OHM MEDICAL TRAINING SERVICES, INC

Presents

FIRST RESPONDER

INSTRUCTOR GUIDE

The following manual is for First Responder instructors. The manual is a guide to instructors for teaching the First Responder program. This manual is based off the Jones And Bartlett EMR manual and is intended to be used in conjunction with the Jones and Bartlett manual. All references to the manual or publications are used with permission from Jones and Bartlett.

EMA licensing references are used and supplied with permission from the EMA licensing board.

We encourage all instructors to contact us anytime you have questions regarding the First Responder Instructor program. The instructor manual will be updated as updates are made available, please refer to the most up to date version prior to teaching course, up to date versions will be made available on Google Drive to all authorized instructors of the OHM Medical FR Course.

First Responders are governed by the EMA Licensing Board. All first responders are responsible for knowing their licence level and the scope at which they can practice at.

Below are Schedules 1, 2 and 3 from the EMA Licensing Board. These schedules identify what a First Responder can do.

Schedule 1

[am. B.C. Regs. 3/2011, s. (a); 76/2014, s. 2; 123/2017, s. 2.]

Services — Licence Category

(section 8) EMA FR 1

An EMA holding a licence in the category EMA FR may provide the following services: (a) scene assessment; (b) assessment of level of consciousness, skin colour and temperature, pulse, and respiration; (c) rapid body survey to identify and attend to any life threatening injuries followed by a secondary assessment consisting of a physical examination, medical and incident history, and vital signs; (d) cardiopulmonary resuscitation; (e) basic wound and fracture management; (f) maintenance of airways and ventilation.

Schedule 2

[am. B.C. Regs. 3/2011, s. (b); 144/2013, Sch. 2, s. 1 (c); 76/2014, s. 3.]

Services — Licence Endorsement

(section 10)

EMA FR 1 If an EMA holds a licence in the category EMA FR, the licensing board may endorse the licence to permit the EMA to provide one or more of the following services: (a) use of airway management techniques including oropharyngeal airways, oral suction devices and oxygen-supplemented mask devices to assist ventilation; (b) use of an automatic or semi-automatic external defibrillator; (c) cervical collar application and spinal immobilization on a long spine board; (d) administration of oxygen; (e) administration of oral glucose; (f) emergency childbirth; (g) ventilation using pocket mask and bag/valve/mask devices.

Schedule 3

Code of Ethics

The purpose of this code of ethics is to provide general principles of ethical conduct to guide emergency medical assistants in meeting their duties to the public and to the profession.

EMERGENCY MEDICAL ASSISTANTS MUST (a) consider, above all, the well-being of the patient in the exercise of their duties and responsibilities; (b) develop and maintain working relationships with other health professions and associations to ensure that patients receive the best possible emergency health care; (c) protect and maintain the patient's safety and dignity, regardless of the patient's race, colour, ancestry, place of origin, religion, marital status, family status, physical or mental disability, sex or sexual orientation; (d) preserve the confidence of patient information consistent with the duty to act at all times for the patient's well-being; (e) not engage in any illegal or unethical conduct nor act in a manner that conflicts with the best interests of the profession; (f) report to the appropriate authorities any incompetent, illegal or unethical conduct by colleagues or other health care personnel; (g) carry out professional responsibilities with integrity and in accordance with the highest standards of professional competence; (h) strives to improve the professional competence of colleagues serving under their direction; (i) assume responsibility for personal and professional development, and maintain professional standards through training and peer mentoring; (j) strive to encourage and merit the respect and trust of the public for members of the profession; (k) refrain from impugning the professional reputation of a colleague or any other health care provider; (l) promote and encourage compliance with the spirit of these standards within the profession.

First Responder Course Agenda

MODULE	DAY 1	TIME
MODULE 1	LESSON A: COURSE INTRODUCTION	10 min
	LESSON B: ROLES AND RESPONSIBILITIES OF THE FIRST RESPONDER	20 min
	LESSON C: THE EMS SYSTEM AND HOW IT WORKS	10 min
	LESSON D:COMMUNICATIONS AND RESPONDING	10 min
	LESSON E: SCENE SIZE UP	20 min
	LESSON F: PRIMARY ASSESSMENT	90 min
	LESSON G: C- SPINE	10 min
	LESSON H: ANATOMY & PHYSIOLOGY - HUMAN BODY	40 min
MODULE 2	LESSON I: AIRWAY MANAGEMENT	30 min
	LESSON J: ARTIFICIAL RESPIRATION / RESCUE BREATHING	65 min
	LESSON K: OXYGEN ADMINISTRATION	20 min
	DAY 1 REVIEW	15 min

MODULE	DAY 2	TIME
MODULE 3	LESSON L: MEDICAL EMERGENCIES	70 min
	LESSON M: TRAUMA / DEADLY BLEEDING / SHOCK	80 min
	LESSON N: MANAGEMENT OF HEAD & SPINAL INJURIES	60 min
MODULE 4	LESSON O: PATIENT PACKAGING	60 min
	LESSON P: PATIENT MOVEMENT & TRANSPORT	25 min
	LESSON Q: HISTORY	15 min
	DAY 2 REVIEW	15 min

MODULE	DAY 3	TIME
MODULE 5	LESSON R: SECONDARY ASSESSMENT	60 min
	LESSON S: CHEST & ABDOMINAL & PELVIC INJURIES	60 min
	LESSON T: DOCUMENTATION AND REPORTS	30 min
MODULE 6	LESSON U: FRACTURE & JOINT INJURIES	60 min
	LESSON V: MINOR WOUNDS & TREATMENT CARE	45 min
	LESSON W: BURNS	20 min
	LESSON X: MEDICAL & REAL BEHAVIOURAL EMERGENCIES	30 min
	PRACTICE AND SIMULATIONS	45 min
	DAY 3 REVIEW	15 min

MODULE	DAY 4	TIME
MODULE 7	LESSON Y: POISONS / OVERDOSES	30 min
	LESSON Z: ENVIRONMENTAL EMERGENCIES	20 min
	LESSON 1: EYE INJURIES	15 min
	LESSON 2: IMMOBILIZATION & PACKAGING DRILLS	80 min
MODULE 8	LESSON 3: CHILDBIRTH	25 min
	LESSON 4: MULTI-CASUALTY INCIDENTS	25 min
	LESSON 5: AMBULANCE ORIENTATION/FAMILIARIZATION	30 min
	LESSON 6: PRACTICE AND SIMULATIONS	60 min
	DAY 4 REVIEW	15 min

MODULE	DAY 5	TIME
MODULE 9	PRACTICE SIMULATIONS	120 min
	PRACTICAL EXAMINATIONS	120 min
	WRITTEN EXAMINATION	60 min
	COURSE SUMMARY	20 min

Reference Materials: ● Materials used with approval of Jones and Bartlett and intended to be used in conjunction with the Jones and Bartlett EMR 6th Edition Manual

MODULE 1 - Lesson A

First Responder Instructor Course

Student manual: Jones & Bartlett, EMR 6th Edition
Equipment: N/A
Time: 10 min

Instructor to take class through the following:

- Have quick roundtable with introductions
- Give an overview of Emergency procedures/ evacuation routes/ muster points/ course address for 911
- Identify where washrooms are located
- Brief overview of course and expectations
- Go over safety expectations, proper cleaning techniques
- Explain evaluation process and examination process
- Students are to perform all skills successfully
- Students must achieve a minimum of 70% on oral/written examinations to receive certification
- Students must present a picture ID to the instructor prior to receiving a certificate.
- Upon successful completion and licensing, licenses are good for 3 years.
- Students must pass skills evaluation stations and practical exams to be successful
- It is the students responsibility to apply for a license to the EMALB after successful completion of the course.
- All Students must sign roster with full name and email address

MODULE 1 - Lesson B

ROLES AND RESPONSIBILITIES OF THE FIRST RESPONDER

Student manual: Jones & Bartlett, EMR 6th Edition
Equipment: N/A
Time: 20 min

KNOWLEDGE OBJECTIVES

Upon completion of this module students are expected to:

- Know the primary functions of the first responder.
- Know the role a first responder plays in their community
- Know their limitations as a First Responder
- Discuss the issues pertaining to patient care, the ability to refuse care and DNR / No CPR orders.

Class Discussion/ Project

- Students discuss the roles and responsibilities of the First Responder in their community
- Instructors should participate and give feedback on the differences between communities and engage the class to share shortfalls or potential problems in different communities.

EPOS

1.) WHAT IS EPOS?

- Emergency Physician Online Support Program

2.) HOW TO USE EPOS?

Clinical EPOS Consultation by any Paramedic on Scene is Required:

- 1.) Any termination of resuscitation other than obvious death situation.
- 2.) Early Transport decisions in cardiac arrest.
- 3.) Refusal of Transport involving an in-custody patient.
- 4.) When a patient indicates a non-transport decision And after evaluation is found to have no legal guardian available to determine transport decisions.
- 5.) Research trial patient enrolment as per the patient identification/ enrolment study protocol.
- 6.) Certain local bypass hospital authorizations. (e.g. hot stroke, ECMO, etc.)
- 7.) CCP level authorization request for drug/procedure not specified in the Regulation.
- 8.) When a treatment Guideline specifies physician consultation.
- 9.) When Joint Rescue Coordination Centre (JRCC) personnel requesting medical consultation.
- 10.) Uncertainty about appropriateness of MOST orders, advance directive, DNR order, and/ or representation agreement.

3.) WHEN SHOULD IT BE USED?

- EPOS Consultation Recommended:
- When paramedic developing management /transport plan with external or Federal agency. (e.g. Search and Rescue, STARS, Parks Canada, etc.)

- Non-Transport decision made by patient /legal guardian and patient is over the age of 65 or under the age of 12 and /or is considered a vulnerable patient. (see Protecting Children and Vulnerable Adults under Patient Care Policy)
- At the paramedic discretion for any clinical uncertainty or dilemma.

4.) Paramedic Specialist (PS) Escalation To EPOS

RECOMMENDED:

- Any clinical questions, concerns or uncertainty requiring physician consultation.
- Uncertainty about patient viability and decision to initiate resuscitative efforts.

