# University Health Network

## Medical Directives for Physician Assistants in the Emergency Department at Toronto Western Hospital

*Thank you to Dr. Paul Hawkins and his team at the Sunnybrook Health Sciences Centre for allowing us to refer to and base our medical directives on those developed within their Emergency Department. It is with their help, guidance and tremendous contribution to the PA Profession that these medical directives were made possible.*

**Sahand Ensafi – ED Specific Directives**
**Emergency Medicine Physician Assistant (PA):** Initiating diagnostic tests/ interventions, medications, and consultations supplemental to University Health Network Physician Assistant General Directives.

According to the *Regulated Health Professions Act*, members of a health profession have the authority to accept an order or delegation to a controlled act(s) and that are deemed appropriate by their regulatory college from a health care provider who is authorized to perform the controlled act(s).

These medical directives and delegations of controlled acts provide the authority both for physician assistants (PAs) to accept an order or delegation to a controlled act(s) from a physician within their level of competence and nurses to accept an order as outlined in this medical directive from a physician. When nurses accept an order under this medical directive, they are not directly accepting the order from the PA but are carrying out the physician's order set out in this medical directive based on their own assessment of the appropriateness of carrying out the task/treatment and whether the task/treatment is within their scope of practice and level of competence. This order may be relayed to the nurse by the PA.

### Authorized To

A Physician Assistant in the Emergency Department at Toronto Western Hospital with the following qualifications:

- Graduation from a fully accredited Physician Assistant Training Program in Canada or the United States
- A member in good standing of the Canadian Association of Physician Assistants
- Certified by the Physician Assistant Certification Council of Canada or the National Commission on Certification of Physician Assistants
- Demonstrated the knowledge, skill and judgment to implement this medical directive during the evaluation period with the department/supervising physician(s)

### Description of Procedure

The Physician Assistant (PA) may implement the medical directive for initiating the order for a diagnostic test or intervention, and initiating the patient interaction for patients under the care of an attending physician in the Emergency Department at Toronto Western Hospital. The PA will document the name of the attending/supervising physician on his/her charts in the ED.

The Physician Assistant may implement these medical directives for initiating a physician order for medications, diagnostic tests/interventions and consults in the tables below according to the specified indications. The Physician Assistant will work as part of a team in close

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consultation with the Supervising Physicians and Allied Health Team regarding diagnostics tests, interventions and medications.

### Indications

The Physician Assistant may implement the directive for a patient registered in the Emergency Department at Toronto Western Hospital under the care of an attending physician who has signed this directive, as the patient's condition warrants initiation or alteration of a medication listed in the table below, secondary to:

- Management of medical complaint for which the patient presented to the Emergency Department.
- Management of a pre-existing condition

The PA may initiate diagnostic tests, interventions, and consults in accordance with the identified indications listed in the attached tables. The Physician Assistant will discuss assessments, interventions/diagnostic tests and patient progress with the MRP/Attending Physician prior to discharge from the Emergency Department. The Physician Assistant will contact the Most Responsible Physician if clarification of any aspect of the medical directive is required. Any problematic events resulting from this medical directive will be relayed to the authorizing physician(s).

Medications will be ordered in accordance with UHN policy.

## Contraindications

**Absolute Contraindications**:

1) The Physician Assistant will not initiate the directive for any medication if there is hypersensitivity or allergy as reported by the patient, family or noted by an attending health care professional or existing in the electronic patient record (EPR). Any new hypersensitivity or allergic reaction will be documented in EPR and discussed with the Supervising Physician. The medication will be put on hold until clarified.
2) The Physician Assistant will not order narcotics or benzodiazepines.
3) The patient does not consent to the plan of care/receiving care from the Physician Assistant

**Special Considerations:**

1) The Physician Assistant will review the patient's medications in consultation with the Attending/Pharmacist if the patient is known to be pregnant.
2) Patients with renal or hepatic impairment will require certain medications be adjusted accordingly as noted in the table below in consultation with the Attending Physician and/or Pharmacist.
3) Medications times may be changed to standard medication administration times while the patient is in the Emergency Department.
4) When indicated, serum drug levels will be monitored for medications with a narrow therapeutic range and risk of toxicity. Interpretation and dose adjustments will be performed after reviewing the level with the Attending Physician and/or Pharmacist.

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**For detailed indications and contraindications, refer to Medications and/or Diagnostic Tests/Interventions and/or Consultations tables below.**

**i. The medical directive includes the delegation of a controlled act/procedure:**

**Yes X No If yes, which procedure(s)?**

The following Delegated Controlled Acts are part of this Medical Directive:

- Communicating to the individual or his/her personal representative a diagnosis identifying a disease or disorder as the cause of symptoms of the individual circumstances in which it is reasonably foreseeable that the individual or his/her personal representative will rely on the diagnosis
- Performing a procedure on tissue in or below the surface of the dermis, mucous membrane and cornea
- Administering a substance by injection or inhalation
- Putting an instrument hand or finger beyond the external ear canal, nasal passage ways, the opening of the urethra, labia majora, anal verge, artificial opening in the body,
- Setting or casting a fracture of a bone or a dislocation of a joint.
- Applying or ordering the application of a form of energy prescribed by the regulations under the RHPA.

**Please refer to the delegated controlled act document for further information.**

## Documentation

Implementation of an order per the Medical Directive will be documented in the patient record or entered in the electronic patient record.

## Authorizing Physician(s)

Attending physicians noted on the approval form attached.

## Resources/References


Sunnybrook Health Sciences, Medical Directive Policy and Process: Physician Assistant Orders in the Emergency Department

Sunnybrook Health Sciences, Medical Directive Policy and Process: Delegation of Controlled Acts to a Physician Assistant

AARC Clinical Practice Guideline: Incentive Spirometry: 2011, Respiratory Care 2011 October 56 (10):1600-1604.

ii. Bickley, Lynn S. and Peter G. Szilagyi. Bates' Guide to Physical Exam and History Taking. Philadelphia, Wolters Kluwer/Lippincott Williams and Wilkins, 2013

2012 Canadian Association of Radiologists (CAR) Referral Guidelines: http://www.car.ca/en/standards-guidelines/guidelines.aspx

CAR Medical Imaging Primer with a Focus on XRay Usage and Safety
http://www.car.ca/uploads/standards%20guidelines/20130128_en_guide_radiation_primer.pdf



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CAR Prevention of Contrast-induced Nephropathy http://www.car.ca/uploads/standards%20guidelines/20110617_en_prevention_cin.pdf

College of Physicians and Surgeons of Ontario. Policy Statement #5-12, Delegation of Controlled Acts. Dialogue. Issue 3, 2012.
http://www.cpso.on.ca/policies-publications/policy/delegation-of-controlled-acts

