



## **Authorizing Prescriber(s)**

All Lakeridge Health Emergency Department Physicians.

## **Authorized to Whom**

Authorized to health care professionals (HCP) who are employees of a Lakeridge Health Emergency Department (LH ED) and who have successfully reviewed any related hospital policies and demonstrated competency supported by a Clinical Practice Leader (CPL) of the Emergency Program and successfully passed an evaluation.

The content of the Educational package will be approved by the Emergency Program Quality Council. In order to initiate orthopaedic algorithm, the HCP must have completed training for Canadian Triage and Acuity Scale (CTAS).

## **Co-Implementers**

Medical Radiation Technologists (Radiography)

Phlebotomist/Med Lab Assistant

## **Patient Description/Population**

Any patient in an LH ED who meets procedure specific indications as per the [order table](#).

## **Order and/or Procedure**

List is in alphabetical, not sequential, order; any one or combinations of the order/procedures below may be performed. For any tests performed under authorization of this medical directive, results **must** be reviewed by the physician. Should a patient leave prior to being assessed by a physician or results received, the patient must remain active on the ED tracker until all results are received and reviewed by the physician. Any abnormal results will be managed using the identified discrepancy/call back procedure.

To access order and/or procedure click on **link** below:

[Abdominal Pain Management- Adults](#)

[Analgesia for \(Mild to Moderate\) Pain- Adults](#)

[Analgesia for Pain- Paediatrics](#)

[Asthma Management- Paediatrics](#)

[Backboard Removal](#)

[Chest Pain/Cardiovascular- Adults](#)

[Electrical Injury](#)

[Eye Injury/Discomfort](#)

[Febrile Neutropenia- Early Detection for Cancer Patients](#)

[Fever Management- Adults](#)

[Fever Management- Paediatrics](#)

[Inhalational Therapy- Adults](#)

[Obstetrical Emergency](#)

[Oral Rehydration Therapy \(ORT\)- Paediatrics](#)

[Orthopaedic X-Rays](#)

[Renal Colic- Adults](#)

[Seizure- Adults](#)

[Seizure- Paediatrics](#)

[Sepsis- Adults](#)

[Serum Coagulopathy](#)

[Substance Exposure/Abuse](#)

[Sucrose for Infant Pain](#)

[Topical Anaesthetic](#)

[Urine Sampling](#)

[Urinary Catheterization- Adults](#)

[Vaginal Bleeding- Adults](#)

## **Indications to the Implementation of the Directive**

Any patients with procedure specific indications as listed in the [order table](#).

## **Contraindications to the Implementation of the Directive**

This medical directive must not be implemented in the following circumstances:

- HCP has not completed or maintained competency for the initiation of the Medical Directive
- Patient or SDM (Substitute decision maker) refuses to consent
- Procedure specific contraindications as listed in the order table
- Known allergies or sensitivities to medication.

## **Consent**

The HCP implementing the medical directive must obtain consent if the patient is capable of providing it. In an emergency situation, if the patient is not capable of providing consent, the HCP may administer treatment without consent if, in his or her opinion, all of the following are true:

- the patient is incapable with respect to the treatment;
- the patient is experiencing severe suffering or is at risk of suffering serious bodily harm if the treatment is not administered promptly; and
- it is not reasonably possible to obtain consent or refusal on the person's behalf or the delay required to do so will prolong the suffering that the patient is experiencing or will put the patient at risk of suffering serious bodily harm.

## **Documentation Requirements**

In addition to standard documentation practices, the HCP implementing this medical directive must document in the order section of the ED chart the following:

- The procedure performed on the patient
- The name of the medical directive
- The name of the implementer
- Legible signature of implementer, including credentials (unless documenting electronically)
- Date and time (unless documenting electronically).

## **Review/Evaluation Process**

Emergency Program Quality Council will review this document every 2 years.



---

## References

Breathe the Lung Association (2018). *Adult emergency department asthma care Pathway (EDACP)*. Retrieved from [https://lungontario.ca/wp-content/uploads/2018/11/Adult\\_ED\\_Asthma\\_Care\\_Edits-Sep-6-2018-FINALdoc.pdf](https://lungontario.ca/wp-content/uploads/2018/11/Adult_ED_Asthma_Care_Edits-Sep-6-2018-FINALdoc.pdf)

CAEP, (2018). *Canadian triage and acuity scale (CTAS)*. Retrieved from <http://caep.ca/resources/ctas>

Canadian Association of Emergency Physician (CAEP) 2013. *The Canadian triage and acuity scale : Combined adult/paediatric educational program (CTAS) participant manual 2.5b*.

CHU Sainte-Justine Mother and child university hospital center (2019). *Child asthma tools*. Retrieved from <https://www.chusj.org/CORPO/files/32/32ba0b8c-4894-4d8e-87ca-a46e4c0924a5.pdf>

College of Nurses of Ontario (2017). *Legislation and regulation RHPA: Scope of practice, controlled acts model*. Retrieved from [http://www.cno.org/globalassets/docs/policy/41052\\_rhpascope.pdf](http://www.cno.org/globalassets/docs/policy/41052_rhpascope.pdf)

College of Nurses of Ontario (CN) (2018). Practice Guidelines. *Authorizing mechanisms*. Retrieved from [http://www.cno.org/Global/docs/prac/41075\\_AuthorizingMech.pdf](http://www.cno.org/Global/docs/prac/41075_AuthorizingMech.pdf)

Emergency Physicians Monthly (2019). *Ditch the backboard*. Retrieved from <http://epmonthly.com/article/ditch-the-board/>

Goshorn, J. (NK). Kidney stones. Strategies for managing this common, excruciating condition. *Clinical Snapshot*. p. 1-2.

