service that was parked a short distance from the ski resort arrives on scene, beating all other outside help.



A young paramedic gets out of the ambulance and runs to the scene of the explosion, and attempts to take charge. Shortly thereafter the General Manager of the resort and two more patrollers arrive at the scene, including the Patrol Shift Leader. Sirens are sounding in the distance as both police and fire are responding. Their ETA is approximately five minutes.

Question: Who is in charge at the present moment, before police and fire arrive? Who determines who is in charge?

Question: Once police and fire arrive, who is in charge and who determines that?

After establishing the scene is safe, you enter the area and find thirteen victims of the blast. Eight are walking wounded, with minor lacerations and abrasions (all bleeding is controlled). The walking wounded are able to self-evacuate to a designated safe-zone. Five victims need immediate attention. Refer to the workbook section and discuss how you would use the ID-ME triage system and the START Triage system to categorize/color code the five patients. Discuss in detail what color you assigned to each individual and why.

Question: Do the colors differ depending on which triage system is used?

Question: How would you handle the walking wounded?

During this time, another call comes in regarding a car that hit two pedestrians in a crosswalk at the other end of the resort. It is being reported that one individual has an open tib/fib fracture and the other a femur fracture.

Question: Would this change how you respond to the MCI?

Question: Could/would this call be part of the MCI?

Question: How would this situation be handled?

Question: Specifically, regarding your area, where could a secondary triage site be set up?

Questions: Does your area have written protocols to handle MCIs? What are the protocols and where are they located? Would there be transportation issues specific to your area?

ID-ME SYSTEM PAGES 115-118

■ I immediate

Detectable Vital Signs
Severe injuries; death within 2 hours without care

■ D delayed

Serious injuries or medical conditions
Treatment can be delayed for 4 hours

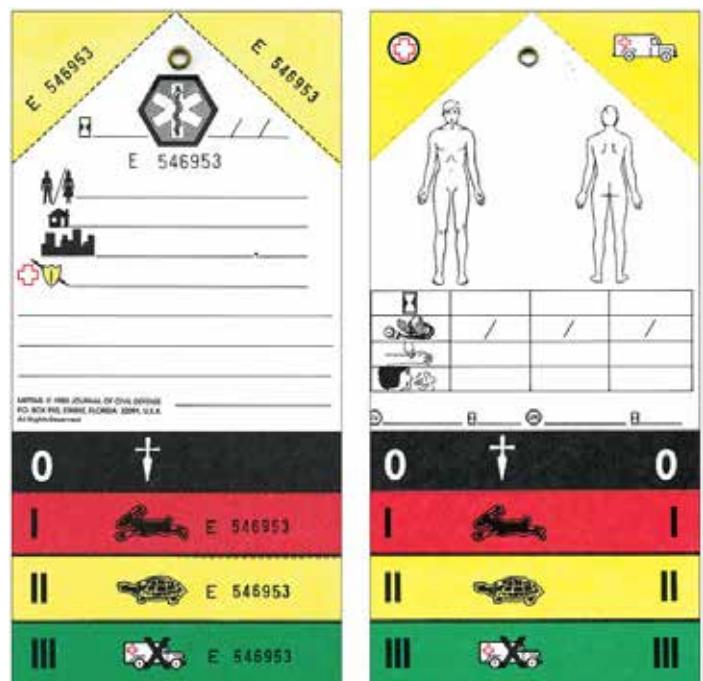
■ M minimal

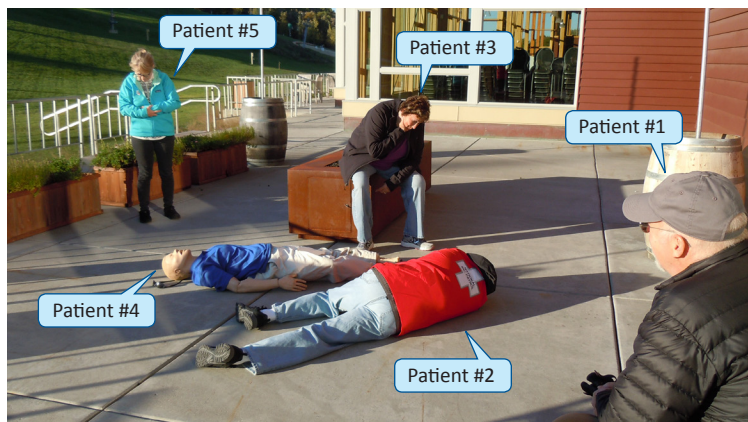
"Walking wounded"
Minor injuries can go untreated for 4 or more hours

■ E expectant

Little if any chance of survival

TRIAGE TAGS





START system uses RPM (respirations, perfusion, and mental status).