Health Canada Notice on Gadolinium-based Contrast Agents: http://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2013/36711a-eng.php

Mount Sinai Hospital/University Health Network/Women's College Hospital
Department of Medical Imaging Consent for Medical Imaging Procedures Policy;
http://documents.uhn.ca/sites/uhn/policies/Departmental_Manuals/Medical_Imaging/Patient_Care/16.30.003.pdf

Mount Sinai Hospital/University Health Network/Women's College Hospital: Department of Medical Imaging – IV Contrast Media for MRI Procedures
http://documents.uhn.ca/sites/uhn/Policies/Departmental_Manuals/Medical_Imaging/Patient_Care/16.30.004.pdf

Mount Sinai Hospital/University Health Network/Women's College Hospital: Department of Medical Imaging – Pregnant Patients in MRI
http://documents.uhn.ca/sites/uhn/Policies/Departmental_Manuals/Medical_Imaging/Patient_Care/16.30.007.pdf

Regulated Health Professions Act, 1991. College of Physicians and Surgeons (2004). Policy #4-03: Delegation of Controlled Acts. Toronto, Ontario.

RN RPN Urinary System Management - UHN Medical Directive
http://documents.uhn.ca/sites/uhn/Clinical_Operations_Committee/Medical_Directives/Nursing/ALL_Registered_Nurses(RN)/UrinarySystemManagement.pdf and UHN Urinary Catherization Algorithm

UHN Guidelines for Venous Thromboembolism Prophylaxis
http://documents.uhn.ca/sites/uhn/Policies/Policy_Attachments/3.30.028_attach1.pdf

UHN Infection Prevention and Control - MRSA
http://documents.uhn.ca/sites/uhn/policies/Infection_Control/Infectious_Diseases/4.60.015-doc.pdf

UHN Policy and Procedural Manual Clinical – Device and Site Selection, Placement and Removal http://documents.uhn.ca/sites/uhn/Policies/Clinical/Vascular_Access/3.60.002-doc.pdf

UHN Policy and Procedural Manual, Clinical – Gastric Tubes, 3.30.026

UHN Policy and Procedural Manual, Respiratory Therapy, Blood and Gas Sampling Analysis, Arterial Line
Insertion
http://documents.uhn.ca/sites/uhn/Policies/respiratory_therapy_corporate_manual/blood__and__gas_sampling-analysis/uhnflv023181-doc.pdf

UHN Policy and Procedure Manual Clinical – Vascular Access – Site Care and Maintenance

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http://documents.uhn.ca/sites/uhn/Policies/clinical/Vascular_Access/uhnprod005643-doc.pdf

UHN X-ray Safety and Pregnant Patients policy: http://documents.uhn.ca/sites/uhn/policies/X-ray_Safety/Patient_Safety/13.50.002.pdf

## Medication References:

UHN Formulary

Compendium of Pharmaceuticals and Specialties – current year to be consulted

Lexi-comp – updated on-line as accessed through UHN subscription

Pharmacist

Sunnybrook Health Sciences, Medical Directive Policy and Process: Physician Assistant Orders in the Emergency Department

## UHN Policy:

UHN Clinical – Insulin Administration Policy 3.50.011
UHN Gastric Tubes policy 3.30.026
UHN Guidelines for Venous Thromboembolism Prophylaxis
UHN Intravenous Medication/Drug/Restricted Drug List Policy 3.50.003
UHN IV Contrast Media for MRI Procedures policy16.30.004
IV Contrast Media for CT Procedures, policy 16.30.003
UHN Peritoneal Dialysis – Insulin policy 17.100.005
UHN Surgical Site Infection Prevention http://documents.uhn.ca/sites/UHN/LMP/specimen_collections/uhnflv031842-doc.p

**Policy on Delegation to a Physician Assistant:**

College of Physicians and Surgeons of Ontario. Policy Statement #5-12, Delegation of Controlled Acts. Dialogue. Issue 3, 2012.
http://www.cpso.on.ca/policies-publications/policy/delegation-of-controlled-acts

Regulated Health Professions Act, 1991. College of Physicians and Surgeons (2004). Policy #4-03: Delegation of Controlled Acts. Toronto, ON.

## Textbooks:

Reudy, Marshall. (2011). *Principles and Protocols*, 5th edition. Philadelphia, PA: Elsevier, Saunders

Richard A. Harvey. (2012). *Pharmacology,* 5th edition, Baltimore, MD: Lippincott Williams & Wilkins

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## Medications

*Medications are divided into two groups:*

**Group 1** medications may be initiated either before or after discussion with the most responsible physician at the professional judgment of the Attending

Physician Assistant. All cases must be discussed with the Attending Physician while the patient is in the Emergency Department in a timely fashion.

**Group 2** medications must routinely be discussed with the most responsible physician prior to initiation. There are very limited exceptions when a group 2 drug becomes Group 1 if the safety of the patient is jeopardized by any delay (see medications list).

Renal dosing: The notation "(RF)" after a Group 1 drug requires that the PA consider dosage adjustment. The PA can consult an online database for Drug Dosing in Renal Impairment and/or consult the attending physician before initiating therapy. In dialysis patients, all medications must be discussed with the most responsible physician prior to initiation (i.e., the drugs assume Group 2 status).

Pediatric dosing: The table provides pediatric dosage ranges for Group 1 medications based on information available in Hospital for Sick Children's Drug Handbook and Formulary (2010-11).

The medication history, potential for drug allergy, prior use of analgesics and antimicrobials, and the possibility of pregnancy must be explored prior to implementing this directive.

The Physician Assistant may also restart, change, or discontinue medications prescribed prior to hospital admission as the patient clinical status indicates in addition to the medications listed below. Home medications will be ordered based on the patient's history and/or Best Possible Medication History completed by the Pharmacist.