Government of Ontario (2017). *Regulated health professions act, 1991S.O. 1992, chapter 18*. Retrieved from <https://www.ontario.ca/laws/statute/91r18>

Heart & Stroke Foundation™ (2016). *Advanced cardiovascular life support provider manual*. 2015 Heart & Stroke Foundation™ Canadian Guidelines. © 2016 American Heart Association.

Hospital for Sick Children (2019). *The hospital for sick children electronic formulary*.

Jelinek, G. (2000). Ketorolac versus morphine for severe pain: Ketorolac is more effective, cheaper, and has fewer side effects. *British Medical Journal*, 321(7272). p. 1236-1237.

Lakeridge Health (2005). *Emergency department medical directives*.

Lakeridge Health (2012). *Medical directive emergency sepsis early recognition and treatment*.



Lakeridge Health (2008). *Medical directive obstetric patient in the emergency department*.

Lakeridge Health (2016). *Febrile neutropenia*. Retrieved from <http://thewave.corp.lakeridgehealth.on.ca/MyDev/Learning%20Library/Febrile%20Neutropenia%20Overview.pdf#search=febrile%20neutropenia>

Levy, M. et al. (2018). *The surviving sepsis campaign bundle: 2018 update*. Society of Critical Care Medicine and the European Society of Intensive Medicine. Retrieved from <http://www.survivingsepsis.org/SiteCollectionDocuments/Surviving-Sepsis-Campaign-Hour-1-Bundle-2018.pdf>

Lexicomp (2019). *Lexicomp on line*. Retrieved from <https://online.lexi.com/lco/action/home>

Lung Association Ontario (2014) *Paediatric emergency department asthma clinical pathway*. Retrieved from <https://lungontario.ca/wp-content/uploads/2017/10/pedacp-information-package-september-2014.pdf>

National Emergency Nurses Affiliation (NENA), (2018). *Standards of ED nursing practice*. Retrieved from <http://nena.ca/>

Ontario Hospital Association (OHA), (2013). *Emergency department (ED) medical directives implementation kit*. Retrieved from [http://www.oha.com/KnowledgeCentre/Library/Toolkits/Pages/EmergencyDepartment\(ED\)MedicalDirectivesImplementationKit.aspx](http://www.oha.com/KnowledgeCentre/Library/Toolkits/Pages/EmergencyDepartment(ED)MedicalDirectivesImplementationKit.aspx)

Rouge Valley Health System (2014). *Medical directive Emergency department algorithms*.

Rouge Valley Health System (2016). *Pain Management In Neonates Administration Of Sucrose*.

Steill, I (2019). *Ottawa ankle rules*. Retrieved from [http://www.theottawarules.ca/ankle\\_rules](http://www.theottawarules.ca/ankle_rules)

Steill, I (2019). *Ottawa knee rules*. Retrieved from [http://www.theottawarules.ca/knee\\_rules](http://www.theottawarules.ca/knee_rules)

Surviving Sepsis Campaign (2016). *SCC guidelines*. Retrieved from <http://www.survivingsepsis.org/Guidelines/Pages/default.aspx>

The Provincial Council for Maternal and Child Health & Ministry of Health and Long-Term Care (2017). *Clinical handbook for paediatric asthma*. Retrieved from [http://www.health.gov.on.ca/en/pro/programs/ecfa/docs/hb\\_paed\\_asthma.pdf](http://www.health.gov.on.ca/en/pro/programs/ecfa/docs/hb_paed_asthma.pdf)



\*\*\*This table must **not** be used independently apart from the Medical Directive\*\*\*

**Appendix A: Order Table Form**

**Abdominal Pain Management- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
1. CBC, Na, K, Cl, CO <sub>2</sub> , Urea, Creatinine, Random Glucose, AST, ALK, Bili, Albumin, ALT, Lipase, INR, Urine R+M 2. NPO	Patients with acute onset abdominal pain		
3. ECG	Pain above umbilicus		
4. Urine or Serum β HCG (depending on LH site)	Female of child bearing years		
5. Type and Screen	Suspected hemorrhage		
6. Urine C+S	Patient has signs and symptoms of a urinary tract infection		
7. Initiate IV 0.9% sodium chloride at 30 mL/hr <b>OR</b> saline lock	IV is required in the professional judgement of the authorized HCP		
8. Ondansetron 8 mg PO, IV, IM once	Nausea and vomiting		



