Primary Care Paramedic

Pocket Reference Guide

2024 v. 5.3+

Durham
Haliburton
Kawartha Lakes
Northumberland
Peterborough
York

CEPCP

This pocket reference guide has been formatted to align with the ALS PCS version 5.3+ with an in force date of February 9th, 2024. 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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CEPCP Patch Physicians

On Feb 1st, 2023 CEPCP moved the BHP patch system to a primary group of on call physicians. These on call physicians will typically not be working in a hospital setting during their shift, enhancing their responsiveness to the incoming calls as well as being able to spend more time on the call (as necessary) and being more aware of the scope of the paramedic on the phone.

While this system still runs through the CACC and are recorded there, the calls are now re-routed directly to the physician's cell phone with a redundant recording occurring there.

The dedicated group of physicians represents staff from our patch hospitals: Markham, Oshawa and Peterborough. This group will take call from 08:00 to 22:00 and from 22:00 to 08:00, the calls will go to The Markham Emergency Phone. Calls that are not immediately answered by the on-call physician will also be redirected to the Markham Emergency Phone.

Patch line numbers:

Lindsay CACC – 705-324-3246

Oshawa CACC – 905-430-3179

Georgian CACC – 1-866-667-6669

On call Physician names between 0800-2200:
Phil Moran (CEPCP Medical Director)
Andrew Arcand (CEPCP Associate Medical Director)
Vince Arcieri (CEPCP Associate Medical Director)
Hasan Abdullah
Matthew Adamson
Carolyn Arbanas
Alex Atfield
Abdul Basith
Brendan Caraher
Erika Defoort
Kate Gong
Roberta Hood

Shirley Hu
Scott Kapoor
Nour Khatib
Lily Malkin
Jared Paty
Adam Pyle
Aleksandar Trajkovski

Patching

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

Core Directives

- Medical Cardiac Arrest Directive **PATCH** for authorization to apply the TOR if applicable.
- Trauma Cardiac Arrest Directive **PATCH** for authorization to apply the TOR if applicable.

Auxiliary Directives

- Intravenous and Fluid Therapy Directive: **PATCH** for authorization to administer IV NaCl bolus to a hypotensive patient 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 contact a BHP after reasonable attempts. This is to be documented on the ACR in the procedures section using the relevant codes. *If the failure results 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.*

Medical Cardiac Arrest

Indications

Non-traumatic cardiac arrest.

Primary Clinical Consideration(s):
In the following settings, consider very early transport after a minimum of one analysis (and defibrillation if indicated) once an egress plan is organized:

1. pregnancy presumed to be ≥ 20 weeks gestation (fundus above the umbilicus, ensure manual displacement of the uterus to left),
2. hypothermia,
3. unrelieved airway obstruction,
4. non-opioid drug overdose/toxicology, OR
5. other known reversible cause of arrest not addressed.

In refractory or recurrent VF/VT, consider transporting after 3 consecutive defibrillations.

Note: Patients are in refractory ventricular fibrillation or refractory pulseless ventricular tachycardia after three consecutive defibrillations. “Recurrent” indicates the shockable was terminated with treatment and it re-occurred at any time during the cardiac arrest.

Clinical Parameters

CPR

- Altered LOA
- Performed in two-minute intervals.
- Not obviously dead
- Does not meet the conditions of the DNR Standard

Manual Defibrillation

- ≥ 24 hours old **AND** Altered LOA
- VF OR pulseless VT

EPINEPHrine [1mg/ml] IM

- ≥ 24 hours old **AND** Altered LOA
- Anaphylaxis is suspected as the causative event.
- No allergy or sensitivity to Epinephrine

Medical TOR

- Mandatory Patch to the BHP for authorization to apply the Medical TOR if applicable.

- ≥ 16 years old **AND** Altered LOA
- Arrest not witnessed by paramedic **AND** no ROSC after 20 minutes of resuscitation **AND** no defibrillation delivered.

TOR is contraindicated if:

- Known reversible cause of the arrest is unable to be addressed.
- Pregnancy presumed to be ≥ 20 weeks gestation.
- Suspected hypothermia
- Airway obstruction
- Non-opioid drug overdose/toxicology

Adult Dosing (≥8 years of age)				
• Interpret, print and code mark/snapshot the rhythm every 2 minute. • For Zoll and LP15 provide energy as per RBHP/manufacturer.				
CPR	As per current HSF of Canada Guidelines			
Treatment	**Dose**	**Repeats**	**Q**	**Max doses**
Manual defib	LP15 360J Zoll X 200J	LP15 360J Zoll X 200J	2 min	N/A
EPINEPHrine IM (anaphylaxis) 1mg/ml (1:1000)	0.01 mg/kg* max 0.5 mg	N/A	N/A	1 dose

***The EPINEPHrine dose may be rounded to the nearest 0.05 mg**

Medical TOR (≥16 years of age)
Mandatory Provincial Patch Point: Patch to consider Medical TOR (if applicable) If the patch fails or if Medical TOR does not apply, transport to the closest appropriate hospital following ROSC or 20 minutes of resuscitation without ROSC. Patch early (e.g. following the 4th analysis) to consider TOR if there are extenuating circumstances surrounding egress, prolonged transport or significant clinical limitations where the paramedic considers ongoing resuscitation to be futile.

Pediatric Dosing (≥ 24 hours to < 8 years of age)	
• Interpret, print and code mark/snapshot the rhythm every 2 minute.	
CPR	As per current HSF of Canada Guidelines

Treatment	Dose	Subsequent Dose(s)	Q	Max doses
Manual defib Always round up for defib joules	2 J/kg	4 J/kg	2 min	N/A
EPINEPHrine IM (anaphylaxis) 1mg/ml (1:1000)	0.01 mg/kg Max 0.5 mg	N/A	N/A	1 dose

Notes:

Large spike in $ETCO_2$ to above normal values – probable ROSC, consider pulse check at **next** interpretation.

Consider SGA where more than OPA/NPA and BVM is required.

Vector change defibrillation can be considered **after the third consecutive defibrillation.** Paramedics may count the fire departments defibrillations and/or public access defibrillations if they are confirmed to be in a shockable rhythm still.

There is no clear role for routine administration of naloxone in confirmed cardiac arrest.

The BHP might not authorize TOR even though the patient meets TOR rule. Factors that may be considered include extenuating egress limitations, prolonged transport, caregiver wishes, the existence of a DNR confirmation form, and underlying end stage progressive illness.

The BHP may authorize TOR even though the patient does **not** meet the TOR rule. Factors that may be taken into account include extenuating egress limitations, prolonged transport, caregiver wishes, the existence of a DNR confirmation form, and underlying end-stage progressive illness.

Pediatric Joules Settings

Weight	Age	Joules 2J/kg / 4J/kg (rounded up)
4 kg/9 lb	≥24 hours	8 J / 20 J
6 kg/13lb	≥24 hr	15 J / 30 J

8 kg/18lb	≥24 hr	20 J / 50 J
10kg/22lb	< 1 year	20 J / 50 J
12kg/26lb	1 year	30 J / 50 J
14kg/31lb	2 years	30 J / 70 J
16kg/35lb	3 years	50 J / 70 J
18kg/40lb	4 years	50 J / 100 J
20kg/44lb	5 years	50 J / 100 J
22kg/48lb	6 years	50 J / 100 J
24kg/53lb	7 years	50 J / 100 J
26kg/57lb	8 years	Max joules settings Zoll 200J LP15 360 J
28kg/62lb	9 years	Max joules settings Zoll 200J LP15 360 J
30kg/66lb	10 years	Max joules settings Zoll 200J LP15 360 J
35kg/77lb	11 years	Max joules settings Zoll 200J LP15 360 J

When anaphylaxis is suspected as the causative event:

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

Trauma Cardiac Arrest

Indications

Cardiac arrest secondary to severe blunt or penetrating trauma

Clinical Parameters

CPR
- Altered LOA
- Performed in two-minute intervals
- Not obviously dead
- Does not meet conditions of *Do Not Resuscitation (DNR) Standard*

Manual Defibrillation
- ≥ 24 hours old
- Altered LOA
- VF **OR** pulseless VT

Trauma TOR
- **Mandatory PATCH Point to the BHP for authorization to apply the Trauma TOR** if applicable. If the BHP patch fails, or the Trauma TOR does not apply, transport to the closest appropriate receiving facility following the 1st analysis/defibrillation.
- ≥ 16 years old
- No palpable pulses **AND** no defibrillations delivered **AND** rhythm is Asystole **AND** no signs of life at any time since fully extricated **OR** signs of life when fully extricated with the closest ED **≥** 30 min transport time away **OR** rhythm PEA with the closest ED **≥** 30 min transport time away.