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| Indications | Drug Classification | Drug Name & Dosage Range | Absolute Contraindication | Special Considerations |
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| **Allergy Therapy (Group 1)**<br>After implementation of an appropriate history and physical examination and applying due consideration to any appropriate investigations available the PA may order. | **Steroid**<br>(Glucocorticoid) | ***Betamethasone Valerate*** (Topical)<br>0.1% cream or ointment<br>Applied once or twice daily to affected areas<br><br>***Methylprednisolone***<br>(Solu Medrol)<br>Up to 2 mg/kg IV; may repeat Q4-12H<br>***Asthma: 2 to 4 mg/kg/ day IV divided Q6H***<br><br>***Prednisone***<br>1 to 2 mg/kg PO once daily; ***max 60 mg/Day***<br><br>***Prednisolone*** (Pedipred oral solution)<br>1 to 2 mg/kg PO once daily; ***max 60 mg/day*** | Hypersensitivity<br><br>Systemic fungal infections | Delayed wound healing possible.<br><br>Suppression of hypothalamic-pituitary-adrenal axis may occur particularly in patients receiving high doses for prolonged periods of time or in young children; discontinuation of therapy should be done through slow taper.<br><br>Prolonged use may increase risk of secondary infections. |
| | **H2-receptor antagonist** | ***Ranitidine (RF)***<br>150 mg PO twice daily<br>***2.5 to 10 mg/kg/day PO divided BID; max 300 mg/day***<br><br>***Famotidine (RF)***<br>20 mg IV twice daily<br>40 mg PO once daily<br>***0.25 mg/kg/day IV q12h; max 40 mg/day*** | Hypersensitivity | |

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| | **H1-receptor antagonist** | ***Diphenhydramine*** (Benadryl)<br>25 to 50 mg PO/IV Q6H or PRN<br>***1.25 mg/kg PO/IV Q6H; max 50 mg; max 400 mg/day*** | Hypersensitivity | May cause CNS depression which can impair driving/ operating heavy machinery<br><br>May potentiate effects of sedatives (e.g. EtOH)<br><br>Use with caution in elderly |
| **Allergy Therapy (Group 2)** | **Catecholamine** | **Epinephrine**<br>*Epinephrine may be ordered as a Group 1 drug if in the professional opinion of the PA that any delay would be deleterious for the patient. Dosage for anaphylaxis:*<br>*0.1 to 0.5 mg IM Q 10 min* | | **In the event that a staff PA uses this Directive, there must be a mandatory review by the Medical Director to investigate the circumstances from an operational and systems perspective and to elicit any learning's that may pertain to the Emergency Department.** |
| | **H1-receptor antagonist** | **Hydroxyzine** | | |

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| **Analgesics & Antipyretics (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for alleviating pain or fever. | **Non-steroidal Anti-inflammatory** | ***Pain or Fever:***<br>***Ibuprofen***<br>200 to 400 mg PO Q4-6H or PRN<br>***5 to 10 mg/kg PO Q6to 8H PRN; max 40 mg/kg/ day***<br>***ASA***<br>325 to 650 mg PO or 650 mg PR Q4 to 6H PRN<br>***Not recommended in children***<br>***Naproxen***<br>250 to 500 mg PO Q8 to 12H or PRN<br>(usual max 1,000 mg per day)<br>***Pain only:***<br>***Indomethacin***<br>50 mg PO Q6H (acute gout)<br>***Ketorolac (RF)***<br>30 mg IV Q6H or PRN (max 120 mg/day)<br>60 mg IM as single dose<br>***0.5 mg/kg IV Q6H PRN; max 15 mg per dose*** | Hypersensitivity<br>Bleeding (GI Ulcers) | ***The PA cannot prescribe narcotics as per Federal Law.***<br>Should be taken with food or 8-12oz water to avoid GI effects |
| | **Analgesic & Antipyretic** | ***Pain or fever:***<br>***Acetaminophen***<br>325mg to 1000 mg PO/ PR Q4 to 6h/PRN; max 4g/day<br>***10 to 15 mg/kg PO/PR Q4 to 6h PRN; max 75 mg/kg/day or 4 g/day if > 12 yrs of age*** | Hypersensitivity<br>Severe active liver disease | |

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| **Anticoagulation (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order anticoagulation. | | **Group 2**<br>***Apixaban***<br>***Dabigatran***<br>***Rivaroxaban***<br>***Warfarin***<br>***Enoxaparin***<br>***Heparin***<br>***Fundaparinux*** | To be discussed with attending physician. | For the treatment of Thromboe-mbolic disease and stroke prevention in Atrial Fibrillation. |
| **Antimicrobial Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for an infectious disease. | **Beta-Lactam** | ***Amoxicillin (RF)***<br>500 mg PO Q8H<br>***50 mg/kg/day PO divided Q8H; max 4 g/day***<br>***Ampicillin (RF)***<br>1-2 g IV Q4-6H<br>***100-400 mg/kg/day IV divided Q6H; max 4 g/day***<br>***Amoxicillin-clavulanate* (RF)**<br>500 mg PO Q8-12H or 875 mg Q12H<br>***25-45 mg/kg/day PO divided Q12H; 1750 mg/day***<br>***Cloxacillin***<br>500-1,000 mg PO Q4-6H<br>1-2 g IV Q4-6H<br>***100-150 mg/kg/day PO divided QID; max 8 g/day***<br>***100-200 mg/kg/day IV divided Q6H; max 8 g/day*** | Hypersensitivity | Use caution in patients with carbapenem & cephalosporin allergies |

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| **Cephalosporins** | ***Cefazolin (RF)***<br>1 g IV Q8H<br>2 g IV once daily for outpatient treatment<br>***50 to 150 mg/kg/day IV divided Q8H; max 3 g/day***<br>***Ceftriaxone***<br>1 g IV once daily<br>Up to 2 g Q12H for meningitis, endocarditis, osteomyelitis<br>***50 to 100 mg/kg IV Q24H; max 1 g/day*** | Hypersensitivity | |
|---|---|---|---|
| **Flouroquinolones** | ***Ciprofloxacin (RF)***<br>500-750 mg PO Q12H<br>400 mg IV Q12H<br>***Levofloxacin (RF)***<br>750 mg PO/IV once daily<br>***Moxifloxacin***<br>400 mg PO/IV once daily | Hypersensitivity | Increased risk of tendonitis & tendon rupture<br><br>May exacerbate muscle weakness in patients with myasthenia gravis |
| **Macrolides** | ***Azithromycin***<br>250-500mg PO/IV once daily<br>1000 mg PO single dose for STI<br>***8-10 mg/kg/day PO/IV; max 1 g/day***<br><br>***Clarithromycin (RF)***<br>250-500 mg PO Q12H<br>***15 mg/kg/day PO divided BID; max 1 g/day*** | Hypersensitivity | Risk of prolonged QT |