**Analgesia for (Mild to Moderate) Pain- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
Acetaminophen 650 mg PO once with a sip of water <b>OR</b> Ibuprofen 400 mg PO once with a sip of water <b>OR</b> Ketorolac 15 mg IM once	Patients with mild to moderate pain (less than 8 on the pain scale)  Ketorolac for patients who cannot tolerate PO meds	Decreased level of consciousness, difficulty swallowing PO medication  <b>Acetaminophen:</b> Recent acetaminophen administration in the last 3 hours <b>OR</b> more than 3 doses in the past 24 hours  <b>Ibuprofen OR Ketorolac:</b> Recent ibuprofen/ketorolac administration in the past 6 hours <b>OR</b> more than 3 doses in the past 24 hours Allergic manifestations precipitated by ASA or other non-steroidal anti-inflammatory agents Pregnancy History of cirrhosis, chronic liver disease, alcoholism, active peptic ulcer disease, gastrointestinal bleeding or impaired renal function	



**Analgesia for Pain- Paediatrics**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<p>Acetaminophen 15 mg/kg PO/PR once (maximum dose 650 mg) <b>OR</b> Ibuprofen 5-10 mg/kg PO once (maximum dose 400 mg)</p>	<p>Patients who are greater than 3 months old with clinical suspicion of pain or self/parent report of pain</p>	<p>Decreased level of consciousness</p> <p><b>Acetaminophen:</b> Recent acetaminophen administration in the last 3 hours <b>OR</b> more than 5 acetaminophen doses in past 24 hour period History of cirrhosis or chronic liver disease</p> <p><b>Ibuprofen:</b> Recent ibuprofen administration in the past 6 hours <b>OR</b> more than 3 doses in the past 24 hours Allergic manifestations precipitated by ASA or other non-steroidal anti-inflammatory agents History of kidney injury or impaired renal function, any clinical bleeding or platelet disorders</p>	<p>Measure weight (kg) of child</p> <p><b>NOTIFY Physician STAT</b> for child less than 3 months of age presenting with pain or temperature greater than or equal to 38°C</p>

**Asthma Management- Paediatrics**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<ol style="list-style-type: none"> <li>Paediatric Respiratory Assessment Measure (PRAM) Score (<a href="#">Appendix B</a>) <b>NOTIFY</b> Physician / RRT <b>STAT</b> if PRAM score is 4 or greater</li> <li>Administer oxygen via nasal prongs or mask if SpO2 less than or equal to 94%</li> <li>Salbutamol (Ventolin) 100 mcg/puff by metered dose inhaler (MDI) and spacer q 20 min x 3 based on the following dosing: <b>1-3 years:</b> 4 puffs/dose <b>4-6 years:</b> 6 puffs/dose <b>7 years and up:</b> 8 puffs/dose</li> </ol>	<p>Paediatric patient (Age 1-16 years) with wheeze and/or cough AND asthma diagnosis and/or past history of wheeze AND presents with symptoms of asthma as assessed by the PRAM</p>	<p>Patient presents with history of acute or chronic condition other than asthma, including cardiac conditions.</p> <p>Patient is unable to cooperate with the procedure</p>	





**Backboard Removal**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
Remove backboard	<p>Stable trauma patients who present on a backboard with or without neck pain</p> <p>Conscious and alert</p> <p>Hemodynamically stable</p> <p>Injury within the past 48 hours</p>	<p>Patient less than 16 years of age</p> <p>Major trauma (i.e. chest, head, fractured/deformed femur, suspected unstable pelvis fracture, penetrating trauma)</p> <p>Glasgow Coma Scale less than 15</p> <p>Patient transferred from another hospital</p> <p>Any acute paralysis, decreased motor function or altered sensation (including burning) below the neck</p> <p>Vertebral disease (ankylosing spondylitis, rheumatoid arthritis, spinal stenosis or previous cervical surgery)</p>	<p>Procedure to remove backboard:</p> <ol style="list-style-type: none"> <li>1. Assemble appropriate team of at least 4 people to log roll patient</li> <li>2. Maintain C-spine alignment throughout procedure</li> <li>3. Remove straps and taping from board leaving C-spine collar in place (if applicable)</li> <li>4. Log roll patient, remove backboard and keep patient supine on stretcher until assessed by a Physician</li> <li>5. Assess patient for any NEW back, neck or abdominal pain after removal of backboard, and NOTIFY Physician immediately if noted</li> <li>6. Provide a call bell for patient to ring for assistance</li> <li>7. Inform Physician of patient's arrival requesting expeditious assessment</li> </ol>



**Chest Pain/Cardiovascular for Adults**

Order:	Indications:	Contraindications:	Notes:
1. 12 Lead ECG STAT (to be reviewed by Physician as per ED Practice Standards)	Patients presenting with chest pain suggestive of cardiac ischemia		
2. Administer oxygen via nasal prongs or mask.	SpO2 less than 92% or SpO2 less than 88% in COPD patients		
3. Continuous cardiac monitoring	Required in the professional judgement of the authorized HCP		
4. Initiate IV 0.9% sodium chloride at 30 mL/hr <b>OR</b> saline lock	IV is required in the professional judgement of the authorized HCP		
5. CBC, Na, K, Cl, CO <sub>2</sub> , Urea, Creatinine, Glucose, Troponin, INR, PTT	Patients with acute onset chest pain		
6. Type and Screen	ECG elevation suggestive of STEMI		
7. Urine or Serum $\beta$ HCG (depending on LH site)	If female of child bearing years	Patients obviously pregnant or in confirmed third trimester	
8. ASA 160 mg PO chewed once	Conscious with intact gag reflex	History of bleeding peptic ulcer, NSAID induced gastritis <b>OR</b> a history of ASA precipitated asthma  Decreased level of consciousness  Any ASA within the last 24 hours	