- **NO TOR** if patients with penetrating trauma to the torso or head/neck and Lead Trauma Hospital < 30 min transport time away

Adult Dosing (≥ 8 years of age)			
CPR	As per current HSF of Canada Guidelines		
Treatment	**Dose**	**Q**	**Max doses**
Manual defibrillation	Max energy	N/A	1 dose

Pediatric Dosing (≥ 24 hours to < 8 years of age)			
CPR	As per current HSF of Canada Guidelines		
Treatment	**Dose**	**Q**	**Max doses**
Manual defibrillation	2 J/kg	N/A	1 dose
Notes:			

- CPR is 3:1 until ≥30 days.
- If no obvious external signs of significant blunt trauma, consider medical cardiac arrest and treat according to the appropriate medical cardiac arrest directive.
- Signs of life, specifically any spontaneous movement, respiratory efforts, organized electrical activity on ECG and reactive pupils.
- An intravenous fluid bolus **may be** considered where it **does not delay** transport and should not be prioritized over management of other reversible pathology.
- Consider transporting penetrating trauma cardiac arrest to LTH if less than 30 min away.

Notes: Pediatric Joules Settings

Weight	Age	Joules 2J/kg
4 kg/9 lb	≥24 hr	8 J
6 kg/13lb	≥24 hr	15 J
8 kg/18lb	≥24 hr	20 J
10kg/22lb	< 1 year	20 J
12kg/26lb	1 year	30 J
14kg/31lb	2 years	30 J
16kg/35lb	3 years	50 J
18kg/40lb	4 years	50 J
20kg/44lb	5 years	50 J
22kg/48lb	6 years	50 J
24kg/53lb	7 years	50 J
26kg/57lb	8 years	Max joules settings Zoll 200J LP15 360 J
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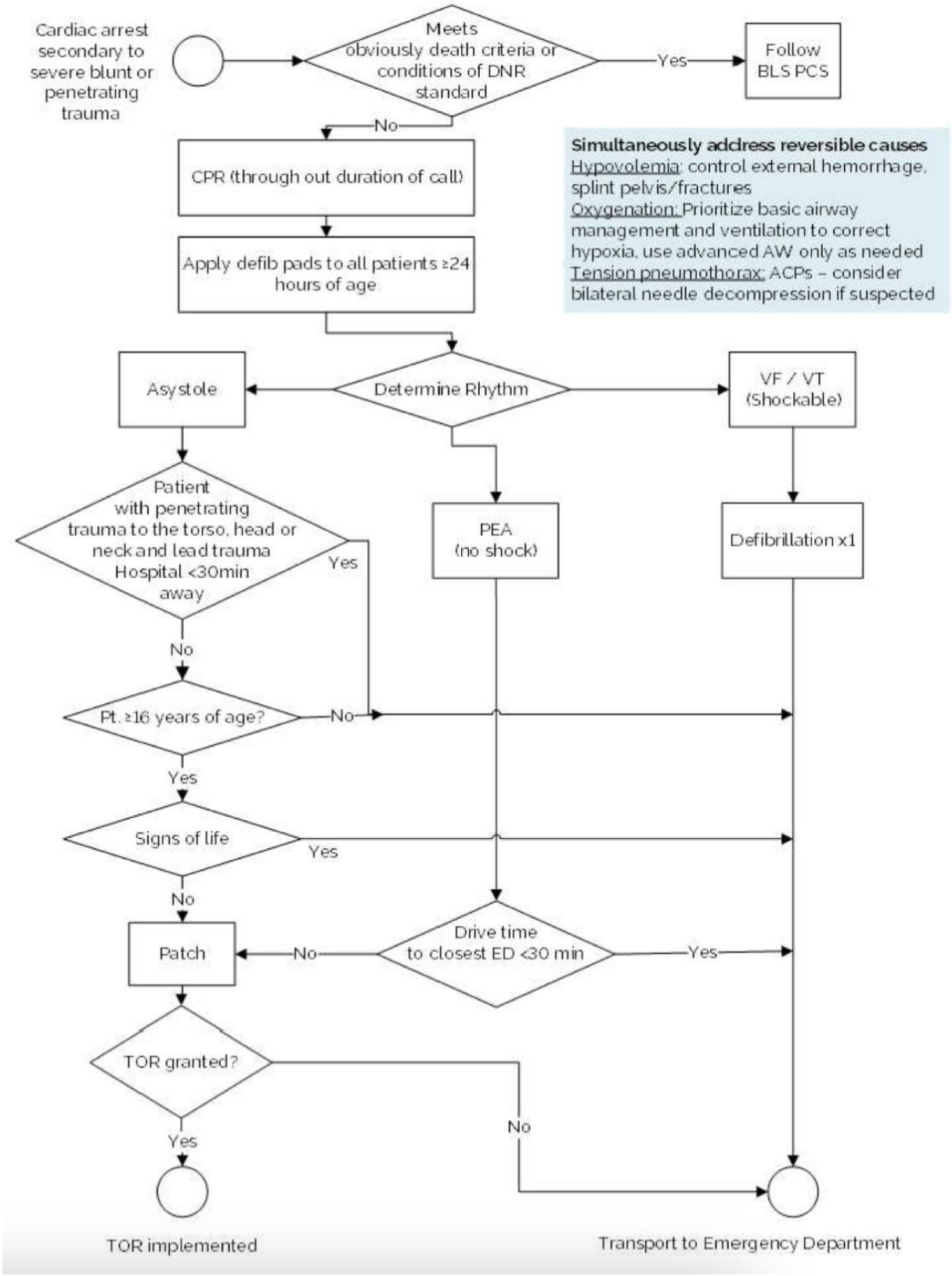

Cardiac arrest secondary to severe blunt or penetrating trauma
Meets obviously death criteria or conditions of DNR standard
Yes
Follow BLS PCS
No
CPR (through out duration of call)
Apply defib pads to all patients ≥24 hours of age
Simultaneously address reversible causes
Hypovolemia: control external hemorrhage, splint pelvis/fractures
Oxygenation: Prioritize basic airway management and ventilation to correct hypoxia, use advanced AW only as needed
Tension pneumothorax: ACPs – consider bilateral needle decompression if suspected
Asystole
Determine Rhythm
VF / VT (Shockable)
Patient with penetrating trauma to the torso, head or neck and lead trauma Hospital <30min away
Yes
PEA (no shock)
Defibrillation x1
No
Pt. ≥16 years of age?
No
Yes
Signs of life
Yes
No
Patch
No
Drive time to closest ED <30 min
Yes
TOR granted?
No
Yes
TOR implemented
Transport to Emergency Department

NOTES:

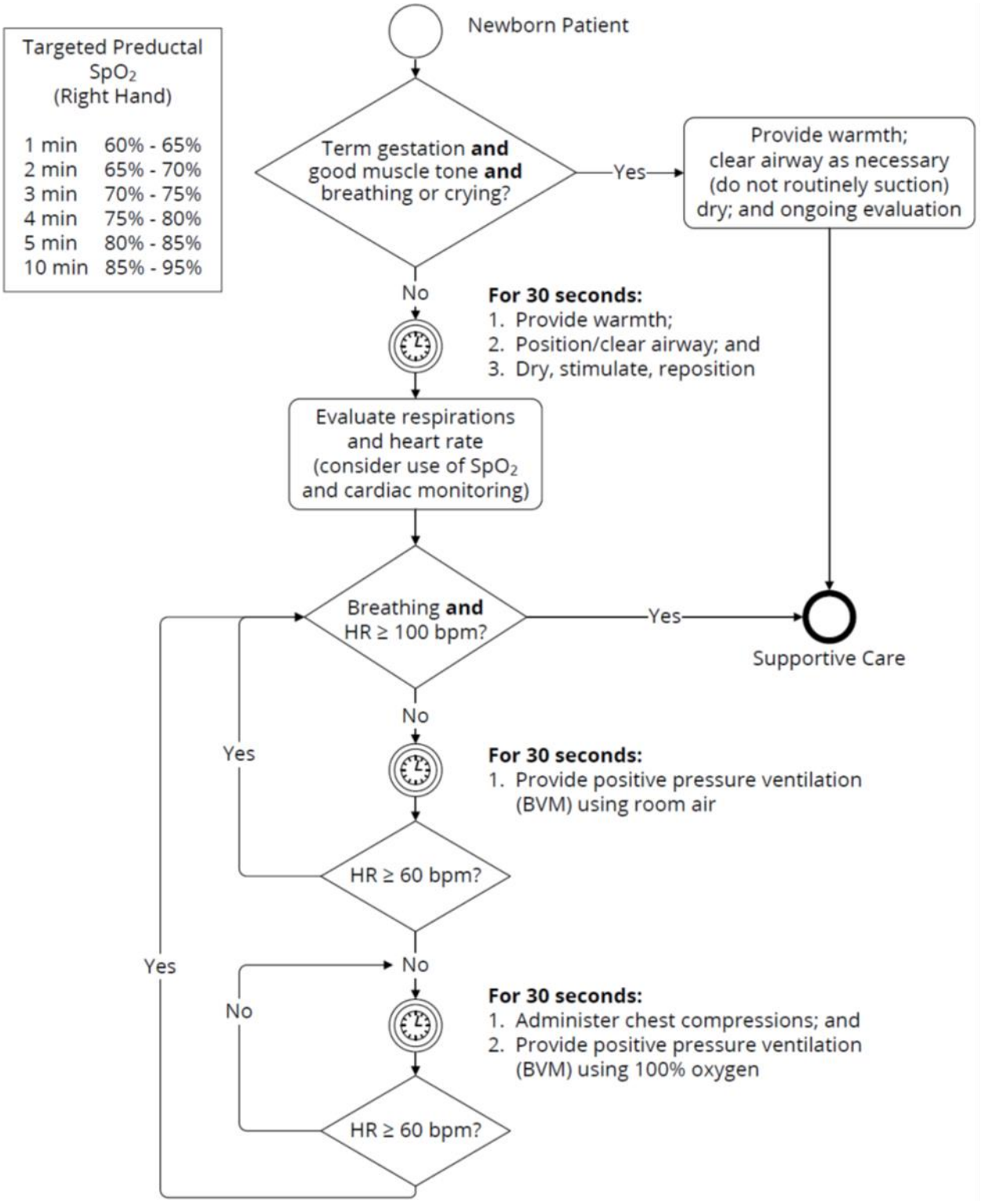
Newborn Resuscitation (< 24 hours)

