



**JUSTICE
INSTITUTE**
of BRITISH COLUMBIA

PARAMEDIC
ACADEMY

Emergency Medical Responder

Student Study Guide

JUSTICE INSTITUTE OF BRITISH COLUMBIA
Health Sciences Division

August 2018

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EMR COURSE

Administration

INTRODUCTION

Welcome and thank you for your interest in the Emergency Medical Responder (EMR) course. The EMR course is designed to be an intensive skills-based course that meets various regulatory requirements and prepares students to respond to a variety of medical emergencies.

Using the Student Guide

This student study guide is designed to support you through the EMR course and provide you with supplemental reading material and references to assist you with independent study requirements.

To be adequately prepared for each day of the course, it is imperative that you complete all independent study reading requirements prior to each classroom session; as outlined on the next page.

Online Resources – EMR Student Campus

It is highly encouraged for all Students to log on to the “EMR Student Campus” the JIBC’s Learning Management System. This online campus has various resources including practice quizzes, multimedia activities and videos that will assist you throughout the course. Students are encouraged to log on to the campus at least 2-3 per week.

To log on - go to: <https://www.jibc.ca/myjibc>

Course Textbook

The textbooks for the course are *Emergency Medical Responder: A Skills Approach – 5th Canadian Edition* and *Canadian Red Cross CPR Manual*. This is a requirement for the course and can be purchased from the JIBC Bookstore.

Questions and Support

For questions regarding your course – please email emr@jibc.ca or contact JIBC Student Services at register@jibc.ca. During the course, your Instructor will be readily available to answer most questions regarding instruction, administration and provide insight into the next steps following course completion. In order to practice as an EMR, you may be required to register with the appropriate regulatory and/or licensing body (E.g. Emergency Medical Assistant Licensing Branch in British Columbia, Alberta College of Paramedics).

For further details on this process, please refer to the EMR Student Campus, or contact the appropriate regulatory/licensing agency that you wish to apply to; links to agency websites are listed in the ‘links’ section of the EMR Student Campus – see above for instructions on how to access this resource.

Course Overview and Preparations

The following table depicts the independent study and pre-reading for both versions of the EMR course (PARA-1050 & PARA-1051-Accelerated). Students are expected to have read and completed all required reading as described in the table below prior to attending each class. Part-Time students should aim to stay ahead a minimum of one day in all pre-reading requirements.

It is *highly encouraged, although not mandatory*, for all students to read through all course materials (textbook, study guide) prior to the start of the class and to complete the online quizzes.

Reviewed PRIOR to:	PARA-1050 Independent Study	PARA-1051 Independent Study
Day One	Lessons 1,2,3,4,5,6	Lessons 1-10
Day Two	Lesson 7, 8,9, 10	Lesson 11,12,13,14
Day Three	Lesson 11,12	Lesson 15,16
Day Four	Lesson 13,14	Lesson 17-28
Day Five	Lesson 15,16	Lesson 29-33
Day Six	Lesson 17-25	Lesson 34-37
Day Seven	Lesson 26,27,28	Lesson 38-40 - Examinations
Day Eight	Lesson 29,30,31,32,33	Practical Evaluations
Day Nine	Lesson 33 - Review	
Day Ten	Lesson 34	
Day Eleven	Lesson 34 - Review	
Day Twelve	Lesson 35-40	
Day Thirteen	Lesson 40	
Day Fourteen	Examinations – Course Review	
Day Fifteen	Practical Evaluations	

Please note – the term “Lesson” refers to the lessons denoted in this ‘EMR Student Study Guide’. Each lesson may correspond with different or multiple ‘Chapters’ from the EMR Textbook. This will be defined on the title page of each particular Lesson within this Student Study Guide under the heading ‘Pre-read’.

Written Examinations

The PARA-1050 course has 4 written examinations distributed at strategic points to encourage progression through the course content and evaluate the understanding of critical concepts. The online student campus contains practice quizzes for each of the assessments.

Course Type	Practical Exams	Grade Required	Comments
PARA-1050 Only	Interim 1 A/B. 25 Questions. Day 6	70%	1 Re-attempt allowed. 69% or less at 2nd attempt; overall 'FAIL' grade in EMR
PARA-1050 Only	Interim 2 A/B. 25 Questions. Day 11	70%	1 Re-attempt allowed. 69% or less at 2nd attempt; overall 'FAIL' grade in EMR
PARA-1050/51	CPR-HCP Level A/B. 20 Questions. Day 4	75%	1 Re-attempt allowed. 69% or less at 2nd attempt; overall 'FAIL' grade in EMR
PARA-1050/51	Final Comprehensive A/B. 100 Questions Day 14 (1050) day 7 (1051)	70%	1 Re-attempt allowed. 69% or less at 2nd attempt; overall 'FAIL' grade in EMR

Practical Evaluations

Throughout the course, students are continuously evaluated on their skills performance and must successfully complete a series of assessments to be deemed eligible for certification. In addition, students must pass final practical simulation evaluations (medical and trauma).

All final practical and skill assessments are randomly selected from the exam repository.

Course Type	Practical Exams	Grade Required	Comments
PARA-1050/51	Skills Assessments: <ul style="list-style-type: none"> • Patient Assessment • Primary Survey • Airway & Breathing • CPR-HCP • Spinal Mgmt. • First Aid Skills • IV Maintenance 	70%	No limits on 'in-class' attempts. 'Formal' attempts should be graded accordingly. If formal attempts at 69% or less at 2nd attempt; overall 'FAIL' grade in EMR *If skills have not been denoted as a 'PASS' grade by day 14 (PARA-1050) or by day 7 (PARA-1051) – student should be offered up to 60 days from EMR day 1 to complete skills assessments and examination attempts at a scheduled remedial exam. Student Should NOT be entered into final practical exam at day 15 or day 8. Refer student to Program Staff
PARA-1050/51	Final practical scenarios: 1 medical & 1 trauma	70%	1 Re-attempt allowed. 69% or less at 2nd attempt; overall 'FAIL' grade in EMR

Emergency Medical Responder Course Structure

PART 1 - INTRODUCTION

Unit 1 - Fundamentals of Emergency Medicine

- Lesson 1 Course Overview
- Lesson 2 Introduction to Emergency Medicine
- Lesson 3 Equipment and Emergency Vehicle Operation
- Lesson 4 Patient Handling and Transfer

Unit 2 Fundamentals of Anatomy and Physiology

- Lesson 5 The Human Body

PART 2 – ASSESSMENT AND DIAGNOSTICS

Unit 3 Scene Assessment

- Lesson 6 Personal Safety and Protective Equipment
- Lesson 7 Rescue Scene Evaluation

Unit 4 Patient Assessment

- Lesson 8 Primary Survey
- Lesson 9 Decision Making and Rapid Transport
- Lesson 10 Secondary Survey

PART 3 – MEDICAL CONDITIONS AND EMERGENCIES

Unit 5 Airway and Breathing

- Lesson 11 Airway Management
- Lesson 12 Breathing Management

Unit 6 Cardiac Arrest Management

- Lesson 13 Cardiopulmonary Resuscitation
- Lesson 14 Automated External Defibrillation

Unit 7 Respiratory System

- Lesson 15 Respiratory Emergencies

Unit 8 Cardiovascular System

- Lesson 16 Cardiac Emergencies

Unit 9 Endocrine and Immune Systems

- Lesson 17 Diabetic Conditions and Endocrine Emergencies
- Lesson 18 Allergies and Anaphylaxis
- Lesson 19 Poisoning and Overdose
- Lesson 20 Communicable Diseases

Unit 10 Mental Health, Neurological and Special Populations

- Lesson 21 Mental Health & Special Populations
- Lesson 22 Cerebrovascular Emergencies
- Lesson 23 Seizures and Neurological Conditions

Unit 11 Environmental Conditions

- Lesson 24 Temperature and Water Emergencies
- Lesson 25 Bites and Stings

PART 4 - TRAUMATIC EMERGENCIES AND SOFT TISSUE INJURIES

Unit 12 Fundamentals of Traumatic Injury Management

- Lesson 26 Hemorrhage Control and Shock
- Lesson 27 First Aid Skills and Procedures
- Lesson 28 Skin Conditions and Soft Tissue Injuries

Unit 13 Head, Neck and Face Injuries

- Lesson 29 Traumatic Head, Neck and Face Injuries

Unit 14 Chest, Abdominal and Genitalia Injuries

- Lesson 30 Traumatic Chest Injuries
- Lesson 31 Abdominal and Genitourinary Injuries

Unit 15 Burns and Electrical Injury Management

- Lesson 32 Burns and Electrical Injuries

Unit 16 Spinal Management and Immobilization

- Lesson 33 Spinal Management

Unit 17 Musculoskeletal System

- Lesson 34 Sprains, Dislocations, and Fracture Management

PART 5 – DIVERSE POPULATIONS AND EMS OPERATIONS

Unit 18 Obstetrics, Pediatric and Geriatric Medicine

- Lesson 35 Pregnancy and Childbirth
- Lesson 36 Pediatric Emergencies
- Lesson 37 Geriatric Considerations

Unit 19 EMS Operations and Advanced Skills

- Lesson 38 Special Rescue and EMS Operations
- Lesson 39 Pharmacology & Intravenous (IV) Maintenance

PART 6 – EMERGENCY MEDICAL RESPONDER COURSE REVIEW

Unit 20 Course Review

- Lesson 40 Review and Exam Preparation

Course Agenda | PARA-1050 | Day 1 - 5

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
UNIT 1	UNIT 3	UNIT 5	UNIT 6	UNIT 7
Fundamentals	Scene Assessment	Airway & Breathing	Cardiac Arrest	Respiratory System
L.1-4	L.7	L.11	L.13	L.15
UNIT 2	SKILLS PRACTICE	SKILLS PRACTICE	SKILLS PRACTICE	STRUCTURED PRACTICE
Anatomy & Phys.	UNIT 4	SKILLS PRACTICE	SKILLS PRACTICE	UNIT 8
L.5	Patient Assessment	L.12	L.14	Cardiovascular
UNIT 3	L.8			L.16 (240 Mins)
Scene Assessment	L.9			STRUCTURED PRACTICE
L.6	L.10	A&B SKILLS	CPR/AED SKILLS	
SKILLS PRACTICE	SKILLS PRACTICE	ASSESSMENT	ASSESSMENT	

Assessments:

In the first week, all students must be assessed and deemed successful on the following skills:

1. Airway
 - a. Manual Airway Management – Opening Airway, Head-Tilt Chin-Lift, Jaw Thrust
 - b. Airway Adjuncts - Oropharyngeal Airway (OPA) , Nasopharyngeal Airway (NPA)
 - c. Suction Technique – Manual and Automatic Devices
2. Breathing
 - a. Artificial Respirations – Bag-Valve Mask, Pocket Mask
 - b. Oxygen Therapy
 - c. Pulse Oximetry
3. CPR/AED – Cardiopulmonary Resuscitation | Automated External Defibrillation
 - a. CPR – Adult, Child and Infant | One and Two Rescuer – Health Care Provider
 - b. Airway Obstruction Management (FBAO)
 - c. Automated External Defibrillation