APPENDIX A

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail chest
- Two or more proximal long-bone fractures
- Crushed, degloved or mangled extremity
- Pelvic fracture
- Open or depressed skull fracture
- Paralysis
- Uncontrolled hemorrhage
- Paramedic impression of major trauma

Significant Mechanism of Injury/Risk Factor:

- Falls
  - a.) Adults greater than 3 m (10 feet) or 5 stairs
  - b.) Children: greater than 3 m (10 feet) or 2-3 times the height of the child
  - c.) Axial load to the head
- High-risk motor vehicle trauma (including rollover, extrication time > 20 minutes, impact >40 km/h(unrestrained) or impact > 60 km/h (restrained)
  - Interior compartment intrusion greater than 30 cm occupant site or greater than 45 cm into any area of the passenger compartment
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Auto vs. pedestrian /bicyclist thrown, run over, or with significant (greater than 10 km/hr) impact
  - Motorcycle crash greater than 30 km/hr
  - Assault with a blunt or edged weapon (not exclusively hit by fist or feet)
- Extremes of age
  - Older Adults: Risk of injury /death increases after age 55
  - Children: Especially for 12 years and younger
- Significant burns
- Time sensitive extremity injury such as an open fracture or fracture with neurovascular compromise
- Pregnancy greater than 20 weeks

Information on EPOS obtained from the: handbook.bcehs.ca

MODULE 1 - Lesson C

EMS SYSTEM AND HOW IT WORKS

Student manual:
Equipment: Personal Protective Equipment (PPE)
Time: 10 min

KNOWLEDGE OBJECTIVES:

Upon completion the First Responder participant should be able to:

- Know the different components of the EMS system
- Know how the EMS system works
- Know how to activate the EMS system in the area worked
- Know what is required for the system to work and what information is needed
- Know the different types of Ambulances
- Know the differences in the role of paramedics within BC (EMR, PCP, ACP, CCP,ITT)
- Know which type of paramedics are available in your area

MODULE 1 - Lesson D

Communications and Responding

Student manual: Jones and Bartlett, EMR 6th Edition Chapter 5 (p.73-87)
Equipment: PPE
Time: 10 min

KNOWLEDGE OBJECTIVES:

- Upon completion of this module, First Responder participants will be able:
- To Identify the different methods used to communicate and network with other agencies in the local area Familiar with radio communications
- To recognize and correct potential communication problems in the local area
- Understand how to operate safely in the designated Landing zones

First Responder Instructor Discussion:

- Discuss the above objectives focusing on the First Responders participants' local areas.

MODULE 1 - Lesson E

SCENE SIZE UP

Student manual: Jones and Bartlett, EMR 6th Edition, Chapter 3 Pg 168-173
Equipment: PPE
Time: 20 min

Knowledge Objectives:

Upon completion of this module, First Responder participants will have developed an understanding of Scene Size Up concepts and be able to explain:

- The process involved in the Scene Size Up
- Understand and identify common Scene Size Up hazards
- Recognize common mechanisms of injury (MOI)
- Provide a rationale for determining the number of patients and additional resources

Instructor facilitates discussion/demonstration

- Describe and discuss the components of the Scene Size Up
- Discuss scene safety
- Discuss and review mechanism of injury
- Give rationale for number of patients / rescuers / and resources

First Responder Practice

- FR participants break into groups and discuss the different types of scene safety.
- FR participants describe the actions necessary to ensure the scene is safe
- FR participants should understand the importance of PPE (personal protective equipment)

MODULE 1 - Lesson F

PRIMARY ASSESSMENT

Student Manual: Jones and Bartlett, EMR 6th Edition (page 174-177)
Equipment: PPE
Time: 90 min

Knowledge Objectives:

Upon completion the First Responder participant will understand:

- The rationale of a Primary Survey
- The steps of the primary assessment
- First Responder participants, will demonstrate the sequence of actions necessary for the Primary Assessment Will perform critical interventions (including manual stabilization of the patient's neck)

Instructor facilitates Discussion/Demonstration

- The purpose of the primary assessment is to identify all life-threatening concerns.
- First responders are to follow the sequential approach described in the manual provided (p.175-176)
- The primary assessment is done with the patient in the position found, unless there is an imminent life-threatening intervention required.
- The instructor will discuss and demonstrate the correct process of the Primary Assessment on a conscious and unconscious patient.

First Responder Participant Practice

- FR participants break into their groups and practice the primary assessment.
- Demonstrate full primary assessment
- Instructor to provide feedback

MODULE 1 - Lesson G

C- SPINE

Student Manual: Jones and Bartlett, EMR 6th Edition (p.47-56)
Equipment: Hard Collar
Time: 10 min

Knowledge Objectives:

- Know the Anatomy & Physiology of the spine
- Know the importance of maintaining effective C-spine precautions
- Know the potential hazards to the patient when moving him or her with C-spine precautions in place.
- Learn Basic Holds for maintaining the C-Spine in the neutral position
- Learn Basic rolls to ensure the patient's C-Spine is adequately protected

Instructor facilitates discussion/demonstration

Explain differences in the manual grips for C-Spine precautions on a conscious patient

First Responder Practice

First responder participants break into groups to practice holds and rolls.

MODULE 1 - Lesson H

ANATOMY & PHYSIOLOGY

(Human Body)

Student manual: Jones and Bartlett, EMR 6th Edition, Chapter 6 (p.89-103)
Equipment: N/A
Time: 40 min

Knowledge Objectives:

Upon completion of this module the First Responder participant will be able to:

- Define the common terms used in human anatomy & physiology.
- List the major systems of the human body.
- Identify the major components and functions of the systems of the human body.
- Instructor should identify common emergencies that each body system/organ can encounter.

For additional information on medical terminology see appendix A, page 454-459.

NOTE: Instructors will reinforce A and P throughout the duration of the course.

MODULE 2 - Lesson I

AIRWAY MANAGEMENT

Student Manual: Jones and Bartlett, EMR 6th Edition, Page 106-117
Equipment: Pocket Mask, Bag Valve Mask (BVM), OPA
Time: 30 min

Knowledge Objectives:

Upon completion of this module, the First Responder participant will be able to understand the need for proper airway management.

- Topics covered in airway management include:
- Recognizing adequate and inadequate airway issues
- Maintaining an open airway
- Providing artificial ventilation
- Understanding the use of suction equipment, ventilation devices, and techniques for removing airway obstruction.

Instructor facilitates discussion/demonstration
(Reference Jones and Bartlett Manual)

- Identify the anatomic structures of the respiratory system, including the function of each structure. (pp 108-110)
- State the differences in the respiratory systems of infants, children, and adults. (p 110)
- Explain how to check a patient's level of responsiveness. (p 111)
- Describe how to perform the head tilt–chin lift maneuver. (p 111)
- Describe how to perform the jaw-thrust maneuver. (pp 111-112)
- Explain how to check for fluids, foreign bodies, or dentures in a patient's mouth. (p 112)
- List the steps needed to clear a patient's airway using finger sweeps and suction. (pp 112-114)
- Describe the signs of adequate breathing, the signs of inadequate breathing, the causes of respiratory arrest, and the major signs of respiratory arrest. (p 119)
- Describe how to check a patient for the presence of breathing. (p 119)
- Describe how to perform rescue breathing using a mouth-to-mask device, a mouth-to-barrier device techniques, and a bag-valve mask. (pp 119-125)
- List the steps for recognizing respiratory arrest and performing rescue breathing in infants, children, and adults. (pp 125-127)
- Describe the differences between the signs and symptoms of a mild airway obstruction and those of a severe or complete airway obstruction. (pp 125-127)
- List the steps in managing a foreign body airway obstruction in infants, children, and adults. (pp 128-132)
- Describe the special considerations of airway care and rescue breathing in children and infants. (pp 126-127)
- Describe the indications for using supplemental oxygen. (p 132)

- Describe the equipment used to administer oxygen. (pp 132-133)
- Describe the safety considerations and hazards of oxygen administration. (pp 133-134)
- Explain the steps in administering supplemental oxygen to a patient. (pp 133-134)
- Describe the function and operation of a pulse oximeter. (pp 134-135)
- List the special considerations needed to perform rescue breathing in patients with stomas. (pp 135-136)
- Define gastric distention. (p 136)
- Describe the hazards that dental appliances present during the performance of airway skills. (p 136)
- Describe the steps in providing airway care to a patient in a vehicle. (p 136)

Instructor Facilitates Discussion/Demonstration

- Demonstrate how to check a patient's level of responsiveness. (p 111)
- Demonstrate the head tilt–chin lift maneuver for opening blocked airways. (p 111)
- Demonstrate the jaw-thrust maneuver for opening blocked airways. (pp 111-112)
- Demonstrate how to check for fluids, solids, and dentures in a patient's airway. (p 112)
- Demonstrate how to correct a blocked airway using finger sweeps and suction. (pp 112-114)
- Demonstrate how to place a patient in the recovery position. (p 115)
- Demonstrate how to check for the presence of breathing. (p 119)
- Demonstrate how to perform rescue breathing using a bag-valve mask. (pp 119-125)
- Demonstrate the steps in recognizing respiratory arrest and performing rescue breathing on an adult, a child, and an infant. (pp 125-127)
- Demonstrate the steps needed to remove a foreign body airway obstruction in an infant, a child, and an adult. (pp 128-132)
- Demonstrate administration of supplemental oxygen using a nasal cannula and a nonrebreathing mask. (pp 133-134)
- Demonstrate the operation of a pulse oximeter. (pp 134-135)
- Demonstrate rescue breathing on a patient with a stoma. (pp 135-136)
- Demonstrate airway management on a patient in a vehicle. (p 136)

Instructor Demonstration

The instructor demonstrates the correct technique of:
Jaw Thrust/ Tongue-jaw lift and finger sweep.

First Responder Practice

First Responder participants break into Groups

Instructor Demonstration

The instructor demonstrates the correct technique of ventilating a patient with a pocket mask.

First Responder Practice

First Responder participants break into Groups

Instructor Demonstration/Description

The instructor demonstrates the correct technique for intervention on an obstructed airway in a conscious adult that becomes suddenly becomes unconscious.

First Responder Practice

First Responder participants break into Groups.

Instructor Demonstration/Description

The instructor demonstrates the correct technique of an Obstructed Airway with an unconscious patient. This will include the rolling of the unconscious vomiting patient onto his side (semi-towards, the rescuer into the recovery position.

First Responder Practice

FR participants break into Groups and practice airway management on unconscious patients.

MODULE 2 - Lesson J

ARTIFICIAL RESPIRATION/ RESCUE BREATHING

Student Manual: Jones and Bartlett, EMR 6TH Edition, Page 119 -125
Equipment: Pocket mask, BVM
Time: 65 min

Knowledge Objectives:

When your FR participant completes this module, they should be able to describe and demonstrate:

- the basic anatomy and physiology of the respiratory system
- recognize the signs & symptoms of a respiratory emergency
- manage a respiratory airway
- how to maintain a patent airway
- the head tilt-chin lift, jaw thrust techniques and OPA insertion
- the steps of rescue breathing
- the correct application of pocket mask and BVM

Instructor facilitates discussion/demonstration

- a review Anatomy & Physiology
- Discuss causes of respiratory emergencies
- Describe signs and symptoms of respiratory distress and respiratory arrest
- Describe the differences with management of respiratory distress and respiratory arrest
- The instructor demonstrates the correct application of a BVM with a patient in respiratory arrest.
- Adults= 1 breath every 5-6 seconds, child/infants receive 1 breath every 3-5 seconds (please refer to Heart and Stroke rescue breathing guidelines)
- Be cautious of gastric distension when providing rescue breaths.
- If the patient vomits, reposition to side, clean out and suction the mouth and then return to rescue breathing.
- Mouth to mouth rescue breathing is not recommended.

First Responder Practice

- FR participants break into Groups to recognize and manage rescue breathing. First responders will practice on mannequins that will ventilate.
- Each FR participant after practicing will demonstrate the correct application of rescue breathing to the instructor.