Indications
Newborn patient (<24 hours)

Clinical Parameters	
Do not attempt resuscitate if patient is obviously dead as per BLS PCS Do not attempt resuscitate if presumed age is less than 20 weeks	
Positive pressure ventilation (PPV) • < 24 hours • HR < 100 bpm	CPR • < 24 hours • < 60 bpm • After 30 seconds of PPV with room air

Pediatric Dosing	
PPV	as per the treatment flowchart
CPR	As per current HSF of Canada Guidelines

Notes:
CPR: 3:1 If newborn resuscitation is required, initiate cardiac monitoring and right-hand pulse oximetry monitoring. Infants born between 20 – 25 weeks gestation may be stillborn or die quickly. Keep warm, initiate resuscitation and transport ASAP. If gestational age cannot be confirmed, initiate resuscitation and rapid transport. If newborn is less than 20 weeks gestation, resuscitation is futile. Provide the newborn with warmth and consider patching to BHP.


Targeted Preductal SpO_2 (Right Hand)
1 min 60% - 65%
2 min 65% - 70%
3 min 70% - 75%
4 min 75% - 80%
5 min 80% - 85%
10 min 85% - 95%
Newborn Patient
Term gestation and good muscle tone and breathing or crying?
Yes
Provide warmth; clear airway as necessary (do not routinely suction) dry; and ongoing evaluation
No
For 30 seconds:
1. Provide warmth;
2. Position/clear airway; and
3. Dry, stimulate, reposition
Evaluate respirations and heart rate (consider use of SpO_2 and cardiac monitoring)
Breathing and HR ≥ 100 bpm?
Yes
Supportive Care
No
Yes
For 30 seconds:
1. Provide positive pressure ventilation (BVM) using room air
HR ≥ 60 bpm?
Yes
No
No
For 30 seconds:
1. Administer chest compressions; and
2. Provide positive pressure ventilation (BVM) using 100% oxygen
HR ≥ 60 bpm?

Return of Spontaneous Circulation

Indications

ROSC after the resuscitation was initiated.

Clinical Parameters

- Consider 0.9% NaCl fluid bolus (if available and authorized)
- ≥ 2 years of age
  - Adult hypotensive
  - Pediatric SBP < 70 mmHg + (2 x age in years)

Bolus:

- No fluid overload-cardiogenic pulmonary edema

Note: Fluid administration during the Medical cardiac arrest does not count towards fluid administered in the ROSC setting.

Titrate fluid bolus to normotension.

Adult Dosing (≥12 years of age)

Medication	Initial dose	Q	Titration	Max dose
0.9% NaCl fluid bolus	10 ml/kg	Reassess every 250 ml	N/A	1,000 ml

Pediatric Doses (≥2 years to < 12 years of age)

Medication	Initial dose	Q	Titration	Max dose
0.9% NaCl fluid bolus	10 ml/kg	Reassess every 100 ml	N/A	1,000 ml

Notes:

Consider initiating transport in parallel with the above treatment.

IV fluid bolus applies only to PCPs authorized for PCP AIV.

Consider optimizing ventilation and oxygenation including airway/head positioning.

Titrate oxygenation 94 – 98%.

Avoid hyperventilation and target $ETCO_2$ to 30 – 40 mmHg with continuous waveform capnography.

Consider 12 lead acquisition and interpretation (approx. 10 min post ROSC).

Cardiac Ischemia

Indications
Suspected cardiac ischemia

Clinical Parameters	
No allergies to either medication Unaltered LOA Age ≥ 18 years old **ASA**: • Able to chew and swallow. • If asthmatic, must have prior use of ASA. • No current active bleeding • No CVA or TBI in the past 24 hours	**Nitroglycerin:** • HR 60 – 159 bpm • SBP ≥ 100 mmHg • Prior hx of nitro use **OR** IV access in place. • No *Phosphodiesterase inhibitor use in the past 48 hours. • SBP drops by 1/3 of more of its initial value after nitroglycerin administration is a contraindication. • No right ventricular MI (no ST elevation in V4R in the setting of ST elevation in II, III and aVF).

Adult Dosing (≥18 years of age)				
Medication	**Initial Dose**	**Q**	**Repeat**	**Max doses**
ASA PO	160 – 162 mg	N/A	N/A	1 dose
Nitroglycerin SL STEMI	0.4 mg SL	5 min	0.4 mg	3 doses
Nitroglycerin SL Non-STEMI	0.4 mg SL	5 min	0.4 mg	6 doses

Notes:
Perform a 12 lead prior to Nitroglycerin administration. Perform a 15 lead (V4R) if ST elevation is present in the inferior leads (two or more of II, III and aVF). Do not administer Nitroglycerin to a patient with Right Ventricular STEMI Try to obtain the 12 lead within 10 min of patient contact.

IV condition applies only to PCPs authorized for PCP AIV

An intravenous in the left arm is preferred rather than the right arm in a STEMI patient.

Apply defibrillation pads when a STEMI is identified.

If STEMI is identified, consider local STEMI by-pass policy.

*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 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 of symptoms of cardiac ischemia (assess V8 and V9)

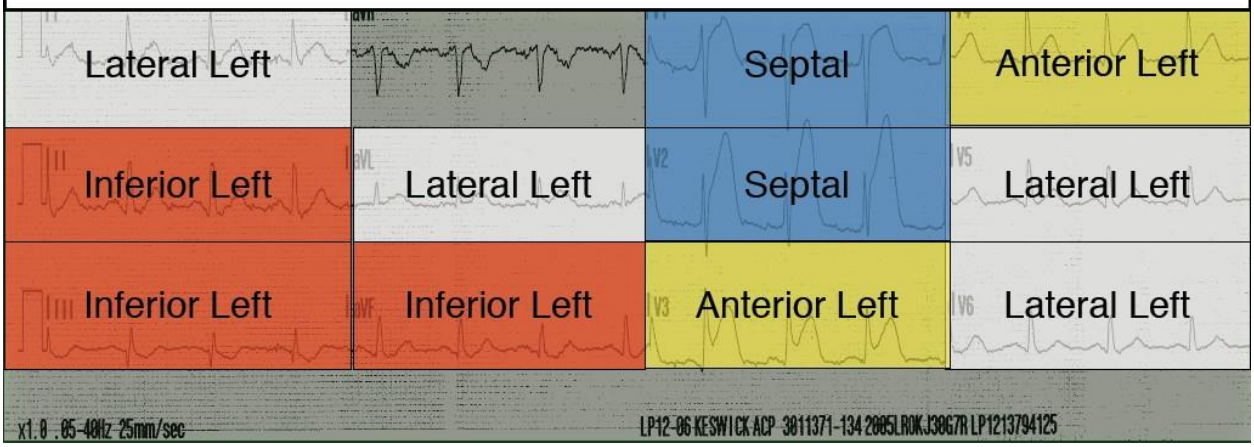
V4R:

- 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

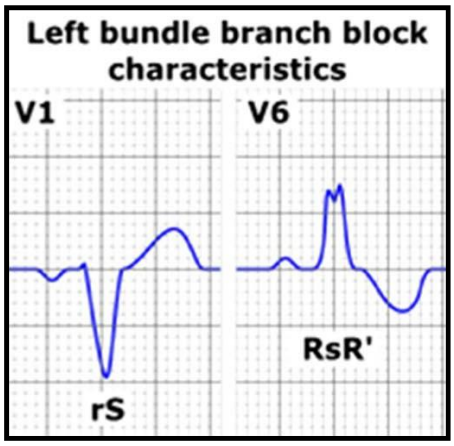


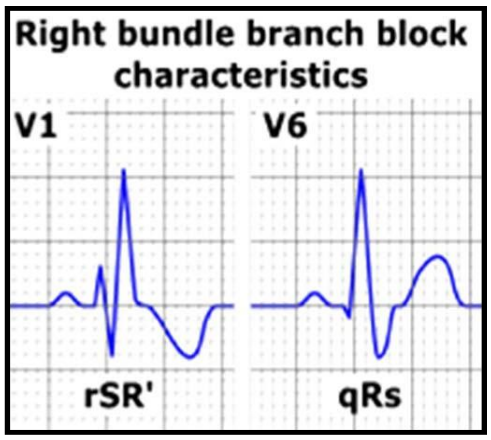
Common Imitators of AMI

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

LBBB

- Characterized by a supraventricular rhythm (identified by the presence of P waves and a 1:1 occurrence with QRS waves) and a wide (>120ms) 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[1] 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.