Course Agenda | PARA-1050 | Day 6 - 10

DAY 6	DAY 7	DAY 8	DAY 9	DAY 10
INTERIM EXAM 1	UNIT 12	UNIT 13	UNIT 16	UNIT 17
Units 1-7	Traumatic Injuries	Head, Face & Neck	Spinal Management	Musculoskeletal
	L.26	L.29	L.33 - (P2)	L.34 - (P1)
UNIT 9	STRUCTURED PRACTICE	UNIT 14		
Endocrine & Immune		Chest & Abdominal		
L.17-18-19-20		L.30-31		
UNIT 10	STRUCTURED PRACTICE	UNIT 15	STRUCTURED PRACTICE	STRUCTURED PRACTICE
Psychiatric/Neuro	L.27	Burns & Electrical		
L.21-22-23		L.32		
UNIT 11	STRUCTURED PRACTICE	STRUCTURED PRACTICE		
Environmental	L.28			
L.24-25		UNIT 16		
STRUCTURED PRACTICE	OFA SKILLS	Spinal Management		
	ASSESSMENT	L.33 - (P1)	SPINAL SKILLS	
			ASSESSMENT	

Assessments:

In the week two, all students must be assessed and deemed successful on the following:

1. Interim Written Examination One – Focused on Units 1- 8
2. First Aid Skills
 - a. First Aid Assessments - “Walk-In” Patient Management
 - b. Assessment, Cleaning and Dressing of Wounds (Major and Minor)
 - c. Occupational Injuries and Activity Related Soft-Tissue Disorder Treatment
 - d. Strains and Sprains Treatment
 - e. Eye Examination and Eye Injury Management
 - f. Medical Referral, First-Aid Documentation and Follow-Up Care

3. Spinal Management
 - a. Neutral and Anatomical Alignment
 - b. Spinal Grips and Transition Manoeuvres
 - c. Cervical Hard Collar Application
 - d. Spinal Rolls (Supine, Prone, ¾ Prone)
 - e. Immobilization Equipment, Techniques and Procedures

Course Agenda | PARA-1050 | Day 11 - 15

DAY 11	DAY 12	DAY 13	DAY 14	DAY 15
INTERIM EXAM 2	UNIT 18	UNIT 20	WRITTEN EXAM	FINAL EXAMS
Units 8- 17	Pediatric/Geriatric	Course Review	[120 mins]	Practical Eval.
	L.35-36-37	L.40		
UNIT 17				
Musculoskeletal (375 Mins)	STRUCTURED PRACTICE			
L.34 - (P2)		STRUCTURED PRACTICE		
	UNIT 19			
	EMS Operations & Advanced Skills			
	L.38-39			
STRUCTURED PRACTICE	IV SKILLS		STRUCTURED PRACTICE	
	ASSESSMENT			
	UNIT 20			
	Course Review			
	L.40			

Assessments:

In the week three, students must be assessed and deemed successful on the following skills:

1. Interim Written Examination Two – Focused on Units 9-17
2. Intravenous (IV) Maintenance
 - a. Preparing an IV Set
 - b. IV Maintenance and Drip Rate Calculation
3. Final Written Evaluation – Comprehensive
4. Final Practical Evaluations
 - c. Medical Simulation
 - d. Trauma Simulation

Course Agenda | PARA-1051 - Accelerated | 8 days

DAY 1	UNIT 1 Fundamentals L.1-4	UNIT 2 Anatomy and Physiology L.5	UNIT 3 Scene Assessment L.6-L.7	UNIT 4 Patient Assessment L.8 L.9 L.10	DAY 2	UNIT 5 Airway & Breathing L.11-L.12	UNIT 6 Cardiac Arrest L.13-L.14	UNIT 7 Cardiovascular L.16 (240)	UNIT 8 A&B SKILLS ASSESSMENT CPR/AED SKILLS ASSESSMENT	DAY 3	UNIT 7 Respiratory L.15	STRUCTURED PRACTICE	UNIT 7 Cardiovascular L.16 (240)	STRUCTURED PRACTICE	DAY 4	UNIT 9 Endocrine/Immune L.17-18-19-20	UNIT 10 Psychiatric/Neuro. L.21-22-23	UNIT 11 Environmental L.24-25	UNIT 12 Traumatic Injuries L.26-28	STRUCTURED PRACTICE	DAY 5	UNIT 13 Head, Neck & Face L.29	UNIT 14 Chest & Abdominal L.30-31	UNIT 15 Burns & Electrical L.32	UNIT 16 Spinal Management L.33	DAY 6	UNIT 17 Musculoskeletal L.34	UNIT 18 Pediatrics/Geriatrics L.35-36-37	DAY 7	UNIT 19 EMS Operations & Advanced Skills L.38-39	UNIT 20 Course Review L.40	WRITTEN EXAM [120 mins]	SKILLS EVAL. Integrated	STRUCTURED PRACTICE	DAY 8	FINAL EXAMS Practical Evaluation			
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Assessments:

PARA-1051 Students must complete all the required evaluations and assessments as per PARA-1050 – excluding interim written examinations. On Day 7 of the course, additional skills evaluation time is provided to evaluate students on all remaining mandatory skills.

How to use this Study Guide

Lesson Plans | Each Lesson Plan is laid out in the following format

The **Lesson** number and description is at the top right

The **Focus** area provides a brief overview or goal of each lesson

References This area lists additional or supplemental readings where you can find **further** information.

L.1 Focus	The focus for this lesson will be to introduce the students and instructor to one another and provide an overview of the Fundamentals of Emergency Medicine course.
Reference	EMR - A Skills Approach textbook Preface and Appendix EMA Licensing Board of British Columbia http://www.health.gov.bc.ca/ema/ Alberta College of Paramedics Website: http://collegeofparamedics.org Justice Institute of British Columbia: http://www.jibc.bc.ca
Pre-Read	<ul style="list-style-type: none"> EMR - A Skills Approach textbook Preface and Appendix; Study Guide; Student Handbook - Available on the JIBC Website (Student Services Tab) Student Code of Conduct Policy
Classroom Learning Objectives	<ul style="list-style-type: none"> Meet your fellow classmates and the Instructor for the course. Understand the components of the EMR course, including: <ul style="list-style-type: none"> Classroom Activities Independent Study Activities Online Learning Environment Written Evaluation Practical Evaluation Student Handbook & Academic Policies Describe the relevant legislation, policies and procedures pertaining to EMS. Describe how the EMR course meets the Paramedic Association of Canada's National Occupational Competency Profiles (NOCP) and standards for an Occupational First Aid attendant Describe the School of Health Sciences' Certification process and the Provincial Licensing Processes to practice as an Emergency Medical Responder
Notes	The Notes section is for you to document key points from the lecture and pre-read studies

The **Classroom Objectives** area lists the specific topics, activities or discussions completed in each lesson

The Activity area depicts what simulations, exercises or discussions the Instructors and Students should be doing for each topic

EMR COURSE

Part One - Introduction

Fundamentals of Emergency Medicine | UNIT 1

Course Overview – Lesson 1

Introduction to Emergency Medicine – Lesson 2

Equipment and Emergency Vehicle Operation – Lesson 3

Patient Handling and Transfer – Lesson 4

Fundamentals of Anatomy and Physiology | UNIT 2

The Human Body – Lesson 5

LESSON 1 | COURSE OVERVIEW

L1 Focus	The focus for this lesson will be to introduce the students and instructor to one another and provide an overview of the Fundamentals of Emergency Medicine course.
Reference	EMR - A Skills Approach textbook Preface and Appendix EMA Licensing Board of British Columbia - http://www.health.gov.bc.ca/ema/ Alberta College of Paramedics Website - http://collegeofparamedics.org Paramedic Association of Canada - www.paramedic.ca Justice Institute of British Columbia: - http://www.jibc.ca
Pre-Read	EMR - A Skills Approach textbook Preface and Appendix Blackboard Supplemental Readings JIBC Student Handbook - www.jibc.ca/student-services/student-handbook JIBC Student Policies & Academic Regulations www.jibc.ca/programs-courses/jibc-calendar
Classroom Learning Objectives	<ul style="list-style-type: none"> • Meet your fellow classmates and the Instructor for the course. • Understand the components of the EMR course, including: • Classroom Activities • Independent Study Activities • Online Learning Environment • Written Evaluation • Practical Evaluation • Student Handbook & Academic Policies • Describe the relevant legislation, policies and procedures pertaining to EMS. • Describe to Academic awareness how the EMR course meets the Paramedic Association of Canada's National Occupational Competency Profiles (NOCP) and standards for an Occupational First Aid attendant • Describe the School of Health, Community and Social Justice ' Certification process and the Provincial Licensing Processes to practice as an Emergency Medical Responder
Notes	

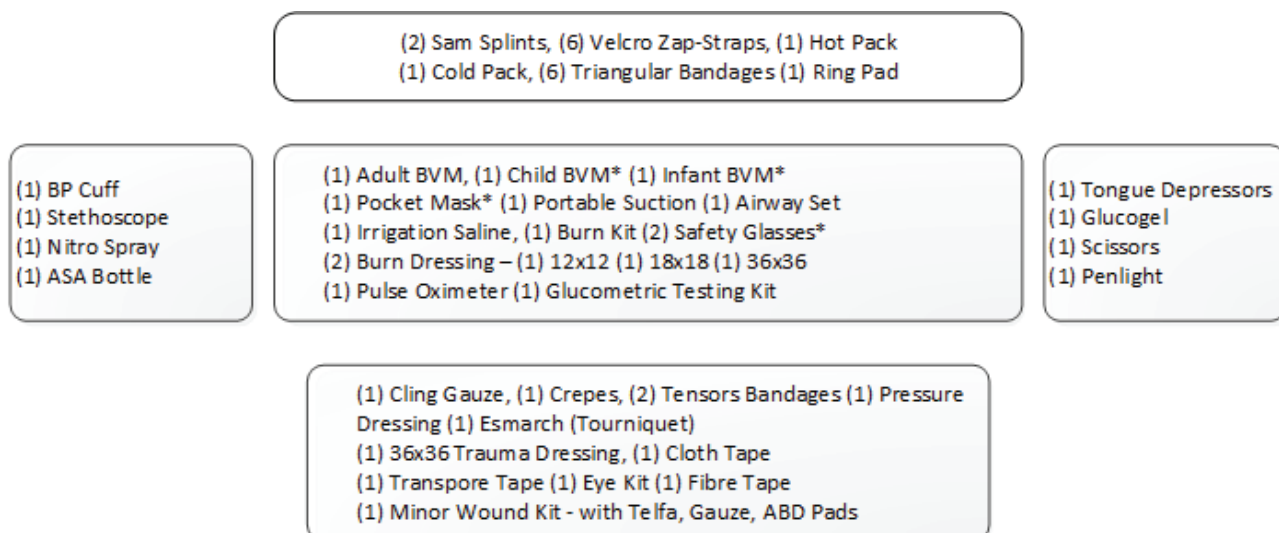
LESSON 2 | INTRODUCTION TO EMERGENCY MEDICINE