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| | **Lincosamide** | ***Clindamycin***<br>150-450 mg PO Q6H<br>600-900 mg IV Q8H<br>***Max 1800 mg/day; 20-40 mg/kg/day PO/IV divided Q6-8H*** | Hypersensitivity | High incidence of C.Diff<br><br>Caution in hepatic impairment |
| | **Sulfonamides** | ***Co-trimoxazole (RF)***<br>Trimethoprim/ Sulfamethoxazole (TMP/ SMX):<br>2 tabs (Single Strength) or 1 tab (Double Strength) PO or 10 mL IV Q12H<br>***8-12 mg/kg/day (TMP) PO/IV divided Q12H; max 320 mg/day (TMP)*** | Hypersensitivity<br><br>Age < 2mo<br><br>Nursing mothers<br><br>Pregnancy at term (38-42wk) | Caution in hepatic impairment<br><br>May cause hyperkale-mia |
| | **Nitrofuran** | ***Nitrofurantoin (RF) (Macrobid)***<br>100 mg PO BID<br>***5-7 mg/kg/day PO divided Q6H; max 400 mg/day*** | Hypersensitivity<br><br>Pregnancy at term (38-42 wk) | Risk of hepatic & pulmonary toxicity |
| | **Metronidazole** | ***Metronidazole***<br>500 mg PO Q8-12H or 500 mg IV Q12H<br>***15-30 mg/kg/day PO divided Q8H; max 1.5 g/ day***<br>***30 mg/kg/day IV divided q12h; max 1.5 g/day*** | Hypersensitivity<br><br>Pregnancy | Avoid EtOH for at least 1 day after discontinu-ation |
| **Antimicrobial Therapy (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for an | **Antibiotics (other)** | <u>**Group 2**</u><br>***Gentamicin***<br>***Valacyclovir***<br>***Piperacillin-tazobactam***<br>***Vancomycin*** | To be discussed with attending physician. | |
| | **Antivirals** | <u>**Group 2**</u><br>***Acyclovir***<br>***Famciclovir***<br>***Valacyclovir***<br>***Oseltamivir*** | To be discussed with attending physician. | |

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| infectious disease. | **Antifungals** | **Group 2**<br>***Nystatin***<br>***Fluconazole*** | To be discussed with attending physician. | |
| **Antinauseants / Antiemetics (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for nausea. | **H1-Antagonist** | ***Dimenhydrinate*** (Gravol)<br>25 to 50 mg PO Q4-6H PRN<br>50 to 100 mg PR Q4-6H PRN<br>12.5 to 50 mg IV Q4-6H PRN<br>***1.25 mg/kg per dose PO/ IV/PR Q6H PRN;***<br>***max 300 mg/day*** | Hypersensitivity | Caution in patients with lower respiratory disease, nursing women |
| | **Anti-emetic & Prokinetic Agent** | ***Metoclopramide (RF)***<br>10 mg PO/IV QID or Q4-6H PRN | Hypersensitivity<br><br>GI Bleed, Obstruction, seizures, pheochromocytoma | May cause tardive dyskinesia<br><br>Caution in patients with mental illness |
| | **5-HT3 Antagonist** | ***Ondansetron***<br>4 to 8 mg PO/IV Q8H PRN<br>***0.1 mg/kg per dose PO/IV PRN; max 8 mg*** | Hypersensitivity | Reduce dose with hepatic impairment<br><br>Dose-dependant QT prolonging |

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| **Blood Products**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may write the order 'as per Dr. ________' (most responsible physician). | All blood product(s)<br>Indications:<br>1. Discussion with and approval by MRP.<br><br>2. Must have documented and a signed order on the patient record to hospital standards.<br><br>3. Unless circumstances do not permit the patient must have read, or had to opportunity to read, the hospital information package for transfusion patients | **Group 2 Status** | Contraindications:<br>1. Known prior adverse reaction to blood products of any nature or known antibody issue.<br>2. Failure to achieve any of the 3 indications.<br>***It is the Canadian legal standard that the MRP or his physician delegate must:***<br>1). Discuss risk benefits with the patient in person.<br>2). Sign the blood/transfusion forms. | ***Prior to initiation, the order must be discussed with the most responsible physician.*** |
| **Cardiovascular Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for suspect disease of cardiovascular origin.<br>***If the patient has an acute STEMI and a physician is not*** | **Anti-Platelet** | ***Enteric Coated ASA***<br>80-325 mg PO once daily | Hypersensitivity<br><br>Bleeding ulcers<br><br>Thrombocytopenia | |
| | **Loop-Diuretic** | ***Furosemide***<br>20-160 mg PO/IV; may repeat as necessary | Hypersensitivity | Caution in diabetic, hepatic or renal impairment<br><br>Risk of fluid & electrolyte imbalance |

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| ***in attendance, the PA may activate the Code STEMI Team but then must immediately inform the most responsible physician.*** | **Nitrates** | ***Isosorbide dinitrate*** 10-30 mg PO TID (schedule doses to allow 10-12 h drug-free period)<br>***Nitroglycerin lingual spray*** 0.4 to 0.8 mg (1-2 sprays) stat; may repeat x 2 at 5-min intervals<br><br>***Nitroglycerin Transdermal Patch*** 0.2 to 0.8 mg per hour applied once daily (remove QHS to allow 10-12 h drug-free period) | Hypersensitivity<br><br>Severe anemia, shock, hypotension<br><br>Use of sildenafil, tadalafil, vardenafil within 24h of initiation | Caution if no relief of CP after 3 doses |
| **Cardiovascular Therapy (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for suspect disease of cardiovascular origin. | **Group 2** | ***Adenosine***<br>***Atropine***<br>***Amiodarone***<br>***Calcium gluconate / chloride***<br>***Clopidogrel***<br>***Digoxin***<br>***Diltiazam***<br>***Dobutamine***<br>***Dopamine***<br>***Epinephrine***<br>***Hydralazine***<br>***Labetalol***<br>***Magnesium sulfate***<br>***Metoprolol***<br>***Nitrate infusion***<br>***Nitroprusside***<br>***Norepinephrine infusion***<br>***Procainamide***<br>***Sodium bicarbonate***<br>***Vasopressin*** | To be discussed with supervising physician | |