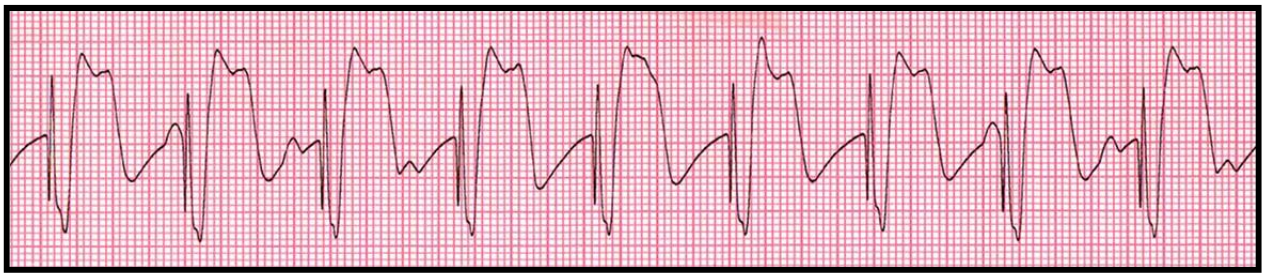




Ventricular Paced Rhythm

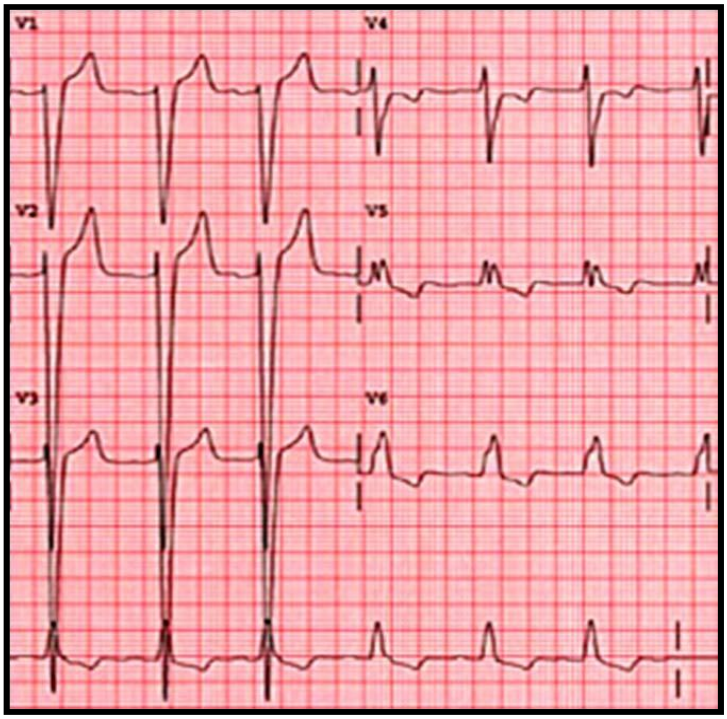
- A pacer spike is typically ween immediately preceding the QRS complex, which will be wide.
- Pacer detect may need to be activated on the cardiac monitor
- Electrical capture is the presence of a QRS following the pacer spike

- Mechanical capture is the presence of a pulse matching the electrical rate of the paced rhythm



LVH (Left Ventricular Hypertrophy)

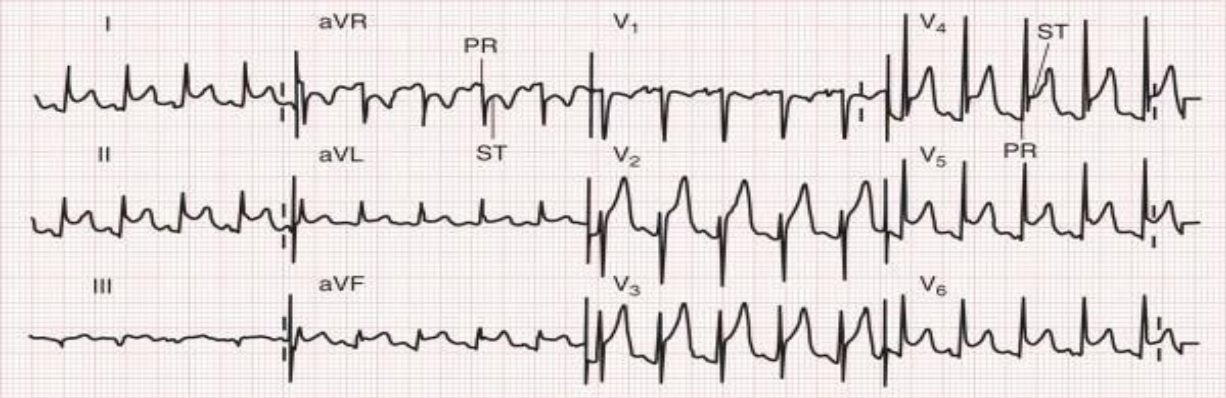
- Look at the RS complex in either V1 or V2 and count the small boxed of the –ve deflection
- Then do the same with either V5 or V6, counting the small boxes of the +ve deflection
- Add the two numbers together, if they equal ≥ 35 mm (small boxes) then it is likely LVH
- A STEMI cannot be determined 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 of sensitivity • No Phosphodiesterase inhibitor use 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 Dosing (≥18 years of age)				
Medication	**Initial Dose**	**Q**	**Repeat**	**Max**
Nitroglycerin SBP 100 – 139 mmHg WITH an IV or history of use	0.4 mg SL	5 min	0.4 mg	6 doses
Nitroglycerin SBP ≥ 140 – mmHg **NO** IV or history of use	0.4 mg SL	5 min	0.4 mg	6 doses
Nitroglycerin SBP ≥ 140 – mmHg **WITH** an IV or history of use	0.8 mg SL	5 min	0.8 mg	6 doses

Notes:

Consider 12 / 15 lead

The IV condition only applies to PCPs authorized as PCP Autonomous IV

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

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

Clinical consideration: If a patient presents with a STEMI and acute cardiogenic pulmonary edema, it is recommended to treat according to the

STEMI nitroglycerin doses (X3 of 0.4mg) because the most likely cause of the acute cardiogenic pulmonary edema is the STEMI.
If a patient becomes hypotensive post nitroglycerin administration, it is recommended to administer a fluid bolus despite the pulmonary crackles, to achieve normotension. Then, it is advised to withhold nitroglycerin.

NOTES:

Hypoglycemia

Indications
Suspected hypoglycemia

Clinical Parameters	
Altered LOA No allergy or sensitivity to the medication being administered. **IN Glucagon:** >=4 years old **Glucagon** • No pheochromocytoma	**Dextrose** • N/A **Hypoglycemia** • ≥ 2 yrs < 4 mmol/L • < 2 yrs < 3 mmol/L

Dosing

Medication	Initial Dose	Max single dose	Q	Max doses
D10W IV (≥ 2 yrs)	0.2 g/kg (2 ml/kg) Titrate to effect	25 g (250 ml)	10 min	2 doses
D50W IV (≥ 2 yrs)	0.5 g/kg (1 ml/kg) Titrate to effect	25 g (50 ml)	10 min	2 doses
Glucagon IM < 25 kg	0.5 mg	N/A	20 min	2 doses
Glucagon IM ≥ 25 kg	1 mg	N/A	20 min	2 doses

IN Glucagon

Medication	Initial Dose	Q	Repeat	Max doses
Glucagon IN	3mg IN	20 min	3mg IN	2 doses

Notes:
Titrate dextrose to a level of awareness where the patient can safely consume complex carbohydrates. If the patient responds to dextrose or glucagon, they 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. If a patient initiates an informed refusal of transport, a final set of vital signs including blood glucometry must be attempted and documented. IV administration of dextrose applies only to PCPs authorized for PCP Autonomous IV. Intranasal glucagon is a powder that is supplied in a commercially available single-dose intranasal device.

