

# A01: Clinical Approach

Joe Acker

Updated: December 07, 2020

Reviewed:

## Introduction

The clinical approach represents the minimum standard of assessment that paramedics should provide for a patient. Patients in BCEHS care require ongoing assessments of vital signs every 15 minutes to monitor trends. If this standard cannot be met, or is considered clinically unnecessary, the rationale should be documented. Patients who are unwell or predicted to deteriorate should have their vital signs monitored more frequently.

For the majority of patients, it will be appropriate to establish a personnel rapport and to collect a verbal history prior to beginning any physical assessments. This process should not lead to excessive delays in obtaining vital signs. Critically ill or otherwise unwell patients will require a more formalized primary survey and systematic approach to information gathering.

## Essentials

BCEHS provides patient centred care. This means that paramedics will provide safe, effective and compassionate patient-centred care in all interactions, by

- Treating patients, carers and families with dignity and respect
- Encouraging and supporting shared decision making by patients, their families and carers
- Communicating and sharing information with patients, their families and carers, and other members of their healthcare team
- Obtaining consent and considering patient wishes and values in all decisions

## Additional Treatment Information

- **First, do no harm.** Paramedics must act, at all times, with due consideration for the safety of patients.
  - Always assess the risk versus the benefit of any treatment or procedure
  - Advocate for the health and safety of all patients
  - Demonstrate person-centred care by acting in a manner that ensures the patient's dignity, safety, privacy, confidentiality, and decision-making are maintained
- **Professionalism, accountability, and responsibility.** Each paramedic's professional and legal responsibilities are prescribed by
  - The Emergency Medical Assistants Regulation and the Code of Ethics
  - BCEHS Clinical Practice Guidelines, Pharmacology, Skills and Procedures
  - Compliance with BCEHS Policies and Procedures, Practice Updates, and Safety Alerts
- **Scope of Practice.** Paramedics must treat within their own scope of practice as defined by BCEHS and the EMALB. Paramedics cannot exceed the scope of practice for which they hold an EMA license (including [Schedule 1 and 2](#)); however, their scope of practice can be limited or restricted by BCEHS ([→ A04: Duty of Care](#)).
- **Scene assessment.** Safety of the paramedic, patient, and bystanders is of the utmost priority.
  - Scene assessment commences as soon as visual contact is made with the scene (CPG A02: Primary and Secondary Survey)
  - The dynamic risk assessment must be part of every clinical event. BCEHS does not expect paramedics to place themselves at risk of injury during any patient encounter.
- **Infection Prevention and Control (IP&C).** The main goal of infection prevention and control is to prevent the transmission of health-care-associated infections to patients and paramedic practitioners. The modern application of infection control is described as "routine practices and additional precautions" which must be applied to every patient on every event.
  - Routine practice does not include the use of personal protective equipment (PPE). Paramedics should apply a point of care risk assessment (PCRA) and, if a hazard exists, then apply appropriate precautions (i.e., one of the three isolation procedures).
  - The single most effective IP&C procedure to control infections in the workplace and reduce the spread of

infections is hand hygiene.

- Gloves are task specific and meant for single use, change between procedures and patients. Their use does not replace the need for hand hygiene after their removal.
- **Communication.** Early activation of additional resources is essential.
  - Clear, confident verbal and nonverbal communication is central to a patient's perception of professional care. Communication must take into account the psychosocial needs of patients, family, and carers.
- **Treatment and Referral Decisions.** It is the responsibility of paramedics to
  - Perform comprehensive patient assessment ([→ A02: Patient Assessment](#))
  - Discuss and explain the patient's presenting clinical condition, including any related comorbidities, with them or their carer and determine the appropriate treatment and referral decisions
  - Manage the patient as required through the application of the BCEHS Clinical Practice Guidelines
  - If in doubt about the diagnosis and the specific treatment required, give basic supportive measures, minimize time on scene, and consult with CliniCall if possible
- **Transportation Decisions.** Time on scene must be kept to a minimum with only time critical and/or meaningful interventions performed on scene with additional treatment provided enroute.
  - If the arrival time of clinical back-up is expected to exceed the time required to load and transport the patient to a hospital, paramedics should transport the patient. In the event that higher levels of care or additional resources are required for safe patient care, enroute intercepts can be considered.
- **Choice of Destination Facility.** The destination facility is influenced by the patient's presenting condition and the relative proximity to a designated specialized care facility. Follow BCEHS Destination Guidelines when determining hospital destinations.
  - Stroke patients may bypass the local facility and proceed directly to a primary or comprehensive stroke centre as directed by the [FAST-VAN Stroke Tool](#)
  - STEMI patients may bypass the local hospital and proceed directly to a facility with specialty expertise in reperfusion strategies
  - Trauma patients may bypass local facilities and be transported directly to a Trauma Center. Follow guidelines in the [local clinical pathways](#).
  - Certain patients may meet criteria to be transported to Alternate Destinations. [Local clinical pathways](#) are available.
- **Alternative referral decisions.** When patients are not transported by ambulance, paramedics must
  - Provide the patient with information on how to manage their condition, what to do if their condition does not improve, including when to see their general practitioner.
  - Confirm the patient is able to mobilize and alternate transport is available to enable the patient to access alternative care facilities.
- **Ambulance off-load.** Prepare patient and equipment for off loading.
  - Remove PPE prior to leaving the vehicle and perform hand hygiene. If the patient's condition does not allow the removal of PPE, remove and replace gloves prior to departing the ambulance.
  - On-going patient assessment and treatment continues at the receiving facility until the formal clinical handover takes place. This includes repeating vital signs, continuation of various monitoring devices, and rechecking of the effectiveness of interventions.
- **Clinical handover.** It is the responsibility of paramedics to ensure they provide and receive a comprehensive clinical handover using the mnemonic ISBAR or IMIST-AMBO ([→ A03: Clinical Handover](#)) whenever patient care responsibility changes from one clinician to another and to ensure they understand all care requirements for the patient.
  - Whenever possible, and when it is in the best interest of the patient, practitioners should provide the handover report with the patient in view of the accepting healthcare provider to facilitate patient recognition and encourage assessment as required. It is recognized that extenuating circumstances may make it unacceptable to complete clinical handover in the presence of the patient.
- **Documentation.** Documentation is important and a clinical record is required for all patient contact ([→ A06: Documentation Standards](#)). Patient care documentation must
  - Be accurate and as factual as possible and provide a clear, concise, complete account of the event
  - Be completed at the time of, or as close as practicable to, the event Include all treatment/interventions provided, including patient vital signs and assessment findings prior to and post treatment and recording of ECGs where appropriate.
    - Note: In cases where a minimum of two sets of vital signs are not taken or recorded, paramedics must

document, the reasons as part of the free text in the clinical record

- Record the paramedics' recommendations and reasons, including a summary of any communication made between paramedics and patients and/or carers
- Record a copy of any first responder documentation
- Record any advice provided by a paramedic specialist or the emergency medical services physician online support doctor
- Record the at least the minimum dataset required per CPG A06 documentation standards
- Practitioners shall leave copies of the patient care record and any associated documentation with the receiving facility prior to leaving the facility; this may include uploading a digital version of the PCR without printing a hardcopy. In particular, ECG's must include the patient name and copies of the pre/post treatment (e.g. SVT treatment with adenosine).
- Document and co-sign all controlled substance usage and wastage in the patient care record per [BCEHS MP 210](#)
- Ensure verbal orders from a physician or employer direction from a paramedic specialist in CliniCall are documented in the PCR. Transcribed orders must fall within the scope of practice of the paramedic.

## References

1. Alberta Health Services. AHS Medical Control Protocols. 2020. [\[Link\]](#)
2. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [\[Link\]](#)
3. New South Wales Ambulance Service. Protocols & Pharmacology. 2020. [\[Link\]](#)

## A02: Patient Assessment

Mike Sugimoto

Reviewed: December 2, 2020

### Essentials

- The goal of patient assessment is to construct a mental model of the clinical condition under consideration and to develop an effective and appropriate treatment plan in a safe and appropriate environment. aaa bbb ccc ddd eee fff ggg eee
- Regardless of the specific model used, all patient assessments must include, at a minimum:
  - A dynamic and on-going risk assessment, both prior to and following contact with the patient.
  - A preliminary examination, made from first visual contact, intended to gather information on potential life-threatening bleeding, mechanism of injury, and establish a general impression of overall clinical condition.
  - A primary survey, aimed at identifying life-threatening conditions to allow for prioritization of interventions.
  - The identification of a chief complaint and its associated history.
  - A clinical history for the patient, including current medications, any allergies, and current levels of intervention (as applicable).
  - Focused physical and functional exams to include or exclude relevant differential diagnoses.

### Scene Control and Hazard Assessment

The assessment process begins prior to making contact with the patient. The scene survey forms the basis of the ongoing risk assessment that continues throughout the entire call; paramedics must be aware of hazards in the patient's environment, including along the ingress and egress routes, and take appropriate steps to mitigate those hazards.

Guidance on managing specific hazards is outlined in the High Risk Hazard guide. In cases where hazards cannot be suitably controlled, or mitigation strategies are unclear, paramedics should withdraw to a safe distance and seek additional resources. Withdrawing may be as simple as waiting in a hallway; it may also involve leaving the scene completely and moving to a location that is known to be safe. Paramedics must exercise judgment when deciding whether a scene is safe or not, and in all cases err on the side of physical distance.

Control of the scene can be multifaceted. Wherever possible, lights on the ambulance should be used to illuminate paths to and from residences. Paramedics must ensure a clear and direct route is continually available between the ambulance and the patient; doors should be left open, or at a minimum unlocked. Uninvolved bystanders must be removed from the immediate area, to protect the patient's privacy, to ensure paramedic safety, and to minimize distractions while managing the patient.

