Complex Care NURS 4617 Day 2
Clinical Education Center and Simulation

Learning Activities

<table>
<thead>
<tr>
<th>Clinical Education Center – 3rd Floor</th>
<th>Simulation Center – 5th Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome, Attendance and Questions/Answers</td>
<td>Welcome, Attendance and Questions/Answers</td>
</tr>
<tr>
<td><strong>Activity #1</strong>&lt;br&gt;Drug and infusion calculations</td>
<td><strong>Scenario #1</strong></td>
</tr>
<tr>
<td><strong>Activity #2</strong>&lt;br&gt;Laboratory and diagnostic data</td>
<td><strong>Scenario #2</strong></td>
</tr>
<tr>
<td><strong>Activity #3</strong>&lt;br&gt;Evidence-Based Practice, article review</td>
<td><strong>Scenario #3</strong>&lt;br&gt;<strong>Scenario #4</strong></td>
</tr>
</tbody>
</table>

The Clinical Education Center has new clinical content and nursing application. Please prepare for the simulation scenarios as you would for a clinical day. Read through the material; look up pathophysiology, interventions, and medications regarding your patient. Be prepared to provide knowledgeable, effective, and safe patient care in each of the simulation scenarios.

Review before the simulation experience:
- This workbook
- Selected procedures
- The assigned article: 
  AACN PRACTICE ALERT: Severe Sepsis – Initial Recognition and Resuscitation
- Apply the evidence in the article to the patient information provided as it is available in each of the activities as well as in the Simulation encounters.
- Complete the Article Critique form provided for application of the evidence as it relates to the care of a septic patient. Utilize the assigned article.
- Complete medication administration cards for the medications that are due to be administered in Scenario #4

Please bring to this experience:
- **This workbook.** Please review the simulation in detail. You should be familiar with the patient’s PMH, admitting diagnosis, and possible interventions, which include medications
- Stethoscope
- Clinical resources i.e. pen, penlight, clipboard
- Davis Drug book and Davis Laboratory and Diagnostic Assessment book
- Clinical Dosage Calculations textbook
- Enthusiasm
Clinical Education Center  
Day 2

Clinical Scenario

Situation: This is a 79 year old female resident of Sunny View Living Center/Long Term Care (LTC). EMS received a call from the LTC. The resident was acting confused and felt hot to touch, although no documented temperature was noted. Labored breathing was reported by the staff as well.

Background: PMH (from LTC records): Chronic Back Pain, Rheumatoid Arthritis, Depression, Recent UTI (on oral antibiotics), frequent UTIs, HTN, Heart Failure, CVA, Atrial Fibrillation, Constipation.

Assessment:
Vital Signs: SBP 90/62, HR 90, RR 28, Room Air Saturation of 84%. A NRB mask was applied (sats now 95%)
Neuro: On paramedic arrival to scene: Patient alert, oriented to self only (which is not base-line for patient).
Respiratory: RR 28 with Room Air Saturation of 84% on arrival to Sunny View. A 100% NRB mask was applied (sats now 95%). Her RR remains elevated at 28.
Cardiac: Atrial fibrillation on cardiac monitor. HR 90.
GI: Abdomen rounded, non-distended. Bowel sounds active in all quads by auscultation. No tenderness noted on light palpation. Last known bowel movement 2 days ago (soft, formed, dark brown).
GU: Foley catheter in place. No urinary output since 2200 last evening; urine color straw, foul-smelling.
Msk: Moves all extremities. Grips equal bilaterally upper and lower extremities.

Activity #1
Advanced Dosage Calculations

Be prepared to perform dosage calculations.

Your role as a student nurse:
In small groups, you will be provided with patient specific information related to IV infusions. Interact with team members and actively participate in learning activities regarding advanced dosage calculation for Ms. Marsh. You will rotate through different scenarios, giving you the opportunity to perform various calculations. You will have 10 minutes for each calculation. Your instructor will quickly review your work, and provide you with the correct answer. Finally, you will be programming the rate, dose and volume in the infusion pump also verifying with your nurse colleague to confirm accuracy.

Consider the following questions as you complete your calculations:
1. What is the concentration of your medication?
2. What will be your infusion rate?
3. How is this medication going to be infused? (Peripheral vs. central line)
4. How much of this med do you want to deliver? (think of difference between volume versus dose)
Activity #2
Laboratory and Diagnostic Interpretation

Your role as a student nurse:
In small groups, you will be given a lab results for Ms. Evelyn Marsh. Interact with team members and actively participate in learning activities regarding laboratory/diagnostic interpretation.