MODULE 2 - Lesson K

OXYGEN ADMINISTRATION

Student Manual: Jones and Bartlett, EMR 6th Edition Chapter 7, Page 132-134
Equipment: Oxygen cylinder, pressure regulator/flow meter, nasal cannula and non-rebreather (NRB)
Time: 20 min

Knowledge Objectives:

- First responders will provide a rationale and demonstrate the following: ● Know the oxygen unit and its components ● Know the safety concerns ● Demonstrate and provide a rationale for the use of oxygen including the various delivery systems for their licensing level.

Instructor facilitates discussion/demonstration

- Provides an explanation and demonstrates different methods of the application of oxygen. This will include operating of oxygen tank.
    - standard face mask
    - pocket mask
    - non-rebreather face mask
    - nasal prongs
    - bag-valve-mask

First Responder Practice
FR participants break into practice groups and demonstrate the ability to operate the oxygen equipment.

DAY 1 REVIEW

MODULE 3 - Lesson L

MEDICAL EMERGENCIES

Student Manual: Jones and Bartlett, EMR 6th Edition, Chapter 8, Page 146-162 & Chapter 10, Page 202
Equipment: Oxygen, Nasal Cannula, nonrebreather mask, BVM, AED
Time: 70 min

Knowledge Objectives:

- When your FR participant completes this module, they should be able to describe and demonstrate:
- the recognition and management of heart conditions
- differentiate between a heart attack and cardiac arrest (page 146-162)
- the recognition and management of cardiac arrest
- the recognition and management of a patient with altered mental status
- the recognition and management of seizures
- the recognition and management dyspnea (shortness of breath)
- the recognition and management asthma
- the recognition and management stroke
- the recognition and management of diabetes (hypoglycemia and hyperglycemia)
    - ¾ prone glucogel applied. ½ tube at a time. You may wish to refer to the Glucogel Policy. (https://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/heath-care-partners/colleges-board-and-commissions/emergency-medical-assistants-licensing-board/emalb2015-05.pdf)
- the recognition and management abdominal pain
- the recognition and management of anaphylaxis
- the Chain of Survival (see figure 8-4, page 145)
- the steps of one-rescuer Cardio-Pulmonary Resuscitation (CPR) (page 150)
- the proper techniques of CPR (page 144-157)
- the use of an AED (page 159-161)
- the proper operation and sequence of use of an AED (page 159-160, see skill drill 8-4)

Instructor facilitates discussion/demonstration

- Review Anatomy & Physiology related to medical emergencies
- the differences between cardiac and non cardiac chest pain
- Heart attack
- Time is tissue
- Congestive Heart Failure (pump failure)
- signs and symptoms of CHF

- the correct position of CHF
- Cardiac Arrest o an understanding of the critical points (CPR and early defibrillation)
- Application and key points of AED usage
- Stroke recognition and management
- FAST
- Time is Brain
- Anaphylaxis
- Chain of Survival

First Responder participant practice

FR participant practice management of chest pain, CHF, stroke, seizure, diabetes, altered level of consciousness and abdominal pain. NOTE: The instructor will apply a case scenario to each medical emergency.

Instructor facilitates discussion/demonstration

The instructor demonstrates the correct technique of Cardiopulmonary Resuscitation on a cardiac arrest patient.

First Responder Practice

FR Participant break into Groups to practice CPR and AED usage on a mannequin.

MODULE 3 - Lesson M

TRAUMA / DEADLY BLEEDING / SHOCK

Student Manual: Jones and Bartlett, EMR 6th Edition, Page 269-281 Equipment: Tourniquets, Telfa, Sterile dressings/ non-sterile dressings, pressure dressings Time: 80 min

Knowledge Objectives:

First Responders will be able to identify:

- recognition and management of Trauma
- Major Bleeds (Arterial)
- Minor Bleeds (Differentiate between major and Minor)
- Know the appropriate treatment for major bleeds (Critical interventions: Direct Pressure/ Tourniquet)
- Familiar with different bandages (Pressure bandage/ sterile dressings/ Telfa dressings)
- Know and demonstrate the use of pressure bandages, bandages and tourniquets.
- Shock and its causes including definition
- recognition and management of shock

Lecture:

- Discussion on types of trauma (blunt force / penetrating)
- Anatomy and physiology of bleeding (Arterial, Venous, Capillary)
- Different types of bleeds and their severity
    - a. Arterial bleeding (What is an arterial Bleed?)
    - b. Venous bleeding (What is Venous Bleeding?)
    - c. Internal bleeding (Signs of internal Bleeding)
    - d. External bleeding (How to deal with)
    - e. What type of bleed is the most life threatening?
- Review various Dressings and their uses
    - a. Sterile (Benefits of using sterile)
    - b. Non- Sterile
    - c. Non-stick/telfa (Benefits of using Telfa)
    - d. Cling gauze
- Pressure dressings
    - a. Pressure dressing
    - b. Donut bandage (Not very common anymore)
- Treatments of deadly Bleeds
    - a. Direct pressure
    - b. Tourniquets
    - c. Documentation (What worked and times if tourniquet applied)
    - d. Treatment does not change for the bleed for unconscious patients
- If bleeding soaks through bandages, DO NOT remove the existing bandages:

- a. Add additional bandages and look at other ways of stopping the bleed
- b. Continually recheck dressings and wound to see if bleeding is still ongoing (Document)
  - Some bleeds may be obvious on patient approach
  - Some bleeds may be hidden and only found on the primary assessment (Very important for hands on Primary)
  - Bleeding can be a sign of a critical intervention needed. A person can bleed out in minutes

- A & P of shock
- Recognition and management of shock

Demonstrations

- Direct pressure

First Responder Practice

- First Responders in groups of 2 practice Direct pressure (use caution in class)

Demonstration

- Pressure Bandage onto an amputation
- Tourniquet use and application

First Responder Class Practice:

- First Responders in groups of 2 practice pressure bandages
- First Responders in groups of 2 practice tourniquet application (Do not tighten Tourniquets on classmates)
- All first Responders must demonstrate proper use of pressure bandages and Tourniquets

Demonstrations

- Various positioning of patients in shock (page 274)
- Pump Failure
- Pipe Failure
- Fluid Loss

First Responder Practice

Patient positioning in shock

MODULE 4 - Lesson N

MANAGEMENT OF HEAD AND SPINAL INJURIES

Student Manual: Jones and Bartlett, EMR 6th Edition Chapter 15, Page 327-329
Equipment: Hard Collar, Back Board / Clamshell, PPE, Helmet (skill drill 15-11)
Time: 60 min

Knowledge Objectives:

When your FR participant completes this module, they should be able to describe and demonstrate:

- The signs and symptoms of a head injury and a spinal injury.
- The management of a patient with a head injury and/or a spinal injury.
- Manual stabilization of the neck (cervical spine).
- The technique for opening of the airway when a spinal injury is suspected.
- Know when a Hard Collar is needed
- Know what the neutral position is and how to get a patient into this position
- Know the different types of Hard collars and how they work
- Know how to measure for appropriate size of hard collar
- Be confident and demonstrate how to measure and apply a Hard collar

Instructor facilitates discussion/demonstration

- Review Anatomy & Physiology
- Ahead injury patient should always be suspected of having a neck injury.
- The mechanisms of injury that increase the possibility of neck injury should be discussed
- Review signs & symptoms of head and spine injuries.
- The head should be immobilized as found while the primary survey is completed.
- The jaw thrust maneuver should be used to open the airway of a patient suspected of a spinal injury.
- If the patient vomits or has fluid in the airway, they should be rolled as a unit. The rescuer should stabilize the head and neck to the rest of the body until the patient is supine again.
- Helmets should be left on unless an ABC problem exists that requires immediate intervention
- Instructor demonstrates the manual stabilization of a patient with a suspected neck injury.
- Describe and demonstrate how to use a Hard Collar
- Show proper measurement techniques
- Class discussion on safety of using hard collars in class and on patients

First Responder Practice

- In groups, the students practice scenarios of suspected spinal trauma and head injuries
- First responders break into groups and demonstrate measurement and application of hard collars.

MODULE 4 - Lesson O

PATIENT PACKAGING

Student Manual: Jones and Bartlett, EMR 6th Edition Chapter 3
Equipment: Clamshell, hard collars, spider straps
Time: 60 min.

Knowledge Objectives:

Upon completion of this module the First Responder participant will be able to:

- Identify the equipment and know how to use the equipment needed in immobilization of a patient
- Know when and why a patient needs to be immobilized
- Know and demonstrate different techniques for securing patients
- Demonstrate they can secure a patient to a spine board or a Clamshell device in both the Supine and Lateral positions

Instructor facilitates discussion/demonstration

- Instructor to demonstrate proper use of Clamshell and spine board
- Instructor to demonstrate proper way of securing patient to the above devices
- Instructor to discuss why there are 2 different methods for packaging a patient (Supine, Lateral)

First Responder practice

- In groups the First Responder participants will practice immobilizing patients onto the spine board and clamshell.
- Participants should work on both lateral and supine method.

MODULE 4 - Lesson P

PATIENT MOVEMENT & TRANSPORT

Student Manual: Jones and Bartlett, EMR 6th Edition, Chapter 3
Equipment: Sheets or blankets, jackets and chair
Time: 25 min

Knowledge Objectives:
Upon completion of this module First Responder participants will know and understand:

- Proper lifting techniques
- Proper body mechanics when lifting or moving a patient
- Know when it is necessary to move a patient
- Know when it is essential to move a patient
- Know and demonstrate different ways to move a patient with 1 and 2 rescuers

Instructor facilitates discussion/demonstration

- Demonstrate proper lifting techniques
- Demonstrate proper body mechanics
- Discuss the importance of proper lifting and body mechanics
- Discuss when a patient should be moved and why:
    - The patient's safety is at risk
    - The rescuer's safety is at risk
    - Unable to properly assess the patient
    - Patient is unstable and it is not possible to stabilize where they are
- Review and demonstrate the following:
    - The Blanket/Sheet Drag
    - The Shirt/Jacket Drag
    - Over-the-shoulder carry (NOT Recommended Emergency situations only)
- Review and demonstrate the following:
    - Seat Carry (NOT Recommended)
    - Chair Lift (Discuss that chair must be sturdy and why)
    - Fore-aft Lift

NOTE - Lifts can be dangerous both to the rescuer and the patient. Use available devices intended for the use of lifting or moving patients whenever possible.

Instructor to demonstrate the proper positioning and technique for each of the carries above.
INSTRUCTORS AND STUDENTS WILL NOT ACTUALLY CARRY OR LIFT PATIENTS.

First Responder practice
First Responder participants will break into groups and practice the proper positioning and techniques for 1 and 2 rescuer carries.

FIRST RESPONDERS ONLY PRACTICE THE POSITIONING AND TECHNIQUES DO NOT LIFT OR CARRY.

MODULE 4 - Lesson Q

HISTORY

Student Manual: Jones and Bartlett, EMR 6th Edition, Chapter 9, Pages 178-180
Equipment: FR Forms
Time: 15 min

Knowledge Objectives:

Upon completion of this module First Responders will be able to:

- Identify what a history is
- Know the Acronym used (SAMPLE)
- Know the importance of a history
- Identify alternate ways to find out histories

Instructor discussion:

- Review the importance of a history
- Discuss the SAMPLE acronym
- List difficulties that might cause difficulties in getting a history (Decreased LOC, Language barriers, Age)
- List ways to overcome some of these barriers (DNRs on fridge, Nurses notes for home care, Medic alert bracelets or jewellery, Tattoos, Medications, Family)

Class Discussion:

Open discussion on any other potential issues that may arise and how they could deal with these in their area.