In all cases, paramedics must ensure that roles and responsibilities are clearly defined. Paramedics should be particularly diligent about discussing these when confronted with cases predicted to be complex for any reason, and the precise nature of that complexity will vary from paramedic to paramedic. Collaborative assessments making effective use of the skills of all providers at a scene will improve patient care.

### Initial and Primary Survey

A significant amount of information can be obtained "from the doorway," prior to making physical contact with the patient. The goal of the initial survey is to identify life-threatening hemorrhage requiring immediate control, identify a potential mechanism of injury, delegate responsibilities for spinal motion restriction, and formulate a general impression of the patient's overall condition. The overall impression can help paramedics to establish priorities for care, and to set the pace of the call – patients who appear unwell require more aggressive assessment and intervention, while patients who appear well may benefit from a more relaxed tempo. Paramedics should observe the patient's work of breathing, the general appearance of their skin, and their mentation to form a general impression of "sick or not sick."

Prior to beginning a formal primary survey, life-threatening bleeding must be controlled. This can be accomplished through the use of delegated direct pressure or placement of a tourniquet as needed. See [D02: Bleeding](#) for additional details on the control of bleeding.

The primary survey is intended to guide paramedics in the identification of other life-threatening problems. The assessment should begin with an evaluation of the patient's level of consciousness using a coarse scale – patients will either be spontaneously alert, responsive to voice, responsive only to pain, or unresponsive.

In patients who are conscious, paramedics should assess the airway, breathing, and circulation. Patients who are unconscious should have their circulation and breathing assessed simultaneously, and chest compressions initiated if pulses are absent; formal assessment of the airway can be deferred until resuscitation is underway. In all cases, issues or problems identified in the primary survey must be managed immediately upon discovery – either directly by the attending paramedic, or delegated as a task to other providers.

The primary survey should conclude with an evaluation of the patient's skin color and temperature, and a rapid but comprehensive physical exam tailored to the overall clinical scenario.

Following the completion of the primary survey and its associated interventions, a chief complaint must be identified, and a history of the chief complaint obtained.

### Secondary Survey

At this point vital signs should be taken (ideally by delegation). Paramedics may have gathered enough information at this point to formulate an appropriate treatment plan, or they may need to interview the patient and conduct a physical examination to gain additional details. Interventions or investigations that are time-sensitive should be performed at this point, while preparations are being made for transport of the patient if that is the most appropriate disposition.

### Clinical Scores and Assessment Tools

BC Emergency Health Services advocates the use of the National Early Warning Score (NEWS2) to identify patients at risk of sudden deterioration. NEWS2 scores should be obtained on all patients, and used to guide clinical decision-making, particularly in the areas of transport, destination selection, pre-arrival notification, ongoing monitoring, and emergency department advocacy.

Physiological Parameter	Score						
	3	2	1	0	1	2	3
Respiratory rate	≤ 8		9 – 11	12 – 20		21 – 24	≥ 25
SpO2 %	≤ 91	92 – 93	94 – 95	≥ 96			
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤ 90	91 – 100	101 – 110	111 – 219			≥ 220
Pulse per minute	≤ 40		41 – 50	51 – 90	91 – 110	111 – 130	≥ 131
Consciousness				Alert			Altered
Temperature	≤ 35.0		35.1 – 36.0	36.1 – 38.0	38.1 – 39.0	≥ 39.1	

Score	Clinical Risk	Practitioner Response
Aggregate score 0 – 4	Low	Routine monitoring Routine transport or referral pathway as required
Score of 3 in any individual parameter	Low-medium	Monitor carefully Routine transport as required
Aggregate score 5 – 6	Medium	Monitor carefully Attempt to optimize oxygenation, ventilation, and perfusion Consider advanced care intercept where available Consider emergent transport to hospital Consider pre-arrival notification Consider CliniCall consultation
Aggregate score $\geq 7$	High	Monitor continuously Maximize oxygenation, ventilation, and perfusion Seek advanced care intercept but do not delay for Emergent transport to hospital Pre-arrival notification

NEWS2 is not intended to replace sound clinical judgment. Its purpose is to alert practitioners to the risk of sudden deterioration, and to help identify those patients who require more aggressive monitoring, treatment, and advocacy, and is particularly valuable in the context of infectious diseases and suspected sepsis.

#### Treatment and Disposition

Paramedics must exercise judgment and manage their time on-scene effectively. Tasks that have minimal effects on clinical outcomes should be deferred until the patient is en route to the destination facility. On-scene tasks should be limited to those procedures and interventions that will yield meaningful information that affects the overall management plan, or that addresses an immediate and urgent patient need. Attending paramedics should not feel pressured to perform all tasks: the effective use of one's partner and other responders is a hallmark of effective clinical practice, and the delegation of tasks – the taking of vital signs, the completion of documentation, the initiation of vascular access – is critical to good time management while on-scene.



<b>Scene Control</b>  Does not require patient contact	<ul style="list-style-type: none"> <li>• Personal protective equipment selection and donning</li> <li>• Conduct initial risk and hazard assessment (risk assessment is ongoing throughout the call: if hazards become uncontrollable, leave the scene immediately)</li> <li>• Determine number of patients and any other resources required</li> <li>• Control scene (lighting, ingress/egress routes, access to doors and elevators)</li> </ul>
<b>Initial Assessment</b>  Conduct from a distance	<ul style="list-style-type: none"> <li>• Assess for and control major hemorrhage</li> <li>• Establish mechanism of injury</li> <li>• Delegate spinal motion restriction as required</li> <li>• Determine general nature of illness or injury</li> <li>• Conduct "doorway survey": observe work of breathing, general mentation, circulation to skin</li> </ul>
<b>Primary Survey</b>	<ul style="list-style-type: none"> <li>• Level of consciousness <ul style="list-style-type: none"> <li>○ If conscious: airway and breathing, circulation</li> <li>○ If unresponsive: circulation, airway, and breathing concurrently</li> </ul> </li> <li>• Correct life-threatening abnormalities</li> <li>• Perform focused rapid physical exam</li> <li>• Identify chief complaint</li> <li>• Determine probable "pace" for call</li> </ul>
<b>Secondary Survey</b>	<ul style="list-style-type: none"> <li>• Obtain relevant clinical history</li> <li>• Conduct appropriate diagnostic testing (vital signs, ECG, etc.)</li> <li>• Expose and examine as required based on chief complaint</li> <li>• Delegate patient care activities as required</li> </ul>
<b>Treatment and Disposition</b>	<ul style="list-style-type: none"> <li>• Formulate diagnosis</li> <li>• Develop and implement treatment plan</li> <li>• Determine appropriate patient disposition</li> </ul>

## A03: Clinical Handover & Communication

Shauna Speers & Leon Baranowski

Updated: December 07, 2020

Reviewed:

### Introduction

Clinical handover of a patient represents a vulnerable time during patient care. The WHO's Joint Commission report of 2014 on Sentinel Event Data identified ineffective communication during handover as one of the most common root causes for sentinel events. Sentinel events are defined as any unanticipated event in a healthcare setting resulting in death or serious physical or psychological injury to a patient or patients, not related to the natural course of the patient's illness. In addition, the WHO World Alliance for Patient Safety has identified improvements in communication during patient handovers as a key factor in improving patient safety.

The WHO has presented two guiding principles to minimize communication errors and/or omissions during clinical handover. First, the handover should be tailored to the discipline that it is being used in with context given to end users of the information. Second, the contents of the handover should be standardized in the order that they are presented. By standardizing the contents of a clinical handover it will create a shared mental model between the sender and receiver and convey all necessary clinical information.

### Essentials

- Key principles for effective clinical handover include:
  - Appropriate environment for handover should protect patient confidentiality and limit non-critical interruptions during handover.
  - Clinical handover information should be timely, accurate and devoid of repetition. Use of common language and minimal use of abbreviations recommended.
  - Handovers should be structured consistently to guide the content and flow of information in a manner that suits the clinical context and contain a minimum standard of information.
- The purpose of a standardized clinical handover process is to ensure the safe, effective and structured exchange of information during handover of ambulance patients in the emergency department or receiving facility. Studies have noted that verbal clinical handovers are prone to inaccuracies and omissions; whereas documentation of verbal reports are also subject to frequent error.
- ATMIST AMBO is a standardized handover model that adheres to WHO guiding principles as mentioned above. Research suggests that implementing standardized clinical handovers reduces adverse events and communication related errors in patient care. The use of acronyms and mnemonics is useful to help structure the contents of a clinical handover as they facilitate rapid information recall.
- Clinical handover of a critical patient should include a 20-30 second period where the patient remains on the ambulance stretcher with a "hands-off, eyes on" period until the ATMIST information is delivered (excluding critical interventions).
- SBAR: Provides an easy to use structured form of communication that enables information to be transferred accurately between individuals. Effective tool for use during telephone consultation with EPOS/CliniCall. SBAR helps to reduce communication barriers between different levels of staff and provides clarity of expectations for both the sender and receiver of information.

