BEFORE YOU PRINT:
Please note this document is 199 pages long.

ALS

Advanced Life Support Patient Care Standards

November 2011

Version 3.0

Emergency Health Services Branch
Ministry of Health and Long-Term Care

Ontario

To all users of this publication:

The information contained herein has been carefully compiled and is believed to be accurate at date of publication. Freedom from error, however, cannot be guaranteed.

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ADVANCED LIFE SUPPORT PATIENT CARE STANDARDS

ACKNOWLEDGEMENTS

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Association of Municipal Emergency Medical Services of Ontario (AMEMSO)

Ontario Base Hospital Group (OBGH)

Ministry of Health and Long Term Care – Emergency Health Services Branch (MOHLTC EHSB)

EHSB Provincial Medical Advisory Committee (MAC)

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LEVELS OF PARAMEDICS

In Ontario, there are three occupational levels of paramedics: Primary Care Paramedic (PCP), Advanced Care Paramedic (ACP), and Critical Care Paramedic (CCP). A level of paramedic is specified in Ontario Regulation 257/00 made under the *Ambulance Act,* RSO 1990, c A-19. Schedules 1, 2 and 3 to this regulation specify the mandatory controlled acts for each level of paramedic.

A paramedic may be authorized by a medical director of a Regional Base Hospital (RBH) to perform controlled acts from the Schedule immediately above their prime occupational level. In this circumstance, the paramedic will perform the skill to the specific standard set for the skill. This general concept also applies to the performance of all advanced medical procedures that are not listed as controlled acts in Schedules 1, 2 and 3, but which are also specified in these standards.

PURPOSE OF STANDARDS

The purpose of the Advanced Life Support Patient Care Standards (ALS PCS) is to guide the specifics of patient care that are to be undertaken consistent with the scope of practice of the three occupational levels of paramedics.

The ALS PCS:

- Reflects current practices for paramedics in Ontario and provides benchmarks for paramedic performance.
- Communicates the standards of practice and care by paramedics in Ontario to paramedics, patients, other disciplines and the public in general.
- Delineates paramedic professional responsibilities and accountabilities.
- Provides a basis for evaluation of patient care practice by Ontario's paramedics.
- Recognizes that the scope of practice for each occupational level of paramedic may have incremental add-ons, with appropriate rationale and accountability.

Summary

ALS PCS for the three occupational levels of paramedics in Ontario establish the practice and patient care parameters needed to provide high quality patient care in the varied settings throughout the province. The standards are designed to be dynamic, in order to allow for changes based upon new medical evidence and/or standards of medical practice.

FORMAT OF THE ADVANCED LIFE SUPPORT PATIENT CARE STANDARDS

This document is comprised of an Introduction section and six (6) appendices: Appendix 1 – PCP Medical Directives; Appendix 2 – ACP Medical Directives; Appendix 3 – PCP Auxiliary Medical Directives; Appendix 4 – ACP Auxiliary Medical Directives; Appendix 5 – Chemical Exposure Medical Directives; and Appendix 6 – Maintenance of Certification Policy. Critical Care Paramedics and Advanced/Primary Care Flight Paramedics will perform controlled acts in accordance with the base hospital medical directives issued by the Ornge Base Hospital Physician.

USE OF THE MEDICAL DIRECTIVES BY PARAMEDICS

These medical directives apply to paramedics who provide patient care under the license and/or authority of the RBH Medical Director. Delegation of controlled acts or medical directives in the ALS PCS to paramedics falls under the exclusive oversight of the MOHLTC's RBH Programs.

The medical directives are designed to guide a paramedic in the provision of timely and appropriate care to ill and injured patients in the prehospital setting, in accordance with the paramedics' training and authorized skill set. While great care has been taken in developing these medical directives, they cannot account for every clinical situation. Thus, they are not a substitute for sound clinical judgment.

REGIONAL BASE HOSPITAL COMPLIANCE WITH CPSO POLICY

As licensed physicians in the Province of Ontario, the RBH Medical Directors must comply with the policies of the College of Physicians and Surgeons of Ontario (CPSO). CPSO policy #4-03, as may be amended from time to time, provides direction to Ontario physicians on the delegation of controlled acts, regardless of practice setting or type. RBHs will also follow a parallel process for delegation of other advanced medical procedures included in these Standards.

GENERAL STRUCTURE OF A MEDICAL DIRECTIVE

All medical directives follow the same format and are comprised of the following sections:

Indication:	The general medical complaint or problem to which the medical directive applies.
Conditions:	Clinical parameters that must be present for a procedure to be performed or for a drug to be administered.
Contraindications:	Clinical parameters that if present, preclude the performance of a procedure or the administration of a drug.
Treatment:	Description of the type of procedure to be performed or the dosing of a drug.
Clinical Considerations:	Key clinical points that provide general guidance to the proper performance of a procedure or the administration of a drug.

All of these sections must be taken into account before and during the implementation of a medical directive.

ALS PATIENT CARE STANDARDS PARAMEDIC SKILL SET

The mandatory skill set for each level of paramedic is derived from the controlled acts outlined in Schedules 1, 2, and 3 (as referenced above) and is implemented through the PCP and ACP Medical Directives. A paramedic must meet all applicable requirements set out in Regulation 257/00 to receive delegation from a RBH medical director.

Additional ("Auxiliary") skills may be delegated though use of the Auxiliary Medical Directives. Delegation of Auxiliary Medical Directives by a RBH medical director to paramedics is optional and may be introduced after consultation and mutual agreement between the RBH and the certified ambulance service operator that employs the paramedic. Some PCP and ACP Medical Directives contain the phrase, "(if available)". This phrase qualifies the skill or procedure as optional (i.e. auxiliary) even if included in PCP or ACP Medical Directives.

CONSENT TO TREATMENT & CAPACITY ASSESSMENT

Except in emergency circumstances described below, paramedics must obtain the patient's consent prior to initiating treatment. Consent may be informed or implied. Informed consent may be either verbal or written. Implied consent may be assumed where a person provides a physical indication that they consent to the treatment. For example, a patient who cannot speak but extends his hand to a paramedic after the paramedic indicates she is going to perform a simple procedure, such as a blood glucose determination may be giving implied consent to the procedure.

The elements required for consent to treatment are:

- consent must be given by a person who is capable of giving consent with respect to treatment,
- consent must relate to the treatment,
- consent must be informed,
- consent must be given voluntarily, and
- consent must not be obtained through misrepresentation or fraud.

Consent to treatment is informed if, before it is given to the person, he or she has:

- received the following information that a reasonable person in the same circumstances would require in order to make a decision about the treatment:
    - the nature of the treatment,
    - the expected benefits of the treatment,
    - the material risks of the treatment,
    - the material side effects of the treatment,
    - alternative courses of action,
    - the likely consequences of not having the treatment; and
- received responses to his or her requests for additional information about those matters.

The paramedic who proposes a treatment to a person shall ensure that consent is obtained. Valid consent requires that a person has the capacity to provide consent. A person is presumed to have the capacity to provide consent with respect to treatment and a paramedic may rely on that presumption. However, a capacity assessment may be required if it is not reasonable in the circumstances to presume the person is capable of consenting to the treatment.

A patient is capable with respect to treatment if the patient is:

- Able to **understand** the information that is relevant to making a decision about the treatment or alternatives being proposed; **and**
- Able to **appreciate** the reasonably foreseeable consequences of a decision or lack of decision with respect to treatment.

If a paramedic is aware or is made aware that the person has a prior capable wish with respect to treatment, they must respect that wish (for example, if the person does not wish to be resuscitated).

If a person is incapable with respect to a treatment, consent may be given or refused on his or her behalf by a person who is authorized to do so under section 20 of the *Health Care Consent Act, 1996*.

In some instances, a person may present in an emergency situation where the person for whom the treatment is proposed is apparently experiencing severe suffering or is at risk, if the treatment is not administered promptly, of sustaining serious bodily harm.

A paramedic may administer treatment to a person without consent in an emergency situation, if there is no other authorized person available to give or refuse consent and, in the opinion of the paramedic:

- the person is not capable of giving a consent or refusal to treatment; and
- the delay required to obtain a consent or refusal on the person's behalf will prolong the suffering that the person is apparently experiencing or will put the person at risk of sustaining serious bodily harm.

REFUSAL OF TREATMENT

If a patient refuses treatment, either in whole or in part, a paramedic must comply with the applicable directions contained in the Basic Life Support (BLS) Patient Care Standards, Section 1, Part I, Patient Refusal of Treatment and/or Transport.

COMPREHENSIVE CARE

While initiating and continuing treatment prescribed by these medical directives, a paramedic must ensure that the patient simultaneously receives care in accordance with the BLS Patient Care Standards.

It is acknowledged that there may be circumstances and situations where complying with Advanced Life Support Patient Care Standards is not clinically justified, possible, or prudent (e.g. multiple crews on scene, trapped patient, extenuating circumstances, competing patient care priorities). When treatment deviates from the standards, a paramedic must document the care provided, including reasoning for deviating from the Standards.

INTRAVENOUS ("IV") ACCESS AND THERAPY BY PRIMARY CARE PARAMEDICS

Two levels of certification of PCPs for IV cannulation and therapy are possible.

"PCP Assist IV" authorizes a PCP to cannulate a peripheral IV at the request and under the direct supervision of an ACP. The patient must require a peripheral IV in accordance with the indications listed in the Intravenous Access and Fluid Therapy Medical Directive - Auxiliary. The ACP will perform all IV therapy in accordance with the Intravenous Access and Fluid Administration Protocol once intravenous access is obtained. PCPs certified in PCP Assist IV are not authorized to administer IV therapy.

"PCP Autonomous IV" authorizes a PCP to independently cannulate an IV according to the Intravenous Access and Fluid Therapy Medical Directive – Auxiliary. PCPs certified in PCP Autonomous IV are authorized to administer IV therapy according to applicable medical directives.

Certification at each level shall meet the requirements established by the provincial Medical Advisory Committee.

HOME MEDICAL TECHNOLOGY AND NOVEL MEDICATIONS

As community care advances, new home medical technologies and novel medications are being introduced for home use by highly trained patients and caregivers. They are generally used by patients with complex medical histories who may require emergent interventions which are not described in, or aligned with, the BLS or ALS Patient Care Standards.

A "home medical technology" is an external or internal mechanical device prescribed by a member of a regulated health profession for the purpose of treating a medical condition.

A "novel medication" is a self/caregiver-administered medication prescribed by a member of a regulated health profession that is required to treat patients with generally rare and unusually complex chronic medical conditions which are often end stage. The medication may be self/caregiver-administered by any route into any part of the body.

These can be encountered unexpectedly by paramedics without any prior knowledge that these technologies or medications are being used in the community. Paramedics may not be familiar with the use of these technologies or medications, even though they may be required to provide care.

In some cases, when Base Hospital Medical Directors are alerted to these unique devices, medications or care requirements, a unique local medical directive may be issued to guide specific care for these patients. Such directives should be followed until further consideration by the Medical Advisory Committee.

A paramedic may assume patients or caregivers have knowledge about the technology or medication if they confirm that they were trained in its use and/or administration. A paramedic should advise the patient or caregiver to follow any specific steps or provide any advice about restarting/stopping the device or novel medication. A paramedic may only assist a patient within the authorized paramedic skill set.
When care requirements are uncertain, but the patient is stable, transport the patient. If the patient is unstable, consider patching to the Base Hospital Physician. Alternatively, consider contacting the responsible member of a regulated health profession.

A paramedic may follow written advice provided by their Base Hospital Medical Directors even if this advice is outside the conditions and contraindications of the BLS and ALS patient care standards.

PATCHING

A paramedic should patch to the Base Hospital:

- When a medical directive contains a mandatory provincial patch point;

  OR

- When a RBH introduces a mandatory BH patch point;

  OR

- For situations that fall outside of these medical directives where the paramedic believes the patient may benefit from online medical direction that falls within the prescribed paramedic scope of practice;

  OR

- When there is uncertainty about the appropriateness of a medical directive, either in whole or in part.

In cases where a treatment option requires the prior authorization by the BHP (i.e. mandatory provincial patch point or mandatory BH patch point) AND the BHP cannot be reached despite reasonable attempts by the paramedic to establish contact, a paramedic may initiate the required treatment without the requisite online authorization if the patient is in severe distress and, in the paramedic's opinion, the medical directive would otherwise apply. Clinical judgment must be applied and an acceptable standard of care must be met. This may be based on peer and expert review. In such cases, a paramedic should continue attempts to contact the BHP after the treatment has been initiated. All patch failures must be reported in a timely manner in accordance with local policy and procedures. Paramedics should document the attempts to patch to the BH on the Ambulance Call Report (ACR).

If a BHP directs a paramedic to perform an assessment or intervention that exceeds the paramedic's scope of practice, the paramedic must advise the BHP of such and notify the physician that he or she cannot comply with the direction as it exceeds his or her scope of practice. In such cases, a paramedic should ask the BHP to provide alternative direction.

INCIDENT REPORTING

Paramedics shall adhere to their ambulance service policies and the Ontario Ambulance Documentation Standards (incorporated by reference in Regulation 257/00) for incident reporting. Paramedics shall also adhere to additional RBH policies regarding reporting of clinical care incidents to the RBH.

CONTROLLED SUBSTANCES

Where applicable, paramedics and ambulance service operators shall comply with the Canada *Controlled Drug and Substances Act,* SC 1996, c 19 and its Regulations, in accordance with the ambulance operator and RBH policy. This shall include that controlled substances (opiates and benzodiazepines) are stored in different carrying cases than other medications.

RESPONSIBILITY FOR CARE

While on scene, the highest level paramedic shall assess the patient and make a decision on the level of care required, and on the level of paramedic required for the care of the patient. The highest level paramedic is the ultimate patient care authority on the scene. If there is any disagreement between paramedics, the Base Hospital physician may be contacted. It is expected that when an intervention has been performed, the paramedic most appropriate for that intervention will remain responsible for the patient.

In all patient care, the highest level of paramedic is responsible for the care of the patient, including decisions on the level of care required during transport. A paramedic may choose to assign aspects of care and procedures to an alternate level paramedic, as long as the care and procedures are within that paramedic's scope of practice. Paramedics must alert the highest level paramedic of any change of patient status.

When transferring care from one level of paramedic to another, paramedics shall provide:

- current CTAS level;
- a history of the patient's current problem(s) and relevant past medical history;
- pertinent physical findings;
- a summary of management at scene/enroute;
- the patient's response to treatment, including most recent vital signs;
- the reason for transfer in cases of inter-facility transfers.

The transfer of responsibility of patient care is a critical juncture along the clinical care continuum. When transferring patient care to another health care provider (e.g. nurse, physician, etc.), a paramedic must comply with the BLS Patient Care Standards regarding such transfers.

RESEARCH

Clinical research is fundamental to the practice of medicine and the development of safer, more effective treatment options for patients. At times, research protocols require temporary changes to patient care standards. In recognition of the importance of prehospital clinical research, RBH Medical Directors may delegate changes in patient care standards to paramedics if the research-related treatment is endorsed by MAC–OBHG and the certified ambulance operator that employs the paramedics, approved by MOHLTC, and is supported by an appropriate research ethics review board. Changes to patient care standards will be introduced as an auxiliary medical directive. Upon completion of a prehospital clinical trial, research-related treatment must be halted and care as prescribed by BLS and ALS Patient Care Standards must resume.

CONVENTIONS

"Conventions" refers to a consistent application of terms throughout the medical directives based on definitions below.

The word 'consider' is used repeatedly throughout the medical directives. Where this word appears, it indicates that a paramedic should initiate the treatment unless there is strong clinical rationale to withhold it. A paramedic must document his or her justification for withholding treatment on the ACR.

