Emergency Medical Assistants Licensing Board

British Columbia Provincial Examination Guidelines

Primary Care Paramedic and Emergency Medical Responder

Ministry of Health
Authored by EMA Licensing Branch
October 2023

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Introduction

For the purposes of licensure and licensing examinations, the information contained within this document supersedes all previous applicable protocols and procedures.

Research and development in emergency health services is continuous and these guidelines will be updated to reflect best practice.The most current version of this document is available through the EMA Licensing Branch ***website***.

The Board identifies an EMR candidate as someone who has completed a Board recognized EMR certification program and a PCP candidate as someone who has completed a Board recognized PCP certification program. To find a Board recognized training program click ***here***.

This document covers:

- treatment guidelines for EMR and PCP levels
- examination policies
- examination requirements and scheduling instructions
- medication policies
- licence application instructions

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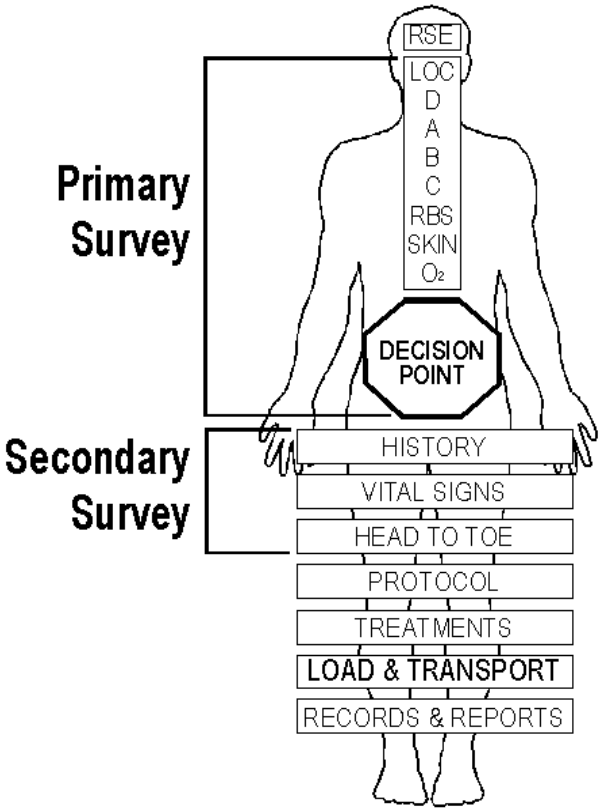
Patient Assessment Model



Rescue Scene Evaluation

|

Primary Survey

|

Secondary Survey, consisting of:

History

Vital signs

Head-to-toe examination

|

Protocols

|

Treatments

|

Load and Transport[1]

|

Records and Reports

[1]This model depicts a generic management approach without consideration for patient condition. Depending upon patient condition (i.e. stable vs unstable) and the ability to provide definitive care, as outlined in protocols, load and transport may be appropriate any time after the “decision point”.

Patient Assessment Model – Guidelines

The Patient Assessment Model consists of seven components, each of which has multiple steps. The following table lists the steps and the purpose of each component.

COMPONENT	STEPS	PURPOSE
Rescue Scene Evaluation	• Hazards • Environment • Mechanism of injury • People	The purpose of the RSE is to ensure that the scene is safe for the crew and patient and to provide information about the nature and extent of the patient's injuries or condition.

Primary Survey	• LOC
	• Spinal Precautions
	• Airway
	• Breathing
	• Circulation
	• Rapid Body
	• Survey interventions
	  ▪ Skin
	  ▪ Oxygen
	  ▪ Airway
	  ▪ Position
	• Transport Decision
		The purpose of the primary survey is to identify and manage life- and limb-threatening injuries and conditions.

Secondary Survey	• History • Vital signs • Head-to-toe examination • Functional inquiry (PCP)	The purpose of the secondary survey is to identify the patient's chief complaint, establish a baseline set of vital signs and gather information about the patient's injuries and condition.
Treatments	• Wound Care • Fracture management • Spinal management • Burn management • Management of specific injuries and conditions	Treatments are first aid procedures that do not require direct physician supervision.
Protocols	• Various	Protocols allow the EMA to perform medical procedures that are normally in the domain of a physician.
Load and Transport	• Stretcher • Reassessment • Equipment • Transport mode • Notification	
Records and Reports	• Forms • Reports	Reports are used to gather or give information regarding the patient's status and treatment. Forms are used to record assessment and treatment of a patient.

Patient Assessment Model - Primary/Initial Survey Assessment Interventions

PRIMARY SURVEY INTERVENTION	INDICATIONS
Cervical spine stabilization	• Meets NEXUS or Canadian C-Spine indications • Obvious injury above the level of the clavicles • Unconscious patient where trauma cannot be reasonably ruled out
Obstructed airway procedures	• Absence of respiration • Inability to ventilate the patient
Airway maintenance and suctioning	• Decreased level of consciousness (LOC) • Presence of fluids or potential obstructions in upper airway
Ventilating the non-breathing patient	• Absence of respirations
Assisting inadequate or failing respirations	• Abnormally fast or slow respirations • Distressed respirations • Shallow or labored respirations, especially in the presence of decreasing LOC, cyanosis, or decreased O2 Saturations.
Sealing open chest wounds	• Open chest wounds
Performing CPR	• Absence of carotid pulse
Controlling hemorrhage	• Major hemorrhage
Binding pelvis	• Suspected fracture due to mechanism or unstable pelvis, including shock like symptoms with MOI.
Stabilizing fractures	• Suspected fractures
Realigning limb fractures	• Fractured limbs that are grossly deformed or with no distal pulses
Initiating cooling of burns	• Major burns
Oxygen	• Altered LOC • Respiratory distress • Pain • Trauma • Evidence of shock (e.g., tachycardia, tachypnea, pallor, cyanosis)
Gradual warming	• Hypothermia
Rapid cooling	• Hyperthermia

Critical History Questions

MVA

- Location of patient
- Which vehicle was the patient in?
- How many vehicles involved
- Type of vehicle(s)
- Impact speed
- Exterior damage
- Interior damage/Compartment Intrusion
- Type of restraints
- Initial position and condition of patient
- Loss of consciousness
- Condition of other patients – fatality in same vehicle
- Vehicle equipped with airbags – were they deployed

Fall

- Where from
- Height
- Free fall or hit other objects during fall
- Landing surface
- Position of patient at impact – what hit first
- Initial position and condition of patient
- Has the patient moved or been moved since the incident?
- Any loss of consciousness
- Cause of fall

Pedestrian Struck

- What hit them – size, weight
- Velocity of vehicle
- What part of the vehicle hit what part of patient?
- Damage to vehicle
- Distance patient thrown
- Initial position and condition of patient
- Has the patient moved or been moved since the incident?
- Any loss of consciousness
- Condition of vehicle occupants

Shooting

- Type of firearm
- Range
- Angle of shot
- Type of bullet if possible
- Entrance and exit wounds
- Initial position and condition of patient
- Loss of consciousness

Stabbing

- Type of weapon/object
- Size – length and width of weapon
- Type of wound – slashed or stabbed
- Number of wounds
- Other injuries
- Initial position and condition of patient
- Loss of consciousness

Assessing LOC Using AVPU

A	Alert	Patient is awake, talking and should be able to maintain own airway. May need help if there is a c-spine concern and complaining of nausea or has an oral bleed.
V	Verbal	Patient responds to verbal stimulus but is drowsy. May consider placing patient semi-prone if injuries permit.
P	Pain	Patient responds only to pain stimuli. Must monitor airway closely and intervene, as necessary. Should be semi-prone, injuries permitting.
U	Unresponsive	No response to stimuli. This patient is unable to protect own airway. You must intervene and very closely monitor patient's airway.

Glasgow Coma Scale

Eyes Opening	Best Verbal Response	Best Motor Response
4 - Spontaneously 3 - To Speech 2 - To Pain 1 - No Response	5 - Oriented 4 - Confused 3 - Inappropriate Words 2 - Incomprehensible Sounds 1 - No Response	6 - Obeys Commands 5 - Localizes pain 4 - Withdraws from Pain 3 - Flexion (Decorticate) to pain 2 - Extension (Decerebrate) to pain 1 - No Response

Abbreviations

♀	Female	COPD	Chronic obstructed pulmonary disease
♂	Male		
↓	Diminished, decreased, lower	CP	Chest Pain
↑	Elevated, increased, upper	CPR	Cardiopulmonary resuscitation
>	Greater than	CSF	Cerebral spinal fluid
<	Less than	CT (CAT)	Computed tomography
=	Equals	CVA	Cerebrovascular accident
≠	Not equal	D_5w	Dextrose 5% in water
i, ii, iii	One, two, three	$D_{10}w$	Dextrose 10% in water
∅	None, not present, not found	DNR	Do not resuscitate
abd	Abdomen	DOA	Code 4, Dead on arrival
AED	Automatic external defibrillator	DPU	Discharge planning unit
AE, A/E	Air entry	Dx	Diagnosis
ac	Before meals	ECG, EKG	Electrocardiogram
am	Before noon	ECU	Extended care unit
ANU	Ambulance not used	EEG	Electroencephalograph
AOB	Alcohol on breath	EP	Emergency physician
approx	Approximately	ER, ED	Emergency room, department
ASA	Acetylsalicylic acid, Aspirin	ET	Endotracheal
ASAP	As soon as possible	ETA	Estimated time of arrival
bG	Blood glucose	FR	First responder
bid	Twice a day	Fx, #	Fracture
BM	Bowel movement	GI	Gastrointestinal
BP	Blood pressure	GOA	Gone on arrival
c	With	Gtt	Drop
°C	Degree centigrade	Hb	haemoglobin
C-section	Caesarean section	Hct	Hematocrit
CP	Chest pain	H_2O	Water
C/C	Chief complaint	Hg	Chem symbol for Mercury
$^c/_o$, c/o	Complains of	Hr	hour
Ca	Cancer	Hs	Evening, at bedtime
CABG	Coronary artery bypass graft	Hx	History
CAD	Coronary artery disease	ICN	Intensive care nursery
cath	Catheter	IDDM	Insulin dependent diabetes mellitus
CBC	Complete blood count	IM	Intramuscular
cc	Cubic centimeter	IV	Intravenous
CCU	Cardiac care unit	Kg	Kilogram
CHF	Congestive heart failure	q am	Every morning
CIS	Critical incident stress	QID/qid	Four times per day

CNS	Central nervous system
CO_2	Carbon dioxide
L 1	First lumbar vertebrae
l, L	Litre
lg	Large
LLQ	Left lower quadrant
LOC	Level of consciousness
LUQ	Left upper quadrant
MCG, mcg	Microgram
MCI	Multi-casualty incident
mEq/L	Milliequivalents per litre
mg	Milligram
MI	Myocardial infarction
ml, mL	Millilitre
MO	Mental observation point
MRI	Magnetic resonance imaging
MVA	Motor vehicle accident
NIDDM	Non-insulin dependant diabetes mellitus
Nitro	Nitroglycerin
NKA	No known allergies
NPO	Nothing by mouth
NS, N/S	Normal Saline
NYD	Not yet diagnosed
N_2O_2	Nitrous Oxide (Entonox)
O_2	Oxygen
OB, OBS	Obstetrics
od	Once per day
OD	Overdose
OR	Operating room
OTC	Over the counter
U/K	Unknown
P	Pulse
palp	Palpation
PAU	Psychiatric assessment unit
pc	After meals, after food
q1h, q2h	Every hour, every two hours
R, resp	Respirations
RBC	Red blood cells
RLQ	Right lower quadrant
RUQ	Right upper quadrant
per	through, by
PERL	Pupils, equal, react to light
PERLA	Pupils, equal, round, react to light and accommodation
PO	By mouth, oral
post-op	Post operative
pre-op	Pre-operative
prn	As needed, as required
pt	Patient
Rx	Medications
R/O	Rule out
s, w/o	Without
SA	Sinoatrial node
SC, sc	Subcutaneous
SCN	Special care nursery
SIDS	Sudden infant death syndrome
SOB	Shortness of breath
SL, sl	Sublingual
Stat	Immediately
SV	Stroke volume
Tab	Tablet
T-2	Second thoracic vertebrae
TIA	Transient ischemic attack
tid	Three times per day
TPR	Temperature, pulse, respiration
TKO/TKVO	To keep vein open
TIA	Transient ischemic attack
TPN	Total parenteral nutrition
Tx	Treatment
Tx	Transmit
Vag	Vaginal
Yr	Year

Patient Care Report

BRITISH COLUMBIA | Ministry of Health

EMA LICENSING EVALUATIONS

PATIENT CARE REPORT

RESPONSE #

PATIENT NAME | AGE | DOCTOR | DATE OF EVALUATION (MM / DD / YYYY)

CHIEF COMPLAINT / DESCRIPTION OF INCIDENT | ATTENDANT NAME | DRIVER NAME

TIME CALL DISPATCH _____
TIME AT SCENE _____
TIME TO HOSPITAL _____
TIME AT HOSPITAL _____
TIME CLEAR _____

MECHANISM OF INJURY / HISTORY OF ILLNESS | LEVEL APPLIED FOR | TRAINING INSTITUTION

RELEVANT PAST MEDICAL HISTORY

MEDICATIONS

ALLERGIES

PHYSICAL EXAM

STATE OF CONSCIOUSNESS _____
H & N _____
CHEST _____
C.V.S. _____
ABD. _____
BACK _____
EXT. _____
C.N.S. _____
BLOOD LOSS _____

CARE GIVEN	AIRWAY	OXYGEN	PAIN ASSESSMENT	FRONT	BACK	PUPILS
☐ CONTROL BLEEDING ☐ DRESS WOUND ☐ CPR ☐ AED ☐ SPINAL IMMOBILIZATION ☐ IV THERAPY ☐ PATIENT COMFORT/ REASSURANCE ☐ FRACTURE MGMT	☐ CLEARED ☐ POSITIONED ☐ SUCTIONED ☐ ASSISTED ☐ ORAL AIRWAY	☐ MASK ☐ NON-REBREATHER ☐ BVM ☐ POCKET MASK ☐ NASAL CANNULA _____ OXYGEN LPM				R L ☐ ☐ EQUAL ☐ ☐ REACT ☐ ☐ DILAT. ☐ ☐ CONST. ☐ ☐ RT. LG. ☐ ☐ LT. LG. ☐ ☐ OTHER

	GCS				VITAL SIGNS					PROTOCOLS
TIME	E	V	M	TOTAL	PULSE	RESP.	SpO²	BP	SKIN	
								/		
								/		
								/		
								/		
								/		
								/		
								/		
								/		

ADDITIONAL TREATMENTS AND COMMENTS

HLTH 1801 2009/10/09

Treatment Section

The intent of the Treatment Section is to provide algorithms for many of the treatments that are carried out on a regular basis where protocols do not normally exist. If you require further information or detail you should refer to the appropriate training manual or references below.

References

American Heart Association

Brady Emergency Medical Responder – A Skills Approach Canadian Edition 4th Edition

Canadian Red Cross – Emergency Care

Nancy Caroline's Emergency Care in the Streets Canadian Edition 8th Edition

The National Occupational Competency Profile (NOCP) for Paramedics

Emergency Medical Assistants Regulation

Wound Care

INDICATIONS

- Open and closed wounds

IN THE PRIMARY SURVEY

- Expose and examine
- Control major hemorrhage[2]
- Cover with sterile dressing
- Assess distal circulation[3] [4]
- Continue with assessment and treatment

IN THE TREATMENT COMPONENT

- Bandage major wounds (if not already done)[5]
- Clean and dress minor wounds
- Apply cold if required
- Elevate if appropriate

[2] Methods of hemorrhage control, in order of preference, include:
Direct pressure
Positioning the part (elevation of the injured part). Should be done only if it will not aggravate other injuries or conditions.
Positioning the patient (at rest and supine if other injuries and conditions permit)
Tourniquet (note the time and do not release once applied)
Extremity wound packing if bleed cannot be controlled.

[3] Absence of distal circulation may indicate a limb-threatening injury or condition. Manage the patient as unstable and initiate rapid transport. Realign grossly deformed limbs to the anatomical position only once if needed to facilitate transport, attempt realignment to anatomical position once if the limb is found to be pulseless.

[4] Cold may be applied if the distal circulation is not impaired. Cold may be applied earlier (i.e. at the end of the primary survey) provided the attendant has checked and compared the circulation in the injured limb with the circulation in the uninjured limb.

[5] Embedded objects should be stabilized in place. Immobilize limbs if there are large wounds or wounds over joints.

Preservation of Amputated Parts

When a part of the body is completely avulsed (torn off) or amputated (cut off) it is important to try and preserve the amputated part in optimal condition to maximize the chances of successful reattachment. Once the patient's injuries have been stabilized, turn your attention to the amputated part, which will also require careful care, as outline below:

Procedure

1) Rinse the amputated part with cool sterile water to remove any gross contaminates/debris
2) Wrap the part loosely in saline-moistened sterile gauze.
3) Place the amputated part inside a plastic bag and keep it cool in a protective container.
4) Transport with the patient.

Key Points

1) Do not warm the amputated part.
2) Never place the part in water.
3) Never place the part directly on ice.
4) Never use dry ice to cool the part.