### Interventions

**Emergency Medical Responder – All FR interventions, plus:**




**BCEHS** BC Emergency Health Services

**What to say:**  
at handover

ATMIST	Details
<b>A</b> Age	Age, Name and Date of Birth
<b>T</b> Time	Time of Onset of symptoms Time of Injury
<b>M</b> Mechanism	Mechanism of Injury Medical Complaint
<b>I</b> Injuries	Injuries / Exam Findings
<b>S</b> Signs	Vitals GCS
<b>T</b> Treatment	Treatment Given
AMBO	Details
<b>A</b> Allergies	Provide any allergies patient may have
<b>M</b> Medication	Verbalize or provide list of medications pertinent to the care of the patient
<b>B</b> Background	May include social history, family or notable information
<b>O</b> Other information	Any other information relevant to the ongoing care of the patient


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**What to say:**  
Consultation

SBAR	Details
<b>S</b> Situation	<ul style="list-style-type: none"><li>• Identify yourself</li><li>• Identify the patient</li><li>• Reason for call</li><li>• Concerns</li></ul>
<b>B</b> Background	<ul style="list-style-type: none"><li>• Time of onset</li><li>• Chief complaint</li><li>• History of chief complaint</li><li>• Medical history</li></ul>
<b>A</b> Assessment	<ul style="list-style-type: none"><li>• General impression</li><li>• Vitals</li><li>• Physical findings</li><li>• Treatment provided</li></ul>
<b>R</b> Recommendation	<ul style="list-style-type: none"><li>• Discuss treatment plan and options</li></ul>

<div> <div>BCEHS</div> <div>BC Emergency Health Services</div> </div>	
<div> <div>What to say:</div> <div>Consultation</div> </div>	
SBAR	Details
<div>S</div> <div>Situation</div>	<ul style="list-style-type: none"> <li>Identify yourself</li> <li>Identify the patient</li> <li>Reason for call</li> <li>Concerns</li> </ul>
<div>B</div> <div>Background</div>	<ul style="list-style-type: none"> <li>Time of onset</li> <li>Chief complaint</li> <li>History of chief complaint</li> <li>Medical history</li> </ul>
<div>A</div> <div>Assessment</div>	<ul style="list-style-type: none"> <li>General impression</li> <li>Vitals</li> <li>Physical findings</li> <li>Treatment provided</li> </ul>
<div>R</div> <div>Recommendation</div>	<ul style="list-style-type: none"> <li>Discuss treatment plan and options</li> </ul>



**What to say:**  
at handover

ATMIST	Details
<b>A</b> Age	Age, Name and Date of Birth
<b>T</b> Time	Time of Onset of symptoms Time of Injury
<b>M</b> Mechanism	Mechanism of Injury Medical Complaint
<b>I</b> Injuries	Injuries / Exam Findings
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<b>T</b> Treatment	Treatment Given
AMBO	Details
<b>A</b> Allergies	Provide any allergies patient may have
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<b>B</b> Background	May include social history, family or notable information
<b>O</b> Other Information	Any other information relevant to the ongoing care of the patient

## References

1. Arora V, et al. Patient Handoffs. In UpToDate. 2020. [\[Link\]](#)
2. Bates DW, et al. Global priorities for patient safety research. 2009. [\[Link\]](#)
3. Bost N, et al. Clinical handover of patients arriving by ambulance to the emergency department - a literature review. 2010. [\[Link\]](#)
4. Carter AJE, et al. Information loss in emergency medical services handover of trauma patients. 2009. [\[Link\]](#)
5. Dawson S, et al. Review article: Improving the hospital clinical handover between paramedics and emergency department staff in the deteriorating patient. 2013. [\[Link\]](#)
6. Evans SM, et al. Assessing clinical handover between paramedics and the trauma team. 2010. [\[Link\]](#)
7. Evans SM, et al. Clinical handover in the trauma setting: A qualitative study of paramedics and trauma team members. 2010. [\[Link\]](#)
8. Foster S, et al. The effects of patient handoff characteristics on subsequent care: A systematic review and areas for future research. 2012. [\[Link\]](#)
9. Goldberg SA, et al. Quantitative analysis of the content of ems handoff of critically ill and injured patients to the emergency department. 2017. [\[Link\]](#)
10. Iedema R, et al. Design and trial of a new ambulance-to-emergency department handover protocol: 'IMIST-AMBO'. 2012. [\[Link\]](#)

11. Jensen SM, et al. Handover of patients: A topical review of ambulance crew to emergency department handover. 2013. [\[Link\]](#)
12. Joint Commission. Sentinel Event Data: Root causes by event type 2004-2014. 2014. [\[Link\]](#)
13. Logarajah S, et al. An integrated ABCDE approach to managing medical emergencies using CRM principles. 2014. [\[Link\]](#)
14. Meisel ZF, et al. Optimizing the patient handoff between emergency medical services and the emergency department. 2015. [\[Link\]](#)
15. Murray SL, et al. Quality of the handover of patient care: A comparison of pre-hospital and emergency department notes. 2012. [\[Link\]](#)
16. Owen C, et al. Lost in translation: Maximizing handover effectiveness between paramedics and receiving staff in the emergency department. 2009. [\[Link\]](#)
17. Sanjuan-Quiles A, et al. Handovers of patients from prehospital emergency services to emergency departments. 2018. [\[Link\]](#)
18. Shah Y, et al. Clinical handover between paramedics and emergency department staff: SBAR and IMIST-AMBO acronyms. 2016. [\[Link\]](#)
19. WHO Collaborating Centre on Patient Safety Solutions. Communication during patient hand-overs: Patient safety solutions. 2007. [\[Link\]](#)
20. Wood K, et al. Clinical handovers between prehospital and hospital staff: Literature review. 2015. [\[Link\]](#)
21. Yong G, et al. Handover from paramedics: Observations and emergency department clinician perceptions. 2008. [\[Link\]](#)

## A04: Duty of Care

Joe Acker

Reviewed: December 2, 2020

### Introduction

It is the responsibility of all BCEHS paramedics and EMRs to be knowledgeable of, and to work within, their approved scopes of practice as outlined in the BCEHS Clinical Practice Guidelines (CPGs), and use the clinical approach and patient assessment CPGs for the initial assessment, reassessment and treatment of all patients.

Patients may present with multiple clinical conditions, and in these cases, practitioners must apply clinically indicated protocols concurrently, while continually reassessing the patient's status and care needs.

Paramedics must report deviations from clinical practice, patient safety events, near misses, and clinical errors via the Patient Safety Learning System (PSLS), and provide relevant information to support clinical case reviews and root-cause analysis.

Paramedics shall accurately complete all required documentation including a patient care report for each patient encountered.

The paramedic on-scene with the highest level of license as determined by the Emergency Medical Assistants Licensing Board (EMALB) shall be the most responsible paramedic (MRP). The MRP is responsible for determining the level and type of care required by the patient, both on-scene and during transport. This is best accomplished by ensuring all providers collaborate within their current scopes of practice (including any limitations or conditions that may exist), and by continually reassessing the level of care required.

**This Clinical Practice Guideline provides guidance for the following considerations:**

Section 1: Consent for care of minors

Section 2: Transfer of patient care between levels of paramedic licenses

Section 3: Consolidation of patient care at hospital

Section 4: Assessment and care of patients in custody

Section 5: Refusal of care

### Section 1: Consent for Care of Minors

A minor is a person who is not an adult and is under the age of majority. The *Age of Majority Act* defines the age of majority as 19 years of age.

Paramedics and EMRs must obtain informed consent from parents or legal representatives prior to providing care for minors (exception 2.1).

Paramedics and EMRs may provide care to minors in situations where the parents or legal guardians are not present, in circumstances where the delay of emergency medical care could cause significant harm to the patient. In these situations, paramedics should attempt to contact a parent or legal guardian as soon as appropriate, and document the circumstances regarding the care provided to minors without consent from parents or legal guardians.

Under the terms of the *Infants Act*, a mature minor may make decisions regarding his or her own health care. There is no single accepted definition of a mature minor, however, paramedics and EMRs must exercise judgement when deciding whether a minor could be considered a mature minor. Traits of a mature minor could include:

- A demonstrated ability to make independent decisions (e.g., calling 911)
- Actions taken in their own best interests
- The ability to make clear, independent judgements
- The capacity and intellectual ability to understand the risks and benefits of a proposed care plan
- Age between 14 and 19 years.
- Living apart from parents (e.g., married/common-law)
- Economic independence and success at managing personal affairs.



Paramedics and EMRs must document their reasons for granting mature minor status.

A mature minor's decision to give or withhold consent for health care cannot be overridden by parents or guardians.

Mature minors may be given care without consent in situations where the delay of emergency care could cause significant harm to the patient. In these scenarios, paramedics should seek to obtain consent as soon as possible, and must document the circumstances around the care provided.

Paramedics and EMRs should contact CliniCall if there are concerns with respect to care plans for minors.

Paramedics and EMRs must arrange for mature minors to sign a Refusal of Care or Transport record in situations where they refuse care or transport.

## Section 2: Transfer of Patient Care Between Levels of Care

All BCEHS patients should be afforded care consistent with their immediate or expected clinical needs. If there is a perceived need for higher levels of care, or consultation, such care or guidance should be sought, either by intercept with another resource or through CliniCall.

### Transfer of Care during Inter-Facility Transports (IFTs) Post Patient Medication Administration

When a patient has received medications outside the scope of practice of an EMR or PCP and requires transport to another facility, the EMR/PCP unit may transport if all of the following criteria are met:

- The patient does not require any further non-scope medications en route.
- The patient's vital signs are within normal limits.
- It has been a minimum of 15 minutes since the medication administration
- Patient meets local IFT guidelines for transport.
- Consult CliniCall for direction in other extenuating circumstances where transfer of care is required.

### Transfer of Care during Newton's Cradle

(A 'Newton's Cradle' is a meet and transfer of patient care between 2 or more paramedic teams while transporting a patient over a long distance.)

A patient in ACP care can be transferred to PCP care if that patient is not anticipated to require any ACP interventions or assessments for the remainder of the trip. If an ACP-level intervention has been performed, PCPs are able to accept the patient provided the following criteria have been satisfied:

- The required level of care falls within the PCP scope of practice.
- The patient's vital signs are within normal limits.
- It has been a minimum of 15 minutes since an ACP intervention has been performed.