Hypoglycemia Treat and Discharge – <u>IF AUTHORIZED</u>

Indications
Patient has been treated appropriately under the Hypoglycemia Medical Directive **AND** a PCP, when authorized, **may discharge** a post hypoglycemic patient, according to the following:

Clinical Parameters

All of the following criteria must be met:

- The patient is ≥ 18 AND < 65 years old,
- The patient has a diagnosis of diabetes,
- The hypoglycemia is explained by insulin administration with inadequate oral intake,
- The hypoglycemia promptly responded to a single administration of dextrose as per the Medical Directive and/or 1mg of Glucagon and/or consumed oral glucose or other complex carbohydrates,
- This was a single isolated episode of symptomatic hypoglycemia in the past 24 hours,
- The blood glucose is ≥ 4.0 mmol/L after treatment,
- The patient has a return to their normal level of consciousness and is asymptomatic,
- A complete set of vital signs are within expected normal ranges,

AND….

Clinical Parameters continued

AND….

- Not an intentional overdose,
- The hypoglycemia must not be related to alcohol / substance abuse or withdrawal,
- No seizure or reported history of seizure prior to paramedic treatment,
- Not on an oral hypoglycemic medication,
- Hypoglycemia is not considered to be related to an acute medical illness,
- The patient is not pregnant,

In addition to the above criteria, if all of the following requirements have been met, the patient can be discharged by Paramedics:

- The patient has access to appropriate carbohydrates,
- A responsible adult agrees to remain with the patient for the next 4 hours,
- All of the patient or substitute decision makers questions were answered and a care plan was developed,
- The patient or substitute decision maker has been advised to follow up with their primary health care team or provider,
- Clear instructions to call 911 were provided should symptoms redevelop,
- Patient or substitute decision maker has the ability to access 911 should symptoms redevelop,
- Patient or substitute decision maker consents to the discharge.

Patch to BHP for consultation if you are unclear if the patient meets all of the discharge criteria.

Note: Patients can receive multiple forms of treatment for hypoglycemia (i.e., dextrose and glucagon before consuming carbohydrates). If the patient receives two doses of glucagon or two doses of dextrose, they should be transported to the hospital.

Bronchoconstriction

Indications
Respiratory distress **AND** Suspected bronchoconstriction

Clinical Parameters

No allergy or sensitivity to any medication considered.

EPINEPHrine:

- BVM ventilation required.
- Hx of asthma

Dexamethasone:

- Hx of asthma **OR** COPD **OR** 20 pack-year history of smoking
- Not currently on PO or parenteral steroids

Salbutamol

- N/A

Notes: PO or parenteral steroids are systemic steroids.
Systemic steroids (not an exhaustive list):
Prednisone
Hydrocortisone
Methylprednisolone
Flovent is not considered a systemic steroid. Topical or inhaled steroids are not contraindicated.

Adult Doses ≥ 25 kg

Medication	Initial Dose	Max dose	Q	Max doses
Salbutamol MDI	Up to 800 mcg	800 mcg	5-15 min	3 doses
Salbutamol NEB	5 mg	5 mg	5-15 min	3 doses
EPINEPHrine 1 mg/ml IM (1:1,000)	0.01 mg/kg	0.5 mg	N/A	1 dose
Dexamethasone PO/IM/IV **PO is the preferred route**	0.5 mg/kg	8 mg	N/A	1 dose

IM/IV routes should be reserved for patients that cannot tolerate PO.				

Pediatric Doses < 25 kg				
Medication	**Initial Dose**	**Max dose**	**Q**	**Max doses**
Salbutamol MDI	Up to 600 mcg	600 mcg	5-15 min	3 doses
Salbutamol NEB	2.5 mg	2.5 mg	5-15 min	3 doses
EPINEPHrine 1 mg/ml IM (1:1,000)	0.01 mg/kg	0.5 mg	N/A	1 dose
Dexamethasone PO/IM/IV	0.5 mg/kg	8 mg	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.

Nebulization is contraindicated in patients with known or suspected fever or in the setting of declared febrile respiratory 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.

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 doses
EPINEPHrine 1mg/ml IM	0.01 mg/kg Max 0.5 mg	Min 5 min	Same as initial	2 doses
DiphenhydrAMINE IV / IM (IV route for AIV **only**)	50 mg if ≥ 50 kg 25 mg if 25 – 49 kg	N/A	N/A	1 dose

Pediatric Doses

Medication	Initial Dose	Q	Repeat	Max doses
EPINEPHrine 1mg/ml IM	0.01 mg/kg Max 0.5 mg	Min 5 min	Same as initial	2 doses
DiphenhydrAMINE IV / IM (IV route for AIV only)	25 mg when 25 – 49 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. EPINEPHrine administration takes priority over IV access. DiphenhydrAMINE is commonly referred to as Benadryl. Dexamethasone **should not** be administered in the setting of a patient experiencing anaphylaxis and bronchoconstriction. It can lead to worse outcomes.

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

Croup

Indications

Current history of URTI

AND

Barking cough or recent history of a barking cough

Clinical Parameters

≥ 6 months to < 8 years old
No allergy or sensitivity to medications considered.

EPINEPHrine

- HR < 200 bpm
- Stridor at rest
- For severe croup only

Dexamethasone

- Unaltered LOA
- For mild, moderate and severe croup
- No steroids were received within 48 hours.
- Able to tolerate oral medication

Pediatric Doses (6 months to < 8 years)

Medication	Initial Dose	Q	Repeat	Max doses
EPINEPHrine 1 mg/ml NEB <10kg	2.5 mg	N/A	N/A	1 dose
EPINEPHrine 1 mg/ml NEB ≥10kg	5 mg	N/A	N/A	1 dose
Dexamethasone PO	0.5 mg/kg Max dose 8 mg	N/A	N/A	1 dose

Notes:

Titrate nebulized epinephrine until you see misting of 6-8l/min of oxygen.
Dexamethasone is only permitted PO for croup unless a Base Hospital patch is initiated.

If patients are unable to tolerate oral medications/nebulized, a patch for different routes may be considered.

Do not mix Dexamethasone in solutions (i.e., orange juice) for administration.

Supraglottic Airway

Indications

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

Other airway management is ineffective

Clinical Parameters

- Absent gag reflex
- No airway obstruction by a foreign object
- No known esophageal disease (varices)
- No trauma to the oropharynx
- No caustic ingestion

Confirmation methods	Primary	Secondary
Confirm advanced airway placement	$ETCO_2$ (waveform capnography) **must** be used if available	$ETCO_2$ (non-waveform), Chest auscultation, Chest rise

Notes:

The maximum number of SGA insertion attempts is two.

An attempt is defined as the insertion of the SGA into the mouth.

Confirmation of SGA should include $ETCO_2$ (waveform capnography). If waveform capnography is not available or not working, then at least two secondary methods must be used.

If paramedics can clear vomit in the airway, the supraglottic airway does not have to be removed.

King LT Reference			
Size	**Patient**	**Colour**	**Amount of air in cuff**
0	<5 kg	Clear	10 ml
1	5 – 12 kg	White	20 ml
2	12 – 25 kg	Green	25 - 35 ml
2.5	25 – 35 kg	Orange	30 - 40 ml
3	4 – 5 ft	Yellow	45 - 60 ml
4	5 – 6 ft	Red	60 - 80 ml
5	>6 ft	Purple	70 - 90 ml

Igel Reference		
Size	**Patient**	**Colour**
1	< 5 kg	Pink
1.5	5 – 12 kg	Blue
2	10 – 25 kg	Grey
2.5	25 – 35 kg	White
3	30 -60 kg	Yellow
4	50 -90 kg	Green
5	90 + kg	Orange

Analgesia

Indications
Pain

Clinical Parameters	
Acetaminophen • Unaltered LOA • No allergies or sensitivities • No acetaminophen use with previous 4 hours • No hx of liver disease • Must be able to tolerate oral medication • Not ischemic chest pain • Able to tolerate oral medication	**Ibuprofen / Ketorolac** • Unaltered LOA • No allergy or sensitivity to ASA or NSAIDs • No NSAID use within 6 hours • Not on anticoagulation therapy • No current active bleeding • No hx of peptic ulcer disease or GI bleed • Not pregnant • If asthmatic, must have prior use of ASA or other NSAIDs • No CVA or TBI in the previous 24 hours • No known renal impairment • No active vomiting • Able to tolerate oral medication • Not ischemic chest pain • To receive ketorolac must be normotensive

Adult Dosing

Medication	Initial Dose	Repeat	Max doses
Acetaminophen PO (≥ 12 and < 18 yrs)	500 - 650 mg	N/A	1 dose
Acetaminophen PO (≥ 18 yrs)	960 – 1000 mg	N/A	1 dose
Ibuprofen PO (≥ 12 yrs)	400 mg	N/A	1 dose
Ketorolac IM/IV (≥ 12 yrs)	10 – 15 mg	N/A	1 dose

Notes:

Whenever possible, consider co-administration of acetaminophen and ibuprofen.