DRUG DOSES AND ADMINISTRATION

Drug doses may be either in per kilogram or fixed doses, depending on common clinical practice. The number of recommended drugs doses may be administered regardless of any previous self-administration by a patient. When more than one route of drug administration is listed, the order of preference for route of administration is from left to right. Clinical circumstances for each case should determine the final route chosen.

Pediatric drug doses can vary slightly according to the source of expert opinion. The pediatric drug doses in the ALS PCS are the preferred doses. However, drug doses as determined by an up-to-date version of a widely accepted pediatric emergency tape (e.g. Broselow Tape) are an acceptable alternative. Use of a pediatric emergency tape shall be documented on the ACR when it is used to determine a pediatric drug dose.

AGE AND VITAL SIGNS

The general age cut off between adults and pediatrics is 18 years. There is a wide range of "normal" for vital signs in adults and especially pediatrics. As much as possible, ages for pediatrics and cut off points for vital signs have been kept consistent throughout the medical directives. However, clinical research and expert opinion have resulted in a number of exceptions which in each case has been deliberately chosen and is clearly noted in each medical directive. There is a deliberate gap in the definition of normotension and hypotension in adults.

ADULTS

Normotension - SBP ≥100mmHg;

Hypotension - SBP <90 mmHg

Heart rate: Heart rate is always in beats per minute according to a cardiac monitor when it is applied. In situations where a cardiac monitor is not indicated then the heart rate is equal to the pulse rate.

Bradycardia - <50 BPM;

Tachycardia - ≥100 BPM

Tachypnea - RR ≥28 breath/min

PEDIATRICS

Age	Respiratory Rate	Heart Rate
0-3 months	30-60	90-180
3-6 months	30-60	80-160
6-12 months	25-45	80-140
1-3 yr	20-30	75-130
6 yr	16-24	70-110
10 yr	14-20	60-90

Systolic Blood Pressure (for children 1-10 yrs) = 70 + (2 x age in years)

Weight (kg) = (age x 2) + 10

HYPOGLYCEMIA:

Age ≥2 years: glucometry <4.0 mmol/L

Age <2 years: glucometry <3.0 mmol/L

LOA (Level of Awareness):

The word ‘altered’ refers to a GCS that is less than normal for the patient.

The word ‘unaltered’ refers to a GCS that is normal for the patient. This may be a GCS <15.

LIST OF ABBREVIATIONS

The following abbreviations, in alphabetical order, appear in the ALS Patient Care Standards:

A

ACP	Advanced Care Paramedic
ALS	Advanced Life Support
ALS PCS	Advanced Life Support Patient Care Standards
ASA	acetylsalicylic acid
AV	atrioventricular

B

BH	base hospital
BHP	Base Hospital Physician
BLS	Basic Life Support
BP	blood pressure
BPM	beats per minute
BVM	bag-valve-mask

C

CCP	Critical Care Paramedic
COPD	chronic obstructive pulmonary disease
cm	centimeter
CPAP	continuous positive airway pressure
CPR	Cardiopulmonary Resuscitation
CPSO	College of Physicians and Surgeons of Ontario
CTAS	Canadian Triage and Acuity Scale
CVA	cerebral vascular accident
CVAD	central venous access device

D

DKA	diabetic ketoacidosis

E

ECD	electronic control device
ECG	electrocardiogram
EDD	esophageal detection device
$ETCO_2$	end tidal carbon dioxide
ETT	endotracheal tube

F

FiO_2	fraction of inspired oxygen
FRI	febrile respiratory infection

G

g	gram
GCS	Glasgow Coma Scale

H

H_2O	water
HR	heart rate
Hx	history

I

IM	intramuscular
IN	intranasal
IO	intraosseous
IV	intravenous

K

kg	kilogram

L

LOA	level of awareness
LOC	level of consciousness/loss of consciousness

M

MAC	Medical Advisory Committee
mcg	microgram
MDI	metered dose inhaler
mg	milligram
min	minute
ml/kg	milliliter per kilogram
mmHg	millimeters of mercury
MOHLTC	Ministry of Health and Long-Term Care

N

N/A	not applicable
NaCl	sodium chloride
nare	nostril
NEB	nebulized
NPA	nasopharyngeal airway
NSAID	non-steroidal anti-inflammatory drug

O

OBHG	Ontario Base Hospital Group
OPA	oropharyngeal airway

P

PCP	Primary Care Paramedic
PO	by mouth/oral
PRN	as needed

Q

q	every

R

RBH	Regional Base Hospital
ROSC	return of spontaneous circulation
RR	respiratory rate

S

SC	subcutaneous
SL	sublingual
SBP	systolic blood pressure
SpO_2	saturation of peripheral oxygen
STEMI	ST-segment elevation myocardial infarction

T

TBI	traumatic brain injury
TCA	tricyclic antidepressant
TCP	transcutaneous pacing

U

URTI	upper respiratory tract infection

V

VSA	vital signs absent

W

WNL	within normal limits

REFERENCE AND EDUCATIONAL NOTES

The RBHs have created a companion document of reference and educational notes intended to assist paramedics in implementing these medical directives. This will facilitate regular updating of these notes without having to issue frequent changes to the standards. It is expected that paramedics have mastered the relevant information as part of initial training and certification and have maintained their knowledge through continuing education and self-study. The reference and educational notes do not define a standard of care; however, they should be considered useful in ensuring that an appropriate standard of care is met.

Advanced Life Support Patient Care Standards

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TABLE OF APPENDICES

Appendix 1

Primary Care Paramedic Core Medical Directives

November 2011

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MEDICAL CARDIAC ARREST MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized

INDICATIONS

Non-traumatic cardiac arrest

CONDITIONS

CPR

AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Performed for 2 minute intervals

AED Defibrillation

AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Shock indicated

Manual Defibrillation

AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	VF or pulseless VT

Epinephrine

AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Anaphylaxis suspected as causative event

Medical TOR

AGE:	≥18 years
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Arrest not witnessed by EMS, AND No ROSC AND No shocks delivered

CONTRAINDICATIONS

CPR

Obviously dead as per BLS standards

Meet conditions of DNR standard

AED Defibrillation

Non-shockable rhythm

Manual Defibrillation

Rhythms other than VF or pulseless VT

Epinephrine

Allergy or sensitivity to epinephrine

Medical TOR

Arrest thought to be of non-cardiac origin

TREATMENT

Consider ***CPR***

Consider ***AED defibrillation***: (with pediatric attenuator if available)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	4	4	4

Consider ***Manual defibrillation:*** *(if certified and authorized)*

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
First dose	2 J/kg	As per BH / manufacturer
Subsequent and max. dose(s)	4 J/kg	As per BH / manufacturer
Dosing interval	2 min	2 min
Max. # of doses	4	4

Consider ***epinephrine*** *(only if anaphylaxis suspected as causative event)*:

	Weight N/A **Route** *IM* **Concentration** *1:1,000*
Dose	0.01 mg/kg*
Max. single dose	0.5 mg
Dosing interval	N/A
Max. # of doses	1

* The epinephrine dose may be rounded to the nearest 0.05 mg.

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization, following the 3rd analysis, to consider Medical Termination of Resuscitation (TOR) (if applicable). If the BH patch fails, or the medical TOR does not apply, transport to the closest appropriate receiving hospital following ROSC or the 4th analysis.

CLINICAL CONSIDERATIONS

In unusual circumstances (e.g.: pediatric patients or toxicological overdoses), consider initiating transportation following the first rhythm analysis that does not result in a defibrillation being delivered.

A Paramedic may choose to move the patient to the ambulance prior to initiating the TOR if family is not coping well or the arrest occurred in a public place.

Follow the Deceased Patient Standard once TOR has been implemented.

TRAUMA CARDIAC ARREST MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized

INDICATIONS

Cardiac arrest secondary to severe blunt or penetrating trauma

CONDITIONS

CPR

AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

AED Defibrillation

AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Shock indicated

Manual Defibrillation

AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	VF or pulseless VT

Trauma TOR

AGE:	≥16 years
LOA:	Altered
HR:	0
RR:	0
SBP:	N/A
Other:	No palpable pulses No defibrillation delivered and monitored HR = 0 (asystole) **OR** monitored HR >0 **AND** the closest ER ≥30 min transport time away.

CONTRAINDICATIONS

CPR

Obviously dead as per BLS standards

Meet conditions of DNR standard

AED Defibrillation

Non-shockable rhythm

Manual Defibrillation

Rhythms other than VF or pulseless VT

Trauma TOR

Age <16 years

Shock delivered

Monitored HR >0 and closest ER <30 min away

TREATMENT

Consider ***CPR***

Consider ***AED defibrillation***:

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

Consider ***Manual defibrillation:*** *(if certified and authorized)*

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
Initial dose	2 J/kg	As per BH / manufacturer
Dosing interval	N/A	N/A
Max. # of doses	1	1

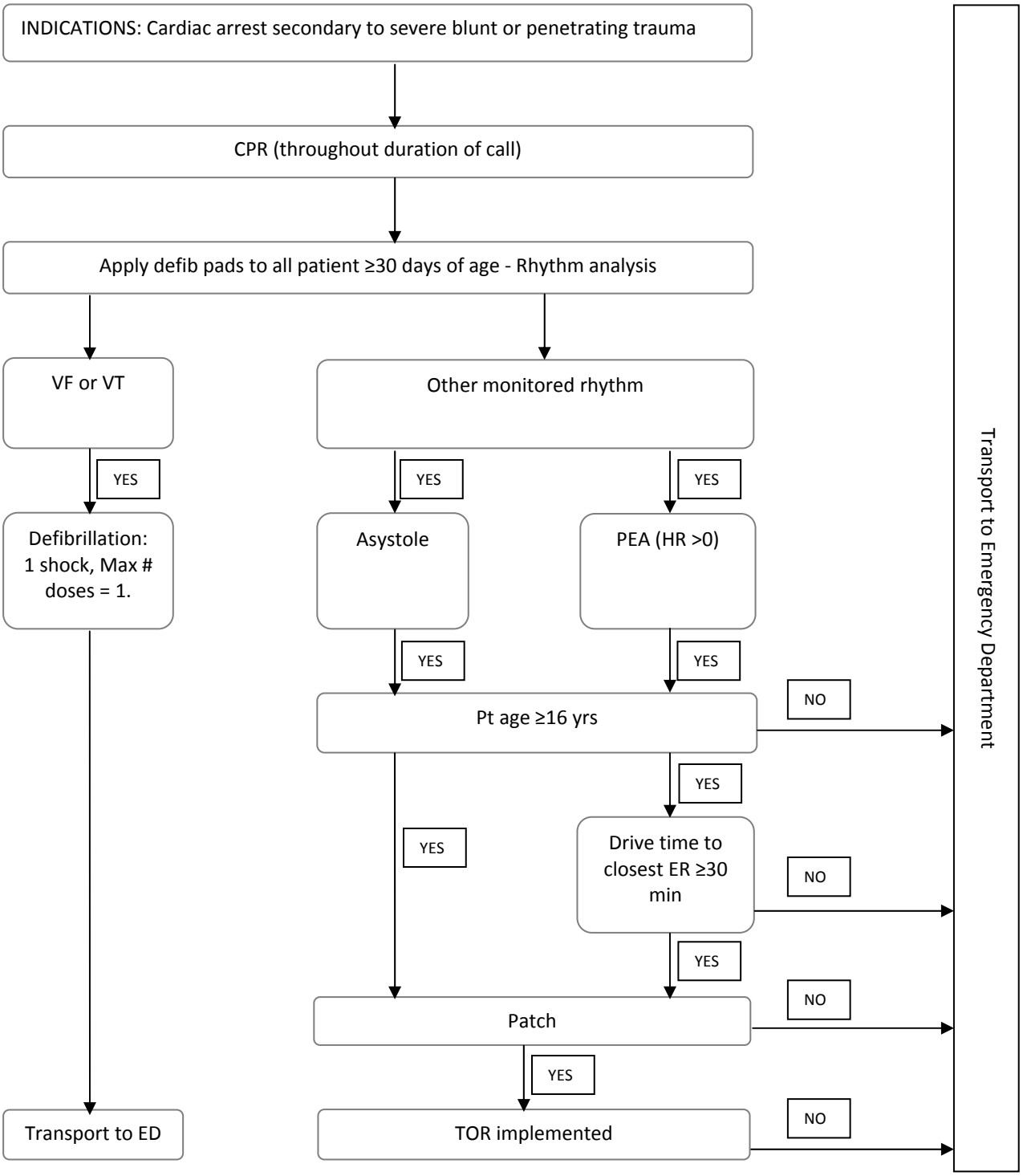
MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to apply the *Trauma (TOR) Termination of Resuscitation,* if applicable. If the BH patch fails, or the trauma TOR does not apply, transport to the closest appropriate receiving hospital following the first analysis/shock.

CLINICAL CONSIDERATIONS

If no obvious external signs of significant blunt trauma, consider medical cardiac arrest and treat according to the appropriate medical cardiac arrest directive.

TREATMENT – ALGORITHM FOR TRAUMA ARREST



HYPOTHERMIA CARDIAC ARREST MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Cardiac arrest secondary to severe hypothermia

CONDITIONS

CPR	
AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

AED Defibrillation	
AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Shock indicated

Manual Defibrillation	
AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	VF or pulseless VT

CONTRAINDICATIONS

CPR
Obviously dead as per BLS standards
Meet conditions of DNR standard

AED Defibrillation
Non-shockable rhythm

Manual Defibrillation
Rhythms other than VF or pulseless VT

TREATMENT

Consider ***CPR:***

Consider ***AED defibrillation***: (with pediatric attenuator if available)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

Consider ***Manual defibrillation***:

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
Initial dose	2 J/kg	As per BH / manufacturer
Dosing interval	N/A	N/A
Max. # of doses	1	1

Transport to the closest appropriate facility without delay following the first analysis.

CLINICAL CONSIDERATIONS

N/A

FOREIGN BODY AIRWAY OBSTRUCTION CARDIAC ARREST MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Cardiac arrest secondary to an airway obstruction

CONDITIONS

CPR

AGE: N/A
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: N/A

AED Defibrillation

AGE: ≥30 days
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: Shock indicated

Manual Defibrillation

AGE: ≥30 days
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: VF or pulseless VT

CONTRAINDICATIONS

CPR

Obviously dead as per BLS standards

Meet conditions of DNR standard

AED Defibrillation

Non-shockable rhythm

Manual Defibrillation

Rhythms other than VF or pulseless VT

TREATMENT

Consider ***CPR:***

Consider ***foreign body removal:*** (utilizing BLS maneuvers)

Consider ***AED defibrillation***: (with pediatric attenuator if available)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

Consider ***Manual defibrillation***:

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
Initial dose	2 J/kg	As per BH / manufacturer
Dosing interval	N/A	N/A
Max. # of doses	1	1

If the patient is in cardiac arrest following removal of the obstruction, initiate management as a medical cardiac arrest.

If the obstruction cannot be removed, transport to the closest appropriate facility without delay following the first analysis.