Triage the patient's. Using ID-ME and START, write down the color you would assign each one. Please note: START triage, using RPM, once a positive finding is identified, tag the patient and move on. Example Respirations over 30; tag as RED, do not spend time assessing pulse and mental status. Move to next patient.

PATIENT #1: BLACK COAT, HAT

- » Smoke inhalation
- » Respiratory distress > 30
- » P strong, Cap Refill > 2 sec
- » Alert

ID-ME _____ START _____

PATIENT #2: SKI PATROLLER

- » No Respirations
- » No Pulse (despite opening airway)
- » Unresponsive

ID-ME _____ START _____

PATIENT #3: SITTING, BLACK COAT

- » Neck laceration, bleeding profusely
- » Respiration < 30
- » P strong, Cap refill < 2 sec
- » Alert

ID-ME _____ START _____

PATIENT #4: LYING ON GROUND, BLUE COAT

- » Sucking chest wound
- » Respiration > 30
- » P strong, Cap refill < 2 sec
- » Alert

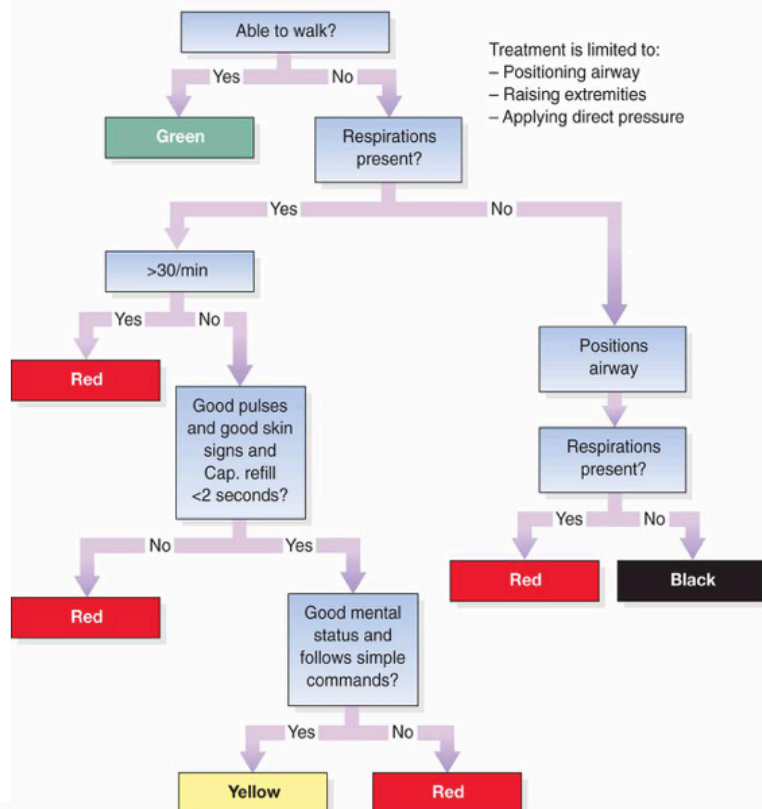
ID-ME _____ START _____

PATIENT #5: STANDING, LIGHT BLUE JACKET

- » Wrist pain, swelling
- » Able to walk, self-evacuates to designated area.
- » R < 30
- » P strong, Cap refill < 2 sec
- » Alert

ID-ME _____ START _____

START Triage



PATIENT ASSESSMENT CHAPTER 7

Describe and demonstrate how to perform a **primary assessment** and manage the ABCDs.