Suspected renal colic patients should routinely be considered for ibuprofen or ketorolac.

IV administration of ketorolac applies only to PCP IV paramedics.

Nausea / Vomiting

Indications
Nausea and/or vomiting

Clinical Parameters	
Ondansetron • Unaltered • No allergy or sensitivity to ondansetron • No prolonged QT syndrome (that is known to the patient) • No apomorphine (Apokyn) use	**DimenhyDRINATE** • Unaltered • No allergies or sensitivities to DimenhyDRINATE or other antihistamines • No overdose on antihistamines, anticholinergics or tricyclic antidepressants • No co-administration of DiphenhydrAMINE • **≥ 65 years and Ondansetron unavailable. "Unavailable" means the service is unable to procure or receive their stock and the medication is physically unavailable for your use.**

Adult Dosing

Medication	Weight	Dose	Repeat	Max doses
DimenhyDRINATE IV / IM	≥ 50 kg	50 mg	N/A	1 dose
	Age ≥ 65 years (and no ondansetron)	25 mg		
Ondansetron PO	≥ 25 kg	4 mg	N/A	1 dose

Pediatric Dosing

Medication	Weight	Dose	Repeat	Max doses

DimenhyDRINATE IV / IM	25 – 49 kg	25 mg	N/A	1 dose
Ondansetron PO	≥ 25 kg	4 mg	N/A	1 dose

Notes:

If administering DimenhyDRINATE IV, dilute 50 mg (1 ml) with 9 ml normal saline to form a 50 mg in 10 ml solution.

The IV condition only applies to PCPs authorized in Autonomous IV

If a patient has received Ondansetron or DimenhyDRINATE, and has no relief after 30 minutes, the other medication may be considered. **However, this rule does not apply for the ≥65 year old age group because it does not meet the clinical parameters. A patch would be warranted at this time for more ondansetron and/or DimenhyDrinate administration.**

Overdose medications that contraindicate DimenhyDRINATE administration
This is not an exhaustive list

Antihistamines (sample listing):

- 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)

Tricyclic antidepressants (TCA) (sample listing):

- Amitriptyline (Elavil, Ednep, Vanatrip)
- Clomipramine (Anafranil)
- Desipramine (Norpramin)
- Doxepin (Sinequan, Adapin, Silenor)
- Nortriptyline (Aventyl, Pamelor)
- Protriptyline (Vivactil)
- Trimipramine (Surmontil)

Anticholinergics (sample listing):

- Atropine
- Hyoscine Glycopyrrolate(Robinul)
- Ipratropium bromide (Atrovent)
- Oxybutinin (Ditropan, Lyrinel XL)
- Oxitropium bromide (Oxivent)
- Tiotropium (Spiriva)

Opioid Toxicity and Withdrawal

Indications

Suspected opioid toxicity

Clinical Parameters

Naloxone:

- Respiratory rate < 10 breaths/min
- No allergy or sensitivity
- Age greater than or equal to 24 hours
- Altered LOA
- Inability to ventilate or persistent need to ventilate

≥ 24 hours old

Medication	Initial dose	Repeat	Q	Max doses
Naloxone IV	Up to 0.4 mg	Up to 0.4 mg	5 min	3 doses
Naloxone IM	0.4 mg	0.4 mg	5 min	3 doses
Naloxone SC	0.8 mg	0.8 mg	5 min	3 doses
Naloxone IN	2-4 mg	2-4 mg	5 min	3 doses

Notes:

For the IV route, titrate naloxone only to restore the patient's respiratory status.

IV administration of naloxone applies only to PCPs authorized for PCP Autonomous IV.

Upfront aggressive management of the airway is paramount and the initial priority.

If no response to initial treatment, consider patching for further doses.

If the patient does not respond to airway management and the administration of naloxone, glucometry should be considered.

Combative behavior should be anticipated following naloxone administration and paramedics should protect themselves accordingly. Thus, the importance of gradual titrating (if given IV) to desired clinical effect, respiratory rate ≥10, adequate airway and ventilation, not full alertness.

Home Dialysis Emergency Disconnect

Indications

Patient connected to home dialysis
AND
Requires transport to a receiving facility

Clinical Parameters

Patient is unable to disconnect **AND**
No caregiver or family member available and knowledgeable in disconnect

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.

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 the identified patient **AND**
No allergy or sensitivity to Hydrocortisone **AND**
Patient presents with (any one or more of):

- Age related hypoglycemia, or
- GI symptoms (nausea, vomiting, diarrhea, abdominal pain), or
- Syncope, or
- Temperature ≥ 38C or suspected/history of fever, or
- Altered LOA, or
- Age related hypotension, or
- Age related tachycardia

Dosing

Medication	Initial Dose	Q	Repeat	Max doses
Hydrocortisone IM / IV	2 mg/kg Max 100 mg	N/A	None	1 dose

Notes:

Hydrocortisone has a common trade name of Solu-cortef

Dose should 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

Emergency Childbirth

Indications

Pregnant patient experiencing labour **OR** immediately following delivery

Clinical Parameters

For all considerations, patient must be of childbearing years.

Delivery

- Second stage labour and/or imminent birth AND/OR:
  - Shoulder dystocia
  - Breech delivery
  - Prolapsed cord

Umbilical Cord Management

- Cord complications OR if newborn or maternal resuscitation is required OR due to transport considerations

Oxytocin

- Postpartum delivery AND/OR placental delivery
- No allergy or sensitivity to oxytocin
- All fetuses have been delivered
- SBP < 160 mmHg
- No suspected or known preeclampsia with current pregnancy
- No eclamptic seizures with current pregnancy
- ≤ 4 hours post placenta delivery

  Note: The placenta does not have to be delivered to receive oxytocin

External Uterine Massage

Post-placental delivery

Adult Dosing

Medication	Initial Dose	Q	Repeat	Max doses
Oxytocin IM	10 units	N/A	N/A	1 dose

Interventions

Shoulder Dystocia

- Perform ALARM twice on scene. If successful, delivery the neonate. If unsuccessful, transport to closest appropriate facility

Breech Delivery

- Hands off the breech. Allow neonate to deliver to the umbilicus
- Consider carefully releasing the legs & arms as they are delivered, if needed
- Once hairline is visible **AND/OR** 3 minutes has passed since umbilicus was visualized, attempt Mauriceau Smellie-Veit maneuver
- If successful, delivery the neonate. If unsuccessful, transport to closest appropriate facility

Prolapsed Cord

- Elevate fetal part to relieve pressure on the cord
- Assist patient to the knee-chest or exaggerated Sims position
- Insert gloved fingers/hand into the vagina and apply gentle manual digital pressure to the presenting part; this is maintained until transfer of care

Postpartum Hemorrhage - Pre-Placental Delivery

- If the placenta **has not** yet been delivered, consider:
  - Gentle cord traction while guarding the uterus
  - Bimanual compression if bleeding continues

Postpartum Hemorrhage - Post-Placental Delivery

- If the placenta **has been delivered**, consider:
  - External uterine massage while guarding the uterus
  - Encouraging patient to void bladder

- Bimanual compression if bleeding continues

Notes:

Oxytocin would not be indicated for a miscarriage <20 weeks. Oxytocin receptors are very low before 20 weeks gestation and it is unlikely to be effective. A patch could be considered after 20 weeks gestation.

Consider an intravenous fluid bolus if indicated with a combination of the above treatments for post-partum hemorrhage.

Endotracheal and Tracheostomy Suctioning and Reinsertion

Indications

Patient with an SGA or an ETT or a tracheostomy tube **AND**

The airway is obstructed or increased secretions are present

Clinical Parameters

Emergency Tracheostomy Reinsertion

- Patient with an existing tracheostomy where the inner and/or outer cannula(s) have been removed from the airway **AND**
- Respiratory distress **AND**
- Inability to adequately ventilate **AND**
- Paramedics are presented with a tracheostomy cannula for the identified patient
- Must be able to properly landmark or visualize

Suction

Patient	Initial Suction pressure	Q	Repeat	Max doses
Infant < 1 year	60 – 100 mmHg	1 min	Same as initial	N/A
Child ≥ 1 year to < 12 years	100 – 120 mmHg	1 min	Same as initial	N/A
Adult ≥ 12 years	100 – 150 mmHg	1 min	Same as initial	N/A

Notes:

Suctioning:

- Pre-oxygenate with 100% oxygen
- Max single dose is 10 seconds to avoid hypoxia, barotrauma, and reflexive bradycardia
- In an alert patient , whenever possible, have the patient cough to clear airway prior to suctioning

Emergency tracheostomy reinsertion:

- A reinsertion attempt is defined as the insertion of the cannula into the tracheostomy
- A new replacement inner or outer cannula is preferred over cleaning and reusing an existing one
- Utilize a family member or caregiver who is available and knowledgeable to replace the tracheostomy cannula if available.

