Primary Care Paramedic

Pocket Reference Guide

2017 v. 4.0.1 and 4.1

Durham
Haliburton
Kawartha Lakes
Northumberland
Peterborough
York

CEPCP

This pocket reference guide has been formatted to align with the ALS PCS version 4.0.1 with an in force date of July 17th, 2017. This guide also contains the revised materials applicable to the ALS PCS version 4.1 with an in force date of December 11th, 2017. As always, this guide is intended to support the ALS PCS and is for reference only. Refer to the current medical directives for all treatment decisions. If there are inconsistencies between this reference guide and the current directives always refer to the medical directives.

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Patching

Primary Care Paramedics are required to **PATCH** to the Base Hospital Physician for the following:

Core Directives

- Medical Cardiac Arrest Directive: If considering a Medical TOR, **PATCH** after the 3rd rhythm interpretation
- Trauma Cardiac Arrest Directive: **PATCH** for authorization to apply the Trauma TOR if applicable

Auxiliary Directives

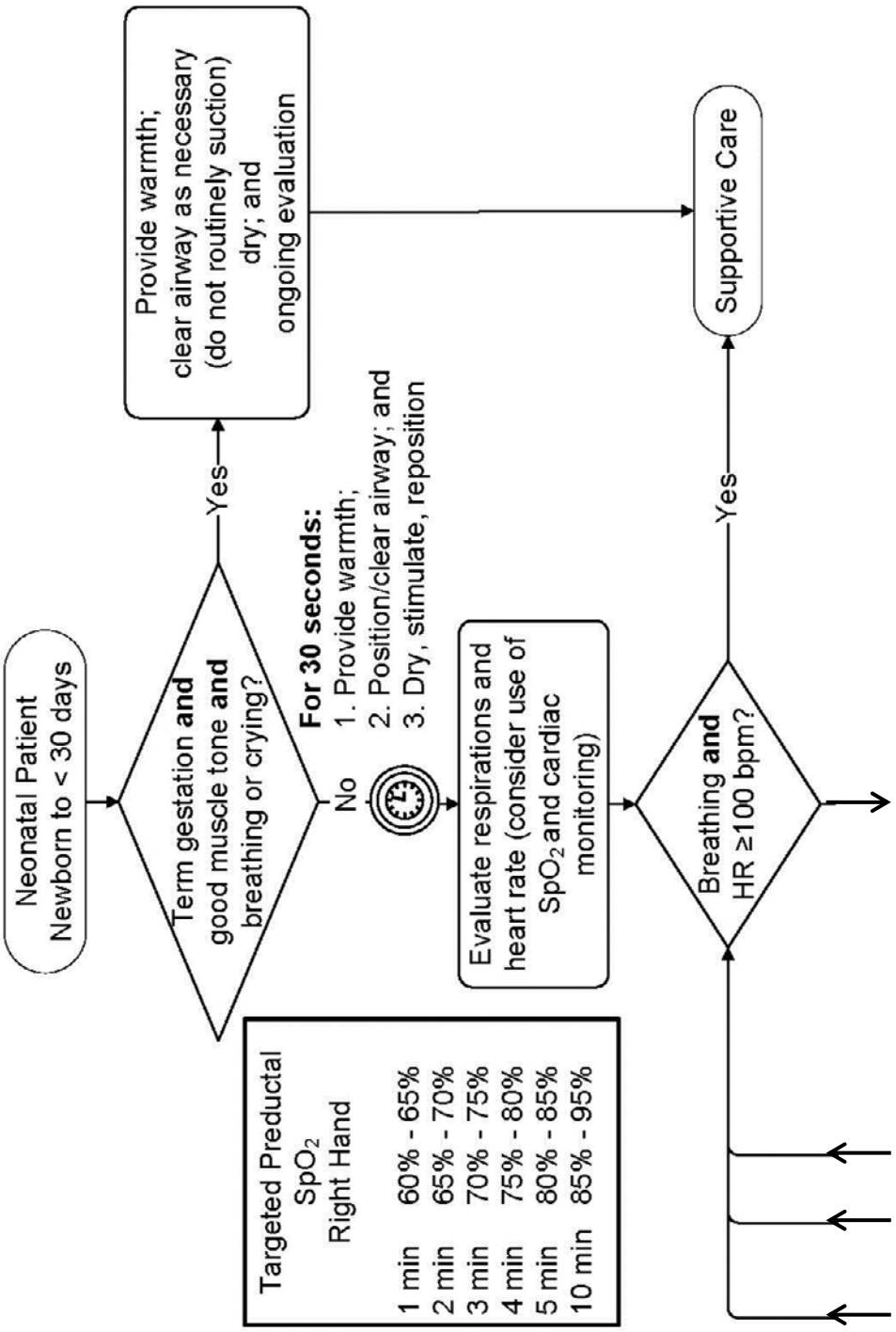
- Intravenous and Fluid Therapy Directive: **PATCH** for authorization to administer IV NaCl bolus to a hypotensive patient greater than or equal to 2 years of age and less than 12 years of age with suspected Diabetic Ketoacidosis (DKA)

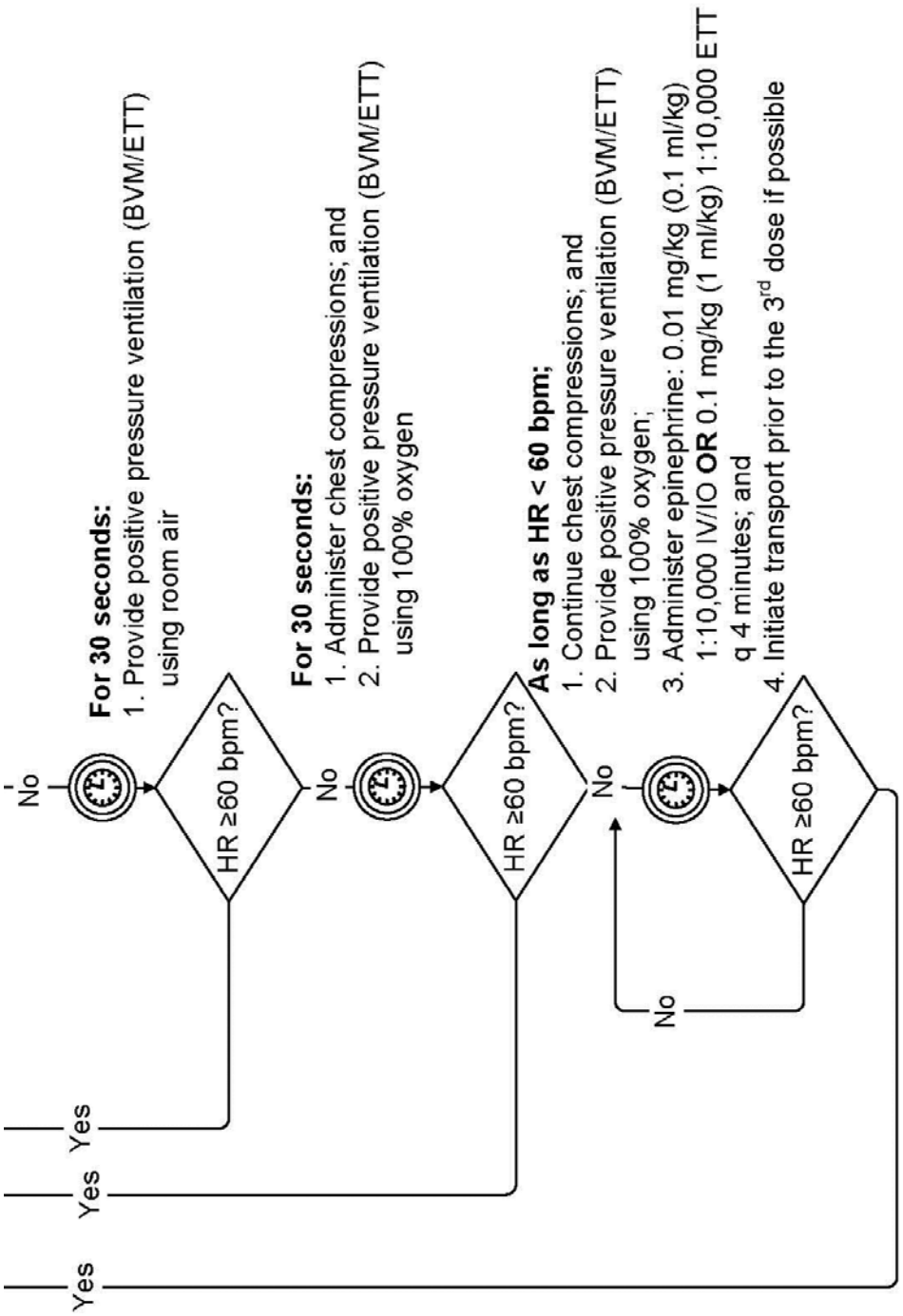
NOTE: A patch to the Base Hospital Physician may be made at any time to discuss patient care that does not fall within an existing medical directive but is within your scope of practice.