L2 Focus:	This lesson will examine the overall Emergency Medical Services (EMS) system and the professional roles and responsibilities of the EMR attendant within that EMS system. Students will also read the chapter on “The Human Body” (anatomy and physiology).
Reference	<ul style="list-style-type: none"> • Paramedic Association of Canada (PAC) Website – www.paramedic.ca • WorkSafeBC Occupational First Aid Regulations-Policies – OHS Guidelines-WCB Standards – www.worksafebc.ca • Transport Canada Emergency Response Guidebook - www.tc.gc.ca/eng/canutec/guide-menu-227.htm (2015 version available via Blackboard)
Pre-Read	<p>EMR - A Skills Approach textbook Chapter 1, 3 and 4</p> <p>WorkSafeBC Regulations 3.14 - 3.21 and Schedule 3A, 5.1, 5.5, 5.6, 5.7</p> <p>Governing Legislation</p> <p>Legal Terms – Key Definitions & Considerations</p> <p>Code of Ethics</p> <p>Blackboard Supplemental Readings</p>
Classroom Learning Objectives:	<p>Fully independent study only; (additional resources added to online learning system);</p> <p>Updated to;</p> <ul style="list-style-type: none"> • Academic Awareness of the EMS system • Academic Awareness of EMR “roles and responsibilities” • Academic Awareness of “Scope of Practice” • Academic Awareness of Legal Issues relevant to the EMR • Academic Awareness of “Professionalism” • Academic Awareness of “Ethics” as it pertains to the EMR attendant
Notes	

LESSON 3 | EQUIPMENT AND EMERGENCY VEHICLE OPERATION

L3 Focus:	The focus of this lesson will be to familiarize the EMR with commonly used medical and non-medical equipment.
Pre-Read	EMR - A Skills Approach textbook Chapter 29 Blackboard supplemental readings
Resources	<ul style="list-style-type: none"> Fully stocked EMR Jump Kits (one per 3 students), EMR Textbook Blackboard Supplemental Readings and Quizzes
Classroom Learning Objectives:	<p>Describe the medical and non-medical equipment needed to respond to an Emergency Medical Services or First-Aid assistance call.</p> <ul style="list-style-type: none"> Describe the medical and non-medical equipment needed to respond to an Emergency Medical Service or First-Aid assistance call. Identify and describe the use of common equipment and supplies found within an EMR Response Kit (Jump Kit). Identify and describe the use of common equipment found on an ambulance or emergency medical transport vehicle Describe the phases of an EMS response Describe safety considerations and operation of an emergency vehicle. Discuss when a vehicle should be removed from service Demonstrate ambulance and equipment cleaning techniques
Notes	

Emergency Medical Responder Jump Kit Contents / Layout Example



Note: Items marked with an ‘*’ may be located in a separate, but accessible, kit/location.

LESSON 4 | PATIENT HANDLING AND TRANSFER

L4 Focus:	The focus of this lesson will be to provide the EMR the skills and abilities to lift and transfer equipment and patients safely and effectively.
Pre-Read	EMR - A Skills Approach textbook Chapter 6, Core Skills Checklist
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Demonstrate and describe appropriate safety considerations and body mechanics while lifting (including warm-up and stretching exercises) • Demonstrate the following patient lifts, moves, and carries: <ul style="list-style-type: none"> – Fore and Aft lift or Extremity lift – Modified Fore and Aft Lift – Stand and Pivot Transfer – Draw Sheet transfer – Golden Slipper transfer • Demonstrate the use of the following pieces of equipment: <ul style="list-style-type: none"> – Chair cot stretcher – Multi-level stretcher – Golden Slipper – Robertson Orthopaedic Stretcher (Clamshell) – Portable stretcher (Number 9 or Furley) – Basket Stretcher – Spine Board • Demonstrate the loading and removal of a patient in and out of a simulated ambulance – or training ambulance, if available.
Notes	

LESSON 5 | THE HUMAN BODY

L5 Focus:	The focus of this lesson is to introduce key concepts based around anatomy, physiology and the human body systems.
Pre-Read	EMR - A Skills Approach textbook; Chapter 4 Blackboard Supplemental Readings
Classroom Learning Objectives:	<p>Fully independent study only; (additional study resources added to online learning system); Updated to;</p> <ul style="list-style-type: none"> • Additional study resources available via Canadian Red Cross Standard First Aid manual <ul style="list-style-type: none"> – Academic awareness of the fundamentals of anatomy and physiology – Academic awareness of the anatomy and function of the major body systems <ul style="list-style-type: none"> ▪ Musculoskeletal ▪ Respiratory ▪ Circulatory ▪ Nervous ▪ Skin ▪ Digestive ▪ Urinary ▪ Endocrine ▪ Reproductive
Notes	

EMR COURSE

Part Two - Assessment and Diagnostics

Scene Assessment | UNIT 3

Personal Safety and Protective Equipment – Lesson 6

Rescue Scene Evaluation – Lesson 7

Patient Assessment | UNIT 2

Primary Survey – Lesson 8

Decision Making and Rapid Transport – Lesson 9

Secondary Survey – Lesson 10

LESSON 6 | PERSONAL SAFETY AND PROTECTIVE EQUIPMENT

L6 Focus:	This lesson focuses on the health and safety of the EMR attendant. The role of an EMR attendant can be demanding, both physically and mentally and this lesson will look at ways to have a long and healthy career in the EMS profession.
Pre-Read	EMR - A Skills Approach textbook Chapter 2, 10 and 33 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Demonstrate appropriate understanding and application of techniques to maintain personal hygiene • Demonstrate and describe appropriate safety considerations and infection control techniques. • Describe the need for scene safety and which personal precautions should be taken in a variety of emergency situations. • Describe and discuss the principles of personal safety and well being • Define and discuss “universal precautions” • Demonstrate the proper application and removal of Personal Protective Equipment
Notes	

LESSON 7 | RESCUE SCENE EVALUATION

L7 Focus	The focus of this lesson will be to introduce the student to the Rescue Scene Evaluation component of the Patient Assessment Model.
Pre-Read	EMR - A Skills Approach textbook Chapters 2, 10, 33 Blackboard Supplemental Readings
Classroom Learning Objectives	<ul style="list-style-type: none">• Identify the major components of the Patient Assessment Model• Demonstrate and describe the components of a scene assessment (Rescue Scene Evaluation)
Notes	

LESSON 8 | PRIMARY SURVEY

L8 Focus	The focus of this lesson will be to introduce the student to the Primary Survey component of the Patient Assessment Model.
Pre-Read	<p>EMR - A Skills Approach textbook Chapter 10, 11, and 12</p> <p>Study Guide: Rapid Transport, Glasgow Coma Scale, Ruling Out Spinal Injury, demonstrate application and use of the pulse oximeter</p> <p>Blackboard Supplemental Readings</p>
Classroom Learning Objectives	<ul style="list-style-type: none"> • Identify the major components of the Patient Assessment Model: <ul style="list-style-type: none"> – (Review) Rescue Scene Evaluation – Personal Protective Equipment – Primary Survey • Differentiate between a sign and a symptom • Demonstrate Primary Survey Critical Interventions
Notes	

LESSON 9 | DECISION MAKING AND RAPID TRANSPORT

L9 Focus:	The focus of this lesson is to educate students in decision making with regards to whether a patient requires non-rapid transport or rapid transport.
Pre-Read	Student Study Guide; 'Rapid Transport Criteria' Blackboard Supplemental Readings
Classroom Learning Objectives:	Fully independent study only; (additional study resources added to online learning system); Updated to; <ul style="list-style-type: none">• Student should have an academic awareness of the following 3 criteria; (for accurate simulation assessments)<ul style="list-style-type: none">– Mechanism of injury– Anatomy of injury– Findings in the primary survey
Notes	

LESSON 10 | SECONDARY SURVEY

L10 Focus:	The focus of this lesson is to introduce the secondary survey as part of the patient assessment model and to introduce the key diagnostic elements of patient assessments.
Pre-Read	EMR - A Skills Approach textbook; Chapter 11 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Identify the major components of a secondary survey <ul style="list-style-type: none"> – History/Vitals/Head to Toe • Demonstrate taking the history of the chief complaint • Demonstrate the taking and recording of vital signs <ul style="list-style-type: none"> – Glasgow Coma Scale – Blood pressure – Skin colour/condition – Pupil response – Pulse Oximeter – Respiration rate/quality – Pulse rate/quality • Demonstrate a head-to-toe physical examination • Demonstrate a hospital notification and hand-off report • Demonstrate the complete Patient Assessment Model on a simulated patient where no treatments or interventions are required
Notes	

EMR COURSE

Part Three - Medical Conditions & Emergencies

Airway and Breathing | UNIT 5

Airway Management – Lesson 11

Breathing Management – Lesson 12

Cardiac Arrest Management | UNIT 6

Cardiopulmonary Resuscitation – Lesson 13

Automated External Defibrillation – Lesson 14

Respiratory System | UNIT 7

Respiratory Emergencies – Lesson 15

Cardiovascular System | UNIT 8

Cardiac Emergencies – Lesson 16

Part Three - Medical Conditions & Emergencies (continued)

Endocrine and Immune System | UNIT 9

Diabetic Conditions and Endocrine Emergencies – Lesson 17

Allergies and Anaphylaxis – Lesson 18

Poisoning and Overdose – Lesson 19

Communicable Diseases – Lesson 20

Mental Health and Neurological Emergencies | UNIT 10

Mental Health and Special Populations– Lesson 21

Cerebrovascular Emergencies – Lesson 22

Seizures and Neurological Conditions – Lesson 23

Environmental Conditions | UNIT 11

Temperature and Water Emergencies – Lesson 24

Bites and Stings – Lesson 25

LESSON 11 | AIRWAY MANAGEMENT

L11 Focus	The focus of this lesson will be Airway Management and will cover techniques to open and maintain a patient's airway.
Pre-Read	EMR - A Skills Approach textbook Chapter 7 Blackboard Supplemental Readings Additional study resources available via Standard First Aid & CPR-HCP manual
Classroom Learning Objectives	<ul style="list-style-type: none"> • Demonstrate the steps to manually open a patient's airway • Demonstrate how to measure and insert an oropharyngeal airway • Demonstrate how to measure and insert a nasopharyngeal airway • Demonstrate how to position a patient in the Recovery Position • Demonstrate how to perform a Finger Sweep • Demonstrate how to Suction oropharynx
Notes	

LESSON 12 | BREATHING MANAGEMENT

L12 Focus:	The focus of this lesson will be Breathing Management and will cover the assessment of breathing, various methods of artificial ventilation, and oxygen therapy. Students will also review the Primary Survey and Airway and Breathing interventions.
Pre-Read	EMR - A Skills Approach textbook Chapter 7, Blackboard Supplemental Readings Canadian Red Cross CPR manual
Classroom Learning Objectives:	<ul style="list-style-type: none">• Discuss the assessment of breathing• Demonstrate artificial ventilation (mouth-to-mouth, mouth-to-mask (Pocket Mask), mouth-to-barrier device) on a non-breathing patient• Demonstrate the safe use and delivery of oxygen• Demonstrate the use of the Bag-Valve-Mask on Adults, Children, and Infants• Demonstrate the Primary Survey with Airway and Breathing interventions
Notes	