Intravenous and Fluid Therapy

Indications

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

Clinical Parameters

≥ 2 years old

Cannulation:

- No fracture proximal to the access site

Bolus:

- For adults SBP <90 mmHg - for pediatric patients (< 70 mmHg + (2 x age in years)
- Chest clear
- No signs of fluid overload-acute cardiogenic pulmonary edema

Note: Administer a fluid bolus until the patient is normotensive.

Dosing (≥ 12 years)

Medication	Dose	Q	Repeat	Max doses
NaCl TKVO IV	30 – 60 ml/hr	N/A	N/A	N/A
NaCl Fluid Bolus IV	20 ml/kg	Reassess every 250 ml	N/A	2,000 ml

Pediatric Doses (≥2 years to <12 years)

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

Notes:

The IV condition only applies to PCPs authorized in Autonomous IV.

Continue the bolus until SBP > 100 mmHg. **OR** signs of fluid overload.

PATCH to BHP for authorization to administer 0.9% NaCl fluid bolus to hypotensive patients ≥ 2 years to <12 years with suspected Diabetic Ketoacidosis (DKA).

Micro-drips and/or volume control administration sets should be considered for patients under12 years old.

Cardiogenic Shock

Indications

STEMI positive 12 lead **AND**

Cardiogenic shock

Clinical Parameters

Bolus:

- SBP <90 mmHg
- Chest clear
- No signs of fluid overload

Dosing (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max doses
NaCl Fluid 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.

Continue the bolus until SBP ≥ 100 mmHg **OR** signs of fluid overload.

Continuous Positive Airway Pressure (CPAP)

Indications

Severe respiratory distress **AND**

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

Clinical Parameters

- Able to sit up and cooperate.
- Respiratory rate ≥ 28 breaths / minute
- SBP ≥ 100 mmHg
- SpO2 <90% OR accessory muscle use
- No asthma exacerbation
- No suspected pneumothorax
- No unprotected or unstable airway
- No major trauma or burns to the head or torso
- No tracheostomy

Adult Dosing (**≥ 18 years of age**)

Initial setting	**Titration increment**	**Titration interval**	**Max setting**
5 cmH_2O	2.5 cmH_2O	5 min	15 cmH_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:

CPAP is no longer reserved for those patients with acute cardiogenic pulmonary edema. CPAP can be used for patients experiencing pulmonary edema (regardless of the origin). CPAP can be beneficial for a variety of different causes of pulmonary edema.

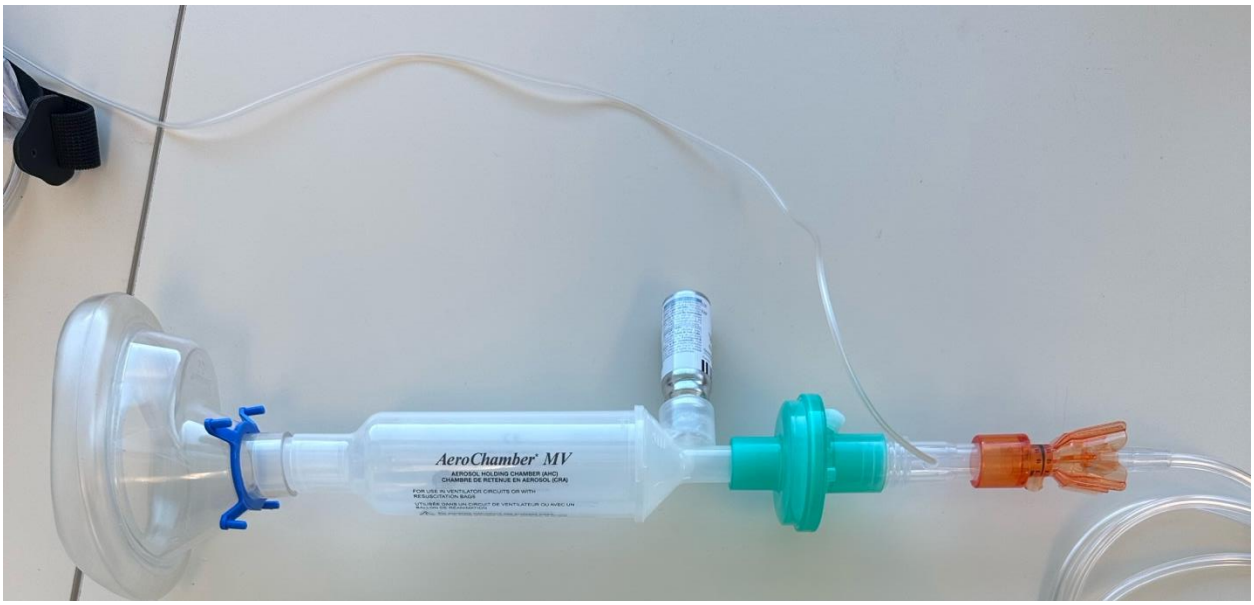
CPAP (Boussignac) settings:

8l/min=5 cmH_2O

10l/min=8 cmH_2O (accepted titration for the CPAP model)

12l/min=10 cmH_2O

15lmin= 15 cmH_2O



NOTES: Proper assembly of CPAP and the MDI aerochamber.

Seizure Treat and Discharge – IF AUTHORIZED

Indications

A PCP may treat and discharge a patient after a seizure under these criteria

AND

if authorized to use this Medical Directive

Considerations for Treat and Discharge

All of the following criteria must be met:

- The patient is ≥ 18 AND < 65 years old,
- Patient must have a history of epilepsy,
- No changes to the patient's prescribed medications in the past 30 days
- The patient must have only had a single seizure episode in the past 24 hours,
- The seizure pattern and duration must be similar to past seizures,
- The patient has returned to their normal level of consciousness,
- A complete set of vital signs including temperature are within expected normal ranges,

AND….

Considerations for Treat and Discharge

AND….

- The seizure must not be related to hypoglycemia, alcohol or substance abuse or withdrawal,
- The patient must not have received midazolam by paramedics,
- The patient did not injure themselves during seizure activity,
- The patient must not have a fever, preceding illness or recently started a new medication,
- The patient is not pregnant,

In addition to the above criteria, if all of the following requirements have been met, the patient can be discharged by Paramedics:

- A responsible adult agrees to remain with the patient for the next 4 hours,
- All of the patient or substitute decision makers questions were answered and a care plan was developed,
- The patient or substitute decision maker has been advised to follow up with their primary health care team or provider.
- Clear instructions to call 911 were provided should symptoms redevelop,
- Patient or substitute decision maker has the ability to access 911 should symptoms redevelop,
- Patient or substitute decision maker consents to the discharge.

Patch to BHP for consultation if you are unclear if the patient meets all of the discharge criteria.

Assessments of Patients with Possible COVID-19 – IF AUTHORIZED

Indications
Confirmed COVID-19 or suspected COVID-19 with mild acute respiratory illness characterized by a combination of 2 or more of the following: fever, new onset of cough, worsening chronic cough, shortness of breath or difficulty breathing, sore throat, runny nose/nasal congestion (without any known cause). **AND** The crisis is straining the resources of the host community

Clinical Parameters	
Patient Disposition: • ≥ 18 years to < 65 years • Unaltered LOA • HR is < 110 bpm • RR is < 22 breaths/min • Patient is normotensive • CTAS 3, 4 or 5 • SpO2 ≥ 94% • If temperature ≥ 38 ° C, does not appear septic/unwell • Patient and/or substitute decision maker demonstrate decision-making capacity based on the Aid to Capacity Evaluation Tool • Patient is not pregnant	**Nasopharyngeal OR nasal OR pharyngeal swab** • ≥ 18 years • Patient is being released from care **AND** meets COVID-19 testing criteria **OR** as requested by local Public Health • Patient has no recent significant facial trauma (all) • No current epistaxis **OR** significant abnormality of the nasal anatomy (nasopharyngeal or nasal swab) • No significant abnormality of the oral anatomy (pharyngeal swab)

Treatment – Mandatory BHP Patch	
Consider patient disposition * (if authorized)	
Transport to closest most appropriate emergency department	**Consider release from care (following BHP patch)**

CTAS 1 & 2 CTAS 3 with comorbidity or immunocompromise	**CTAS 3 with mild or no respiratory distress (without comorbidity/immunocompromise)** **CTAS 4 & 5 without immunocompromise**
Notes:	

*Assess for safety to remain at home including clinical criteria above, and the following: patient is unaltered, the patient can self-isolate, the patient has access to food, phone, and other necessities, and appropriate caregivers are available (if needed).

Prior to a release from care, the patient and/or SDM must be provided with contact information for their Local Public Health Unit, education on self-isolation and symptom management, and information for accessing assessment centres.

