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PREVENTING EMERGENCY DEPARTMENT VISITS

PrevED

OFFICE MANAGEMENT OF URGENT PATIENT PRESENTATIONS

North Shore Division of Family Practice
An FPSC initiative

SharedCare
Partners for Patients

This document contains recommendations and resources for managing patients in the office that otherwise might go to the Emergency Department (ED).

These management guidelines are not meant to substitute for your clinical judgement. If you are concerned, always send a patient to the ED for evaluation.

If you send a patient to the ED, the *ED Referral Form – Note to Physician* or a **Standard Referral Letter** in your EMR is very helpful. Please either send a printed form with the patient to ***hand directly*** to the ED physician, or email them a copy they can show to the ED physician.

Managing Patient Expectations

Effective expectation management is essential, as care in the ED depends on resource availability. Please avoid setting expectations that specific tests or referrals, like same-day imaging or specialist consultations, will be done immediately in the ED. When patients anticipate certain outcomes that can't be met, it can lead to frustration and take valuable time.

Key terms

- **Emergent**: minutes to hours
- **Urgent**: hours to many hours

About this Resource

PrevED was developed by North Shore family physicians (FP) in collaboration with the Lions Gate Hospital's Emergency Department (ED) physicians. The content was shaped by the firsthand insights of ED physicians and family physicians, who will continue to maintain and update the tool to keep it relevant to the community.

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Contents

Abnormal Vital Signs/Labs

Asymptomatic Hypertension

A hypertensive emergency is elevated BP **AND** target organ damage with neurological symptoms, chest pain, or acute SOB. This is **RARE** and requires an ambulance to the ED.

Severe hypertension, often with mild headache, is more common and is not an emergency.

1. Rest the patient in a quiet room for 10 mins and recheck BP - this will work in many cases. If BP remains elevated, plan to reduce BP over days not hours
2. Check for patient adherence to medications and restart meds before adding on new medications. If adherent, consider increasing the dose of current meds
3. Check back frequently over the next couple of weeks, including blood work with renal function
4. Add in whichever medication is reasonable, given the patient's other conditions, and slowly reduce blood pressure over weeks
5. Contact the RACE line for specific recommendations, if needed

Refer to the ED if:

HTN (any measurement) **and**:

- Chest pain/CHF
- Pregnant—preeclampsia
- Focal neuro findings
- Hyperacute renal failure or Anuria

Resources

- RACE line: (604) 696-2131
- UpToDate: Management of Severe asymptomatic hypertension (hypertensive urgencies) in adults

Supratherapeutic INR

Confirm goal INR

- 2-3 for DVT and Atrial Fibrillation Emboli Prophylaxis
- 2.5-3.5 for atrial fibrillation emboli prophylaxis, cardiac stent/mechanical valve

Not Bleeding:

INR <5	• Omit warfarin x 1 dose and restart at lower dose (10-20% decrease) • Check INR in 1-2 days
INR 5-9	• Omit warfarin x 2 doses and restart at lower dose (10-20% decrease) • Check INR in 1-2 days
INR >9	• Omit warfarin until blood test shows therapeutic range • Consider prescribing Vitamin K 1 mg PO daily (stop when INR <9) • Check INR every 1 day • Once INR therapeutic, restart warfarin at lower dose (20% decrease)

Minor Bleeding or High Risk for Bleeding:

INR <5	• Same as above
INR 5-9	• Omit warfarin x 2 doses, restart at lower dose (10-20% decrease) • Consider prescribing Vitamin K 1 mg PO x 1 dose (take same-day) • Check CBC and INR daily until INR <5
INR >9	• Omit warfarin until blood test shows therapeutic range • Consider prescribing Vitamin K 2.5 mg PO daily (stop when INR <9) • Check CBC and INR daily until INR <5 • Once INR therapeutic, restart warfarin at lower dose (20% decrease)

Refer to the ED if:

- Any INR and serious bleeding

Resources

- Warfarin: Management of Out-of-Range INRs

Hyperkalemia

Does this patient have a risk factor for true hyperkalemia (vs lab error)?