Similarly, patients in PCP care may be transferred to EMR care, provided the patient's required care falls within the EMR scope of practice.

### Transfer of Care on Scene

A patient in ACP care may be transferred to a PCP crew provided:

- The patient's vital signs are within normal limits.
- The patient is not anticipated to require any further ACP interventions en route.
- It has been a minimum of 15 minutes since an ACP intervention has been performed.

Transfer of care should not delay transport. In most situations, ACPs should transport patients to hospital when PCP crews are not readily available. CliniCall should be consulted in other extenuating circumstances when transfer of care is required.

## Section 3: Consolidation of Patient Care at Hospital

When directed to do so by their unit chief, supervisor, manager, or local service standards, paramedic crews will consolidate patient care in a hospital or other health facility immediately following triage. Paramedics will manage

care for up to three patients, or as directed. Of the three patients being cared for, no more than one patient may:

- Require cardiac monitoring
- Be hemodynamically unstable
- Require cervical spine precautions or spinal motion restriction
- Have a Glasgow Coma Score less than 13
- Be uncooperative, non-compliant, or aggressive.

Multiple pediatric patients will not have their care consolidated.

Paramedics may determine that consolidation of care is inappropriate, if the patient requires one or more of the following:

- The patient has been designated as requiring infection control or isolation precautions.
- The patient is violent, or requires the use of restraints.

Except where the needs of the patient dictate otherwise, paramedics will consolidate care from ACP providers to PCP. Paramedics providing consolidated patient care will notify their dispatcher or supervisor if they are unlikely to be clear of the facility within 30 minutes following transfer of care. Where possible, patients will be transferred to a hospital stretcher, with side rails raised. If circumstances dictate that patients must remain on ambulance stretchers, paramedics should lower the stretcher to a medium height and secure the patient using shoulder, chest, and leg straps.

Patients will be monitored in accordance with the standards in Table 1. Paramedics providing consolidated care in health care facilities will do so in collaboration with the facility staff, and will provide hourly updates on the condition of patients in their care. Significant changes in the status of patient – such as alterations in vital signs, the progression of symptoms, or the patient attempting to leave the hospital prior to being assigned a bed – will be reported to facility staff immediately.

It is expected that paramedics will assist the patient and provide personal care as required.

<b>Table 1. Monitoring standards for patients in consolidated care</b>		
<b>Vital Signs q15 Minutes</b>		<b>Vital Signs q30 Minutes</b>
<b><i>Altered Vital Signs</i></b>	<b><i>Complaints or Symptoms</i></b>	
<ul style="list-style-type: none"> <li>• Heart rate &lt;50 or &gt;110/minute</li> <li>• Blood pressure &lt; 90 mmHg</li> <li>• SpO<sub>2</sub> &lt; 90% despite supplemental oxygen</li> <li>• Respiratory rate &lt; 10 or &gt; 24/minute</li> <li>• GCS &lt; 13</li> <li>• Temperature &lt; 35°C or &gt; 38°C</li> </ul>	<ul style="list-style-type: none"> <li>• Chest pain (resolved or ongoing)</li> <li>• ECG with ischemic or unstable changes</li> <li>• Shortness of breath</li> <li>• Altered mental status</li> <li>• Uncooperative / non-compliant or aggressive</li> <li>• Abdominal pain despite analgesia</li> <li>• Spinal motion restriction in place</li> <li>• Major trauma</li> </ul>	<ul style="list-style-type: none"> <li>• All other patients</li> <li>• NB: patients whose blood glucose level &lt;4 mmol/L or &gt;12 mmol/L will have their glucose levels reassessed hourly</li> </ul>

In the event that paramedics are required to return to their communities for operational reasons, they will inform the triage nurse or BCEHS unit chief or supervisor so that arrangements for the transfer of care can be made.

Upon transfer of patient care to another health care provider, BCEHS paramedics will provide a comprehensive verbal report using a clinical handover tool, such as iSBAR or IMIST AMBO, as described in [A03 Clinical Handover](#).

#### Section 4: Assessment and Care of Patients in Custody

The assessment and management of patients in custody requires a comprehensive approach. In conjunction with both [A01 Clinical Approach](#) and [A02 Patient Assessment](#) CPGs, paramedics should use the following criteria when providing care for patients in custody.

- When visual limitations (such as a spit hood, restraints, or clothing) present a barrier to a comprehensive physical assessment, paramedics should remove these items as necessary to complete an assessment, provided it is safe to do so.
- A person in custody who exhibits extreme intoxication, and who presents sufficient concern to warrant regular reassessment by paramedics, should be transported at the time of first assessment. Individuals who are unable to safely walk or stand without assistance should not be left in custody.
- Law enforcement officers in British Columbia may use pepper spray (oleoresin capicum, or OC), a less-than-lethal force option. OC is an aerosol lachrymatory agent that irritates the eyes and upper respiratory tract causing pain, tearing, temporary blindness, coughing, and difficulty breathing. The effects of OC cannot be completely neutralized, though they can be minimized.
  - Paramedics must decontaminate patients in a well-ventilated area while wearing adequate personal protective equipment to avoid becoming affected. To decontaminate the patient, remove any contaminated clothing and flush with large quantities of water (or normal saline) for at least 20 minutes. Wash using soap and water; baby shampoo is ideal for this. Provide supportive care, and treat any conditions concurrently.
- Conducted energy weapons (CEW), or Tasers, are a less-than-lethal force option used by British Columbia law enforcement. These devices fire two darts that embed in the body and deliver an electrical stimulus. The electrical stimulus interferes with the body's nervous system, inducing a forced contraction in the skeletal muscle, causing the target to temporarily lose control of their muscles.
  - Patients who have been exposed to CEWs must be monitored for a minimum of 15 minutes after employment. A 12-lead ECG should be obtained if possible.
  - Darts should be removed from the patient, unless they are embedded in the genitalia, neck, face, eyes, ears, oropharynx, scalp, or areas with significant superficial vasculature (e.g., antecubital fossa, or the femoral or popliteal areas). To remove, confirm that the CEW has been turned off, and cut the wire at the base of each dart. Pull perpendicularly in a quick fashion on each dart. Dispose of the darts in a sharps container. Clean dart wounds with alcohol swabs and apply a dressing as required. If the patient's tetanus status is unknown, or their date of last vaccination is over 10 years in the past, inform the law enforcement officers that a tetanus booster will be required within 72 hours.
- Paramedics should approach all patients in custody with an intention to transport with a law enforcement escort. Patients in custody have the legal right to refuse medical treatment, however they do not have the ability to refuse transport to hospital. Occasionally, there may be controversy over whether a patient in custody requires transport to hospital; police may solicit opinions from paramedics as to the necessity of transport. In these cases, paramedics should be inclined to transport, with special attention if:
  - The patient is pregnant
  - The patient has any of the following:
    - Chest pain or palpitations
    - Headache
    - Vomiting
    - Presyncope
    - Incontinence
    - Shortness of breath
    - Persistent confusion or combativeness
    - An injury, psychiatric disorder, or medical condition requiring immediate attention
    - A significant mechanism of injury, meeting the definition of major trauma by mechanism alone
    - The inability to walk or stand safely without assistance
    - Heart rates less than 60 or greater than 110 beats per minute
    - A systolic blood pressure of less than 100 mmHg or greater than 180 mmHg

- A respiratory rate less than 12 or greater than 24 breaths per minute
- Oxygen saturations below 94% on room air
- Blood glucose below 4.0 mmol/L or higher than 10.0 mmol/L
- Temperature greater than 38°C.

Paramedics may otherwise leave patients in the custody of police after at least 15 minutes of observation. In these cases, paramedics must consult with CliniCall prior to leaving the scene.

- Patients in the custody of law enforcement may be restrained with handcuffs and/or additional restraints. If transport is required, a law enforcement officer with the ability to remove and control the restraints must be present in the ambulance. Consult with CliniCall with respect to treatment and transport decisions of restrained patients as necessary.
  - Warning: Do not transport restrained positions in the prone position, due to the risk of positional asphyxia.
- Law enforcement officers may deploy other less than lethal weapons to distract or temporarily incapacitate individuals, including stinger balls, rubber bullets, and beanbag shotguns. These may result in blunt or penetrating trauma. Flashbangs, concussion grenades, and flash diversionary-incendiary devices may result in temporary loss of vision or hearing, and inhalation or flash burns. Treat injuries caused by these weapons in accordance with the appropriate guideline.