Fracture Management

INDICATIONS

- Suspected limb
- Suspected pelvis/hip
- Joint fractures
- Dislocations
- Severe sprains

IN THE PRIMARY SURVEY

- Expose and examine
- Control major hemorrhage
- Stabilize fractured limb(s), pelvis or hip
- Check distal pulse(s)[6]
- Realign grossly deformed or pulseless limb(s)[7]

IN THE PROTOCOL COMPONENT

- Analgesia (Entonox) if appropriate

IN THE TREATMENT COMPONENT

- Check distal circulation, sensation and function[7]
- Apply cold[6]
- Provide pain relief prior to movement, in stable patients.
- Bind pelvis if appropriate
- Apply traction if appropriate
- Realign grossly angulated long-bone fractures if appropriate
- Immobilize the joints above and below the injury site[8]
- Reassess distal circulation, sensation and function[7]
- Reapply cold if appropriate[6]
- Elevate if appropriate

[6] Cold may be applied if the distal circulation is not impaired. Cold may be applied earlier (i.e., at the end of the primary survey) provided the attendant has checked and compared the circulation in the injured limb with the circulation in the uninjured limb.
[7] Absence of distal circulation may indicate a limb-threatening injury or condition. Manage the patient as unstable and initiate rapid transport if distal circulation cannot be restored.
[8] Commercially available splints and/or padded wooden splints or splint anatomically as appropriate.

Fracture Management – Traction Splint

INDICATIONS

- Suspected mid-shaft femur fractures.

PROCEDURE

1. Assess distal circulation, sensation, and function.
2. Apply cold, if appropriate, ice on for 10 minutes, off for 5.
3. Give analgesia if not contraindicated.
4. Ensure that the patient is supine with the injured leg in line with the body.
5. Maintain manual stabilization after movement and reassess distal pulse
6. Place splint beside injured leg.
7. Secure thigh strap/bandage
8. Apply ankle harness above the malleoli.
9. Apply traction: (once traction is applied, do NOT release traction)
    a. Closed, mid-shaft fractures: 10% of patient's body weight to a maximum of 15 lbs. (7 kg).
    b. Open, mid-shaft fracture: Maximum 5lbs.
10. Reassess distal pulse
11. Ensure adequate padding.
12. Stabilize limb and splint by applying three elasticized straps.
13. Reassess distal circulation, sensation, and function.
14. With each movement/reassessment of ABC’s or vitals, traction should be reassessed and corrected if necessary.

Pelvis binding

If a pelvic injury is suspected, or there is a high mechanism of injury in a patient, the pelvis should be bound with a commercial grade binder or three overlapping broad triangular bandages. Zap straps are NOT an acceptable form of binding. The top of the superior bandage should be just inferior to the iliac crests. Tie the bandages tightly enough to support the pelvis but not cause pain. Do not roll the patient when applying the bandages. Do NOT place a blanket between legs.

The important principle is that the pelvis should be stabilized prior to transport. Binding the pelvis reduces overall pelvic volume and creates a tamponade effect, stabilizes fracture fragments reducing hemorrhage from the fracture sites, and improves patient comfort.

Indications
Major mechanism suggestive of pelvic fracture with any of the following:
Hemodynamic instability (heart rate > 100 or systolic blood pressure < 90 mmHg)
Pelvic pain on exam
Pelvic instability
Decreased level of consciousness
Major injury distracting from pelvic exam

Contraindications
Neck-of-femur ("hip") fractures
Falls from standing height or other simple falls

Use a commercial pelvic binder if available, it offers ease / speed of application and is effective at compressing the intra-pelvic space.

Hip Dislocation/Fracture

Management

A patient with a hip dislocation/fracture is considered to have a limb-threatening injury if there is neuro or vascular impairment. All hip dislocation/fractures are in the Rapid Transport Category

Quickly support the injured limb using helpers, rolled blankets, and ties.

Move the patient onto a firm, blanketed stretcher, or spinal device. Secure the patient to the stretcher or spinal device to eliminate motion in the affected hip. Early medical reduction of this dislocation is essential to avoid serious long-term complications.

Conduct any remainder of the secondary survey en route to medical aid. Maintain a regular check of the vital signs, the patient’s general condition, and the state of distal pulses and neurological function in the affected limb. If a dislocation is suspected and if the hip spontaneously reduces during treatment or transportation, notify medical oversight.

Spinal Management

INDICATIONS

- Follow the Nexus Criteria

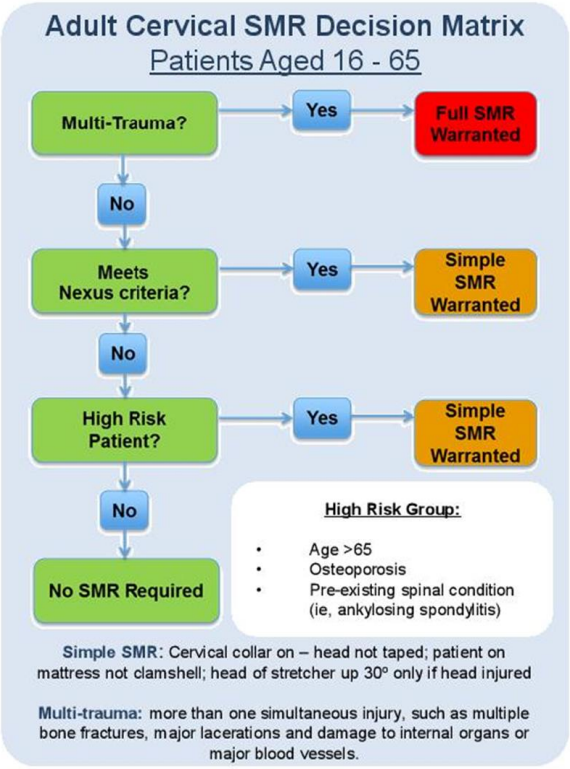
IN THE PRIMARY SURVEY

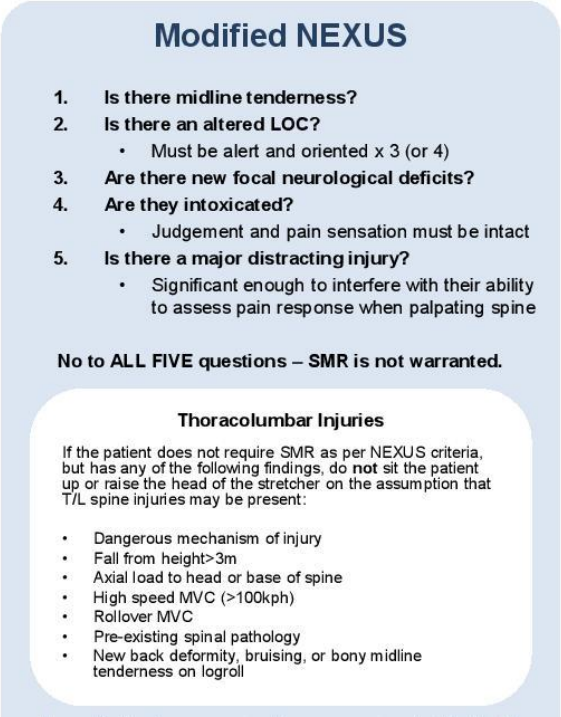
- Manually stabilize the head and neck

IN THE TREATMENT COMPONENT

- Apply hard collar
- Place patient on a spinal immobilization device
- Secure patient's body to spinal immobilization device if appropriate

Do not tape the head





TRAUMATIC BRAIN INJURIES

Any patient with head trauma and any altered level of consciousness should be suspected of having a traumatic brain injury.

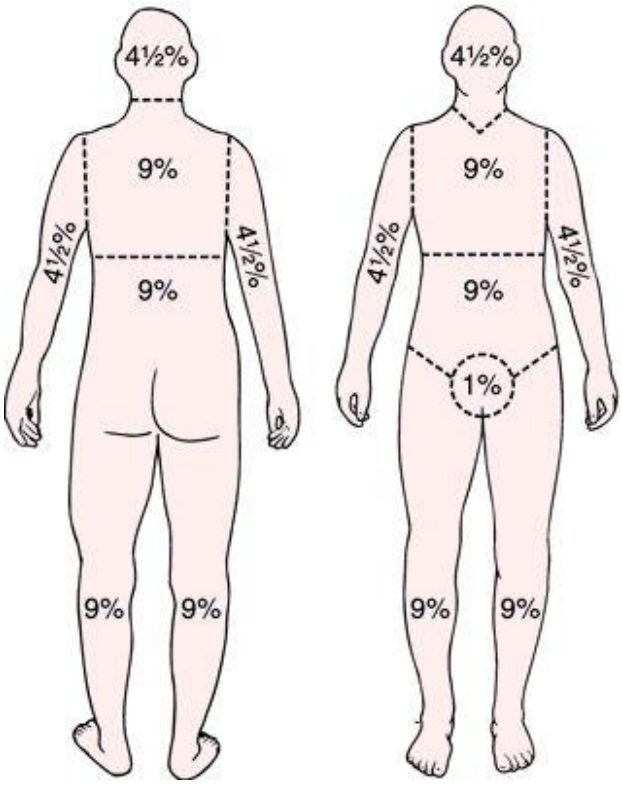
Minimize scene time if possible

- Ensure adequate oxygenation (SpO2 > 94%).
- If the patient is having difficulty maintaining respirations, assist with ventilations keeping the SpO2 at > 94%.
- Maintain a blood pressure of > 120mmHg systolic
- Maintain normal blood sugar levels (4.0-8.0 mmol/L)
- IV – TKVO if systolic BP is > 120mmHg.
- Elevate head to 30 degrees
- Loosen hard collar
- TXA is contraindicated for isolated TBIs.

Burn Management

It is recommended that patients with burns receive 15-20 minutes of cooling in the immediate aftermath of the burn. This is inclusive of any time bystanders have provided effective cooling measures. Cooling of burns immediately following injury is a critical intervention to reduce the risk of skin graft requirements, long-term scarring, chronic pain, and sensory disturbances. Cooling is also an important analgesic strategy in these patients. Burns should be cooled with cool (not cold) running water wherever possible, which may involve remaining on scene for over 20 minutes in patients without immediate life-threatening burns or injury, to access a source of cool running water. In patients requiring immediate conveyance, the use of cool saline may be sufficient to help limit the damage caused by the burn.

Rule of Nines



INDICATIONS

- All burn injuries

IN THE PRIMARY SURVEY

- Expose and examine
- Initiate cooling[9]
- High-flow oxygen
- Calculate BSA

IN THE TREATMENT COMPONENT

- Dress wounds[10]
- Use pain control measures (e.g., cool for analgesia in only superficial burns, analgesia {Entonox} if appropriate)[11]

[9] Cool any burns 15-20 minutes on scene if patient is stable. Transport and continue cooling enroute if unstable
[10] After cooling is complete, cover wounds with dry, sterile burn dressings
[11] Cold may be applied if the distal circulation is not impaired as soon as possible, provided the attendant has checked and compared the circulation in the injured limb with the circulation in the uninjured limb

Hypothermia

INDICATIONS

- Suspected hypothermia because of mechanism of injury, history, presentation of the patient.

IN THE PRIMARY SURVEY

- Assess and maintain the ABCs as necessary
- Ventilate the non-breathing, severely hypothermic patient at a rate of 8 - 10 per minute
- Take up to 30-45 seconds to determine pulselessness in the severely hypothermic patient.
- Remove wet and cold clothing and cover with blankets or dry clothing
- Oxygen[12]
- Take temperature if appropriate
- In the event of cardiac arrest apply AED and analyze, defibrillate up to three times if indicated, continue with CPR and rapid transport to the hospital. (After three defibrillations, do not pause CPR for analyzing or shocks)

IN THE TREATMENT COMPONENT

Mild hypothermia (>30^0 C and <35 ^{0}C) - Actively rewarm patient*:*

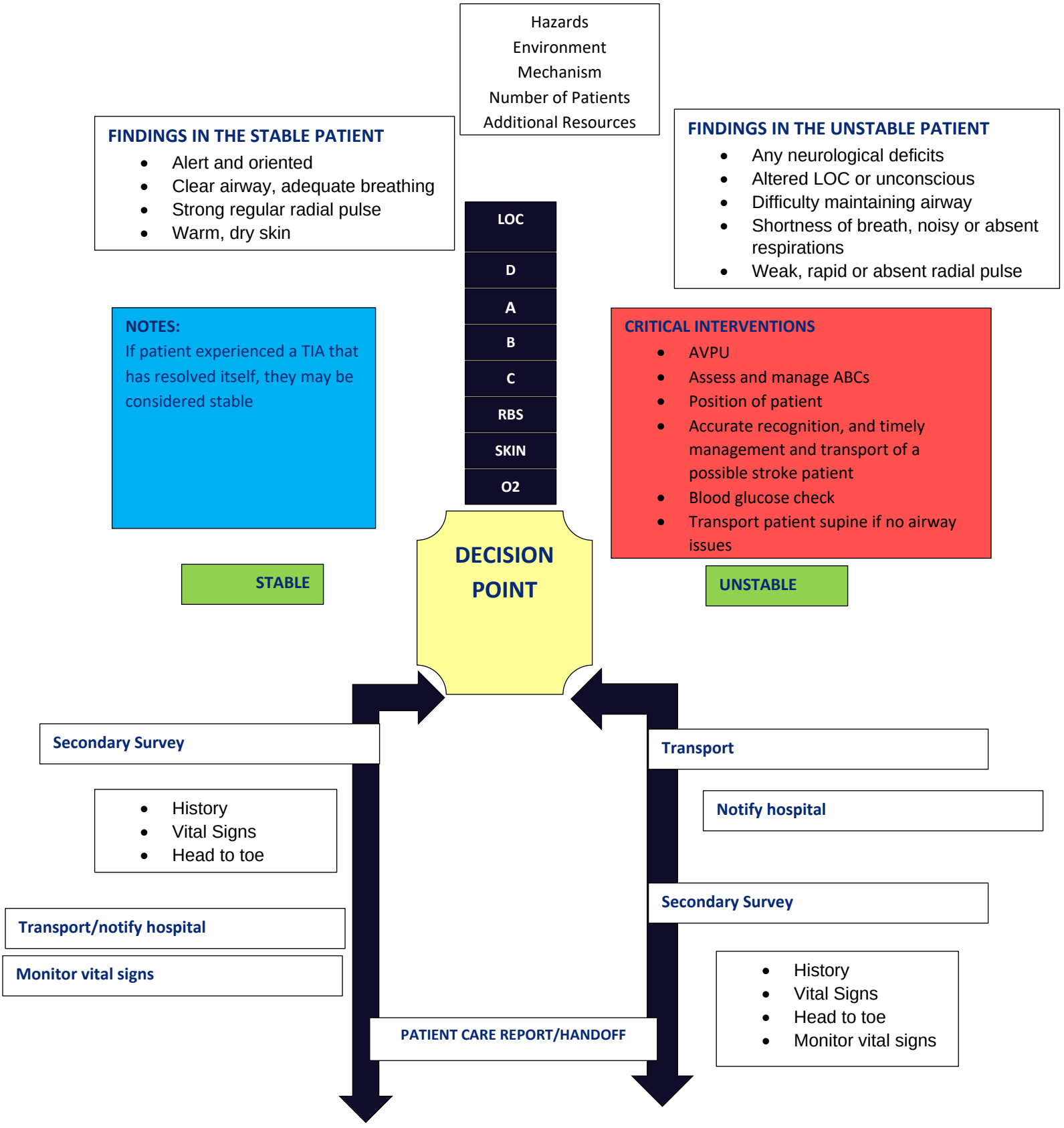
- Mild activity (if appropriate)
- Preheat the interior of ambulance to 30^{0}C
- Use hot packs wrapped in towels
- Warm blankets

Severe hypothermia (<30^{o}C) - Do not actively rewarm patient

- Insulate patient to prevent further heat loss
- Heat ambulance to 30^{o}C
- Avoid rough handling

[12] Administer oxygen using caution in severe hypothermia regarding its potential cooling effects.

Stroke – Flowchart



Stroke – Continued

As soon as possible utilize the **FAST-VAN** pre-hospital stroke tool.

Face – Right droop? Left droop?

Arm – Right weak? Left weak?