CLINICAL CONSIDERATIONS

N/A

NEONATAL RESUSCITATION MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Severe cardio-respiratory distress

CONDITIONS

Resuscitation

AGE:	newborn or <30 days of age
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Less than full term, or meconium, or poor APGAR score

CONTRAINDICATIONS

Resuscitation

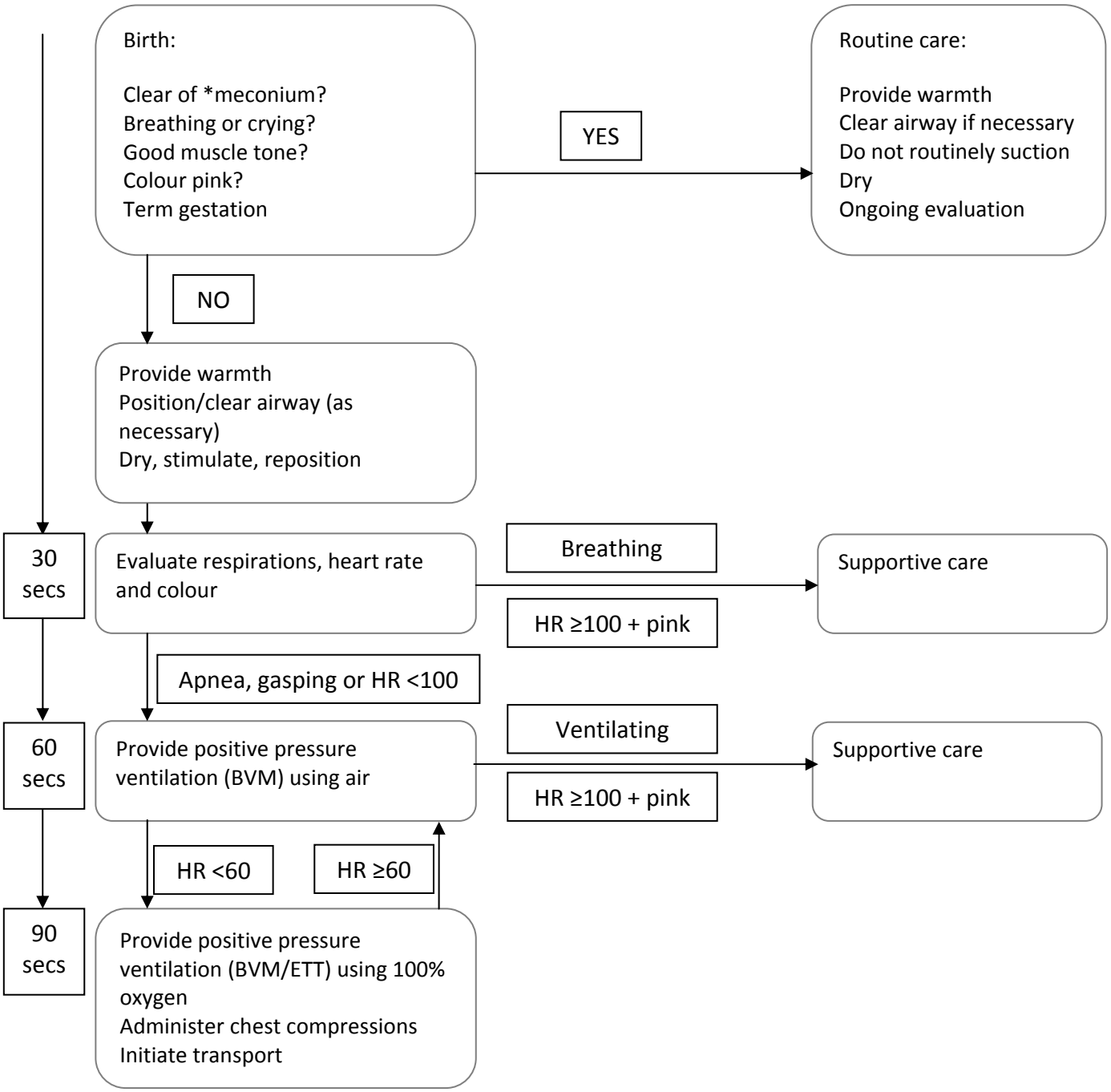
Clear of meconium

Breathing or crying

Good muscle tone

Pink in colour

TREATMENT



*if meconium is present and baby not vigorous, suction mouth and pharynx and provide BVM ventilations as required and then continue with the remainder of the initial steps following birth.

RETURN OF SPONTANEOUS CIRCULATION (ROSC) MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Patient with return of spontaneous circulation (ROSC) after the resuscitation was initiated.

CONDITIONS

0.9% NaCl fluid bolus

AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	Chest auscultation is clear

Therapeutic hypothermia

AGE:	males ≥18 years females ≥50 years
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	≥90 mmHg (spontaneous or following bolus administered)
Other:	N/A

CONTRAINDICATIONS

0.9% NaCl fluid bolus

Fluid overload

SBP ≥90 mmHg

Therapeutic hypothermia

Traumatic cardiac arrest (blunt, penetrating or burn)

Sepsis or serious infection suspected as cause of arrest

Hypothermic arrest

Known coagulopathy (medical history or medications)

TREATMENT

Consider ***rapid transport***

Consider ***optimizing ventilation and oxygenation:***

Titrate oxygenation ≥94%

Avoid hyperventilation and target an ETCO2 of 35-40 mmHg with continuous waveform capnography (if available)

Consider ***0.9% NaCl fluid bolus:*** (if certified and authorized)

	Age *<12 years*	**Age** *≥12 years*
	Route *IV*	**Route** *IV*
Infusion	10 ml/kg	10 ml/kg
Infusion interval	Immediate	Immediate
Reassess every	100 ml	250 ml
Max. volume	1,000 ml	1,000 ml

Consider ***12 lead acquisition*** (if available)

Consider ***Therapeutic hypothermia*** (if available)

CLINICAL CONSIDERATIONS

The application of therapeutic hypothermia should not detract from rapid transport, optimizing ventilation and oxygenation or the management of a re-arrest.

CARDIAC ISCHEMIA MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Suspected cardiac ischemia

CONDITIONS

ASA

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Able to chew and swallow

Nitroglycerin

AGE:	≥18 years
LOA:	Unaltered
HR:	60-159 bpm
RR:	N/A
SBP:	Normotension
Other:	Prior history of nitroglycerin use **OR** IV access obtained

CONTRAINDICATIONS

ASA

Allergy or sensitivity to ASA or NSAIDS

If asthmatic, no prior use of ASA

Current active bleeding

CVA or TBI in the previous 24 hours

Nitroglycerin

Allergy or sensitivity to nitrates

Phosphodiesterase inhibitor use within the previous 48 hours

SBP drops by one-third or more of its initial value after nitroglycerin is administered

12-lead ECG compatible with Right Ventricular infarct

TREATMENT

Consider ***ASA***:

	Route
	PO
Dose	160-162 mg
Max. single dose	162 mg
Dosing interval	N/A
Max. # of doses	1

Consider ***12-lead ECG acquisition*** (if available)

Consider ***nitroglycerin***:

	SBP *≥100 mmHg*
	Route *SL*
Dose	0.3 **or** 0.4 mg
Max. single dose	0.4 mg
Dosing interval	5 min.
Max. # of doses	6

CLINICAL CONSIDERATIONS

N/A

ACUTE CARDIOGENIC PULMONARY EDEMA MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Moderate to severe respiratory distress

AND

Suspected acute cardiogenic pulmonary edema

CONDITIONS

Nitroglycerin

AGE:	≥18 years
LOA:	N/A
HR:	60-159 bpm
RR:	N/A
SBP:	Normotension
Other:	Ascertain prior history of nitroglycerin use **OR** establish IV access

CONTRAINDICATIONS

Nitroglycerin

Allergy or sensitivity to nitrates

Phosphodiesterase inhibitor use within the previous 48 hours

SBP drops by one-third or more of its initial value after nitroglycerin is administered

TREATMENT

Consider ***nitroglycerin***:

	SBP *100 mmHg to <140 mmHg*	**SBP** *≥140 mmHg*	
	IV or Hx *Yes*	**IV or Hx** *No*	**IV or Hx** *Yes*
	Route *SL*	**Route** *SL*	**Route** *SL*
Dose	0.3 **or** 0.4 mg	0.3 **or** 0.4 mg	0.6 **or** 0.8 mg
Max. single dose	0.4 mg	0.4 mg	0.8 mg
Dosing interval	5 min.	5 min.	5 min.
Max. # of doses	6	6	6

NOTE: Hx refers to a patient with a prior history of nitroglycerin use.

Consider ***12-lead ECG acquisition*** (if available)

CLINICAL CONSIDERATIONS

IV condition applies only to PCPs certified to the level of PCP Autonomous IV.

CARDIOGENIC SHOCK MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

STEMI-positive ECG

AND

Cardiogenic shock

CONDITIONS

0.9% NaCl

AGE:	≥2 years
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	Clear chest on auscultation

CONTRAINDICATIONS

0.9% NaCl

N/A

TREATMENT

Consider ***0.9% NaCl fluid bolus***:

	Age *≥2 years to <18 years* **Route** *IV*	**Age** *≥18 years* **Route** *IV*
Infusion	10 ml/kg	10 ml/kg
Infusion interval	N/A	N/A
Reassess every	100 ml	250 ml
Max. volume	10 ml/kg	10 ml/kg

CLINICAL CONSIDERATIONS

N/A

HYPOGLYCEMIA MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

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

CONDITIONS

Dextrose	
AGE:	≥2 years
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Hypoglycemia

Glucagon	
AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Hypoglycemia

CONTRAINDICATIONS

Dextrose

Allergy or sensitivity to dextrose

Glucagon

Allergy or sensitivity to glucagon

Pheochromocytoma

TREATMENT

Perform ***glucometry***

Consider ***dextrose*** (if certified and authorized) ***or glucagon:***

	Drug *Dextrose*	**Drug** *Glucagon*	
	Age *≥2 years*	**Age** *N/A*	
	Weight *N/A*	**Weight** *<25 kg*	**Weight** *≥25 kg*
	Concentration *D50W*	**Concentration** *N/A*	**Concentration** *N/A*
	Route *IV*	**Route** *IM*	**Route** *IM*
Dose	0.5 g/kg (1 ml/kg)	0.5 mg	1 mg
Max. single dose	25 g (50 ml)	0.5 mg	1 mg
Dosing interval	10 min.	20 min.	20 min.
Max. # of doses	2	2	2

CLINICAL CONSIDERATIONS

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 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 certified to the level of PCP Autonomous IV.

BRONCHOCONSTRICTION MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Respiratory distress

AND

Suspected bronchoconstriction

CONDITIONS

Salbutamol

AGE: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

Epinephrine

AGE: N/A

WEIGHT: N/A

LOA: N/A

HR: N/A

RR: BVM ventilation required

SBP: N/A

Other: Hx of asthma

Epinephrine Autoinjector

AGE: N/A

WEIGHT: ≥10 kg

LOA: N/A

HR: N/A

RR: BVM ventilation required

SBP: N/A

Other: Hx of asthma

CONTRAINDICATIONS

Salbutamol

Allergy or sensitivity to salbutamol

Epinephrine

Allergy or sensitivity to epinephrine

Epinephrine Autoinjector

Allergy or sensitivity to epinephrine

TREATMENT

Consider ***salbutamol***:

	Weight *<25 kg*		**Weight** *≥25 kg*	
	Route *MDI (if available)**	**Route** *NEB*	**Route** *MDI (if available)**	**Route** *NEB*
Dose	Up to 600 mcg (6 puffs)	2.5 mg	Up to 800 mcg (8 puffs)	5 mg
Max. Single Dose	600 mcg	2.5 mg	800 mcg	5 mg
Dosing interval	5-15 min. PRN	5-15 min. PRN	5-15 min. PRN	5-15 min. PRN
Max. # of doses	3	3	3	3

* 1 puff=100mcg

Consider ***epinephrine***:

	Weight *N/A*	***Weight*** *≥10 kg to <25 kg*	***Weight*** *≥25 kg*
	Route *IM*	***Route*** *Pediatric Autoinjector*	**Route** *Adult Autoinjector*
	Concentration *1:1,000*	**Concentration** *1:1,000*	**Concentration** *1:1,000*
Dose	0.01 mg/kg**	1 injection (0.15 mg)	1 injection (0.3 mg)
Max. single dose	0.5 mg	1 injection	1 injection
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

** The epinephrine dose may be rounded to the nearest 0.05 mg.

CLINICAL CONSIDERATIONS

Epinephrine should be the first drug 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).

***MANDATORY PROVINCIAL PATCH POINT*:**

Patch to BHP for authorization to use pediatric autoinjector for patients <10 kg.

MODERATE TO SEVERE ALLERGIC REACTION MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Exposure to a probable allergen

AND

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

CONDITIONS

Epinephrine

AGE: N/A

WEIGHT: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: For anaphylaxis only

Epinephrine Autoinjector

AGE: N/A

WEIGHT: ≥10 kg

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: For anaphylaxis only

Diphenhydramine

AGE: N/A

WEIGHT: ≥25 kg

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

CONTRAINDICATIONS

Epinephrine

Allergy or sensitivity to epinephrine

Epinephrine Autoinjector

Allergy or sensitivity to epinephrine

Diphenhydramine

Allergy or sensitivity to diphenhydramine

TREATMENT

Consider ***epinephrine***:

	Weight N/A	***Weight*** ≥10 kg to <25 kg	***Weight*** ≥25 kg
	Route *IM*	***Route*** *Pediatric Autoinjector*	**Route** *Adult Autoinjector*
	Concentration *1:1,000*	**Concentration** *1:1,000*	**Concentration** *1:1,000*
Dose	0.01 mg/kg*	1 injection (0.15 mg)	1 injection (0.3 mg)
Max. single dose	0.5 mg	1 injection	1 injection
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

*The epinephrine dose may be rounded to the nearest 0.05 mg.

Consider ***diphenhydramine*** (if certified and authorized):

	Weight *≥25 kg to <50 kg*		**Weight** *≥50 kg*	
	Route *IV*	**Route** *IM*	**Route** *IV*	**Route** *IM*
Dose	25 mg	25 mg	50 mg	50 mg
Max. single dose	25 mg	25 mg	50 mg	50 mg
Dosing interval	N/A	N/A	N/A	N/A
Max. # of doses	1	1	1	1

CLINICAL CONSIDERATIONS

Epinephrine should be the first drug administered in anaphylaxis.

IV administration of diphenhydramine applies only to PCPs certified to the level of PCP Autonomous IV.

***MANDATORY PROVINCIAL PATCH POINT*:**

Patch to BHP for authorization to use pediatric autoinjector for patients <10 kg

CROUP MEDICAL DIRECTIVE

A Primary Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Severe respiratory distress

AND

Stridor at rest

AND

Current history of URTI

AND

Barking cough OR recent history of a barking cough

CONDITIONS

Epinephrine

AGE:	<8 years
LOA:	N/A
HR:	<200 bpm
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Epinephrine

Allergy or sensitivity to epinephrine

TREATMENT

Consider ***epinephrine***:

	Age *<1 year*		**Age** *≥1 year to 8 years*
	Weight *<5 kg*	**Weight** *≥5 kg*	**Weight** *N/A*
	Route *NEB*	**Route** *NEB*	**Route** *NEB*
	Concentration *1:1,000*	**Concentration** *1:1,000*	**Concentration** *1:1,000*
Dose	0.5 mg	2.5 mg	5 mg
Max. single dose	0.5 mg	2.5 mg	5 mg
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

CLINICAL CONSIDERATIONS

The minimum initial volume for nebulization is 2.5 ml.

Appendix 2

Advanced Care Paramedic Core Medical Directives

November 2011

TABLE OF CONTENTS

MEDICAL CARDIAC ARREST MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if cerified and authrized.