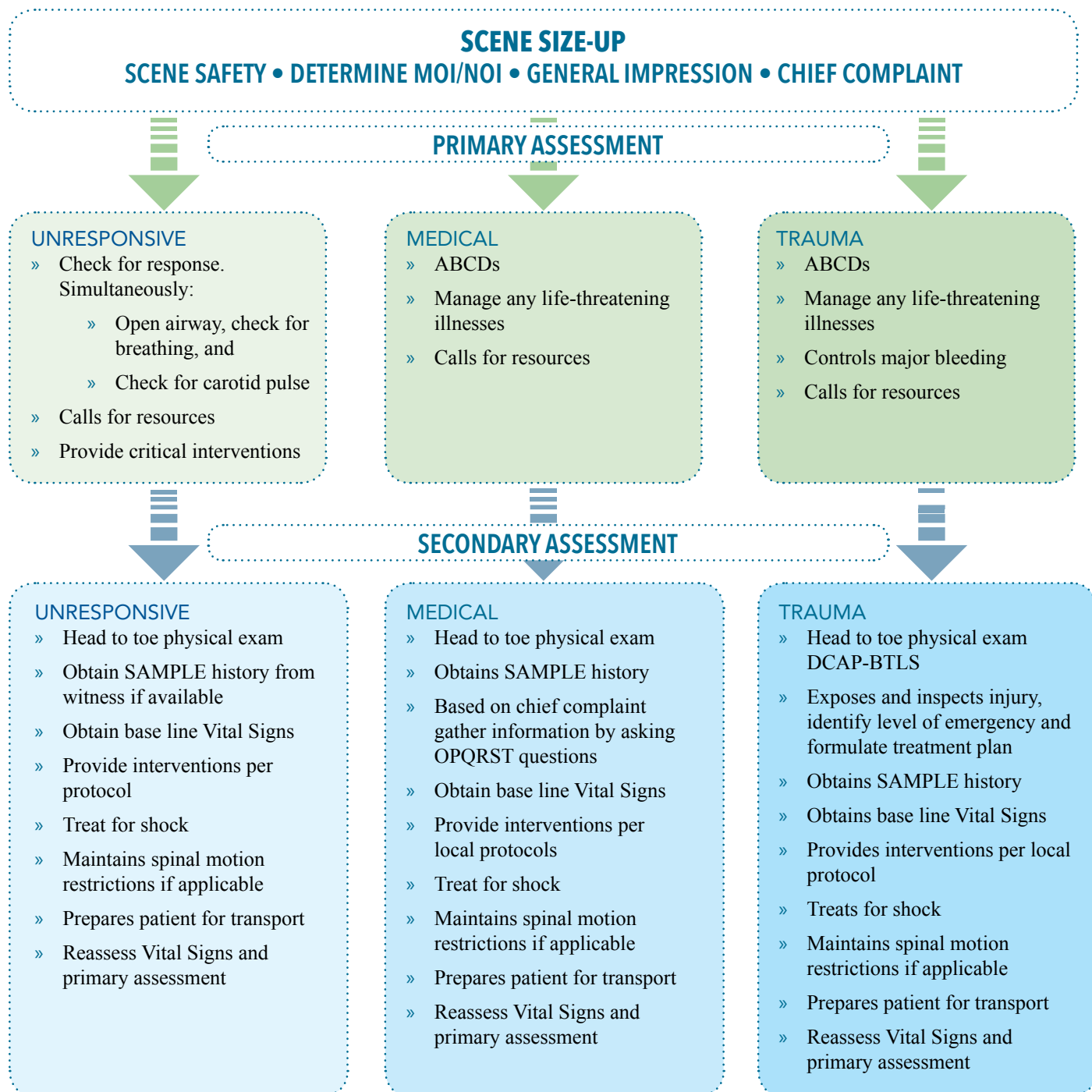
Describe and demonstrate how to perform a **secondary assessment**.

Describe and demonstrate how to assess the eyes (pupils and motion) **PERRL**.

Describe and demonstrate how to assess a patient's **level of responsiveness** using **AVPU**

Describe and demonstrate the procedure for obtaining the following **vital signs**:

- » a. **Respiratory rate;**
- » b. **Blood pressure; auscultation and palpation**
- » c. **Heart rate.**



ASSESSING PUPILS (SKILL GUIDE PAGE 256)

Checking pupils: Notes initial size/shape as patient stares at examiner's forehead.

Using a pen light, or small flashlight (NO LED), begin with the patient's left side and have the patient look at the center of your forehead.

1. Moving from the lateral side of the patient's face, briefly shine the light into the patient's left pupil. Note the reaction of the left pupil.
2. Shine the light into the left pupil a second time, note the reaction of the right pupil.



3. Moving from the lateral side of the patient's face, briefly shine the light into the patient's right pupil. Note the reaction of the right pupil.
4. Shine the light a second time into the right pupil, note the reaction of the left pupil.