Speech – Slurred

Time - < 6 hours or awoke with symptoms

- If “Yes” to one or more above and < 6 hours or awoke with symptoms, proceed with “VAN”
- If “NO” transport to nearest hospital

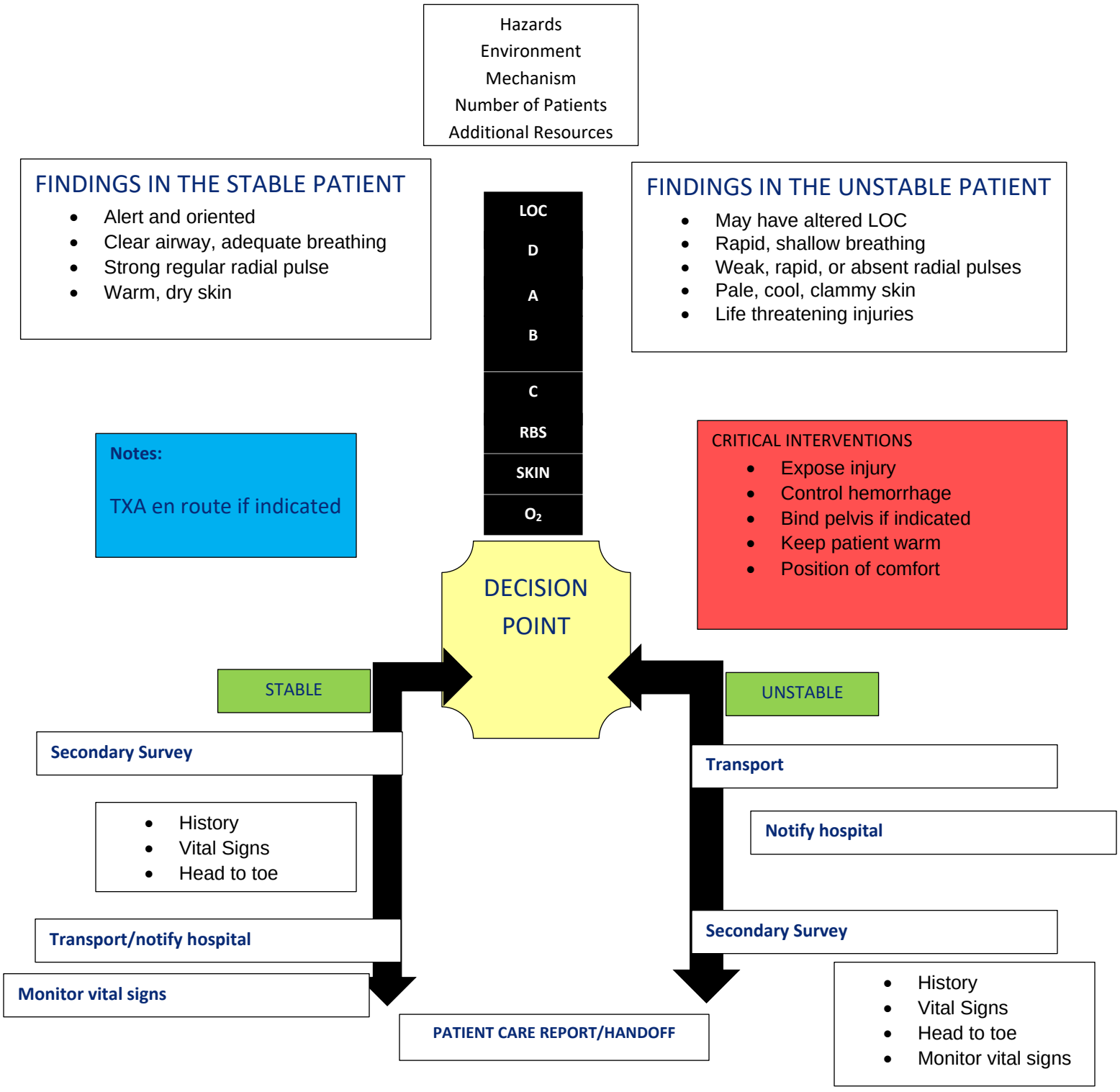
Vision – Right gaze? Left gaze?

Aphasia – Naming difficulties

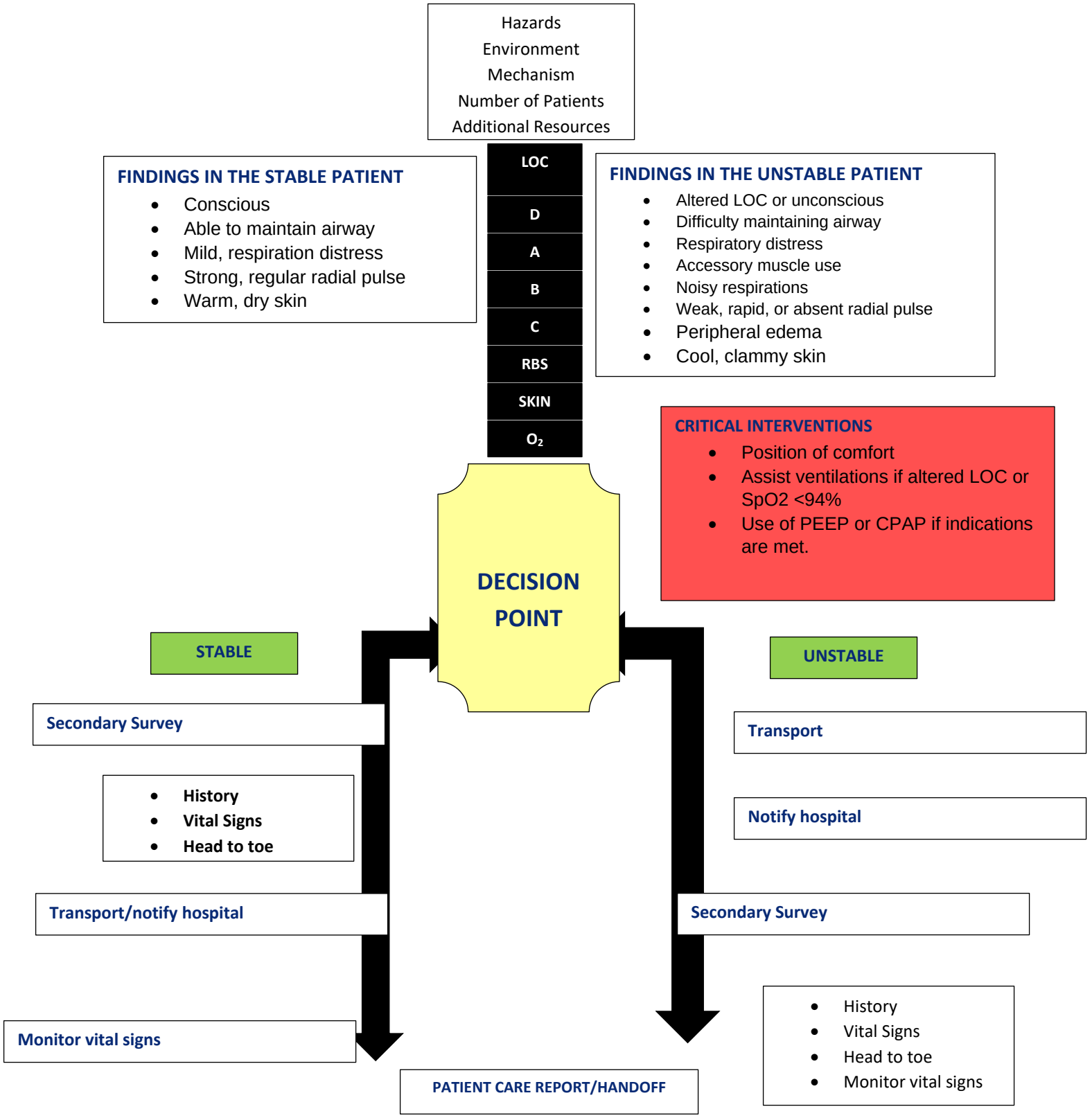
Neglect – Ignoring one side of the body? (Typically left side)

- One or more “VAN” signs notify receiving hospital with possible large vessel occlusion.

Abdominal Injuries - Flowchart



Congestive Heart Failure or Pulmonary Edema – Flowchart



Chest Trauma – Flowchart

Hazards
Environment
Mechanism
Number of Patients
Additional Resources

FINDINGS IN THE STABLE PATIENT

- Alert, orientated
- No accessory muscle use
- Strong radial pulse
- Warm, dry skin
- Minor chest wound

LOC
D
A
B
C
RBS
SKIN
O_2

FINDINGS IN THE UNSTABLE PATIENT

- May have altered LOC
- Difficulty maintaining airway
- Accessory muscle use
- Weak, rapid, or absent radial pulse
- Life threatening injuries
- Pale, cool, and clammy skin
- Major chest wound

NOTES:
Open Chest: use a vented occlusive dressing or commercial chest seal
Flail Chest: self splinting, position of comfort, assist with ventilations as required, continue assessment, providing pain management can assist in effective ventilation.

CRITICAL INTERVENTIONS

- Seal open chest wound
- **MANUALLY** Stabilize flail chest
- Position patient ASAP
- Assist ventilation if necessary
- Control any bleeding

DECISION POINT

STABLE

Secondary Survey

- History
- Vital Signs
- Head to toe

Transport/notify hospital

Monitor vital signs

UNSTABLE

Transport

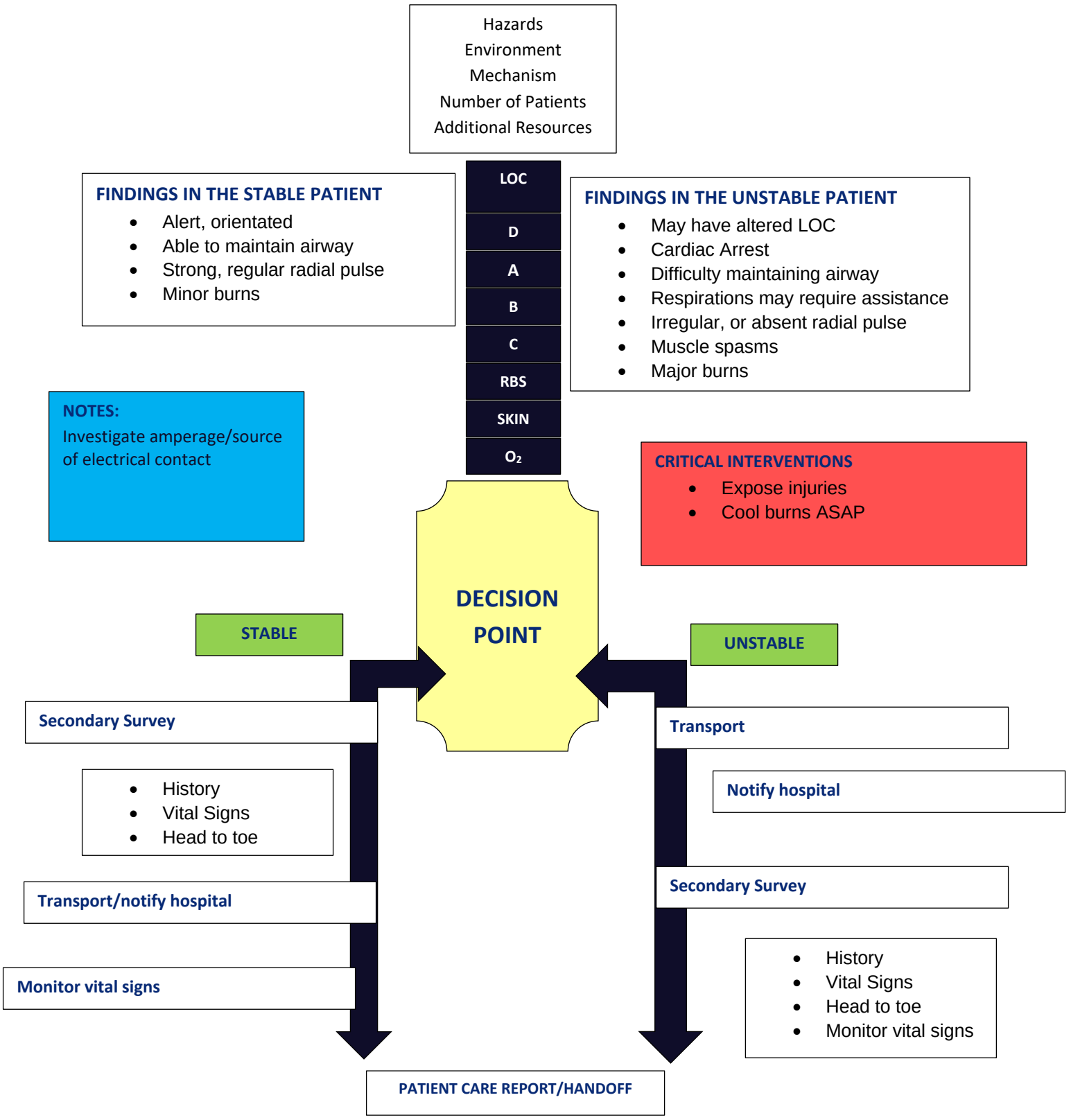
Notify hospital

Secondary Survey

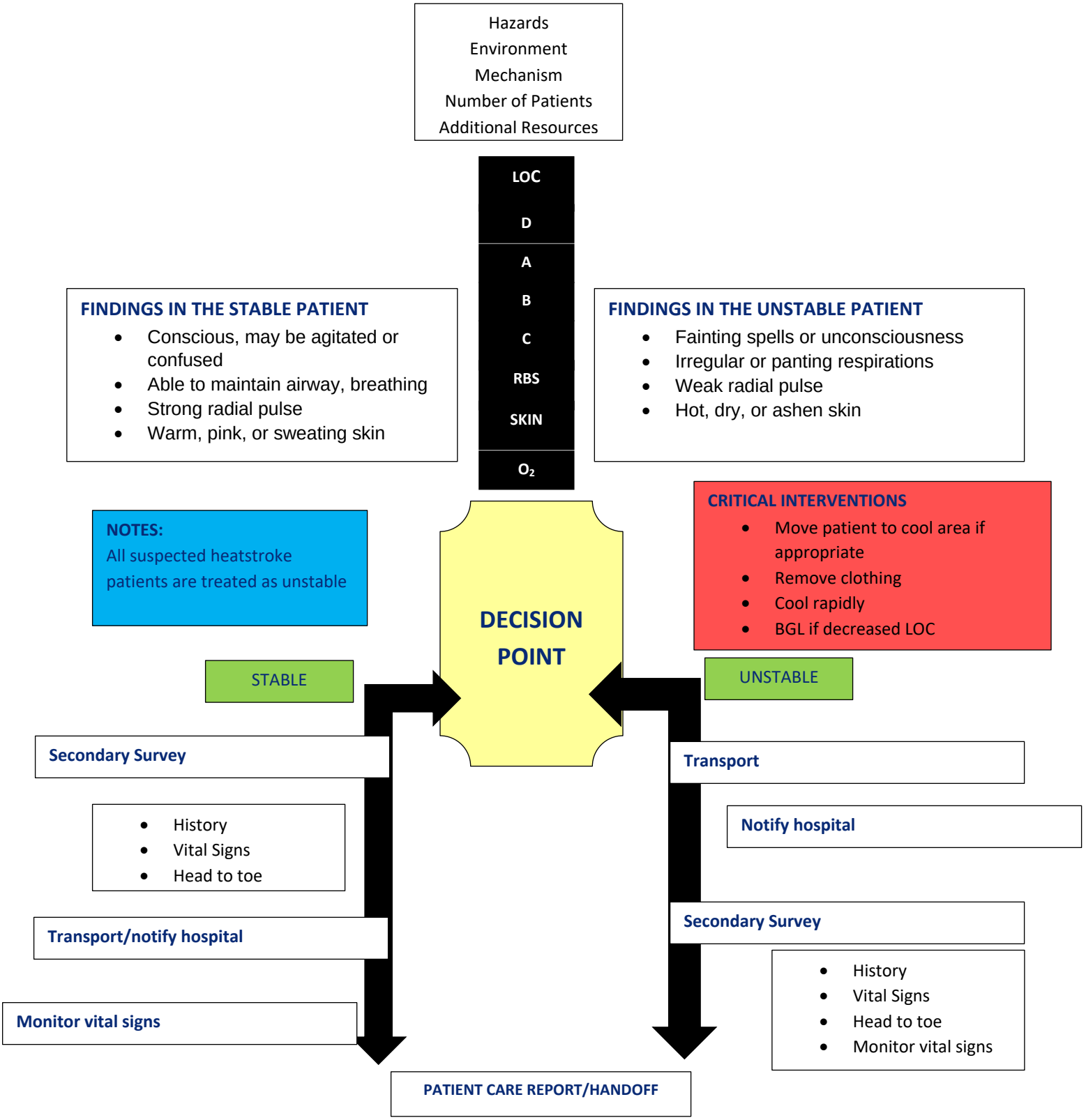
- History
- Vital Signs
- Head to toe
- Monitor vital signs