INDICATIONS

Non-traumatic cardiac arrest

CONDITIONS

CPR

AGE: N/A
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: performed in 2 minute increments

Manual Defibrillation

AGE: ≥30 days
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: VF or pulseless VT

AED Defibrillation

AGE: ≥8 years
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: Shock indicated
Alternative to manual defibrillation

Epinephrine

AGE: ≥30 days
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: If anaphylaxis suspected as causative event, IM route may be used

Amiodarone

AGE: ≥30 days
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: VF or pulseless VT

Lidocaine

AGE: ≥30 days
LOA: Altered
HR: N/A
RR: N/A
SBP: N/A
Other: VF or pulseless VT where amiodarone is not available

0.9% NaCl Fluid Bolus

AGE: N/A

LOA: Altered

HR: N/A

RR: N/A

SBP: N/A

Other: PEA

Any other rhythm where hypovolemia is suspected

CONTRAINDICATIONS

CPR

Obviously dead as per BLS standards

Meet conditions of DNR standard

Manual Defibrillation

Rhythms other than VF or pulseless VT

AED Defibrillation

Non-shockable rhythm

Epinephrine

Allergy or sensitivity to epinephrine

Amiodarone

Allergy or sensitivity to amiodarone

Lidocaine

Allergy or sensitivity to lidocaine

Use / Availability of amiodarone

0.9% NaCl Fluid Bolus

Fluid overload

TREATMENT

Consider ***CPR:***

Consider ***supraglottic airway insertion:*** where more than OPA/NPA and BVM required and without interrupting CPR

Consider ***Manual defibrillation***:

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
First dose	2 J/kg	As per BH / manufacturer
Subsequent and max. dose(s)	4 J/kg	As per BH / manufacturer
Dosing interval	2 min	2 min
Max. # of doses	N/A	N/A

Consider ***AED defibrillation***: (alternative to manual defibrillation)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	N/A	N/A	N/A

Consider ***epinephrine:***

In the event anaphylaxis is suspected as the causative event of the cardiac arrest, a single dose of 0.01 mg/kg 1:1,000 solution, to a maximum of 0.5 mg IM, may be given prior to obtaining the IV/IO.

	Age ≥30 days to <12 years		**Age** ≥12 years	
	Route		**Route**	
	IV / IO	*ETT*	*IV / IO / CVAD*	*ETT*
Solution	1:10,000	1:1,000	1:10,000	As per BH
Dose	0.01 mg/kg	0.1 mg/kg to a max of 2 mg	1 mg	2 mg
Min. single dose	0.1 mg	1 mg	1 mg	2 mg
Dosing interval	4 min.	4 min.	4 min.	4 min.
Max. # of doses	N/A	N/A	N/A	N/A

* The epinephrine dose may be rounded to the nearest 0.05 mg.

Consider ***amiodarone:***

	Age ≥30 days to <12 years	**Age** ≥12 years
	Route	**Route**
	IV / IO	*IV / IO / CVAD*
Initial Dose	5 mg/kg	300 mg
Max. initial dose	300 mg	300 mg
Repeat dose	5 mg/kg	150 mg
Max. repeat dose	150 mg	150 mg
Dosing interval	4 min.	4 min.
Max. # of doses	2	2

Consider ***lidocaine:*** (if amiodarone not available)

	Age ≥30 days to 12 years and <40 kg		**Age** ≥12 years	
	Route		**Route**	
	IV / IO	*ETT*	*IV / IO / CVAD*	*ETT*
Dose	1 mg/kg	2 mg/kg	1.5 mg/kg	3 mg/kg
Min. single dose	N/A	N/A	N/A	N/A
Dosing interval	4 min.	4 min.	4 min.	4 min.
Max. # of doses	2	2	2	2

Consider ***0.9% NaCl fluid bolus***:

	Age *≥30 days to <12 years*	**Age** *≥12 years*
	Route	**Route**
	IV / IO	*IV / IO / CVAD*
Infusion	20 ml/kg	20 ml/kg
Infusion interval	Immediate	Immediate
Reassess every	100 ml	250 ml
Max. volume	20 ml/kg up to 2,000 ml	2,000 ml

Consider ***intubation:*** if the airway is not being adequately managed.

MANDATORY PROVINCIAL PATCH POINT*:*

Patch to BHP following 3 rounds of epinephrine (or after 3rd analyses if no IV/IO/ETT access). If the BH patch fails, transport to the closest appropriate receiving hospital following the 4th epinephrine administration (or 4th analysis if no IV/IO/ETT access).

CLINICAL CONSIDERATIONS

In unusual circumstances (e.g.: pediatric patients or toxicological overdoses), consider initiating transportation following the first rhythm analysis that does not result in a defibrillation being delivered.

The IV and IO routes of medication administration are preferred over the ETT route. However, ETT administration may be used if the IV/IO routes are delayed (e.g.: >5 min.)

TRAUMA CARDIAC ARREST MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Cardiac arrest secondary to severe blunt or penetrating trauma

CONDITIONS

CPR

AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

Manual Defibrillation

AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	VF or pulseless VT

AED Defibrillation

AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Shock indicated

Trauma TOR

AGE:	≥16 years
LOA:	Altered
HR:	0
RR:	0
SBP:	N/A
Other:	No palpable pulses No defibrillation delivered **AND** monitored HR =0 (asystole) **OR** monitored HR >0 **AND** the closest ER ≥30 min transport time away.

CONTRAINDICATIONS

CPR

Obviously dead as per BLS standards

Meet conditions of DNR standard

Manual Defibrillation

Rhythms other than VF or pulseless VT

AED Defibrillation

Non-shockable rhythm

Trauma TOR

Age <16 years

Shock delivered

Monitored HR >0 and closest ER <30 min away

TREATMENT

Consider ***CPR:***

Consider ***Manual defibrillation***:

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
Initial dose	2 J/kg	As per BH / manufacturer
Dosing interval	N/A	N/A
Max. # of doses	1	1

Consider ***AED defibrillation***: (alternative to manual defibrillation)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

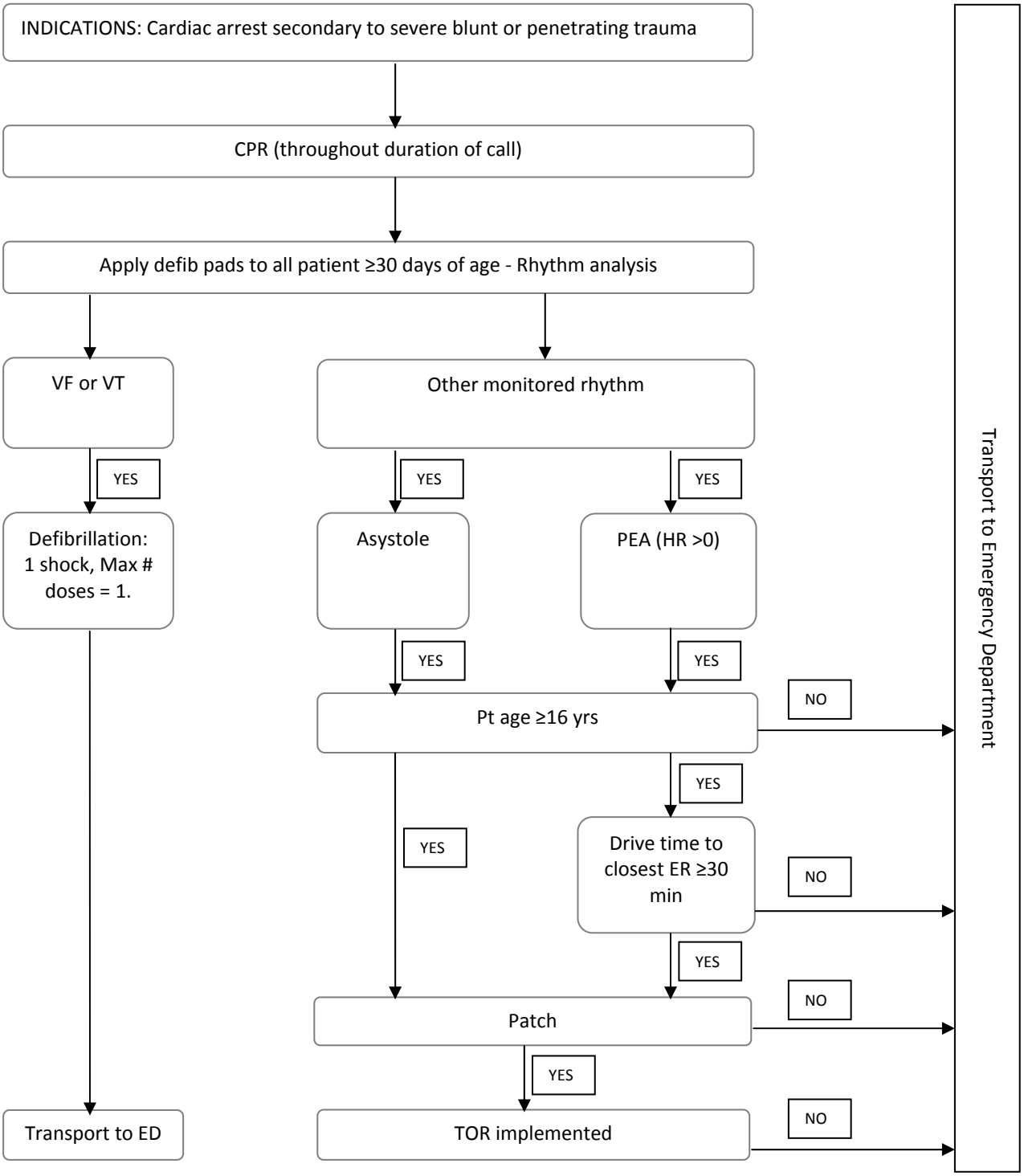
MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to apply the *Trauma (TOR) Termination of Resuscitation* if applicable. If the BH patch fails, or the trauma TOR does not apply, transport to the closest appropriate receiving hospital following the first analysis/shock.

CLINICAL CONSIDERATIONS

If no obvious external signs of significant blunt trauma, consider medical cardiac arrest and treat according to the appropriate medical cardiac arrest directive.

TREATMENT – ALGORITHM FOR TRAUMA ARREST



HYPOTHERMIA CARDIAC ARREST MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Cardiac arrest secondary to severe hypothermia

CONDITIONS

CPR	
AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

Manual Defibrillation	
AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	VF or pulseless VT

AED Defibrillation	
AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Shock indicated

CONTRAINDICATIONS

CPR
Obviously dead as per BLS standards
Meet conditions of DNR standard

Manual Defibrillation
Rhythms other than VF or pulseless VT

AED Defibrillation
Non-shockable rhythm

TREATMENT

Consider ***CPR:***

Consider ***Manual defibrillation***:

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
Initial dose	2 J/kg	As per BH / manufacturer
Dosing interval	N/A	N/A
Max. # of doses	1	1

Consider ***AED defibrillation***: (alternative to manual defibrillation)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

Transport to the closest appropriate facility without delay following the first analysis.

CLINICAL CONSIDERATIONS

N/A

FOREIGN BODY AIRWAY OBSTRUCTION CARDIAC ARREST MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Cardiac arrest secondary to an airway obstruction

CONDITIONS

CPR	
AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

Manual Defibrillation	
AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	VF or pulseless VT

AED Defibrillation	
AGE:	≥30 days
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Shock indicated

CONTRAINDICATIONS

CPR
Obviously dead as per BLS standards
Meet conditions of DNR standard

Manual Defibrillation
Rhythms other than VF or pulseless VT

AED Defibrillation
Non-shockable rhythm

TREATMENT

Consider ***CPR:***

Consider ***foreign body removal:*** (utilizing BLS maneuvers and/or laryngoscope and Magill forceps)

Consider ***Manual defibrillation***:

	Age ≥30 days to <8 years	**Age** ≥8 years
Dose	1 shock	1 shock
Initial dose	2 J/kg	As per BH / manufacturer
Dosing interval	N/A	N/A
Max. # of doses	1	1

Consider ***AED defibrillation***: (alternative to manual defibrillation)

	Age ≥30 days to <8 years		**Age** ≥8 years
	With Ped attenuator	*Without Ped attenuator*	
Dose	1 shock	1 shock	1 shock
Max. single dose	As per BH / manufacturer	As per BH / manufacturer	As per BH / manufacturer
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

If the obstruction cannot be removed, transport to the closest appropriate facility without delay following the first analysis.

If the patient is in cardiac arrest following removal of the obstruction, initiate management as a medical cardiac arrest.

CLINICAL CONSIDERATIONS

N/A

NEONATAL RESUSCITATION MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Severe cardio-respiratory distress

CONDITIONS

Resuscitation

AGE:	newborn or <30 days of age
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Less than full term, or meconium, or poor APGAR score

CONTRAINDICATIONS

Resuscitation

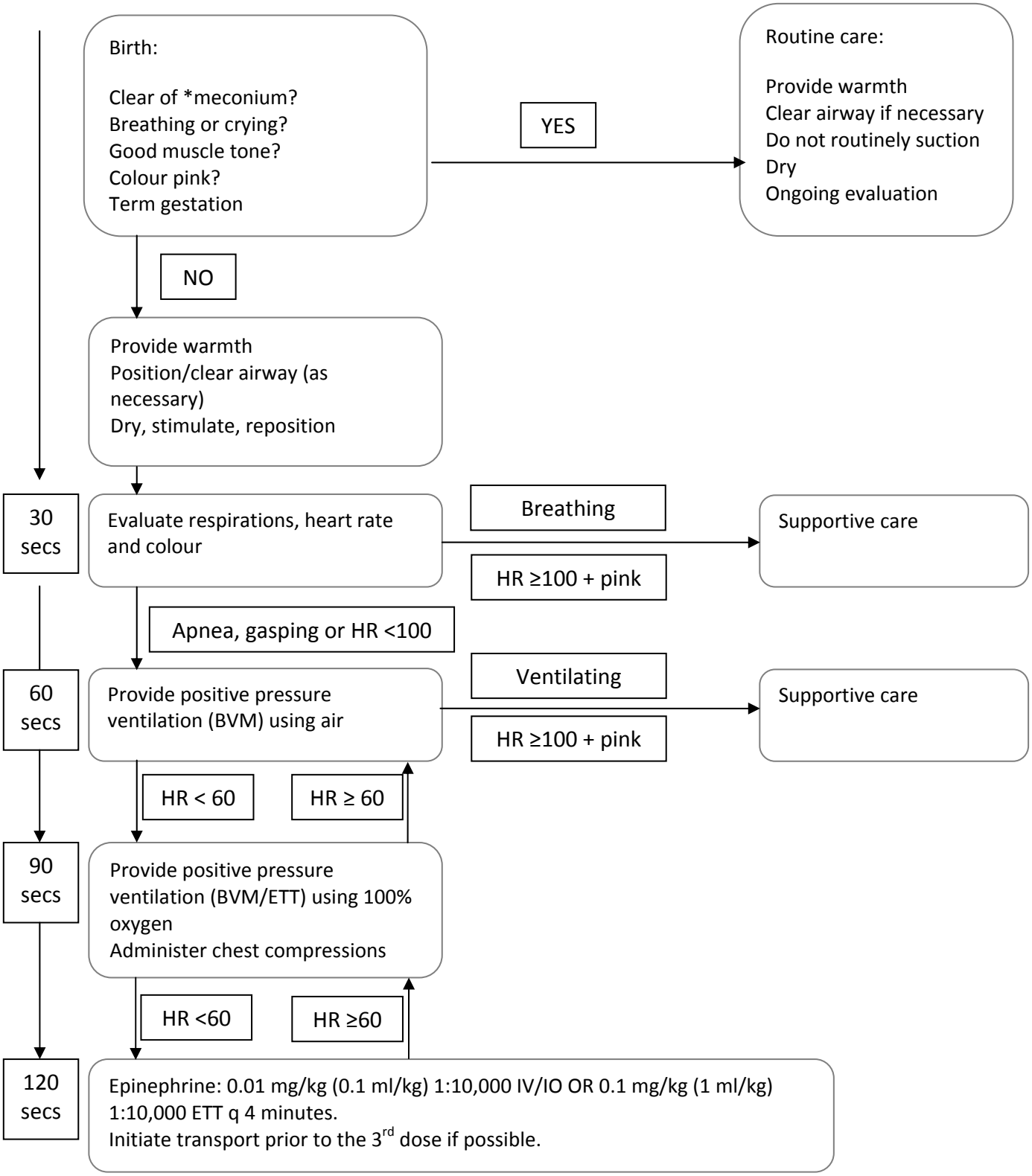
Clear of meconium

Breathing or crying

Good muscle tone

Pink in colour

TREATMENT



*if meconium is present and baby not vigorous, suction mouth and pharynx, consider ETT and provide BVM ventilations as required and then continue with the remainder of the initial steps following birth.