Acknowledges if reactions to light are appropriate or abnormal.

PERRL stands for? (page 232)

P _____

E _____

R _____

R _____

L _____



Assessing eye movement: Hold up your index finger and have the patient stare at your forehead. Instruct the patient to follow the tip of your finger without moving their head. Move your finger left and right and up and down. Do their eyes track and move together?

Assessing level of responsiveness: What does AVPU stand for? (page 222)

A= _____

V= _____

P= _____

U= _____



Trapezius Pinch is one method of assessing the response to pain stimuli.

Some OEC Technicians may prefer using the Glasgow coma scale. For more information on the Glasgow coma scale see table 7-3 page 223 of OEC 5E.



VITAL SIGNS: PULSE, RESPIRATIONS, BLOOD PRESSURE, BODY TEMPERATURE

Assess the radial pulse: note rate, rhythm and quality.
Assess the respirations: note rate, rhythm and quality;
look and feel for chest rise.

Obtain a blood pressure: top number is systolic, bottom number is diastolic. Assess body temperature.

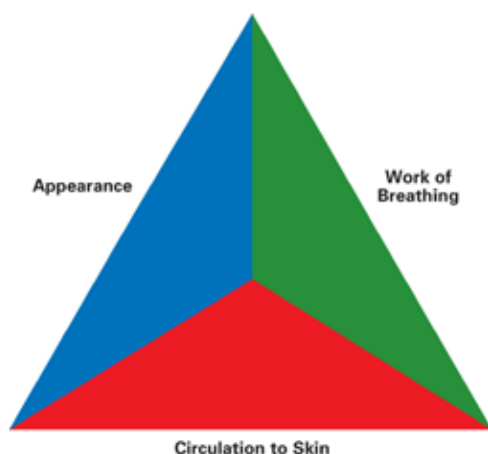
Pulse Oximetry: Oxygen saturation level of 95% or less is considered abnormal. Many factors can affect the accuracy of pulse oximetry including nail polish, cold weather, shock, carbon monoxide poisoning, a low red blood cell count and device malfunction.

SPECIAL POPULATIONS AND SITUATIONS: PEDIATRIC EMERGENCIES CHAPTER 30

Describe and demonstrate how to *assess a pediatric patient using the pediatric assessment triangle*.

The assessment of a pediatric patient follows the same steps as that of an adult. You may have to modify the assessment based on the child's age.

- » Scene size up, MOI, BSI and obtain consent.
- » As you approach the patient, begin to formulate a general impression of the patient's overall condition using the pediatric assessment triangle.



It is easy to remember the key components of pediatric assessment: just think ABCs

■ **A** Appearance

■ **B** Work of Breathing

■ **C** Circulation

CHILD'S APPEARANCE:

- Active, moving about? sitting still, quiet?
- Making eye contact?
- Appears irritable or agitated?
- Responds to care-giver's voice?

RESPIRATORY EFFORT:

- Increased respiratory effort?
- Sitting in tripod position?
- Sniffing position in infants?
- Use of accessory muscles?
- Nasal flaring?
- Paradoxical or see-saw breathing?
- Retractions?
- Respiratory sounds?

CIRCULATION:

- Skin color regarding perfusion, sclera of the eyes, the lips or palms of hands

Primary assessment: Much of the primary may have been completed while using the pediatric assessment triangle. Find and correct any life threats.

Secondary assessment: based on child's age and illness/injury, modify as needed. Consider using a toes to head approach. (pages 966 and 969)

CRITICAL INTERVENTIONS: AIRWAY MANAGEMENT CHAPTER 9

Demonstrate the usage of a *rigid suction catheter* and a *flexible suction catheter*.

Demonstrate the proper methods for choosing the correct size and inserting them:

- » a. *Oropharyngeal airway*; and
- » b. *Nasopharyngeal airway*. Show inserting in opposite (left) nostril, refer to page 323

Describe and demonstrate how to properly set up an *oxygen tank* for use.

Describe and demonstrate how to use the following oxygen delivery, ventilation, and barrier devices:

- » a. *Nasal cannula*;
- » b. *Non-rebreather mask*;
- » c. *Pocket mask and*
- » d. *Bag valve mask*.