DAY 2 REVIEW

MODULE 5 - Lesson R

SECONDARY ASSESSMENT

Student Manual: Jones and Bartlett, EMR 6th Edition, Chapter 9, Page 181-191
Equipment:

- Penlight
- First Responder Forms
- Pens
- FR Kits
- PPE

Time: 60 min

Knowledge Objectives:

Upon completion of this module First Responder participants will know and understand:

- the steps of the Secondary assessment
- perform a rapid full body scan (page 181-187)
- Focused assessment of pain (Page 187)
- Assessment of vital signs (Page 187-191)

Instructor facilitates Discussion/demonstration

- Secondary assessment is done once all critical interventions have been performed for life threatening emergencies in the primary survey.
- Steps within the secondary assessment include:
- Signs and symptoms
- the systematics assessment of the patient (Page 181-186)
- a secondary assessment of the entire body (Page 181-186)
- An exam of a specific area of the body (page 187)
- Assess vital signs (Page 187-191)
- Vitals
- Provides the first responder with data regarding the patient's physiological response to injury and treatment.
- AVPU, respiratory rate, pulse, skin colour and cap. refill
- Head to Toe A systematic assessment of the patient from their head to toes, looking for all other injuries that may not be life-threatening in nature. The rescuer should be noting all lumps, bumps, bruises, etc.

Instructor Demonstration

The Instructor demonstrates the correct technique of performing secondary assessment on a responsive and unresponsive patient using Skill Drill 9-1, Page 184-185

First Responder Practice

Complete secondary assessment

MODULE 5 - Lesson S

CHEST, ABDOMINAL & PELVIC INJURIES

Student Manual: Jones and Bartlett, EMR 6th Edition Page 335-336
Equipment: Bandages, Dressings
Time: 60 min

Knowledge Objectives:

Upon completion of this module First Responder participants will know and understand:

- the anatomy and physiology of the chest, abdomen and pelvis
- the recognition and management of chest abdominal and pelvic injuries

Instructor facilitates Discussion/demonstration

- Anatomy & Physiology of common types of chest injuries
- recognition and management of:
    - fractured ribs
    - flail chest (Stabilization) Pg. 183#7
    - Chest assessment-Treatment- Pg. 335 &Fig. 15-37 Pg.336
    - penetrating chest wounds
    - Specific wound treatment (p.286-292).
    - Face & Scalp wounds
    - Chest & Back wounds
    - Impaled Objects
    - abdominal injuries
    - Discuss common types of abdominal injuries
    - Closed abdominal wounds (p.291)
    - Open abdominal wounds (p.291)
    - Genital wounds (p.292)
    - Extremity wounds (p.292) (Combat Tourniquets can not be used by FRs. Must use Esmarch)
    - Gunshot wounds (p.292-293)

MODULE 5 - Lesson T

DOCUMENTATION AND REPORTS

Student Manual: Jones and Bartlett EMR 6th Edition
Equipment: FR FORMS
Time: 30 min

Knowledge Objectives:
Upon completion of this module First Responder participants will understand:

- The importance of documentation (Pg. 11&85)
- The legal requirements of documentation (See schedule 1,2 &3)
- How to provide a verbal and written report to paramedics (Pg. 77&85)
- Reporting of Gunshot and Stab wounds (http://www.bclaws.ca/civix/document/id/complete/statreg/10007_01)
- NOTE** Be familiar with Schedule 1,2&3 and The EMAFR duty to report

Instructor Facilitates Discussion/Demonstration

- Review and discuss local FR forms and process of handoff

First Responder Practice
First Responder participants will break into groups and review the different types of written reports and practice verbal handovers to paramedics.

MODULE 6 - Lesson U

FRACTURE & JOINT INJURIES

Student Manual: Jones & Bartlett, EMR 6th Edition, Chapter 15 Pg. 303
Equipment: Splints, Triangulars
Time: 60 mins

Knowledge Objectives:

The First Responder Participant will understand:

- The anatomy and function of the musculoskeletal system (p.305-306)
- Recognize and manage a fracture, dislocation, sprain and strain (p.307-309)
- Describe the mechanism of injury (MOI) for musculoskeletal injuries (p.307)
- Explain the characteristics of the following types of injuries:
- Fractures (p.307-308)
- Dislocations (p.308)
- Sprains and strains (p.308)

Instructor Facilitation Discussion/Demonstration

- There are 3 major types of musculoskeletal injuries:
    - Fracture - a break in the bone. Classified as either open or closed
    - Dislocation - displacement of a bone from its anatomical position at a joint.
    - Sprain - a tearing of ligaments or other supportive tissues
- Strain - a stretching or tearing of muscle or tendon
- Principles of musculoskeletal injuries:
- General principles of splinting (p.312-325):
    - Splint in position found
    - Splint all patients before moving unless environment unsafe or the patient including the First Responder's life is threatened
    - Immobilize the joint above and the joint below the injury site
    - R.I.C.E (Rest, Ice, Compress, Elevate)
    - Pad all rigid splints
    - When applying the splint, use hands to support the injury site and minimize movement of the limb until splinting is completed
    - Splint the limb without moving it unnecessarily

First Responder Practice

- First Responder participants break into Groups to practice splinting.
- The First Responder demonstrates ability to splint specific injury sites
- The First Responder demonstrates ability to apply the Sam splint (p.317, Skill Drill 15-3)

Instructor Facilitation Demonstration/Description

- The First Responder instructor demonstrates the correct management skills for Pelvic Fractures (p.319, Figure 15-21, Figure 15-22)
- STABILIZATION
- The First Responder instructor explains how high-energy trauma can fracture or dislocate the hip (p.319, Figure 15-23, & 15-24)
- The First Responder will demonstrate the skill of checking circulation, sensation, and movement in an injured extremity

MODULE 6 - Lesson V

MINOR WOUNDS AND TREATMENT/CARE

Student Manual: Jones & Bartlett, EMR 6th Edition Student Manual: Pgs. 281-289
Equipment:
Minor wound supplies (Sterile gauze, gauze, bandaids, roller gauze, saline for cleaning, tape, telfa)
Time: 45 mins.

Knowledge Objectives:

- Upon completion of this module First Responder participants will be able to:
- Recognize and treat minor wounds (Open and closed)
- Recognize different types of minor injuries and identify

Instructor Facilitates Discussion/Demonstration

- Review A&P
- Review different types of minor injuries (Open and closed) Pg. 282
- Review the following minor wounds and demonstrate/ discuss treatment
    - Abrasion (pg. 282)
    - Laceration (pg. 283)
    - Avulsion (pg. 283)
    - Puncture (pg. 282)
    - Amputation (pg. 283)

First Responder Practice

First Responder participants will break into groups and work on treatment of small wounds.

MODULE 6 - Lesson W

BURNS

Student Manual: Jones and Bartlett, EMR 6th Edition Pgs.293-296
Equipment:

- Saline flush
- Telfa pads
- Burn Dressings

Time: 20 mins

Knowledge Objectives:
First Responder participants will be able to:
Describe the types of burns
Describe the signs and symptoms of different types of burns and their causes.
Describe and demonstrate the appropriate management of burns
Describe and demonstrate the management of inhalation injuries
Describe the functions of dressings and bandages.

Instructor Facilitates Discussion/Demonstration

- Review Anatomy and Physiology
- Burns are a soft tissue injury caused by:
    - Chemicals
    - Radiation
    - Electricity
    - Heat
- The burn severity is dependent on:
    - Area of the body
    - Depth of skin
    - Type of burn agent
    - Length of exposure
    - Age and medical condition of patient
- Burns are one of three classifications:
    - 1st - superficial, red and dry burn, painful with some swelling
    - 2nd - red, blisters, painful, multiple layers of skin involved
    - 3rd - black, charred, full thickness burns
- Ensure scene safety, especially when electricity is involved.
- Provide critical intervention for ABC's
- Cool burn area by flushing with water
- Brush off excess dry chemicals
- For electrical burns, ensure to assess for entrance and exit sites.
- Cover burns with dry sterile dressings

- Inhalation injuries should be treated with oxygen using a non-rebreather mask@ 15LPM
- Major complications of burns are infection
- Don't use ointments or lotions on burn areas
- **Burns should be cooled only for 2 minutes, then covered with sterile dressings (per EMALB)**

Instructor Facilitates Discussion/Demonstration

The instruction demonstrates the correct technique of dealing with a patient with second-degree burns.

First Responder Practice

First responder participants break into Groups to practice minor burn care.

MODULE 6 - Lesson X

BEHAVIOURAL EMERGENCIES

Student Manual: Jones and Bartlett, EMR 6th Edition, Pag 238-250
Equipment:
Time: 30 mins

Knowledge Objectives:

The First Responder will be able to:

- Define a medical emergency
- Define a behavioral emergency
- Describe behavioral emergencies
- Describe the patient assessment in behavioral emergencies (p.239)
- Discuss behavioral crisis
- Discuss and define a Situational Crisis (p.240-241)
- List and describe the phases of a situational crisis that includes:
  - High Anxiety or Emotional Shock
  - Denial
  - Anger
  - Remorse or Grief
- Discuss Crisis Management that includes:
  - The role of the First Responder (Same as EMR, p.241)
  - Communicating with the patient (p.241-243, Figure 12-3, 12-4)
- Describe the common emergency behavioral management strategies which include:
  - Redirection
  - Empathy
  - Communication Skills
- List other behavioral emergency challenges:
  - Special Populations (p.243)
  - Crowd Control (p.243)
  - Domestic Violence
  - Cycles of Abuse
  - The Violent Patient (Emphasis on Scene Size Up. Do not enter a scene that looks potentially violent without the appropriate law enforcement)
- Discuss Violence against Health Care Providers and strategies for prevention (p.246)
- Discuss what to do if the First Responder encounters an Armed Patient (p. 246)
- Describe & Discuss other types of emotional crisis such as:
  - attempted suicide
  - Post Traumatic Stress Disorder (PTSD)

    - Sexual Assault
    - Death & Dying
- Discuss Coping Mechanisms such as:
    - Critical Incident Stress Debriefing

Instructor Facilitates Discussion/Demonstration

- A medical emergency is a situation that is life-threatening or may become life-threatening if not dealt with appropriately. It is important to know the difference between medical emergencies and behavioral emergencies for the purpose of this module.
- Behavioral Emergencies o Behavior emergencies are defined when a patient exhibits abnormal behavior that would be classified as intolerable or unacceptable and may even be harmful to the patient or others.
- The instructor will lead the First Responders through the discussions listed under the Knowledge Objectives heading.
- Note: Jones & Bartlett, EMR 6th Edition Chapter 12 (p.238-251)
- Pay attention to the Case Scenarios in Chapter 12. The instructor may use the scenarios to engage the First Responder participants in the content.

First Responder Practice

- First Responder participants break into Groups and are provided with a case scenario.
- Each case scenario will feature a specific problem.
- The First Responder participants will be expected to demonstrate proficiency with the material.
- The First Responder Instructor will facilitate the discussions and assess the First Responder participants to ensure the concepts are understood.
- The First Responder Instructor will provide feedback on individual and group's performance.