Patch failure: is defined as the inability to make contact with a BHP after reasonable attempts. This is to be documented on the ACR in the procedures section using the relevant codes. *If the failure resulted in a patient care issue, the Paramedic must contact CEPCP as soon as possible as well as document (with explanation) the failure on their ACR.*

Neonatal Resuscitation

Newborn less than 30 days




No
For 30 seconds:
1. Provide positive pressure ventilation (BVM/ETT) using room air
HR ≥60 bpm?
Yes
No
For 30 seconds:
1. Administer chest compressions; and
2. Provide positive pressure ventilation (BVM/ETT) using 100% oxygen
HR ≥60 bpm?
Yes
No
As long as HR < 60 bpm;
1. Continue chest compressions; and
2. Provide positive pressure ventilation (BVM/ETT) using 100% oxygen;
3. Administer epinephrine: 0.01 mg/kg (0.1 ml/kg) 1:10,000 IV/IO OR 0.1 mg/kg (1 ml/kg) 1:10,000 ETT q 4 minutes; and
4. Initiate transport prior to the 3rd dose if possible
HR ≥60 bpm?
No
Yes

Medical Cardiac Arrest

Indications

Non-traumatic cardiac arrest

Adult

- Interpret (and print) the rhythm every 2 min
- For Zoll and LP12 / LP15 use adult settings

Adult Doses

Medication	Initial Dose	Q	Repeat	Max
Epinephrine 1:1,000 - IM (for suspected anaphylaxis)	0.01 mg/kg max 0.5 mg	N/A	N/A	1 dose

BHP **PATCH** following the 3rd analysis/rhythm interpretation to consider a Medical TOR (if applicable)

Medical TOR

- ≥ 18 years
- Presumed cardiac origin
- Arrest not witnessed by EMS
- 3 rhythm interpretations with no shocks delivered
- No ROSC at any time

NOTE – a Heart rate of 60 or less in a child is an ominous finding and CPR is indicated if signs of poor perfusion are present.

Pediatric Doses

Medication	Initial Dose	Q	Repeat	Max
Epinephrine – IM (for suspected anaphylaxis)	0.01 mg/kg 1:1,000	N/A	N/A	N/A
Defibrillation ≥ 30 days to < 8 years	2 J/kg	2 min	4 J/kg	4

Notes:

King LT should be inserted where more than OPA/BVM is required, without interrupting CPR. Once inserted, begin continuous compressions and ventilate asynchronously at 1 breath every 6 – 8 seconds and monitor $ETCO_2$:

- 10 – 15 mmHg – poor prognosis, check quality of CPR and improve where possible
- 20 – 30 mmHg – improved prognosis, indicates good CPR quality
- > 35 mmHg – excellent CPR / prognosis, consider pulse check at next interpretation
- Large spike to above normal values – probable ROSC, consider pulse check at next interpretation

King LT Reference			
Size	**Colour**	**Patient**	**Amount of Air in Cuff**
#3	Yellow	4 – 5 ft tall	45 – 60 ml
#4	Red	5 – 6 ft tall	60 – 80 ml
#5	Purple	≥ 6 ft tall	70 – 90 ml

Confirmation Methods	Primary	Secondary
Confirm advanced (supraglottic) airway placement	• $ETCO_2$ (waveform capnography)	• $ETCO_2$ (non-waveform capnography) • Auscultation • Chest rise

Medical TOR Patch

"This is (your name) **a Primary Care Paramedic on vehicle** (number) **patching for a Termination of Resuscitation for a cardiac arrest."**

"Patient is a (age) **year old** (estimate if needed)**Gender** (male or female)

State the three TOR Guidelines :

- **we did not witness the arrest**
- **defibrillation has not been indicated, and**
- **there has been no return of a carotid pulse.**

Brief past medical history, history of current presentation

The patient was last seen at_____ And was at that time complaining of_____

The patient has a history of_____
My interpretation of the TOR guideline is that we could consider stopping resuscitation at this time.

Ask the BHP if further information is required?

Would you like any further clinical information?

_____

Questions that may be asked:

- Estimated number of minutes to the arrival on scene from the time you were notified.
- Whether or not the cardiac arrest was witnessed by a bystander
- Whether or not bystander CPR was done.
- Extrication problems, if any, that may delay initiating transport.
- Estimated number of minutes for ambulance transport to the receiving hospital.

Foreign Body Airway Obstruction Cardiac Arrest

Indications

Cardiac arrest secondary to an airway obstruction

Clinical Parameters

- Not obviously dead as per BLS standards
- No DNR

Interventions

Attempt to clear the airway with BLS maneuvers
Defibrillate once if the patient is in VF/pVT ≥ 30 days to < 8 years old - 2 joules / kg ≥ 8 years old – adult setting
If the obstruction cannot be removed, transport to the closest appropriate facility without delay following the first rhythm interpretation
If the patient is in cardiac arrest following removal of the obstruction, initiate management as a medical cardiac arrest