Consider the following questions as you complete your laboratory data interpretation:
1. What other assessment data, as it relates to the patient, would you anticipate needing to obtain, including basic pathophysiology of sepsis?
2. What are your priorities and appropriate Nursing Interventions?
3. Give an example of potential medication interventions to anticipate.
4. Create an SBAR report about patient for a status update to your provider/practitioner.

Activity #3
Evidence-Based Practice, article review

Review your completed Article Critique form as a group.

Consider the following questions as you discuss Evidence-Based Practice as it applies to the care of a septic patient.
1. What did you find that would be an example of a key recommendation from the article?
2. Describe/define the level of evidence (LOE) related to the recommendation in the above question.
3. Is it appropriate to use and/or appropriately implement the above recommendations based on the level of evidence?
4. As was discussed in the article, what did the author say as a summary to the article?
Simulation

Please review this workbook including each scenario, the patient’s medical orders, MAR, and admission report.

During your simulation experience:
- Be prepared to work for 15 minutes in groups of 3 to complete objectives for each scenario
- Three students will actively participate in simulation and 3 students will actively observe
- All 6 students will actively participate for 15 minutes with an instructor guided debrief
- You are working with an interdisciplinary team and may consult by phone a Physician, Provider, Charge Nurse, CNA, Pharmacist, Case Manager, Respiratory Therapist, Social Worker, Chaplin, Physical Therapist and others as available

The team will be randomly assigned to roles:
- Student 1: Assessment/VS nurse: Role to complete basic assessment, vital signs and communicate findings with team members
- Student 2: Interventions/Medication administration nurse: Role to implement nursing interventions to include medication administration
- Student 3: Intervention/Primary nurse: Role as leader, situational awareness, communication with provider and to assist with implementation of nursing interventions
- 3 active observers will need to focus on observing simulation and be able to highlight successes and deficits in patient assessment, nursing interventions, and safety. You will be provided with a form to use and will be asked to actively participate in the debriefing and discuss your observations.

Required article:

Review:
Lewis textbook Sepsis, Ch., pp 1723 – 1741.

Clinical Scenario

Primary Medical Diagnosis: Pneumonia, UTI, possible urosepsis

History of Present Illness: Patient presents via EMS from Long Term Care Facility/Assisted Living with Altered Mental Status and Fever for 12 hours; Hx of recent treatment for UTI

Allergy: Demerol, Iodine

Situation: This is a 79 year old female resident of Sunny View Living Center. EMS received a call from the LTC. The resident was acting confused and felt hot to touch, although no documented temperature reported. Labored breathing was reported by the staff as well.
LTC Records are available on request. EMS form copied and available.

Background: PMH (from LTC records):, Chronic Back Pain, Rheumatoid Arthritis, Depression, Recent UTI (on oral antibiotics), frequent UTIs, HTN, Heart Failure, Atrial Fibrillation, CVA, Constipation.
Assessment:

**Vital Signs:** SBP 90/62, HR 90, RR 28, Room Air Saturation of 84%. A NRB mask was applied (sats now 95%)

**Neuro:** On paramedic arrival to scene: Patient alert, oriented to self only (which is not baseline for patient).

**Respiratory:** RR 28 with Room Air Saturation of 84% on arrival to Sunny View. A 100% NRB mask was applied (sats now 95%). Her RR remains elevated at 28.

**Cardiac:** Atrial fibrillation on cardiac monitor.

**GI:** Abdomen rounded, non-distended. Bowel sounds active in all quads by auscultation. No tenderness noted on light palpation. Last known BM two days ago (Soft, formed, dark brown).

**GU:** Foley catheter in place. No urinary output since 2200 last evening; urine color straw, foul-smelling.

**Msk:** Moves all extremities. Grips equal bilaterally upper and lower extremities.

Prior to admission (PTA), placement of 2-18 gauge IV’s in the R antecubital fossa with 0.9NS at KVO (keep vein open) infusing.

Paramedics are unsure if patient’s family was notified about ED admission for LTC facility.

Phone number to **Sunny View**; 720-789-2333 for any questions as it relates to the patient, interventions, and medications.

---

**Scenario #1**

**New Admission**

**Recommendations:** Assess your patient and settle them into the room. As a team please admit this patient to your clinical area and provide any nursing care she may need.