Airway Management and Oxygen delivery equipment:



DO YOU HAVE ENOUGH AEDS?
CHECK YOUR PADS & BATTERIES

NSP Special: 25% off
 Safe to use when wet and on metal surfaces!
 Rugged and Reliable
 Check out Philips on the NSP Pro Page
 or call 1-844-693-4778

PHILIPS **FIRST**

Hand held suction devices:

Measure from mouth to angle of jaw. Insert. Be careful not to insert the catheter any further than you can see. Apply suction for no more than 10-15 seconds, as you slowly withdraw the device.





When choosing an oropharyngeal (OPA) airway, what does SIC stand for? (page 302-303)



S _____



I _____



Rotate 180 degrees



C _____

When choosing a nasopharyngeal (NPA) airway, what does SLIC stand for? (page 301-302)



S _____



L _____



I _____



C _____

Using the patient's left nare:
Refer to skill guide on page 323 for more information.



SHOCK CHAPTER 10:

Describe and Demonstrate the management of *shock*.
In this photo, what three things are being done to treat this patient for shock? (page 347-348)

1. _____
2. _____
3. _____

MEDICAL EMERGENCIES: SUBSTANCE ABUSE AND POISONING CHAPTER 12

Demonstrate the proper care of a patient who has *abused a substance or been poisoned.*

- » Ensure scene safety.
- » Initiate BSI.
- » Check ABCs.
- » Determine poisoning or substance abuse.
- » Search for evidence of substance or poison.
- » Examine the patient for exposure to toxin.
- » Monitor airway and vital signs.
- » Administer high flow oxygen.
- » Collect all items, including pill bottles and commercial containers; send to the hospital with the patient.
- » Rapid transport to definitive medical care is essential.

It is hard to turn on the news and not hear about the opioid crisis. Many paramedics, EMT and ambulance services carry Narcan, a medication that rapidly reverses an opioid overdose.



Poisoning: Even in the most vigilant settings, accidents can happen. Keep chemicals and medications out of reach of children.

Keep the Poison Control phone number 1-800-222-1222 handy.



“An ounce of prevention is worth a pound of cure.”

Ingested poisons: dilute by having the patient drink water, but **ONLY** if instructed by your medical director or the local poison control, and if there are no contraindications present. General contraindications for giving water by mouth include nausea and vomiting, depressed level of responsiveness or having ingested a substance that has the potential to depress the level of responsiveness. OEC Technicians should **NEVER** induce vomiting in a poisoning patient.

Rapid transport. Collect any and all containers, and send with the patient.

TRAUMA: MUSCULOSKELETAL INJURIES CHAPTER 20

Describe and demonstrate how to assess the following leg injuries and demonstrate the care for each using the splint listed after each injury.

- » **a. Ankle injury**, use a soft splint
- » **b. Open tibia/fibula (boot top) injury**, apply sterile dressing, use a quick splint
- » **c. Knee dislocation**, use a rigid splint (two padded boards)

Describe and demonstrate how to assess and care for a **mid-shaft femur fracture** and demonstrate the use of a traction splint. Use a long spine board for transport.

Describe and demonstrate how to **remove a ski boot, snowboard boot, and/or hiking boot** (area specific).

Describe and demonstrate placing a patient in the **anatomical position** using the **principles of "jams and pretzels."**

LOWER EXTREMITY INJURIES

Skill Guide: Splinting a Lower Extremity Injury (page 689)

- » Determines that scene is safe.
- » Introduces self, obtains permission to help/treat.
- » Initiates Standard Precautions.
- » Exposes injury to assess and manage the ABCDs.
- » Bandages any wounds, as necessary.
- » Directs helper to stabilize above and below the injury site by grasping the boot/shoe with one hand and grasping below the knee with the second hand.
- » Assesses for CMS.
- » Removes boot/shoe per local protocol.
- » Chooses the correct device/material for splinting/stabilization.
- » Sizes splint properly; uses pads as needed and positions splint.
- » Applies gentle traction/tension as needed, rotating extremity if necessary and if tolerated by patient.
- » Splints and stabilizes extremity with minimal movement.
- » Reassesses CMS.
- » Applies cooling method to help reduce swelling/bruising.
- » Prepares patient for transport.
- » Provides oxygen/treats for shock, if appropriate.

An ankle being splinted using an improvised soft splint:



Open tib/fib (boot top) fracture: apply sterile dressings, control bleeding, protect bone ends, secure in place.



Continue with splinting as you would a closed tibia/fibula fracture (boot top).