PATIENT CARE REPORT/HANDOFF

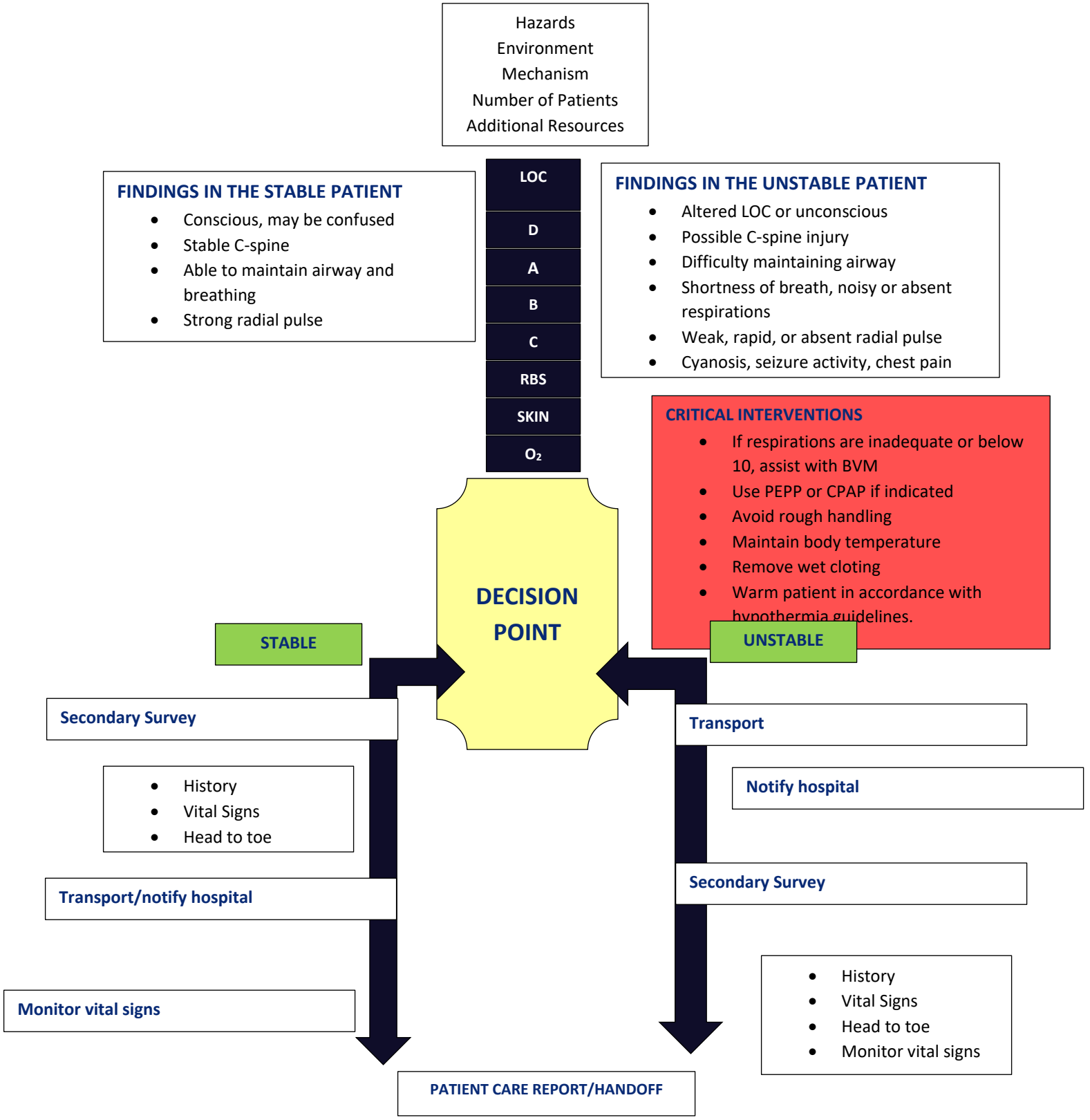
Electrical Contact – Flowchart



Heat Exhaustion/ Heatstroke – Flowchart



Drowning/Near Drowning – Flowchart



Treatment Protocols

IV Procedures

IV Initiation

INDICATIONS

In pre-hospital care, the primary indications for IV therapy are to:

- Replace fluid and electrolytes due to hypovolemia and burns
- Administer medications

Please refer to the relevant training level for specific indications within a protocol.

PROCEDURE

1. Candidates should maintain aseptic techniques throughout the procedure.
2. Gather and prepare equipment:
    a. Select and inspect the catheter device
    b. Select and inspect the IV solution and administration set
    c. Prime the IV tubing
3. Choose and prepare an appropriate site
4. Initiate IV
5. Connect IV tubing and infuse solution
6. Calculate and maintain an appropriate flow rate
7. Secure the IV

IV Maintenance

1. Ensure that the appropriate solution is running[13].
2. Calculate and maintain the appropriate flow rate.
3. Monitor flow rate and amount of solution.
4. Reassess patient condition and IV on a regular basis (i.e., q 5–15 min):
    a. Reassess ABCs and injury sites.
    b. Reassess vital signs.
    c. Inspect IV site, tubing, and solution bag.
    d. Observe for complications and take appropriate measures as necessary.
    e. Maintain appropriate flow rate.
    f. Change solution bag if required.
5. Intravenous solutions that can be maintained at normal TKVO rates for the purpose of inter-facility transfers, include:
    a. Normal Saline
    b. 2/3 – 1/3
    c. Ringers Lactate
    d. D_5W

IV Maintenance Rate Calculation

Some protocols may contain a reference to a maintenance rate. This maintenance rate is approximately 75 mL/hr. Two common administration sets are used: 10 gtts/mL and 60 gtts/mL.
To calculate flow rates, the following formula is used:

$$\text{gtts per minute} = \frac{\text{volume to be infused} \times \text{set rate}}{\text{time in minutes}}$$

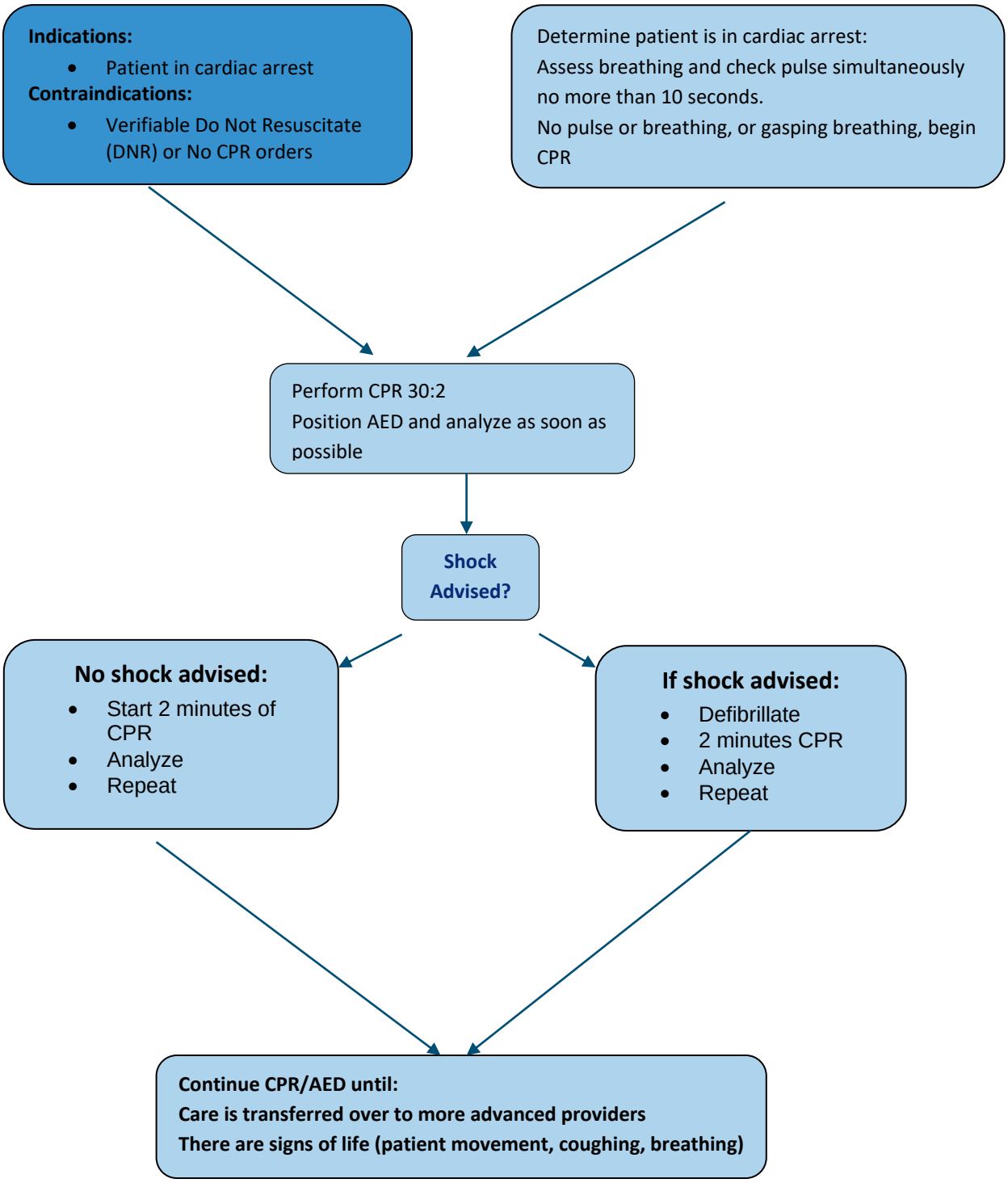
Examples:

- To infuse 500 ml NS over 12 hours using a macro-drip set (10 gtts/mL):
  $\frac{500 \text{ mL} \times 10 \text{ gtts/min.}}{12 \text{ hours} \times 60 \text{ min.}} = \frac{5000}{720} = 7 \text{ gtts/min}$

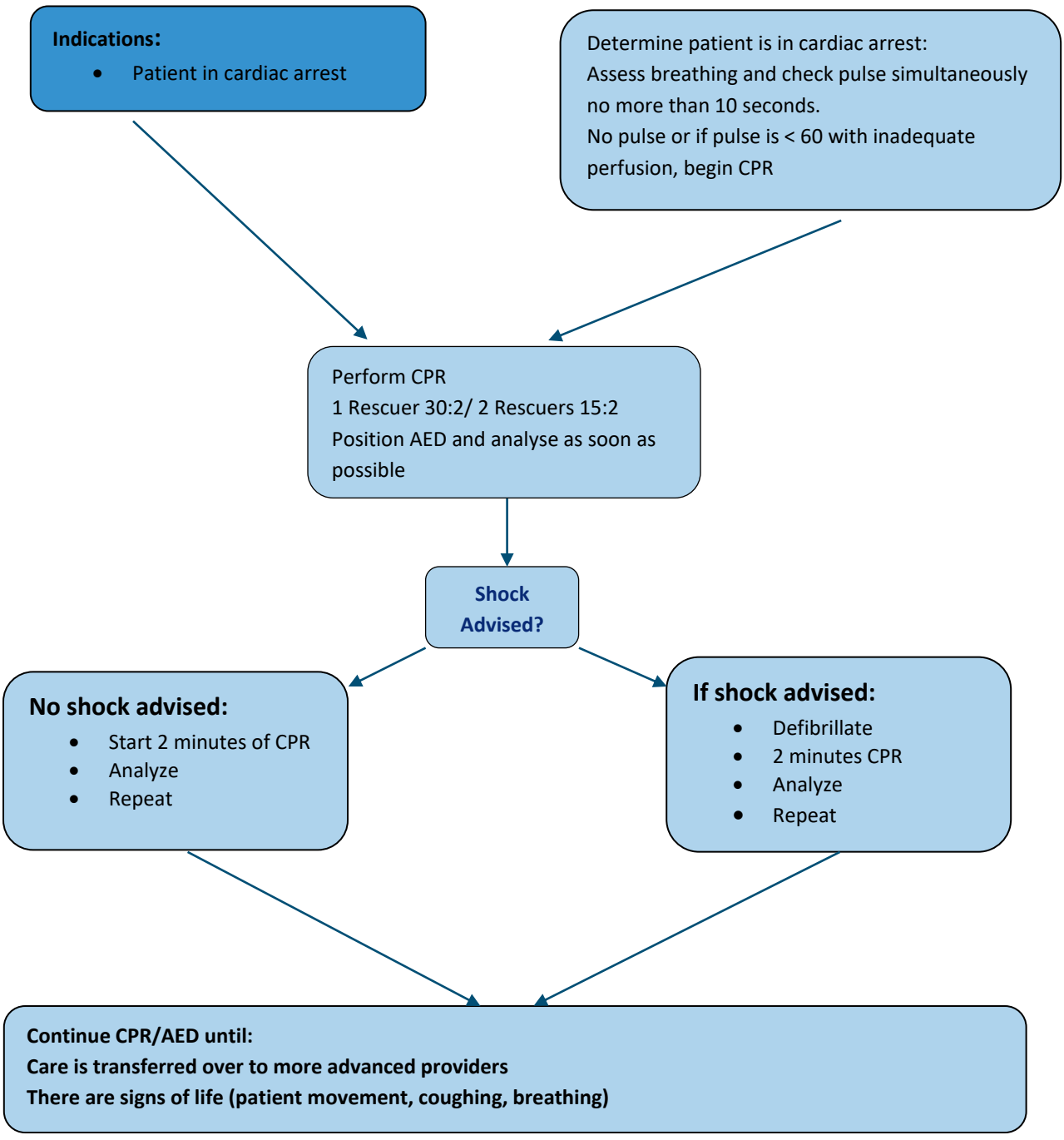
- To infuse 25 mL 5% $D_{10}W$ in 60 minutes using a micro-drip set (60 gtts/mL):
  $\frac{25 \text{ mL} \times 60 \text{ gtts/min.}}{1500} = 25 \text{ gtts/min.}$

[13] EMR, PCP and PCP - IV attendants are not to manage patients in cases where medications or other additives outside of their scope of practice have been introduced to the IV solution.

Adult CPR/AED



Child Infant CPR/AED



CPR/AED

Basic concepts:

- Early CPR is an essential component to successful outcome from cardiac arrest.
- CPR should be provided with as few interruptions as possible (keep interruptions to less than 5 seconds).
- Change operators every 2 minutes (where possible) to maintain maximum efficiency.
- Pulse checks are optional during analyze but must be done with ROSC. (e.g., spontaneous breaths, cough, eyelid movement, vocalization).
- CPR is more effective while you are stationary (i.e., trying to move the patient while performing CPR results in a deterioration of effective CPR) Intra-arrest patient transport with ongoing CPR may occur for the following situations: paediatrics, hypothermic, traumatic, or treatable causes after discussion with medical oversight.
- Move a patient early in your management while performing CPR only if the victim is in a dangerous environment or if you believe you cannot perform CPR effectively because of the patient's position or location.
- Early defibrillation is an essential component to successful outcome from cardiac arrhythmias that are responsive to defibrillation.
- The concepts of early CPR and early defibrillation should coexist, and one should not impede the other.
- Complete recoil after each compression.
- Avoid hyperventilation.
- Once high-quality cardiac arrest management is initiated a SGA can be inserted, for PCPs.

Adult CPR/AED Basics:

- Immediately activate the emergency response system (if appropriate) and get an AED (if available).
- Optimum chest compression rate is 100 -120 per minute with a depth of 5.0 to 6.0 cm in a normal adult (adjust to 1/3 to ½ the chest diameter for smaller and bigger patients).
- Ratio is 30:2 (one or two rescuers).
- Apply and use the AED as soon as possible.
- Single shocks – resume CPR immediately following delivery of a shock, and during charging phase.
- No Shock Advised – resume CPR immediately.
- Continue resuscitation efforts on scene if one is capable (or, if AED is employed, until the patient recovers, advanced care providers take over (e.g., BCAS, physician) or you are presented with a valid "Do not Resuscitate" or No CPR order.
- Initiate a call to medical oversight at 20 minutes of high-quality CPR or if a treatable cause is found earlier, to determine transport or other treatments.

Infant/Child CPR/AED Basics

- Due to the size of an infant's head in relation to its body, use a pad (if available) under the shoulders to facilitate neutral position.
- Effective ventilation/oxygenation is very important for optimal CPR.
- Assess for pulse using the brachial rather than the carotid artery.
- If alone, immediately start CPR for 5 cycles (about 2 minutes) before activating the emergency response system (if appropriate) and applying the AED (NOTE: for a *witnessed collapse* – alone or not, immediately activate the emergency response system [if appropriate] and get an AED [if available]).
- Start CPR if there is no pulse or if the heart rate is less than 60 beats per minute with signs of poor perfusion (e.g., pale skin color or severe mottling, cyanosis, usually accompanied by a decreased or falling level of consciousness and extremely unwell or toxic appearance, often with a history suggestive of respiratory illness or sepsis).
- Optimum chest compression rate is 100 – 120 per minute with a depth of 1/3 to ½ the chest diameter.
- Ratio is 30:2 for one rescuer and 15:2 for two rescuers.
- Single shocks – resume CPR immediately following delivery of a shock, and during charging.
- No Shock Advised – resume CPR immediately.
- For a child 0 - 8 years of age~~,~~ switch to child AED pads (if available). If not available, you may use the adult pads and deliver the adult joules.
- If the defibrillation pads, when placed in the normal anterior/lateral chest position, are within 2.5 cm (one inch) of each other, they may need to be shifted to an anterior/posterior configuration.

Child (1 year of age to puberty) Sudden Cardiac Arrest

- Most cardiac arrests in children are not due to sudden rhythm disturbances. On rare occasions a child is in ventricular fibrillation. Specifically, cases with a history of previous cardiac problems, electrocution or a sharp blow to the precordial area followed by collapse (commotio cordis).

Asphyxia arrest

- Asphyxia arrest is due to hypoxia. Causes may include overdose, hanging, airway obstruction, smoke inhalation and drowning. If alone with an AED, give 5 cycles of CPR (about 2 minutes) before applying the AED. If two rescuers: apply the AED while providing one-person CPR for 5 cycles (about 2 minutes) then analyze.