## Section 5: Refusal of Care

- Adults over the age of 18 years, mature minors, parents or legal representatives of minors, and legal representatives or guardians of adults may refuse care or transportation from BCEHS.
- An adult patient is presumed to be capable to make decisions, unless there is evidence to the contrary. Paramedics are required, in every case, to satisfy themselves that the patient has the requisite capacity to make decisions, understands the risks, benefits, and alternatives to their decisions, and is not unduly influenced by third parties.
- Patients are presumed to lack capacity if their actions demonstrate they present a danger to themselves or others.
- A lack of capacity may be short-term. It may be related to:
  - A mental disorder
  - Intoxication by alcohol or drugs
  - Disability from acute illness or injury
  - The likelihood the patient will harm themselves or others
  - The inability to answer orienting questions (e.g., "what is your name?" "where are you right now?" "what day is it?")
- Paramedics must not intentionally encourage or otherwise coerce patients to refuse care or transport. Patients have a right to access the care provided in hospital or other recognized resources available through ambulance transport.
- Paramedics are responsible for providing the patient with an opportunity to ask questions, and to provide answers that are understandable. The patient must be given the opportunity to accept or refuse care, or transport, without fear, constraint, compulsion, or duress.
- In caring for patients who refuse care or transportation, paramedics will
  - Attempt to perform as comprehensive an assessment as possible, provided the patient consents.
  - Explain the benefits of receiving care or agreeing to transport
  - Explain the risks of refusing care or transport
  - Discuss alternative options available, including timely follow-up with a physician or health care provider, self-transport to hospital, or another call to 911 if conditions recur or worsen
- Paramedics will consult with CliniCall where patients have:
  - A history of significant submersion injury
  - Recovered from a partial or complete foreign body airway obstruction
  - Experienced an apparent life-threatening event or a brief, resolved unexplained event
  - Complained of
    - Chest pain
    - Shortness of breath

- Abdominal pain
- Headache
- Fever greater than 38°C, either at present or within the last 24 hours
- Heart rate of less than 50 or greater than 115 beats/minute
- Respiratory rate less than 6 or greater than 30/minute
- Oxygen saturation less than 90% on room air.
- CliniCall must also be consulted when the patient:
  - has an abnormal 12-lead ECG
  - has experienced a significant traumatic injury
  - is a child or is over the age of 70
  - is pregnant
  - is intoxicated by drugs or alcohol
  - has had a recent hospital visit for a similar concern
- Paramedics must document the clinical assessment conducted and the discussion of risks and alternatives with the patient in the patient care record. The "Response Outcome" field of the patient care record must indicate "Patient Refused Care and/or Transport."
- Paramedics who are caring for patients refusing care or transport against advice may contact CliniCall for further consultation and advice. Law enforcement may be involved in these cases, and care should be provided based on collaboration with other agencies or providers.

#### References

1. Alberta Health Services. AHS Medical Control Protocols. 2020. [\[Link\]](#)
2. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [\[Link\]](#)
3. Government of British Columbia. Age of Majority Act. 2020. [\[Link\]](#)
4. New South Wales Ambulance Service. Protocols & Pharmacology. 2020. [\[Link\]](#)

## A05: Mass Casualty Incidents

Tim Makrides

Reviewed: December 2, 2020

### Introduction

A multi-casualty incident (MCI) exists when the initial response becomes overwhelmed. This occurs when the number of casualties exceeds the capacity of the initial resources, preventing effective management and transport. The successful management of an MCI requires the effective use of resources to create balance between the available supply of paramedics and equipment and the multi casualty incident.

Experience has shown that in the event of an MCI, patient care is optimised if paramedic crews follow a pre-arranged plan. Scene management should include consideration of various factors including safety, site assessment, liaison, command, communications, triage, treatment and transport.

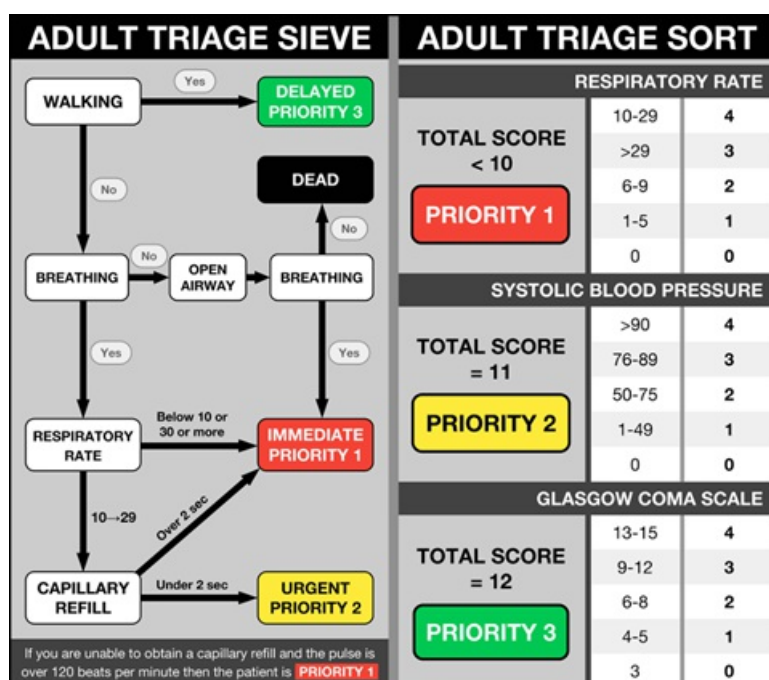
Where practical, the first unit on scene should adopt the command and triage responsibilities, ensuring pertinent information is received and given to the dispatch centre, and that appropriate resources are available and used as required. The initial scene commander and triage officer are responsible for their tasks until relieved by senior clinicians or supervisors.

The responsibilities for the first arriving crew can be divided as follows:

- Driver: The scene commander in urban and metro provides an initial windscreen situation report, and collects information necessary for a METHANE report. The scene commander is the contact between the scene and the communication centre.



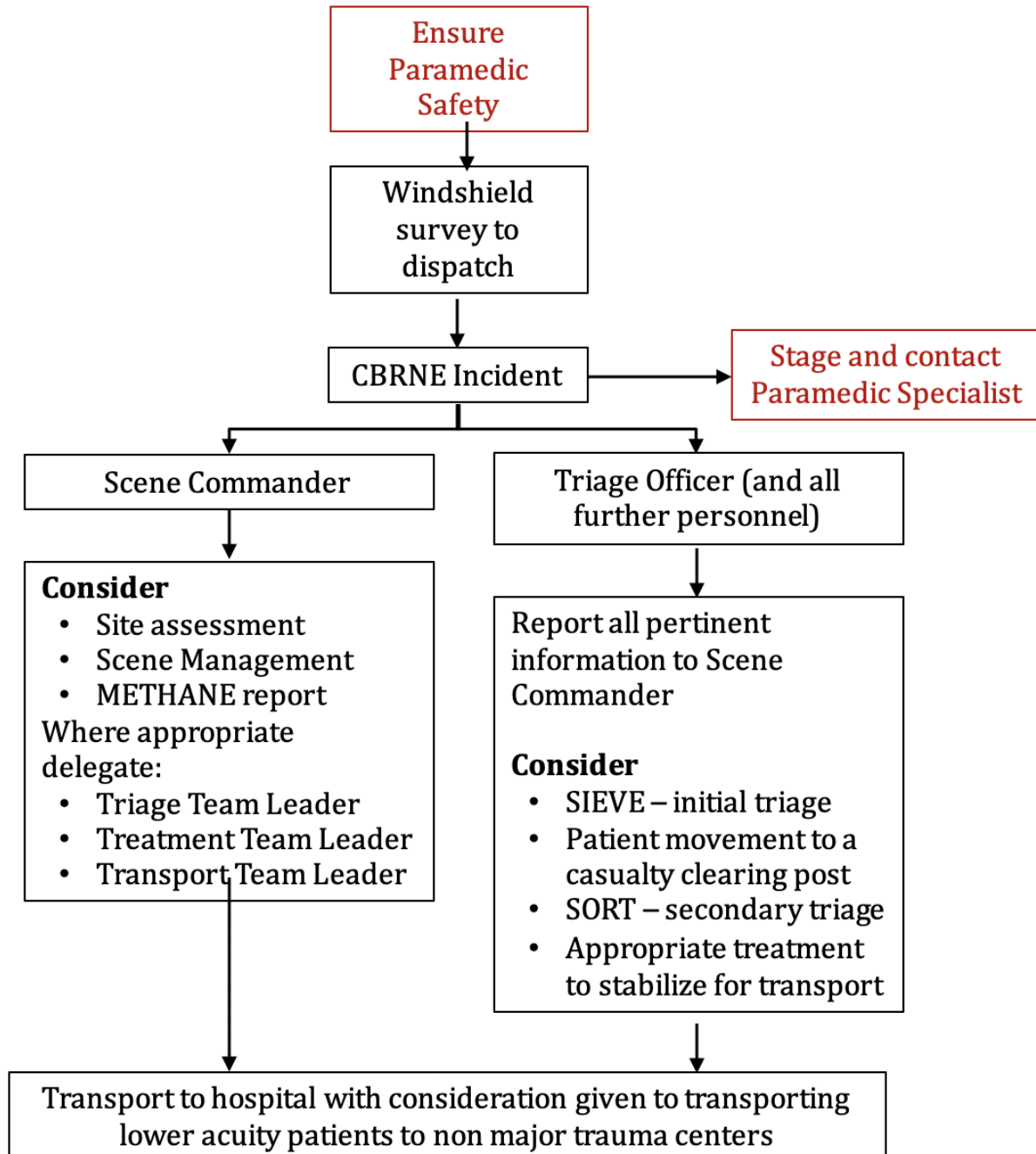
- Attendant: The triage officer uses the "SIEVE triage process" to facilitate the prioritization of treatment and patient movement from the impact area to the casualty clearing post. A count of patients, and their priorities, is reported back to the scene commander.





During the triage process, a tag is given to each patient with the assessed priority colour. Patients are then moved from the impact area to the casualty clearing post, where patients are assigned to various areas according to the triage priority.

At the casualty clearing post, the Triage Trauma Score will reassess the casualty's priority for transport. This is referred to as the 'SORT' and uses the patient's GCS, respiratory rate and systolic blood pressure to arrive at a score corresponding to a priority level. Transport can begin once enough resources are on scene to manage casualties. Patients are then transported from the scene ensuring the right patient, to the right destination, in the right time.