Closed tib/fib fracture:



1 Assess, expose injury and check CMS.



2 Properly support injury and apply splint.



3 Secure splint.



4 Recheck CMS.

Knee Injury:



1 Use two padded board (rigid) splints with a cravat to cradle the knee.



2 Secure below the injury.



3 Secure above the injury.



4 Reassess CMS.

Hint: How to tie a square knot, page 651 in OEC 5E.

MID-SHAFT FEMUR FRACTURES

A few examples of traction splints for treating mid-shaft femur fractures are the Hare, Kendrick, Sager or Slishman devices.

Points to remember for traction splinting: BSI; check CMS before and after splinting; measure device correctly; provide support above and below injury site. Refer to manufacturer's directions for the device used at your area. Applied traction is typically 10% of the patient's body weight, or approximately 15 pounds (page 644). Once the traction splint is applied, secure the patient to a spinal motion restriction device.

Hare Traction Splint: Refer to OEC skills photos page 681 and Skill Guide page 690.

Kendrick Traction device (KTD) application:



1 Stabilize above and below injury, apply ankle hitch.



2 Apply ischial strap, pole receptacle positioned at the belt line or iliac crest.



3 Size, then insert pole into pole receptacle, attach knee strap.



4 Place yellow tab over dart end, apply traction by pulling red tab, approximately 10% of body weight, to 15 pounds maximum. (KTD manufacturer instructions)



5 Finish by applying upper and lower straps.

Skill Guide: Boot Removal page 691

- » Determines that scene is safe.
- » Introduces self, obtains permission to treat/help.
- » Initiates Standard Precautions.
- » Rescuer #1 stabilizes the boot to be removed.
- » Rescuer #2 unbuckles/unlaces the boot completely.
- » Rescuer #2 spreads the boot open.
- » Rescuer #1 stabilizes injured area of leg/ankle by placing one hand on front of ankle and one hand on back of the ankle, holding this position firmly as the boot is removed.
- » Rescuer #2 gently removes boot by sliding heel away from foot, followed by the toe portion; monitors patient for indications of excessive pain; stops or modifies procedures as appropriate.
- » Assesses CMS.
- » Prepares and applies splint, keeping movement of injured extremity to a minimum.
- » Reassesses CMS after splint is applied.
- » Treats for shock, if appropriate.
- » Prepares patient for transport.

**1** Stabilize boot/lower leg. Undo all fasteners**2** Spread the boot open.**3** Rotate the boot away from the heel, remove.

Nordic and other boots: Use same technique.

JAMS AND PRETZELS

The goal of positioning an injured patient is to move the person, especially one with a suspected spinal injury, into the supine position, without causing any damage to the spinal cord or further neurologic injury.

When moving or aligning a patient into anatomical (supine) position: **stabilized extrication** involves aligning the three important posterior reference points, the head, _____, and _____. (page 674) Movements should be done in one plane, one joint at a time.



One of several jams and pretzels positions.
Goal: move the patient into a supine position.



1 Stabilize the head, shoulders, and hips.



2 Continue stabilizing when moving.



3 Move one plane, one joint at a time.



4 From this position, log roll onto a spinal restriction device.

FACE, EYE AND NECK INJURIES CHAPTER 22

Describe and demonstrate how to **assess** and **manage** a patient with a **non-penetrating eye injury**.
 Describe and demonstrate how to **assess** and **manage** a patient with a **penetrating injury to the eyeball**.
 Describe and demonstrate how to **assess** and **manage** the proper care of **face and neck injuries**.

Non-penetrating eye injury:



Scene safety

BSI

Primary assessment: ABCDs, monitor airway

Control bleeding if present

Consider spinal motion restriction (SMR)

Secondary assessment

High flow oxygen

Rapid transport

Impaled Object in the Eye:



1 Scene safety, BSI, ABCDs



2 Sterile moist dressing, stabilizing dressing



3 Protect the impaled object from movement. Cover both eyes.



Neck Injuries involving the structures of the neck can be immediately life-threatening, frequently associated with severe swelling or formation of a hematoma that can compromise the airway.

Blunt trauma:

- » Leading cause of neck or throat injuries that may damage not only the vital structures in the anterior neck but also the cervical spine.
- » Direct blows to the anterior neck and “clothesline” or ligature-type injuries can be deadly because the concentrated force can crush the larynx or trachea.
- » This type of injury can also cause deep lacerations and open wounds.
- » Structural damage may completely occlude the airway.