- Dialysis, chronic renal failure, dehydration, recent medication change (digoxin, K-sparing diuretic, NSAID, ACE inhibitor, oral KCl supplementation)
- Yes = high risk
- No = low risk

If the patient is **low risk**, AND K <6.5 mmol/L, AND the patient is asymptomatic, consider pseudo-hyperkalemia.

- Repeat electrolyte testing ASAP (consider no tourniquet)

In all other scenarios:

If K <5.5 mmol/L and the patient is asymptomatic	• Treating underlying cause (re-hydrate, modify medication dosage etc) • Repeating electrolyte testing ASAP (consider no tourniquet)
If K >5.5mmol/L, the patient is high risk, or unwell	• **Refer to the ED** for assessment

NOTE: ECG is most important for risk determination. If you perform in-office ECG and recognize signs of hyperkalemia, **refer to the ED**.

Resources

- Emergency Care BC: Hyperkalemia – Diagnosis and Treatment

Critical Anemia

If the patient has underlying heart disease:

- Yes = transfusion threshold is 90 g/L
- No = transfusion threshold is 70 g/L

If the patient is **asymptomatic or minimally symptomatic** despite meeting transfusion threshold:

- Treat underlying cause of anemia (i.e. menorrhagia, malnutrition) and/or refer to specialist (i.e. hematology, gastroenterology, nephrology)
- Start oral iron supplementation
- Refer to internal medicine (covered under MSP) for iron sucrose infusion, or a private infusion clinic (not covered by MSP) for a monoferric iron infusion, **IF** patient fails to tolerate oral iron

Refer to the ED for emergent assessment if:

- Patient is **symptomatic** (chest pain, short of breath with exertion, pre-syncope) with hemoglobin **lower than their transfusion threshold,** or with **evidence of rapid hemoglobin decline/bleeding**

Resources

- Anemia – Diagnosis
- Anemia – Treatment
- Private infusion clinics:
  - Inomar West Vancouver
  - Mainline Wellness Vancouver

Acute Renal Failure

Definition:

- Abrupt decline in renal function: >50% in hours/days
- May or may not have decreased urine output
- Detected by increased serum creatinine and BUN and decline in GFR

Etiology:

- Pre-Renal: dehydration, hypotension, NSAID, ACE-I, ARB
- Renal: Acute Tubular Necrosis (ischemia, drugs), Acute Interstitial Nephritis (drugs, UTI, SLE), Glomerulonephritis, intratubular obstruction (multiple myeloma etc.)
- Post-Renal: Nephrolithiasis, BPH, pregnancy, malignancy, blood clots, neurogenic bladder, fecal impaction

Treatment:

Depends upon etiology and acuity:

- Identification of a low GFR does not mandate ED referral
- Identification of sudden decrease in renal function (>50% in hours/days), or identification of a condition anticipated to cause sudden decrease in renal function, **refer to the ED**

If renal failure is:

Acute (onset within hours/days)	• **Refer to the ED** for work-up and consideration of Internal Medicine hospital admission • Most common cause of early death is hyperkalemia and pulmonary edema
Subacute or chronic	• Initiate workup with labs, renal US • Stop possible offending medications (NSAID, ACE-I, ARB, diuretic etc.) • Initiate outpatient Internal Medicine/Nephrology referral

Resources

- Acute Kidney Injury: Diagnosis and Management

Anaphylaxis

Definition:

Allergic reaction **involving ≥ 2 body systems**

Example:

- DERM -> rash, pruritus, flushing, swollen lips/tongue
- RESP -> wheeze, nasal congestion, throat tightness, stridor
- CARDIO -> light-headedness, syncope, palpitations, tachycardia
- GI -> vomiting/diarrhea

Management:

- Ask your MOA to **call 911**
- Remove allergic trigger, if present
- **First medication**:
  - Administer IM Epinephrine (don't delay Epi for adjunct medications); see chart on the right for dosing
  - Administer additional doses every 5 mins, as needed
- **Any patient who receives Epi should be sent to the ED for observation** (due to risk of cardiac arrhythmia or worsening allergic symptoms)
- **Secondary medications:**
  - Supplemental oxygen, if available
  - Ventolin 100 mcg MDI: 6 puffs q 20 mins, as needed
  - Diphenhydramine
    - Infant/Child: 1 mg/kg (max 50 mg) PO/IM
    - Adult: 50 mg PO/IM
  - Loratadine/Famotidine/Cetirizine

IM Epinephrine Dosage Chart

Weight (kg)	Epinephrine Dose (1 mg/ml) amp
5-10	0.1 mg
11-15	0.15 mg
16-20	0.2 mg
21-25	0.25 mg
26-30	0.3 mg
31-35	0.35 mg
36-40	0.4 mg
41-45	0.45 mg
≥46	0.5 mg

Source: adapted from Trekk

In the ED:

- Steroids and adjunctive medications will be administered, PRN

Resources

- How to use an Epipen
- Trekk guidelines for anaphylaxis
- Anaphylaxis pocket card
- Anaphylaxis in kids

Head/Neck

Acute Ocular Presentations

Document visual acuity (consider pinhole acuity)

Corneal abrasion: recent minor trauma

- Use fluorescein and examine under blue light
- If visible abrasion, prescribe lubricating eye drops and eye ointment (use as often as needed) for comfort
- If history of trauma with organic material (stick, leaf, etc.), also prescribe erythromycin drop QID x 7-10 days
- Simple corneal abrasions should decrease in size by ~50%/day; this allows you to estimate healing time
- Simple corneal abrasions do not need ophthalmological assessment; consider optometrist follow-up, or none

ED referral timing:

- Conditions that require **EMERGENT** ED assessment:
  - Globe rupture
  - Severe infection
  - Hyphema
  - Acute angle closure glaucoma
  - Retrobulbar hematoma
  - Sudden vision loss
  - Conditions with intractable pain
- Conditions that require **URGENT** ED assessment (**daytime hours**; no need to send patient late at night)
  - Significantly decreased visual acuity
  - Corneal foreign body
  - Corneal ulcer (corneal lesion with white infiltrate; contact lens wearer at higher risk)
  - Complicated corneal abrasion (large size, overlying pupil)
  - Retinal detachment, retinal tear, posterior vitreous detachment, vitreous hemorrhage
- **Urgent ophthalmological referral** requires assessment at UPCC or ED, where a full eye examination with a slit lamp can be performed

Resources

- Conjunctivitis – Diagnosis and Treatment
- Red and Painful Eye Unilateral/Bilateral – Diagnosis and Treatment

Epistaxis

Pinch the nostrils (fleshy part of the nose) or use nasal clamps for 15 mins.

If ongoing bleeding

- Patient should blow nose to remove all clots
- Treat affected nostril(s) with 3 sprays of xylometazoline nasal spray (Otrivin, Dristan, Balminil)
- Pinch the nostrils or use nasal clamps for 15 mins

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If ongoing bleeding

- Patient should blow nose to remove all clots
- Cauterize Little's Area/Kiesselbach's plexus (the anterior nasal septum) with topical silver nitrate; never cauterize both sides of septum due to risk of perforation
- Pinch the nostrils or use nasal clamps for 15 mins

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If ongoing bleeding

- Patient should blow nose to remove all clots
- Consider nasal packing with "Rhino Rocket"/"Merocel" if you stock them
- If nasal packing is not available, **refer to the ED** for assessment

If bleeding STOPS

- Ask the patient to walk around the office to ensure bleeding does not restart
  - If bleeding recurs, **refer to the ED** for assessment
  - If no ongoing bleeding, your patient may go home; recommend nightly nasal saline irrigation and Vaseline/Polysporin/Secaris ointment to affected side for at least a week and all through the winter for people prone to nosebleeds

Nasal Foreign Body

If the parent cannot perform the procedure, you can perform the same process with a bag-valve-mask. Ensure the mask covers only the child's mouth.