PRACTICE AND SIMULATIONS

DAY 3 REVIEW

MODULE 7 - Lesson Y

POISONS/OVERDOSES

Student Manual: Jones & Bartlett, EMR 6th Edition (Chapter 11, Poisoning and Substance Abuse, P.220-233), www.dpic.org
Equipment: None
Time: 30 mins

Knowledge Objectives:
First Responder participants will be able to:

- Describe how poisons enter the body
- Describe how to access Poison Control (1-800-567-8911 or 604-682-5050)
- Describe the signs and symptoms of a patient suffering from poisoning or drug abuse.
- Describe and demonstrate the management for a patient suffering from poisoning
- Describe techniques for assessing a poisoning patient
- Discuss the role of WHMIS. What does WHMIS stand for?

Here is the WHMIS BC online training website:
https://www.google.com/aclk?sa=l&ai=DChcSEwjZhOaV85nlAhXUFn0KHWtjD1UYABADGgJwdg&sig=AOD64_03DnPw9ayooHCmA5hNiXw7Q1eDuw&q=&ved=2ahUKEwiJ7t-V85nlAhVBHDQIHT13DDcQ0Qx6BAgOEAE&adurl=
POISON CONTROL # 1-800-567-8911
*** Note*** FRs do not use activated charcoal!!

- In Poisonings or Overdoses ventilation and patient positioning are priorities
- Discuss Naloxone with opiate overdoses
- Emphasize airway management and Naloxone administration

First Responder Instructor Facilitated Discussion/Demonstration
The FR instructor will discuss how Poisons enter the body via:

  - Ingestion
  - Inhalation
  - Absorption
  - Injection
- All chemicals have the potential to be a poison, it is the quantity that determines whether or not it is a poison.
- Discuss the general signs and symptoms of poisoning (p.221, Table 11-1)
- The FR instructor will describe how to contact a Poison Control Center (PCC)
- The FR instructor will provide the pertinent information that the Poison Control Center requires. This information will include
  - Age of patient
  - Weight of patient
  - Time of exposure
  - Duration of exposure
  - Type of exposure

    - Name of poison
- Follow all instructions from the PCC and do give the patient anything to eat or drink unless directed by the PCC
- Keep all medication bottles, labels, and containers, providing drug information to provide the necessary information to the PCC.
- First Responders should be cautious to avoid becoming a victim to a hazardous chemical
- Discuss the role of WHMIS in relationship to a hazardous chemical exposure (Note: this is not a WHMIS course)
- Discuss Drug Abuse management and the effects of different drugs with a strong focus on opiate overdoses.
- Narcan Protocol for First Responders:
    - Ventilation of the patient is the most important thing in any respiratory issue.
    - Narcan given IM (Intramuscular) 0.4 mg IM (Deltoid or Thigh) every 3 mins as needed to a maximum of 3 doses.
    - Below is the Legislation enacted in 2016 allowing all First Responders along with the public to give Naloxone to people of a suspected overdose.

Naloxone protocol (per EMALB)

Check and open the airway, ventilate, evaluate, medicate, evaluate and support, and determine if an additional dose is required. The only difference for First Responders is the need to escalate the 911 call if the patient is unresponsive whereas higher licence levels have the ability to prepare and transport the patient.

The information is taken directly from the EMALB website:

PROVINCE OF BRITISH COLUMBIA REGULATION OF THE MINISTER OF HEALTH Emergency Health Services Act Ministerial Order No. M397
I, Terry Lake, Minister of Health, order that Date(a) section I 0 (4) to (7) of the Emergency Medical Assistants Regulation, B.C. Reg. 210/20 I 0, is repealed, and (b) the Health Professions General Regulation, B.C. Reg. 275/2008, is amended as set out in the attached Schedule. (This part is for administrative purposes only and is not part of the Order.) Authority under which Order is made: Act and section: Emergency Health Services Act, R.S.B.C. 1996, c. 182, s. 15 (2) (a) and (d); Health Professions Act, R.S.B.C. 1996, c. 183, s. 12 (2) (d) and (e) Other: Ml91 /2010, M235/2008 October II , 2016 2/RJ786no t6/3 page I of 2 SCHEDULE The Health Professions General Regulation, B.C. Reg. 275/2008, is amended by adding the following section: Exception for opioid overdose 9 (1) This section applies despite (a) section 4 (2) of the Medical Practitioners Regulation, and (b) any limit or condition imposed under an enactment on the practise of a profession, occupation or trade by a person or class of persons. (2) If a person who is not otherwise authorized to administer naloxone to another person suspects that another person is suffering from an overdose of opioids, the person may assess and treat the other person if treatment is limited to the emergency administration of (a) naloxone, by intramuscular injection or intranasally, and (b) first aid. (3) Despite subsection (2), a person must not administer naloxone under that subsection to a person who is within a hospital setting, whether or not the other person is admitted as a patient.

MODULE 7 - Lesson Z

ENVIRONMENTAL EMERGENCIES

Student Manual: Jones & Bartlett, EMR 6th Edition Chapter 13, (p.254-263)
Equipment: N/A
Time: 20 mins

Knowledge Objectives:

The First Responder participant will:

- Describe the signs and symptoms of heat exhaustion, heat stroke, hypothermia, and near drowning.
- Describe the management of a patient experiencing an environmental emergency.

Instructor Facilitated Discussion/Demonstration

- The First Responder instructor will discuss the environmental factors affecting body temperature. This includes:
    - Air temp
    - Wind
    - Humidity
    - Clothing worn
    - Activity and sweating
    - Body type
    - Food/fluids
    - Age
    - medical condition of patient
- Discuss Overexposure conditions including:
    - Heat exhaustion
    - Heat stroke: a shutdown of the body's heat regulating mechanisms
    - Body has no more fluid to sweat
    - Body core temp increases
    - Loses responsiveness and dies
    - Remove patient from environment
    - Remove restrictive clothing
    - Apply cool, damp clothes to the head, neck and spine of patient.
- Hypothermia: a cooling of the body's core temperature
- Discuss the signs and symptoms of hypothermia
    - Remove wet clothing from patient and patient from wet environment
    - Dry the patient and place in warm dry blankets and clothes o Warm the patient gradually, as long as warmth can be maintained
    - If checking pulse in a patient who may be in cardiac arrest - assess for a minimum of 30 seconds to a minute as their pulse may slow dramatically.
- Discuss the signs and symptoms of frostbite
- Discuss the treatment for frostbite

- Discuss and define Near drowning inhalation of water into the lungs, after submersion
- Discuss the signs and symptoms of near drowning

First Responder Practice

- First Responder participants will form into groups to discuss heat emergencies.

MODULE 7 - Lesson 1

EYE INJURIES

Student Manual: Jones & Bartlett, EMR 6th Edition Chapter 14 (p. 288-289)
Equipment:

- Eye cups
- Eye wash bottle
- Cotton swabs

Time: 15 Mins

Knowledge Objectives:

Upon completion the First Responder will be able to:

- Describe the anatomy of the eye
- Describe the 3 main types of eye injuries
- Describe and demonstrate the management of a patient with an eye injury

Instructor Facilitates Discussion/Demonstration

- Review Anatomy and Physiology of the eye
- The three main types of eye injuries include:
    - Direct force
    - Burns
    - Foreign bodies
- Immobilize all object penetrating or impaled in the eye. Immobilize the eye if injured
- Ruptured or leaking eyeball must be dressed lightly, and the First Responder must avoid pressure over the area injured.
- An eye exposed to chemicals must be flushed with water immediately for 20 minutes minimally. Always seek medical attention.

Instructor Facilitates Discussion/Demonstration

The instructor demonstrates the correct technique of managing a patient with an eye injury.

First Responder Practice

The First Responders participants will break into groups to practice and discuss recognition and management of eye injuries.

MODULE 7 - Lesson 2

IMMOBILIZATION AND PACKAGING DRILLS

Student Manual: Jones & Bartlett, EMR 6th Edition pgs. 45-56
Equipment:

- Hard collars
- Sandbags
- Spider straps
- Spine boards
- Clamshells
- FR Jump kit

Time: 80 mins

Knowledge Objectives:
This unit is for First Responder participants to practice immobilization and packaging of patients.

First Responder Practice:
First Responder participants break into groups and practice immobilization and packaging of patients in the supine position and lateral. Using both spine boards and clamshells.

MODULE 8 - Lesson 3

Childbirth

Student Manual: Jones & Bartlett, EMR 6th Edition, p. 344-352
Equipment: PPE, Umbilical Cord Clamp, clean drapes and towels, Gauze pads, Towels and Blankets for the newborn, Bulb syringe, Plastic placenta bag, Sheets and towels for mother, Suction, Oxygen and Newborn size face mask, and EHS Fetal Maternity Kit if possible (p. 349, Figure 16-4)
Time: 25 mins

Knowledge Objectives:

The First Responder participant will be able to:

- Discuss the anatomy and physiology associated with a pregnancy (p.345)
- Define and discuss the three stages of labour (p.346)
- Describe the timing of contraction cycles (p.346)
- Describe the detection crowning (p.347)
- Discuss the preparations required for delivery (p.347)
- Discuss the Standard precautions required during childbirth (p.347)
- Describe his or her role while assisting with delivery (p.349)
- Discuss the First Responder role when caring for the Newborn (p.347-351, Figure 16-6 & Figure 16-7)
- Describe and discuss the delivery of the placenta (p.351)
- Describe the aftercare of the mother and newborn (p.352)
- Discuss the role of the First Responder during the resuscitation of the newborn (p.352-353)

The First Responder will have a general understanding of the complications of pregnancy which includes (p. 353-356):

- Ectopic Pregnancy & Shock
- Miscarriage & Vaginal Bleeding
- Premature Birth
- Unbroken Bag of Waters
- Prolapse of the Umbilical Cord
- Breech Birth
- Stillborn Delivery
- Multiple Births
- Excessive Bleeding Post Delivery
- Vehicle Collision and Pregnant Women (p.356)
- Describe the management of bleeding during the pregnancy

Instructor Facilitates Discussion/Demonstration

- Discuss anatomy and physiology associated with pregnancy
- Define the three stages of labour
- Discuss the signs and symptoms of imminent delivery
- Discuss the preparation for delivery
- Management of childbirth Management of bleeding during pregnancy

Note: First Responders are NOT permitted to do internal examinations

MODULE 8 - Lesson 4

MULTI-CASUALTY INCIDENTS

Student Manual: Jones & Bartlett, EMR 6th Edition, p.434-441
It is recommended, First Responders have Incident Command System 100 (ICS) minimum and be familiar with the ICS.
Equipment: None
Time: 25 mins

Knowledge Objectives:

The First Responder participant will be able to:

- Define triage and a Multi-Casualty Incident
- Understand The START Triage system
- Describe the Colors of triage and what they mean
- Discuss the management of a Multi-Casualty Incident

Instructor Facilitates Discussion/Demonstration

- Define a Multi-Casualty Incident
- Discuss scenarios, which would involve a Multi-Casualty Incident
- Discuss the START Triage system
- Discuss the colors of triage and how they are used
- Discuss communication, leadership and the management of a Multi-Casualty Incident
- START Triage Reference: Taken from Google First aid for Free Picture Gallery

First Responder Practice

- FR Participant break into small groups and discuss different scenarios
- The FR participants will create a Multi-Casualty Incident plan.