Hypothermia Cardiac Arrest

Indications

Cardiac arrest secondary to severe hypothermia

Clinical Parameters

- Not obviously dead as per BLS standards
- No DNR

Interventions

Defibrillate once if the patient is in VF/pVT

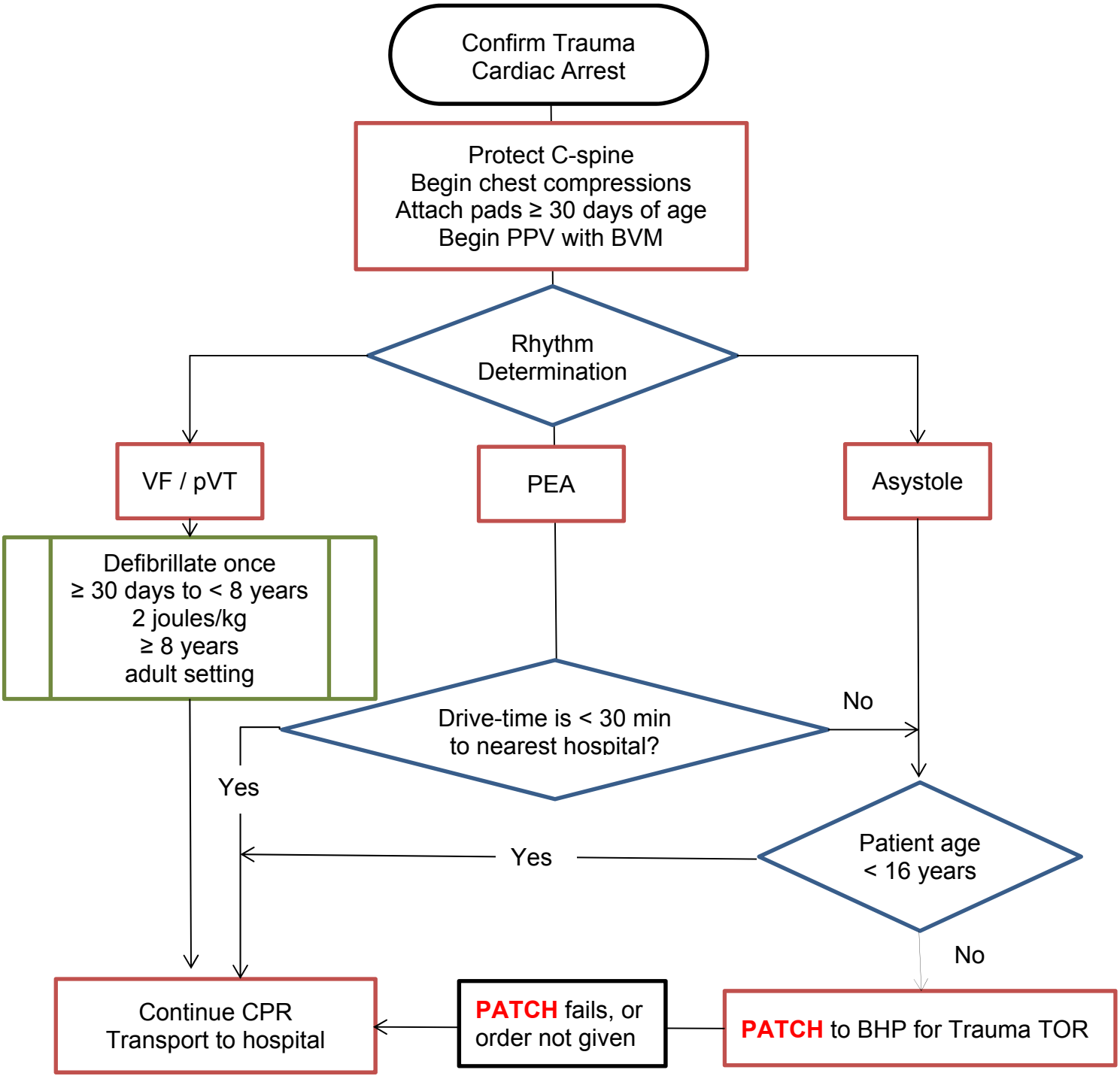
≥ 30 days to < 8 years old - 2 joules / kg

≥ 8 years old – adult settings

Transport to the closest appropriate facility without delay following the first rhythm interpretation

Trauma Cardiac Arrest

Indications
Cardiac arrest secondary to severe blunt or penetrating trauma



Return of Spontaneous Circulation (ROSC)

Indications

ROSC after resuscitation was initiated

Clinical Parameters

- Adult SBP < 90 mmHg
- Pediatric SBP < 70 mmHg + (2 x age in years)

Bolus: (ONLY if authorized in Autonomous IV)

- Clear chest / no fluid overload

Adult Doses (≥ 12 years of age)

Medication	Initial Dose	Q	Repeat	Max
Bolus IV only	10 ml/kg	Reassess every 250 ml	N/A	1,000 ml

Pediatric Doses (≥ 2 years)

Medication	Initial Dose	Q	Repeat	Max
Bolus IV only	10 ml/kg	Reassess every 100 ml	N/A	1,000 ml

Notes:

Titrate oxygenation to 94 to 98%

Avoid hyperventilation and target an $ETCO_2$ of 30 - 40 mmHg with continuous waveform capnography

Consider 12 lead ECG

Endotracheal and Tracheostomy Suctioning

Indications

Patient with an ETT or trach tube **AND**

The airway is obstructed or increased secretions are present

Clinical Parameters

- N/A

Suction

Patient	Initial Suction pressure	Q	Repeat	Max
Infant	60 – 100 mmHg	1 min	Same as initial	5 doses
Child	100 – 120 mmHg	1 min	Same as initial	5 doses
Adult	100 – 150 mmHg	1 min	Same as initial	5 doses

Notes:

Before each suctioning procedure, pre-oxygenate with 100% oxygen

Do not exceed 10 seconds duration of suction application

Supraglottic Airway

Indications

Need for ventilatory assistance **OR** airway control **AND**

Other airway management is ineffective

Clinical Parameters

- Patient in cardiac arrest
- Able to clear the airway (with suctioning etc.)
- No active vomiting
- No airway edema
- No stridor
- No caustic ingestion

Confirmation Methods	Primary	Secondary
Confirm advanced (supraglottic) airway placement	• $ETCO_2$ (waveform capnography)	• $ETCO_2$ (non-waveform capnography) • Auscultation • Chest rise

Notes:

Maximum number of supraglottic attempts is two

An attempt is defined as the insertion of the supraglottic airway into the mouth

Must use $ETCO_2$ (waveform capnography) or at least 2 secondary methods

King LT Reference

Size	Colour	Patient	Amount of Air in Cuff
#3	Yellow	4 – 5 ft tall	45 – 60 ml
#4	Red	5 – 6 ft tall	60 – 80 ml
#5	Purple	≥ 6 ft tall	70 – 90 ml

Bronchoconstriction

Indications

Respiratory distress **AND**

Suspected bronchoconstriction

Clinical Parameters

- No allergy or sensitivity to any medication considered

Salbutamol:

- Patient does not have an actual or suspected fever and there is not a declared FRI outbreak for nebulization administration

Epinephrine:

- BVM ventilation is required
- Must have a history of asthma

Adult Doses

Medication	Initial Dose	Q	Repeat	Max
Salbutamol MDI ≥ 25 kg	800 mcg (8 puffs)	5-15 min	800 mcg	3 doses
Salbutamol Nebulized ≥ 25 kg	5 mg	5-15 min	5 mg	3 doses
Epinephrine 1:1,000 IM	0.01 mg/kg to a maximum of 0.5 mg	N/A	N/A	1 dose

Pediatric Doses

Medication	Initial Dose	Q	Repeat	Max
Salbutamol MDI < 25 kg	600 mcg	5-15 min	600 mcg	3 doses
Salbutamol Nebulized < 25 kg	2.5 mg	5-15 min	2.5 mg	3 doses
Epinephrine IM	0.01 mg/kg to a maximum of 0.5 mg	N/A	N/A	1 dose

Notes:

Epinephrine should be the first medication administered if the patient is apneic

Salbutamol MDI may be administered subsequently using a BVM MDI adapter (if available)

Nebulization is contraindicated in patients with a known or suspected fever or in the setting of a declared febrile respiratory illness outbreak by the local medical officer of health

When administering Salbutamol MDI, the rate of administration should be 100 mcg approximately every 4 breaths

A spacer should be used when administering Salbutamol MDI (if available)

Continuous Positive Airway Pressure (CPAP)

Indications

Severe respiratory distress **AND**

Signs and/or symptoms of acute pulmonary edema **OR** COPD exacerbation

Clinical Parameters

- Respiratory rate ≥ 28 breaths/minute
- SpO_2 < 90% OR accessory muscle use
- SBP ≥ 100
- Able to sit upright and cooperate
- Not asthma exacerbation
- Stable or protected airway
- Not suspected pneumothorax
- No major trauma or burns to the head or torso
- No tracheostomy

Adult Doses (≥ 18 years of age)

Start at	Increase by	Q	Max
5 cm H_2O	2.5 cm H_2O	5 min	15 cm H_2O

If the device has adjustable FiO_2, start at the lower setting and only increase if SpO_2 remains < 92% despite treatment and/or CPAP pressure of 10 cmH_2O

Notes:

N/A

Croup

Indications

Severe respiratory distress **AND**

Stridor at rest **AND**

Current history of URTI **AND**

Barking cough or recent history of a barking cough

Clinical Parameters

- < 8 years old
- No allergy or sensitivity to Epinephrine
- Heart rate less than 200 bpm