RETURN OF SPONTANEOUS CIRCULATION (ROSC) MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Patient with return of spontaneous circulation (ROSC) after the resuscitation was initiated.

CONDITIONS

0.9% NaCl fluid bolus

AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	Chest auscultation is clear

Dopamine

AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	N/A

Therapeutic hypothermia

AGE:	males ≥18 years females ≥50 years
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	≥90 mmHg (spontaneous, following bolus administered or with dopamine)
Other:	N/A

CONTRAINDICATIONS

0.9% NaCl fluid bolus

Fluid overload

SBP ≥90 mmHg

Dopamine

Allergy or sensitivity to dopamine

Tachydysrhythmias excluding sinus tachycardia

Mechanical shock states

Hypovolemia
Pheochromocytoma

SBP ≥ 90 mmHg

Therapeutic hypothermia

Traumatic cardiac arrest (blunt, penetrating or burn)

Sepsis or serious infection suspected as cause of arrest

Hypothermic arrest

Known coagulopathy (medical history or medications)

TREATMENT

Consider ***rapid transport***

Consider ***optimizing ventilation and oxygenation:***

Titrate oxygenation ≥94%

Avoid hyperventilation and target an $ETCO_2$ of 35-40 mmHg with continuous waveform capnography (if available)

Consider ***0.9% NaCl fluid bolus***:

	Age *<12 years*	**Age** *≥12 years*
	Route *IV*	**Route** *IV*
Infusion	10 ml/kg	10 ml/kg
Infusion interval	Immediate	Immediate
Reassess every	100 ml	250 ml
Max. volume	1,000 ml	1,000 ml

Consider ***dopamine***:

	Route *IV*
Initial Infusion Rate	5 mcg/kg/min
Titration increment	5 mcg/kg/min
Titration interval	5 min.
Max infusion rate	20 mcg/kg/min

Consider ***12 lead acquisition*** (if available)

Consider ***Therapeutic hypothermia*** (if available)

CLINICAL CONSIDERATIONS

The application of therapeutic hypothermia should not detract from rapid transport, optimizing ventilation and oxygenation or the management of a re-arrest.

CARDIAC ISCHEMIA MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Suspected cardiac ischemia

CONDITIONS

ASA

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Able to chew and swallow

Nitroglycerin

AGE:	≥18 years
LOA:	Unaltered
HR:	60-159 bpm
RR:	N/A
SBP:	Normotension
Other:	Prior history of nitroglycerin use or IV access obtained

Morphine

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	Normotension
Other:	N/A

CONTRAINDICATIONS

ASA

Allergy or sensitivity to ASA or NSAIDS

If asthmatic, no prior use of ASA

Current active bleeding

CVA or TBI in the previous 24 hours

Nitroglycerin

Allergy or sensitivity to nitrates

Phosphodiesterase inhibitor use within the previous 48 hours

SBP drops by one third or more of its initial value after nitroglycerin is administered

12-lead ECG compatible with Right Ventricular infarct

Morphine

Allergy or sensitivity to morphine

Injury to the head or chest or abdomen OR pelvis

SBP drops by one-third or more of its initial value after morphine is administered

TREATMENT

Consider ***ASA***:

	Route
	PO
Dose	160-162 mg
Max. single dose	162 mg
Dosing interval	N/A
Max. # of doses	1

Consider ***12-lead ECG acquisition*** (if available)

Consider ***nitroglycerin***:

	SBP *≥100 mmHg*
	Route *SL*
Dose	0.3 **or** 0.4 mg
Max. single dose	0.4 mg
Dosing interval	5 min.
Max. # of doses	6

Consider ***morphine*** (after the third dose of nitroglycerin or if nitroglycerin is contraindicated):

	Route *IV*
Dose	2 mg
Max. single dose	2 mg
Dosing interval	5 min.
Max. # of doses	5

CLINICAL CONSIDERATIONS

N/A

ACUTE CARDIOGENIC PULMONARY EDEMA MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Moderate to severe respiratory distress

AND

Suspected acute cardiogenic pulmonary edema

CONDITIONS

Nitroglycerin

AGE:	≥18 years
LOA:	N/A
HR:	60-159 bpm
RR:	N/A
SBP:	Normotension
Other:	Ascertain prior history of nitroglycerin use **OR** establish IV access

CONTRAINDICATIONS

Nitroglycerin

Allergy or sensitivity to nitrates

Phosphodiesterase inhibitor use within the previous 48 hours

SBP drops by one third or more of its initial value after nitroglycerin is administered

TREATMENT

Consider ***nitroglycerin***:

	SBP *100 mmHg to <140 mmHg*	**SBP** *≥140 mmHg*	
	IV or Hx *Yes*	**IV or Hx** *No*	**IV or Hx** *Yes*
	Route *SL*	**Route** *SL*	**Route** *SL*
Dose	0.3 **or** 0.4 mg	0.3 **or** 0.4 mg	0.6 **or** 0.8 mg
Max. single dose	0.4 mg	0.4 mg	0.8 mg
Dosing interval	5 min.	5 min.	5 min.
Max. # of doses	6	6	6

NOTE: Hx refers to a patient with a prior history of nitroglycerin use.

Consider ***12-lead ECG acquisition*** (if available)

CLINICAL CONSIDERATIONS

N/A

CARDIOGENIC SHOCK MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

STEMI-positive ECG

AND

Cardiogenic shock

CONDITIONS

0.9% NaCl	
AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	Clear chest on auscultation

Dopamine	
AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	N/A

CONTRAINDICATIONS

0.9% NaCl
N/A

Dopamine
Allergy or sensitivity to dopamine
Tachydysrhythmias excluding sinus tachycardia
Mechanical shock states
Pheochromocytoma

TREATMENT

Consider ***0.9% NaCl fluid bolus***:

	Age *<18 years*		**Age** *≥18 years*	
	Route IV	**Route** IO	**Route** IV	**Route** IO
Infusion	10 ml/kg	10 ml/kg	10 ml/kg	10 ml/kg
Infusion interval	N/A	N/A	N/A	N/A
Reassess every	100 ml	100 ml	250 ml	250 ml
Max. volume	10 ml/kg	10 ml/kg	10 ml/kg	10 ml/kg

NOTE: If NaCl bolus contraindicated due to pulmonary crackles, consider dopamine.

Consider ***dopamine***:

	Route *IV*
Initial infusion rate	5 mcg/kg/min.
Titration increment	5 mcg/kg/min.
Titration interval	5 min.
Max. infusion rate	20 mcg/kg/min.

NOTE: Titrate dopamine to achieve a systolic BP of 90-110 mmHg. If discontinuing dopamine electively, do so gradually over 5-10 minutes.

CLINICAL CONSIDERATIONS

Contact BHP if patient is bradycardic with respect to age.

SYMPTOMATIC BRADYCARDIA MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Bradycardia

AND

Hemodynamic instability

CONDITIONS

Atropine

AGE: ≥18 years
LOA: N/A
HR: < 50 bpm
RR: N/A
SBP: Hypotension
Other: N/A

Transcutaneous Pacing

AGE: ≥18 years
LOA: N/A
HR: < 50 bpm
RR: N/A
SBP: Hypotension
Other: N/A

Dopamine

AGE: ≥18 years
LOA: N/A
HR: < 50 bpm
RR: N/A
SBP: Hypotension
Other: N/A

CONTRAINDICATIONS

Atropine

Allergy or sensitivity to atropine

Hemodynamic stability

Hypothermia

History of heart transplant

Transcutaneous Pacing

Hemodynamic stability

Hypothermia

Dopamine

Allergy or hypersensitivity to dopamine

Hemodynamic stability

Pheochromocytoma

TREATMENT

Consider ***Rhythm determination***

Consider ***12 lead ECG acquisition*** (if available and won't delay therapy)

Consider ***atropine***:

	Route
	IV
Dose	0.5 mg
Max. single dose	0.5 mg
Dosing interval	5 min.
Max. # of doses	2

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to proceed with transcutaneous pacing and/or a dopamine infusion.

Consider ***transcutaneous pacing***

Consider ***dopamine***:

	Route
	IV
Initial infusion rate	5 mcg/kg/min.
Titration increment	5 mcg/kg/min.
Titration interval	5 min.
Max. infusion rate	20 mcg/kg/min.

NOTE: Titrate dopamine to achieve a systolic BP of 90-110 mmHg. If discontinuing dopamine electively, do so gradually over 5-10 minutes.

CLINICAL CONSIDERATIONS

Atropine may be beneficial in the setting of sinus bradycardia, atrial fibrillation, first degree AV block, or second-degree Type I AV block.

A single dose of atropine should be considered for second degree Type II or third degree AV blocks with fluid bolus while preparing for TCP OR if there is a delay in implementing TCP OR if TCP is unsuccessful.

The dopamine infusion should be initiated at 5 mcg/kg/min. and titrated upward to effect in increments of 5 mcg/kg/min every 5 minutes up to a maximum of 20 mcg/kg/min.
The desired effect is a SBP of 90-110 mmHg.

TACHYDYSRHYTHMIA MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Symptomatic Tachydysrhythmia

CONDITIONS

Valsalva Maneuver

AGE:	≥18 years
LOA:	Unaltered
HR:	≥150
RR:	N/A
SBP:	Normotension
Other:	Narrow complex and regular rhythm

Adenosine

AGE:	≥18 years
LOA:	Unaltered
HR:	≥150
RR:	N/A
SBP:	Normotension
Other:	Narrow complex and regular rhythm

Amiodarone

AGE:	≥18 years
LOA:	Unaltered
HR:	≥120
RR:	N/A
SBP:	Normotension
Other:	Wide complex and regular rhythm

Lidocaine

AGE:	≥18 years
LOA:	Unaltered
HR:	≥120
RR:	N/A
SBP:	Normotension
Other:	Wide complex and regular rhythm

Synchronized Cardioversion

AGE:	≥18 years
LOA:	N/A
HR:	≥120 (wide) or ≥150 (narrow)
RR:	N/A
SBP:	Hypotension
Other:	Altered mental status, ongoing chest pain, other signs of shock

CONTRAINDICATIONS

Valsalva Maneuver

Sinus tachycardia or atrial fibrillation or atrial flutter

Adenosine

Allergy or sensitivity to adenosine

Sinus tachycardia or atrial fibrillation or atrial flutter

Patient taking dipyridamole or carbamazepine

Bronchoconstriction on exam

Amiodarone

Allergy or sensitivity to amiodarone

Lidocaine

Allergy or sensitivity to lidocaine

Synchronized Cardioversion

N/A

TREATMENT

Consider ***Rhythm determination:*** Confirm regularity

Consider ***12 lead ECG acquisition:*** To confirm QRS width (if available and won't delay therapy)

Consider ***valsalva maneuver:***

Perform a maximum of two attempts lasting 10 to 20 seconds duration each.

Consider ***adenosine***:

	Route
	IV
Initial Dose	6 mg
Second dose	12 mg
Dosing interval	2 min.
Max. # of doses	2 doses

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to proceed with amiodarone or lidocaine or if monomorphic wide complex regular rhythm for adenosine.

Consider ***amiodarone*** (if available) ***OR lidocaine***:

	Drug	**Drug**
	Amiodarone	*Lidocaine*
	Route	**Route**
	*IV**	*IV*
First Dose	150 mg	1.5 mg/kg
Subsequent Dose(s)	150 mg	0.75 mg/kg
Max. single dose	150 mg	150 mg
Dosing interval	10 min.	10 min.
Max. # of doses	2	3

*Amiodarone should be administered by IV infusion over 10 min.

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to proceed with *synchronized cardioversion*

Consider ***synchronized cardioversion***:

Administer up to three synchronized shocks in accordance with BHP direction and energy settings. *(In the setting of a patch failure, the energy settings to be used are 100 J, 200 J and the maximum manufacturer setting.)*

CLINICAL CONSIDERATIONS

N/A

INTRAVENOUS AND FLUID THERAPY MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

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

CONDITIONS

IV	
AGE:	N/A ≥2 years for PCP Assist IV
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

Fluid Bolus	
AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	N/A

CONTRAINDICATION

IV
Suspected fracture proximal to the access site.

Fluid Bolus
Signs of fluid overload

TREATMENT

Consider ***IV cannulation***

Consider ***0.9% NaCl*** maintenance infusion:

	Age *<12 years* **Route** *IV / IO*	**Age** *≥12 years* **Route** *IV / IO / CVAD*
Infusion	15 ml/hr	30-60 ml/hr
Infusion interval	N/A	N/A
Reassess every	N/A	N/A
Max. volume	N/A	N/A

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to administer IV NaCl bolus to patients <12 years with suspected Diabetic Ketoacidosis (DKA)

Consider ***0.9% NaCl fluid bolus***:

	Age *<12 years* **Route** *IV / IO*	**Age** *≥12 years* **Route** *IV / IO / CVAD*
Infusion	20 ml/kg	20 ml/kg
Infusion interval	Immediate	Immediate
Reassess every	100 ml	250 ml
*Max. volume**	20 ml/kg up to 2,000 ml	2,000 ml

*The maximal volume of NaCl is lower for patients in cardiogenic shock.

CLINICAL CONSIDERATIONS

"PCP Assist IV" authorizes a PCP to cannulate a peripheral IV at the request and under the direct supervision of an ACP. The ACP will perform all IV further therapy in accordance with the Intravenous Access and Fluid Administration Medical Directive once intravenous access is obtained. PCPs certified in PCP Assist IV are not authorized to administer IV fluid or medication therapy.

Adult IO and CVAD procedures are auxiliary medical directives described elsewhere. Fluid administration via the IO or CVAD routes only apply to paramedics certified and authorized to perform these procedures.

Microdrips and or volume control administration sets should be considered when IV access is indicated for patients less than 12 years of age.

PEDIATRIC INTRAOSSEOUS MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

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

AND

Intravenous access is unobtainable

AND

Cardiac arrest or near-arrest state

CONDITIONS

IO	
AGE:	<12 years
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATION

IO
Fracture or crush injuries or suspected or known replacement / prosthesis proximal to the access site.

TREATMENT

Consider ***IO access***

CLINICAL CONSIDERATIONS

N/A

HYPOGLYCEMIA MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

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

CONDITIONS

Dextrose	
AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Hypoglycemia

Glucagon	
AGE:	N/A
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Hypoglycemia

CONTRAINDICATIONS

Dextrose

Allergy or sensitivity to dextrose

Glucagon

Allergy or sensitivity to glucagon

Pheochromocytoma

TREATMENT

Perform ***glucometry***

Consider ***dextrose or glucagon***:

	Drug *Dextrose*		
	Age *<30 days*	**Age** *≥30 days to <2 years*	**Age** *≥2 years*
	Weight *N/A*	**Weight** *N/A*	**Weight** *N/A*
	Concentration *D10W*	**Concentration** *D25W*	**Concentration** *D50W*
	Route *IV*	**Route** *IV*	**Route** *IV*
Dose	0.2 g/kg (2 ml/kg)	0.5 g/kg (2 ml/kg)	0.5 g/kg (1 ml/kg)
Max. single dose	5 g (50 ml)	10 g (40 ml)	25 g (50 ml)
Dosing interval	10 min.	10 min.	10 min.
Max. # of doses	2	2	2

	Drug *Glucagon*	
	Age *N/A*	
	Weight *<25 kg*	**Weight** *≥25 kg*
	Concentration *N/A*	**Concentration** *N/A*
	Route *IM*	**Route** *IM*
Dose	0.5 mg	1.0 mg
Max. single dose	0.5 mg	1.0 mg
Dosing interval	20 min.	20 min.
Max. # of doses	2	2

CLINICAL CONSIDERATIONS

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 a patient initiates an informed refusal of transport, a final set of vital signs including blood glucometry must be attempted.