## A06: Documentation Standards

Jennie Helmer

Reviewed: December 2, 2020

### Introduction

All BCEHS employees providing prehospital care in British Columbia are required to complete an electronic patient care record (ePCR) for every patient encounter. This document is an important part of the patient's journey. It is the duty of every BCEHS employee to complete patient documentation in a timely, conscientious, and thorough manner, and to record relevant patient details, findings, and management plans and outcomes in a manner that is clear and understandable to other health care providers. In this context, "documentation" may also refer to material or data produced outside of the ePCR, including monitor and defibrillator reports and downloads.

Only one ePCR per patient is provided to the receiving facility. Generally, the highest-qualified paramedic involved in the patient's care will be responsible for completing the ePCR, and in most cases this duty will fall to the attending paramedic. In some circumstances, more highly trained paramedics will assist in the transport of a patient; in this case, the paramedic with the higher level of qualification may contribute content to the ePCR that accompanies the patient.

In cases where care is delegated to lower levels of paramedic care, the higher qualified paramedic must still complete a separate ePCR documenting their assessment and decisions.

### Essentials:

- An ePCR must be completed for each request for service, regardless of whether an assessment is conducted, care is provided, or the patient is transported by ambulance.
- The ePCR must be completed as soon as possible, no later than the end of the scheduled shift or work assignment during which the call occurred.
- ePCR documentation must be accurate, legible, and complete.
- In situations where more than one patient is assessed, an ePCR must be completed for each patient.
- Ensure all data entered on the ePCR is correct prior to finalizing the completed form. Errors or omissions identified after finalization will require paramedics to document the correction in a clearly identified addendum through their unit chiefs or designated supervisors.

### General:

- The ePCR software contains a number of data collection features that should be used as designed. Where an option exists to capture information through a built-in function of the software (e.g., advanced airway data), paramedics must use these tools and not rely on free text entry options to record data. This is particularly important when systems of care are involved, or where procedures are being performed. The information gathered informed BCEHS practice.
- Corrections to finalized ePCRs must be done through a paramedic's unit chief or designate.
- Data acquired from cardiac monitors, including cardiac arrest records and 12-lead ECGs, must be downloaded into the ePCR software and attached to the patient care record. This material must also be sent to the Cardiac Arrest and Major Trauma registry when required.
- When an intervention or treatment has been performed, paramedics must ensure that an outcome is described, including complications; these complications should be comprehensively documented for research and follow-up purposes.
- Various groups use the information recorded in the ePCR for a variety of purposes. These include:
  - Clinical
    - Information about the call history, patient assessment findings, patient care provided and the response to treatment is important to receiving facilities, and referral teams to support the patients' ongoing care.
  - Administrative
    - Statistics can assist in maintaining effective paramedic services and provide valuable information for future planning.
  - Research

- ePCR information can be used to help answer quality assurance and research oriented questions, which will contribute to future advances in prehospital care and best practice.
- Legal and Regulatory
  - The ePCR is a legal document and is a part of the patient's medical record. The report must be complete and of a quality suitable for use as evidence in an investigation or legal proceeding. The ePCR may be requested by external organizations including the police, the Coroner's Office, the Ministry of Health, and the Patient.

# A07: Oxygen and Medication Administration

Neal Carman and Mike Sugimoto

Updated: December 16, 2020

Reviewed:

## Introduction

The administration of oxygen and medications is a fundamental component of paramedic practice. Although routine, both require thoughtful consideration: paramedics must have a comprehensive understanding of a patient's clinical indications for both oxygen and medication administration, and must adhere to current best practices while engaged in any therapeutic activity.

## Essentials

- The administration of oxygen should be based on an assessment of overall patient need rather than a formulaic application. Respiratory effort, mentation, oxygen saturation, blood pressure, and clinical scenario all play a role in determining whether oxygen should be given.
- In general, paramedics should titrate oxygen to maintain an oxygen saturation between 92% and 96%. This may not be possible for patients who have pre-existing conditions, such as chronic obstructive pulmonary disease; in these cases, titrate to maintain the patient's normal oxygen saturation.
- Do not routinely administer oxygen to patients with normal oxygen saturations where a clearly defined clinical need is lacking.
- Medication safety is the responsibility of all paramedics. Follow safe medication handling procedures at all times.

## Additional Treatment Information

- The administration of oxygen should follow a staged approach, where simple, non-invasive options are tried before more aggressive (or invasive) options are explored. Nasal cannula are preferable to face masks, while face masks are preferable to bag-valve masks.
- Recall that adequate oxygenation depends not only on the fraction of inspired oxygen but also on the ability of the patient to ventilate, diffuse gases in the alveoli, and transport oxygen in the blood. Patients require sufficient hemoglobin and an adequate blood pressure to oxygenate effectively.
  - → [B01: Airway Management](#)
  - → [D01: Shock](#)
  - → [D02: Bleeding](#)
- Do not withhold oxygen from patients who are significantly short of breath in order to obtain a room air oxygen saturation. Treat symptomatically to start, and then titrate to bring the oxygen saturation into a normal range.
- In the absence of accurate pulse oximetry in a patient with shortness of breath, administer oxygen until symptoms resolve, or accurate measurements can be obtained.

### Principles of Medication Safety and Administration

- Medication errors are the leading cause of patient safety incidents in health care, and are preventable through close compliance with a set of best practices for drawing up, administering, and storing pharmaceutical products. The "six rights" encapsulate the primary basis for these practices:
  - Right patient: does the patient meet the indications for the medication based on current clinical practice guidelines?
  - Right medication: is the correct medication being prepared, and has the identity of the medication been checked at each step of the preparation process and prior to administration?
  - Right dose: have dosage calculations been verified and confirmed?
  - Right time: is this the correct time to administer the medication based on the treatment plan that has been developed?
  - Right route: is the proposed route of administration correct for both the medication and the clinical indication?
  - Right documentation: has the administration of the medication been entered into the ePCR?

- Failure to adhere to these practices can result in serious and potentially fatal adverse events. Paramedics must be particularly vigilant with respect to medication identity, dosing strategies, and routes of administration. Errors in medication administration must be documented on the ePCR and reported through the Patient Safety Learning System.
- Visually inspect all medications prior to administration, including the label. Do not administer medication that is cloudy, beyond its expiry date, or where the appropriate diluent is not available.
- If a medication is drawn into a syringe (or otherwise removed from its packaging), paramedics must ensure that the syringe is clearly and unambiguously labeled with the medication and its concentration. Labels for naloxone, dimenhydrinate, diphenhydramine, midazolam, epinephrine, morphine, adenosine, atropine, amiodarone, rocuronium, fentanyl, succinylcholine, phenylephrine, magnesium sulfate, ketamine, lidocaine, and propofol are available and must be used. Blank labels can be filled out and used in those instances where a pre-printed label is not available.
- When preparing a medication for infusion, paramedics must affix a label to the bag of fluid indicating the name of the medication as well as the final concentration prior to connecting the solution to an intravenous line.
- Paramedics must confirm the patient's allergies prior to administering any medication.
- **EPINEPHRINE HOLDS UNIQUE RISKS FOR PATIENTS. MEDICATION ERRORS INVOLVING EPINEPHRINE CAN BE FATAL. EPINEPHRINE VIALS MUST BE SEGREGATED FROM OTHER MEDICATIONS AND STORED IN SPECIALLY MARKED CONTAINERS IN MEDICAL KITS AND AMBULANCE CABINETS.**
- Do not remove medication from outer packaging prior to use.
- Do not use preloaded saline syringes to dilute medications, and do not store diluted medications in a preloaded saline syringe. These syringes are intended for flushing intravenous lines only.
- Never give the contents of a syringe that is not labeled unless it was immediately drawn from an ampoule or vial.
- Reconciliation of controlled and targeted substances must be completed in accordance with BCEHS policy.

## General Information

- Early, aggressive oxygen administration may be beneficial to critically ill and hemodynamically unstable patients, such as those in cardiac arrest or who require resuscitation. In these cases, paramedics should aim to achieve an oxygen saturation of 100%. Once the patient is stabilized, oxygen can then be titrated down to an SpO<sub>2</sub> of 92% to 96%.
- Adverse events from hyper-oxygenation do occur, and sustained hyperoxia has been linked to increases in morbidity and mortality.
- Pulse oximetry may be particularly unreliable in patients with peripheral vascular disease, severe asthma, severe anemia, cold extremities or peripherally hypoperfused, severe hypotension and carbon monoxide poisoning. In the absence of reliable oximetry data, in critical illness, oxygen should be administered.