**Electrical Injury**

Order:	Indications:	Contraindications:	Notes:
12 Lead ECG (to be reviewed by Physician as per ED Practice Standards)	Patients presenting with electrical injury		



**Eye Injury/Discomfort**

Order:	Indications:	Contraindications:	Notes:
<ol style="list-style-type: none"> <li>1. Instill 1 drop of Proparacaine HCL 0.5% or Tetracaine 0.5% topical anesthetic in the affected eye(s) Repeat q 5-10 min prn to a maximum of 5 doses</li> <li>2. 0.9% sodium chloride flush to irrigate eye(s) even if patient has flushed prior to arrival</li> <li>3. Insert Morgan Lens</li> </ol>	<p>Eye pain caused by any of the following: foreign body/trauma/injury, chemical splash, thermal injury, corneal abrasion</p> <p>Patient must be able to cooperate in the performance of the procedure</p> <p>Required in the professional judgement of the authorized HCP</p>	<p>Visible foreign body in eye</p> <p>Penetrating eye injury</p> <p>Signs and symptoms of a perforation or ruptured globe</p>	<p><b><u>For chemical exposure/injury:</u></b> Consult Ontario Poison Centre and advise Physician of recommendations</p> <p><b><u>Do not initiate any orders that are contraindicated according to Poison Control</u></b></p>

**Febrile Neutropenia- Early Detection in Cancer Patients**

Order:	Indications:	Contraindications:	Notes:
<ol style="list-style-type: none"> <li>1. CBC, Na, K, Cl, CO<sub>2</sub>, Urea Creatinine, Lactic Acid, Phosphate, ALT, ALP, Bili, Ca, Mg</li> <li>2. Blood C+S (2 sets) from separate venipuncture sites if no central venous catheter (CVAD) is present.</li> <li>3. If CVAD present, one from each lumen of CVAD <b>AND</b> one set from peripheral site</li> <li>4. Urine R+M and C+S</li> <li>5. CXR PA + Lateral</li> </ol> <p>Reason: Febrile Neutropenia</p>	<p>Patients with a cancer diagnosis, who have received treatment within the last 21 days, <b>AND</b> present with a measured or self-reported temperature <b>above 38.3°C at any time or above 38.0°C for more than an hour</b></p>		



**Fever Management- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
Acetaminophen 650 mg PO/PR once <b>OR</b> Ibuprofen 400mg PO once	Patients with temperature greater than or equal to 38°C	Decreased level of consciousness, difficulty swallowing PO medication  <b>Acetaminophen:</b> Recent acetaminophen administration in the last 3 hours <b>OR</b> more than 3 doses in the past 24 hours  <b>Ibuprofen:</b> Recent ibuprofen administration in the past 6 hours <b>OR</b> more than 3 doses in the past 24 hours Allergic manifestations precipitated by ASA or other non-steroidal anti-inflammatory agents Pregnancy History of cirrhosis, chronic liver disease, alcoholism, active peptic ulcer disease, gastrointestinal bleeding or impaired renal function	Repeat and document temperature one hour after administration of medication

**Fever Management- Paediatrics**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
Acetaminophen 15 mg/kg PO/PR once (maximum dose 650mg) <b>OR</b> Ibuprofen 5-10 mg/kg PO once (maximum dose 400 mg)	Patients who are greater than or equal to 3 months old with a temperature of greater than or equal to 38°C	Decreased level of consciousness  <b>Acetaminophen:</b> Recent acetaminophen administration in the last 3 hours <b>OR</b> more than 5 acetaminophen doses in past 24 hour period History of cirrhosis or chronic liver disease <b>Ibuprofen:</b> Recent ibuprofen administration in the past 6 hours <b>OR</b> more than 3 doses in the past 24 hours Allergic manifestations precipitated by ASA or other non-steroidal anti-inflammatory agents History of kidney injury or impaired renal function, any clinical bleeding or platelet disorders	<b>NOTIFY Physician STAT</b> for child less than 3 months of age presenting with temperature greater than or equal to 38°C  Reassess temperature 30 minutes after administration of medication



**Inhalational Therapy- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<p>1. Administer oxygen via nasal prongs or mask if SpO2 less than or equal to 92% <b>OR</b> SpO2 less than or equal to 88% in COPD patients Salbutamol (Ventolin) 100 mcg/puff by metered dose inhaler (MDI) and spacer 4-8 puffs q 20 min x 3 doses</p>	<p>Patients presenting with SOB <b>AND</b> a history of Asthma or Chronic Obstructive Pulmonary Disease (COPD) with one or more of the following:</p> <ul style="list-style-type: none"> <li>• Cough</li> <li>• Presence of respiratory distress, wheeze, tightness or decreased breath sounds during chest auscultation</li> <li>• Severe respiratory distress</li> </ul>	<p>No previous history of Asthma or COPD</p> <p>Decreased level of consciousness</p>	<p>Notify Physician/RRT <b>STAT</b> if patient has change in initial presentation such as: decreased LOC, diaphoretic, cyanotic, initial tachycardia, difficulty speaking, agitated, no relief with B-agonist, SpO2 less than or equal to 88% on supplementary oxygen</p>

