northern health
the northern way of caring

Regional Order Set

Adult Febrile Neutropenia Admission Orders

Last Name:
First Name (Preferred Name):
Encounter number: NH Number: Chart Created: Y/N
Date of Birth: Gender: Age: Encounter Type:
Responsibility for Payment: PHN:
Primary Care Physician/Attending Physician:
PATIENT LABEL

Allergies: ☐ None known ☐ Unable to obtain
List with reactions: _____

Weight: _____ kg
Height: _____ cm

INCLUSION CRITERIA:
- temperature 38°C or higher ***PLUS***
- ANC less than 1 X 10^9/L ***AND***
- meets one or more of high risk factors requiring admission (see page 3 for high and low risk factors)

1. ADMIT/TRANSFER/DISCHARGE

Admit to:_____ (MRP)

BC Cancer patient? ☐ yes ☐ no

If yes: BC Cancer registration #: _____(available from oncologist consults via eHealth viewer)

- notify GP oncologist/oncologist (non-urgent)

Note: BC Centre for the North oncologist can be contacted Monday to Friday 0830 to 1630 at 250-645-7328

2. DIAGNOSIS

Suspected infection source:
☐ mouth/throat ☐ skin and soft tissue
☐ respiratory ☐ peri-anal/rectal
☐ abdominal ☐ other:_____

3. CODE STATUS
- complete **10-111-5171 Medical Orders for Scope of Treatment (MOST)**

4. CONSULTS/REFERRALS: ☐ Infectious Diseases Specialist ☐ Clinical Pharmacist

5. ACTIVITY: ☐ as tolerated ☐ other: _____

6. DIET/NUTRITION: ☐ as tolerated ☐ NPO ☐ other: _____

7. IV FLUIDS: ☐ saline lock ☐ _____ at _____ mL/hour. Reassess in _____ hours.

8. LABORATORY

STAT Microbiology: *(if not already done)*
- blood cultures from 2 different sites prior to first dose of antibiotics (draw from central venous catheter if present; draw from each lumen; label which culture came from which lumen)
- urinalysis with culture (if indicated)

☐ resp panel NAT swab – notify lab that patient is being admitted
☐ other culture: _____

STAT Laboratory: *(if not already done)*
- CBC w/Diff
- E7 (Na, K, Cl, CO_2, Cre, urea, Glu)
- Ca, Mg, PO_4
- C-reactive protein
- serum lactate
- LDH, GGT, ALP, AST, ALT
- venous blood gases
- total bilirubin

Then once daily X 3 days (MRP to reassess):
- CBC w/Diff
- creatinine

9. DIAGNOSTIC TESTS
☐ chest X-ray
☐ abdominal X-ray series
☐ other: _____

Prescriber signature:_____ **College ID:**_____ **Date:** _____ **Time:**_____

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10. MONITORING

- temp, heart rate, RR, blood pressure, and SpO_2 q1h X 6 hours from initial assessment then MRP to reassess

11. PATIENT CARE

- notify MRP immediately once CBC and ANC results available
- notify MRP if:
  - SBP less than 90 mmHg
  - SpO_2 less than 90% on room air
  - temperature greater than 38°C after initial 24 hours
- initiate **1-11-1-3-700 Protective Precautions Clinical Practice Standard**
- complete **10-320-7007 Cytotoxic Drugs Risk Assessment Worksheet** (as required)
- review **5-1-3-100 Hazardous Drugs Exposure Control Plan** (as required)

12. MEDICATIONS

☐ **acetaminophen** 650 mg PO q4h prn for significant discomfort due to fever

All ongoing antibiotic therapy to be determined in consultation with the oncologist (if applicable). CARBOplatin or CISplatin chemotherapy increases the risk of renal impairment with use of vancomycin or tobramycin.

Broad Spectrum Antibiotics:

☐ **piperacillin/tazobactam** 4.5 g IV STAT then q6h

OR

If severe allergy/anaphylaxis to penicillins:

☐ **cefTAZidime** 2 g IV STAT then q8h

OR

If documented or suspected extended spectrum beta lactamase producing organism:

☐ **meropenem** 1 g IV STAT then q8h

Consider additional anti-pseudomonal coverage, until microbiology results available, if:

- hemodynamic instability
- structural lung disease or serious respiratory symptoms
- hospital admission in previous 3 months
- received IV antibiotics in previous 3 months
- history of pseudomonas isolation

☐ **ciprofloxacin** 400 mg IV once x 1 dose then 750 mg PO bid

OR

☐ **ciprofloxacin** 400 mg IV q8h (if unable to take oral)

OR

If quinolone therapy given in previous 3 months:

☐ **tobramycin** for dosing complete **10-111-5336 Initiation of Aminoglycosides for Adult Inpatients**

vancomycin should be considered in:

- hemodynamic instability
- clinically suspected central line infection or skin and soft tissue infection
- pneumonia
- positive blood cultures with gram positive organisms not yet identified
- mucositis
- patients who have received **ciprofloxacin** prophylaxis (higher risk for multidrug resistant streptococcus species)

☐ **vancomycin** for dosing complete **10-111-5335 Initiation of Vancomycin for Adult Inpatients**

For guidance on antibiotic duration and persistent infections consult NH Febrile Neutropenia guideline on Firstline (app.firstline.org)

Prescriber signature:_____ **College ID:**_____ **Date:** _____ **Time:**_____

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Risk Stratification

High Risk Factors: If patient meets one or more of the below high risk factors - ADMIT

- hemodynamic instability
- inpatient status at time of fever
- temperature greater than 39˚C
- severe neutropenia:
  - less than or equal to 0.5 x 10^9/L for more than 7 days
  - less than or equal to 0.1 x 10^9/L
- presence of potential complications, including:
  - neurologic changes/confusion
  - pneumonia, tachypnea (RR greater than 25 breaths/min)/hypoxia/dyspnea
  - new onset of abdominal pain/diarrhea
  - severe mucositis
  - skin/soft tissue infection
- intravascular catheter infection
- high risk cancer status:
  - uncontrolled, progressive cancer
  - hematologic malignancy
- significant comorbid factors:
  - age greater than 70, physically/medically frail
  - underlying lung disease
  - hepatic insufficiency (liver function tests greater than 5 times normal)
  - renal insufficiency (serum creatinine greater than 176 umol/L)
  - poor performance status (ECOG greater than 1)
- infectious diseases history:
  - taking antibiotics less than 72 hours before presentation
  - history of antibiotic resistant bacteria
    - exception: for those with previous history/colonization of MRSA, low risk outpatient management may be considered if patient is clinically stable

Low Risk Factors: Eligible for outpatient treatment if patient meets none of the above high risk factors AND meets following outpatient criteria:

- reliable patient/home support, who can return to facility easily
- can take oral medications
- can be easily contacted for daily assessment
- can be admitted urgently if clinically unwell/unstable

Note: NOT eligible for outpatient treatment if patient cannot meet outpatient criteria, despite having none of the above high risk factors; will need to admit.