SEIZURE MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Active generalized motor seizure

CONDITIONS

Midazolam

AGE: N/A

LOA: Unresponsive

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

CONTRAINDICATIONS

Midazolam

Allergy or sensitivity to midazolam

Hypoglycemia

TREATMENT

Consider ***midazolam***:

	Route *IV*	**Route** *IM*	**Route** *IN*	**Route** *Buccal*
Dose	0.1 mg/kg	0.2 mg/kg	0.2 mg/kg	0.2 mg/kg
Max. single dose	5.0 mg	10 mg	10 mg	10 mg
Dosing interval	5 min.	5 min.	5 min.	5 min.
Max. # of doses	2	2	2	2

CLINICAL CONSIDERATIONS

Conditions such as cardiac arrest and hypoglycemia often present as seizure and should be considered by a paramedic.

OPIOID TOXICITY MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Altered LOC

AND

Respiratory depression

AND

Suspected opioid overdose

CONDITIONS

Naloxone

AGE:	≥18 years
LOA:	Altered
HR:	N/A
RR:	< 10
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Naloxone

Allergy or sensitivity to naloxone

Uncorrected hypoglycemia

TREATMENT

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to proceed with naloxone

Consider ***naloxone***:

	Route *SC*	**Route** *IM*	**Route** *IN*	**Route** *IV**
Dose	0.8 mg	0.8 mg	0.8 mg	Up to 0.4 mg
Max. single dose	0.8 mg	0.8 mg	0.8 mg	0.4 mg
Dosing interval	N/A	N/A	N/A	N/A
Max. # of doses	1	1	1	1

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

CLINICAL CONSIDERATIONS

N/A

ENDOTRACHEAL INTUBATION MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Need for ventilatory assistance or airway control

AND

Other airway management is inadequate or ineffective

CONDITIONS

Xylometazoline

AGE: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: nasotracheal intubation

Lidocaine Spray

AGE: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: Orotracheal /nasotracheal Intubation

Orotracheal Intubation

AGE: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

Nasotracheal Intubation

AGE: ≥8 years

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: spontaneous breathing

CONTRAINDICATIONS

Xylometazoline

Allergy or sensitivity to xylometazoline

Lidocaine

Allergy or sensitivity to lidocaine

Unresponsive patient

Orotracheal Intubation

Age <50 years AND current episode of asthma exacerbation AND not in or near cardiac arrest.

Nasotracheal Intubation

Age <50 years AND current episode of asthma exacerbation AND not in or near cardiac arrest.

Suspected basal skull fracture or mid-face fracture

Uncontrolled epistaxis

Anticoagulant therapy (excluding ASA)

Bleeding disorders

TREATMENT

Consider ***xylometazoline 0.1% spray:*** for nasotracheal intubation

	Route
	TOPICAL
Dose	2 sprays/nare
Max. single dose	2 sprays/nare
Dosing interval	N/A
Max. # of doses	1

Consider topical ***lidocaine*** spray for "awake" orotracheal or nasotracheal intubation (to nares and/or hypopharynx):

	Route
	TOPICAL
Dose	10 mg/spray
Max. dose	5mg/kg
Dosing interval	N/A
Max. # of doses	20 sprays

Consider ***intubation:*** with or without intubation facilitation devices. The maximum number of intubation attempts is 2.

Confirm ***ETT placement:***

Method	**Method**
Primary	*Secondary*
Visualization	$ETCO_2$
Auscultation	EDD
Chest rise	Other

CLINICAL CONSIDERATIONS

An intubation attempt is defined as insertion of the laryngoscope blade into the mouth.

The maximum number of supraglottic airway attempts is two (2) and the maximum number of intubation attempts is two (2).

At least two primary and one secondary ETT placement confirmation methods must be used.

If the patient has a pulse, an $ETCO_2$ device (quantitative or qualitative) must be used for ETT placement confirmation.

Additional secondary ETT placement confirmation devices may be authorized by the local medical director.

ETT placement must be reconfirmed immediately after every patient movement.

BRONCHOCONSTRICTION MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Respiratory distress

AND

Suspected bronchoconstriction

CONDITIONS

Salbutamol

AGE: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

Epinephrine

AGE: N/A

WEIGHT: N/A

LOA: N/A

HR: N/A

RR: BVM ventilation required

SBP: N/A

Other: Hx of asthma

Epinephrine Autoinjector

AGE: N/A

WEIGHT: ≥10 kg

LOA: N/A

HR: N/A

RR: BVM ventilation required

SBP: N/A

Other: Hx of asthma

CONTRAINDICATIONS

Salbutamol

Allergy or sensitivity to salbutamol

Epinephrine

Allergy or sensitivity to epinephrine

Epinephrine Autoinjector

Allergy or sensitivity to epinephrine

TREATMENT

Consider ***salbutamol***:

	Weight *<25 kg*		**Weight** *≥25 kg*	
	Route *MDI (if available)**	**Route** *NEB*	**Route** *MDI (if available)**	**Route** *NEB*
Dose	Up to 600 mcg (6 puffs)	2.5 mg	Up to 800 mcg (8 puffs)	5 mg
Max. single dose	600 mcg	2.5 mg	800 mcg	5 mg
Dosing interval	5-15 min. PRN	5-15 min. PRN	5-15 min. PRN	5-15 min. PRN
Max. # of doses	3	3	3	3

* 1 puff=100mcg

Consider ***epinephrine***:

	Weight *Any*	**Weight** *≥10 kg to <25 kg*	**Weight** *≥25 kg*
	Route *IM*	***Route*** *Pediatric Autoinjector*	**Route** *Adult Autoinjector*
	Concentration *1:1,000*	**Concentration** *1:1,000*	**Concentration** *1:1,000*
Dose	0.01 mg/kg**	1 injection (0.15 mg)	1 injection (0.3 mg)
Max. single dose	0.5 mg	1 injection	1 injection
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

**The epinephrine dose may be rounded to the nearest 0.05 mg.

CLINICAL CONSIDERATIONS

Epinephrine should be the first drug 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).

***MANDATORY PROVINCIAL PATCH POINT*:**

Patch to BHP for authorization to use pediatric autoinjector for patients <10 kg.

MODERATE TO SEVERE ALLERGIC REACTION MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Exposure to a probable allergen

AND

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

CONDITIONS

Epinephrine

AGE: N/A

WEIGHT: N/A

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: For anaphylaxis only

Epinephrine Autoinjector

AGE: N/A

WEIGHT: ≥10 kg

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: For anaphylaxis only

Diphenhydramine

AGE: N/A

WEIGHT: ≥25 kg

LOA: N/A

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

CONTRAINDICATIONS

Epinephrine

Allergy or sensitivity to epinephrine

Epinephrine Autoinjector

Allergy or sensitivity to epinephrine

Diphenhydramine

Allergy or sensitivity to diphenhydramine

TREATMENT

Consider ***epinephrine***:

	Weight *N/A*	***Weight*** *≥10 kg to <25 kg*	***Weight*** *≥25 kg*
	Route *IM*	***Route*** *Pediatric Autoinjector*	**Route** *Adult Autoinjector*
	Concentration *1:1,000*	**Concentration** *1:1,000*	**Concentration** *1:1,000*
Dose	0.01 mg/kg*	1 injection (0.15 mg)	1 injection (0.3 mg)
Max. single dose	0.5 mg	1 injection	1 injection
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

* The epinephrine dose may be rounded to the nearest 0.05 mg.

Consider ***diphenhydramine*** (if available):

	Weight *≥25 kg to <50 kg*		**Weight** *≥50 kg*	
	Route *IV*	**Route** *IM*	**Route** *IV*	**Route** *IM*
Dose	25 mg	25 mg	50 mg	50 mg
Max. single dose	25 mg	25 mg	50 mg	50 mg
Dosing interval	N/A	N/A	N/A	N/A
Max. # of doses	1	1	1	1

CLINICAL CONSIDERATIONS

Epinephrine should be the first drug administered in anaphylaxis.

***MANDATORY PROVINCIAL PATCH POINT*:**

Patch to BHP for authorization to use pediatric autoinjector for patients <10kg

CROUP MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Severe respiratory distress

AND

Stridor at rest

AND

Current history of URTI

AND

Barking cough OR recent history of a barking cough

CONDITIONS

Epinephrine

AGE:	<8 years
LOA:	N/A
HR:	<200 bpm
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Epinephrine

Allergy or sensitivity to epinephrine

TREATMENT

Consider ***epinephrine***:

	Age *<1 year*		**Age** *≥1 year to <8 years*
	Weight *<5 kg*	**Weight** *≥5 kg*	**Weight** *N/A*
	Route *NEB*	**Route** *NEB*	**Route** *NEB*
	Concentration *1:1,000*	**Concentration** *1:1,000*	**Concentration** *1:1,000*
Dose	0.5 mg	2.5 mg	5 mg
Max. single dose	0.5 mg	2.5 mg	5 mg
Dosing interval	N/A	N/A	N/A
Max. # of doses	1	1	1

CLINICAL CONSIDERATIONS

The minimum initial volume for nebulization is 2.5 ml.

TENSION PNEUMOTHORAX MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Suspected tension pneumothorax

AND

Critically ill **OR** VSA

AND

Absent or severely diminished breath sounds on the affected side(s)

CONDITIONS

Needle Thoracostomy

AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension or VSA
Other:	N/A

CONTRAINDICATIONS

Needle Thoracostomy

N/A

TREATMENT

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to perform needle thoracostomy

Consider ***needle thoracostomy***

CLINICAL CONSIDERATIONS

Needle thoracostomy may only be performed at the second intercostal space in the midclavicular line.

PAIN MEDICAL DIRECTIVE

An Advanced Care Paramedic may provide the treatment prescribed in this medical directive if certified and authorized.

INDICATIONS

Severe pain

AND

Isolated hip or extremity fractures or dislocations **OR** major burns **OR** current history of cancer related pain **OR** renal colic with prior history **OR** patients with acute musculoskeletal back strain **OR** ongoing transcutaneous pacing

CONDITIONS

Fentanyl	
AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	Normotension
Other:	N/A

Morphine	
AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	Normotension
Other:	N/A

CONTRAINDICATIONS

Fentanyl

Allergy or sensitivity to fentanyl

Injury to the head or chest or abdomen or pelvis

SBP drops by one-third or more of its initial value

Morphine

Allergy or sensitivity to morphine

Injury to the head or chest or abdomen or pelvis

SBP drops by one-third or more of its initial value

TREATMENT

Consider ***fentanyl OR morphine***:

	Drug *Fentanyl*	**Drug** *Morphine*
	Route *IV*	**Route** *IV*
Dose	25-50 mcg	2-5mg
Max. single dose	50 mcg	5 mg
Dosing interval	5 min.	5 min.
Max. # of doses	4	4

CLINICAL CONSIDERATIONS

N/A

Appendix 3

Primary Care Paramedic Auxiliary Medical Directives

November 2011

TABLE OF CONTENTS

INTRAVENOUS AND FLUID THERAPY MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized according to the PCP Autonomous IV level.

INDICATIONS

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

CONDITIONS

IV	
AGE:	≥2 years
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

Fluid Bolus	
AGE:	≥2 years
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Hypotension
Other:	N/A

CONTRAINDICATION

IV
Suspected fracture proximal to the access site.

Fluid Bolus
Signs of fluid overload

TREATMENT

Consider ***IV cannulation***

Consider ***0.9% NaCl*** maintenance infusion:

	Age *≥2 years to <12 years*	**Age** *≥12 years*
	Route IV	**Route** IV
Infusion	15 ml/hr	30-60 ml/hr
Infusion interval	N/A	N/A
Reassess every	N/A	N/A
Max. volume	N/A	N/A

***MANDATORY PROVINCIAL PATCH POINT*:**

Patch to BHP for authorization to administer IV NaCl bolus to a patient ≥2 years to <12 years with suspected Diabetic Ketoacidosis (DKA)

Consider ***0.9% NaCl fluid bolus***:

	Age *≥2 years to <12 years*	**Age** *≥12 years*
	Route *IV*	**Route** *IV*
Infusion	20 ml/kg	20 ml/kg
Infusion interval	Immediate	Immediate
Reassess every	100 ml	250 ml
*Max. volume**	20 ml/kg up to 2,000 ml	2,000 ml

*The maximum volume of NaCl is lower for patients in cardiogenic shock

CLINICAL CONSIDERATIONS

"PCP Assist IV" authorizes a PCP to cannulate a peripheral IV at the request and under the direct supervision of an ACP. The patient must require a peripheral IV in accordance with the indications listed in this Medical Directive. PCPs certified in PCP Assist IV are not authorized to administer IV fluid or medication therapy.

Microdrips and or volume control administration sets should be considered when IV access is indicated for patients less than 12 years of age.

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Severe respiratory distress

AND

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

CONDITIONS

CPAP

AGE:	≥18 years
LOA:	N/A
HR:	N/A
RR:	Tachypnea
SBP:	Normotension
Other:	SpO_2 <90% or accessory muscle use

CONTRAINDICATIONS

CPAP

Asthma exacerbation

Suspected pneumothorax

Unprotected or unstable airway

Major trauma or burns to the head or torso

Tracheostomy

Inability to sit upright

Unable to cooperate

Hypotension

TREATMENT

Consider ***CPAP:***

Initial setting	5 cm H_2O	Or equivalent flow rate of device as per BH direction
Titration increment	2.5 cm H_2O	Or equivalent flow rate of device as per BH direction
Titration interval	5 min.	
Max. setting	15 cm H_2O	Or equivalent flow rate of device as per BH direction

Consider increasing ***FiO_2*** (if available):

Initial FiO_2	50-100%
FiO_2 increment (if available on device)	SpO_2 <92% despite treatment and/or 10cm H_2O pressure or equivalent flow rate of device as per BH direction
Max FiO_2	100%

Confirm ***CPAP pressure by manometer*** (if available)

CLINICAL CONSIDERATIONS

N/A

SUPRAGLOTTIC AIRWAY MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Need for ventilatory assistance **OR** airway control

AND

Other airway management is inadequate or ineffective

CONDITIONS

Supraglottic Airway

AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	patient must be in cardiac arrest

CONTRAINDICATIONS

Supraglottic Airway

- Active vomiting
- Inability to clear the airway
- Airway edema
- Stridor
- Caustic ingestion

TREATMENT

Consider ***supraglottic airway insertion.*** The maximum number of attempts is 2.

Confirm ***supraglottic airway placement:***

Method *Primary*	**Method** *Secondary*
Auscultation	$ETCO_2$
Chest rise	Other

CLINICAL CONSIDERATIONS

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

NAUSEA / VOMITING MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Nausea **OR** vomiting

CONDITIONS

Dimenhydrinate

AGE: N/A

WEIGHT: ≥25 kg

LOA: Unaltered

HR: N/A

RR: N/A

SBP: N/A

CONTRAINDICATIONS

Dimenhydrinate

Allergy or sensitivity to dimenhydrinate or other antihistamines

Overdose on antihistamines or anticholinergics or tricyclic antidepressants

TREATMENT

Consider ***dimenhydrinate***:

	Weight *≥25 kg to <50 kg*		**Weight** *≥50 kg*	
	Route *IV*	**Route** *IM*	**Route** *IV*	**Route** *IM*
Dose	25 mg	25 mg	50 mg	50 mg
Max. single dose	25 mg	25 mg	50 mg	50 mg
Dosing interval	N/A	N/A	N/A	N/A
Max. # of doses	1	1	1	1

CLINICAL CONSIDERATIONS

IV administration of dimenhydrinate applies only to PCPs certified to the level of PCP Autonomous IV.