**Obstetrical Emergency**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<p>Re-direct to New Life Centre (LHPP)/Birthing Suite (LHO)/Labour and Delivery (LHAP)</p> <p>****Does not apply at LHB****</p>	<p>Pregnant patient over 20 weeks gestation presenting with a pregnancy related concern (abdominal cramping, abdominal pain, backache, vaginal leaking of fluid, decreased fetal movement, vaginal bleeding, headache, etc.)</p>	<p>Respiratory distress, hemodynamically unstable, imminent delivery, gestation less than 20 weeks, non-pregnancy related concerns (trauma, laceration, injury, etc.)</p>	



Oral Rehydration Therapy (ORT) - Paediatrics

Order:	Indications:	Contraindications:	Notes:
<p>1. 50 mL to 100 mL oral rehydration fluid no more than 5 mL every 1-2 minutes once</p> <p>Use small sips of Pedialyte, Enfalyte, Gastrolyte, frozen Pediapops or other sodium based oral rehydration fluid by age appropriate method (feeding cup, medication cup, syringe or regular cup)</p>	<p>Paediatric patient who presents with c/o vomiting and/or diarrhea (obtain history of oral intake and stools) <b>AND</b> have signs of mild or moderate dehydration</p>	<p>Patient appears lethargic, signs of altered perfusion, bilious or bloody vomiting, and/or child has vomiting alone (no diarrhea) with signs associated with neurologic or toxicological etiology</p> <p>Abdominal pain</p>	<p>Measure weight (kg) of child</p> <p><b>NOTIFY</b> Physician if ORT is started but patient is unable to tolerate and/or increase their oral intake</p> <p><b>NOTIFY</b> Physician <b>STAT</b> if deterioration in condition is observed</p>
<p>2. Ondansetron 4 mg PO once</p>	<p>For paediatric patients 4 years and older with nausea and/or vomiting</p>	<p>Presenting or history of arrhythmia, cardiac defect</p> <p>Ondansetron dose given in past 8 hours</p>	



**Orthopaedic X-ray(s)**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<p><b>ALL</b> orthopaedic X-rays listed below</p> <ol style="list-style-type: none"><li>1. NPO</li><li>2. Apply ice</li><li>3. Immobilize</li></ol>	<p>Patients 6 years and older with a history of significant injury or trauma</p> <p>Patients must be conscious and alert</p> <p>Injuries less than 8 hours old</p>	<p>Under 6 years of age</p> <p>Open fracture (compromised skin integrity)</p> <p>Neurovascular compromise (CSM deficit) or diminished sensation due to a neurological deficit (e.g. CVA, altered level of consciousness, etc.)</p> <p>Major trauma</p> <p>Pregnant or suspected pregnant patient</p> <p>Suspected intoxication or has distracting injuries and is unable to follow direction, maintain motor control, or is un-cooperative</p> <p>Head injuries or multiple painful injuries</p>	<p>Check colour sensation and movement (CSM) and distal pulses on assessment and after application of any splints/ immobilization</p>



**Orthopaedic X-ray(s) (Continued)**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<b><u>Ankle and/or foot</u></b> X-ray as indicated by examination according to the Ottawa Ankle Rules ( <a href="#">Appendix C</a> )	Pain suggestive of fractured ankle or foot which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness  Bony tenderness or inability to weight bear must be established according to Ottawa Ankle Rules	Any of the above listed contraindications	Patient should not ambulate on affected limb
<b><u>Clavicle</u></b> X-ray	Pain suggestive of a fractured clavicle which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness	Any of the above listed contraindications	
<b><u>Forearm (radius/ulna)</u></b> X-ray	Pain present in the forearm (radius and ulna) suggestive of a fractured forearm which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness	Any of the above listed contraindications	
<b><u>Hand and/or Finger</u></b> X-ray	Pain suggestive of a fractured hand or finger which may include obvious displacement/deformity of metacarpal bones, metacarpophalangeal (MCP) joints and phalanges	Any of the above listed contraindications	
<b><u>Hip and Pelvis</u></b> X-ray	Pain suggestive of a fractured hip which may include the inability to weight bear, the affected leg shortened or externally rotated <b><u>DO NOT apply internal/external rotation, flexion and adduction of affected limb during examination</u></b>	Any of the above listed contraindications	Patient should be placed on a stretcher
<b><u>Humerus</u></b> X-ray	Pain suggestive of a fractured humerus which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness	Any of the above listed contraindications	
<b><u>Knee</u></b> X-ray as indicated by examination according to the Ottawa Knee Rules ( <a href="#">Appendix D</a> )	Pain suggestive of fractured knee which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness	Any of the above listed contraindications	Patient should not ambulate on affected limb