Resources

- Video: Removing object from child's nose using the kiss technique
- Video: Nasal Foreign body removal
- Mother's kiss for nasal foreign body

Otic Foreign Body

Visualize foreign body in external auditory canal.

If suspicion for tympanic membrane rupture, **refer to the ED** for emergent assessment.

If no suspicion for tympanic membrane rupture, attempt to remove foreign body with warm water syringing technique (the same technique used to manage cerumen impaction). If unsuccessful, **refer to the ED** for assessment.

Resources

- Video: Removing object from child's nose using the kiss technique
- Video: Nasal Foreign body removal
- Mother's kiss for nasal foreign body

Chest/Abdominal

Nausea

Age	Treatment Options

Adult	• Isopropyl alcohol
	  ○ Open alcohol swab packet take 3 breaths in through the nose and out through the mouth, this can be repeated q 15 mins x 3
	  ○ Anticipate 50% reduction in nausea at 10 mins; keep emesis container in place
	• Dimenhydrinate (Gravol) 50 mg TID orally, rectally, or vaginally PRN
	• Ondansetron disintegrating tabs 4-8 mg TID orally PRN

Child and Youth	• Dimenhydrinate (Gravol) 1.25 mg/kg TID orally, rectally, or vaginally PRN
	  Age / **Dosage (max)**
	  2-6 / 75 mg/day
	  6-12 / 150 mg/day
	  >12 / 300 mg/day
	• Ondansetron disintegrating tabs 0.1-0.15 mg/kg (to closest mg) TID orally PRN to max 4 mg TID up to age 11. Age 11+ max 8 mg TID

Refer to the ED for IV therapy**:**

- if unable to tolerate PO/PR/PV treatment

Resources

- Antiemetics - Diagnostic Process

Cough

If concern for **rhinitis** (nasopharyngeal mucous) or **bronchitis** (tracheal/bronchial mucous):

- Saline nasal rinse BID
- Xylometazoline nasal spray (1-2 sprays per nostril) at bedtime x 5 days (approved for patients ages >2+)
- Acetaminophen and /or Ibuprofen
- Symptoms should resolve in 1-3 weeks
- These presentations are typically viral in etiology; antibiotics not indicated

If concern for **pneumonia** (Temp >38°C, HR >90 bpm at rest, productive cough):

- Consider same-day CXR and/or UPCC visit
- If focal consolidation visible, prescribe antibiotic and book close follow-up
- **Refer to the ED** for urgent assessment if:
    - Oxygen saturation <90% on RA, significant tachycardia/tachypnea, low blood pressure
    - High risk (i.e. age <3 months, immunosuppressed, on chemotherapy, frail)

If concern for **asthma/COPD/CHF** exacerbation:

- Short of breath +/- wheeze
- **AND** failure of outpatient action plan **OR** abnormal vital signs
- **Refer to the ED** for urgent assessment

Resources

- Acute Bronchitis Diagnosis
- Post-infectious cough in adults

Suspected PE

PE diagnosis is challenging—if unsure about management, **refer to the ED** for further evaluation.

	FIRST Determine Level of Risk	THEN Diagnosis
Less than 2% risk	Well's PE score 0 and/or PERC score 0	No further action required
Low risk	Well's PE score 1-2	**Same-day** D-Dimer, if available and eGFR
Med or high risk	Well's PE score ≥ 2 OR you suspect PE irrespective of blood test result	**Refer to the ED**

How to Interpret Investigations	
D-Dimer interpretation	• Age 18-50: normal <500 ug/L • Age ≥ 50: use Age-Adjusted D-Dimer • Pregnant: use YEARS algorithm
D-Dimer (-)	• Management as per your DDx
D-Dimer (+)	• Access CT Pulmonary Angiogram via LGH radiology **within 24 hours** via North Shore Urgent CT and US Referral Guidelines and Referral Form (need GFR in last 3 months) • If patient has now become unwell or developed abnormal vital signs, **refer to the ED** for emergent assessment