Open neck injuries:

- » Aggressively manage the airway.
- » These injuries are usually difficult to manage in the field.
- » Summon advanced life support assistance, and urgently transport.

Penetrating injuries:

- » Are especially concerning because they often damage multiple structures, including the trachea and major blood vessels.
- » Neck and throat injuries can be deceptive; although they may initially appear benign, they are frequently associated with grave underlying trauma.



Treatment of a severed blood vessel in the neck begins with placing a gloved hand over the wound to control bleeding. Apply only enough pressure to control bleeding.



Apply an occlusive dressing that extends beyond the wound, then cover with a regular dressing.



Once the bleeding is controlled, apply a pressure dressing that does not go circumferentially around the neck.

THORACIC TRAUMA CHAPTER 23 PAGES 783-786

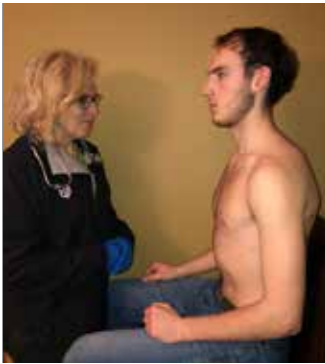
Describe and demonstrate how to **assess** the **chest for trauma** using the **L.A.P. method**.
Describe and demonstrate the **emergency management** of a **sucking chest wound**.

LAP= LOOK, AUSCULTATE AND PALPATE:

LOOK for contusions, deformities and potentially serious injuries such as sucking chest wound, impaled object, or obvious flail segment. Do both sides of the chest expand fully and symmetrically?

AUSCULTATE by listening with a stethoscope to the lungs both anteriorly and posteriorly to ensure that the breath sounds are present, equal, and clear bilaterally.

PALPATE the entire chest, axillary regions and upper back for tenderness and deformity. “Walk the clavicles”.
Check the sternum and both scapula.



Look



Upper lobes: listen to both sides of the anterior chest.



Lower anterior lobes: listen at the right and left mid-axillary line.



1



2



3



4

1 and 2. Auscultate the left upper and lower lobes on the back; 3 and 4 repeat on the right side.



Palpate

Sucking chest wound:



Cover with a gloved hand. Then cover a sucking chest wound with an occlusive dressing. Commercial products available are Vaseline gauze, Bolin chest seal, and an Asherman chest seal.

If none of these are available, improvise with plastic wrap, plastic bag, aluminum foil, or other impermeable material; tape in place on three sides.

High flow oxygen, rapid transport, use advanced life support if available.

OEC REFRESHER 2019 CYCLE C SKILLS CHECKLIST	Each OEC technician must perform the following skills	Each OEC technician must participate as a team member	Instructor sign-off
Incorporate into all stations:			
Describe and demonstrate how to manage shock.		X	
Each OEC technician must perform the following skills:			
Describe and demonstrate how to ensure scene safety, including use of BSI.	X		
Each OEC Technician must perform in a group:			
Describe and demonstrate how to use the ID-ME triage system.		X	
Describe and demonstrate how to use the START triage system.		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.	X		
Describe and demonstrate how to assess the eyes (pupils and motion) PERRL.	X		
Describe and demonstrate how to assess a patient's level of responsiveness using AVPU.	X		
Describe and demonstrate the procedure for obtaining the following vital signs:	X		
Pulse (heart rate)	X		
Respiratory rate	X		
Blood pressure (auscultation and palpation)	X		
Each OEC technician must perform the following skills:			
Demonstrate the usage of a rigid suction catheter and a flexible suction catheter.	X		
Demonstrate the proper methods for choosing the correct size and inserting:			
Oropharyngeal airway	X		
Nasopharyngeal airway show both nostrils (page 323)	X		
Describe and demonstrate how to properly set up an oxygen tank for use.	X		
Describe and demonstrate how to use the following delivery ventilation and barrier devices:			
Nasal cannula	X		
Non-rebreather mask	X		
Pocket mask	X		
Bag valve mask	X		
Each OEC Technician must lead one and participate in all others: (One child and one adult.)			
Describe and demonstrate the proper care of a patient who has abused a substance or been poisoned.		X	
Each OEC technician must lead one and participate in all others:			
Describe and demonstrate how to assess the following leg injuries and demonstrate the care for each injury using the splint listed after the injury.			
Ankle, soft splint		X	
Open boot top (tibia/fibula), sterile dressing, quick splint		X	
Knee dislocation, rigid board splint		X	
Describe and demonstrate how to assess and care for a mid-shaft femur fracture and demonstrate the use of a traction splint. Use a long spine board for transport.		X	
Demonstrate how to remove a ski boot, snowboard boot, or hiking boot.		X	
Describe and demonstrate placing a patient in the anatomical position using the principles of "jams and pretzels."		X	