MODULE 8 - Lesson 5

AMBULANCE ORIENTATION / FAMILIARIZATION

(This is based on each community having the ability to access an Ambulance)

Student Manual:
Equipment: Ambulance
Time: 30 mins

Knowledge Objectives:

First Responders will go through an ambulance and locate common equipment used when responding to an emergency.

The First Responder participants will identify the equipment required to assist the paramedics when responding to a trauma or medical emergency.

MODULE 8 - Lesson 6

PRACTICE AND SIMULATIONS

Equipment: - First Responder jump kit, PPE

Scenario 1

A warehouse worker is stacking pallets. A large barrel rolls off the top pallet and strikes the worker in the head. The worker is laying on his back and appears dazed. He makes eye contact with the First Responder as he approaches. The area is safe. There is no further danger of barrels falling. The patient is disoriented. The patient cannot describe what happened. He is not visibly short of breath. There is no work of breathing noted. He has a pulse rate of 110 beats per minute. The patient has a large open wound to the back of his head, and it is bleeding profusely. There is blood coming from both ears.

Scenario 2

An intoxicated male is woodworking in his garage. He is cutting wood with his skill saw, when it slips and cuts a deep laceration across the top of his right leg. Blood is spurting from the leg. The First Responder arrives on scene to find a large amount of blood on the garage floor. The patient is pale, clammy, and cool to touch.

Scenario 3

An elderly lady crossing the street was struck at high speed by a sports car. She is laying on the side of the road and unresponsive. There is visible deformity of the legs. Blood is oozing from her nares. She appears to be in a semi-prone position.

Scenario 4

An 11-year-old girl was playing in a snow fort when she went head first into the hole to retrieve her cap. She was unable to climb out and became unresponsive as the air in the hole was rapidly used up. The First Responder pulls her from the hole and notices frozen blood in her right ear. She is unresponsive with no rise and fall of the chest.

Scenario 5

A skier crashes into a tree. He has struck his head and complains of being upside down. He is asking for the First Responder to take him out of the trees. However, the patient is supine beside the tree. There are no visible wounds noted.

Scenario 6

A despondent male is sitting on the bridge railing. He is threatening to jump off the bridge. What interventions are required next?

DAY 4 REVIEW

First Responder Participant Feedback/Evaluation

- At the end of the course, First Responders complete a course evaluation form and receive a written final examination
- The instructor will provide a performance review to the First Responder participant to determine if course objectives have been achieved.
- First Responder instructors must ensure all First Responder participants, have demonstrated the required skills and understanding of concepts to achieve success in the course.
- If the First Responder participant, has done poorly on the written exam and the practical skills of the course, the instructor may elect to spend extra time with the FR participant to help him or her achieve success with the FR course.
- Extra time to remediate the FR participant should be considered, only if the FR instructor determines if remediation can be completed in a reasonable amount of time (This will be left up to the instructor).
- If the First responder clearly does not have an understanding of the course concepts and skills by the end of the course, the First Responder Instructor will conclude the FR participant unsuccessful.
- The FR Instructor must provide reasons for the FR participants unsuccessful completion and include strategies to improve the FR participants performance.
- Unsuccessful FR participants can re-register and take the course again.

Group activities:

1. Have students work in teams or small groups.
2. Provide appropriate equipment for the skill or scenario presented.
3. The FR instructor will illustrate an appropriate scenario for the topic discussed and observe the team dynamics.
4. An emphasis will be on team building and the roles each member of the team plays.
5. With time permitting, each FR participant will take turns being the team leader.
6. The team must demonstrate the correct skill and understanding of the concept being taught.

Medical terminology review:

1. To assist the FR participant with a greater understanding of the medical terminology within the Jones & Bartlett, EMR 6th Edition, see Appendix A: Medical Terminology (p.454-455). FR participants can refer to the appendix and highlighted words in the text to gain an understanding of the terminology.
2. In addition, the glossary at the back of the textbook (p.460-466) can assist FR participants to gain a better understanding of the medical terminology within the course material.
3. The FR instructor is expected to be familiar with the medical terminology to assist the FR participant gain a greater understanding.
4. At times, FR participants require an explanation beyond the text. Not all learners can grasp an understanding from a textbook and may need the content explained verbally by the instructor.
5. Encourage the FR participants to read the text and to utilize the learning objectives and learning aids embedded within the content of the textbook.
6. The “Skill- Drills”, “Words of Wisdom” captions, the reference to specific topics highlighted in the chapter readings, and the “Ready for Review” prep kit at the end of every chapter, are all important to gain a better understanding of the key concepts within the lecture.

7. The FR instructor can assess learning needs by discussing and assessing the FR participant and then guide the First Responder to the correct content within the text and related material provided.
8. The instructor can facilitate engagement and participation with discussions, by utilizing the cases at the back of each chapter of the textbook.
9. The instructor must have a working knowledge of the textbook and be familiar with EMA Licensing FR policies and procedures. In addition, the FR instructor must be aware of National policies and procedures as this course can be taught in other geographical locations across Canada.

Lecture

I. Introduction

A. This chapter introduces the two most important lifesaving skills:
- Airway care
- Rescue breathing

B. Patients must have an open airway and must maintain adequate breathing to survive.
C. By using simple skills, you can often make a difference between life and death.
D. The "ABCs" of life saving skills:
- Airway
- Breathing
- Circulation

E. Remember to intervene for life threatening issue.

II. Anatomy and Function of the Respiratory System

A. To maintain life, all humans must have food, water, and oxygen.
- Lack of oxygen, even for a few minutes, can result in irreversible damage and death.
- If brain cells are deprived of oxygen and nutrients for 4 to 6 minutes, they begin to die.
- Brain death is followed by the death of the entire body.

B. The main purpose of the respiratory system is to provide oxygen and to remove carbon dioxide from the red blood cells as they pass through the lungs.
C. Parts of the body used in breathing
- Mouth (oropharynx)
- Nose (nasopharynx)
- Trachea (windpipe)
- Lungs
- Diaphragm (dome-shaped muscle between the chest and the abdomen)
- Numerous chest muscles

D. In an unconscious patient lying on his or her back, the passage of air through both nose and mouth may be blocked by the tongue.
- The tongue is attached to the lower jaw (mandible).
- A partially blocked airway often produces a snoring sound.

E. Other parts of the respiratory system
- At the back of the throat are two passages:
  - The esophagus (the tube through which food passes)
  - The trachea

- The epiglottis is a thin flapper valve that allows air to enter the trachea but helps prevent food or water from entering the airway.
- Below the trachea, the airway divides into the bronchi (two large tubes supported by cartilage).
- The lungs are located on either side of the heart and are protected by the sternum at the front of the body and by the rib cage at the sides and back.
- The smaller airways that branch from the bronchi are called bronchioles.
- The bronchioles end in tiny air sacs called alveoli.
- The actual exchange of gases takes place across a thin membrane that separates the capillaries of the circulatory system from the alveoli of the lungs.
    - the exchange of oxygen and carbon dioxide that occurs in the alveoli is called alveolar ventilation.
    - the amount of air pulled into the lungs and removed from the lungs in 1 minute is called minute ventilation.

F. When a patient is not breathing, artificial ventilation is necessary to supply oxygen to the heart and the rest of the body.

G. The lungs consist of soft, spongy tissue with no muscles.

- Movement of air into the lungs depends on movement of the rib cage and the diaphragm.
- When the diaphragm contracts during inhalation, it flattens and moves downward.
- On exhalation, the diaphragm relaxes and once again becomes dome shaped.

III. "A" Is for Airway

A. In healthy individuals, the airway automatically stays open.

B. An injured or seriously ill person is not able to protect the airway, so it may become blocked.

● You must check the condition of the patient's airway and correct any problem to keep the patient alive.

C. Check for responsiveness.

- Determine whether the patient is responsive or unresponsive by asking, "Are you okay? Can you hear me?"
- If you get a response, you can assume that the patient is conscious and has an open airway.
- If there is no response, gently shake the patient's shoulder and repeat your questions.
- If the patient is unresponsive, call 9-1-1 first before doing anything for the patient.
- After calling 9-1-1, position the patient by supporting the patient's head and neck and placing the patient on his or her back.

D. Correct the blocked airway.

- An unconscious patient's airway is often blocked because the tongue has dropped back and is obstructing it.
    - Simply opening the airway may enable the patient to breathe spontaneously.
    - Head tilt–chin lift maneuver
    - lace the patient on his or her back and kneel beside the patient.
    - Place one hand on the patient's forehead and apply firm pressure backward with your palm.

    - Place the tips of the fingers of your other hand under the bony part of the lower jaw near the chin.
    - Lift the chin forward to help tilt the head back.
- Jaw-thrust maneuver
    - Use this technique if you suspect a neck injury.
    - Place the patient on his or her back and kneel at the top of the patient's head.
    - Place your fingers behind the angles of the patient's lower jaw and move the jaw forward with firm pressure.
    - Tilt the head backward to a neutral or slight sniffing position.
    - Use your thumbs to pull down the patient's lower jaw, opening the mouth enough to allow breathing through the mouth and nose.

E. Check for fluids, foreign bodies, or dentures.

- After you have opened the patient's airway, look into the patient's mouth to see if anything is blocking the airway.
- Potential blocks include
    - Secretions such as vomitus, mucus, or blood
    - Foreign objects such as candy, food, or dirt
    - Dentures or false teeth
- If you find anything in the patient's mouth, remove it.
- If the patient's mouth is clear, consider using one of the devices described in the section on airway devices.

F. Correct the airway using finger sweeps or suction.

- Vomitus, mucus, blood, and foreign objects must be cleared from the patient's airway.
- Finger sweeps o Finger sweeps can be done quickly and require no special equipment except a set of medical gloves. o to perform a finger sweep, follow the steps in Skill Drill 7-1.
- Suctioning
    - Suction machines can be helpful in removing secretions such as vomitus, blood, and mucus from the patient's mouth. Manual suction devices
    - These devices are relatively inexpensive and are compact enough to fit into EMR life support kits.
    - Insert the end of the suction tip into the patient's mouth and squeeze or pump the hand-powered pump.
    - Do not suction for more than 15 seconds at a time because the suction also draws air out of the patient's airway. Do not suction for more than 10 seconds for children. Do not suction for more than 5 seconds infants.
    - Change to the flexible tip and clear out material from the deeper parts of the patient's throat.

G. Maintain the airway.

- For unconscious patients, you must continue holding the patient's head to maintain the head tilt–chin lift or the jaw-thrust position.
- If the patient is breathing adequately, you can keep the airway open by placing the patient in the recovery position.
- You can also insert an oral airway to keep the patient's airway open.

H. Recovery position

- If an unconscious patient is breathing and the patient has not suffered trauma, place the patient in the recovery position.
    - the recovery position helps keep the patient's airway open by allowing secretions to drain out of the mouth instead of draining into the trachea.
    - It also uses gravity to help keep the patient's tongue and lower jaw from blocking the airway.
    - To place a patient in the recovery position:
        - Roll the patient onto one side, as you support the patient's head.
        - Place the patient's face on his or her side so any secretions drain out of the mouth.