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| **Corticosteroid Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order the following corticosteroid therapeutic interventions. | **Glucocorticoids** | ***Hydrocortisone***<br>1-2 mg/kg IV<br>***4-6 mg/kg IV per dose Q4-6H (asthma)***<br>***5-10 mg/kg IV stat (anaphylaxis)***<br>***Methylprednisolone*** (Solu Medrol)<br>Up to 2 mg/kg IV; may repeat Q4-12H<br>***Asthma: 2-4 mg/kg/day IV divided Q6H***<br>***Prednisone***<br>Up to 1 mg/kg PO once daily<br>***1-2 mg/kg PO once daily; max 60 mg***<br>***Prednisolone*** (Pedipred oral solution)<br>Up to 1 mg/kg PO once daily<br>***1-2 mg/kg PO once daily; max 60 mg*** | Hypersensitivity<br><br>Systemic fungal infections | Delayed wound healing possible.<br><br>Suppression of hypothalamic-pituitary-adrenal axis may occur particularly in patients receiving high doses for prolonged periods of time or in young children; discontinuation of therapy should be done through slow taper.<br><br>Prolonged use may increase risk of secondary infections. |
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| **Diabetes Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order the following interventions for management of blood glucose. | **Hypoglycemic Antidotes** | ***Glucagon*** for hypoglycemia<br>1 mg (1 unit) IM/SC stat<br>***Glucose / Dextrose Chewable Tablet or Gel***<br>3-4 chew tabs or 1 tube of gel PO stat;<br>may repeat after 15-20 min if BG still < 4 mmol/L<br>***Dextrose 50% Injection (50 mL syringe)***<br>12.5 g (25 mL of D50W) IV slow bolus; may repeat<br>***Dextrose 10% IV Infusion (500 or 1000 mL bag)***<br>12.5 g (125 mL of D10W) infused IV as rapidly as possible (e.g., over 10 min); may repeat | Hypersensitivity<br><br>Pheochromocytoma | Glucagon of little to no help in states of starvation, adrenal insufficiency, or chronic hypoglycemia (give glucose in these situations) |
| **Diabetes Therapy (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order the following interventions for management of blood glucose. | **Group 2** | ***Insulin*** SC or IV<br>***Non-insulin antihyperglycemic agents*** | To be discussed with supervising physician | To be discussed with supervising physician |

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<table>
<tr>
<td rowspan="2">Fluid & Electrolyte Therapy (Group 1)<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order fluid and electrolyte therapy.</td>
<td>Fluids</td>
<td>Any plain IV solution routinely stocked in the Emergency Department<br>Exception: 3% Sodium Chloride (Group 2)<br><br>Refer to General Directives for directives re: dosing of crystalloids</td>
<td></td>
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<tr>
<td>Hypokalemia</td>
<td>Potassium chloride ORAL<br>8 to 40 mmol oral SR tab (K-Dur, Slow-K)<br>20-40 mmol (15-30 mL) oral liquid<br>2-5 mmol/kg/day PO in divided doses</td>
<td>Hypersensitivity<br><br>Hyperkalemia</td>
<td></td>
</tr>
<tr>
<td>Fluid & Electrolyte Therapy (Group 2)<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order fluid and electrolyte therapy.</td>
<td>Electrolyte Replacement</td>
<td>Sodium Chloride 3% Infusion (“Hypertonic Saline”)</td>
<td>To be discussed with supervising physician</td>
<td>To be discussed with supervising physician</td>
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</table>

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| **Gastrointestinal Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for disease of suspect GI origin. | **Acid Suppressants & Antacids** | ***Antacid***<br>Magnesium & aluminum hydroxide (Almagel)<br>10 to 20 mL PRN<br>***Pantoprazole***<br>Acid suppression:<br>40-80 mg per day (given once or twice/day)<br>***1 - 1.5 mg/kg/day PO/IV divided into 1-2 doses; max 40 mg/dose***<br>Acute upper GI bleed:<br>80 mg IV loading dose; then continuous IV infusion at 8 mg/h (40 mg over 5 h)<br>***Children weighing ≤ 40 kg:***<br>***LOADING DOSE 0.2 mg/kg IV; max 80 mg; THEN, 0.2 mg/kg/h IV continuous infusion; max 8 mg/dose***<br>***Ranitidine (RF)***<br>150 mg PO twice daily<br>***2.5-10 mg/kg/day PO divided BID; max 300 mg/day*** | Hypersensitivity | |
| | **Laxatives** | ***Lactulose***<br>15-30 mL once or twice daily<br>***Magnesium Citrate***<br>75 to 300 mL PO; repeat as necessary<br>***Magnesium hydroxide***<br>30-60 mL PO; repeat as necessary<br>***Sodium Phosphate***<br>(Fleet Enema)<br>130 mL PR; repeat as necessary<br>***Polyethylene Glycol***<br>17 g PO once or twice daily<br>***Sennosides***<br>2-4 tabs PO once or twice daily | Hypersensitivity<br><br>To be discussed with attending physician (Methylnaltrexone) | |

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| | **Antidiarrheals** | ***Diphenoxylate/ Atropine***<br>5 mg diphenoxylate/0.05 mg atropine PO Q6H ; max 20 mg diphenoxylate per day<br>***Loperamide***<br>2 tabs PO stat; then 1 tab PO after each loose BM (max 8 tabs per day)<br>***Children: 2-5 yrs 1 mg PO TID***<br>***6-8 yrs 2 mg PO BID***<br>***9-12 yrs 2 mg PO TID*** | Hypersensitivity<br><br>Diarrhea associated with enterocolitis or infectious enterotoxin producing bacteria | Improvement of symptoms within 48hours, if no improvement drugs unlikely to be effective |
| **Local Anesthesia (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order or use for local anesthesia. | **Local Anesthetics** | ***Bupivacaine 0.25% or 0.5%***<br>Via SC infiltration (for dose, see CPS)<br>***EMLA*** (prilocaine 2.5%, lidocaine 2.5%)<br>Apply topically with occlusive dressing 1 hour before procedure<br>***LET Solution*** (lidocaine 4%, Epinephrine 1:1000, Tetracaine 0.5%)<br>Apply topically avoiding mucous membranes and open wounds<br>***Lidocaine 1% or 2% with or without epinephrine*** 1:100,000 or 1:200,000<br>Via SC infiltration (for dose, see CPS)<br>***Lidocaine Viscous 2%***<br>5 to 15 mL orally (may swish & spit or swallow) PRN (max 60 mL per day)<br>Children: max 4 mg/kg per dose; max 4 times/ day<br>***Lidocaine Topical Solution 4%***<br>Apply 2.5 to 10 mL topically to oropharyngeal, tracheal and bronchial areas pre-procedure<br>Children: max dose 3 mg/kg | Hypersensitivity | Avoid use of epinephrine containing solution in distal areas (nose, digit, ears) |

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| **Ophthalmologic Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for ophthalmologic disease. | **Opthalmic Lubricants** | ***Lacrilube*** eye ointment<br>Instill into affected eyes up to Q6-8H<br>***Tears Naturale*** eye drops<br>1-2 drops into affected eyes up to Q2H | Hypersensitivity | |
| | **Anesthetics** | ***Tetracaine 0.5%***<br>For minor procedure, 1-2 drops into affected eyes every 5-10 min (max 3 doses) | Hypersensitivity | |
| | **Cycloplegic & Mydriatics** | ***Tropicamide 0.5% or 1%***<br>For mydriasis for funduscopic exam, 1 to 2 drops<br>15 to 20 min before examination (usually 0.5% but may need 1% for heavily pigmented irides)<br><br>***Cyclopentolate 1%***<br>For mydriasis 1 to 2gtt of 1%; may repeat in 5 minutes PRN | Hypersensitivity<br><br>Known/ suspected angle-closure glaucoma | |
| | **Stain** | ***Fluorescein***<br>1-2 drops to the eye being examined PRN | Hypersensitivity | |