Treatable causes of cardiac arrest and transporting

- CPR should be continued until ROSC is achieved, further efforts are deemed futile, or the rescuers can no longer continue resuscitation due to fatigue or scene hazard.
- The main principle is that the decision to transport is multi-factorial, relies on available history and physical examination to give clues about reversible causes, and consultation with medical oversight.
- The exception to the above is consideration of transport with CPR in progress at the 20 min mark where a consultation with medical oversight should occur to discuss any suspected reversible cause. If that consultation results in an apparent reversible cause, then transport can be considered. Such causes include but are not limited to:

Hypovolemia	Tension pneumothorax
Hypoxia	Tamponade, cardiac
Hydrogen ion (acidosis)	Toxins (including anaphylaxis)
Hypo/Hyperkalemia	Thrombosis, pulmonary
Hypothermia	Thrombosis, coronary

Suctioning

- Suction should be applied for 10-15 seconds in the adult
- 10 seconds in the paediatric patient
- 5 seconds in an infant

Foreign Body Airway Obstruction

- Stabilize head and neck, if necessary
- Assess Level of Consciousness (AVPU scale)
- Assess & manage ABC's as required
- Suction, AED and BVM

Unwitnessed Unconscious FBAO

If respirations absent:

- Attempt one ventilation, if no air entry or air blows back, reposition head and attempt ventilation, if no air entry, begin chest compressions.
- Continue cycle of 30 compressions to 2 vents inspecting for object in mouth prior to ventilating.

Witness Conscious to Unconscious FBAO

- Partial obstruction, have patient cough forcefully
- Full obstruction, although chest thrusts, back slaps, and abdominal thrusts are feasible and effective for relieving severe foreign body airway obstruction in conscious (responsive) adults and children >1 year of age
- For an infant, deliver repeated cycles of 5 back blows followed by 5 chest compressions until the object is expelled
- If abdominal thrusts are not effective, consider chest thrusts
- Patient collapses, start CPR with chest compressions (do not perform a pulse check)
- After 30 compressions, open the airway
- Do not perform blind finger sweeps
- Attempt to give 2 breaths and continue with cycles of chest compressions, checking airway.

Complete RBS
Transport

Cardiac Chest Pain PCP/EMR

INDICATIONS

- Patients whose presentation is suggestive of cardiac chest pain, who have a history of heart disease, and who would normally take their prescribed Nitroglycerin for chest pain.

CONTRAINDICATIONS

Aspirin

- Inability to swallow/Allergy to Aspirin
- Active peptic ulcer or gastrointestinal bleeding
- Patient has already taken their recommended Aspirin dose prior to your arrival.
- Patients with a history of asthma induced by the administration of salicylates or NSAIDS.
- Pediatric patients with viral symptoms

Nitroglycerin

- If the patient has taken Viagra or Levitra in the last 24 hours, or Cialis in the last 48 hours
- B.P. < 110 mmHg
- HR <50 and >150
- Nitroglycerin may be administered in patients without nitro prescriptions after mandatory consultation with medical oversight.

Before initiating the treatment, you must have done the following:

- Performed a primary
- Ruled in the CP is cardiac in nature
- Investigated the pain complaint, including severity
- Administer 2 chewable 81 mg Aspirin PO
- Obtained a baseline set of vital signs
- 0.4 mg Nitroglycerin SL q 3-5 min to a maximum of three sprays.
- Consult medical direction for further treatment
- Load and transport[14] after the first Nitroglycerin[15]

If pain is completely relieved, but returns:

- Re-initiate Nitroglycerin administration[16]
- Continue with assessment, treatment, and vital signs q 5 minutes.

If pain persists or BP < 110 mmHg:

- Administer Entonox 5 minutes after last dose of Nitroglycerin.
- Continue with assessment, treatment, and vital signs q 5 minutes
- After 30 minutes from first dose of Nitroglycerin, this protocol may be repeated after stopping Nitrous Oxide for 5 minutes

[14] Patient outcome is better if definitive hospital treatment is provided as soon as possible, hence early transport is highly desirable. When equipment is ready load and transport, do not delay until after the first Nitroglycerin if everything else is ready to go; load and go and treat en route.
[15] Ensure that BP > 110 mmHg and check whether pain persists before administrating repeat Nitroglycerin. Contact medical oversight if needing to go beyond 3 doses or if patient condition changes.
[16] If pain is completely relieved for more than 5 minutes, you may re-initiate the Nitroglycerin component, (but not the Aspirin component) of the Chest Pain Protocol if the patient's pain returns.

Nausea – Vomiting PCP

INDICATIONS

Patients experiencing the sensation of nausea or vomiting. Not indicated for prophylactic use without direction from medical oversight.

Before initiating the Nausea Vomiting protocol, you must have done the following:

- Completed a primary survey
- Obtained a baseline set of vital signs
- Rule out any contraindications for the use of an anti-emetic

Administration

Stable patients may be treated with Dimenhydrinate (Gravol) on scene. Unstable patients will be treated enroute to hospital.

Dimenhydrinate

25-50 mg IM/IV *
12.5 in the frail elderly patient

Continue to manage and be aware of possible vomiting, position patient appropriately and have suction ready.
*non-IV PCP will manage by IM only

Shortness of Breath (SOB) With History of Asthma/COPD – PCP

INDICATIONS

Chief complaint of shortness of breath in a patient with with signs of bronchospasm.)[17].

CONTRAINDICATIONS

Allergy to Salbutamol

Before initiating the protocol with Salbutamol, you must have done the following:

- Performed a primary survey
- Auscultated the chest[18]
- Obtained a chief complaint of shortness of breath[19]
- Obtained a history of asthma or COPD
- Checked for drug allergies
- Obtained a baseline set of vital signs including oximetry

If patient is ≥ 15kg (adult)
Administer 5.0 mg Salbutamol in 5.0 mL NS or
4 x100 mcg MDI repeat as required[20]

If patient is paediatric
Administer 2.5 mg Salbutamol 2.5 mL NS or
<10 kg: not indicated
10-20 kg: 5 x 100mcg MDI (up to 3 times)[21]
>20 kg: 10 x 100 mcg MDI (up to 3 times)[21]

Transport
Continue with assessment and treatment

When Salbutamol is finished or after 10 minutes, reassess the patient

Patient has improved

If patient has a history of COPD, initiate low flow 0[2,21]

If patient has a history of Asthma, initiate high flow 0[2]

Patient has not improved

Repeat dose of Salbutamol
Up to a max of three doses per 10-20 kg/>20 kg patients
Consider assisting ineffective respirations

[17] Consider other causes of shortness of breath, such as: congestive heart failure, dysrhythmia, risk of myocardial infarction, pulmonary embolism, and pneumothorax. These patients may not improve with Salbutamol. Candidates should follow a staged approach by progressing to high-flow nasal cannula (HFNC), PEEP, and CPAP if oxygenation and ventilation goals are not met.

[18]Once the primary survey is complete and all primary survey interventions have been initiated, the paramedic should auscultate the chest. Note and document air entry, breath sounds, bilateral comparison, degree of respiratory distress, and use of accessory muscles before and after administration of Salbutamol. Rapid transport is a priority for these patients.

[19] Patients who are short of breath should receive high-flow oxygen. Consider assisting respirations for patients who are acutely short of breath and are experiencing signs of hypoperfusion or respiratory failure.

20 Aerochambers should be used in conjunction with MDIs forest results
Monitor for salbutamol toxicity

[21] Low flow oxygen is defined as 1-3 L/min and should be delivered by nasal cannula.

Oxygenation Management – Pulse Oximeter PCP/EMR

INDICATIONS

For monitoring O_2 on all patients.

CONTRAINDICATIONS

Children < 10kg, without proper sensor

Note: Always consider how your patient is presenting, regardless of the numbers – TREAT THE PATIENT!

UNRELIABLE READINGS

Carbon monoxide Poisoning
Other conditions[22]

Assess Patient

Apply Pulse Oximeter[23] as per procedure

SpO_2 ≥ 94%

- Decrease flow rate[24] to maintain SpO_2 ≥ 94%

SpO_2 < 94%

- Increase O_2 flow rate to maximum 15 L/min[25]
- Switch to non-rebreather to maintain SpO_2 ≥ 94%
- Consider the addition of high flow nasal cannula (HFNC)
- Consider CPAP (PCP)
- Consider assisted ventilations (Consider PEEP, PCP)
- Record the SpO_2
- LIFE THREATING ASTHMA –CONSIDER EPINEPHERINE

For severe bronchospasm with impending arrest, consider IM epinephrine after consult with medical oversight.
Dose:
Adult: 0.5 mg IM every 5-20 minutes for severe bronchospasm with impending arrest
Paediatrics: 0.01 mg/kg IM to a maximum of 0.5 mg for severe bronchospasm with impending arrest

[22] Sickle Cell Anemia, severe Anemias, nail polish, or LED lights
[23] Do not delay any part of the primary survey/intervention to apply the pulse oximeter. The oxygenation management procedure is described on the next page.
[24] Use the lowest amount of Oxygen flow to maintain the SpO_2 at >94%. Adjust Oxygen by turning it up or down by 1 L/min each minute and monitor the oximeter reading. Oxygen flow rates as per delivery device; nasal cannula 4ltrs, standard face mask 10lts, non-rebreather 15lts, and HFNC 15lts in conjunction with another delivery device.
[25] For COPD patients, maintain the SpO_2 in the range of 92% to 95%.

Oxygenation Management (Cont.)

Oxygenation Management Procedure

1. Apply oxygen as per usual practice ensuring the following type of patient gets high flow oxygen immediately:
    - Seriously ill patient
    - Short of Breath patient
    - Moderate to severe trauma patient who may be bleeding
    - Patient who may be having internal bleeding
    - Smoke and carbon monoxide poisoning patient (maintain high oxygenation – NRB)
    - Patient with chest pain, who are SOB
2. Apply pulse oximeter to adequately perfusing finger.
3. Ensure the proper application of the finger probe.
4. Activate the unit.
5. Ensure the unit detects a pulse.
6. Compare pulse on pulse oximeter to pulse by auscultation or by palpation.
7. If pulse oximeter and palpation pulse differ by <10 BPM, the reading for the SpO_2 is reliable.
8. If pulse oximeter and palpation pulse differ by >10 BPM then:
    - Remove pulse oximeter
    - Remove nail polish
    - Use another or a warmer digit
    - Use an ear lobe (if probe available) or toe
    - Re-apply pulse oximeter and compare pulse
    - Assess the lighting (LED lights can interfere with SpO2 readings)

Oxygen Administration

Do not use an adult face mask with a flow rate less than 6 L/min, as this would deliver less oxygen to the patient than room air.

A non-rebreather mask is indicated for carbon monoxide poisoning and smoke inhalation.

Administration of oxygen to COPD patients is by nasal cannula at 1-3 L/min (following acute care treatment with high flow oxygen, if required). Use of high flow oxygen for COPD patients complaining of chest pain and SOB is indicated.

Oxygen should be titrated based on pulse oximetry aiming for an O_2 Saturation of 94% if the patient is not SOB or in shock. Patients who are SOB or in shock require high flow O_2

- Titrate O2 flow rate to a maximum of 15 L/min to achieve SpO2 of 94%
- Switch to a non-rebreather mask with a maximum flow rate of 15 L/min
- Add nasal cannula underneath the non-rebreather mask with a maximum flow rate of 15 L/min
- Consider the application of CPAP (PCP)
- Consider assisted ventilations (including the use of PEEP for PCPs)
- Record changes to SpO2 through treatment application

Continuous Positive Airway Pressure (CPAP) PCP

CPAP is a non-invasive means to increase the oxygen diffusion across the alveolar membrane by increasing the functional residual capacity and increasing alveolar surface area.

This can help to decrease a patient's work of breathing, and decrease oxygen consumption, while increasing their oxygen supply.

CPAP application has been shown to reduce intubation requirements and mortality.

CPAP should be considered in patients who remain short of breath with low oxygen saturation despite administration of a bronchodilator, or in patients who present with other causes of shortness of breath (CHF, pulmonary edema, near drowning, pneumonia).

Any patient who is unable to maintain their own respiratory effort is unlikely to benefit from CPAP. These patients will require assisted ventilation via BVM. It is important to monitor the patient closely for any deterioration as CPAP will no longer be the appropriate therapy for these patients. If patient does not have any contraindications, a PEEP valve should be added to the BVM to increase oxygenation to >94%

CPAP Guidelines

INDICATIONS:	CONTRAINDICATIONS:
Any patient ≥ 13 years of age in significant respiratory distress • Awake and following commands • Maintains a patent airway • Exhibits all the following RR > 24 SpO_2 < 94% (on O_2) Accessory muscle use	• Decreased LOC • Respiratory arrest Hypoventilation • Vomiting – Risk of aspiration • Unable to fit mask • Traumatic cause of SOB • Pneumothorax • SBP < 90 mmHg

Call medical oversight (PCP)

CPAP Use	If patient deteriorates:
1. Start at 5L/min with CPAP valve @ 5 cm/H_2O 2. Obtain facial seal 3. Reassess patient and vitals 4. Repeat to max. CPAP of 10 cm/H_2O	**Remove CPAP and use BVM with assisted ventilations (consider PEEP valve if indicated)**

CPAP Setting (cmH_2O)	5	6	7.5	10	12.5	15
Set oxygen flow (LPM)	5	6	7	8	9	10

Entonox PCP/EMR

INDICATIONS

- Pain

CONTRAINDICATIONS

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

CAUTIONS

- Depressant drugs
- Maxillo-facial injuries
- COPD
- Distended Abdomen
- Shock

Before initiating the Pain Using Entonox protocol, you must have done the following:

- Completed a primary survey
- Investigated the pain complaint, including severity
- Obtained a baseline set of vital signs, including oxygen saturation
- Conducted a history and physical examination sufficient to rule out the contraindications for
- use of Entonox
- Invert cylinder 3 X
- (If in the ambulance) Turn on vehicle ventilation system (intake and output)

Note:

- Let the patient use bite stick or apply mask to own face, do not assist.
- Mask/bite stick may fall away as patient becomes sedated, do not replace mask.
- Patients should receive high-flow oxygen when Entonox is discontinued.
- Discontinue if cyanosis develops.

Hypovolemia – PCP

INDICATIONS

Patients with all the following:

- Hypovolemia[26]
- Systolic BP < 90 mmHg[27]
- Other clinical signs of shock

Patients with burns > 20% BSA (partial and full thickness)

CONTRAINDICATIONS

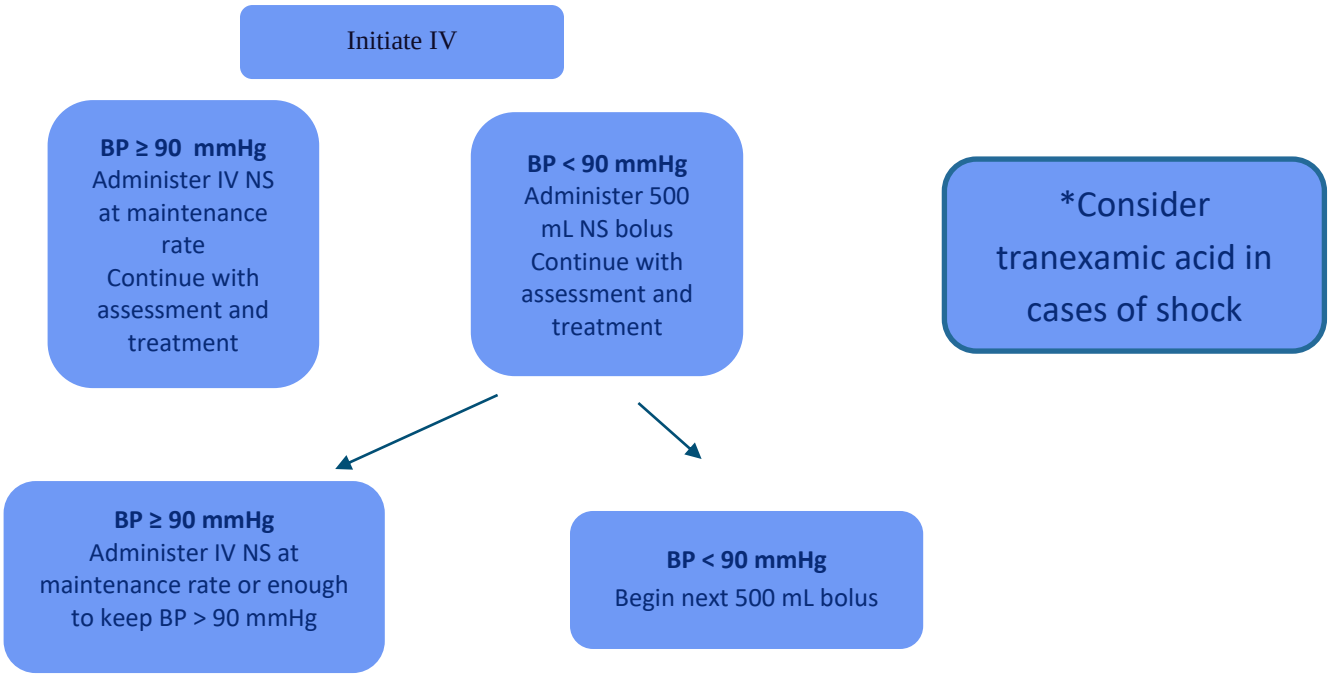
- None

CAUTIONS

- Shortness of breath

Before initiating the Hypovolemia protocol, you must have done the following:

- Completed a primary survey
- Loaded and begin transport
- Obtained a baseline set of vital signs
- Auscultate chest (Base of the lungs)