Pediatric Doses

Medication	Initial Dose	Q	Repeat	Max
Epinephrine 1:1,000 ≥ 1 year old	5.0 mg (5 ml)	N/A	N/A	1 dose
Epinephrine 1:1,000 < 1 year old AND ≥ 5 kg or more	2.5 mg (2.5 ml)	N/A	N/A	1 dose
Epinephrine 1:1,000 < 1 year old AND < 5 kg	0.5 mg (mix with 2 ml of saline to make 2.5 ml)	N/A	N/A	1 dose

Notes:

The minimum initial volume for nebulization is 2.5 ml

Opioid Toxicity

Indications

Altered LOC **AND**
Respiratory depression **AND**
Inability to adequately ventilate **AND**
Suspected opioid overdose

Clinical Parameters

- Respiratory rate < 10 breaths/min
- No allergy or sensitivity to Naloxone
- No uncorrected hypoglycemia

Adult Doses (≥ 18 yrs of age)

Medication	Initial Dose	Q	Repeat	Max
Naloxone SC / IM / IN	0.8 mg	10 min	0.8 mg	3 doses
Naloxone IV*	Up to 0.4 mg	immediate	Up to 0.4 mg	3 doses

Notes:

*For IV route, consider diluting the medication for more accurate dose control and titrate naloxone only to restore the patient's respiratory status

The IV condition only applies to PCPs authorized in Autonomous IV

Where possible, account for 0.12 ml dead space in the intranasal (IN) device for more accurate dosing (ensure the correct amount and volume remain in the syringe after zeroing the MAD adapter)
Opioid power comparison where Morphine is assigned a strength of 1:
Codeine 0.1, Hydromorphone 10; Fentanyl 100, Carfentanil 10.000

Opioid Toxicity typically presents with:

- Decreased LOA
- Slow respirations
- Pinpoint pupils

Some Common Opioids:

Morphine	Percodan
MS Contin	Oxycocet
Statex	Oxycontin
Hydromorphone	Tylenol #1, #2, #3
Fentanyl	Heroin
Percocet	Codeine

IV and Fluid Therapy

(ONLY if authorized in Autonomous IV)

Indications

Actual or potential need for IV medication **OR** fluid therapy

Clinical Parameters

≥ 2 years old

Cannulation:

- No fracture proximal to IV insertion site

Bolus:

- No signs of fluid overload
- Adult SBP < 90 mmHg
- Pediatric SBP < 70 mmHg + (2 x age in years)

Adult Doses (≥ 12 years of age)

Medication	Initial Dose	Q	Repeat	Max
TKVO IV	30 - 60 ml/hr	N/A	N/A	N/A
Bolus IV only	20 ml/kg	Reassess every 250 ml	N/A	2,000 ml

Pediatric Doses (≥ 2 years)

Medication	Initial Dose	Q	Repeat	Max
TKVO IV	15 ml/hr	N/A	N/A	N/A
Bolus IV only	20 ml/kg	Reassess every 100 ml	N/A	2,000 ml

Notes:

PATCH to the BHP for authorization to administer IV NaCl bolus to a hypotensive patient greater than or equal to 2 years of age and less than 12 years of age with suspected Diabetic Ketoacidosis (DKA)

Cardiac Ischemia

Indications

Suspected cardiac ischemia

Clinical Parameters

- No allergies or sensitivity to medication considered
- Unaltered LOA

Nitroglycerin:

- Prior Nitroglycerin use and/or IV established
- HR 60 – 159 bpm
- SBP ≥ 100 mmHg. Discontinue if SBP drops more than 1/3 of the initial reading
- No *phosphodiesterase inhibitor in past 48 hrs
- No right ventricular MI

ASA:

- Able to chew and swallow
- Prior use of ASA if asthmatic
- No allergy to ASA or NSAIDs
- No current active bleeding
- No CVA or TBI in past 24 hrs

Adult Doses (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Nitroglycerin (non-STEMI)	0.4 mg S/L	5 min	0.4 mg	6 doses
Nitroglycerin (STEMI)	0.4 mg S/L	5 min	0.4 mg	3 doses
ASA	160-162 mg PO	N/A	N/A	160 - 162 mg

Notes:

Perform 12 lead prior to NTG administration and a 15 lead (V4R) if ST elevation is present in the inferior leads (two or more of II, III and aVF)

The IV condition only applies to PCPs authorized in Autonomous IV

*Phosphodiesterase inhibitors (including but not limited to):

- **Sildenafil: Viagra, Revatio** (for pulmonary hypertension)
- **Tadalafil: Cialis, Adcirca** (for pulmonary hypertension)
- **Vardenafil: Levitra, Stazyn**

Notes:

A 15 lead ECG should be obtained:

- When a 12 lead shows an inferior wall MI (assess V4R)
- When there is ST depression in V1-V4 (assess V8 and V9)
- When the 12 lead is normal but the patient is exhibiting signs or symptoms of cardiac ischemia (assess V8 and V9)

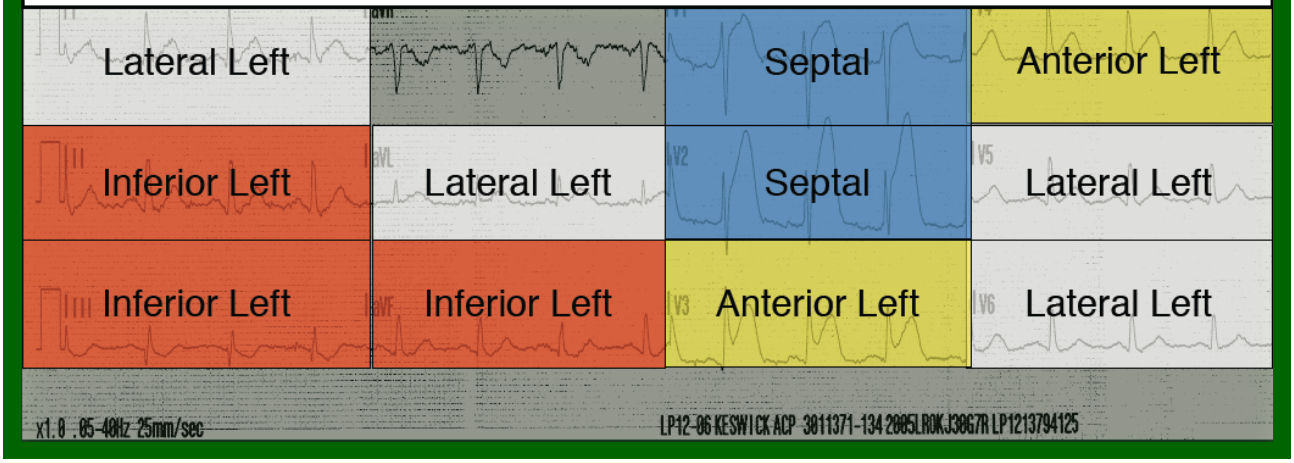
V4R

- The V4R lead is obtained by moving V4 to the same location but on the right chest wall. (5th intercostal space, mid clavicular line)
- V4R is considered anatomically contiguous with II, III and aVF
- ST elevation in V4R indicates an infarct of the right ventricle and NTG is to be withheld

V8 and V9

- The V8 lead is obtained by moving V5 around to the posterior, left chest wall and placing it on the mid-scapular line just below the scapula
- The V9 lead is obtained by moving V6 around to the back and placing it between V5 and the vertebral column
- ST elevation in V8 and V9 indicates an infarct in the posterior wall of the left ventricle
- Infarcts in the posterior wall often show up as ST depression in leads V1-V4 or as a “normal” 12 lead