**Orthopaedic X-ray(s) (Continued)**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<b><u>Tibia/fibula</u></b> X-ray	Pain suggestive of a fractured tibia/fibula which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness	Any of the above listed contraindications	Patient should not ambulate on affected limb
<b><u>Wrist</u></b> X-ray	Pain present over the distal radius and ulna and/or carpal bones suggestive of a fractured wrist which may include deformity, and/or swelling in affected area, impaired range of motion and bony tenderness	Any of the above listed contraindications	
<b><u>ADD scaphoid views to wrist x-ray</u></b>	If tenderness is elicited over the anatomical “snuff box” or over the scaphoid tubercle	Any of the above listed contraindications	

**Renal Colic- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<b>1. NPO</b> <b>2. Urine R+M</b> <b>3. Ketorolac 10 mg PO once</b> <b>OR</b> Ketorolac 15 mg IM once <b>OR</b> Ketorolac 15 mg IV once	Adult patients who present with symptoms indicative of renal colic and who are exhibiting significant distress  Intact gag reflex for PO medications	Pregnant patient  Decreased level of consciousness  <b>Ketorolac:</b> Recent ketorolac administration in the past 6 hours <b>OR</b> more than 3 doses in the past 24 hours Allergic manifestations precipitated by ASA or other non-steroidal anti-inflammatory agents	
<b>4. Ondansetron 8 mg PO once</b> <b>OR</b> Ondansetron 8 mg IM once	Nausea and/or vomiting	History of GI distress/bleed, peptic ulcer disease, a history of renal disease other than renal colic, liver disease or congestive heart failure	
<b>5. Initiate IV 0.9% sodium chloride at 30 mL/hr</b> <b>OR</b> saline lock	IV is required in the professional judgement of the authorized HCP		



**Seizure- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
1. Capillary Blood Glucose	Patients with an active tonic-clonic seizure		Ensure patient has a patent airway, adequate respirations and monitor for aspiration  Notify RRT if airway support required
2. Administer oxygen via nasal prongs or mask.	SpO2 less than or equal to 92%		
3. Continuous cardiac and SpO2 monitoring	Required in the professional judgement of the authorized HCP		
4. Initiate IV 0.9% sodium chloride at 30 mL/hr <b>OR</b> saline lock	IV is required in the professional judgement of the authorized HCP		

**Seizure- Paediatric**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
1. Capillary Blood Glucose	Paediatric patients with an active tonic-clonic seizure		Actual weight <b>OR</b> Estimate patient's weight based on Broselow tape measurement  Ensure patient has a patent airway, adequate respirations and monitor for aspiration  Notify RRT if airway support required
2. Continuous cardiac and SpO2 monitoring			
3. Administer oxygen via nasal prongs or mask	SpO2 less than or equal to 94%		
4. Initiate saline lock	IV is required in the professional judgement of the authorized HCP		



**Sepsis- Adults**

Order:	Indications:	Contraindications:	Notes:
<ol style="list-style-type: none"> <li>1. CBC, Na, K, Cl, CO<sub>2</sub>, Urea, Creatinine, Random Glucose, Ca, Mg, Albumin, Lactic Acid, Blood C+S (2 sets), Phosphate, Albumin, Lipase, Troponin, INR/PTT, Venous Blood Gas</li> <li>2. Urine or Serum <math>\beta</math> HCG if female of child bearing years (depending on LH site)</li> <li>3. Urine C+S and Urine R+ M</li> <li>4. Continuous cardiac monitoring</li> <li>5. 12 Lead ECG (to be reviewed by Physician as per ED Practice Standards)</li> </ol>	<p>Documented, or strong clinical suspicion for sepsis</p> <p>Symptoms including but not limited to two or more of the following:</p> <ul style="list-style-type: none"> <li>▪ Temperature of greater than 38°C or less than 36°C</li> <li>▪ HR of greater than 90 beats/min</li> <li>▪ RR of greater than 20/min</li> <li>▪ SBP of less than or equal to 90 mmHg or a mean of less than 65 mmHg</li> <li>▪ Chills/rigors or headache with neck stiffness</li> <li>▪ Alterations in patient behaviour (especially in elderly)</li> </ul>		<p><b>NOTIFY</b> Physician <b>STAT</b> if systolic BP less than 90 mmHg</p>
6. Administer oxygen via nasal prongs or mask.	SpO <sub>2</sub> less than or equal to 92% or SpO <sub>2</sub> less than or equal to 88% in COPD patients		
7. Initiate IV Ringer’s Lactate at 30 mL/hr <b>OR</b> saline lock	IV is required in the professional judgement of the authorized HCP		
8. Ringer’s Lactate 500 mL fluid bolus over 15 minutes	Patient is hypotensive with systolic BP less than 90 mmHg	If patient has history of congestive heart failure, or has signs and symptoms of congestive heart failure	

**Serum Coagulopathy**

Order:	Indications:	Contraindications:	Notes:
INR/PTT	If on anticoagulant, symptoms of stroke/TIA and/or potential hemodynamic instability		