Please complete:

- Complete the admission medication reconciliation with the patient.
- Complete the admission patient history.
- Provide patient education to hospital process and care and overall plan of care.
- Obtain a history from your patient, which includes any other information or report(s) you may need from either another department, a practitioner/provider, or the facility for where the patient resides.
  *NUMBER FOR LTC HAS BEEN PROVIDED*

Paramedics are unsure if patient’s family was notified about ED admission from LTC facility.
**Clinical Education and Simulation Lab**

**Medication Reconciliation Inpatient Admission Form**

Allergies: ________________________________

Source of medication list (circle all that apply) patient medication list, patient/family recall, pharmacy, PCP list, previous discharge paperwork, MAR for facility

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Last Dose</th>
<th>Continue/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C DC</td>
</tr>
</tbody>
</table>

Signature Provider  
Print Name  
Date

Signature RN  
Print Name  
Date

Reviewed on Transfer by _______________________ Date_____________
Reviewed on Discharge by _______________________ Date_____________

**Scan to pharmacy**
**Scenario #2**
Order Implementation

**Recommendations:** Assess your patient and settle them into the room and as a team please admit this patient to your clinical area and provide any nursing care she may need.

Please complete:
- Verify admission orders, verify MAR, and verify IVF.
- A basic assessment including a set of vital signs and any other appropriate focused assessments as necessary.
- Assess for potential SIRS criteria
- Contact provider for a status update on the newly admitted patient

A set of orders is available for you to review and implement. Additionally, there is lab work available for you to review. There is not an ED physician/provider available to receive the patient from the paramedics, so your charge nurse has received the patient.

**ALL OF THE LAB WORK RELATED TO YOUR PATIENT HAS BEEN SENT, INCLUDING A TYPE AND CROSS.**
Paramedics are unsure if patient’s family was notified about ED admission from LTC facility.
# Emergency Department Orders

**General**

<table>
<thead>
<tr>
<th>Date:</th>
<th><strong>Today</strong></th>
<th>Time:</th>
<th><strong>0815</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Admit to:</td>
<td><em>MICU Team</em></td>
<td>SERVICE:</td>
<td><strong>Critical Care</strong></td>
</tr>
</tbody>
</table>

**Diagnosis**

- Pneumonia, UTI, urosepsis

**Condition**

- ☐ Good
- ☐ Fair
- ☒ Guarded

**Allergies**

- ☐ NKDA
- ☒ Allergy: **Iodine, Demerol**

---

## Nursing

### Vital Signs

- ☒ Per unit routine
- ☒ Every 15 min in ED
- ☒ Call ED MD if: SBP > **150** mmHg or SBP < **90** mmHg; HR > **110** or HR < **60**;
- MAP < 65; RR > **20** or RR < **10**; **T > 38°C (100.4°F)**; Pain control.

### Activity

| ☐ Bed rest | ☐ Bed rest with commode privileges |
| ☐ Out of bed to chair with assistance (BID, TID) | ☐ Ambulate in hall with assistance (BID, TID) |
| ☐ Physical therapy consultation | ☐ Cardiac rehabilitation consultation |

### Diet

- ☒ NPO (except for meds)
- ☐ _calorie-restricted diet, no caffeine_ 
- ☐ CAD/ACS Diet (4 gram Na, low cholesterol), no caffeine
- ☐ Heart Failure Diet (2 gram Na), no caffeine
- ☐ Other ___

### IV Fluids

| ☐ HEPLOCK with 3 mL normal saline flush Q12 hours (document on flow sheet 0800H and 2000H) |
| ☒ **1000 mL** NS with _____ mEq KCL/L @ **1000** mL/hour x ___ hours |

### I/O and Weight

- ☐ Strict recording of Ins and Outs with running totals of urine output to be recorded
- ☐ Daily AM weights; record in chart

### Foley

- ☒ If patient is unable to void, place Foley catheter

### Monitoring

- ☒ Cardiac monitor
- ☒ Pulse oximetry: ☒ continuous | ☐ Q ___
- ☐ Accucheck Q ___

### Oxygen

- ☒ O₂ _via 100% non-rebreather_

---

**MD Signature** _R. Bowler, M.D._

**Pager** 555-321-4567_

**Date/Time:** ___TODAY_0815___

---

*Complex Care Day 2 CEC/Sim Workbook*
### Emergency Department Orders (Continued)