Treatment	
CTPA (-) for PE	• Management as per your DDx • Consider urgent bilateral lower extremity Doppler US to investigate DVT
CTPA (+) for PE	• If Hestia and/or sPESI NEGATIVE and GFR >30, **prescribe** apixaban 10 mg PO BID x 7 days, then 5 mg PO BID (**and refer** to LGH Thrombosis Clinic for assessment within 72 hours) • If pregnant or eGFR <30, **refer to the ED** for urgent LMWH anticoagulation • If Hestia and/or sPESI POSITIVE or patient is unwell or has abnormal vital signs, **refer to the ED** for emergent assessment

Resources

- Pulmonary Embolism – Diagnosis
- Pulmonary Embolism - Treatment
- LGH Thrombosis Clinic (#200-101 West 16th St)
  - Fax referral to (604) 904-0812
  - Please have patient call the office at 9am (604) 904-0810

- Well's PE scoring
- PERC scoring
- RACE line: (604) 696-2131
- Hestia scoring
- sPESI scoring
- YEARS algorithm

New/Unstable Atrial Fibrillation

Measure heart rate, blood pressure, oxygen saturation, GCS, ECG if possible.

Refer to the ED if:

Unstable: hypotensive / altered LOC / chest pain	Needs resuscitation

OR

New diagnosis of asymptomatic Afib (onset <12 hours)	Candidate for cardioversion

OR

Symptomatic (SOB, dizziness, syncope)	May need further investigations/treatment

Manage in the community using rate control strategy if:

- Afib >12 hours
- Minimally symptomatic

Actions:

- Beta blocker / calcium channel blocker to manage heart rate (60-100 bpm)
    - Beta blocker; Metroprolol 25-50 mg BID
      OR
    - Calcium channel blocker; Diltiazem 30-60 mg QID
- DOAC
    - Apixiban 2.5-5 mg BID, depending on eGFR, age, weight
- Refer to cardiology for urgent outpatient follow-up (within 3 weeks)
- **The patient needs Oral Anticoagulation x 3 weeks before scheduled cardioversion**

Resources

- Canadian Cardiovascular Society Atrial Fibrillation Guidelines

MSK/Extremities

Painful Subungual Hematoma
If within 48 hours of injury perform nail trephination (18 gauge needle or electrocautery, as available). Consider tetanus vaccination.
Resources
• Subungual Hematoma – Treatment

Suspected DVT

	FIRST Determine Level of Risk	THEN Diagnosis
Less than 2% risk	Well's DVT score 0	D-dimer not indicated
Low risk	Well's DVT score 1-2	• **Same-day** D-Dimer at LGH outpatient laboratory • If result is positive (see below), administer 1 dose apixaban and arrange outpatient Lower Extremity Doppler US via North Shore Urgent CT and US Referral Guidelines and Referral Form • If results pending overnight, start Apixiban 5-10mg BID, depending on eGFR, age, weight, and reassess in 24 hours • If patient's leg appears poorly perfused (cold, capillary refill >4 seconds, purple or white discolouration), **refer to the ED** for emergent assessment
Med or high risk	Well's DVT score ≥ 2 OR you suspect DVT irrespective of blood test result	

How to Interpret Investigations	
D-Dimer interpretation	• Age 18-50: normal <500 ug/L • Age >=50: use Age-Adjusted D-Dimer • Pregnant: use Years algorithm
D-Dimer (-)	• Management as per your DDx
D-Dimer (+)	• Access **same-day** Lower Extremity Doppler US via LGH urgent US referral pathway • If patient's leg appears poorly perfused (cold, capillary refill >4 seconds, purple or white discolouration), **refer to the ED** for emergent assessment

Resources

- Age adjusted D-Dimer
- LGH Thrombosis Clinic (#200-101 West 16th St)
  - Fax referral to (604) 904-0812
  - Please have patient call the office at 9am (604) 904-0810

Genito-Urinary

Foley Catheter Removal

Many patients present to the ED with urinary retention. ED management of these patients includes:

- Workup to identify underlying cause
- Foley catheter insertion
- Medical treatment (antibiotics or alpha-1 adrenergic blockers)
- After 1 week, catheter removal and trial of void

Catheter removal can be accomplished in a community office with a pair of medical gloves and a 10cc syringe.