OEC REFRESHER 2019 CYCLE C 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 lead one and participate in all others:				
Describe and demonstrate how to assess and manage a patient with a non-penetrating eye injury.			x	
Describe and demonstrate how to assess and manage a patient with a penetrating injury to the eyeball.			x	
Describe and demonstrate how to assess and manage the proper care of face and neck injuries:				
blunt trauma			x	
penetrating trauma			x	
Each OEC Technician must perform the following skills:				
Describe and demonstrate how to assess the chest for trauma using L.A.P. method.		x		
Describe and demonstrate the emergency management of a sucking chest wound.		x		
Each OEC Technician must perform the following skill:				
Describe and demonstrate how to assess a pediatric patient using the pediatric assessment triangle.		x		
Group				
Case Review discussion			x	

REFRESHER EVALUATION FORM

Name (optional): _____

Date: _____

Home Patrol: _____

Refresher Location: _____

1. The refresher was well-organized.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
2. The presentations were clear and well-prepared.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
3. At the skills stations, I understood what I needed to do at each one.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
4. The equipment we used was in good condition, and there was enough to go around.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
5. The instructor(s) provided fair feedback of my skills.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
6. The refresher was run in a relaxed, positive manner.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
7. Did you use your *OEC 5th edition* to review the refresher topics and complete your workbook?
☐ Yes ☐ No
8. The Refresher Workbook was helpful in preparing for this refresher.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
9. 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
10. The "Case Review" was helpful, and a valuable part of the refresher.
☐ Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree
11. Overall, I would rate this refresher:
☐ Excellent ☐ Very good ☐ Good ☐ Needs improvement

12. What are the strengths of the refresher?

13. What could be improved in the refresher?

14. I'd like my instructor(s) to do a better job of:

15. My instructor(s) did an excellent job of:

16. Have you ever used your OEC skills in a place other than your normal patrol environment? If so, where?

Participants: Please return this completed form to your instructor.
Instructors: Please submit this form to the proper person per your region or division guidelines.
 Please DO NOT mail forms to the national office.

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.

2019 CYCLE 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@nspservices.org

2019 OEC REFRESHER COMMITTEE

William Devarney (Chair)
Eastern Division Admin. Patrol
wdevarney@gmail.com

George Angelo
Utah Olympic Park Ski Patrol
georgelopc@gmail.com

Jason Erdmann
Tyrol Basin Ski Patrol
jmerdmann@gmail.com

Kathy Glynn
Three Rivers Ski Patrol
Angelw499@aol.com

Dave Hemendinger
Yawgoo Valley Ski Patrol
dhemendi@gmail.com

Tim Thayer
Afton Alps Ski Patrol
timthayer@comcast.net



Photo by Scott Brockmeier.

MEDICAL REVIEW

David Johe, M.D., NSP Medical Adviser

INDEPENDENT REVIEW PANEL

Aileen Cassidy, Southern Division

Michelle Goldsmith, Eastern Division

Eva Kunkel, Eastern Division

Ed McNamara, Eastern Division

Jane San Romani, Pacific Northwest Division

Bill Smith, Southern Division

OEC EDUCATION STAFF

David Johe, M.D., NSP Medical Adviser

Deb Endly, NSP OEC Program Director

Sheila Summers, NSP Education Director

DESIGN

Agnieszka Hansen

PHOTOS

Beth Chambers, Kathy Glynn, Tim Thayer
OEC 5E

We wish to thank the following patrollers and their families for participating in our photo sessions:

Marc Andvik, George Angelo, John Brekke, Jocko Curtin, Wrick Dunning, Jason Erdmann, Barb Gaasedelen, Kathy Glynn, Alex Thayer, Mary Thayer, Tim Thayer, John Yager, Vicki Zierden, NSP OEC program director Deb Endly, and NSP education director Sheila Summers.