Prior to IV administration, dilute dimenhydrinate (concentration of 50 mg/1 ml) 1:9 with Normal Saline or sterile water. If given IM do not dilute.

ELECTRONIC CONTROL DEVICE PROBE REMOVAL MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Electronic Control Device probe(s) embedded in patient.

CONDITIONS

Probe Removal

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Probe removal

Probe embedded above the clavicles, in the nipple(s), or in the genital area.

TREATMENT

Consider ***probe removal***

CLINICAL CONSIDERATIONS

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

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

MINOR ABRASIONS MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Minor abrasions

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Topical Antibiotic

AGE: N/A

LOA: Unaltered

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

CONTRAINDICATIONS

Topical Antibiotic

Allergy or sensitivity to any of the components of the topical antibiotic

TREATMENT

Consider ***topical antibiotic***

Consider **release from care**

CLINICAL CONSIDERATIONS

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

MINOR ALLERGIC REACTION MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Signs consistent with minor allergic reaction

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Diphenhydramine

AGE:	≥18 years
LOA:	Unaltered
HR:	WNL
RR:	WNL
SBP:	Normotension
Other:	N/A

CONTRAINDICATIONS

Diphenhydramine

Allergy or sensitivity to diphenhydramine

Antihistamine or sedative use in previous 4 hours

Signs or symptoms of moderate to severe allergic reaction

Signs or symptoms of intoxication

Wheezing

TREATMENT

Consider ***diphenhydramine***:

	Route
	PO
Dose	50 mg
Max. single dose	50 mg
Dosing interval	N/A
Max. # of doses	1

Consider **release from care**

CLINICAL CONSIDERATIONS

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

MUSCULOSKELETAL PAIN MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Minor musculoskeletal pain

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Acetaminophen

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Acetaminophen

No acetaminophen in the last 4 hours

Allergy or sensitivity to acetaminophen

Signs or symptoms of intoxication

TREATMENT

Consider ***acetaminophen***:

	Route
	PO
Dose	325-650 mg
Max. single dose	650 mg
Dosing interval	N/A
Max. # of doses	1

Consider **release from care**

CLINICAL CONSIDERATIONS

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

HEADACHE MEDICAL DIRECTIVE - AUXILIARY

A Primary Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Uncomplicated headache conforming to the patient's usual pattern

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Acetaminophen

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Acetaminophen

No acetaminophen in past 4 hours

Allergy or sensitivity to acetaminophen

Signs or symptoms of intoxication

TREATMENT

Consider ***acetaminophen***:

	Route
	PO
Dose	325-650 mg
Max. single dose	650 mg
Dosing interval	N/A
Max. # of doses	1

Consider **release from care**

CLINICAL CONSIDERATIONS

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

Appendix 4

Advanced Care Paramedic Auxiliary Medical Directives

November 2011

TABLE OF CONTENTS

ADULT INTRAOSSEOUS MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

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

AND

IV access is unobtainable

AND

Cardiac arrest **OR** near arrest state

CONDITIONS

IO	
AGE:	≥12 years
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATION

IO
Fracture or crush injuries or suspected or known replacement / prosthesis proximal to the access site.

TREATMENT

Consider ***IO access***

CLINICAL CONSIDERATIONS

N/A

CENTRAL VENOUS ACCESS DEVICE ACCESS MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

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

AND

IV access is unobtainable

AND

Cardiac arrest **OR** near arrest state

CONDITIONS

CVAD Access

AGE:	N/A
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	Patient has a pre-existing, accessible central venous catheter in place

CONTRAINDICATIONS

CVAD Access

N/A

TREATMENT

Consider ***CVAD access***

CLINICAL CONSIDERATIONS

N/A

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Severe respiratory distress

AND

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

CONDITIONS

CPAP

AGE:	≥18 years
LOA:	N/A
HR:	N/A
RR:	Tachypnea
SBP:	Normotension
Other:	SpO_2 <90% or accessory muscle use

CONTRAINDICATIONS

CPAP

Asthma exacerbation

Suspected pneumothorax

Unprotected or unstable airway

Major trauma or burns to the head or torso

Tracheostomy

Inability to sit upright

Unable to cooperate

TREATMENT

Consider ***CPAP:***

Initial setting	5 cm H_2O	Or equivalent flow rate of device as per BH direction
Titration increment	2.5 cm H_2O	Or equivalent flow rate of device as per BH direction
Titration interval	5 min.	
Max. setting	15 cm H_2O	Or equivalent flow rate of device as per BH direction

Consider increasing ***FiO_2*** (if available):

Initial FiO_2	50-100%
FiO_2 increment (if available on device)	SpO_2 <92% despite treatment and/or 10cm H_2O pressure or equivalent flow rate of device as per BH direction
Max FiO_2	100%

Confirm ***CPAP pressure by manometer*** (if available)

CLINICAL CONSIDERATIONS

N/A

SUPRAGLOTTIC AIRWAY MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Need for ventilatory assistance **OR** airway control

AND

Other airway management is inadequate **OR** ineffective **OR** unsuccessful

CONDITIONS

Supraglottic Airway

AGE: N/A

LOA: GCS = 3

HR: N/A

RR: N/A

SBP: N/A

Other: Absent gag reflex

CONTRAINDICATIONS

Supraglottic Airway

Active vomiting

Inability to clear the airway

Airway edema

Stridor

Caustic ingestion

TREATMENT

Consider ***supraglottic airway insertion.*** The maximum number of attempts is 2.

Confirm ***supraglottic airway placement:***

Method *Primary*	**Method** *Secondary*
Auscultation	$ETCO_2$
Chest rise	Other

CLINICAL CONSIDERATIONS

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

The maximum number of supraglottic airway attempts is two (2) and the maximum number of intubation attempts is two (2).

CRICOTHYROTOMY MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Need for advanced airway management

AND

Intubation AND supraglottic airway (if available) insertion unsuccessful or contraindicated

AND

Unable to ventilate

CONDITIONS

Cricothyrotomy

AGE:	≥12 years
LOA:	Altered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Cricothyrotomy

Suspected fractured larynx

Inability to landmark

TREATMENT

***MANDATORY PROVINCIAL PATCH POINT*:**

Patch to BHP for authorization to perform cricothyroidotomy

Consider ***cricothyrotomy.***

Confirm ***cricothyrotomy:*** tube placement

Method *Primary*	**Method** *Secondary*
Auscultation	$ETCO_2$
Chest rise	Other

CLINICAL CONSIDERATIONS

At least two primary and one secondary Cricothyrotomy tube placement confirmation methods must be used.

If the patient has a pulse, an $ETCO_2$ device must be used (quantitative or qualitative) for cricothyrotomy tube placement confirmation.

Additional secondary Cricothyrotomy tube placement confirmation devices may be authorized by the local medical director.

Cricothyrotomy tube placement must be reconfirmed immediately after every patient movement.

NAUSEA / VOMITING MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Nausea **OR** vomiting

CONDITIONS

Dimenhydrinate

AGE: N/A

LOA: Unaltered

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

CONTRAINDICATIONS

Dimenhydrinate

Allergy or sensitivity to dimenhydrinate or other antihistamines

Overdose on antihistamines or anticholinergics or TCAs

TREATMENT

Consider ***dimenhydrinate:***

	Weight *<25 kg*		**Weight** *≥25 kg to <50 kg*		**Weight** *≥50 kg*	
	Route *IV*	**Route** *IM*	**Route** *IV*	**Route** *IM*	**Route** *IV*	**Route** *IM*
Dose	*Patch*	*Patch*	25 mg	25 mg	50 mg	50 mg
Max. single dose	N/A	N/A	25 mg	25 mg	50 mg	50 mg
Dosing interval	N/A	N/A	N/A	N/A	N/A	N/A
Max. # of doses	N/A	N/A	1	1	1	1

CLINICAL CONSIDERATIONS

Prior to IV administration, dilute dimenhydrinate (concentration of 50 mg/1 ml) 1:9 with Normal Saline or sterile water. If given IM do not dilute.

COMBATIVE PATIENT MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Combative patient

CONDITIONS

Midazolam

AGE:	≥18 years
LOA:	N/A
HR:	N/A
RR:	N/A
SBP:	Normotension
Other:	No reversible causes (i.e. hypoglycemia, hypoxia, hypotension)

CONTRAINDICATIONS

Midazolam

Allergy or sensitivity to midazolam

TREATMENT

MANDATORY PROVINCIAL PATCH POINT:

Patch to BHP for authorization to proceed with midazolam if unable to assess the patient for normotension or reversible causes.

Consider ***midazolam***:

	Route *IV*	**Route** *IM*
Dose	2.5-5 mg	2.5-5 mg
Max. single dose	5 mg	5 mg
Dosing interval	5 min.	5 min.
Max. total dose	10 mg	10 mg
Max. # doses	2	2

CLINICAL CONSIDERATIONS

N/A

PROCEDURAL SEDATION MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Post-intubation **OR** transcutaneous pacing

CONDITIONS

Midazolam

AGE:	≥18 years
LOA:	N/A
HR:	N/A
RR:	≥ 8 bpm*
SBP:	Normotension
Other:	N/A

*Non-intubated patients only

CONTRAINDICATIONS

Midazolam

Allergy or sensitivity to midazolam

TREATMENT

Consider ***midazolam***:

	Route
	IV
Dose	2.5-5 mg
Max. single dose	5 mg
Dosing interval	5 min.
Max. total dose	10 mg
Max. # doses	2

CLINICAL CONSIDERATIONS

N/A

ELECTRONIC CONTROL DEVICE PROBE REMOVAL MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Electronic Control Device probe(s) embedded in patient.

CONDITIONS

Probe Removal

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Probe removal

Probe embedded above the clavicles, in the nipple(s), or in the genital area

TREATMENT

Consider ***probe removal***

CLINICAL CONSIDERATIONS

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

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

MINOR ABRASIONS MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Minor abrasions

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Topical Antibiotic

AGE: N/A

LOA: Unaltered

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

CONTRAINDICATIONS

Topical Antibiotic

Allergy or sensitivity to topical antibiotics

TREATMENT

Consider ***topical antibiotic***

Consider **release from care**

CLINICAL CONSIDERATIONS

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

MINOR ALLERGIC REACTION MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Signs consistent with minor allergic reaction

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Diphenhydramine

AGE:	≥18 years
LOA:	Unaltered
HR:	WNL
RR:	WNL
SBP:	Normotension
Other:	N/A

CONTRAINDICATIONS

Diphenhydramine

Allergy or sensitivity to diphenhydramine

Antihistamine or sedative use in previous 4 hours

Signs or symptoms of moderate to severe allergic reaction

Signs or symptoms of intoxication

Wheezing

TREATMENT

Consider ***diphenhydramine***:

	Route
	PO
Dose	50 mg
Max. single dose	50 mg
Dosing interval	N/A
Max. # of doses	1

Consider **release from care**

CLINICAL CONSIDERATIONS

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

MUSCULOSKELETAL PAIN MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Minor musculoskeletal pain

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Acetaminophen

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Acetaminophen

No acetaminophen in the last 4 hours

Allergy or sensitivity to acetaminophen

Signs or symptoms of intoxication

TREATMENT

Consider ***acetaminophen***:

	Route
	PO
Dose	325-650 mg
Max. single dose	650 mg
Dosing interval	N/A
Max. # of doses	1

Consider **release from care**

CLINICAL CONSIDERATIONS

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

HEADACHE MEDICAL DIRECTIVE - AUXILIARY

An Advanced Care Paramedic may provide the treatment prescribed in this auxiliary medical directive if certified and authorized.

INDICATIONS

Uncomplicated headache conforming to the patient's usual pattern

AND

Special event: a preplanned gathering with potentially large numbers and the Special Event Medical Directives have been preauthorized for use by the Medical Director

CONDITIONS

Acetaminophen

AGE:	≥18 years
LOA:	Unaltered
HR:	N/A
RR:	N/A
SBP:	N/A
Other:	N/A

CONTRAINDICATIONS

Acetaminophen

No acetaminophen in past 4 hours

Allergy or sensitivity to acetaminophen

Signs or symptoms of intoxication

TREATMENT

Consider ***acetaminophen***:

	Route
	PO
Dose	325-650 mg
Max. single dose	650 mg
Dosing interval	N/A
Max. # of doses	1

Consider **release from care**

CLINICAL CONSIDERATIONS

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

Appendix 5

Chemical Exposure Medical Directives

November 2011

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CHEMICAL EXPOSURE MEDICAL DIRECTIVES

INTRODUCTION

The following Medical Directives have been developed for use when chemical exposure to the listed agent is suspected. These Medical Directives may only be used by paramedics who have received special training in treating patients with chemical exposures. This is usually a comprehensive program that includes personal protection and training in CBRNE (Chemical, Biologic, Radiological, Nuclear and Explosive) events.

Hydrofluoric Acid Exposure Medical Directive

When the listed indication and condition exist, a paramedic is authorized to administer Calcium Gluconate and/or topical anaesthetic eye drops according to the following protocol. The paramedic will comply with local BHP patching protocols.

INDICATIONS:

Patient was exposed to vapour, and/or liquid hydrofluoric acid.

CONDITIONS:

Patient is exhibiting signs and symptoms of hydrofluoric acid poisoning.

CONTRAINDICATIONS:

Topical anaesthetic eye drops (see Procedure, point #6a) are contraindicated if the patient is allergic to anaesthetics.

PROCEDURE:

1. Don appropriate PPE.
2. Remove patient from further hydrofluoric acid exposure, remove contaminated clothing, jewellery, etc.
3. Decontaminate if not already decontaminated.
4. Assess vital signs; apply cardiac monitor and high flow oxygen.

5. **Inhalation:**
   a) Ensure airway patency and breathing.
   b) For dyspnea see *SOB/Respiratory Distress Protocol*.
   c) If airway pain (suspected inhalation injury), consider delivering a nebulized Calcium Gluconate 2.5% solution (1 ml 10% Calcium Gluconate and 3 ml sterile normal saline) with high flow oxygen.

6. **Eye Contact:**
   For eye discomfort, irrigate thoroughly with copious amounts of normal saline.
   a) Remove contact lenses.
   b) Administer 2 drops of topical anaesthetic eye drops in each eye, repeat every 10 minutes as needed.
   c) Monitor the patient for 20 minutes after the last dose.

7. **Skin Contact:**
   a) Irrigate thoroughly with copious amounts of saline for 1 minute if not already done.
   b) Massage Calcium Gluconate 2.5% Gel (if available) liberally into the burn area and continue applying during transport if pain persists.

NOTES:

1. Transport to hospital as soon as possible.
2. Latex gloves are not sufficient. Use Neoprene or Nitrile gloves.

Administration of Atropine, either Pralidoxime Chloride (2 PAM) or Obidoxime and Diazepam for Nerve Agent Exposure Medical Directive

When the listed indication and conditions exist, a paramedic is authorized to administer Atropine, either Pralidoxime or Obidoxime and Diazepam to a victim of nerve agent (or organophosphate) exposure. The paramedic will comply with local BHP patching protocols.

INDICATIONS:

Patient was exposed to known or suspected nerve agent.