12 lead versus anatomical region

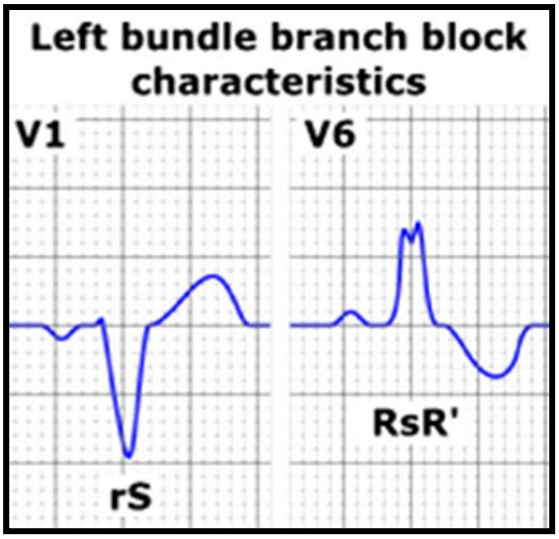


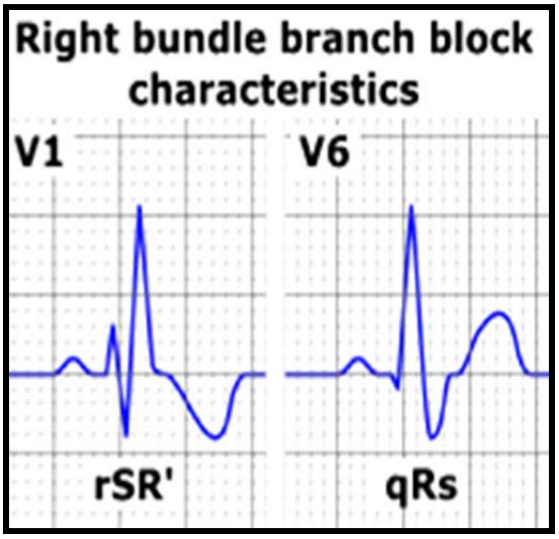
Common Imitators of MI's

Interpreting ST segment Δ's is not possible in the following rhythms (not a complete list – other imitators exist)

LBBB

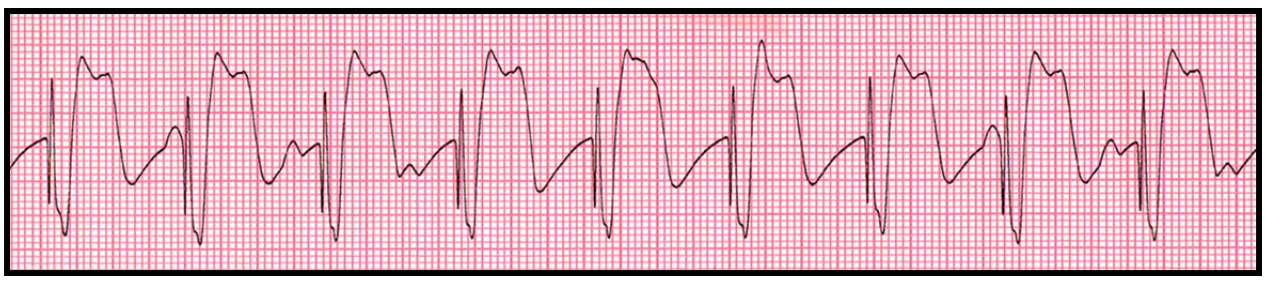
- Characterised by a supraventricular rhythm (identified by the presence of P waves and a 1:1 occurrence with QRS waves) & a wide (> 120 ms) QRS complex.
- A LBBB will have a -ve terminal deflection in V1 and typically a secondary R wave in V6 (seen as a notched complex seen as RsR' below). A STEMI cannot be determined in the field in the presence of a LBBB.
- A RBBB will have a +ve terminal deflection in V1 typically with a notched complex & a slurred or prolonged S wave in V6. A RBBB does not preclude the ability to interpret a STEMI in the field.





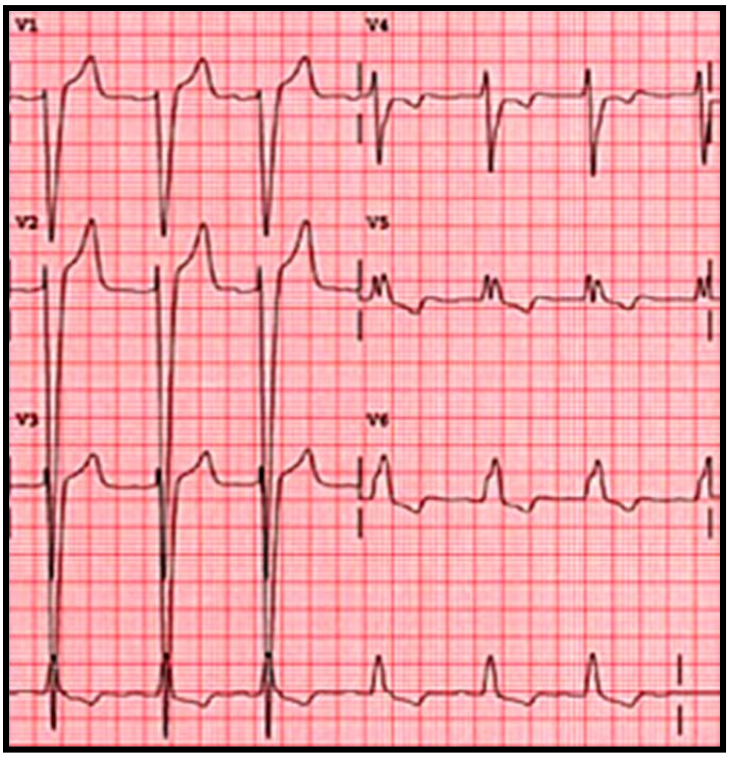
Ventricular Paced Rhythm

- A pacer spike is typically seen immediately preceding the QRS complex which will be wide.
- Pacer detect may need to be activated on the cardiac monitor
- Electrical capture is the presence of a QRS following the pacer spike.
- Mechanical capture is the presence of a pulse matching the electrical rate of the paced rhythm.



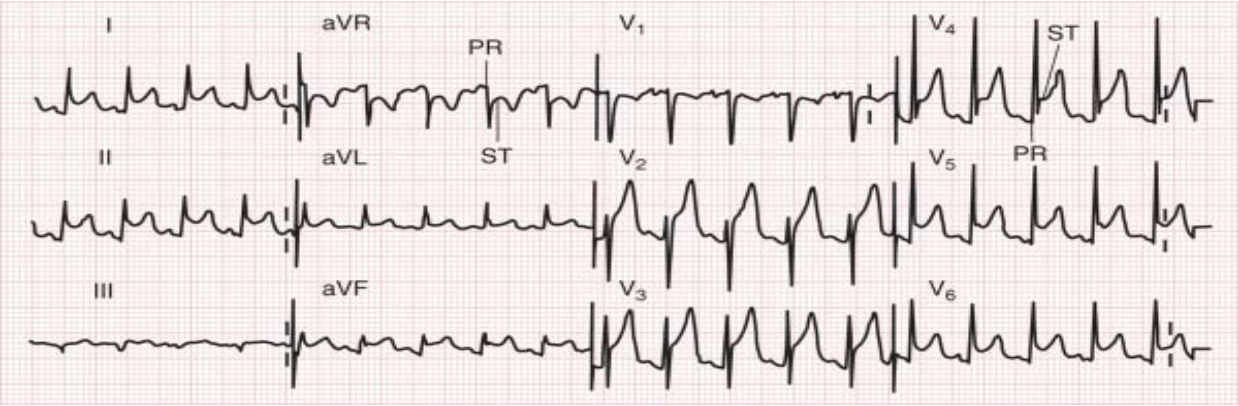
LVH (Left Ventricular Hypertrophy)

- Look at the RS complex in either V1 or V2 and count the small boxes of the -ve deflection
- Then do the same with either V5 or V6, counting the small boxes of the +ve deflection
- Add the two numbers together, if they equal ≥35 mm's then it's likely LVH
- A STEMI cannot be determined in the field in the presence of LVH



