Clinical Order Set

**Oncology – Fever and Neutropenia – Adult**

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**Patient Population**
- Fever (Temp 38.3°C or greater orally or 38°C or greater tympanic x 1 reading or 38°C or greater orally on 2 readings, 1 hour apart) and Neutropenia (Absolute Neutrophil Count [ANC] less than 1 x 10⁹/L).
- On Active Therapy: Chemotherapy, Radiation Therapy and/or Post-BMT for patients still on immunosuppression or within 1 year of BMT, and active blood cancers with cytopenias.

**Consults**
- Oncology consulted - Dr. ____________ aware. Page Oncologist with ANC result and clinical assessment.

**Vitals/Monitoring**
- HR, RR, BP, O₂ sats q8h and PRN or,
- Temp q8h and PRN or,
- If UNSTABLE (I-LOC, ↓BP, ↓Perfusion) HR, RR, BP, O₂ sats – every 15 minutes until stable and consider ICU consult.
- No rectal temp, no rectal exam.

**Investigations**
- Access Central line (all lumens/ports) and draw bloodwork. If no Central line then draw peripheral blood work with peripheral intravenous start.
- Blood cultures x 2 (one from CVC, if present, plus peripheral blood, or 2 from separate peripheral sites).
- Hematology profile, sodium, potassium, chloride, carbon dioxide total, creatinine, glucose, bilirubin, ALT.
- Lactate if unstable.
- Urine Macroscopic; Urine Culture and Sensitivity.
- Chest x-ray.
- If Clinically indicated: Throat swab Culture and Sensitivity, Sputum Gram Stain Culture and Sensitivity, Stool Culture and Sensitivity, Stool for C difficile toxin, Procalcitonin, Wound/Skin culture.

**Other:**

**IV Fluids**
- Start 0.9% sodium chloride IV at ____________ mL/h (maintenance).
- 0.9% sodium chloride IV bolus ____________ mL over ____________ minutes.

**Medications**
- No rectal medications.
- acetaminophen 500 to 1,000 mg PO q4h PRN for FEVER ONLY to a max of 4 g daily from all sources.

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**Signature, Designation**

**College License #**

**Date**

**Time**

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Onco2820Oct2013

©/Adult Fever Neutropenia/MD/10-13V1/
Antibiotic Therapy – Goal: Within one hour of presentation at hospital
• 1st Antibiotic dose to be given STAT as soon as blood cultures drawn. Do not wait for ANC result

If ANC less than 1 x 10^9/L:
• ADMIT
  □ piperacillin/tazobactam 4.5 g IV q8h
  □ imipenem/cilastin 500 mg IV q8h
  □ ciprofloxacin 400 mg IV q12h

  For patients with severe beta-lactam (penicillin/cephalosporin) allergy (eg anaphylaxis, angioedema):
  □ dindamycin 800 mg IV q8h
  □ doxycycline 100 mg IV q8h

  For patients with possible central line infection or suspected MRSA or hemodynamic instability add:
  vancomycin dosing guidelines – see Page 3 (dosed on total body weight [TBW])
  □ vancomycin _______ mg IV loading dose (25 mg/kg [TBW] round to nearest 250 mg) then
  vancomycin _______ mg IV q _______ h

Subsequent vancomycin dosage adjustments
• As ordered by pharmacist. Target trough 10 to 15 mg/L.

Investigations
• Further lab investigations for monitoring vancomycin therapy to be ordered by pharmacist/medical microbiologist

If C. difficile suspected:
□ vancomycin 125 mg PO q8h x 10 days

Or Chemotherapy induced mucositis or typhilitis make patient NPO:
□ metronidazole 500 mg IV q8h x 10 days

Venous Thromboembolism (VTE) Prophylaxis
□ dalteparin 5,000 units subcut once daily. Hold if platelets less than 50
## Dosing Guidelines for vancomycin

### Clinical Decision Support

<table>
<thead>
<tr>
<th>ACTUAL Body Weight (kg)</th>
<th>LOADING DOSE (25 mg/kg)</th>
<th>MAINTENANCE DOSE (15 mg/kg)</th>
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</thead>
<tbody>
<tr>
<td>40 to 50</td>
<td>1250 mg</td>
<td>750 mg</td>
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<tr>
<td>51 to 60</td>
<td>1500 mg</td>
<td>1000 mg</td>
</tr>
<tr>
<td>61 to 70</td>
<td>1750 mg</td>
<td>1000 mg</td>
</tr>
<tr>
<td>71 to 80</td>
<td>2000 mg</td>
<td>1250 mg</td>
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<tr>
<td>81 to 90</td>
<td>2250 mg</td>
<td>1250 mg</td>
</tr>
<tr>
<td>91 to 100*</td>
<td>2500 mg</td>
<td>1500 mg</td>
</tr>
</tbody>
</table>

* For 100 kg and above obtain Pharmacy Consult. Max 2500mg/dose

- Algorithm to determine Vancomycin Target THROUGH and Initial Dosing INTERVAL
- For the following infections a higher trough should be targeted (15 to 20 mg/L): severe infections due to methicillin-resistant Staphylococcus aureus (MRSA) such as endocarditis, osteomyelitis/deep abscess, pneumonia, meningitis

### LOW-TARGET 10 to 15 mg/L

<table>
<thead>
<tr>
<th>SCR mcmol/L</th>
<th>Initial Dosage Interval (hours)</th>
<th>Age Group (years)</th>
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<tbody>
<tr>
<td>40-60</td>
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<td>181-200</td>
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### HIGH-TARGET 15 to 20 mg/L

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</tr>
</thead>
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</tr>
<tr>
<td>181-200</td>
<td>24*</td>
<td>181-200</td>
</tr>
</tbody>
</table>

* If more aggressive therapy is desired, select more frequent dosing interval

- Shaded boxes: patients have unstable and/or reduced renal function, and the nomogram may not be as predictive.
- For those with an interval stated, patients should receive a loading dose followed by 3 hour and pre-2nd dose serum levels to determine appropriate dosing
- For those with no dosing interval stated, patients should receive a loading dose followed by 3 hour and 24 hour post-dose serum levels to determine subsequent dosing
- A clinical pharmacist should be contacted for assistance with dosing and interpretation of levels