## Interventions

### First Responder

- Intervene early. Do not wait for signs or symptoms of obvious hypoxia to develop, but act on the potential or suspicion of respiratory insufficiency.
- Ventilation is as important as oxygenation. Do not withhold BVM ventilations to patients who require ventilatory support.
- Patients with mild to moderate shortness of breath:
  - Consider face mask 5-10 L/min.
- Patients with severe shortness of breath or suspicion of critical illness (e.g., anaphylaxis, seizures, shock, traumatic injuries)
  - Consider non-rebreather face mask (NRFM) at 10-15 L/min
  - Assist ventilations with BVM where required

### Emergency Medical Responder – All FR interventions, plus:

- Mild-Moderate Hypoxemia (SpO<sub>2</sub> 85-91%)
  - Initial dose of 2-6 L/min via nasal cannula. Consider face mask 5-10 L/min.
- Severe hypoxemia (SpO<sub>2</sub> < 85%) or critical illness (e.g., anaphylaxis, seizure, septic shock, traumatic brain

injury)

- Initial dose of 10-15 L/min via non-rebreather face mask (NRFM). Consider BVM ventilation. Once stable, titrate oxygenation to 92-95%.
  - → [E09: Anaphylaxis](#)
  - → [F02: Seizure](#)
  - → [H03: Head Trauma](#)
  - → [K02: Sepsis](#)
- Chronic hypoxemia (COPD, cystic fibrosis, obesity, neuromuscular disorders)
  - Titrate SPO<sub>2</sub> 88-92%. High-flow oxygen may be harmful in these patients. Do not neglect the need for ventilation.
    - → [B05: Chronic Obstructive Pulmonary Disease](#)
- Regardless of SpO<sub>2</sub>, treat the following illness with high concentration oxygen (15 L/min via NRFM):
  - Toxic inhalation, decompression sickness, cord prolapse, postpartum haemorrhage, shoulder dystocia, and cluster headache
    - → [J01: Approach to Toxic Exposures](#)
    - → [I03: Dive / SCUBA Injuries](#)
    - → [L08: Maternity: Delivery Complications](#)

## References

1. Stub D, et al. Air versus oxygen in ST-segment-elevation myocardial infarction. 2015. [\[Link\]](#)
2. O'Driscoll BR, et al. BTS guideline for oxygen use in adults in healthcare and emergency settings. 2017. [\[Link\]](#)
3. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [\[Link\]](#)
4. Misasi P, et al. Medication safety in emergency medical services: approaching an evidence-based method of verification to reduce errors. 2019. [\[Link\]](#)
5. Abdo WF, et al. Oxygen-induced hypercapnia in COPD: myths and facts. 2012. [\[Link\]](#)
6. Canadian Patient Safety Institute. Patient safety in emergency medical services: Advancing and aligning the culture of patient safety in EMS. 2010. [\[Link\]](#)
7. Ni Y-N, et al. The effect of hyperoxia on mortality in critically ill patients: a systematic review and meta analysis. 2019. [\[Link\]](#)



## A08: Interfacility Transfers

Rob Evans

Updated: December 07, 2020

Reviewed:

### Introduction

Interfacility transfers (IFT) are common events, and can range from prescheduled transports of stable patients to complex, multi-leg transfers of critically ill patients. A common framing bias exists, where transfer events are viewed as lower acuity than prehospital events. In many cases, patients are being transferred to receive a medically necessary intervention that is not provided at the sending facility. In emergent cases, patients are undergoing transfer to receive a critical intervention at the receiving facility, and all efforts should be directly towards achieving that goal in a timely fashion.

### Essentials

- Careful planning is key to conducting a successful interfacility transfer, particularly in more complex patients
- Provide care within the scope of practice for the responsible paramedic crew
- In some cases, the sending facility will provide escorts if the patient requires interventions are beyond the scope of practice of the responding paramedic crew
- Ensure escorts (if present) are briefed and all equipment and personnel are safely restrained prior to transport
- Ensure all lines and tubes are secured prior to patient movement

### Additional Treatment Information

- In patient's undergoing air transport, package the patient on the appropriate lifting device (generally Ferno #9 stretcher with a mattress)
- Escalate any questions regarding air transport or airport meets to the Critical Care Paramedic Advisor via CliniCall
- Ensure all equipment and patient belongings are secured safely in accordance with current policy
- Family escorts may be considered on a case by case basis at the discretion of BCEHS
- Complete documentation is required for all interfacility transfers

### Referral Information

In general, IFT destinations will be predetermined through consultation with the sending physician and the Patient Transfer Network (PTN). Concerns related to appropriate destination should be escalated through CliniCall.

### General Information

- A number of medications that fall outside paramedic scope may be either discontinued or have infusions completed prior to transfer
- [This chart](#) lists medications and devices approved by paramedic level according to the EMALB

### Interventions

#### Emergency Medical Responder – All FR interventions, plus:

- Provide care within scope of practice
- Contact CliniCall with questions regarding patient care or if the patient meets non-medical transport criteria

#### Critical Care Paramedic – All FR, EMR, PCP, and ACP interventions, plus:

- Contact EPOS for administration of Schedule 2 interventions in accordance with current BCEHS policy

This guideline is on hold pending a review of PHSA policy.

This guideline is on hold pending a review by PHSA corporate.

# A11: Care in High Threat Environments

Tim Makrides

Reviewed: December 1, 2020

## SAFETY MESSAGE

No BCEHS paramedic is to intentionally enter a known Hot Zone at any time. If a paramedic finds him or herself within the Hot Zone, they are to immediately find cover and safety, and withdraw to the cold zone as soon as it is safe to do so.

### Introduction

A high threat incident is any that involves the potential or actual risk of physical harm to responders as a result of dangers inherent at the scene. This can include the use of firearms or edged weapons, fire, rising floodwaters or unstable structures to name a few.

While paramedics should not knowingly place themselves in areas of high threat, recent events such as the 2014 Ottawa Parliament Hill shooting, 2015 Paris terror attacks and 2017 London attacks have shown that first responders may inadvertently find themselves in such a situation. This guideline therefore sets out considerations for safety and clinical care in high threat incidents.

### Types of threats

Threats generally come in two forms, man-made and naturally occurring:

*Man-made threats: the active armed offender*

The term 'active shooter' makes a direct reference to the use of a firearm or firearms, but an incident may also involve any weapon type such as bladed weapons, explosive devices and any improvised object capable of inflicting serious injury or death, including vehicle borne intrusions, and this is why the term Active Armed Offender (AAO) has been adopted.

These attacks are aimed at people rather than infrastructure and against relatively soft targets and they can occur with little or no planning, or intelligence forewarning.

While the term 'extremist' is very topical at this time, particularly in the media, it's important to realize not all AAO incidents are motivated by extremism or perpetrated by religious or ideologically-focused individuals. An AAO incident can also include an individual with a serious fixation and/or a serious mental health issue or it could be motivated by hatred, revenge or criminal intent.

*Hybrid targeted violence incident (HTVO)*

Intentional use of force to cause physical injury or death to a specifically identified population using multifaceted conventional weapons and tactics.

This may involve a criminal act such as the 2017 Bourke Street Mall incident; through to a terrorist incident such as the complex, coordinated 2015 Paris attacks.

### Naturally occurring threats

This could include wildfires where the fire is imminently approaching or has trapped the paramedic, rising flood waters or floods, avalanche or landslides, earthquakes and/or tsunamis.

### What is the current terrorism threat profile in Canada?

Canada's National Terrorism Threat Level remains **MEDIUM**, meaning that a violent act of terrorism could occur, and has been at this level since October 2014.

The ever-changing nature of the threat environment means that Canada must remain continually vigilant.

Canada's National Terrorism Threat Level is a tool that government officials, including law enforcement agencies,

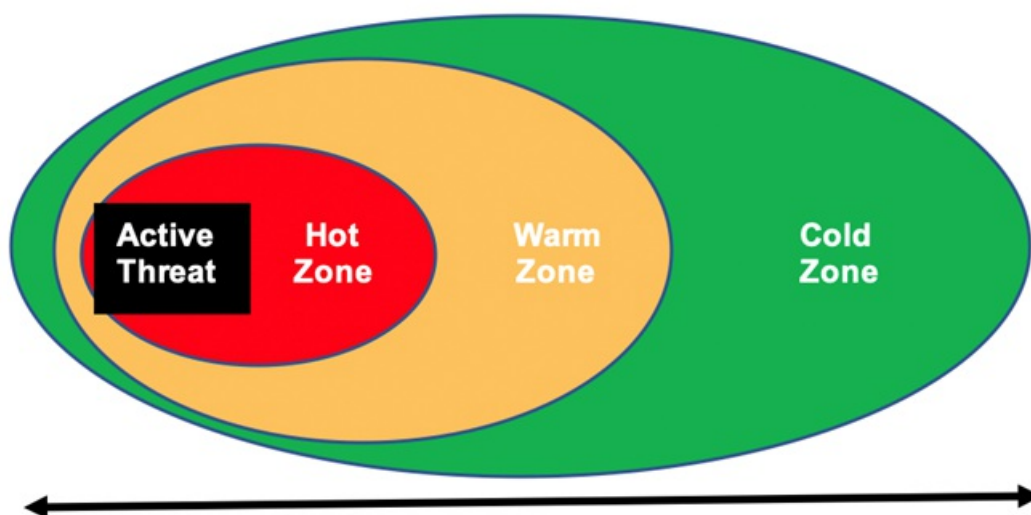
may use to identify risks and vulnerabilities from threats, and in turn determine what responses may be needed across government to prevent or mitigate a violent act of terrorism in Canada.

#### What is Tactical Emergency Casualty Care?

Tactical Emergency Casualty Care (TECC) is a set of best practice treatment guidelines for trauma care in the high threat prehospital environment. These guidelines are built upon critical medical lessons learned by military forces over the past 15 years of conflict. They are appropriately modified to address the specific needs of civilian populations (i.e. anticoagulated patients, and extremes of age) as well as injury patterns typically seen in civilian incidents and adapt these principles to civilian paramedic practice.

At the core of TECC are three distinct zones of care:

- **Hot Zone (Active Threat)** – a dynamic area of operations where there is an active threat of harm (safety risk to patients, bystanders and emergency response personnel).
- **Warm Zone (Indirect Threat)** – a dynamic area of operations where a potential threat exists, however the threat is no longer considered direct or immediate.
- **Cold Zone (No Threat/ Area Secure)** – an area of operations where there is no threat present and the scene is considered to be an area of absolute safety.



#### Direction of Threat

It is important to remember that the direction of the threat is dynamic and can change at any time. This is especially relevant in wildfire and terrorism related incidents.

No BCEHS paramedic is to intentionally enter a known Hot Zone at any time. If a paramedic finds him or herself within the Hot Zone, they are to immediately find cover and safety, and withdraw to the cold zone as soon as it is safe to do so.