I. Airway adjuncts

- Oral airway
- Two primary purposes:
    - Maintains the patient's airway
    - Functions as a pathway through which you can suction
- Oral airways can be used for unconscious patients who
    - Are breathing
    - Are in respiratory arrest
    - Do not have a gag reflex
    - These airways can be used with mechanical breathing devices such as the pocket mask or a bag-valve mask.
    - There are two styles of oral airways:
        - One style has an opening down the center.
        - The other has a slot along each side.
        - Before you insert the airway, you need to select the proper size.
        - Choose the proper size by measuring from the earlobe to the corner of the patient's mouth.
        - Follow the steps in Skill Drill 7-2 to insert an oral airway.

IV. "B" Is for Breathing

A. After you have checked and corrected the patient's airway, you will next check and correct the patient's breathing.

B. Signs of adequate breathing

- Use the look, listen, and feel technique to assess if an unconscious patient is breathing adequately.
- Look for the rise and fall of the patient's chest.
- Listen for the sounds of air passing into and out of the patient's nose or mouth.
- Feel the air moving on the side of your face.
- Normal adults have a resting breathing rate of approximately 12 to 20 breaths per minute.
- One breath includes both an inhalation and exhalation.

C.Signs of inadequate breathing

- Noisy respirations, wheezing, or gurgling indicate a partial blockage or constriction somewhere along the respiratory tract.

- Rapid or gasping respirations may indicate that the patient is not receiving an adequate amount of oxygen as a result of illness or injury.
- The patient's skin may be pale or even blue.
- The most critical sign of inadequate breathing is respiratory arrest, which is characterized by three signs:
    - Lack of chest movements
    - Lack of breath sounds
    - Lack of air against the side of your face
- Causes of respiratory arrest include
    - Heart attacks o Mechanical blockage or obstruction caused by the tongue
    - Vomitus, particularly in a patient weakened by a condition such as a stroke
- Foreign objects such as broken teeth, dentures, balloons, marbles, pieces of food, or hard candy (especially in small children)
- Illness or disease
- Drug overdose
- Poisoning
- Severe loss of blood
- Electrocution by electrical current or lightning

D. Check for the presence of breathing.

- Your assessment of any motionless patient begins by checking for responsiveness and assessing for breathing.
- If the patient is responsive and breathing, assist him or her as needed.
- However, if the patient is unresponsive, you need to determine if the patient requires assistance with breathing or other interventions.
- While checking to see if the patient is responsive, look for signs of breathing by visualizing the patient's chest and observing for visible movement.

E. Correct the breathing.

- Mouth-to-mask rescue breathing
    - Enables you to perform rescue breathing without mouth-to-mouth contact with the patient
    - A mouth-to-mask ventilation device consists of three parts:
        - Mask that fits over the patient's face
        - One-way valve
        - Mouthpiece through which the rescuer breaths
        - Because mouth-to-mask devices prevent direct contact between you and the patient, they reduce the risk of transmitting infectious diseases.
- To use a mouth-to-mask ventilation device for rescue breathing, follow the steps in Skill Drill 7-4.
- Mouth-to-barrier rescue breathing o Some of these devices are small enough to carry in your pocket.
- Most of these devices consist of a port or hole that you breathe into and a mask or plastic film that covers the patient's face.
- These devices provide variable degrees of infection control.

- To perform mouth-to-barrier rescue breathing, follow the steps in Skill Drill 7-5. Bag-valve mask
- The bag-valve mask has three parts:
    - A self-inflating bag
    - One-way valves
    - A face mask
        - To use this device:
            - Place the mask over the face of the patient and make a tight seal.
            - Squeezing the bag pushes air through a one-way valve, through the mask, and into the patient's mouth and nose.
            - As the patient passively exhales, a second one-way valve near the mask releases the air.
            - The bag-valve mask delivers 21% oxygen without supplemental oxygen attached; however, supplemental oxygen is usually added to the bag-valve mask.
            - Many bag-valve masks are designed to be discarded after a single use.
            - A single rescuer may find it difficult to maintain an adequate seal between the patient's face and the mask with one hand.
            - Bag-valve mask technique ● To use a bag-valve mask, follow the steps in Skill Drill 7-6.
        - Use of a bag-valve mask is best accomplished as a two-person operation if additional rescuers are present.

V.Airway and Breathing

A. You should assume that all patients may be in respiratory arrest until you can assess them and determine whether they are breathing adequately.

B. Airway

- Check for responsiveness by shouting, "Are you okay?", and gently shaking the patient's shoulder.
- If the patient is unresponsive and the EMS system has not been notified, activate the EMS system.
- Place the patient on his or her back.
- Correct a blocked airway by using the head tilt–chin lift maneuver or the jaw-thrust maneuver.
- Check the mouth for any secretions, vomiting, or solid objects. If found, clear the mouth.
- Correct a blocked airway, if needed, by using finger sweeps or suction to remove foreign substances.
- Maintain the airway by manually holding it open or by using an oral airway.

C.Breathing

- Check for the presence of breathing.
- Correct the lack of breathing by performing rescue breathing using a mouth-to-mask or mouth-to-barrier device, if available.

D. Performing rescue breathing on children and infants

- Rescue breathing for children
- Children are smaller and you will not have to use as much force to open their airways and tilt their heads.
- The rate of rescue breathing is slightly faster for children.
- Give 1 rescue breath every 3 to 5 seconds (about 12 to 20 rescue breaths per minute).

- Rescue breathing for infants
- An infant is tiny and must be treated extremely gently.
- The steps in rescue breathing for an infant are shown in Skill Drill 7-7.

VI. Foreign Body Airway Obstruction

A.Causes of airway obstruction

- The most common airway obstruction is the tongue.
- If the tongue is blocking the airway, the head tilt–chin lift maneuver or jaw-thrust maneuver should open the airway.
- If a foreign body is lodged in the air passage, you must use other techniques.
- Food is the most common foreign object that causes an airway obstruction.
- Children may put small objects in their mouths and inhale such things as tiny toys or balloons.
- Vomitus may obstruct the airway of a child or an adult.

B. Types of airway obstruction

- The first step in caring for a conscious person who may have an obstructed airway is to ask, "Are you choking?"
- If the patient can reply to your question, the airway is not completely blocked.
- If the patient cannot speak or cough, the airway is completely blocked.
- Mild airway obstruction
- The patient coughs and gags.
- The patient may even be able to speak, although with difficulty.
- To treat a mildly constricted airway, encourage the patient to cough.
- If the patient is unable to expel the object by coughing, you should arrange for the patient's prompt transport to an appropriate medical facility.
- Severe airway obstruction
- The patient is unable to breathe in or out and, because he or she cannot exhale air, speech is impossible.
- Other symptoms may include:
    - Poor air exchange
    - Increased breathing difficulty
    - A silent cough
    - Loss of consciousness in 3 to 4 minutes
- The currently accepted treatment for conscious patients involves abdominal thrusts (Heimlich maneuver).
- Abdominal thrusts compress the air that remains in the lungs, forcing the object out.

C. Management of foreign body airway obstructions

- Relieving a foreign body airway obstruction requires no special equipment.
- Airway obstruction in an adult
    - If the patient is conscious, stand behind the patient and perform the abdominal thrusts while the patient is standing or seated in a chair.
    - To assist a patient with a complete airway obstruction, follow the steps in Skill Drill 7-8.
    - Performing CPR on a patient who has become unresponsive has the same effect as performing the Heimlich maneuver on a conscious patient.

- Airway obstruction in a child
    - When opening the airway of a child or infant, tilt the head back just past the neutral position.
    - If you are by yourself and a child with an airway obstruction becomes unresponsive, perform CPR for five cycles (about 2 minutes) before activating the EMS system.
- Airway obstruction in an infant
    - An infant's airway structures are very small, and they are more easily injured than those of an adult.
    - If the infant has an audible cry, the airway is not completely obstructed.
    - Use a combination of black slaps and chest thrusts.
    - To assist a conscious infant with severe airway obstruction, you must
- Assess the infant's airway and breathing status.
- Place the infant in a face-down position over one arm so that you can deliver five back slaps.
- Turn the infant face up and deliver five chest thrusts in the middle of the sternum.
- Repeat the back slaps and chest thrusts until the foreign object is expelled or until the infant becomes unresponsive.
- If the infant becomes unresponsive, continue with the following steps:
    - Ensure that the EMS system has been activated.
    - Begin CPR.
    - Continue CPR until more advanced EMS personnel arrive.

VII. Oxygen Administration

A. Administering supplemental oxygen to a patient who is showing signs and symptoms of shock increases the amount of oxygen delivered to the cells of the body and often makes a positive difference in the patient's outcome.

B. Oxygen equipment

- Oxygen cylinders o Oxygen is compressed to 2,000 pounds per square inch (psi) and stored in portable cylinders. o The portable oxygen cylinders used by most EMS systems are either D or E size.
- Size D cylinders hold 350 liters of oxygen.
- Size E cylinders hold 625 liters of oxygen.
- Oxygen cylinders must be marked with a green color and be labeled as medical oxygen.
- Depending on the flow rate, each cylinder should last for at least 20 minutes.
- Pressure regulator/flowmeter
    - The regulator and flowmeter are a single unit attached to the outlet of the oxygen cylinder.
    - Once the pressure has been reduced, you can adjust the flowmeter to deliver oxygen at a rate of 2 to 25 liters per minute.
    - A gasket between the cylinder and the pressure regulator/flowmeter ensures a tight seal and maintains the high pressure inside the cylinder.
- Nasal cannulas and face masks
    - These devices ensure that oxygen is delivered to the patient and is not lost in the air.
    - Nasal cannulas are used to deliver medium concentrations of oxygen (24% to 44%).

- A face mask is placed over the patient's nose and mouth to deliver oxygen through the patient's mouth and nostrils.
- Non-rebreathing masks are most commonly used by EMRs.

C. Safety considerations

- Oxygen actively supports combustion and can quickly turn a small spark or flame into a serious fire.
  - All sparks, heat, flames, and oily substances must be kept away from oxygen equipment.
  - Smoking is never safe around oxygen equipment.
  - The high pressure in an oxygen cylinder can cause an explosion if the cylinder is damaged.
  - Oxygen cylinders should be kept inside sturdy carrying cases.
  - Handle the cylinder carefully to guard against damage.