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| **Ophthalmologic Therapy (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for ophthalmologic disease. | **Group 2** | ***Carbonic Anhydrase Inhibitors***<br>***Cyclopentolate***<br>***Carpine***<br>***Pilocarpine***<br>***Homatropine***<br>***Timolol maleate*** | To be discussed with attending physician | To be discussed with attending physician |
| **Outpatient Medications for Maintenance Therapy (group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order the continuation of medications in the Emergency Department that were being taken by the patient as treatment for pre-existing conditions. | **Home Meds** | The PA may prescribe (without prior discussion with a physician) any medication that the patient was taking as an outpatient and that requires continuation while the patient is being assessed and treated in the Emergency Department. | ***The PA cannot prescribe narcotics or controlled or targeted drugs as per Federal Law.***<br>***The PA must not prescribe any medication deemed in their professional opinion to be causing the presenting complaint.*** | ***The PA cannot prescribe narcotics or controlled or targeted drugs as per Federal Law.***<br>***The PA must not prescribe any medication deemed in their professional opinion to be causing the presenting complaint.*** |

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| **Respiratory Therapy (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for respiratory disease. | **Puffers** | ***Budesonide*** (Pulmicort)<br>400–2400 µg/day divided BID<br>***Ipratropium***<br>MDI: 4-8 puffs Q15-20 min x 3 for acute asthma<br>Then 2 puffs QID or PRN<br>***250 mcg via aerochamber Q20min (acute asthma)***<br>***Salbutamol***<br>MDI: 4-8 puffs Q15-20min x 3 for acute asthma<br>Then 2 puffs QID or PRN<br>Via aerochamber | Hypersensitivity | |
| **Seizures (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for seizure termination or prophylaxis.<br>***The PA cannot prescribe benzodiazepines (e.g., diazepam, lorazepam, midazolam) as per Federal Law.*** | **Anticonvulsants** | ***Carbamazepine***<br>800 to 1,200 mg per day given as 2-4 divided doses (IR tab) or 2 divided doses (CR tab) (start with lower doses initially, then increase)<br>***Starting dose: 10 mg/kg/day divided Q12-24H***<br>***Divalproex (***Epival) OR ***Valproic acid***<br>(Depakene caps or syrup)<br>750 to 1,000 mg/day given in 2-4 divided doses<br>***Starting dose: 15 mg/kg/day divided Q8-12H***<br>***Phenytoin***<br>Loading dose: 20 mg/kg IV infused over 60-90 min<br>Maintenance dosage: 300 mg PO/IV once daily<br>***Children:***<br>***Loading Dose:***<br>***20 mg/kg IV; max 1 g (< 50 kg) or 1.5 g (≥ 50 kg)*** | Hypersensitivity<br><br>**Carbamazepine**<br>Bone marrow suppression<br>Jaundice/ hepatitis<br>Pregnancy<br><br>**Divalproex**<br>Liver disease<br>Mitochondrial disease<br><br>**Phenytoin**<br>Pregnancy/ lactation<br>Sinus Brady<br>Heart Block | |

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| **Toxicology (Group 1)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for disease of toxicological origin. | **Vitamins** | ***Thiamine***<br>*Chronic alcoholism*<br>250mg IV/IM once daily<br><br>*Wernickes Encephalopathy*<br>500 mg IV q8h | Hypersensitivity | |
| | **Antidotes** | ***Activated charcoal***<br>Usual dose: 50-100 g PO<br>***0.5 - 1 g/kg PO (max 50 g)*** | Intestinal Obstruction<br><br>Unprotected airway<br><br>Caustic ingestions | |
| | **Opioid Reversal** | ***Naloxone***<br>0.4 to 2 mg IV; may repeat at 2-3 min intervals<br>Continuous infusion may be necessary<br>(Loading dose of 0.4 mg; then initial infusion rate of 0.2 to 0.4 mg/h) | Hypersensitivity | Caution in patients with seizure & cardiovascul-ar disease<br><br>May precipitate acute abstinence syndrome in opioid dependent |

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| **Toxicology (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order for disease of toxicological origin. | **Group 2** | ***Acetylcysteine***<br>***Calcium***<br>***Lipid Salvage*** | To be discussed with attending physician | To be discussed with attending physician |

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| **Wound Therapy (Group 1 & 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order wound therapy | **Wound Care** | ***Any hospital approved ward stock antiseptic skin cleansing agent(s)***<br>***Hydrogen Peroxide 3% solution***<br>Apply to affected areas to cleanse wounds or ulcers as needed<br>***Polysporin cream or ointment***<br>Apply to affected areas BID-TID<br>***Silver sulfadiazine 1% cream*** (Flamazine)<br>Apply a generous amount once or twice daily<br>***Tetanus & Diphtheria Toxoids*** (Td Adsorbed)<br>Booster dose in patients aged 7yrs or older:<br>0.5 mL IM once<br>***Surgicel***<br>Apply as directed to achieve homeostasis<br>***Surgifoam***<br>Apply as directed to achieve homeostasis<br>***Tissue Glue***<br>Apply as directed<br><br>**Group 2**<br>***Tetanus Immune Globulin*** | Hypersensitivity | |

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| **Miscellaneous (Group 2)**<br>After implementation of a complete history and physical examination and applying due consideration to appropriate investigations available, the PA may order the miscellaneous medications listed here. | N/A | ***Dexamethasone***<br>***Haloperidol***<br>***Magnesium***<br>***Misoprostol***<br>***Tamsulosin***<br>***Tranexamic acid***<br>***Vitamin K*** | To be discussed with Attending Physician | To be discussed with Attending Physicain |
| **Life Threatening Medical Emergency, Unsupervised** | | **Life Threatening Medical Emergency, Unsupervised**<br>In the unlikely circumstance that a fully certified staff PA, for whatever reason, finds themselves asked to see a life-threatening illness and the most responsible physician is not available and it is the professional judgment of that PA that any further delay significantly and imminently jeopardizes the life of that patient, the PA is authorized to take whatever action is deemed appropriate to maintain the life of the patient and may intervene with any of the above listed medications (Group 1 or 2) and act within the full current ACLS guidelines as sanctioned by the Ontario Heart & Stroke Foundation. | | **In the event that this Directive is used by a staff PA, there must be a mandatory review by the Medical Director to investigate the circumstancefrom an operational and systems perspective and to elicit any learning's that may pertain to the Emergency Department.** |