**Substance Exposure/Abuse**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<ol style="list-style-type: none"> <li>1. Consult Ontario Poison Centre</li> <li>2. CBC, Na, K, Cl, CO<sub>2</sub>, Urea, Creatinine, Glucose, AST, ALP, Bili, Albumin, ALT, Lipase, INR/PTT, Venous Blood Gas, Osmolality, Drug Screen (ASA, Blood Alcohol Level (ETOH), Acetaminophen)</li> <li>3. Continuous cardiac monitoring</li> <li>4. 12 Lead ECG (to be reviewed by Physician as per ED Practice Standards)</li> <li>5. Capillary Blood Glucose</li> </ol>	<p>Patient with actual or suspected drug overdose/ingestion with one or more of the following:</p> <ul style="list-style-type: none"> <li>• Reported ingestion</li> <li>• Alterations in mood, behaviour and/or motor function suggestive of intoxication</li> <li>• Alteration in level of consciousness (LOC)</li> </ul>		<p><b>NOTIFY</b> Physician <b>STAT</b> if patient has: decreased LOC, diaphoretic, cyanotic, initial tachycardia, difficulty speaking, agitated</p>
<ol style="list-style-type: none"> <li>6. Administer oxygen via nasal prongs or mask</li> </ol>	<p>SpO<sub>2</sub> less than or equal to 92% or SpO<sub>2</sub> less than or equal to 88% in COPD patients</p>		
<ol style="list-style-type: none"> <li>7. Initiate IV 0.9% sodium chloride at 30 mL/hr <b>OR</b> saline lock</li> </ol>	<p>IV is required in the professional judgement of the authorized HCP</p>		

**Sucrose for Infant Pain**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<p>2 mL 24% oral sucrose solution once placed on the tongue or buccal surface or dip pacifier in sucrose solution and allow infant to suck</p>	<p>For infants 37 weeks gestational age up to 3 months of life; 2 minutes prior to painful procedure (e.g. blood sampling, IV, immunization, etc.)</p>	<p>Decreased level of consciousness Critically ill NPO Previous hypoglycemia or receiving insulin infusions History of:</p> <ul style="list-style-type: none"> <li>• asphyxia or difficulty swallowing</li> <li>• necrotizing enterocolitis (NEC)</li> </ul>	



**Topical Anesthetic**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
Apply 3 - 10 mL of LET (lidocaine/ epinephrine/ tetracaine) solution on a cotton ball and apply to non- intact skin for 25-30 minutes	For use on simple lacerations requiring suturing	Lacerations to mucous membranes or peripheral extremities (i.e. digits, nose, ears, penis) or sign of injury to underlying structures  Hypersensitivity to lidocaine, epinephrine, tetracaine or metabisulfite	

**Urine Sampling**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
Urine R+M	Specific complaints of flank pain, abdominal pain, pelvic pain or discomfort, genitourinary symptoms and vaginal bleeding		
Urine $\beta$ HCG (depending on LH site)	Female of child bearing years (9 – 55 years)	Patients obviously pregnant or in confirmed third trimester Previous hysterectomy	



**Urinary Catheterization- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<ol style="list-style-type: none"> <li>1. Insert a 14-18 French (Fr) Urinary Catheter (or consider a 20-22 Fr three way Urinary Catheter for suspected blood clot retention)</li> <li>2. Use Lidocaine 2% (200 mg/10 mL) jelly for male patients approximately 5 minutes prior to insertion</li> <li>3. Monitor output q4h and PRN</li> </ol>	<p>Suspected urinary retention</p> <p>Bladder scan indicates greater than 400 mL post void residual urine</p> <p>Unconscious or multiple trauma (but no blood in urethral meatus or signs of GU trauma)</p>	<p>Resistance if encountered</p> <p>Urethral trauma or known structural abnormality</p>	

**Vaginal Bleeding- Adults**

<b>Order:</b>	<b>Indications:</b>	<b>Contraindications:</b>	<b>Notes:</b>
<ol style="list-style-type: none"> <li>1. CBC, Na, K, Cl, CO<sub>2</sub>, Urea, Creatinine, Random Glucose, Type and Screen, INR, PTT Urine or Serum β HCG (depending on LH site)</li> <li>2. Urine R+M</li> </ol>	<p>Adults with vaginal bleeding</p>		
<ol style="list-style-type: none"> <li>3. Administer oxygen via nasal prongs or mask</li> </ol>	<p>SpO<sub>2</sub> less than or equal to 92% or SpO<sub>2</sub> less than or equal to 88% in COPD patients</p>		
<ol style="list-style-type: none"> <li>4. Initiate IV 0.9% sodium chloride at 30 mL/hr <b>OR</b> saline lock</li> </ol>	<p>IV is required in the professional judgement of the authorized HCP</p>		



## Appendix B: PRAM Scoring Table

PRAM scoring table

Criteria	Description	Score	
O <sub>2</sub> saturation	≥ 95%	0	
	92-94%	1	
	< 92%	2	
Suprasternal retraction	Absent	0	
	Present	2	
Scalene muscle contraction	Absent	0	
	Present	2	
Air entry *	Normal	0	
	↓ at the base	1	
	↓ at the apex and the base	2	
	Minimal or absent	3	
Wheezing †	Absent	0	
	Expiratory only	1	
	Inspiratory (± expiratory)	2	
	Audible without stethoscope or silent chest (minimal or no air entry)	3	
<b>PRAM score :</b> (max. 12)			
<b>Score</b>	0-3	4-7	8-12
<b>Severity</b>	Mild	Moderate	Severe

© Ducharme 2000

\* In case of asymmetry, the most severely affected (apex-base) lung field (right or left, anterior or posterior) will determine the rating of the criterion.