<table>
<thead>
<tr>
<th>Laboratory / Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw the following labs and run STAT:</td>
</tr>
<tr>
<td>☑ CBC with differential</td>
</tr>
<tr>
<td>☑ Basic metabolic panel</td>
</tr>
<tr>
<td>☑ Cardiac Troponin I</td>
</tr>
<tr>
<td>☑ PT/INR</td>
</tr>
<tr>
<td>☑ PTT</td>
</tr>
<tr>
<td>☑ Other: STAT Portable Chest Xray</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Per Critical Care MD</td>
</tr>
</tbody>
</table>

MD Signature: **R. Bowler, M.D.**  Pager: **555-321-4567**  
Date/Time: **TODAY 0815**
Scenario #3
Infusion Assessment

Recommendations: The patient has now been admitted to your MICU from the ED. It is 1000 and the IV Fluid Bolus is complete. First dose of Vancomycin has also been administered. She has been diagnosed with Sepsis and multiple interventions have been initiated.

Please complete:
- Perform a basic assessment and any other appropriate focused assessments as necessary.
- Assess your patient’s Medications/infusions. Verify your medication dose, rate, and volume of infusion against the MAR. Additionally, assess the insertion site.
- Administer any necessary meds for your patient per Sepsis Order set.
- Provide any nursing care for patient and communication to provider as needed.
# Patient Care Orders

## Severe Sepsis

**Verbal /Telephone order received, read back & verified:**
- **Date:** Today
- **Time:** Now
- **Signature:** 
- **Title:** 

### Attending Physician:

<table>
<thead>
<tr>
<th>Ordering Healthcare Provider:</th>
<th>GME/UI#:</th>
<th>Pager:</th>
</tr>
</thead>
</table>

### Diagnosis:

- [ ] Allergies: 

### Note:
- Admission Order Form must be completed

### Tests:

#### STAT Labs — Check computer orders to determine what is in progress to prevent duplicate/excessive phlebotomy

- [ ] Comprehensive metabolic panel
- [ ] Basic metabolic panel
- [ ] Magnesium plasma
- [ ] Phosphorous plasma
- [ ] Lactate
- [ ] ABG
- [ ] Urine culture and sensitivity
- [ ] Blood cultures x 2 (prior to starting antibiotic therapy)
- [ ] Sputum culture and sensitivity
- [ ] Type and screen
- [ ] Other
- [ ] Other

#### Serial Labs:

- [ ] BMP, magnesium, and phosphorous every 6 hours x 3, then every 12 hours. Discontinue after 72 hours.
- [ ] Lactate every 6 hours x 3, then every 12 hours. Discontinue after 72 hours.
- [ ] VBG drawn from central line every 6 hours x 2. Discontinue after 12 hours. No VBG if Edward’s catheter in place.
- [ ] Blood glucose every ____hours by glucometer. (Goal blood glucose is between 144 – 180 mg/dL)

**Call MD for blood glucose greater than 180 mg/dL for initiation of insulin therapy.**

Consider completing patient care order form: ICU Electrolyte Replacement Guideline (MED 90087)

### IVs / Medications

Dispensing by non-proprietary name under formulary system is permitted unless checked here: [ ]

#### IV Fluids:

- **Goal CVP:** 8 – 12 mmHg (CVP greater than 12 mmHg if mechanically ventilated)
  - With CHF, ESRD, and ESLD, consider 250 ml bolus every 15 minutes; slow fluids if CVP rises more than 5 mmHg with bolus

**Bolus Fluids:**

- **Recommended dose for initial bolus is 20 – 40 mL/Kg IV over 30 – 60 minutes**
- **Initial bolus of 0.9% Saline (fluid type) 20 mL/Kg IV over 60 minutes** (recommended 30-60 minutes)
- [ ] Repeat bolus of ______ (fluid type) ______ mL/Kg IV over ______ minutes if no response to initial bolus and no contraindications.

**Fluids to maintain goal CVP greater than 8 (recommended time of administration for bolus fluids is 30 – 60 minutes)**

- [ ] Bolus sodium chloride 0.9% 1 liter every _____ minutes until CVP greater than 8 mmHg (CVP greater than 12 mmHg for
mechanically ventilated patients)

☐ Bolus lactated ringers 1 liter IV every ____ minutes until CVP greater than 8 mmHg (CVP greater than 12 mmHg for mechanically ventilated patients)

☐ Bolus __________ (fluid type) ____ mL EV every ____ minutes until CVP greater than 8 mmHg (CVP greater than 12 mmHg for mechanically ventilated patients)

Call MD if ____ liters of fluid have been given and patient has not reached goal CVP.