Pericarditis

- A condition in which inflammation of the pericardial sac produces electrical abnormalities in the 12 lead ECG
- Men aged 20 – 50 years of age are most susceptible
- Often produces "global" ST elevation, or elevation in leads that are not anatomically contiguous and that is not consistent with the patient's clinical presentation
- A STEMI cannot be determined in the field in the presence of pericarditis



Acute Cardiogenic Pulmonary Edema

Indications

Moderate to severe respiratory distress **AND**

Suspected acute cardiogenic pulmonary edema

Clinical Parameters	Vital Sign Parameters
• No allergy or sensitivity • No *phosphodiesterase inhibitors in the past 48 hours • If SBP < 140 mmHg, patient must have prior Nitroglycerin use or an IV established	• HR 60 – 159 bpm • SBP ≥ 100 mmHg • SBP drops no more than 1/3 of the initial reading

Adult Doses (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Nitroglycerin SBP 100 – 140 mmHg WITH an IV or History of use	0.4 mg S/L	5 min	0.4 mg	6 doses
Nitroglycerin SBP ≥ 140 mmHg and NO History or IV	0.4 mg S/L	5 min	0.4 mg	6 doses
Nitroglycerin SBP ≥ 140 mmHg WITH History or IV	0.8 mg S/L	5 min	0.8 mg	6 doses

Notes:

Consider 12 /15 lead

The IV condition only applies to PCPs authorized in Autonomous IV

*Phosphodiesterase inhibitors (including, but are not limited to):

- **Sildenafil: Viagra, Revatio** (for pulmonary hypertension)
- **Tadalafil: Cialis, Adcirca** (for pulmonary hypertension)
- **Vardenafil: Levitra, Stazyn**

Cardiogenic Shock

(ONLY if authorized in Autonomous IV)

Indications

STEMI positive **AND**

Cardiogenic Shock

Clinical Parameters

- SBP < 90 mmHg

Bolus:

- Clear Chest / no fluid overload

Adult Doses (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Bolus IV	10 ml/kg	Reassess every 250 ml	N/A	1,000 ml

Notes:

The IV condition only applies to PCPs authorized in Autonomous IV

Hypoglycemia

Indications

Agitation **OR** altered LOA **OR** seizure **OR** symptoms of stroke

Clinical Parameters	Vital Sign Parameters
• No allergy or sensitivity to any medication considered **Dextrose:** • N/A **Glucagon:** • No Pheochromocytoma	**Hypoglycemia:** ≥ 2 yrs < 4.0 mmol/L < 2 yrs < 3.0 mmol/L

Adult Doses

Medication		Initial Dose	Q	Repeat	Max
D10W	≥ 50 kg Dextrose IV	10 g (100 ml)	10 min	10 g	2 doses
D50W	≥ 50 kg Dextrose IV	25 g (50 ml)	10 min	25 g	2 doses
Glucagon IM ≥ 25 kg		1 mg	20 min	1 mg	2 doses

Pediatric Doses

Medication		Initial Dose	Q	Repeat	Max
D10W	≥ 2 yrs to < 50 kg Dextrose IV	2 ml/kg 0.2 g/kg Max 10 g (100 ml)	10 min	same as initial	2 doses
D50W	≥ 2 yrs to < 50 kg Dextrose IV	1 ml/kg 0.5 g/kg Max 25 g (50 ml)	10 min	same as initial	2 doses
Glucagon IM < 25 kg		0.5 mg	20 min	0.5 mg	2 doses

Notes:

If the patient responds to Dextrose or Glucagon, he/she may receive oral glucose or other simple carbohydrates

If only mild signs or symptoms are exhibited, the patient may receive oral glucose or other simple carbohydrates instead of Dextrose or Glucagon

If an IV is established after Glucagon is administered, reassess and consider glucometry and administering Dextrose IV immediately

The IV condition only applies to PCPs authorized in Autonomous IV

Dextrose 50% in Water Reference

Age	Weight kg	Blood Sugar mmol/L	Dextrose prep	Initial dose			Repeat dose(s)		
				Dose g/kg	Vol. ml/kg	Amt ml	Dose g/kg	Vol. ml/kg	Amt ml
≥ 2 years	**10**	< 4.0	D50W	0.5	1	10	0.5	1	10
	15				1	15		1	15
	20				1	20		1	20
	25				1	25		1	25
	30				1	30		1	30
	35				1	35		1	35
	40				1	40		1	40
	45				1	45		1	45
	>50				1	50		1	50

Moderate to Severe Allergic Reaction

Indications

Exposure to a probable allergen **AND**

Signs and/or symptoms of a moderate to severe allergic reaction (including anaphylaxis)

Clinical Parameters

- No allergy or sensitivity to any medication considered

Epinephrine:

- Use for anaphylaxis only

Diphenhydramine:

- Weight ≥ 25 kg

Adult Doses

Medication	Initial Dose	Q	Repeat	Max
Epinephrine 1:1,000 IM	0.01 mg/kg Max 0.5 mg	Minimum 5 min	same as initial	2 doses
Diphenhydramine IV / IM (IV ONLY if authorized in Autonomous IV)	50 mg if ≥ 50 kg 25 mg if 25-50 kg	N/A	N/A	1 dose

Pediatric Doses

Medication	Initial Dose	Q	Repeat	Max
Epinephrine IM	0.01 mg/kg Max 0.5 mg	Minimum 5 min	same as initial	2 doses
Diphenhydramine IV / IM (IV ONLY if authorized in Autonomous IV)	25 mg if 25-50 kg	N/A	N/A	1 dose

Notes:

Epinephrine should be the first medication administered in anaphylaxis

The Epinephrine dose may be rounded to the nearest 0.05 mg

Diphenhydramine is commonly referred to as Benadryl

Epinephrine 1:1,000 0.01 mg/kg – Rounded to the nearest 0.05 ml	
4 kg = 0.04 mg give 0.05 ml	28 kg = 0.28 mg give 0.3 ml
6 kg = 0.06 mg give 0.05 ml	30 kg = 0.3 mg give 0.3 ml
8 kg = 0.08 mg give 0.1 ml	32 kg = 0.32 mg give 0.3 ml
10 kg = 0.1 mg give 0.1 ml	34 kg = 0.34 mg give 0.35 ml
12 kg = 0.12 mg give 0.1 ml	36 kg = 0.36 mg give 0.35 ml
14 kg = 0.14 mg give 0.15 ml	38 kg = 0.38 mg give 0.4 ml
16 kg = 0.16 mg give 0.15 ml	40 kg = 0.4 mg give 0.4 ml
18 kg = 0.18 mg give 0.2 ml	42 kg = 0.42 mg give 0.4 ml
20 kg = 0.2 mg give 0.2 ml	44 kg = 0.44 mg give 0.45 ml
22 kg = 0.22 mg give 0.2 ml	46 kg = 0.46 mg give 0.45 ml
24 kg = 0.24 mg give 0.25 ml	48 kg = 0.48 mg give 0.5 ml
26 kg = 0.26 mg give 0.25 ml	50 kg = 0.5 mg give 0.5 ml

Nausea / Vomiting

Indications

Nausea and/or Vomiting

Clinical Parameters

- Unaltered LOA
- No allergies or sensitivity to Dimenhydrinate or other antihistamines
- Not overdosed on Antihistamines, Anticholinergics or Tricyclic Antidepressants

Adult Doses (≥ 50 kg)

Medication	Initial Dose	Q	Repeat	Max
Dimenhydrinate IV / IM	50 mg	N/A	N/A	1 dose

Pediatric Doses (25 – 50 kg)

Medication	Initial Dose	Q	Repeat	Max
Dimenhydrinate IV / IM	25 mg	N/A	N/A	1 dose

Notes:

If administering IV, dilute Dimenhydrinate with 9 ml normal saline to a 50 mg in 10 ml solution. The IV condition only applies to PCPs authorized in Autonomous IV