If the patient is unable to void urine within 8 hours of foley catheter removal (or 24 hours if overnight and the patient is not experiencing discomfort), they should be instructed to return to the ED for foley catheter re-insertion.

Resources

- Foley catheter removal video

Pregnancy

First Trimester Vaginal Bleeding in Pregnancy

If patient has not had 1st trimester US to confirm intrauterine pregnancy, **refer to the ED** if:

- Vaginal bleeding/pelvic pain
- Note: if the patient has normal vital signs, is not in severe pain, and appears generally well, the patient should present to ED during **daytime hours.** US rarely available after 4pm; use North Shore Urgent CT and US Referral Guidelines and Referral Form
- If RH neg, send to ED for RhoGAM/WinRho

If patient has had 1st trimester US with confirmed intrauterine pregnancy, **refer to ED** if concern for hemorrhage:

- Heavy bleeding (changing heavy pad q30-60 mins for ≥ 3 hours)
- Severe pain/cramping
- Presyncope/syncope

If patient has had 1st trimester US with confirmed intrauterine pregnancy, and presents with vaginal spotting:

- Outpatient labs (bHCG, Hb, Rh Factor, ABO if possible)
- Do serial bHCG (level should double every 2 days)
- Arrange for pelvic US
- If questions, consult RACE line or OB on call

Resources

- North Shore Urgent CT and US Referral Guidelines and Referral Form
- RACE line: (604) 696-2131
- LGH Switchboard: (604)-988-3131

Second and Third Trimester Pregnancy Complications

- 12-20 weeks gestational age (GA) and urgent concerns, **refer to the ED**
- >20 weeks GA, and urgent concerns, direct to LGH Maternity Unit

Resources

- LGH Maternity Unit: (604)-988-3131 ext. 4277

Pediatrics

Nursemaid's Elbow (radial head dislocation)

- Toddler, apprehensively splinting arm in pronation, not using ipsilateral hand
- Hold the child's elbow with one hand, placing finger/thumb on lateral aspect, overlying the radial head
- With your other hand:
    - Supinate hand while gently flexing the elbow
    - Usually you feel a 'click' over radial head
    - Child may cry for a moment then looks better and starts using that arm
    - XR is recommended if injury is due to trauma (i.e. a fall), but not necessary for a classic tug of the arm

Resources

- Video: Nursemaid's Elbow Emergency

Pediatric Wheeze

Bronchiolitis

Definition:

- First episode wheeze in infants
- Acute infectious syndrome caused by viral LRTI

Symptoms:

- Rhinitis, cough, tachypnea, accessory muscle use, wheeze, crackles
- Symptoms will change from hour to hour

Clinical diagnosis:

- No work-up advised

Treatment:

- Ibuprofen 10 mg/kg TID
- Acetaminophen 15 mg/kg QID
- Nasal saline and nasal suction
- Maintain oral hydration

Refer to the ED for urgent assessment if:

- Risk factors for severe disease (immunodeficiency, history of premature birth, age less than 8 weeks, underlying cardiopulmonary disease)
- Child appears "sick" despite ibuprofen and/or acetaminophen (evidence of dehydration, RR >60, oxygen sat <90% on room air, marked work of breathing, lethargy)

Asthma

- ≥2 wheezing episodes occurring age <1 should raise the suspicion of asthma and prompt consideration of outpatient referral to a specialist for evaluation
- Terms such as *bronchospasm, reactive airways disease, wheezy bronchitis* and *happy wheezer* should be abandoned