D. Administering supplemental oxygen

- Place the regular/flowmeter over the stem of the oxygen cylinder and line up the pins on the pin-indexing system correctly.
- Tighten the securing screw firmly by hand.
- Turn the cylinder valve two turns counter-clockwise to allow oxygen from the cylinder to enter the regulator/flowmeter.
- Check the gauge on the pressure regulator/flowmeter.
- To administer oxygen, you must adjust the flowmeter to deliver the desired liter-per-minute flow of oxygen.
- When the oxygen flow begins, place the face mask or nasal cannula on the patient's face.
- Nasal cannula
  - A cannula delivers low-flow oxygen at 1 to 6 liters per minute and in concentrations of 24% to 44% oxygen.
  - Adjust the liter flow to 1 to 6 liters per minute and then apply the cannula to the patient.
- Non-rebreathing mask
  - Consists of connecting tubing, a reservoir bag, one-way valves, and a face piece
  - Used to deliver a high flow of oxygen at 8 to 15 liters per minute
  - Can deliver concentrations of oxygen as high as 90%
  - Should be used for patients who require higher flows of oxygen, including those experiencing
- Shortness of breath
- Severe chest pain
- Carbon monoxide poisoning
- Congestive heart failure
- Signs and symptoms of shock
- To use a non-rebreathing mask:
  - Adjust the oxygen flow to 8 to 15 liters per minute to inflate the reservoir bag before putting it on the patient.
  - Place the mask over the patient's face.
  - Adjust the straps to secure a snug fit.
  - Adjust the liter flow to keep the bag at least partially inflated while the patient inhales

E. Hazards of supplemental oxygen

- Supplemental oxygen must be used carefully so that you, your team, and the patient will remain safe.
- You will need additional class work and practical training before you are ready to administer oxygen in emergency situations.

VIII. Special Considerations

A. A bag-valve mask or pocket-mask device can be used to ventilate a patient with a stoma.

B. Gastric distention. Gastric distention occurs when air is forced into the stomach instead of the lungs. It increases the chance that the patient will vomit.

- Breathe slowly into the patient's mouth, just enough to make the chest rise.
- Remember that the lungs of children and infants are smaller and require smaller breaths during rescue breathing.

C.Dental appliances

- Do not remove dental appliances that are firmly attached.
    - They may help keep the patient's mouth full so you can make a better seal between the patient's mouth and your mouth or a breathing device.
- Loose dental appliances may cause problems.
    - Partial dentures may become dislodged during trauma or while you are performing airway care and rescue breathing.
    - Remove the dentures and try to put them in a safe place.

D.Airway management in a vehicle

- If the patient is lying on the floor or seat of the car, apply the standard jaw-thrust maneuver.
- Use the jaw-thrust maneuver if there is any possibility that the crash could have caused a head or spine injury.
- When the patient is in a sitting or semi-reclining position:
    - Approach the patient from the side by leaning in through the window or across the front seat.
    - Grasp the patient's head with both hands.
    - Put one hand under the patient's chin and the other hand on the back of the patient's head, just above the neck.
    - Maintain a slight upward pressure to support the head and cervical spine.
    - This technique has several advantages
- You do not have to enter the automobile.
    - You can easily monitor the patient's carotid pulse and breathing patterns by using your fingers.
    - This technique stabilizes the patient's cervical spine.
    - It opens the patient's airway.

IV. Summary

A. The main purpose of the respiratory system is to provide oxygen and to remove carbon dioxide from the red blood cells as they pass through the lungs. The structures of the respiratory system in children and infants are smaller than the corresponding structures in adults. As a consequence, the air passages of children and infants may be more easily blocked by secretions or by foreign objects.

B. When a patient experiences possible respiratory arrest, check for responsiveness; open the blocked airway using the head tilt–chin lift or jaw-thrust maneuver; check for fluids, solids, or dentures in the mouth; and correct the airway, if needed, using finger sweeps or suction.

C. Maintain the airway by continuing to manually hold the airway open, by placing the patient in the recovery position, or by inserting an oral airway. Check for breathing by looking, listening, and feeling for air movement, and correct any problems by using a mouth-to-mask or mouth-to-barrier device, by using a bag-valve mask, for rescue breathing. It is important to use the correct sequence for adults, children, and infants.

D. If the airway is obstructed in a conscious adult or child, kneel or stand behind the patient and perform the Heimlich maneuver. Give abdominal thrusts until the obstruction is relieved or the patient becomes unconscious. For unconscious adult or child with an airway obstruction, perform chest compressions. Move to the head, open the airway, and look in the patient's mouth. Do not perform a finger sweep—regardless of the patient's age—unless you can see the object. Attempt rescue breathing. If the airway is still obstructed, repeat chest compressions, visualization of the mouth, and ventilation attempts until the obstruction is relieved.

E. Administering supplemental oxygen to patients who show signs and symptoms of shock increases the amount of oxygen delivered to the cells of the body and often makes a positive difference in the patient's outcome. Patients who have experienced a heart attack or stroke or patients who have chronic heart or lung disease may also benefit from receiving supplemental oxygen.

F. Pulse oximetry is used to assess the amount of oxygen saturated in the red blood cells.

Post-Lecture

This section contains various student-centered end-of-chapter activities designed as enhancements to the instructor's presentation. As time permits, these activities may be presented in class. They are also designed to be used as homework activities.

Assessment in Action This activity allows the student an opportunity to analyze an emergency care scenario and develop responses to critical-thinking questions. This scenario is designed to assist the student in gaining a further understanding of the issues surrounding airway management.

Instructor Directions 1. Direct students to read the "Assessment in Action" scenario located in the Prep Kit at the end of Chapter 7 (pg 138-140). 2. Direct students to read and individually answer the quiz questions at the end of the scenario. Facilitate a class review and discussion of the answers, allowing students to correct their responses as needed. Use the quiz question answers noted here to assist in building this review. 3. You may wish to ask students to complete the activity on their own and turn in their answers on a separate piece of paper.

Answers to Assessment in Action Questions

1. Answer: C check for breathing.

2. Answer: B Attempt the jaw-thrust maneuver again and try to ventilate.

3. Answer: B 12 to 20 breaths per minute

4. Answer: B Log roll her onto her side while making sure her head, neck, and spine are aligned.

5. Answer: C Pressure regulator/flowmeter

6. Answer: Try to open the airway by using the jaw-thrust maneuver. Place your fingers under the angle of the jaw and push upward. At the same time, use your thumbs to open the mouth slightly. The jaw-thrust maneuver should open the airway without extending the neck.

7. Answer: A person who is breathing at a rate of 3 to 4 breaths per minute is not breathing adequately. This slow rate will not provide him or her with sufficient oxygen or allow to get rid of carbon dioxide. Therefore, it is necessary to perform rescue breathing for this person until their breathing rate increases to an adequate rate of 10 to 12 breaths per minute.

8. Answer: The mouth (oropharynx), nose (nasopharynx), throat (pharynx), trachea (windpipe), lungs, diaphragm, and numerous chest muscles are used in breathing.

9. Answer: B patients who are breathing, but unconscious and unable to maintain an open airway.

10. Answer: A stoma is an opening in the neck that connects with the lower airway and through which the patient breathes. Patients with a stoma have had part of all of their larynx (voice box) removed so they cannot breathe through their mouth or nose. Therefore, when a patient with a stoma needs rescue breathing, you must perform rescue breathing through their stoma.

Lesson Review

A. Without oxygen, how long will it take the cells of the brain to die?
B. What are some of the signs of inadequate breathing?
C. Describe how abdominal thrusts can remove an object from an obstructed airway.

Assignments

A. Complete all the Student Workbook activities for Chapter 7 (pg 140).

B. Review all materials from this lesson and be prepared for a lesson quiz to be administered (date to be determined by the instructor).

Unit Assessment Keyed for Instructors

1. In an unconscious patient, a blocked airway is most likely caused by A. a foreign object. B. the tongue. C. the epiglottis. D. the larynx. Answer: B p 108; p 111

2. The first step in correcting a blocked airway is to A. shake the patient to determine responsiveness. B. attempt to give rescue breaths. C. position the head properly. D. clear foreign matter from the throat. Answer: C p 111

3. To open the airway in an unconscious adult with no suspected spinal injury, you should use the A. jaw-thrust technique. B. manual suction device. C. head tilt–chin lift maneuver. D. tongue–jaw lift technique. Answer: C p 111

4. An oral airway of proper size will extend from the A. corner of the patient's mouth to the tip of the earlobe. B. lips to the larynx. C. nose to the angle of the jaw. D. none of the above Answer: A p 115

5. When inserting a nasopharyngeal airway, lubricate the outside of the tube with A. petroleum jelly. B. an oil-based lubricant. C. a silicone-based lubricant. D. a water-soluble lubricant. Answer: D p 116

6. When at rest, the normal breathing rate for an adult is _____ times per minute. A. 12 to 20 B. 30 to 40 C. 60 to 80 D. 75 to 100 Answer: A p 119

7. Signs of inadequate breathing in an adult include all the following except: A. respirations that are slowed. B. a respiratory rate of 14 to 18 breaths per minute. C. breathing is very shallow, is very deep, or appears labored. D. the patient is unable to speak in full sentences. Answer: B p 119

8. To correct breathing, the very first step you should take is to A. clear the mouth. B. administer oxygen. C. apply positive-pressure ventilation. D. open the airway. Answer: D p 119

9. If a patient is coughing forcefully with something caught in the throat A. give abdominal thrusts. B. sweep out the mouth. C. check the pulse. D. encourage the patient to cough. Answer: D p 127

10. If gastric distention occurs while you are doing CPR, it is probably caused by A. rescue breaths that are too small. B. too much force while doing chest compressions. C. air entering the patient's stomach. D. too much fluid in the patient's stomach. Answer: C p 136

Unit Assessment

1. **In an unconscious patient, a blocked airway is most likely caused by**
A. a foreign object.
B. the tongue.
C. the epiglottis.
D. the larynx.

2**. The first step in correcting a blocked airway is to**
A. shake the patient to determine responsiveness.
B. attempt to give rescue breaths.
C. position the head properly.
D. clear foreign matter from the throat.

3**. To open the airway in an unconscious adult with no suspected spinal injury, you should use the**
A. jaw-thrust technique.
B. manual suction device.
C. head tilt–chin lift maneuver.
D. tongue–jaw lift technique.

4. **An oral airway of proper size will extend from the**
A. corner of the patient's mouth to the tip of the earlobe.
B. lips to the larynx.
C. nose to the angle of the jaw.
D. none of the above

5. **When inserting a nasopharyngeal airway, lubricate the outside of the tube with**
A. petroleum jelly.
B. an oil-based lubricant.
C. a silicone-based lubricant.
D. a water-soluble lubricant.

6. **When at rest, the normal breathing rate for an adult is _____ times per minute.**
A. 12 to 20
B. 30 to 40
C. 60 to 80
D. 75 to 100

7. **Signs of inadequate breathing in an adult include all the following except:**
A. respirations that are slowed.
B. a respiratory rate of 14 to 18 breaths per minute.
C. breathing is very shallow, is very deep, or appears labored.
D. the patient is unable to speak in full sentences.

8. **To correct breathing, the very first step you should take is to**
A. clear the mouth.
B. administer oxygen.
C. apply positive-pressure ventilation.
D. open the airway.

9**. If a patient is coughing forcefully with something caught in the throat**
A. give abdominal thrusts.
B. sweep out the mouth.
C. check the pulse.
D. encourage the patient to cough.

10**. If gastric distention occurs while you are doing CPR, it is probably caused by**
A. rescue breaths that are too small.
B. too much force while doing chest compressions.
C. air entering the patient's stomach.
D. too much fluid in the patient's stomach.

Reference Materials:
● Materials used with approval of Jones and Bartlett and intended to be used in conjunction with the Jones and Bartlett EMR 6th Edition Manual.