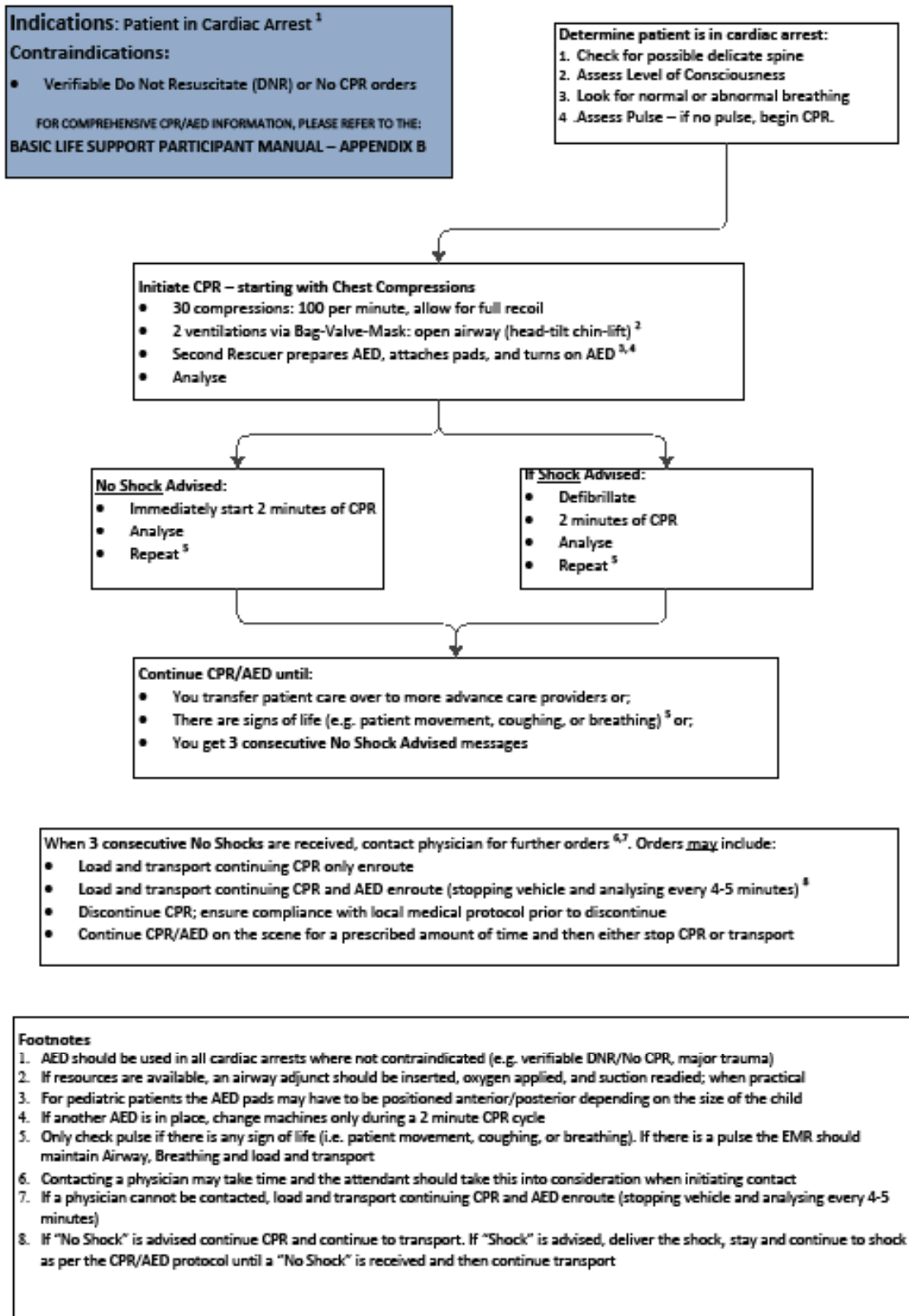
LESSON 13 | CARDIOPULMONARY RESUSCITATION

L13 Focus:	The focus of this lesson is for students to master the CPR skills for an adult, child, and infant in cardiac arrest.
Pre-Read	<p>EMR - A Skills Approach textbook Chapter 7 & 8</p> <p>Canadian Red Cross CPR manual</p> <p>Blackboard Supplemental Readings</p> <p>Additional study resources available via Canadian Red Cross CPR manual</p>
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Demonstrate the steps for Adult one rescuer CPR • Demonstrate the steps for Adult two rescuer CPR • Demonstrate the steps for Child CPR • Demonstrate the steps for Infant CPR • Demonstrate the steps for performing CPR on a patient while moving them on a stretcher • Demonstrate the steps for Foreign Body Airway Obstruction (Adult, Child, and Infant) • Written evaluation of Basic Life Support skills (Foreign Body Airway Obstruction and CPR)
Notes	

LESSON 14 | AUTOMATED EXTERNAL DEBRILLATOR

L14 Focus:	The focus of this lesson will be the use and application of the Automated External Defibrillator (AED).
Pre-Read	EMR - A Skills Approach textbook Chapter 9 Canadian Red Cross CPR manual Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the application and use of an Automatic External Defibrillator• Discuss the EMR Discontinue Resuscitation Protocol• Integrate CPR procedures and AED procedures in a simulated cardiac arrest patient
Notes	

Cardiac Arrest Protocol



Indications: Patients in cardiac arrest who have not responded to interventions under other treatment protocols¹

Cautions²: Children
Hypothermia

Basic Life Support (BLS) and/or appropriate protocols started

Continue resuscitation until the following criteria have been met:

- CPR has been continued for > 30 minutes without return of signs of life (i.e. patient movement, coughing, or breathing) at any time during this time period
- Attempt to contact Emergency Physician (EP) and follow instructions

Footnotes

1. Follow EMR AED Protocol
2. EMR attendants are expected to modify the procedure in those cases where a more favourable outcome may be expected (e.g. children, hypothermia). Modification will be made only if it is in favour of the patient.
3. If unable to contact EP, follow local medical protocol – which may include cessation of resuscitation.
4. Following discontinuation of resuscitation efforts, the EMR should ensure compliance with local policy and procedure (i.e. Contacting local police agency, coroner, etc.) – this may vary by region and jurisdiction.

LESSON 15 | RESPIRATORY EMERGENCIES

L15 Focus:	This lesson will focus on common medical respiratory emergencies including, Chronic Obstructive Pulmonary Disease, Asthma, Pneumonia, Acute Pulmonary Edema, and Hyperventilation.
Pre-Read	EMR - A Skills Approach textbook Chapter 13 Core Skills Checklist: Breathing Management Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Review the clinical presentation of various respiratory conditions • Demonstrate the assessment and treatment of a patient suffering from a respiratory emergency; (at least one of the following simulations); • Demonstrate the assessment and treatment of a patient suffering from COPD • Demonstrate the assessment and treatment of a patient suffering from Asthma • Demonstrate the assessment and treatment of a patient suffering from Pneumonia • Demonstrate the assessment and treatment of a patient suffering from Hyperventilation • Demonstrate how to assist respirations in a conscious patient suffering from respiratory distress
Notes	

LESSON 16 | CARDIAC EMERGENCIES

L16 Focus:	This lesson will focus on common medical cardiac emergencies including, angina pectoris and acute myocardial infarction.
Pre-Read	EMR - A Skills Approach textbook Chapter 5 and 13. Study Guide: Chest Pain Protocol, Pain Management Protocol and Pharmacology (Drug Monographs – Nitro, ASA, and Entonox) Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Review the signs and symptoms of a cardiac emergency• Demonstrate the application and use of nitrous oxide (Entonox)• Demonstrate the assessment and treatment of a patient suffering from Angina• Demonstrate and discuss the administration of Nitroglycerin• Demonstrate the assessment and treatment of a patient suffering from an Acute Myocardial Infarction
Notes	

EMR Chest Pain Protocol

INDICATIONS:

1. Patients who present with cardiac type chest pain/discomfort, have a history of heart disease and would normally take their prescribed nitroglycerin for their symptoms or
2. 1st episode suggestive of cardiac chest pain/discomfort who do not have a prescription for nitroglycerin (ASA/pain management may still be indicated).

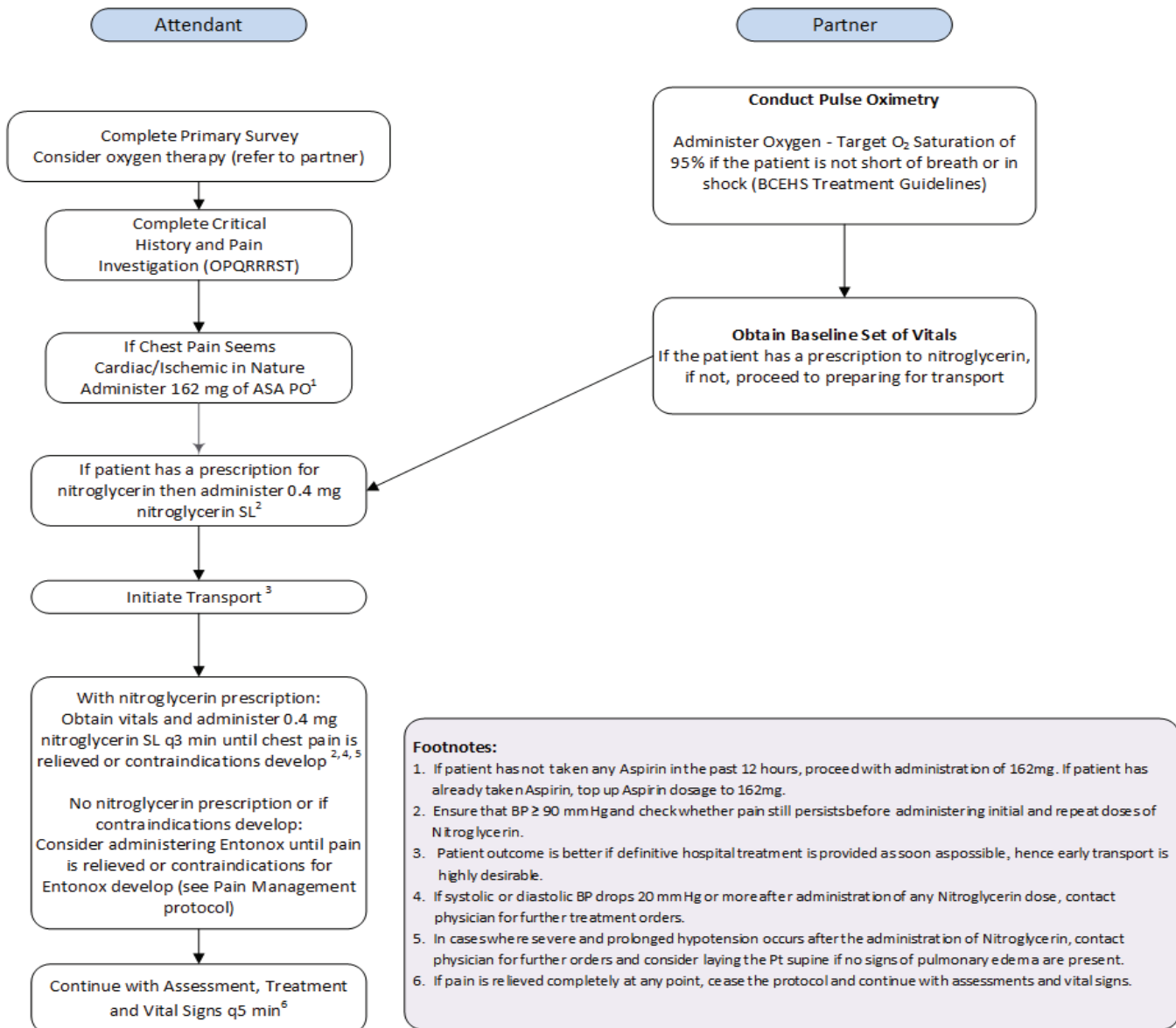
CONTRAINDICATIONS:

Nitroglycerin: BP < 90 Systolic, Viagra/Levitra: <24hrs, Cialis: <48hrs

Aspirin (ASA): Allergy to aspirin or other non-steroidal anti-inflammatory (NSAIDS) agents, recent head injury, stroke or acute bleeding (significant) of any kind, asthma patients who have experienced exacerbation of their asthma with ASA, and pediatric patients with viral symptoms (BCEHS Treatment Guidelines)

CAUTIONS:

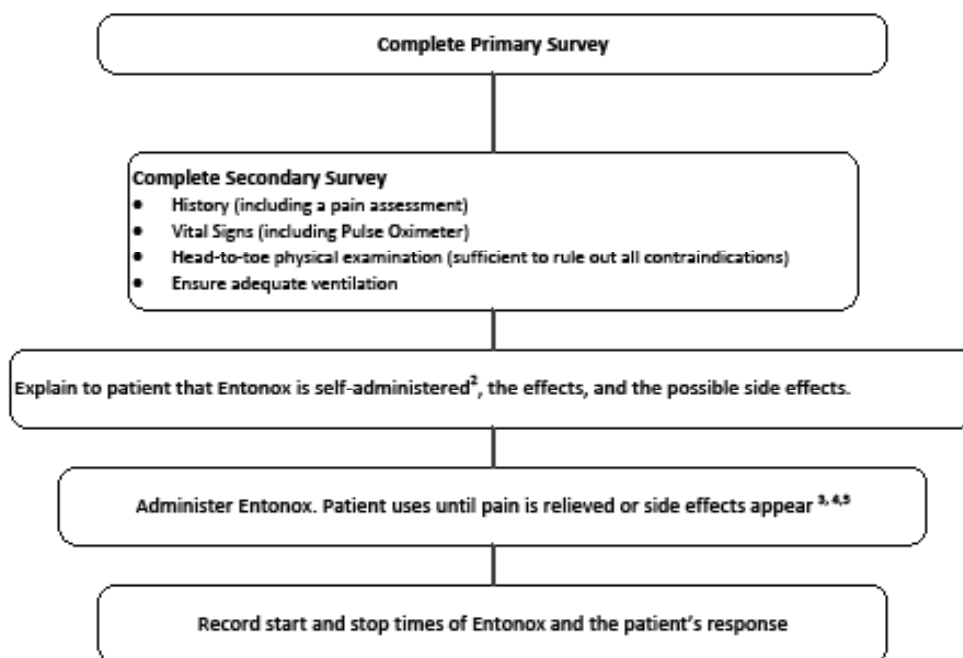
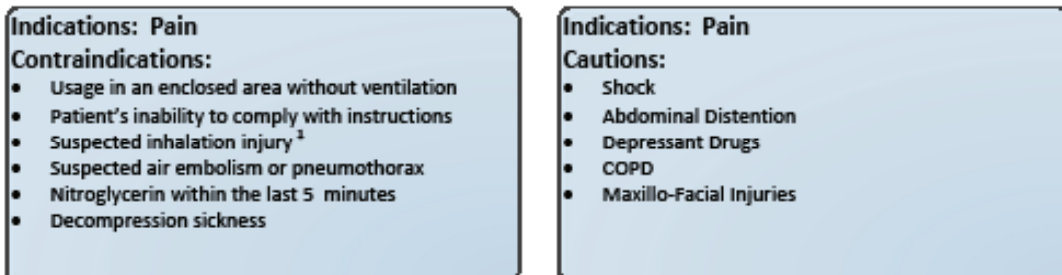
Aspirin (ASA): Asthma patients, recent internal bleeding (within last 3 months), known bleeding diseases, patients currently taking anticoagulant agent(s), recent surgery, possibility of pregnancy (BCEHS Treatment Guidelines)



Footnotes:

1. If patient has not taken any Aspirin in the past 12 hours, proceed with administration of 162mg. If patient has already taken Aspirin, top up Aspirin dosage to 162mg.
2. Ensure that BP ≥ 90 mmHg and check whether pain still persists before administering initial and repeat doses of Nitroglycerin.
3. Patient outcome is better if definitive hospital treatment is provided as soon as possible, hence early transport is highly desirable.
4. If systolic or diastolic BP drops 20 mmHg or more after administration of any Nitroglycerin dose, contact physician for further treatment orders.
5. In cases where severe and prolonged hypotension occurs after the administration of Nitroglycerin, contact physician for further orders and consider laying the Pt supine if no signs of pulmonary edema are present.
6. If pain is relieved completely at any point, cease the protocol and continue with assessments and vital signs.

EMR Pain Management Protocol



Footnotes:

1. Entonox may be administered to patients with suspected inhalation injuries if O₂ saturation is 100%
2. Let patient apply mask/mouth piece. Mask/mouth piece may fall away as patient becomes sedated. Do not replace mask/mouth piece.
3. Patients should receive high flow oxygen when Entonox is discontinued.
4. Discontinue Entonox if cyanosis, shortness of breath, or signs of inadequate breathing develop.
5. Consider using low flow O₂ with nasal cannula.

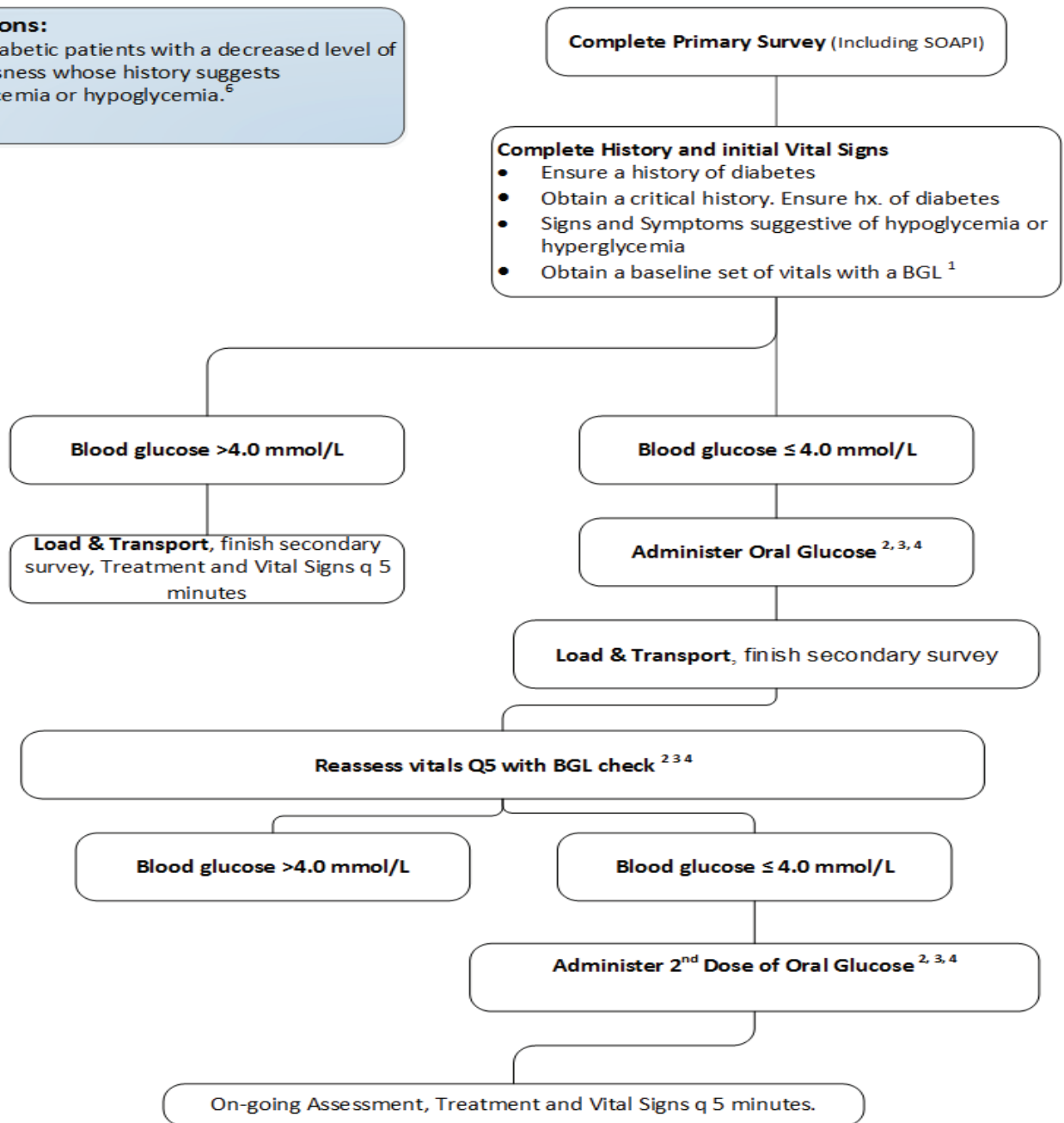
LESSON 17 | DIABETIC CONDITIONS AND EMERGENCIES

L17 Focus:	The focus of this lesson is to assess and manage common medical emergencies such as Altered Mental Status, Hypoglycemia, Hyperglycemia.
Pre-Read	EMR - A Skills Approach textbook Chapter 14, Study Guide: Administration of Glucogel, Diabetic Emergency Protocol, Pharmacology Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the assessment and treatment of a patient suffering from an Altered Mental Status• Demonstrate the assessment and treatment of a patient suffering from Hypoglycemia and Hyperglycemia• Demonstrate the use of a Glucometer
Notes	

EMR Diabetic Protocol

Indications:

Known diabetic patients with a decreased level of consciousness whose history suggests hyperglycemia or hypoglycemia.⁵



Footnotes:

1. Driver may obtain vitals while history is being obtained by attendant.
2. Prior to administering Glucose the patient should be positioned ¾ prone to assist in maintaining an open airway
3. Administer approximately 1/2 a tube of glucose to inside the lower cheek. Document the time, route (buccal), amount administered, and the result (did the patient improve in LOC or BGL)
4. Glucose can be administered orally if the patient can maintain a patent airway, is sitting up and can swallow upon command.
5. Administer glucose up to a maximum of 50grams if BGL is ≤ 4.0 mmol/L. If no improvement in LOC call EP for further orders and consider other reasons for unconsciousness.
6. If at any time you suspect the nature of the call to be something other than a diabetic emergency (i.e. overdose), transport immediately and perform a blood glucose sample enroute with vitals.