[26]Obtain evidence of loss of a significant quantity of blood or body fluids to support a diagnosis of hypovolemia.
[27]The Hypovolemia protocol may be used for patients with BP > 90 mm Hg if shock is anticipated because of the mechanism of injury, the nature and extent of the injuries or the patient's condition.
A maximum bolus dose total of 2 liters NS (4X500mls)

Trauma Management – TXA

INDICATIONS

- Trauma with signs of shock/hypoperfusion
- In association with injury suggestive of occult of ongoing bleeding
- ≥ 12 years
- Within 3 hours from time of injury and on route to receiving hospital

Before initiating the TXA protocol, you must have done the following:

- Completed a primary survey
- Loaded and begin transport
- Obtained a baseline set of vital signs
- Initiated the Hypovolemia protocol

TXA – Deliver 2 gram (2000 mg) IV push over 1 minute

Continue assessment and treatment

Anaphylaxis – PCP

INDICATIONS

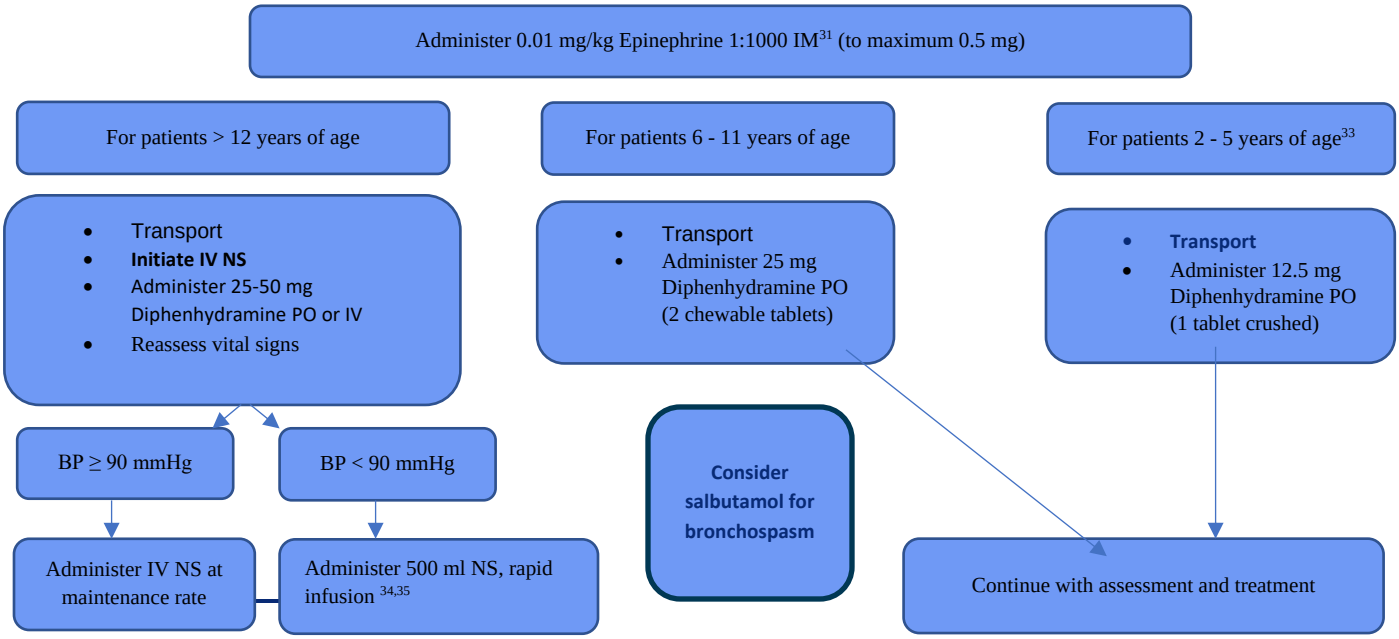
Patient with suspected anaphylaxis,[28]including all the following:
Signs of anaphylaxis[29]
History of an allergy
Exposure to an allergen
Unstable: decreased LOC, or hypotension (BP < 90 mmHg), or respiratory distress

CONTRAINDICATIONS

Diphenhydramine is contraindicated in patients with a known allergy to Diphenhydramine
Tablets are contraindicated in unconscious patients.

Before initiating the Anaphylaxis Protocol, you must have done the following:

Completed a primary survey
Obtained a history sufficient to establish a history of an allergy
Obtained signs and symptoms of an allergic reaction or anaphylaxis
Obtained a baseline set of vital signs[3031323334]



[28] If anaphylaxis is anticipated because of prior history, nature of exposure or patient's condition, you may consider contacting medical oversight for orders.
[29] Urticaria, and/or angioneurotic edema, and/or hypotension/shock.
[30] The thigh is the preferred site for the administration of IM Epinephrine. In case the thigh is not available or is inappropriate, the shoulder may be used.
[31] Diphenhydramine causes drowsiness. Alcohol may potentiate its effect and add the risk of accidental injury. Advise the patient of this
[32] Diphenhydramine PO tablets are not to be used in children < 2 years.
If the patient is unable to take Diphenhydramine PO, IV Diphenhydramine is acceptable.
[33] After each 500 mL NS, auscultate the lung bases and reassess BP. If signs and symptoms of pulmonary edema are present, stop fluid bolus and administer NS at a maintenance rate. Bolus to a maximum of 2 liters.
[34] Reassess BP after 500 mL N/S; administer IV NS at maintenance rate. If BP < 90 mmHg, contact medical oversight for further orders. Epinephrine can be given every 5 minutes, up to three times

DOSAGE CALCULATION - Epinephrine

If the weight of the patient is known, calculate the appropriate dose using the formula:
0.01 mg/kg Epinephrine Hydrochloride 1:1000 IM (to a maximum dose of 0.5 mg)

In cases where the patient's weight is not known and the patient is > 1 year old, the table on the left below may be used to obtain an approximate weight and dosage for patients < 30 kg (formula: age x 2 + 8). Note that patients 11 years of age and over are estimated to receive the maximum dose of 0.5mg Epinephrine 1:1000 IM. For infants (i.e., < 1 year of age), refer to the table on the right below.

AGE	APPROXIMATE WEIGHT	DOSAGE
1	10 kg (22 lbs)	0.10 mg
2	12 kg (26 lbs)	0.12 mg
3	14 kg (31 lbs)	0.14 mg
4	16 kg (35 lbs)	0.16 mg
5	18 kg (40 lbs)	0.18 mg
6	20 kg (44 lbs)	0.20 mg
7	22 kg (48 lbs)	0.22 mg
8	24 kg (53 lbs)	0.24 mg
9	26 kg (57 lbs)	0.26 mg
10	28 kg (62 lbs)	0.28 mg
11	30 kg (66 lbs)	0.30 mg

INFANT: DOSAGE CHART		
WEIGHT (KG)	WEIGHT (LB)	DOSAGE
3 kg	6.6 lbs	0.03 mg
4 kg	8.8 lbs	0.04 mg
5 kg	11 lbs	0.05 mg
6 kg	13.2 lbs	0.06 mg
7 kg	15.4 lbs	0.07 mg
8 kg	17.6 lbs	0.08 mg
9 kg	19.8 lbs	0.09 mg

Unconscious Not Yet Diagnosed (NYD) – PCP

INDICATIONS

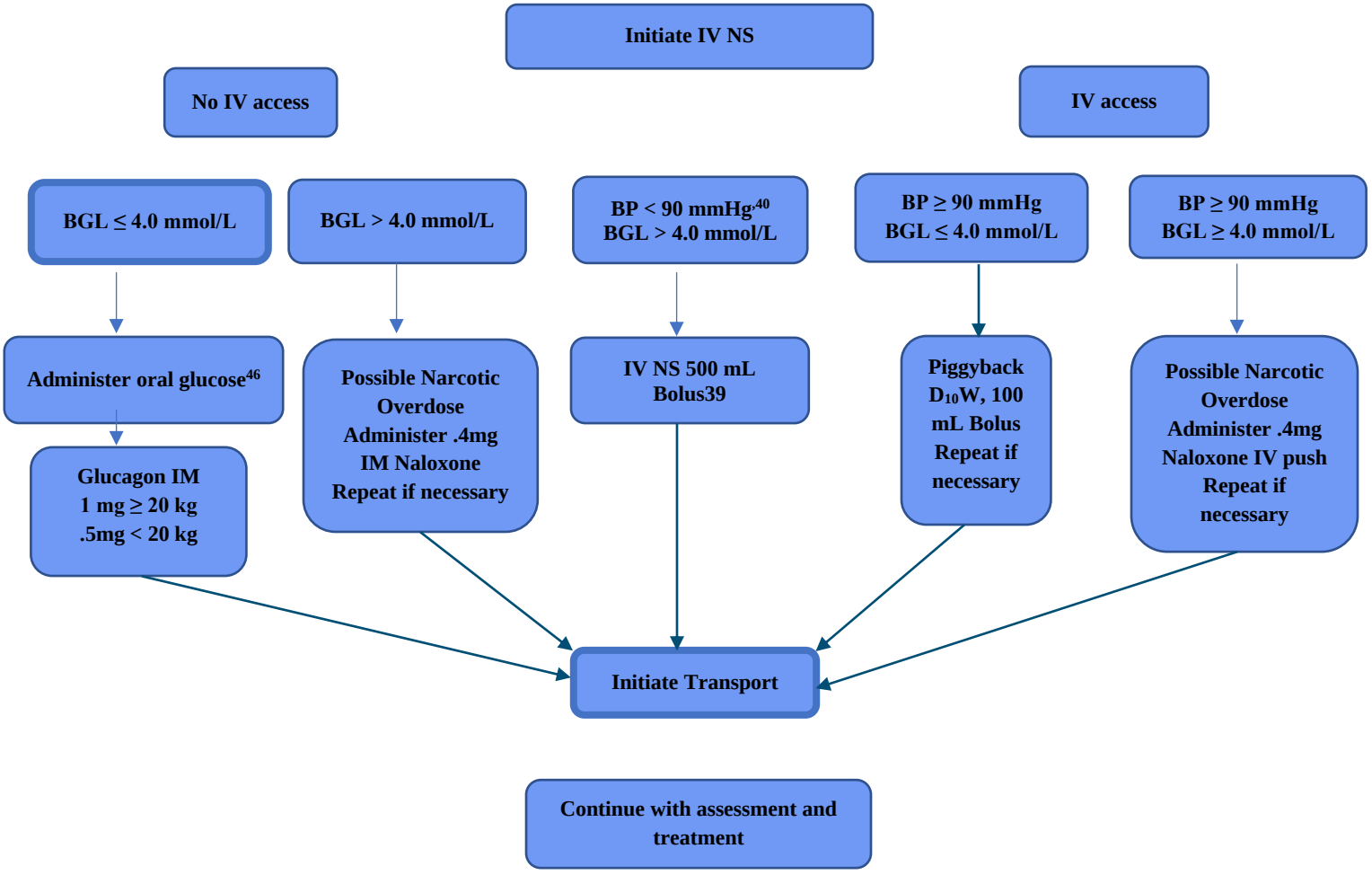
- Decreased/Altered LOC, Not yet diagnosed[35][36]

CONTRAINDICATIONS

- Naloxone Hydrochloride is contraindicated in patients with a known Naloxone allergy
- Glucagon is contraindicated in patients with a known Glucagon allergy

Before initiating the Unconscious NYD protocol, you must have done the following:

- Completed a primary survey
- Obtained a history sufficient to rule out contraindications for this protocol
- Obtained a baseline set of vital signs
- Obtain Blood Glucose reading and GCS



[35] Altered LOC is a continuum ranging from mild to deep unconsciousness with absent responses. This protocol should be used when there is reasonable doubt as to the cause of the LOC

[36] After each 500 mL NS, auscultate the lung bases and reassess BP. If signs and symptoms of pulmonary edema are present, stop the fluid bolus, administer NS at the maintenance rate, and contact medical oversight for further orders. Bolus to a maximum of 2 liters

Suspected Narcotic Overdose – PCP/EMR

INDICATIONS

Beyond a decreased level of consciousness and depressed respiratory drive, as demonstrated by both decreased rate and limited tidal volume, signs and symptoms of an opioid overdose can include:

- Pinpoint pupils (miosis)
- Hypotension
- Hypothermia
- Tachycardia

CONTRAINDICATIONS

- Naloxone Hydrochloride is contraindicated in patients with a known Naloxone allergy
- Neonates

Treatment

- Primary airway management is paramount by ensuring the patient's airway is protected, open and clear.
- Ensure the patient is well oxygenated and/or ventilated with a BVM
- Primary survey
- A history sufficient to suggest narcotic overdose as the cause of unconsciousness
- A history sufficient to rule out contraindications for the suspected narcotic overdose protocol
- A baseline set of vitals

Administer 0.4 mg Naloxone Hydrochloride IM[37][38]

Load and transport ***If no improvement:***

Administer 0.4 mg Naloxone Hydrochloride IM ***If no improvement:***

Administer 0.8 mg Naloxone Hydrochloride IM ***If no improvement:***

- Administer 2.0 mg Naloxone Hydrochloride IM
- If no improvement, contact medical oversight
- Also consider assessing blood glucose level
- If blood glucose ≤ 4mmol/L, consider diabetic protocol

[37] Repeat q 3 minutes as needed to reverse respiratory depression
[38] Do not give to neonates

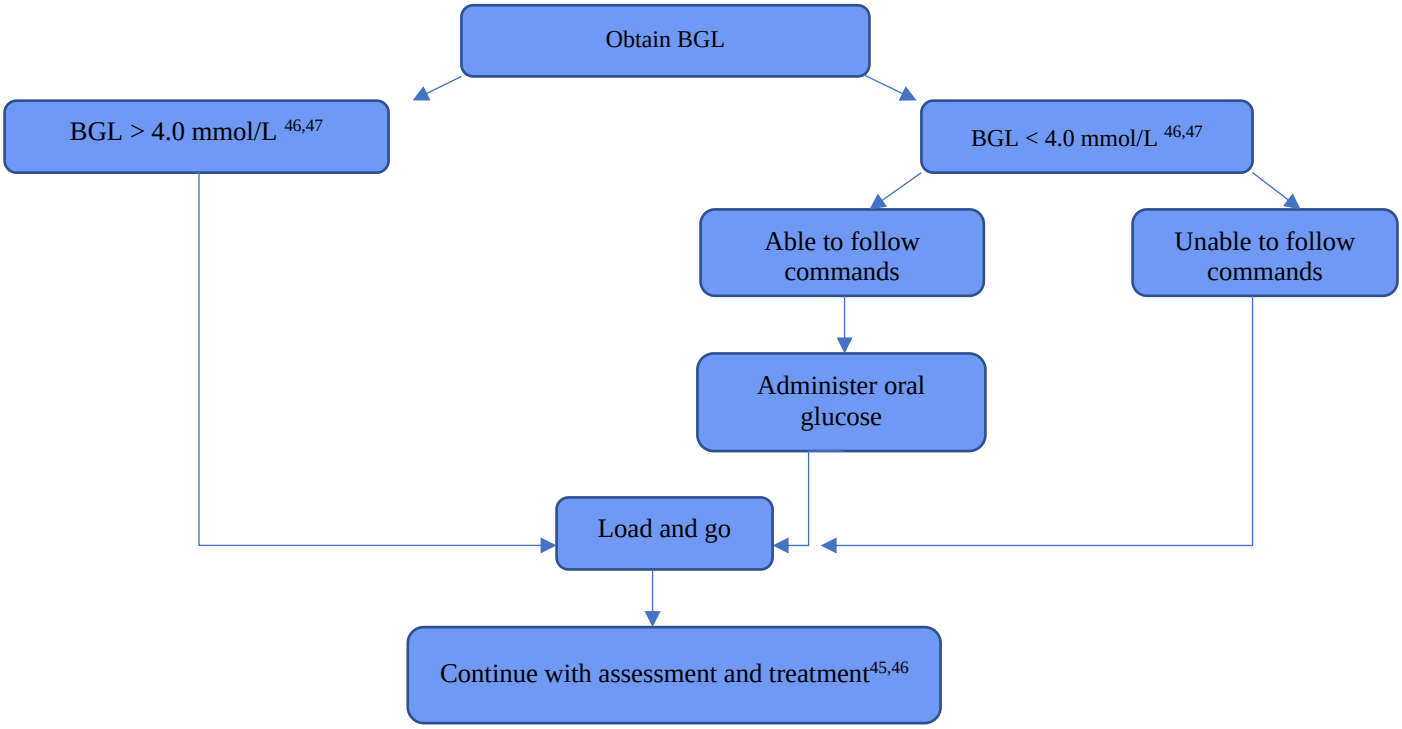
Diabetic Emergencies – EMR

INDICATIONS

Known diabetic patients with decreased LOC whose history suggests hyperglycemia or hypoglycemia.

Before initiating the Diabetic Emergencies protocol, you must have done or obtained the following:

- Request equipment be prepared for rapid transport[i39]
- A primary survey
- A history of diabetes
- A baseline set of vital signs
- Signs and symptoms sufficient to suggest hypoglycemia or hyperglycemia[40][41][42][43][44]



[39] When equipment is ready, load and transport, do not delay if everything else is ready to go; load and go and treat en route.
[40] If repeat glucometer result is < 4.0 mmol/L, give oral glucose again.
[41] Consider other causes of unconsciousness and contact medical oversight for further orders.
[42] Only if patient is able to maintain airway
[43] If able to follow commands apply approx. 12 gr. oral glucose it provides immediate treatment for the patient.
[44] If no improvement, consider other causes of unconsciousness, contact medical oversight for further direction.