Antihistamines	Tricyclic antidepressants (TCA)	Anticholinergics
Actifed, Astemazole (Hismanal), Azatdine (Zadine), Cetirizine (Zyrtec, Reactine), Chlorpheniramine (Chlor-Trimeton, chlortripalon), Clemastine, Cyproheptadine (Periactin), Dexchlorpheniramine, Desloratadine (Clarinex), Dimenhydrinate (Dramamine), Diphenhydramine (Benadryl), Fexofenadine (Allegra), Hydroxyzine (Atarax, Vistaril), Loratadine (Claritin, Alavert), Phenothiazines, Promethazine (Phenergan), Piperzanes, Terfenadine (Seldane)	Amitriptyline (Elavil, Ednep, Vanatrip), Clomipramine (Anafranil), Desipramine (Norpramin), Doxepin (Sinequan, Adapin, Silenor), Nortriptyline (Aventyl, Pamelor), Protriptyline (Vivactil), Trimipramine (Surmontil)	Atropine, Hyoscine Glycopyrrolate(Robinul), Ipratropium bromide (Atrovent), Oxybutinin (Ditropan, Lyrinel XL) Oxitropium bromide (Oxivent), Tiotropium (Spiriva)

Adult Analgesia

Indications

Mild – Moderate Pain (**Acetaminophen / Ibuprofen**) **OR**
Mild – Severe Pain (**Ketorolac**)

AND

- Isolated hip or extremity trauma **OR**
- Burns **OR**
- Renal colic with a prior history **OR**
- Acute musculoskeletal back strain **OR**
- Current history of cancer related pain

Clinical Parameters

- Unaltered LOA

Acetaminophen / Ibuprofen:

- N/A

Ketorolac:

- Normotension
- Restricted to those unable to tolerate oral medications

Contraindications

Acetaminophen:

- Use within previous 4 hours
- Allergy / sensitivity
- Hx of liver disease
- Active vomiting
- Unable to tolerate oral medications

Ibuprofen / Ketorolac:

- NSAID / Ibuprofen use within 6 hours
- Allergy / sensitivity to ASA or NSAIDs
- Patient on anticoagulation therapy
- Current active bleeding
- Hx of peptic ulcer disease or GI bleeds
- Pregnant
- If asthmatic, no prior use of ASA or NSAIDs
- CVA or TBI in previous 24 hours
- Known renal impairment
- Ibuprofen only – active vomiting / unable to tolerate oral medications

Adult Doses (≥ 18 years of age)				
Medication	Initial Dose	Q	Repeat	Max
Acetaminophen PO	960 - 1000 mg	N/A	N/A	1 dose
Ibuprofen PO	400 mg	N/A	N/A	1 dose
Ketorolac IM / IV	10 - 15 mg	N/A	N/A	1 dose

Notes:

Consider co-administration of Acetaminophen / Ibuprofen whenever possible

If Ketorolac is administered, neither Ibuprofen nor Acetaminophen should be administered

Suspected renal colic patients should be considered for Ketorolac

The IV condition only applies to PCPs authorized in Autonomous IV

Emergency Childbirth

Indications

Pregnant patient experiencing labour OR immediately following delivery

Clinical Parameters

- Child bearing years

Delivery

- Second stage labour and/or imminent birth

Umbilical Cord Management

- Cord complications OR if resuscitation required OR due to transport considerations

External Uterine Massage

- Post placental delivery

Suspected Adrenal Crisis

Indications

Patient with primary adrenal failure who has signs of an adrenal crisis

Clinical Parameters

- Presented with a vial of Hydrocortisone for that patient **AND**
- No allergy or sensitivity to Hydrocortisone **AND**
- Patient presents with (any one or more of):
    - Hypoglycemia
    - GI symptoms
    - Syncope
    - Temperature ≥ 38C or suspected fever
    - Altered LOA
    - Age related hypotension
    - Age related tachycardia

All Doses

Medication	Initial Dose	Q	Repeat	Max
Hydrocortisone IM	2 mg/kg Max 100 mg	N/A	N/A	1 dose

Notes:

Hydrocortisone has a common trade name of Solu-cortef

Dose may be rounded to the nearest 10 mg

All patients need to be transported

Ensure the medication label is examined carefully for its concentration

Hydrocortisone may come premixed in a vial or it may be supplied in an ACT-O-VIAL® system

To use the ACT-O-VIAL®:

1. Press down on plastic activator to force diluent into the lower compartment
2. Gently agitate to effect solution
3. Remove plastic tab covering center of stopper
4. Sterilize top of stopper with alcohol
5. Insert needle squarely through center of stopper and withdraw the appropriate dose

Home Dialysis Emergency Disconnect

Indications

Patient connected to home dialysis **AND**

Requires transport to a receiving facility

Clinical Parameters

- N/A

Interventions

Disconnect

Notes:

In general, the instructions will be found with the machine

Sequence: Ensure the patient side is clamped first, and then the machine side and then the tubing can be disconnected between the clamps

Electronic Control Device (ECD) Probe Removal

Indications

Electronic control device probe(s) embedded in patient

Clinical Parameters

- Unaltered LOA
- Probes not embedded;
    - Above clavicles,
    - In the nipple(s), or
    - In the genital area

Interventions (≥ 18 years of age)

Remove probes

Notes:

Police may require preservation of the probe(s) for evidentiary purposes

This directive is for removal of ECD only and in no way constitutes a treat and release order, normal principles of patient assessment and care apply

Hydrofluoric (HF) Acid Exposure

Indications

Exposure to vapour and/or liquid Hydrofluoric acid (HF) **AND**

Exhibits signs and symptoms of HF poisoning.

Clinical Parameters

- No allergy or sensitivity to any medication considered

Doses

Medication	Initial Dose	Q	Repeat	Max
Calcium Gluconate (10% solution) Inhalation exposure	100 mg NEB	N/A	N/A	1 dose
Calcium Gluconate (2.5% gel) Skin exposure	N/A Topical	N/A	Immediate	N/A
Anaesthetic Eye Drops	2 gtts/eye	10 min	2 gtts/eye	N/A

Notes:

For skin contact, ensure thorough irrigation prior to treatment

For eye exposure, remove patient's contact lenses, if applicable, prior to initiating treatment. Use Anaesthetic eye drops for comfort and then irrigate eyes with normal saline for at least 15 minutes

Cyanide Exposure

Indications

Suspected exposure to Cyanide with signs and symptoms of poisoning

Clinical Parameters

- Altered LOA
- No allergies or sensitivity to any medication considered

Adult Dose (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Sodium Thiosulfate 25%	12.5 g IV	N/A	N/A	1 dose
OR				
Hydroxocobalamin	5 g IV over 15 – 30 min	N/A	N/A	1 dose

Pediatric Doses

Medication	Initial Dose	Q	Repeat	Max
Sodium Thiosulfate 25%	1.65 ml/kg IV Max 12.5 g	N/A	N/A	1 dose
OR				
Hydroxocobalamin	70 mg/kg over 30 min Max 5 g	N/A	N/A	1 dose

Notes:

Hydroxocobalamin must be reconstituted with 200 ml normal saline prior to administration

Hydroxocobalamin Dosing Chart – Pediatric

Weight (kg)	Dose	Concentration	Volume of Administration
15	70 mg/kg	25 mg/ml	42 ml
20	70 mg/kg	25 mg/ml	56 ml
25	70 mg/kg	25 mg/ml	70 ml
30	70 mg/kg	25 mg/ml	84 ml
35	70 mg/kg	25 mg/ml	98 ml
40	70 mg/kg	25 mg/ml	112 ml
45	70 mg/kg	25 mg/ml	126 ml
50	70 mg/kg	25 mg/ml	140 ml
55	70 mg/kg	25 mg/ml	154 ml
60	70 mg/kg	25 mg/ml	168 ml
65	70 mg/kg	25 mg/ml	182 ml
70	70 mg/kg	25 mg/ml	196 ml
> 72	70 mg/kg	25 mg/ml	200 ml

Headache (Special Events Only)

Indications

Uncomplicated headache conforming to the patient's usual pattern

Clinical Parameters

- Unaltered LOA
- No allergy or sensitivity to Acetaminophen
- No Acetaminophen in the last 4 hours
- No signs or symptoms of intoxication

Adult Doses (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Acetaminophen PO	325 – 650 mg	N/A	None	1 dose

Notes:

The Special Event Medical Directives are active when they have been preauthorized for use by the Medical Director.