LESSON 18 | ALLERGIES AND ANAPHYLAXIS

L18 Focus:	The focus of this lesson will be on the assessment and management of allergies and anaphylaxis.
Pre-Read	EMR - A Skills Approach textbook Chapter 14, 17, & 19 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Discuss common medical emergencies and how treatment plans are formed • Demonstrate the assessment and treatment of a patient suffering from minor to moderate allergies and Immunity concerns • Demonstrate the assessment and treatment of an anaphylactic patient • Demonstrate the use of an Epinephrine Auto-Injector (Epi-Pen)
Notes	

LESSON 19 | POISONING AND OVERDOSE

L19 Focus:	The focus of this lesson will be on the different types of poisons and methods of entry. The lesson will also include an overview on overdose signs and symptoms and treatment plans.
Pre-Read	EMR - A Skills Approach textbook; Chapter 5, 14, 15 & 18 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the treatment and assessment of a patient suffering with poisoning• Demonstrate the treatment and assessment of a patient suffering from an overdose.
Notes	

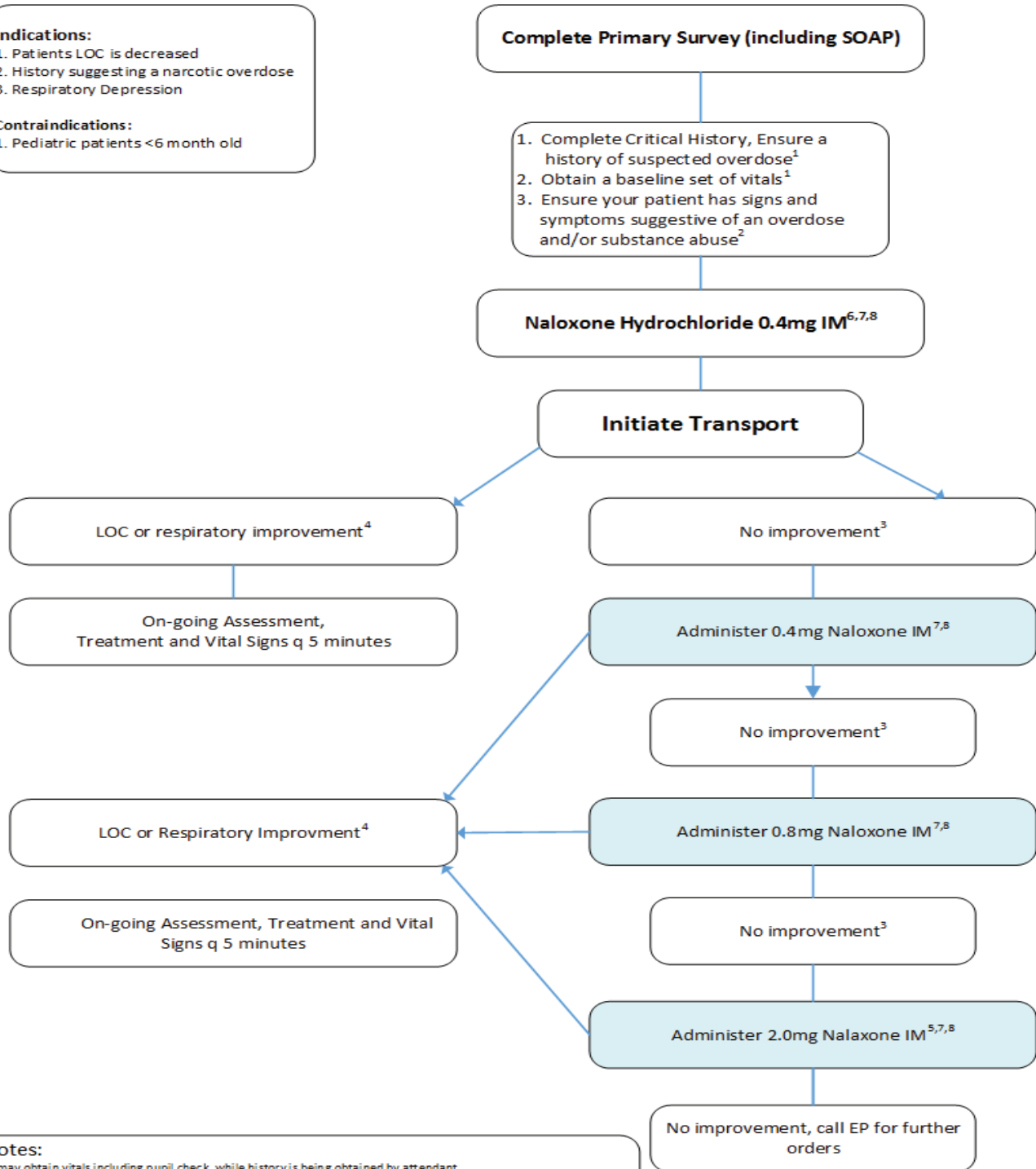
EMR Suspected Narcotic Overdose

Indications:

1. Patients LOC is decreased
2. History suggesting a narcotic overdose
3. Respiratory Depression

Contraindications:

1. Pediatric patients <6 month old



Footnotes:

1. Driver may obtain vitals including pupil check, while history is being obtained by attendant.
2. Signs and symptoms of a narcotic overdose include DLOC, Respiratory depression, pinpoint pupils, track marks, substance abuse.
3. Administer Naloxone q3 minutes if patient shows no improvement.
4. Improvement can be measured as: RR >10 and effective, and/or increasing LOC.
5. EMR will not exceed a single dose of 2.0mg.
6. The naloxone dose for children is 0.1mg/kg IM to a maximum single dose of 0.4mg and a total maximum dose of 2.0mg.
7. Extreme care must be exercised when escalating doses of Naloxone since high doses can precipitate dangerous withdrawal symptoms including vomiting, seizure and aggression.
8. The largest IM volume that can be administered to an adult is 5ml in the anterolateral thigh, and Max of 2ml for a deltoid.

LESSON 20 | COMMUNICABLE DISEASES

L20 Focus:	The focus of this lesson is to recognise various generalised patient complaints outline the treatment and assessment of patients experiencing a range of general complaints and to demonstrate knowledge of communicable diseases.
Pre-Read	EMR - A Skills Approach textbook; Chapter 2 & 14 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the treatment and assessment of a patient suffering with a general complaint.
Notes	

LESSON 21 | MENTAL HEALTH AND SPECIAL POPULATIONS

L21 Focus	Demonstrate the treatment and assessment of a patient suffering a psychological problem.
Pre-Read	EMR - A Skills Approach textbook; Chapter 18 Blackboard Supplemental Readings
Classroom Learning Objectives	<ul style="list-style-type: none">• Demonstrate the treatment and assessment of a patient suffering a psychological problem
Notes	

LESSON 22 | CEREBROVASCULAR EMERGENCIES

L22 Focus	The focus of this lesson should be based around gaining an understanding of the basic pathophysiology and treatment involved with cerebrovascular emergencies.
Pre-Read	EMR - A Skills Approach textbook; Chapter 14 Blackboard Supplemental Readings
Classroom Learning Objectives	<ul style="list-style-type: none">• Demonstrate the treatment and assessment of a patient suffering from a stroke
Notes	

LESSON 23 | SEIZURES AND NEUROLOGICAL CONDITIONS

L23 Focus:	The focus of this lesson should be based around the treatment and assessment of patients suffering with seizures and neurological conditions.
Pre-Read	EMR - A Skills Approach textbook; Chapter 14 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the treatment and assessment of a patient suffering with seizures
Notes	

LESSON 24 | TEMPERATURE AND WATER EMERGENCIES

L24 Focus:	The focus of this lesson is temperature and water emergencies and integrating hot and cold emergencies into the patient assessment model.
Pre-Read	EMR - A Skills Approach textbook Chapter 16, Chapter 32 Core Skills Checklist: Breathing Management Water Emergencies Case Studies in Supplemental Readings Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Review the differences between mild and severe hypothermia• Demonstrate the treatment and assessment of a patient suffering from hypothermia• Demonstrate the treatment and assessment of a patient suffering with frost bite• Review the progressive stages of hyperthermia• Demonstrate the assessment of a patient suffering from a heat emergency• Describe the treatment and assessment of a patient suffering from a near drowning• Demonstrate assisted ventilations for a conscious patient in respiratory distress
Notes	

EMR COURSE

Part Four - Traumatic Emergencies and Soft Tissue Injuries

Fundamentals of Traumatic Injury Management | UNIT 12

Hemorrhage Control and Shock – Lesson 26

First Aid Skills and Procedures – Lesson 27

Skin Conditions and Soft Tissue Injuries – Lesson 28

Head, Neck and Face Injuries | UNIT 13

Traumatic Head, Neck and Face Injuries – Lesson 29

Chest, Abdominal and Genitalia Injuries | UNIT 14

Traumatic Chest Injuries – Lesson 30

Abdominal and Genitourinary Injuries – Lesson 31

Burns and Electrical Injury Management | UNIT15

Burns and Electrical Injuries – Lesson 32

Spinal Management and Immobilization | UNIT16

Spinal Management – Lesson 33

Musculoskeletal System | UNIT17

Sprains, Dislocations, and Fracture Management – Lesson 34

LESSON 25 | BITES AND STINGS

L25 Focus:	The focus of this lesson will be on the assessment and management of various bites and stings.
Reference	EMR - A Skills Approach textbook; Chapter 17
Pre-Read	EMR - A Skills Approach textbook Chapter 17 Student Study Guide Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Bites and stings case studies (students should read this prior to lesson) • EMR Treatment plans for the bites and stings case studies
Notes	

LESSON 26 | HEMORRHAGE CONTROL AND SHOCK

L26 Focus	The focus of this lesson will be on the management of patients suffering from external or internal blood loss and the treatment and assessment of patients displaying signs and symptoms of shock.
Pre-Read	EMR - A Skills Approach textbook Chapter 19 Blackboard Supplemental Readings
Classroom Learning Objectives	<ul style="list-style-type: none"> • Demonstrate how to control bleeding with Direct Pressure • Discuss the application of a Tourniquet • Demonstrate the incorporation of hemorrhage control into the Primary Survey • Review the Signs and Symptoms of Compensatory and Decompensatory Shock • Discuss the assessment and management of a patient with internal bleeding and decompensatory shock
Notes	

LESSON 27 | FIRST AID SKILLS AND PROCEDURES

L27 Focus:	The focus for this lesson is based around gaining the skills and knowledge to manage basic first aid emergencies.
Pre-Read	EMR - A Skills Approach textbook Chapter 20. Cleansing of Wounds, Patient Assessment in the OFA Setting, Occupational Dermatitis, Activity Related Soft-Tissue Disorder (ASTD's) in Supplemental Readings Sprained Ankles, Cold and Cooling, Management of Minor Wounds in the Workplace Blackboard Supplemental Readings
Classroom Learning Objectives:	Fully independent study only; (additional study resources added to online learning system) <ul style="list-style-type: none">• Academic Awareness of the differences between scopes of practice and situational challenges as a first-aid attendant• Academic Awareness of a “walk-in” patient with a minor wound
Notes	

LESSON 28 | SKIN CONDITIONS AND SOFT TISSUE INJURIES

L28 Focus:	The focus of this lesson will be on the assessment and treatments of a variety of soft tissue injuries.
Pre-Read	<p>EMR - A Skills Approach textbook Chapter 19 & 20.</p> <p>Cleansing of Wounds, Patient Assessment in the OFA Setting, Occupational Dermatitis, Activity Related Soft-Tissue Disorder (ASTD's), Treatment of a Sprained Ankle, Core Skills Checklist: Management of a Sprained Ankle.</p> <p>Blackboard Supplemental Readings</p>
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Describe the cleansing of a major wound • Demonstrate the cleansing of a minor wound • Demonstrate the application of dressings, bandages, and slings • Discuss the treatment and possible complications of a patient with a Closed Soft Tissue injury • Demonstrate the assessment and treatment of a patient with the following Soft Tissue injuries: Nosebleed, Impaled object, Amputation, Single Finger laceration, Sprains
Notes	