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## Consultations

| Consultation | Indications | Special Considerations |
|---|---|---|
| Anesthesia/Acute & Chronic Pain Services | Pre-op assessment & determination of surgical risk, and complex airway issues<br>Assessment and management of acute or chronic pain | |
| Cardiology | Assessment and management of patients myocardial dysfunction, ischemia/infarction | |
| Community Care Access (Home Care) | Assessment and planning of discharge needs | |
| Dermatology | Assessment and management of complex dermatological issues | |
| Diabetes Educator | Assessment and management of newly diagnosed or previously unmanaged diabetic patients | |
| Dietician | Assessment and management of nutritional status | |
| Ear, Nose & Throat (ENT) | Assessment and management of complex airway issues | |
| Endocrine | Assessment and management of patients with diabetes, chronic electrolyte disturbances, and hormonal imbalances | |
| Gastroenterology | Assessment and management of complex gastro-intestinal issues | |
| General Surgery | Assessment and management of general surgical issues | |
| Geriatrics/CCAC | Assessment and management of issues related to the elderly/ discharge | |
| Hematology | Assessment and management of coagulation disorders | |
| Hyperbaric Treatment | Assessment and management of wound infections | |
| Infectious Diseases | Assessment and management of complex infections | |
| Internal Medicine | Assessment and management of medical conditions | |

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| Consultation | Indications | Special Considerations |
|---|---|---|
| Nephrology | Assessment and management of acute and chronic renal disorders | |
| Neurology/Movement Disorders Program | Assessment and management of neurological issues (non-neurosurgical) | |
| Obstetrics & Gynecology | Assessment and management of gynecological issues | |
| Occupational Therapy | Assessment and management of cognitive deficits, assistance with ADL's & discharge planning | |
| Oncology (Medical & Radiation) | Assessment and management of oncological issues | |
| Ophthalmology & Neuro-ophthalmology | Assessment of visual fields and disorders | Visual disturbance secondary to neurosurgical issues referred to neuro-ophthalmology |
| Orthopedics | Assessment and management of orthopedic issues | |
| Palliative Care Team | Assessment and management of palliative patients | |
| Pharmacy | Assessment and management of pharmacological treatment | |
| Physiotherapy | Assessment and management of impaired mobility, and chest physiotherapy | |
| Plastic Surgery | Assessment and management of complex wounds | |
| Psychiatry & Neuro-Psychiatry & Neuro-Psychology | Assessment and management of acute or chronic psychiatric disorders and/or cognitive impairment | |
| Respiratory Therapy | Assessment and management of acute and chronic respiratory issues | |
| Respirology | Assessment and management of complex respiratory issues | |
| Rheumatology | Assessment and management of complex inflammatory processes | |
| Social work | Assessment and planning of discharge needs; Assistance with coping (patient or family) | |

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| Consultation | Indications | Special Considerations |
|---|---|---|
| Speech Language Pathology | Assessment and management of impaired swallowing and communication | |
| Stroke Team | Assessment and management of neurological deficits related to stroke (non-neurosurgical) | |
| Urology | Assessment and management of urological complications | |
| Vascular Surgery | Assessment and management of complications related to complex vascular issues | |
| Wound Care/Ostomy Nurse | Assessment and management of wounds and skin care in complex patients | |

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## Diagnostics

| Diagnostic Test & Intervention | Indications | Absolute Contraindications | Special Considerations (Including contraindications) |
|---|---|---|---|
| Activity Orders | As appropriate for diagnosis and treatment | | To be discussed with MRP /Senior Resident when patient has known or suspected bone cancer |
| Albumin, Protein | Assessment of nutritional status, and to monitor drug levels influenced by protein binding | | |
| Alternate Level of Care Documentation | Ordered on patients at the point in time when they no longer require acute care services but are waiting for alternate level of care. | | |
| Arterial Blood Gases (order) | Home oxygen assessment; evaluation of ventilatory and oxygenation status; oxygen saturation less than 92%; unexplained dyspnea, cyanosis or restlessness | | Negative Modified Allen Test, if patient is receiving thrombolytic therapy (warfarin, Coumadin® or heparin), INR greater than 1.1 sec, PTT greater than 37 sec, platelet count less than 20,000. **Note**: Arterial punctures should not be performed through a lesion or through or distal to a surgical shunt (e.g., as in a dialysis patient). If there is evidence of infection or peripheral vascular disease involving selected limb, an alternative site should be selected |
| B12, ferritin, folate, total iron saturation (TIS) | Assessment of anemia | | |

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| Blood Pressure Parameters | As indicated to maintain perfusion or limit hypertension | | |
| Bone mineral density, dual energy x-ray absorptiometry (DEXA) scan | Assessment and management of osteoporosis and osteopenia | | Nuclear medicine study, or CT contrast within past 10 to 14 days may interfere with results; consult with Radiologist in the above situations |
| Bone Scan | Assessment of suspected metastases | | Pregnancy, breastfeeding;<br>Recent nuclear medicine tests (e.g. myocardial perfusion) or thyroid ablation with iodine may have left residuals that interfere with imaging; consult with radiologist in the above situations |
| CBC | Assessment of hemoglobin, platelets, query infection; assessment of hydration; previous abnormal result | | |
| C reactive protein (CRP) | Assessment of inflammation/infection | | |
| Creatine Kinase (CK)/ Total CK/Troponin I | Assessment of chest pain, pre-op work up, ECG abnormalities | | |
| Creatinine, Urea, eGFR | Assessment and management of renal and fluid status, and drug clearance | | |
| Culture and Sensitivity and gram stain (urine, sputum, stool, blood, wounds, CSF);<br>CSF glucose, cell count and differential, protein | Assessment of suspected infection | | |

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| Diet/Nutrition | As appropriate for diagnosis and/or treatment, and in consultation with speech therapist or dietician;<br>Order to start feeds by nasogastric or orogastric tube once Physician has confirmed placement by chest x-ray | Patient NPO pre-operative, for vomiting or suspected ileus | In accordance with UHN policy Gastric Tubes 3.30.026<br>Note that revision of this policy is pending |
| Drug Levels | Assessment of medication levels to ensure therapeutic ranges or for toxicology screen if toxic ingestion is suspected | | |
| ECG (12-Lead or 15-Lead) | Assessment of cardiac function | | |
| Echocardiogram 2D | Assessment of cardiac function in patients with compromised cardiac status | | Consult Cardiology if echocardiogram is required |
| EEG | Assessment of potential or witnessed seizures | | Consult Neurology if EEG is ordered |
| Electrolytes & Trace Elements<br>(serum and urine) | Assessment and monitoring of electrolyte levels, nutritional status, and reassessment following replacement therapy | | |
| Endocrine Workup (including ACTH, cortisol, FSH, GH, LH, prolactin, TSH, Free T3 and T4, testosterone, IGF-1) | Assessment of endocrine function | | |
| Glucose (serum), Point of Care Testing, glucose monitoring | Assessment and monitoring of glucose levels | | |
| Hemoglobin A1C | Assessment of glycemic control in diabetic patients | | |