† In case of asymmetry, the two most severely affected auscultation zones, irrespectively of their location (RUL, RML, RLL, LUL, LLL), will determine the rating of the criterion.

This tool is available on the following website : [www.childasthmatools.umontreal.ca](http://www.childasthmatools.umontreal.ca)

**Related references:**

- Chalut DS et al. The Preschool Respiratory Assessment Measure (PRAM): A responsive index of acute asthma severity. J Pediatr 2000;137(6):762-8.
- Ducharme FM et al. The Pediatric Respiratory Assessment Measure: a valid clinical score for assessing acute asthma severity from toddlers to teenagers. J Pediatr 2008;152(4):476-80, 480.e1.

<https://www.chusj.org/CORPO/files/32/32ba0b8c-4894-4d8e-87ca-a46e4c0924a5.pdf>



### Appendix C: Ottawa Ankle Rule

An ankle X-Ray series is only required if there is any pain in the malleolar zone and...

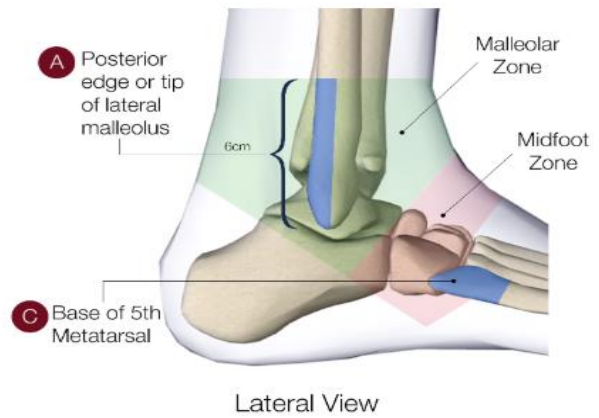
Bone tenderness at the posterior edge or tip of the lateral malleolus (A)

OR

Bone tenderness at the posterior edge or tip of the medial malleolus (B)

OR

An inability to bear weight both immediately and in the emergency department for four steps



Lateral View

A foot X-Ray series is only required if there is any pain the midfoot zone and...

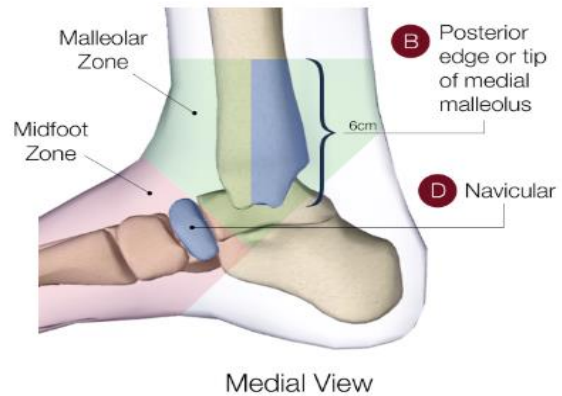
Bone tenderness at the base of the fifth metatarsal (C)

OR

Bone tenderness at the navicular (D)

OR

And inability to bear weight both immediately and in the emergency department for four steps



Medial View

[http://www.theottawarules.ca/ankle\\_rules](http://www.theottawarules.ca/ankle_rules)





## Appendix D: Ottawa Knee Rule

A knee X-Ray series is only required for knee injury patients with any of these findings:

Age 55 or older

OR

Isolated tenderness of the patella

No bone tenderness of knee other than patella

OR

Tenderness of the head of the fibula

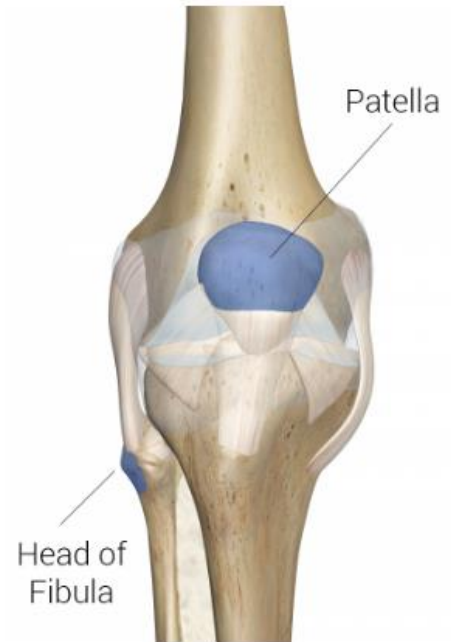
OR

Cannot flex to 90 degrees

OR

Unable to bear weight both immediately and in the emergency room department for 4 steps

Unable to transfer weight twice onto each lower limb regardless of limping



[http://www.theottawarules.ca/knee\\_rules](http://www.theottawarules.ca/knee_rules)