Paramedics must document these instructions and patient and/or SDM consent to the plan of care in the remarks section of the Ambulance Call Report. Advise the patient that if the problem persists or worsens they should seek further medical attention.

Consider obtaining nasopharyngeal **OR** nasal **OR** pharyngeal swab (if available and authorized). If swab obtained, complete the lab requisition and transport the specimen as per local arrangement.

Clinical Considerations:

Base Hospital Physician Patch:

When a patch is made to the BHP, the Paramedic will provide the following: patient's COVID-19 screening result, history of illness and symptoms, all past medical history, vital signs, and assessment findings, in addition to patient and/or SDM's wishes, and follow-up plans (if known).

Immunocompromised definition:

Patient or caregiver states immunocompromised, cancer treatment within past 6 weeks, HIV/AIDS, organ transplant patient, substance-use disorder, and any immunosuppressive medications.

Comorbidity definition:

Hypertension, cardiovascular disease, cerebrovascular disease, diabetes, chronic lung disease, chronic kidney disease, immunocompromised.

Mild Respiratory Distress definition:

Patient may report dyspnea on exertion, but there is mild or no increased work of breathing, patient able to speak in sentences, and RR < 22 breaths/min AND SpO2 ≥ 94%.

Headache (Special Events only)

Indications

Uncomplicated headache conforming to the patient's usual pattern, **AND**

A mass gathering that could strain resources, **AND**

These directives are approved for use

Clinical Parameters

- ≥ 18 years old
- Unaltered LOA
- No allergy or sensitivity to Acetaminophen
- No Acetaminophen in the last 4 hours
- No signs or symptoms of intoxication

Adult Dosing (≥18 years of age)

Medication	Initial Dose	Q	Repeat	Max doses
Acetaminophen PO	960 – 1000 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

Minor Abrasion (Special Events only)

Indications

Minor abrasions, **AND**

A mass gathering that could strain resources, **AND**

These directives are approved for use

Clinical Parameters

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

Adult dosing (≥ 18 years of age)

Medication	Initial Dose	Q	Repeat	Max doses
Topical Antibiotic	N/A	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.

Minor Allergic Reaction (Special Events only)

Indications

Signs consistent with minor allergic reaction, **AND**

A mass gathering that could strain resources, **AND**

These directives are approved for use

Clinical Parameters

- ≥ 18 years old
- Unaltered LOA
- SBP ≥ 100 mmHg
- 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 Dosing (≥18 years of age)

Medication	Initial Dose	Q	Repeat	Max doses
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, **AND**

A mass gathering that could strain resources, **AND**

These directives are approved for use

Clinical Parameters

- ≥ 18 years old
- Unaltered LOA
- No allergy or sensitivity to Acetaminophen
- No Acetaminophen in the last 4 hours
- No signs or symptoms of intoxication

Adult Dosing (≥18 years of age)

Medication	Initial Dose	Q	Repeat	Max doses
Acetaminophen PO	960 – 1000 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

Hydrofluoric (HF) Acid Exposure – IF AUTHORIZED

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

Dosing

Medication	Initial Dose	Q	Repeat	Max doses
Calcium Gluconate (10% solution) Inhalation exposure NEB	100 mg	N/A	N/A	1 dose
Calcium Gluconate (2.5% gel) Skin exposure TOP	N/A	N/A	PRN	N/A
Anaesthetic Eye Drops TOP	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.

Treatment initiated by onsite staff may be continued enroute to hospital.

For NEB, may need to add 2 – 3 ml to ensure minimum volume for the nebulizer to work properly.

Cyanide Exposure – IF AUTHORIZED

Indications

Suspected exposure to Cyanide, **AND**

Cardiac arrest, **OR**

Altered levels of awareness, **OR**

Hypotension.

Clinical Parameters

- N/A

Adult Doses (≥18 years of age)

Medication	Initial Dose	Q	Repeat	Max doses
Hydroxocobalamin IV **PATCH** for confirmation	5 g infusion over 15 – 30 min	N/A	N/A	1 dose

Pediatric Doses (≥ 2 years and <18 years)

Medication	Initial Dose	Q	Repeat	Max doses
Hydroxocobalamin IV **PATCH** for confirmation	70mg/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
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

Palliative Care - DYSPNEA

Indications

Patient registered in palliative care program,

AND

Uncontrolled dyspnea with suspected bronchoconstriction

Clinical Parameters

- No allergy
- ≥ 18 years old

Adult doses

Medication	Dose	Max single dose	Q	Repeat	Max doses
Salbutamol MDI	800 mcg (8 puffs)	800 mcg (8 puffs)	5-15 min	800 mcg	3 doses
Salbutamol Nebulized	5 mg	5 mg	5-15 min	5 mg	3 doses

Notes:

Salbutamol should only be used in patients whose dyspnea is accompanied by wheezing or a history to bronchoconstriction.

Palliative Care - HALLUCINATIONS OR AGITATION

Indications

Patient registered in palliative care program

AND

Increasing agitation or suspected new or increased hallucinations

Clinical Parameters

Haloperidol:

- ≥ 18 years old
- No allergy to haloperidol
- Does not have Parkinson's or Lewy Body Dementia
- Does not have Neuroleptic Malignant Syndrome

Adult doses

Medication	Dose	Max single dose	Q	Repeat	Max doses
Haloperidol SC	0.5-1 mg	1 mg	30 min	Same as initial	2 doses

Notes:

The IV route of administration **is not approved** for PCP's regardless of IV certification.

Palliative Care - NAUSEA OR VOMITING

Indications
Patient registered in palliative care program **AND** Nausea and/or vomiting

Clinical Parameters		
Haloperidol: • ≥ 18 years old • No allergy or sensitivity • Does not have Parkinson's or Lewy Body Dementia • Does not have Neuroleptic Malignant Syndrome	**Ondansetron:** • ≥ 18 years old • No allergy or sensitivity • Haloperidol contraindicated	**DimenhyDRINATE:** • ≥ 18 years old • No allergy or sensitivity • Haloperidol and Ondansetron contraindicated • No overdose on antihistamines, anticholinergics or tricyclic antidepressants

Adult doses

Medication	Dose	Max single dose	Q	Repeat	Max doses
Haloperidol SC	0.5-1 mg	1 mg	30 min	Same as initial	2 doses
Ondansetron PO / SC	4 mg	4 mg	N/A	N/A	1 dose
DimenhyDRINATE SC	25-50 mg	50 mg	N/A	N/A	1 dose

Notes:

DimenhyDRINATE is rarely used in the palliative care population as it can cause delirium, increase drowsiness, and does not target the appropriate receptors to control the nausea in most patients. It should only be used in patients with contraindications to Haloperidol and where Ondansetron cannot be used.

The IV route of administration **is not approved** for PCP's regardless of IV certification.

Palliative Care - TERMINAL CONGESTED BREATHING

Indications

Patient registered in palliative care program

AND

Congested / loud / rattling breathing in patients near the end of life

Clinical Parameters (only administer one of these medications)

Glycopyrrolate:	**Atropine**
• ≥ 18 years old • No allergy or sensitivity	• ≥ 18 years old • No allergy or sensitivity

Adult doses

Medication	Initial Dose	Max single dose	Q	Repeat	Max doses
Glycopyrrolate SC	0.4 mg	0.4 mg	N/A	N/A	1 dose
Atropine SC	0.4 mg	0.4 mg	N/A	N/A	1 dose

Notes:

Re-positioning the patient's head with gentle turning to the side, may be just as effective instead of administering medication.

Suction of the oropharynx is not appropriate as it will likely cause discomfort and a gag reflex.

The IV route of administration **is not approved** for PCP's regardless of IV certification.

Only one of Atropine or Glycopyrrolate should be administered to a patient.

Palliative Care - TREAT AND REFER

Indications

Patient registered in palliative care program, **AND**

Symptoms improved to patients/SDM satisfaction, **AND**

After informed discussion patient/SDM preference to remain home

Clinical Parameters

- ≥ 18 years old
- Valid DNR: registered in Paramedic Palliative Care Program
- No concerns of patient abuse or neglect
- Patient and SDM demonstrate decision making capacity based on the Aid to Capacity Evaluation Tool
- No uncontrolled or new seizures

Treat and Refer

Paramedics may treat patients according to this medical directive and, in collaboration with the patient / SDM, honour wishes to remain at home (treat and refer). Paramedics will notify the patients palliative care team.

Notes:

A period of observation is recommended after the administration of any medication if the patient is not transported to ensure adequate response and no unexpected immediate adverse effects. Transport should be considered if there is strong suspicion of reversible causes including but not limited to:

- Complete bowel obstruction with no prior history of same
- New spinal cord compression
- New superior vena cava obstruction
- Airway Obstruction
- Suspected new pathological fracture

If patients do not meet the treat and refer conditions, paramedics should patch to a BHP, follow the patient refusal standard and document appropriately.

ADDITIONAL NOTES:

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