#### Clinical Management of patients based on threat level.

The clinical management of patients and role of all paramedics is strictly dependant on zones of care. TECC focuses on the medicine during these phases of care and provides guidelines for managing trauma in the civilian tactical or hazardous environment.



**Direct Threat Care/ Hot Zone Care**

- Find cover or safety
- Rapidly apply hemorrhage control with direct pressure or tourniquet.
- Beyond *consideration* of tourniquet application and unconscious patients being rolled into the recovery position, no further clinical care should be undertaken when the threat is still present.

**Indirect Threat Care/ Warm Zone Care**

- Maintain awareness of potential threat at all times.
- Conduct primary survey (C-A-B), with an emphasis on:
  - C – Control external catastrophic hemorrhage with arterial tourniquet or direct pressure.
  - A – consider basic positioning to maintain patent airway, consider OPA/NPA
  - B – ALS/ CCP ONLY - consider bilateral chest decompression or chest seal
- Establish Casualty Collection Point if required.

**Evacuation/ Cold Zone Care**

- Consider other clinical interventions as required
- Consider management for hyperthermia
- Manage as per relevant authorized treatment guideline relevant to patient condition



**Transport to hospital. Pre-notify as appropriate.**

## A12: Safeguarding Vulnerable Patients

Kristen Steary

Updated: March 2, 2020

Reviewed:

### Child Abuse

Paramedics are legally obligated to report disclosed and/or suspected child abuse. In British Columbia, a "child" is defined as an individual up to and including 18 years of age. This obligatory reporting includes physical, psychological/emotional, and sexual abuse; neglect; abandonment; and deprivation of necessary health care.

Reporting is required even if the information obtained is confidential (e.g. related to personal health information divulged in confidence). No actions will be brought against an individual reporting suspicions of child abuse unless the person knowingly reported false information. Reporting is also required even if the paramedic is aware that a child welfare worker is already involved with the child, as the welfare worker needs to be notified of all events.

When preparing to notify a child welfare worker of suspicions of abuse, gather the following information to convey, when possible:

- the child/youth's name, age, and location
- whether there are immediate concerns about his/her safety
- what you observed or heard that led to suspicions of abuse
- information about the parent/caregiver
- presence of other siblings, children, or youth who may be at risk
- information about possible witnesses to the alleged abuse

Paramedics are in the unique position of observing children and their family members in the home. This allows paramedics to collect information about the child's living conditions and interpersonal relationships with other family members that may not be possible to obtain in hospital.

There are a number of risk factors for abuse, including a history of family violence, caregiver drug/alcohol abuse or mental health issues, poverty, and poor maternal or child health. Multiple risk factors are often present in affected families.

### Indications of Child Abuse

1. Suspicions of Abuse
  1. A parent or caregiver seems unwilling to leave the child alone with paramedics
  2. The child's behaviour changes when the parent or caregiver is nearby
  3. The child appears nervous, ashamed, or evasive when asked about injuries or relationships
  4. The parent or caregiver delays or does not seek appropriate medical treatment for a child's injury or illness
2. Physical Abuse
  1. Unusual injury patterns or locations (e.g. burns in the shape of a specific object, grip marks, injuries to a generally protected area such as the neck or trunk)
  2. Bruises or trauma in children who are not yet crawling or walking
  3. An inconsistent or unusual explanation of the injury
3. Psychological/Emotional Abuse
  1. Children witnessing other family members experiencing violence
  2. Diminishing a child's dignity, identity, or self-worth
  3. Making threats, verbal assaults, insults, or humiliating a child
  4. Isolating or confining the child from others
  5. Emotional harm to a child by the parent's conduct (e.g. witnessing a parent overdose on drugs or self-harm), where emotional harm is defined as the child demonstrating severe anxiety, depression, withdrawal, and/or self-destructive/aggressive behaviour
4. Sexual Abuse
  1. Torn, stained, or bloody undergarments

2. Bruising, pain, or itching to genitals or breasts
3. Sexually transmitted diseases
4. Unexpected vaginal or anal bleeding
5. Sexual exploitation by a parent or other person
5. Neglect/Abandonment
  1. A child left alone or unsupervised at an inappropriately early age while the parent is absent or incapacitated (e.g. by consumption of drugs or alcohol), and adequate provisions have not been made for the child's care
  2. Inappropriate clothing for weather conditions
  3. Failure to provide necessary food or appropriate living conditions
  4. Deprivation of necessary health care, and/or the child is likely to be seriously injured by a treatable condition and the child's parent/caregiver refuses to allow the child to be treated

#### Reporting Suspected Child Abuse

If the child or youth is in immediate danger, call for police attendance.

Suspected child abuse must be promptly reported to a child welfare worker. This is facilitated by calling 1-800-663-9122. This number is answered at all hours of the day. All individuals who suspect, or have knowledge of, child abuse must make a report by calling the child welfare worker. [Insert procedure followed when calling here].

If sexual abuse is suspected, consider transporting the patient to the appropriate facility with forensic capabilities. (LIST FACILITIES) The patient's clothing should accompany the patient, in separate paper bags where possible.

#### Notes

Empathy, support, and compassion are crucial when treating a suspected victim of abuse. Ensure patient privacy when possible. Explain your concerns prior to asking sensitive questions (e.g. "I'm concerned for your safety").

Paramedics should only ask victims of suspected child abuse questions necessary for assessment and treatment, and avoid forensic questioning (i.e. excessive questioning about the event or the abuser). Questioning by inexperienced providers has been demonstrated to later affect the child's ability to accurately recall the event and potential credibility of the child's testimony.

If criminal activity is suspected, take measures to prevent disturbance of the crime scene and related evidence. Ensure thorough documentation of scene details, statements made by the patient and parent/caregiver, and other persons present on scene.

Calls involving suspected abuse and/or interpersonal violence can be challenging for paramedics for various reasons. Consider contacting the Critical Incident Stress Management (CISM) team at 1-855-969-4321, or the Employee Assistance Program at 1-800-663-1142.

#### Adult Abuse

Paramedics may report suspected adult abuse to the appropriate agency in British Columbia when it is suspected that an adult is being abused and/or neglected, and is unable to seek support and assistance for him/herself. This inability may be due to physical restraint; a physical handicap; or an illness, disease, injury, or condition that affects his/her ability to make decisions. Reporting is permitted even if the information obtained is confidential (e.g. related to personal health information divulged in confidence). No actions will be brought against an individual reporting suspicions of adult abuse unless the person knowingly reported false information.

#### Indications of Adult Abuse

1. Suspicions of Abuse
  1. A caregiver seems unwilling to leave the adult alone with paramedics
  2. The adult's behaviour changes when the caregiver is nearby
  3. The adult appears nervous, ashamed, or evasive when asked about injuries or relationships

4. The caregiver delays or does not seek appropriate medical treatment for an adult's injury or illness
2. Physical Abuse
  1. A deliberate act of violence, rough treatment, or use of physical force
  2. Bruises, burns, grip marks, and/or an unusual pattern of injury
  3. Fearfulness, anxiety, or apprehension during interactions with caregiver
3. Psychological/Emotional Abuse
  1. Diminishing an adult's dignity, identity, or self-worth
  2. Making threats, verbal assaults, insults, or humiliating an adult
  3. Isolating or confining the adult from others, including not allowing him/her to speak with friends or attend appointments
4. Sexual Abuse
  1. Any sexual behaviour directed toward an adult without that adult's knowledge and/or consent.
  2. Sexual abuse is a form of physical and emotional control over another person
    1. Signs and symptoms include pain, itching, or bruising around breasts or the genital area; sexually transmitted diseases; vaginal/anal bleeding; depression and/or anxiety; social withdrawal
5. Financial Abuse
  1. Unauthorized or illegal use of another individual's money or resources for another's benefit
  2. Possible signs include unpaid bills; lack of money for food, medications, or necessities; refusal of family member or representative to spend money on an individual's behalf
6. Neglect
  1. Lack of essential daily living needs (food, clothing, shelter, medications, etc) provided by a caregiver to an adult dependent upon him/her
  2. Signs and symptoms include malnourishment; dehydration; inappropriate clothing; under or over-medication; absence of required aids, canes, or walkers; deprivation of necessary health care

#### Reporting Suspected Abuse

If the adult is in immediate danger, call for police attendance.

Suspected adult abuse can be reported to the following agencies depending on the patient's residence:

- Fraser Health: 1.877.REACT.08 (1.877.732.2808)
- Interior Health: 1.844.870.4754
- Island Health Authority
  - South Island: 1.888.533.2273
  - Central Island: 1.877.734.4101
  - North Island: 1.866.928.4988
- Northern Health: 1.250.565.7414
- Vancouver Coastal (Providence Health): 1.877.REACT.99 (1.877.732.2899)

If sexual abuse is suspected, consider transporting the patient to the appropriate facility with forensic capabilities. The patient's clothing should accompany the patient, in separate paper bags where possible. **In Greater Vancouver, these facilities include Royal Columbian Hospital, Vancouver General Hospital...** In Victoria, transport to Victoria General Hospital.

#### Notes

Empathy, support, and compassion are crucial when treating a suspected victim of abuse. Ensure patient privacy when possible. Explain your concerns prior to asking sensitive questions (e.g. "I'm concerned for your safety").

If criminal activity is suspected, take measures to prevent disturbance of the crime scene and related evidence. Ensure thorough documentation of scene details, statements made by the patient and caregiver, and other persons present on scene.

Calls involving suspected abuse and/or interpersonal violence can be challenging for paramedics for various reasons. Consider contacting the Critical Incident Stress Management (CISM) team at 1-855-969-4321, or the Employee Assistance Program at 1-800-663-1142.