LESSON 29 | TRAUMATIC HEAD, NECK AND FACE INJURIES

L29 Focus:	This lesson will focus on the assessment and management of head, neck, and facial injuries. Students will also focus on a Soft Tissue Injury review.
Pre-Read	EMR - A Skills Approach textbook Chapter 24. Study Guide: Management of Eye Injuries Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Demonstrate the assessment and management of a patient suffering from: <ul style="list-style-type: none"> • Head Trauma (Scalp Laceration, Concussion, Skull Fracture, Penetrating Injury) • Neck Trauma (Severe Laceration to the Neck) • Facial Trauma (Ear Injury, Nose Injury, Jaw Injury, Dental Injury, Impaled object, and Extruded Eyeball) • Demonstrate the assessment and management of a patient with a Foreign Body in the eye • Demonstrate Soft Tissue Injury assessment and management
Notes	<ul style="list-style-type: none"> • A general eye exam consists of: <ul style="list-style-type: none"> – Check to see if the patient can see light. – Check to see if the patient can count fingers. – Always use great care and gentleness when examining the eyes. – Always stabilize your hand on the patient’s cheek or forehead. – With eyelids separated examine all four quadrants of the eye. – Shine a penlight across the eye to see if the foreign body can be observed. – Most foreign bodies can be removed with a moistened cotton-tipped applicator. – If the foreign body is adhering to the eye the patient should be referred to medical aid. – If the foreign body is not found and the patient feels discomfort in the upper area of the eye you should evert the eyelid to examine the underside of the upper eyelid: <ul style="list-style-type: none"> ▪ Grasp the upper lid eyelashes, ask the patient to look down, place a cotton-tipped applicator against the outside and about halfway down the eyelid, and then pull the upper eyelid out and up over the applicator. Hold the eyelid everted and remove any foreign body with another cotton-tipped applicator. – Reassess the patient’s vision.

LESSON 30 | TRAUMATIC CHEST INJURIES

L30 Focus:	The focus of this lesson will be on the assessment and treatments of a variety of chest injuries.
Pre-Read	EMR - A Skills Approach textbook Chapter 21 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Review the Signs and Symptoms of chest trauma • Demonstrate the assessment and treatment of a patient with the following Closed Chest Injuries: <ul style="list-style-type: none"> – Rib Fractures – Flail Chest – Pulmonary Contusion – Traumatic Asphyxia – Closed pneumothorax • Demonstrate the assessment and treatment of a patient with the following Open Chest Injuries: <ul style="list-style-type: none"> – Open pneumothorax – Hemothorax – Tension pneumothorax
Notes	

LESSON 31 | ABDOMINAL AND GENITOURINARY INJURIES

L31 Focus:	The focus of this lesson will be on the assessment and treatments of abdominal injuries.
Pre-Read	EMR - A Skills Approach textbook Chapter 21 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Review the Signs and Symptoms of abdominal trauma• Demonstrate the assessment and treatment of a patient suffering from Abdominal Pain• Demonstrate the assessment and treatment of a patient with the following abdominal injuries:<ul style="list-style-type: none">– Blunt Trauma– Protruding object in the Abdomen– Abdominal evisceration• Discuss patient dignity, patient confidentiality, and patient advocacy• Describe the assessment and treatment of male and female genitalia injuries
Notes	

LESSON 32 | BURN AND ELECTRICAL INJURIES

L32 Focus:	The focus of this lesson will be on the assessment and treatments of the various types of burns.
Pre-Read	EMR - A Skills Approach textbook Chapter 22. Study Guide: Cold and Cooling Supplemental Readings and Quizzes
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Demonstrate the assessment and treatment of a patient with one of the following burn injuries: <ul style="list-style-type: none"> – Inhalation – Thermal – Chemical – Electrical – Lightning
Notes	

LESSON 33 | SPINAL MANAGEMENT

L33 Focus:	The focus of this lesson will be on the assessment and treatment of spinal injuries
Pre-Read	EMR - A Skills Approach textbook Chapter 25. Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• State the importance of proper spinal immobilization technique• Discuss ruling out Spinal Injury• Demonstrate the application of various Spinal Grips• Demonstrate positioning the patient's head into Neutral Position• Demonstrate the opening and maintenance of a suspected spinal patient's Airway• Demonstrate the sizing and application of a spinal Hard Collar• Demonstrate methods of Rolling a spinal patient• Demonstrate methods of Securing spinal patients to both a Spine Board and a Clamshell• Demonstrate Helmet Removal on a spinal patient• Demonstrate immobilizing a spinal patient in the Lateral Position• Discuss minimal immobilization versus full immobilization• Demonstrate the incorporation of Spinal Management into the Patient Assessment model
Notes	

LESSON 34 | SPRAINS, DISLOCATIONS AND FRACTURE MANAGEMENT

L34 Focus:	This lesson will focus on the assessment and management of Musculoskeletal injuries. Students will also focus on the assessment and management of all Trauma related injuries
Pre-Read	<p>EMR - A Skills Approach textbook Chapter 26.</p> <p>Guidelines on the Use of Entonox, Pain Management Protocol, Guidelines of Fracture Management in Supplemental Readings</p> <p>Blackboard Supplemental Readings</p>
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Review and discuss the Guidelines of Fracture Management • Demonstrate the assessment and management of patients with upper limb musculoskeletal injuries (fingers, hand, wrist, forearm, elbow, upper arm, clavicle, and shoulder) • Demonstrate the assessment and management of patients with lower limb musculoskeletal injuries (foot, ankle, lower leg, knee, upper leg, hip, and pelvis) • Demonstrate the incorporation of the assessment and management of musculoskeletal injuries in with the Patient Assessment model • Demonstrate the assessment and management of all Trauma related injuries
Notes	

EMR COURSE

Part Five - Diverse Populations and EMS Operations

Obstetrics, Pediatric and Geriatric Medicine | UNIT 18

Pregnancy and Childbirth – Lesson 35

Pediatric Emergencies – Lesson 36

Geriatric Considerations – Lesson 37

EMS Operations and Advanced Skills | UNIT 19

Special Rescue and EMS Operations – Lesson 38

Pharmacology and Intravenous Maintenance – Lesson 39

LESSON 35 | PREGNANCY AND CHILDBIRTH

L35 Focus:	This lesson will focus on the assessment and management of emergency childbirth and the care of the neonate patient.
Pre-Read	EMR - A Skills Approach textbook Chapter 27. Study Guide: Complications of Pregnancy and Childbirth Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Demonstrate the assessment and management of an uncomplicated Emergency Childbirth • Demonstrate the assessment and management of a Newborn • Discuss the assessment and management of complications of Pregnancy and Childbirth
Notes	

For each of the following conditions provide a definition, key features and/or signs and symptoms, and the emergency care the patient would require:

Toxemia of Pregnancy		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

Gestational Diabetes		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

For each of the following conditions provide a definition, key features and/or signs and symptoms, and the emergency care the patient would require:

Spontaneous Abortion		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

Ectopic Pregnancy		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

For each of the following conditions provide a definition, key features and/or signs and symptoms, and the emergency care the patient would require:

Placenta Previa		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

Abruptio Placenta		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

For each of the following conditions provide a definition, key features and/or signs and symptoms, and the emergency care the patient would require:

Prolapsed Umbilical Cord		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

Breech Birth		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

For each of the following conditions provide a definition, key features and/or signs and symptoms, and the emergency care the patient would require:

Umbilical Cord around the Neck		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

Limb Presentation		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

For each of the following conditions provide a definition, key features and/or signs and symptoms, and the emergency care the patient would require:

Multiple Births		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

Premature Birth		
Definition	Key Features and/or Signs and Symptoms	Emergency Care

LESSON 36 | PEDIATRIC EMERGENCIES

L36 Focus:	This lesson will focus on the assessment and management of the pediatric patient.
Pre-Read	EMR - A Skills Approach textbook Chapter 28. Study Guide: Recognizing and Reporting of Child Abuse and Neglect Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the assessment and management of a variety of pediatric emergencies (asthma, croup, epiglottitis, febrile seizures, sudden infant death syndrome (SIDS), and trauma• Discuss child abuse and neglect
Notes	

LESSON 37 | GERIATRIC CONSIDERATIONS

L37 Focus:	This lesson focuses on an understanding of anatomical, psychological and social factors affecting older adult patients.
Pre-Read	EMR - A Skills Approach textbook; Chapter 15 Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Review and discuss the anatomical and physiological changes relating to injury/illness in older adults; refer to pages 230-231 (table 15-1) in EMR - A Skills Approach textbook • Review and discuss why illness/injury may be worse than signs and symptoms indicate • Review and discuss the impact of psychological and social issues involved with older adults
Notes	

LESSON 38 | SPECIAL RESCUE AND EMS OPERATIONS

L38 Focus:	This lesson will focus on Management of a Multiple Casualty Incident (MCI) and <i>Incident Command System (ICS) Hazardous Materials, Workplace Hazardous Materials Information System (WHIMIS)</i> and special rescue situations and safety around helicopters and fixed wing aircraft (independent study).
Pre-Read	EMR - A Skills Approach textbook Chapter 30, Chapter 31, Chapter 34. Study Guide: Transportation of Patients. Blackboard Supplemental Readings – START diagram now in Supplement Readings.
Classroom Learning Objectives:	<ul style="list-style-type: none">• Discuss the START triage system• Demonstrate assessment and triaging skills in a simulated Multiple Casualty Incident• Assume different roles in a simulated Multiple Casualty Incident
Notes	

LESSON 39 | PHARMACOLOGY AND INTRAVENOUS (I.V.) MAINTENANCE

L39 Focus:	This lesson will focus pharmacology and intravenous maintenance
Pre-Read	EMR - A Skills Approach textbook Chapter 5. Study Guide: Pharmacology; IV Maintenance Blackboard Supplemental Readings
Classroom Learning Objectives:	<ul style="list-style-type: none"> • Review the calculation of establishing IV flow rates • Demonstrate the set-up of an IV administration set • Demonstrate the changing of an IV bag • Demonstrate the calculation of IV flow rates • Review the complications of IV maintenance
Notes	

Drug Monographs

Drug administration carries a great deal of responsibility and a thorough understanding of all drugs within the EMR scope of practice is necessary so that they can be safely administered.

Depending on which province you intend to work and depending on local employer protocols the use of specific drugs by EMR attendants will vary. The following pages contain important information on drugs that EMR attendants may be expected to utilize. Note that for each drug there is a notation to indicate whether or not the drug is applicable in British Columbia or in Alberta. The EMR must know which drugs are to be used under the scope of practice and license regulations where. For example Nitrous Oxide (Entonox) is used by EMR's in British Columbia but not in Alberta.

The medications that you will learn to administer as an EMR are as followed:

- Acetylsalicylic Acid (ASA)
- Epinephrine (Alberta Only)
- Ipratropium Bromide (Alberta Only)
- Medical Oxygen
- Nitroglycerin
- Salbutamol (Alberta Only)
- Nitrous Oxide
- Oral Glucose

Generic Name: Acetylsalicylic Acid

Trade Name: Aspirin (ASA)

Classification – Anti-platelet, anti-inflammatory, non-opioid analgesic, anti-pyretic.

Supplied – 80 or 81 mg, 325 mg, 500 mg, 650 mg tablets.