Diabetic Emergencies – PCP

INDICATIONS

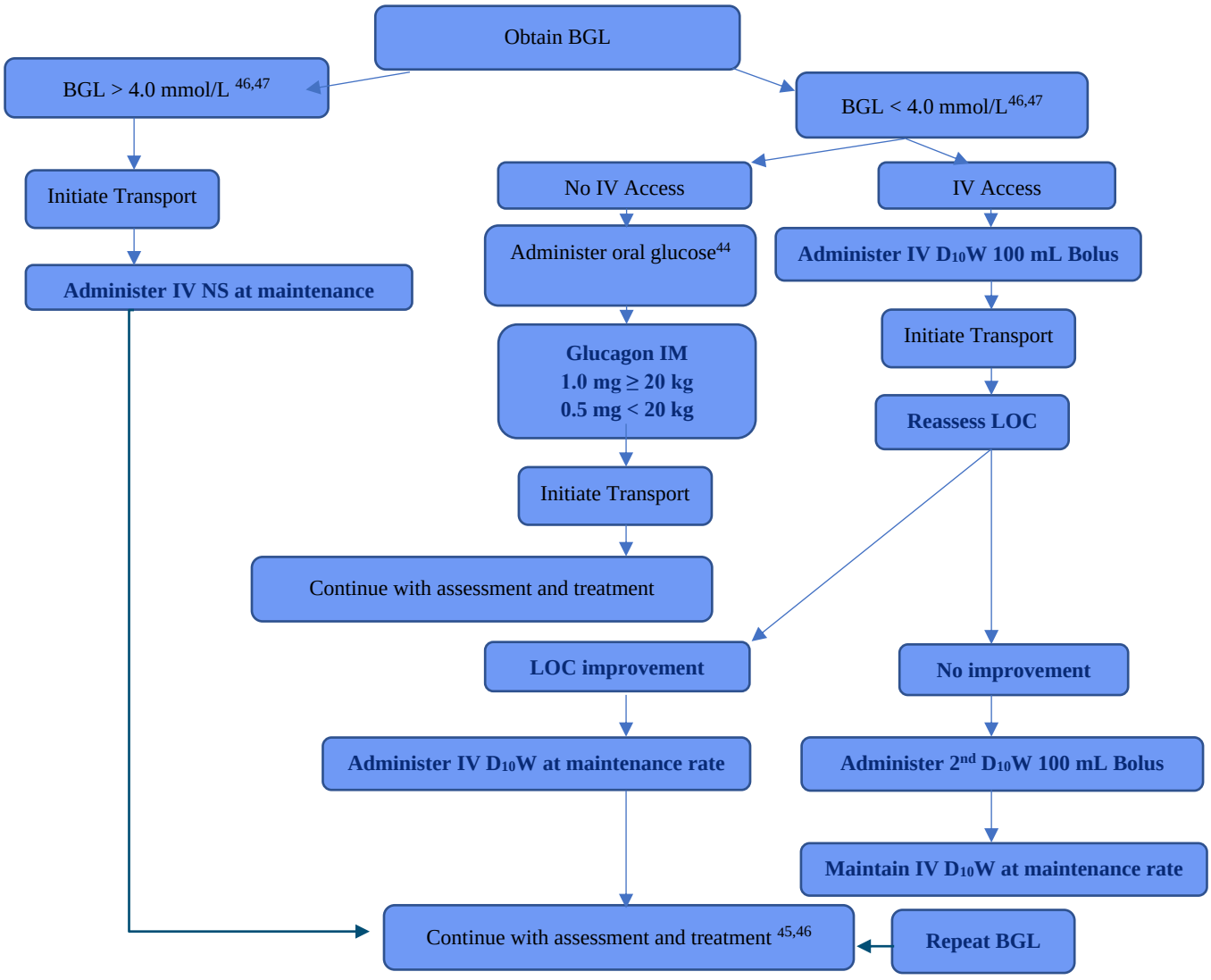
Known diabetic patients with decreased LOC whose history suggests hyperglycemia or hypoglycemia.

CONTRAINDICATIONS

Glucagon is contraindicated in persons known to be allergic to Glucagon

Before initiating the Diabetic Emergencies protocol, you must have done or obtained the following:

- A primary survey
- A history of diabetes
- A baseline set of vital signs
- Signs and symptoms sufficient to suggest hypoglycemia or hyperglycemia[45]



[46] If able to follow commands apply approx. 12 gr. oral glucose it provides immediate treatment for the patient.
[47] If no improvement, consider other causes of unconsciousness, contact medical oversight for further direction.
[45] If repeat glucometer result is < 4.0 mmol/L, give additional D10W - 100ml rapid infusion.

DRUG MONOGRAPHS

Aspirin (ASA)

Classification:	Platelet inhibitor Antiplatelet
Mechanism:	Inhibits the formation of platelets from clumping together to form clots
Indication:	Chest pain or atypical symptoms consistent with cardiac ischemia/AMI (**Note**: ASA should be given after RBS and before and or after vitals if it is indicated, and the cautions and contraindication are followed)
Contraindications:	• Inability to swallow/Allergy to Aspirin • Active peptic ulcer or gastrointestinal bleeding • Patient has already taken their recommended Aspirin dose prior to your arrival. • Patients with a history of asthma induced by the administration of salicylates or NSAIDS. • Pediatric patients with viral symptoms
Onset	20 minutes- 1 hour if chewed
Dose	160 mg PO
Route	Oral
Cautions:	Recent internal bleeding Known bleeding diseases Patient is currently taking anticoagulant agents Recent surgery Possibility of pregnancy

$D_{10}W$ (Dextrose 10% in Water)

Classification:	Anti-hypoglycemic agent Carbohydrate substrate
Mechanism:	Immediate source of glucose and H_2O for nutrient deprived cells Transient osmotic diuretic
Indication:	Suspected or known hypoglycemia Altered level of responsiveness Coma or seizure NYD
Contraindications:	None
Onset	IV - Immediate
Dose	10-25 g (100-250 ml of 10% solution)
Route	IV
Cautions:	Extravasation causes tissue necrosis

Dimenhydrinate

Classification:	Anti-Emetic Antihistamine Anti-Cholinergic Anti -Vertigo
Mechanism:	Diminishes vestibular (labyrinth) stimulation from motion Inhibits cholinergic stimulation in vestibular and reticular system
Indication:	Prevention or control or nausea, vomiting, and vertigo
Contraindications:	Known hypersensitivity or allergy to Dimenhydrinate
Onset	IM 20-30min. IV – Most immediate
Dose	1 mg/kg to a maximum dose of 50mg Contact ER if patient appears to be under 25kg
Route	IM – Administered undiluted IV – Dilute with NS and inject over 1-2 minutes. If administering 50 mg of Dimenhydrinate for IV injection, draw up 50mg of Dimenhydrinate using a 10 mL syringe then draw up the additional 9mL of NS. Mix the medication and administer slowly over 2 minutes. (25 mg/min)
Metabolism:	Metabolized in the liver Excreted in the urine
Adverse Effects:	CVS: tachycardia, palpitations Respiratory: thickening of bronchial sections

	CNS: Dizziness, drowsiness, excitation, headache, restlessness GI: Anorexia, dry mouth GU: Dysuria Ocular: Blurred vision
Cautions:	Glaucoma (increased intraocular pressure) Asthma/COPD Cardiovascular disease (Hypertension, ischemic heart disease) Prostatic hyperplasia ad urinary obstruction Elderly Pregnancy

Diphenhydramine

Classification:	Antihistamine
Mechanism:	Antihistamine with anticholinergic and sedative side effects. Antihistamines appear to compete with histamine for cell receptor sites on effector cells.
Indication:	Adjunct treatment of allergic reactions Motion sickness
Contraindications:	Known hypersensitivity or allergy to antihistamines Neonates
Onset	IM Rapid
Dose	25- 50 mg
Route	25 – 50 mg IV , 25-50 mg PO
Adverse Effects:	Urticaria, drug rash Hypotension
Cautions:	Narrow angle glaucoma Stenosing peptic ulcer

Entonox (Nitrous Oxide)

Classification:	Nonnarcotic analgesia
Mechanism:	Potent analgesic and a weak anaesthetic
Indication:	Relief of moderate to severe pain Cardiac related chest pain where nitroglycerin will be of no value or is contraindicated Isolated extremity injuries, pain associated with burns.
Contraindications:	Ability to comply Decompression sickness Altered level of Consciousness Pneumothorax Air embolism Inhalation injury Nitroglycerin used in the last 5 minutes
Onset	Rapid
Dose	Inhalation – Self administered
Route	PO – Self administered
Adverse Effects:	Light-headedness, dizziness, sedation, drowsiness, disorientation Nausea and / or vomiting
Cautions:	Shock Abdominal distention Depressant drugs COPD Facial injuries

Epinephrine

Classification:	Sympathomimetic
Mechanism:	α 1 effects - Vasoconstriction β 1 effects – Increased HR, increased force of cardiac contraction β 2 effects - Bronchodilation
Indication:	Anaphylaxis, severe bronchospasm
Contraindications:	Significant tachyarrhythmias
Onset	IM 5 – 15 minutes, IV Immediate
Dose	Adult: 0.5 mg IM every 5 minutes; may repeat up to 3 times 0.5 mg IM every 5-20 minutes for severe bronchospasm with impending arrest Paediatric: 0.01 mg/kg IM to a maximum of 0.5 mg; may repeat up to 3 times 0.01 mg/kg IM to a maximum of 0.5 mg for severe bronchospasm with impending arrest
Route	IM
Cautions:	Further hypotension if administered too quickly

Glucagon

Classification:	Glucose elevating agent
Mechanism:	Accelerates the breakdown of glycogen to glucose in the liver
Indication:	Hypoglycemia When IV access attempts have been unsuccessful
Contraindications:	Allergy of hypersensitivity to glucagon
Onset	IM – 8-10 minutes
Dose	0.5 - 1 mg IM
Route	IM
Cautions:	Nausea or vomiting, hypokalemia, urticaria, respiratory distress, hypotension

Naloxone (Narcan)

Classification:	Narcotic antagonist
Mechanism:	Reverses the effects of opioids including respiratory depression, sedation, hypotension Antagonizes the opioid effects by competing for the same receptor sites.
Indication:	To reverse respiratory depression/depressed mental status secondary to actual or suspected narcotic use.
Contraindications:	Allergy or known hypersensitivity
Onset	IV – 1 minute, IM 3-5 minutes
Dose	0.4mg, 0.4mg, 0.8mg, 2.0mg
Route	IM, IV
Adverse Effects	Reversal of narcotic effect and combativeness Signs and symptoms of severe drug withdrawal Hypotension, hypertension Nausea, and vomiting, sweating, tachycardia
Cautions:	Patient combativeness May precipitate withdrawal symptoms

Nitroglycerin

Classification:	Antianginal, vasodilator
Mechanism of Action	Reduces cardiac oxygen demand primarily by dilating blood vessels resulting in decreased blood flow (preload) to the heart from the body, decreased resistance to the heart's pumping (after load). Dilation of coronary arteries results in increased blood flow to cardiac tissue.
Indications:	Chest discomfort that appears cardiac in nature. • HR >50 and <150 • Nitroglycerin may be administered in patients without nitro prescriptions after mandatory consultation with medical oversight.
Contraindications:	• Systolic BP < 110 mmHg, known allergy or sensitivity to Nitrates, and if patient has used Viagra or Levitra in the past 24 hours or Cialis in the last 48 hours.
Onset, Dose, Route:	Rapid onset via sublingual route (60 seconds) with 30-minute duration. Dose depends on strength of patient's prescription. EMAs are to give one dose (q 3 min) provided systolic blood pressure remains > 110 .
Metabolism:	Rapidly metabolised in the body by the liver and excreted by the kidneys.
Adverse Effects:	• Induces hypotension, dizziness, weakness, headache, nausea, and vomiting
Cautions:	• Hypotension frequently occurs, especially in the elderly and must be expected. Ensure patient is not at risk to fall. • Repeat vitals and drug until pain is relieved, to a maximum of 3 doses in any 30-minute period (providing the systolic BP remains > 110; irrespective of any Nitro taken by the patient prior to your arrival). • The patient has used Viagra at any time in the past, (beyond the 24-hour contraindication limit) there may be some cause for very careful monitoring of the patient's blood pressure.
Notes:	If using Nitro spray, do not shake the container prior to administration. Nitroglycerin comes in forms other than spray and/or tablet, none of which are approved for EMA use. If your patient has a Nitro patch applied, it does not change the Nitroglycerin protocol. If you have given Nitro and are now using Entonox, if hospital arrival is not imminent 20 min following your last Nitro, discontinue Entonox, resume high flow O_2 and administer additional Nitro as per protocol. If pain is completely relieved for more than 5 min, you may initiate the chest pain protocol again if the pain returns. This is considered a new episode and Nitro can be given. This is applicable even if Nitro has already been administered for the initial episode.

Oral Glucose

Classification:	Caloric
Mechanism:	Absorbed into the bloodstream resulting in increased blood glucose levels, thereby providing an increased level of glucose for use by cells.
Indications:	Oral Glucose gel is indicated for a patient with a known diabetic history and a BGL of < 4
Contraindications:	Only if patient is able to maintain their airway
Onset, Dose, Route:	EMAs administer one half of the package (approx. 12 g) prior to transport.
Metabolism:	Glucose enters cells where it is used to provide energy. It is oxidized (broken down) into carbon dioxide and water and excreted through the lungs and kidneys.
Adverse Effects:	May increase airway management problems
Cautions:	Patient must be able to maintain their own airway.
Note:	There are several different brands of oral Glucose containing 38 grams 40% dextrose in a 32 ml pouch.

Salbutamol

Classification:	Bronchodilator Sympathomimetic
Mechanism:	Selective β2 stimulation resulting in bronchodilation and some degree of vasodilation Some β 1 effects with repeated doses.
Indication:	• Bronchospasm associated with asthma, bronchitis, or emphysema. • Bronchospasm and wheezing secondary to other causes, such as anaphylaxis
Contraindications:	• Known hypersensitivity or allergy to Salbutamol • Hemodynamically significant tachyarrhythmias
Onset	5 minutes
Dose	Nebulize Age >1 year:5 mg Age < 1 year: 2.5 mg MDI: Adult: 4 x 100 mcg via metered dose inhaler; repeat as required Paediatrics: < 10 kg: not indicated 10-20 kg: 5 x 100 mcg per course; may repeat up to 3 times > 20 kg: 10 x 100 mcg per course; may repeat up to 3 times
Route	Nebulized, Metered Dose Inhalers (MDI)
Cautions:	Coronary disease COPD patients with degenerative heart disease Diabetes

Tranexamic Acid

Classification:	Hemostatic agent/Antifibrinolytic Agent
Mechanism:	Prevents clot degradation by competing for TPA receptor sites
Indication:	• Major trauma patients after initiation of the hypovolemia protocol • Signs of shock in association with mechanism of injury or physical findings suggestive of occult or ongoing bleeding
Contraindications:	• Known hypersensitivity or allergy to TXA • If time is greater than 3 hours after injury • Patient < 12 years • Isolated TBIs
Medical oversight consult required	• Epistaxis • Post partum hemorrhage
Onset	Immediate
Dose	2gram – 2000 mg
Route	TXA – Deliver 2 gram (2000 mg) IV push over 1 minute
Cautions:	Further hypotension if administered too quickly

EMA Licensing Board Examinations

The EMA Licensing Board (Board) licenses candidates that have completed a training program recognized by the Board and passed the examinations approved by the Board. The Board also licenses applicants licensed in jurisdictions outside of British Columbia (BC) and may require an applicant to complete an examination when the Board determines that the applicant's qualifications, examinations, or training required for their authorization to practice in the other jurisdiction are not equivalent to those required in BC for the category of licence sought. In addition, the Board may require that a former EMA successfully complete examinations to have a licence suspension removed or a licence reinstated.

The purpose of the examination process is to ensure that candidates possess the necessary knowledge, abilities, skills, aptitudes, and judgements for entry to practice into the paramedic and first responder professions in BC.

Candidates have **three attempts** to successfully complete each of the required examinations. Candidates that are unsuccessful at the examinations after three attempts are required to submit proof of successful completion of a new recognized training program to be eligible to begin the exam process again.
If candidate has failed the practical exams 3 times and taken a new program, they can be exempt from the written and/or jurisprudence exam under the following circumstances:

- The candidate has completed the written and/or jurisprudence exams within 6 months of successfully completing the new training program, and
- The candidate received 85% or higher on their first attempt at the written and/or jurisprudence exams.

Practical Examination Grading Criteria

The evaluations use a percentage-based marking criterion to evaluate candidate performance. Candidates enter each practical evaluation with 100%. The deductions are taken from each component or criterion where deficiencies are noticed and documented. Criteria are weighted according to both the severity and relevance of their impact in the scenario and 70% is required to pass. The full grading criteria can be found here.

The criteria are grouped into 3 categories.