Calculate PRAM score:

- If score <4 and oxygen saturation >90% on room air, prescribe SABA, ICS, and consider oral steroid. Utilize asthma action plan
- If >4 or appears *sick*, **refer to the ED** for urgent assessment

Resources

- Differentiating Bronchiolitis from Asthma in Infants/Toddlers
- LGH Pediatric Asthma Clinic: Phone (604) 984-5801
- PRAM score calculator

Pediatric Head Injury (<24h after incident)

The most important consideration is history. **Refer to the ED** if:

- High-risk mechanism (pedestrian or bicyclist without helmet struck by motorized vehicle, fall from >3 feet, head struck by high-impact object)
- Any loss of consciousness (LOC)
- GCS <14 more than 2 hours post-injury
- ≥ 2 episodes of vomiting
- Abnormal behaviour post-injury
- Abnormal neurological exam
- Anticoagulation
- Physician gestalt

If none of these high-risk features are present, consider a diagnosis of concussion or contusion and follow up accordingly.

Resources

- Pediatric Head Injury Trauma Algorithm (PECARN)
- Glasgow Coma Scale (GCS)
- SCAT5 Concussion Assessment (Page 3, Section 2)
- Concussion Education
- Patient Discharge Information - Concussion (Children) Education (can text this directly to patient via website)

Pediatric Stridor (inspiratory upper airway sounds)

If concern for airway **foreign body**:

- **Refer to the ED** for emergent assessment

If concern for **croup**:

- Calculate Pediatric Croup Score
- If mild - low moderate severity, prescribe ibuprofen 10 mg/kg QID, acetaminophen 15 mg/kg QID ***and*** dexamethasone 0.6 mg/kg (max 10 mg)

If **greater severity**:

- **Refer to the ED** for emergent assessment

Resources

- Foreign Body Ingestion Diagnosis and Treatment
- Trekk Croup Assessment Recommendations
- Pediatric Croup Score

Pediatric Dehydration (typically due to gastroenteritis)

	Degree of Dehydration		
	Mild	**Moderate**	**Severe**
Infant/Young Child <2yr	5%	10%	≥ 15%
Older Child/Adoles >2yr	3%	6%	≥ 9%
Heart Rate	Normal	Rapid	Rapid
Blood Pressure	Normal	Normal	Decreased
Urine Output	Mildly Decreased	Markedly Decreased	Anuria
Mucous Membranes	Moist	Tacky	Dry
Anterior Fontanelles	Normal	Sunken	Markedly Sunken
Eyes	Normal	Sunken	Markedly Sunken
Skin Turgor	Normal	Decreased	Tenting
Capillary Refill	Normal (<3s)	Normal to Increased	Increased (>3s)

Source: Tip #20, Victoria Division's ER Tips & Tricks

- Age <1 month or severe dehydration, **refer to the ED**
- For children ages >6 months and mild to moderate dehydration, consider single dose Ondansetron **and** Pedialyte or dilute juice at 50 ml/kg over 4 hours (i.e., 10 kg = 500ml)
- It is safe to continue breastfeeding

Medication Dosing

- Ondansetron Oral Dissolving Tab 0.15 -0.2 mg/kg up to maximum 8 mg in a single oral dose (no further benefit from repeated dosing)
- Simplified dosing guide:

Weight	**Dose**
8-15 kg	2 mg
15-30 kg	4 mg
>30 kg	6 mg

Resources

- Pediatric dehydration and fluid replacement
- Trekk bottom line gastroenteritis recommendations
- What you need to know: vomiting and diarrhea

Mental Health

Situational Crisis

Resources

General:

- PathwaysBC
- North Shore Primary Care Network

Child and Youth	Adult

• Mental Health Walk-in Intake Clinics
  ○ Tuesday – Wednesday, 0900-1530
  ○ Walk-in at #301-224 West Esplanade, North Vancouver
  ○ Ages 6-18
• North Shore Foundry
  ○ Monday – Thursday afternoon (hours may vary for both, so check website)
  ○ Ages 12-24
• Youth Urgent Response Team
  ○ Tuesday – Friday, 0900-2200 and Saturday – Monday, 1130-2200
  ○ Phone: (604) 984-5061
  ○ Ages 13-19
	• RACE line: (604) 696-2131
	  ○ Psychiatric, geriatric, perinatal, and eating disorders available
	  ○ Monday – Friday, 0800-1700
	• Suicide line: 1 (800) 784-2433
	• Distress line: 1 (866) 661-3311
	• North Shore Women's Crisis: (604) 987-3374
	• Indigenous Hope for Wellness Hotline: 1 (855) 242-3310
	• HOpe Centre
	  ○ Referral within three days for adults, but can be a long wait to access treatment
	  ○ Adult Community Mental Health and Substance Use Central Intake Referral Form
	  ○ Carlile Unit – supports ages 17-25 facing urgent mental health or substance use challenges, offering a multidisciplinary treatment team

IV Treatment

IV Treatment

Patients requiring IV antibiotics for treatment of cellulitis, or IV hydration/analgesia/antiemetics may be seen at UPCC or the ED.

If your patient requires iron infusion or blood transfusion, see “critical anemia,” on page 7**.**

If you have **ordering privileges at LGH**, you may enter orders **directly into Cerner**, including a Medical Day Care referral:

- IV antibiotics
- Iron sucrose infusion (for patients with documented failure of oral iron supplementation)
- RBC transfusion + “Group & Screen”

If you DO NOT have **ordering privileges at LGH**, you must refer your patient to the appropriate specialist or private infusion clinic, or send the patient to the ED for assessment.

Resources

- LGH Medical Daycare phone: (604) 984-5753 or fax: (604) 984-5750

Logistics

Outpatient Lab

Life Labs

- Requisitions
- Locations

Lions Gate Outpatient Lab

- 231 East 15th Street, North Vancouver
- Phone: (604) 984-5755
- Fax: (604) 984-5984
- Outpatient Laboratory Online Booking System
- Hours of Operation
    - Monday – Friday: 0730 – 1700
    - Saturday – Sunday: 0800 – 1200

Urgent Same-Day LGH CT and US Referral

FPs can access **same-day** CT or US via Diagnostic Imaging at LGH, which would otherwise necessitate a same-day ED visit; it is not meant to replace an ED visit which is otherwise indicated.

Rules

- Urgent defined medical issue requiring same-day diagnosis
- Patient would be directed to ED if CT or US wasn't available through outpatient means
- Hours of access: Monday – Sunday, 0800-1600 **Patients arriving closer to 1600 may be seen the next day**
- FP must provide a cell phone number to phone results to, or must provide a clear management plan
- CT specific: no back pain and no malignant workups
- CT specific: current GFR required (within 3 months) for CT chest and abdomen/pelvis exams

Resources

- North Shore Urgent CT and US Referral Guidelines and Referral Form
- LGH Radiology (604) 984-5785 ext. 4508

Routine Outpatient Imaging (XR, US, CT, MRI)

Local Site	What's Offered	Considerations
North Vancouver UPCC	**XR**	• Daily capacity for walk-in XR • Will accept any imaging requisition
Vancouver City Centre UPCC	**XR, US**	• Daily capacity for walk-in XR • Will accept any imaging requisition • Weekday, same-day ultrasound slots are reserved for acute scans (excluding breast, MSK, upper extremity DVT and OB>14 weeks) • **Appointment required**: fax requisition to (236) 521-3631
North Shore Medical Imaging	**XR, US**	• Daily capacity for walk-in XR • X-Ray requisition form • US requisition form
LGH Diagnostic Imaging	**US, CT, MRI**	• Outpatient US, CT, MRI • Radiology Direct Contact (for response within a couple of hours) • LGH regular CT/US/MRI form • North Shore Urgent CT and US Referral Guidelines and Referral Form