Actions (Pharmacodynamics)

- Anticoagulant – at low dose, appears to impede blood clotting.
- Analgesic/anti-inflammatory – reduces pain.
- Anti-pyretic – reduces fever.

EMR Indications – Symptoms suggestive of angina or acute myocardial infarction.

Contraindication – Known allergy to acetylsalicylic acid (ASA).

Route – Oral (chewable).

EMR Dosage – 2 tablets of 81 mg (162 mg total).

Generic Name: Medical Oxygen

Trade Name: N/A

Classification – medicinal gas.

Supplied – compressed gas cylinder.

Actions (Pharmacodynamics)

- Transported from the lungs to the body's tissues attached to haemoglobin in the red blood cells.
- Inhalation will increase oxygen concentrations.

EMR Indications

- Hypoxia from any cause.
- Chest pain suggestive of cardiac problems
- Altered level of conscious
- Trauma

Contraindication – None.

Route – Inhalation.

EMR Dosage

- Nasal Cannula – 4-6 lpm.
- Adult/Child Standard Mask – 6-10 lpm.
- Non-Rebreather Mask – 10-15 lpm.
- Bag-Valve-Mask – 10-15 lpm.
- Pocket Mask – 10-15 lpm.

Generic Name: Nitroglycerin

Trade Name: Nitrostat

Classification – Anti-anginal. Nitrate/vasodilator (dilates the arteries of the body)

Supplied – Multi-Dose vial or tablets.

Actions (Pharmacodynamics)

- Smooth-muscle relaxant
- Enhances coronary blood flow
- Increased collateral flow
- Decreases pulmonary pressures
- Vasodilator
- Decreases ventricular volume

EMR Indication - Angina chest pain

Contraindications

- Known sensitivity (allergy) to drug
- Blood Pressure less than 90 systolic
- If the patient has taken Viagra or Levitra within the last 24 hours
- If the patient has taken Cialis in the last 48 hours

Route

- Sublingual (under tongue) for tablets
- Oral mucosa (open mouth) for spray

Onset and Duration – Begins working within 60 seconds and lasts approximately 30 minutes

Possible Side Effects

- Headache
- Light-headedness, dizziness or syncope (fainting)
- Decrease in blood pressure
- Flushing
- Variable heart rate
- Tingling or burning under the tongue

Special Considerations for Nitroglycerin

- Keep drug in original airtight container (tablets)
- Air and moisture will decrease effectiveness (tablets)
- Shelf life is approximately 3 months after container is opened (tablets)
- Spray is good for up to 2 years
- For transient hypotension (dizziness, light headedness, or feeling faint) lay the patient supine

EMR Dosage - 0.4 mg spray

Generic Name: Nitrous Oxide
Trade Name: Entonox

Classification – Analgesic.

Supplied – compressed gas cylinder.

Actions (Pharmacodynamics) – An analgesic to reduce pain. Inhalation of a mixture of 50% Nitrous Oxide and Oxygen produces central nervous system depression as well as rapid pain relief.

EMR Indications – Relief of moderate to severe pain from any cause:

- Chest pain
- Musculoskeletal trauma
- Burns
- Other conditions (e.g. Labour Pains)

Contraindications

- Inability to ventilate an enclosed treatment area
- Inability of the patient to comply with administration instructions
- Suspected inhalation injury
- Suspected air embolism or pneumothorax
- Patient has taken Nitroglycerin within the last 5 minutes
- Decompression sickness

Cautions

- Abdominal distension
- Shock
- Chronic obstructive pulmonary disease (COPD)
- Major facial trauma
- Patient on depressant drugs

Route – Inhalation

EMR Dosage – Self-administered. As the patient becomes drowsy, the bite stick will drop away from the patient's face. Administration is patient controlled until pain is relieved.

Generic Name: Oral Glucose

Trade Name: Glucogel, Insta-Glucose, Monogel

Classification – Caloric.

Supplied – tubes or packets.

Actions (Pharmacodynamics) – Absorbed slowly into the blood stream resulting in increased blood glucose levels. Glucose enters the cells where it provides energy. It is broken down into carbon dioxide and water and excreted via the lungs and kidneys.

EMR Indication – Administered to a known diabetic patient with a decreased level of consciousness.

Contraindications – Should not be administered to a patient who's airway cannot be maintained.

Cautions – Patient should be positioned in the $\frac{3}{4}$ prone position before administering glucogel. May cause airway management problems.

Route – Oral

EMR Dosage

- 15 ml (1 tablespoon) repeated again in 3-5 minutes
- Oral cavity (inside of cheek and/or under tongue). Note the patient should be $\frac{3}{4}$ prone and the glucogel should be placed in the lower cheek area. Using a tongue depressor may help in administering the drug. Always document the time, dose, route, and result.

General Indications for IV Maintenance

This information should be included as part of your pre-reading studies. The information below is **not included** or is different than the EMR - A Skills Approach textbook course textbook and has been added to your pre-readings to meet the BC provincial scope of practice requirements. **The JIBC Student Study Guide should be your default resource for any conflicting information.**

IV maintenance is a common feature of medical care – both in the pre-hospital and clinical settings. As such, there are general indications for the use of IV maintenance. As an EMR, you will work with patients in both settings and will come into contact with IV maintenance for a variety of reasons.

In general, there are two reasons to have an IV in place:

1. To replace lost fluids
2. To provide a route for administering medications or other fluids

Personal Protective Equipment

When dealing with an intravenous the EMR must use an aseptic technique. Hand washing, gloves, goggles, and careful handling of all equipment is essential.

Components of an IV set

IV solution bag	Fluids for IV maintenance usually come in a plastic pouch or, occasionally, in a glass bottle.
Medication port	A tube with a rubberized cap through which authorized personnel can inject medication.
IV tubing port	The receiving tube in the IV solution bag where the IV tubing is attached.
IV tubing spike	The piercing end of the IV tubing for inserting into the IV tubing port.
Drip chamber	The clear compartment that allows you to monitor the flow rate of the IV set.
Roller clamp	The clamp used to control and adjust the flow rate.
IV tubing	The clear plastic line from the bag to the patient that lets you see the solution being administered and check for air.
Needle adapter	The end of the IV tubing that fits into the catheter or needle, which is then inserted into the patient's vein.

Types of IV Administration sets

1. *Standard or adult administration set:* This is the most common of IV administration sets. This set delivers 10 drops per milliliter (gtts/mls).
2. *Mini-drip:* This set delivers 60 gtts/mls and is used in situations where a closely monitored flow rate is desired or where only a small amount of fluid is desired to keep the vein open.

Commonly used Intravenous solutions

- Normal saline (0.9% Sodium Chloride)
- D10W (10% dextrose in water)
- D5W (5% dextrose in water)
- Ringer's Lactate – Isotonic Solution (Sodium, Chloride, Lactate, Potassium, Calcium)
- 2/3 - 1/3, a mixture of dextrose and sodium chloride

Assembling an IV Set

1. Collect the Equipment:
 - Obtain the appropriate solution.
 - Assemble an appropriate administration set.
2. Inspect the Equipment:
 - Check the outer covering of the IV solution for condensation or excess fluid.
 - Remove the solution bag from the outer covering and examine for leaks.
 - Check the solution for cloudiness, discolouration, precipitates, or foreign bodies.
 - Check the expiry date on the solution bag.
 - Inspect the administration set and tubing for discolouration or damage.
 - Ensure that the ends of the tubing are capped and that the sterile ends have not been contaminated.
3. Prime the tubing:
 - Hang the solution bag at an appropriate height.
 - Move the flow clamp until it is near the drip chamber.
 - Close the clamp.
 - Remove the ends from the tubing spike and the IV port on the solution bag.
 - Insert the tubing spike into the IV port (avoid twisting the tubing spike to reduce the chance of creating a “core”).
 - Squeeze the drip chamber until it is about one-half to two-thirds full.
 - Remove the cap on the end of the tubing and open the roller clamp to purge the air from the line.
 - Tap the tubing to remove air bubbles.
 - Close the roller clamp and cover the end of the IV tubing.

Follow the same procedure to change the solution bag in an existing IV. However, once the tubing spike is inserted, you will not have to purge the line. Simply open the roller clamp and set the IV at the desired flow rate.

Calculating IV Flow Rates

When transporting a patient with an IV running the EMR must be able to monitor and adjust IV flow rates. To calculate an IV flow rate:

Flow rate (gtts/min) = $\frac{\text{Amount of fluid to be infused} \times \text{Drops per ml of the Admin.}}{\text{Set Time for fluid to be infused}}$

Case Studies:

1. You respond to a call with an Advanced Care Paramedic crew. They start an IV of Normal Saline with an adult administration set and ask you to set a flow rate of 250ml/hr. How many drops per minute is this?
2. You have been asked to transport a patient from a small rural hospital to a larger centre. The patient has an IV of Normal Saline running through a mini-drip and the nurse tells you to maintain a rate of 100ml/hr. How many drops per minute is this?
3. You are responding on a diabetic emergency call with a Primary Care Paramedic crew. They initiate an IV with a standard administration set and ask you to set a flow rate of 360ml/hr. How many drops per minute is this?

Complications of IV Therapy

1. **Infiltration** – Infiltration occurs when the IV catheter is dislodged from the inside of the vein. IV solution enters the tissue just below the skin surrounding the IV site. If this happens the EMR may notice swelling, pain, and a slow IV flow rate. Actions should include stopping the IV, applying cold to limit swelling, and documenting the time the IV was stopped.
2. **Thrombophlebitis** – Thrombophlebitis is the inflammation of a vein and usually takes 2-3 days to develop. Although this condition is common the EMR should rarely see it because of the short duration they are in contact with the patient. Symptoms include pain along the vein, and redness and swelling at the puncture site. Actions should include stopping the IV, applying cold to limit swelling, and documenting the time the IV was stopped.
3. **Circulatory Overload** – Circulatory overload can occur if the patient is given excessive amounts of fluid. It is critical that the EMR monitor IV flow rates to ensure the patient does not get too much fluid. Circulatory overload is more likely to occur in older patients with pre-existing heart disease, for they are less likely to adapt to changes in fluid volume. The patient may complain of shortness of breath. Actions include slowing the IV down, sitting the patient up (if appropriate), applying high flow oxygen, notifying the hospital, and documenting what you have done.
4. **Air Embolism** – Air embolism may occur if air enters into the IV tubing. Signs and symptoms may include shock, cyanosis, hypotension, and a decreasing level of consciousness. Actions include stopping the IV, placing the patient on their left side, notifying the hospital, and documenting the time the IV was stopped. Air embolism can be prevented by careful assembly and monitoring of IV's.

EMR COURSE

Part Six - Course Review

Course Review | UNIT 20

Review and Exam Preparation – Lesson 40

LESSON 40 | COURSE REVIEW

L40 Focus:	The focus of this lesson will be a practical review of all EMR skills.
Pre-Read	EMR - A Skills Approach textbook Chapter 5.
Classroom Learning Objectives:	<ul style="list-style-type: none">• Demonstrate the assessment and management of a variety of patients requiring Primary Survey Interventions• Demonstrate the assessment and management of a variety of patients suffering from Medical Emergencies• Demonstrate the assessment and management of a variety of patients suffering from Traumatic Emergencies• Explain the evaluation procedures (written and practical)