Major Deficiency***

- Failing to perform a skill or task when indicated by patient presentation.
- Failing to meet the standards required for the skill.
- Performing an indicated skill or task with multiple or gross errors regardless of the outcome to patient care.
- Performing a non-indicated skill to the detriment of patient care either directly or by cause of delay.
- Incorrect sequencing of skills or tasks resulting in detriment to patient care.

Moderate Deficiency**

- Performing an indicated skill or task with single or minor errors with the potential to be detrimental to patient care.
- Performing a non-indicated skill with the potential to be detrimental to patient care either directly or by delay.
- Incorrect sequencing of skills or tasks not resulting in detriment to patient care.
- Performing skills or tasks detrimental to staff, patient, and other safety but without detriment to patient care.
- Failure to provide critical information in a record or report.

Minor Deficiency*

- Performing an indicated skill or task appropriately but with insufficient evidence to justify the action.
- Performing a skill or task with single or minor errors without detriment to patient care.
- Failure to provide non-critical but pertinent information in a record or report.

Practical Exam Reviews

A candidate may request **one** clinical review of their practical exam results within 5 days of the exam date, requests for a review that are received more than 5 days after the exam date **will not** be accepted.

The request must be submitted via the Request for Practical Exam Review form. The form must include all pertinent details of the grounds on which the candidate is appealing. The candidate will be informed of the results of the review within 2 weeks of submission. All reviews are final and multiple reviews are not permitted.

If the candidate still believes the EMA Licensing Branch/Board response is unfair, unreasonable, or inconsistent with relevant policy, procedures or legislation, you may wish to raise your concerns with the Office of the Ombudsperson. The Ombudsperson is an independent Officer of the B.C. Legislature who impartially investigates complaints from the public to ensure people are treated fairly in the delivery of government services.

For more information, visit their website www.bcombudsperson.ca or call 1-800-567-3247.

Written Exam Reviews

If a candidate has been unsuccessful twice at the EMALB online written examination, they may request feedback by contacting getanexam@gov.bc.ca.

Exam Accommodations

Online Examinations

Candidates with protected characteristics (e.g., disability, family status, religion) are entitled under provincial human rights legislation to reasonable accommodation in testing arrangements that provide for fair and valid assessment. EMALB will consider accommodation requests for online examinations while ensuring the integrity of the examination and ensuring that the examination tests the required competencies; that is, the knowledge, skills, abilities, attitudes, and judgments required for the safe and effective practice of an entry level primary or advanced care paramedics.

To be granted an accommodation for the online examinations, the application must submit a doctor's note or and Individualized Education Plan (IEP) that clearly state what accommodations are required.

Candidates are responsible for all costs associated with obtaining documentation to support the request for accommodation.

Practical Examinations

There are no accommodations available for practical examinations. Candidates must be able to perform the required skills.

EMR Examination Requirements

Jurisprudence Examination

All licensing candidates at the EMR, PCP, ITT, ACP, or CCP level are required to successfully complete the jurisprudence examination. The jurisprudence examination consists of 25 questions and there is no time limit to complete. 80% is required to pass.

The jurisprudence examination consists of multiple choice and true false questions.

When you have completed your examination, you will receive your mark. In the interest of examination security, you **will not** be able to view the full examination once it has been completed. If you are unsuccessful on your first attempt, you may re-attempt the exam at any time. If you are unsuccessful on your second attempt, you will be required to wait **5 days** before attempting the exam for a third and final time.

Written Examination

Board approved written examinations for EMRs are administered by the EMA Licensing Branch.

EMRs that are trained in BC and applying for initial licensure are required to successfully complete the online written examination. The EMR written examination consists of 200 questions with 2.5 hours to complete. 75% is required to pass.

EMRs applying for licence reinstatement or applying from out of country may also be required to successfully complete the online written examination.

When you have completed your examination, your results will be available immediately. In the interest of examination security, you **will not** be able to view the full examination once it has been completed. If you are unsuccessful on your first attempt, a remedial exam you may re-attempt the exam after **2 days**. If you are unsuccessful on your second attempt, you may re-attempt the exam after **5 days**.

Practical Examination

IMPORTANT: EMR practical examinations will not be scheduled until after both the online written and jurisprudence exams have been successfully completed.

EMR candidates are required to successfully complete two practical scenarios, which consist of one medical and one trauma call.

When a candidate is unsuccessful in a practical scenario, remedial exams are assigned as follows:

When an EMR candidate fails:	The EMR candidate is assigned:
• a practical medical scenario	➢ another medical scenario if the candidate scores less than 70% on the scenario
• a practical trauma scenario	➢ another trauma scenario if the candidate scores less than 70% on the scenario

Scheduling EMR Examinations

1. Submit electronically the Request for Evaluation form to register for exams and choose your preferred practical exam location.
2. Contact your training provider and ensure they have your consent to send your certificate to getanexam@gov.bc.ca.
3. Obtain a BCeID. **Please use only lowercase characters in your BCeID username.** (If you already have a BCeID and password you may skip this step).
4. Please use your BCeID username and password to create a new account in the online learning system (it may take up to 2 weeks to be granted access).
5. Read the BC provincial examination guidelines for PCPs and EMRs and the Applicant Guide to the B.C. Jurisprudence Examination.
6. Successfully complete both the EMR written and jurisprudence exams online.
7. Once your online exams have been successfully completed the branch will schedule your practical examination.

PCP Examination Requirements

Jurisprudence Examination

All licensing candidates are required to successfully complete the jurisprudence examination. The jurisprudence examination consists of 100 questions and there is no time limit to complete. 80% is required to pass.

The jurisprudence examination consists of:

- multiple choice questions and True/False (98 marks).
- 2 matching questions (40 marks). Between the two matching questions there are 40 items to match.
- 2 matching questions (18 marks). Between the two matching questions there are 18 items to match

When you have completed your examination, you will receive your mark. In the interest of examination security, you **will not** be able to view the full examination once it has been completed. If you are unsuccessful on your first attempt, you may re-attempt the exam at any time. If you are unsuccessful on your second attempt, you will be required to wait **5 days** before attempting the exam for a third and final time.

Written Examination

Board approved written examinations for PCPs are administered by the Canadian Organization of Paramedic Regulators (COPR).

PCPs that are trained in BC and applying for initial licensure are required to successfully complete the COPR entry to practice written examination.

PCPs that are applying from out of country may also be required by the Board to complete the entry to practice examination provided by COPR as part of the licensure requirements. Please click **here** for the full COPR exam schedule

The COPR entry to practice examination is developed and assembled according to the examination blueprint. The examination handbook and study guide are available on the COPR exam page. In addition, COPR offers preparatory tests that are designed to simulate the actual entry to practice examinations on a smaller scale. The preparatory tests are available here.

COPR Written Examination and Preparatory fees are established by, and payable to, COPR.

Candidates that require special accommodation for the COPR entry to practice examination should read the Entry to Practice Examinations Testing Accommodation Policy.

Practical Examination

PCP candidates are required to successfully complete two practical scenarios, which consist of one medical and one trauma call.

When a candidate is unsuccessful in a practical scenario, remedial exams are assigned as follows:

When an PCP candidate fails:	The PCP candidate is assigned:
• a practical medical scenario	➢ another medical scenario if the candidate scores less than 70% on the scenario
• a practical trauma scenario	➢ another trauma scenario if the candidate fails if the candidate scores less than 70% on the scenario

Scheduling PCP Examinations

Registration for PCP examinations is done through COPR and EMALB separately, please read the instructions below carefully to ensure that you register for all your examinations.

Entry to Practice Written Examination (COPR)

Registration for the COPR entry to practice examination is done through the COPR application portal on their website. Review the COPR website for the following and register for your entry to practice exam:

1. Read the Entry to Practice Examinations Handbook
2. Read the Guidelines Regarding Special Accommodation for Candidates with Disabilities
3. Read the COPR Examination Study Guide
4. Register for the COPR entry to practice exam

Practical and Jurisprudence Examinations (EMALB)

1. Read the Board examination policies
2. Contact your training provider and ensure they have your consent to send your certificate to getanexam@gov.bc.ca
3. Submit electronically the Request for Evaluation form
4. Obtain a BCeID. **Please use only lowercase characters in your BCeID username.** (If you already have a BCeID and password you may skip this step)
5. Please use your BCeID username and password to create a new account in the online learning system (it may take up to 2 weeks to be granted access)
6. Review the Applicant Guide to the B.C. Jurisprudence Examination

Applying for a Licence

Licence Fees

Payment of the licence fees as set out in the Emergency Health Services Regulations is required to obtain your licence. Licence fees are required when you have successfully completed all examinations but can be paid at any time throughout the application process. To speed up the licensing process, you may also complete all the licensing requirements at any time during your evaluation process. You may request a refund in writing for any licence fees you submit if you are unsuccessful in the evaluation process.

Licence Category	Licence Fee (if written examination is required)	Licence Fee (if practical examination is required)	Licence Fee (if both written and practical examinations are required)	Licence Renewal Fee
Emergency Medical Responder	$ 50.00	$ 400.00	$ 450.00	$ 50.00
Primary Care Paramedic	$ 50.00	$ 400.00	$ 450.00	$ 50.00
Advanced Care Paramedic	$ 50.00	$ 500.00	$ 550.00	$ 50.00
Critical Care Paramedic	no fee	no fee	no fee	$ 50.00
Infant Transport Team	no fee	no fee	no fee	$ 50.00

There are no licence fees associated with emergency medical assistant first responder licensing, student licensing, or initial licensing for applicants transferring from another province.

How to Pay your Licence Fees

Licence fees can be paid using the following methods:

- Visa, Visa Debit, MasterCard, or American Express
  - at the time you complete the Application for Licence form, or
  - by completing the EMA Licence Payment form at any time
- Cheque or Money order made payable to the Minister of Finance, including your full name, licence level and current mailing address.

Regular mail to:
Emergency Medical Assistants Licensing Branch
Ministry of Health
PO Box 9625 Stn Prov Govt
Victoria BC V8W 9P1

Or courier to:
EMA Licensing Branch
Ministry of Health
1515 Blanshard Street, 1st Floor
Victoria BC V8W 3C8

Licence Applications

Emergency medical responder and primary care paramedic licenses are valid for five years and require yearly continuing competence submissions.

You are eligible for a licence when you have successfully completed all exams for your licence level.

To apply for your licence, follow these steps:

1. Complete and electronically submit an Application for Licence.
2. Pay the applicable fees (see above).

EMA Licensing Board Examination Policies

BC Provincial Examination Guidelines for PCPs and EMRs

EMALB 2011-01 Candidate Code of Conduct (PDF, 287KB)

EMALB 2012-02 Failure to Attend and Late Cancellation of Examinations (PDF, 286KB)

EMALB 2013-04 Special and Remote Sessions (PDF, 283KB)

EMALB 2016-15 EMA First Responder Licensing Examinations – Roles for Proctors and Examiners (PDF 487KB)

EMALB 2018-03 Examination Order Requirements for Emergency Medical Responders (PDF 138KB)

EMA Licensing Board Policy Page

Change Index

Date	Author	Details
2020-01-24	Kfiege	Updated footnote 9 to “Cool major burns for a total of 2 minutes on scene, transport and continue cooling enroute” instead of “Cool all burns 1- 2 minutes.”
2020-01-24	Kfiege	Removed stray Asterix on chart
2020-01-24	Kfiege	Revised date removed from footer. All revisions and dates will be noted in the change index.
2020-01-24	Kfiege	Removed “dry” reference from the stable patient findings
2020-01-24	Kfiege	Added missing word “airway” at the end of the last bullet.
2020-01-24	kfiege	added bullet under advanced airway " it is acceptable to perform continuous compressions when an advanced airway is in place.
2020-01-24	Kfiege	Updated footnote font size and color for consistency.
2020-03-17	Kfiege	Added missing sections on grading criteria, star weighting, exam appeals and exam reviews.
2020-04-16	Kfiege	Added policy - EMALB2012-02 Failure to Attend or Late Notice of Cancellation
2020-04-16	Kfiege	Updated EMR remedial exam table to remove skill tests as a remedial exam option
2020-05-22	CColeman	Changed maintenance rate to 75ml/hr
2020-05--29	CColeman	Updated charts and footnotes
2020-06-02	CColeman	Add footnote #46"to administer oral glucose" under no IV acess part
2020-05-29	Kfiege	Updated star rating chart
2020-06-02	Kfiege	Corrected current to date
2020-06-12	Kfiege	Updated link to request for evaluation form
2020-06-16	CColeman	BGL Not greater than 4
2020-06-18	kfiege	Updated EMR exam info for new exam
2020-07-07	Kfiege	Updated EMR written exam – number of questions
2020-07-28	CColeman	TXA - Changed to ≥ 12 years in document and drug monograph
2020-08-26	CColeman	Added note to ASA drug monograph to clarify when to administer
2020-09-22	KFiege	Updated information regarding written exam feedback for EMALB online exams.
2020-10-22	KFiege	Added requirement for practical exam reviews to be submitted within 7 days of their practical exam.
2020-12-10	Kfiege	Added link to new request for exam review form
2020-12-22	Kfiege	Removed 2020 COPR exam dates
2021-01-08	kfiege	Updated link to COPR website
2021-01-08	kfiege	Updated link to COPR testing accommodation policy

2021-03-17	kfiege	Removed time limit for jurisprudence exam.
2021-03-17	kfiege	Decreased passing grade for EMR written to 75% (from 80%) and increased the time allotted to 2.5 hours (from 2 hours)
2021-10-14	Kfiege	Updated PCP exam scheduling instructions to include the instructions for the COPR portal. EMALB will no longer be scheduling the written exam for PCPs.
2022-06-23	AChayba	2.3. Give analgesia if not contraindicated
2022-06-23	AChayba	• Raise stretcher head to 30 degrees
2022-06-23	AChayba	Change Min SpO2 to 94% from 95%
2022-06-23	AChayba	Hypothermia-defibrillate up to three times
2022-06-23	AChayba	Chg BP to 110 sys from 90 sys for NTG
2022-06-23	AChayba	Added MDI option and dosing.
2022-06-23	AChayba	Addition or PEEP Valve
2022-06-23	AChayba	Addition of TBI guideline
2022-06-23	AChayba	Change specific vitals to signs of shock Changes 10cc IV push to 250ml infusion
2022-06-23	AChayba	Added Epi can be administered up to 3 times without medical consult
2022-06-23	AChayba	Marking criteria change, removed old
2022-07-26	Kfiege	Updated policy page to link to website policies to ensure most current policy is available
2022-07-27	AChayba	Changed BP to >110 SBP for no prescription.
2022-08-10	Kfiege	Updated information regarding examination reviews and accommodations.
2022-08-10	Kfiege/Achayba	Updated glucogel drug monograph
2022-08-10	Kfiege/Achayba	Aligned all BGLs to <4.0
2022-08-11	Kfiege/AChayba	Added clarification on oxygen admin
2022-08-11	Kfiege/AChayba	Clarified adult vs pediatric
2022-09-06	KFiege/JHolt	Updated practical exams appeals process
2022-10-31	Kfiege	Updated how remedial exams are assigned for both EMR and PCP. Also updated the number of required practical exams for PCPs from 3 to 2.
2022-11-17	AChayba	Add pelvic binding
2022-11-17	AChayba	Add wound packing

2022-11-17	AChayba	Add pelvic binding
2022-11-17	AChayba	Update pelvic binding
2022-11-17	AChayba	Updated spinal immobilization
2022-11-17	AChayba	Updated TBI
2022-11-17	AChayba	Add pelvic binding
2022-11-17	AChayba	Add PEPP and CPAP
2022-11-17	AChayba	Add PEPP and CPAP
2022-11-17	AChayba	Update CPR/AED
2022-11-17	AChayba	Addition of TXA recommendation
2022-11-17	Achayba	Moved transport ahead of Diphenhydramine. Addition of salbutamol
2022-11-17	AChayba	Updated contraindications
2022-11-17	AChayba	Change to doses
2022-11-17	AChayba	Include Epinephrine for severe bronchospasm
2022-11-17	AChayba	Included severe bronchospasm dosing
2022-11-17	AChayba	Update oral glucose contraindications. Addition of MDI doses and paediatric nebulizers Allow ASA to be given before or after vitals
2022-11-29	Kfiege	updated footnotes to show on both pages – removed reference to footnotes 48-49 on EMR page as they so not apply
2023-01-13	Kfiege	Removed COPR exam schedule
2023-01-13	AChayba	Addition of indications and contraindications for pelvic binding
2023-01-13	Kfiege	Added link to marking rubric
2023-01-23	AChayba	Corrected footnotes in regard to cold application
2023-01-23	AChayba	SP02 updated to reference to the correct greater/equal symbol
2023-01-23	AChayba	Corrected footnote regarding glucogel dose
2023-01-23	AChayba	Hip fracture dislocation clarified that is always RTC
2023-01-23	AChayba	Clarified that a pulse check is optional during analyze
2023-01-23	AChayba	Corrected spelling of analyze
2023-01-23	KFiege	Removed page numbers from index as page numbers from previous updates can change when page breaks change.
2023-03-09	Kfiege	Removed footnote for Entonox regarding inhalation (footnote redundant)
2023-10-11	Kfiege	Updated jurisprudence exam information

2023-10-11	AChayba	TXA dose and administration changed