Special Event: a preplanned gathering with potentially large numbers of people

Consider release from care

Advise patient that if the problem persists or worsens that they should seek further medical attention

Minor Abrasion (Special Events Only)

Indications

Minor abrasions

Clinical Parameters

- ≥ 18 years old
- Unaltered LOA
- No allergy or sensitivity to topical antibiotics

Notes:

The Special Event Medical Directives are active when they have been preauthorized for use by the Medical Director.

Special Event: a preplanned gathering with potentially large numbers of people

Consider release from care

Advise patient that if the problem persists or worsens that they should seek further medical attention

Minor Allergic Reaction (Special Events Only)

Indications

Signs consistent with minor allergic reaction

Clinical Parameters

- Unaltered LOA
- SBP ≥ 100 mmHg (and other vitals within normal limits)
- No allergy or sensitivity to Diphenhydramine
- No antihistamine or sedative use in the previous 4 hours
- No signs or symptoms of a moderate to severe allergic reaction
- No signs or symptoms of intoxication
- No wheezing

Adult Doses (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Diphenhydramine PO	50 mg	N/A	N/A	1 dose

Notes:

The Special Event Medical Directives are active when they have been preauthorized for use by the Medical Director.

Special Event: a preplanned gathering with potentially large numbers of people

Consider release from care

Advise patient that if the problem persists or worsens that they should seek further medical attention

Musculoskeletal Pain (Special Events Only)

Indications

Minor musculoskeletal pain

Clinical Parameters

- Unaltered LOA
- No allergy or sensitivity to Acetaminophen
- No Acetaminophen use in the previous 4 hours
- No signs or symptoms of intoxication

Adult Doses (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max
Acetaminophen PO	325 – 650 mg	N/A	None	1 dose

Notes:

The Special Event Medical Directives are active when they have been preauthorized for use by the Medical Director.

Special Event: a preplanned gathering with potentially large numbers of people

Consider release from care

Advise patient that if the problem persists or worsens that they should seek further medical attention

January 1st, 2017

Primary Care Paramedic Scope of Practice

The Primary Care Paramedic (PCP) is not a part of those members included in the Regulated Health Professions Act, as such they are subject to a scope of practice determined by the Ministry of Health, their Base Hospital Medical Director and their service provider.

In general, the scope of practice of the PCP is very similar across the province and may vary within that of an individual Base Hospital. The components of the scope of practice are subject to change from time to time, but the following is based on ALS PCS version 4.0.1 dated July 17th, 2017, and includes Emergency Childbirth that is in force as of December 11th, 2017, and is restricted in application through the Medical Directives or via direct contact (patch) with a Base Hospital Physician.

Skill / Advanced Medical Assessment / Delegated Act - CORE

Defibrillation – Manual
Defibrillation – Semi-Automated
Endotracheal and Tracheostomy suctioning
Cardiac monitoring and interpretation – 3 or 4 lead
Cardiac monitoring and interpretation – 12 and 15 lead
Chest auscultation and interpretation
Capillary blood sampling and glucometry
Utilization and interpretation of SpO_2 monitoring
Home Dialysis Disconnect
Manage Emergency Childbirth **(in force on December 11th, 2017)**
Medication administration via IM / IN / SC / PO / NEB / MDI / SL
IV line monitoring

Skill / Advanced Medical Assessment / Delegated Act - AUXILIARY

*Intravenous cannulation
*Fluid maintenance and bolus administration
Supraglottic Airway placement
Continuous Positive Airway Pressure (CPAP)
Medication administration via Autoinjector
Medication administration via Topical
*Medication administration via IV
Utilization and interpretation of $ETCO_2$ monitoring
Electronic Control Device (ECD) removal
Preparation of ACP pre-loads

Medications and routes			
Medication Name	**Core**	**Auxiliary**	**Medical Directive**
Acetaminophen	**PO** **- -** **- -**	*- -* *PO* *PO*	**Adult Analgesia** *Musculoskeletal Pain – Special Event* *Headache – Special event*
Acetylsalicylic acid (ASA)	**PO**	*- -*	**Cardiac Ischemia**
**Anaesthetic eye drops	**- -** **- -**	*Topical* *Topical*	*CE – Hydrofluoric Acid Exposure* *CE – Symptomatic Riot Agent Exposure*
Antibiotic - Topical	**- -**	*Topical*	*Minor Abrasions – Special Event*
**Atropine	**- -** **- -**	*IM /Auto- injector* *IM*	*CE – Adult Nerve Agent Exposure* *CE – Pediatric Nerve Agent Exposure*
**,∂Calcium gluconate	**- -**	*NEB / Topical*	*CE – Hydrofluoric Acid Exposure*
*Dextrose 10%	**IV**	*- -*	**Hypoglycemia**
*Dextrose 50%	**IV**	*- -*	**Hypoglycemia**
Dimenhydrinate	**- -**	*IV* / IM*	*Nausea and Vomiting*
Diphenhydramine	**- -** **- -**	*IV* / IM* *PO*	**Moderate to Severe Allergic Reaction** *Minor Allergic Reaction – Special Event*
Epinephrine 1:1,000	**IM** **IM** **IM** **NEB**	*- -* *- -* *- -* *- -*	**Medical Cardiac Arrest** **Bronchoconstriction** **Moderate to Severe Allergic Reaction** **Croup**
***Furosemide	**- -**	*IV*	*N/A*
Glucagon	**IM**	*- -*	**Hypoglycemia**
Hydrocortisone	**IM**	*- -*	**Suspected Adrenal Crisis**
**,ǂHydroxocobalamin	**- -**	*IV infusion*	*CE – Cyanide Exposure*
Ibuprofen	**PO**	*- -*	**Adult Analgesia**
Ketorolac	**IM**	*IV**	**Adult Analgesia**
*NaCl 0.9%	**- -** **- -** **- -**	*IV* *IV* *IV*	**IV and Fluid Therapy – Adult and Pediatric** **Return of Spontaneous Circulation – Adult and Pediatric** **Cardiogenic Shock**
Naloxone	**SC / IM / IN**	*IV**	**Opioid Toxicity**
Nitroglycerin	**SL** **SL**	*- -* *- -*	**Cardiac Ischemia** **Acute Cardiogenic Pulmonary Edema**
**Obidoxime	**- -** **- -**	*IM / Autoinjector* *IM*	*CE – Adult Nerve Agent Exposure* *CE – Pediatric Nerve Agent Exposure*
**Pralidoxime	**- -** **- -**	*IM / Autoinjector* *IM*	*CE – Adult Nerve Agent Exposure* *CE – Pediatric Nerve Agent Exposure*
Salbutamol	**MDI / NEB**	*- -*	**Bronchoconstriction**
***Sodium Bicarbonate	**IV**	*- -*	*N/A*
**Sodium Thiosulfate 25%	**- -**	*IV infusion*	*CE – Cyanide Exposure*

* IV cannulation and IV administration of medication requires the authorization of a PCP to the level of Autonomous IV

** These medications / routes are normally a part of Appendix 5 CBRNE directives and are not authorized for use in the CEPCP catchment area

ǂ Hydroxocobalamin is authorized for use by PCCP paramedics with IV authorization

∂ Calcium gluconate is authorized for use by NPS paramedics

*** These medications are not currently associated with any medical directives and require a BHP patch for consideration

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