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| Human Chorionic Gonadotropin (HCG blood test) | To confirm or rule out pregnancy | | |
| Intake and Output Parameters | Assessment and management of fluid balance | | |
| Lactate level | Assessment of suspected infection/ sepsis | | |
| Lipid Profile (LDL, HDL, cholesterol, triglycerides) | Assessment of lipid profile, risk stratification | | |
| Liver Function tests (ALP, AST, ALT, GGT, Total bilirubin, bicarbonate ion level) | Assessment of suspected hepatic toxicity, drug clearance, suspected ETOH abuse, ascites or jaundice | | |
| MRSA swab | Assessment as per UHN Infectious Diseases protocol, and to determine efficacy of treatment | | |
| Oxygen (DCA)<br>PA may administer or order the administration of oxygen | Initiation of oxygen therapy for treatment of hypoxia to maintain oxygen saturation greater than 92% | | Caution should be used when administering oxygen to patients with COPD; consult Respiratory Therapy, Critical Care Response Team or call ICU team /Code Blue as indicated for respiratory decompensation |
| Pulmonary Function Tests | To obtain information about breathing patterns; for the assessment and management of lung disease | | |
| aPTT, PT/INR/D-dimers | Assessment of pre-op and pre-procedure status, patients with suspected coagulopathies, and monitoring of anti-coagulant drug therapy | | |

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| Rectal Tube | Insertion ordered for patients with ongoing diarrhea to prevent skin breakdown and transmission of infection | | C-difficile toxin to be ruled-out in patient with diarrhea |
| Sequential Compression Devices (SCDs), intermittent pneumatic compression devices, TEDs (thromboembolic deterrent stockings) | Thromboprophylaxis for a patient at high risk of bleeding | | |
| Stool for C. difficile toxin | Assessment of frequent, loose stools of unknown etiology | | |
| Stool for occult blood | Assessment of suspected blood loss from GI tract | | |
| Type & Cross-match/ Group & Screen | Pre-op preparation, patients with low hemoglobin | | |
| Ultrasound (bladder scanner) | Assessment of suspected urinary retention | | |
| Ultrasound (abdominal, pelvic, thoracic) | Assessment of unexplained abdominal pain or distention; ascites or suspected pleural fluid | | |
| Urinalysis | Assessment of hematuria or suspected UTI | | |
| Urinary catheterization (in-dwelling) | Hemodynamically unstable patient requiring fluid resuscitation; critically ill patient requiring accurate monitoring of urine output; to assist in healing of sacral or perineal ulcers in incontinent patient; patient requiring strict prolonged immobilization | Urethral trauma | |

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| Urinary catheterization (intermittent) | No urine output for 4 hours, and patient is either unable to void or has post-void residual of at least 150 mL as measured by bladder scan | Urethral trauma | Refer to UHN catheterization algorithm |
|---|---|---|---|
| Urinary catheterization (in-dwelling) removal | In accordance with UHN Medical Directive Urinary System Management (see resource) – all urinary catheters will be removed unless contraindicated | Urinary catheters will not be removed by the PA if:<br>a Urologist is already involved in case, recent urologic surgery, catheter placed by urology, difficult catheterization, due to known or suspected urinary tract obstruction, neurogenic bladder dysfunction, patient incontinent of urine AND has one of the following:<br>a) skin breakdown, Stage III<br>in the sacral/groin region<br>b) strict in/out monitoring required<br>c) femoral lines or incisions including IABP,<br>d) sedation/paralytics, decreased level of consciousness (SAS less than 3)/CVA that impairs movement<br>e) 24h urine collection needed or in progress,<br>4. Epidural catheter or spinal drain<br>5. Oost-operative care of patient up to 48 h<br>6. Bladder irrigation in progress,<br>7. comfort care for End of Life patient,<br>8. chronic long term in-dwelling catheter in situ | |

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| Vascular Access device discontinuation: insert or discontinue peripheral IV or arterial line | Insertion: for fluid medication administration; arterial line for blood pressure monitoring<br>Discontinuation: IV or arterial line no longer required; extravasation; suspected line infection<br>In accordance with Vascular Access policy | | |
| V/Q scan | Assessment of acute unexplained dyspnea, abrupt deterioration in oxygen saturation, and to rule out pulmonary embolus | | pregnancy |
| Vital Signs, Neurological Vital Signs, Spinal Cord Testing, Cardiac Monitoring | Initiation, discontinuation, and changes to parameters as appropriate to patient's condition | | |
| Wound Care – PA may perform or order dressing changes, assess depth of wound, and/or obtain wound culture | Removal/replacement of standard post-operative dressings during daily assessment of patient; deep wound culture if infection suspected | | Advanced Wound Care requires consult |
| X-ray: Abdomen (3 views or flat plate) | Assessment of distended abdomen, to rule out ileus or obstruction, undiagnosed abdominal pain | | pregnancy |

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| X-ray: Chest | Assessment of atelectasis, pleural effusion, pneumothorax, dyspnea, respiratory distress, chest pain, suspected infection, thoracic-lumbar-sacral orthotic, NG tube placement, orogastric tube placement, post-chest tube insertion or removal, or pre-op assessment | | pregnancy |
| X-ray: Extremity/Joint/ Pelvis | Assessment of suspected fractures or dislocation, or follow-up of known injury | | pregnancy |
| X-ray: Head & Spine | Assessment of suspected fractures or dislocation, following procedures (such as halo application or surgery), and follow-up of known injury | | pregnancy |
| Advanced diagnostic imaging: CT Scan, Ultrasound, and MRI. | PA's may implement an order for advanced diagnostic imaging after completion of a complete history and physical examination and applying due consideration to appropriate investigations available. | **Indication:**<br>As per clinical demands and with MRP approval<br><br>**Contraindications:**<br>Known or suspected pregnancy if a CT is contemplated.<br>Known or suspected renal failure if injected dye is part of the protocol. Allergy to contrast material.<br>MRI contraindications per the Department of Diagnostic imaging published list as written on the MRI requisition.<br>Patient refusal. | |

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