CONDITIONS:

1. Adult (≥40 kg)
2. The patient is exhibiting signs and symptoms of a cholinergic crisis.

PROCEDURE:

Mild Exposure:

Signs: anxiety about being exposed, may see miosis, rhinorrhea.

1. Remove patient from area of exposure.
2. Remove all contaminated clothing.

Moderate Exposure:

Signs: (ANY ONE OF) vomiting, diarrhea, bronchospasm or bronchial secretions, shortness of breath, any known liquid exposure.

- Administer:
  1. One (1) Atropine 2mg IM or autoinjector. Repeat Atropine 2mg IV/IM every 5 minutes as needed until symptoms improve.
  2. One (1) Pralidoxime 600mg IM or autoinjector OR Obidoxime 150mg IM or autoinjector.
  3. One (1) Diazepam 10mg IM or autoinjector.

Severe Exposure:

Signs: Signs of moderate exposure and (ANY ONE OF) Decreased LOC, paralysis, seizures, apnea.

- Administer:
  1. Three (3) doses Atropine 2mg IV/IM or autoinjectors. If bronchial secretions persist, continue Atropine 2mg IV/IM every 5 minutes as needed until secretions clear.
  2. Three (3) doses Pralidoxime 600mg IM or autoinjectors OR three (3) Obidoxime 150mg IM or autoinjectors.
  3. One (1) Diazepam 10mg IM or autoinjector.

NOTES:

1. Patients receiving treatment should also receive oxygen and be on a cardiac monitor if available.
2. Only Advanced Care Paramedics may administer intravenous medications.
3. ABC's must also be secured as appropriate in an MCI/contaminated environment. Atropine should be administered prior to airway interventions if secretions are copious.
4. Decontamination procedures must be integrated with antidote administration.
5. Personal Protective Equipment must be worn at all times.
6. Drugs may be given IV but do not delay IM administration if IV access is not already established.

Pediatric Administration of Atropine, either Pralidoxime Chloride (2 PAM) or Obidoxime and Diazepam for Nerve Agent Exposure Medical Directive

When the listed indication and conditions exist, a paramedic is authorized to administer Atropine, either Pralidoxime or Obidoxime and Diazepam to a victim of nerve agent (or organophosphate) exposure. The paramedic will comply with local BHP patching protocols.

INDICATIONS:

Patient was exposed to known or suspected nerve agent.

CONDITIONS:

1. <40 kg
2. The patient is exhibiting signs and symptoms of a cholinergic crisis.

PROCEDURE:

Mild Exposure:

Signs: anxiety about being exposed, may see miosis, rhinorrhea.

1. Remove patient from area of exposure.
2. Remove all contaminated clothing.

Moderate/Severe Exposure:

Signs: (ANY ONE OF) vomiting, diarrhea, bronchospasm or bronchial secretions, shortness of breath, decreased LOC, paralysis, seizures, apnea, any known liquid exposure.

- ❑ Administer:

  For patients <10kg:

  1. Atropine 0.5 mg IM, repeat IV/IM every 5 minutes as needed until symptoms improve.
  2. Diazepam 2mg IV/IM.
  3. Pralidoxime 15mg/Kg IV/IM every 1 hour maximum 600mg/single dose, total maximum dose 1200mg OR Obidoxime 8mg/Kg maximum 320mg total dose.

  For patients from 10kg to 39kg:

  1. Atropine 1 mg IM, repeat IV/IM every 5 minutes as needed until symptoms improve.
  2. Diazepam 0.2 mg/kg IV/IM.
  3. Pralidoxime 15mg/Kg IV/IM every 1 hour maximum 600mg/single dose, total maximum dose 1200mg OR Obidoxime 8mg/Kg maximum 320mg total dose.

NOTES:

1. Patients receiving treatment should also receive oxygen and be on a cardiac monitor if available.
2. Only Advanced Care Paramedics may administer intravenous medications.
3. ABC's must also be secured as appropriate in an MCI/contaminated environment. Atropine should be administered prior to airway interventions if secretions are copious.
4. Decontamination procedures must be integrated with antidote administration.
5. Personal Protective Equipment must be worn at all times.
6. Drugs may given IV but do not delay IM administration if IV access is not already established.

Administration of Antidotes for Cyanide Exposure Medical Directive

When the listed indication and condition exist, a paramedic is authorized to administer antidotes to victims of Cyanide exposure according to the following protocol. The paramedic will comply with local BHP patching protocols.

INDICATIONS:

Patient was exposed to vapour, liquid or solid, suspected to contain cyanide.

CONDITIONS:

Patient is exhibiting signs and symptoms of cyanide poisoning.

PROCEDURE:

1. Remove patient from further exposure and remove clothes.
2. Assess vital signs, GCS.
3. Ensure airway, administer oxygen and apply cardiac and oxygen saturation monitors as possible.
4. If GCS 15 and patient is asymptomatic, decontaminate and transport to hospital.
5. If GCS <15 administer:
    a) Sodium Thiosulfate 12.5 gm (50 ml of 25% solution) IV
    (Pediatric dose = 1.65 ml/kg to max 50 ml).

    OR

    b) CYANOKIT (hydroxocobalamin) 5.0g (2 X 2.5g bottles with 100 ml 0.9% saline per bottle) by rapid IV infusion over 30 minutes (15 minutes per bottle)
    (Pediatric dose = 70 mg/Kg, 1 bottle for 35 kg child)
6. Initiate treatment and continue while transporting to hospital.

Symptomatic Riot Agent Exposure Medical Directive

When the listed indication and condition exist, a paramedic is authorized to administer therapy to victims of Riot Agent exposure according to the following protocol. The paramedic will comply with local BHP patching protocols.

INDICATIONS:

Exposure to a known or suspected riot agent.

CONDITIONS:

Signs and symptoms of riot agent exposure.

CONTRAINDICATIONS:

Topical anaesthetic eye drops (see Procedure, point #5a) are contraindicated if the patient is allergic to anaesthetics.

PROCEDURE:

1. Remove patient from further exposure, and decontaminate.
2. Assess vital signs, with careful focus on bronchoconstriction.
3. Assess visual acuity by the ability to see light and count fingers at 1 foot. Consider removing contact lenses.
4. For dyspnea see *SOB/Respiratory Distress Protocol*.
5. For eye discomfort, irrigate thoroughly with copious amounts of normal saline.
   a) Administer 2 drops of topical anaesthetic eye drops in each eye, repeat every 10 minutes as needed.
   b) Monitor the patient for 20 minutes after the last dose.

NOTES:

1. If a patient is experiencing significant respiratory distress or eye irritation, immediately advise the patient of the need for transport to hospital. Transport should be initiated as soon as possible.
2. MDIs are intended for single patient use only. If an MDI is used to treat more than one patient, cross contamination may occur regardless of whether or not an aerochamber or spacer is used. The MDI should be safely discarded once the patient has completed treatment.
3. The eye drop bottle is designed for multiple patient use. Do not allow the bottle's administration nozzle to make contact with the patient. If the administration nozzle does make contact with the patient, the bottle is considered contaminated and must be discarded appropriately.
4. Under no circumstances should the MDI or eye drop bottle be given to a patient.
5. Advise patient to refrain from rubbing eyes, whether or not anaesthetic drops are used.
6. Have the patient remove their contact lenses. Help if necessary.
7. If a patient with dyspnea or eye irritation *caused by a riot control agent* refuses EMS transport to hospital, advise:

CONTINUED EXPOSURE MAY LEAD TO FURTHER PROBLEMS. RELIEF FROM TREATMENT SO FAR MAY BE TEMPORARY. IF PROBLEMS RECUR OR PERSIST, CONSULT A PHYSICIAN AS SOON AS POSSIBLE

Appendix 6

Provincial Maintenance of Certification Policy

Summer 2000
(under review)

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Provincial Maintenance of Certification

Preamble:

Upon completion of a recognized Paramedic Training Program, a paramedic must maintain certification as per Regulation 257/00 of the Revised Regulations of Ontario 1990 made under the *Ambulance Act R.S.O. 1990* as amended by the *Services Improvement Act 1997*. A person employed as a Paramedic shall be the holder of a valid document signed by the Medical Director of a Base Hospital Program designated by the Ministry of Health for that purpose.

Maintenance of Certification requires that the Paramedic:

1. Be employed by an Emergency Medical Service and work as a Paramedic, and/or Paramedic Preceptor, *(and meet the annual eligibility requirements outlined in the proposed Provincial Base Hospital Standards)* and work for a minimum of 144 scheduled hours in the previous 12 months in an emergency medical/clinical experience. If less than 144 scheduled hours has been accumulated, an evaluation may be initiated by the Medical Director to ensure competency in the skills the paramedic has been certified to perform. This will include, but not be limited to:

    i) Proof of reasonable attempts to complete 144 scheduled hours of emergency medical experience.
    ii) Documentation of practice of skills overseen by the Base Hospital.

2. Meets all Base Hospital administrative requirements including completion and submission of forms and successfully complete all Base Hospital CME requirements. Credit for equivalent learning will be at the discretion of the Medical Director. If a Paramedic is absent from CME, the Paramedic is responsible for contacting the Program Director to make arrangements to successfully complete the CME objectives.

3. Demonstrates competency and adherence to standards, protocols and legislation associated with the performance of Controlled Acts and the provision of patient care at their level of certification. This will be determined through Base Hospital CQI initiatives. They may include, but are not limited to:

    - Chart Audits
    - Peer Review
    - Rideouts
    - Dispatch/Base Hospital Physician Communication Review
    - Patch/Communication Review
    - Field Performance Evaluation
    - Successful Performance at CME
    - Review of Skills Inventory

If at anytime in the judgment of the Base Hospital Medical Director, conditions have not been maintained, the Base Hospital Medical Director may deactivate/decertify the Paramedic. The employer of the paramedic will be given written notice by the Base Hospital. The Paramedic will be notified verbally immediately by the employer followed by written notice from the Base Hospital.

The Paramedic will not be authorized to perform Controlled Acts while they are deactivated/decertified. The conditions for reactivation/recertification will be determined by the Base Hospital. The conditions will be communicated in writing to the Paramedic.

Should a Paramedic fail to successfully complete the prescribed reactivation process, the Medical Director may prescribe further remediation or decertify the Paramedic from the Program.

4. Adhere to the Paramedic Conduct Directives. The Paramedic Conduct Directives will apply whenever paramedics participate in on-duty assignments or duties related to the certification processes endorsed by individual Base Hospital Programs. These Directives will be routinely evaluated and uniformly enforced by the employer.

Clarification of Terms:

Base Hospital means a hospital that is designated as a Base Hospital by the Minister in accordance with clause 4(2)(d) of the *Ambulance Act* as amended by the *Services Improvement Act 1997*.

In this document, unless otherwise stated, the use of the following terms refer to ambulance personnel as defined by the *Ambulance Act*, and by Ontario Regulation 257/00:

- **Emergency Medical Attendant**
- **Paramedic**
- **Primary Care Paramedic (P1)**
- **Advanced Care Paramedic (P2)**
- **Critical Care Paramedic**

Emergency Medical Service means an ambulance service duly licensed to perform this service as defined under the *Ambulance Act*.

Hours of Service means work normally defined as field assignments. Where a Paramedic has no clinical duties, but is a clinical educator/manager, working hours may be credited on the condition that at least once every 12 months the Paramedic is tested by the Base Hospital to ensure competency in the skills the paramedic has been certified to perform.

Certification is written approval to perform selected medical controlled acts under the license/registration of a Base Hospital medical director.

Deactivation is the temporary suspension of selected certified paramedic privileges to perform controlled acts by the Base Hospital medical director for the purpose of performing remediation.

Reactivation is the reinstatement of the suspended privileges after a period of deactivation. A paramedic may be reactivated by the medical director at the time that such requirements for remediation have been met. The expense of remediation delivery (excluding paramedic attendance) will be borne by the Base Hospital.

Decertification is the revocation of a certified paramedic's privileges to perform controlled acts.

GUIDELINES FOR PATIENT CARE REVIEWS

1. Complaints that do not involve patient care will be dealt with by the employer. If the Base Hospital is made aware of such complaints they will forward them to the employer and copy them to the Regional EHS manager.

2. Patient Care Concerns or Call Reviews*
   - if identified by the Base Hospital* will be copied to the employer.
   - if identified by the employer will be copied to the Base Hospital.
   - if identified by an outside source will be copied to the employer.

   The identifying party is responsible for ensuring their Regional EHS manager is notified.

   *Minor patient care concerns identified during the Continuous Quality Improvement Program normally will be communicated between the Base Hospital and the paramedic during the normal CQI process. The employer will be made aware of minor concerns from aggregate reports. If the minor patient care concern becomes repetitive the Base Hospital will inform the employer.

   The employer will investigate the complaint. The employer will provide relevant evidence gathered with written conclusions, to the other party within 2 weeks of receiving the complaint. If the investigator requires an extension this will be communicated to the other parties with a new date of completion.

3. The Base Hospital reserves the right to act on all patient care deficiencies.

To maintain and measure patient care performance the Base Hospital may perform field audits, ACR reviews and conduct other continuous quality improvement initiatives independent of complaint investigations.

PATIENT CARE DEFICIENCY CLASSIFICATIONS

If a paramedic has performed a Controlled Act(s) or any patient care below the recognized standards/guidelines, the Base Hospital response may be guided by the severity of the event(s) in accordance with the following table:

MINOR OMISSION/COMMISSION:

A minor omission/commission is defined as an action or lack of action by the paramedic that did not have any direct effect on patient morbidity, however, may have affected patient care in a minor way. If a minor deficiency is identified, the paramedic may be given verbal counselling (confirmed in writing) or written counselling via the Ambulance Call Review Process.

MAJOR OMISSION/COMMISSION:

A major omission/commission is defined as an action or lack of action by the paramedic that has affected or the potential to affect patient morbidity, however, the outcome would not be life threatening. If a major deficiency is identified, or there is a repetition of minor deficiencies, the paramedic will be given written counselling and *may* be required to complete remedial education. At the discretion of the Medical Director the paramedic *may* be deactivated.

CRITICAL OMISSION/COMMISSION:

A critical omission/commission is defined as an action or lack of action by the paramedic that has a clear affect on patient morbidity with a potentially life threatening outcome. If a critical deficiency is identified or there is a repetition of major or a combination of major and minor deficiencies the paramedic *will* be given written counselling and *will* be required to successfully complete remedial education. At the discretion of the Medical Director, the paramedic *may* be decertified.

REMEDIAL PROGRAM OPTIONS

A remedial program based on individual needs will be made available at the Base Hospital Medical Director's discretion. Base Hospital training costs will be separately funded by EHS with prior written approval.

REMEDIAL PROGRAMS MAY REQUIRE:

1. Time in clinical rotations or supplemental educational processes deemed necessary by the Medical Director.
2. Base Hospital recovery costs paid by the Paramedic in compliance with EHS direction.

GUIDELINES FOR DECERTIFICATION REVIEWS

DECERTIFICATION

If a Paramedic wants to have their decertification reviewed by the Base Hospital the paramedic may do so. The request for the review must be in writing and received by the Base Hospital staff within 2 weeks of being notified of a change in certification status. The Paramedic must include in the request the reason he/she thinks a review should be considered. The Paramedic must also include alternative solutions or conclusions before the review will proceed.

The review committee will consist of a Medical Director, a Program Director and a practicing certified peer paramedic from another Provincial Base Hospital Program. This process must be approved by the Ministry of Health - Emergency Health Services for any required funding. The Paramedic's submission to the review committee will be pre-circulated to the members. The purpose of the review will be to determine:

a) If the information used by the Base Hospital in its evaluation was valid.
b) The appropriateness of the Base Hospital action for the event(s) involved.
c) If the requirements for recertification are "reasonable" for the event(s).

The review committee will provide a recommendation within 48 hours.