Transcribed by: __________________________  Title: __________________________  Date: __________________________  Time: __________________________

Verified by: __________________________  Title: __________________________  Date: __________________________  Time: __________________________

IvS/MEDICATIONS (Continued)

VASOPRESSOR THERAPY - - Patient weight: 60 Kg

Goal MAP greater than 65

☒ Norepinephrine at 0.05 mcg / Kg / min IV continuous infusion. Titrate up to a maximum dose of 3 mcg / Kg / min for goal MAP greater than 65. Call MD if maximum dose reached.

☐ Vasopressin 0.04 units / min IV continuous infusion. DO NOT TITRATE. Consider vasopressin only when MAP not responsive to norepinephrine or dopamine.

☐ DOPamine 5 mcg / Kg / min IV continuous infusion. Titrate up to a maximum dose of 20 mcg / Kg / min for goal MAP greater than 65. Caution with patients who are tachycardic. Do not increase if heart rate greater than 120 bpm.

☐ DOBUTamine 2.5 mcg / Kg / min IV continuous infusion. Titrate to a maximum of 20 mcg / Kg / min for goal ScvO2 greater than 70%. Discontinue order after 24 hours of initiation of order set. (Consider dobutamine if MAP greater than 65, CVP greater than 8, Hct greater than 30%, and ScvO2 less than 70% within the first 6 hours after resuscitation started.)

ScvO2 (central venous oxygen saturation) MANAGEMENT

• Goal ScvO2 is greater than 70%

• Consider continuous ScvO2 monitoring (Place Edward’s ScvO2 catheter via intrajugular or subclavian approach.)

• Complete patient care order form Adult Central Line Flushing Protocol (UCH 44222) for patients with ScvO2 catheter in place. If standard central venous catheter in place, order venous blood gases on previous page to assess central venous oxygen saturation.

BLOOD PRODUCT ADMINISTRATION

• In first 6 hours of resuscitation: If ScvO2 is less than 70% and MAP is greater than 65 (with fluids/vasopressors as indicated), consider PRBC transfusion to keep Hct greater than 30%.

☒ Transfuse ____ 1 ____ unit(s) PRBC for Hct less than 30% (Recommended 1 unit PRBC). Recheck Hct 1 hour after transfusion. Discontinue order 6 hours after initiation of resuscitation.

• After first 6 hours of resuscitation: If ScvO2 is less than 70% and MAP is greater than 65 (with fluids/vasopressors as indicated), consider PRBC transfusion to keep Hct greater than 21%.

☒ Transfuse ____ 1 ____ unit(s) PRBC for Hct less than 21%. Recheck Hct 1 hour after transfusion. Discontinue order 72 hours after initiation of resuscitation.

MD to complete consent form prior to blood product administration.

VITAL SIGNS, MONITORING, AND TREATMENTS

☒ Vital signs every 1 hour per ICU routine

☐ CVP continuously for 48 hours (CVP monitoring is required for patients in septic shock to guide fluid resuscitation.)

☒ Call MD for urine output less than 0.5 mL / Kg for two consecutive hours once CVP goal is achieved.

☐ Initiate NIH ARDS network protocol ventilation for intubated patients.
STEROID THERAPY
- Consider starting hydrocortisone 50 mg IV every 6 hours if patient remains hypotensive despite fluid resuscitation and vaspressors
- Call MD for steroid orders if patient remains hypotensive despite fluid resuscitation and vaspressors.

ANTIBIOTIC ORDERS

**Broad spectrum antibiotic recommendations:** Vancomycin IV plus one drug from Group A plus one drug from Group B
First dose of all antibiotics to be given STAT

**VANCOMYCIN**

- **Pt height:** 62 inches
- **Pt weight in kilograms (actual weight):** 60 Kg
- **Pt serum Creatinine:** 1.7

Consider stopping Vancomycin after 3 full days if not gram-positive infection is reported on culture/sensitivity panel

<table>
<thead>
<tr>
<th>Actual Body Weight (kg)</th>
<th>Less than 60 kg</th>
<th>60 – 80 kg</th>
<th>81 – 100 kg</th>
<th>Greater than 100 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 90</td>
<td></td>
<td></td>
<td></td>
<td>□ 750 mg IV every 8 hours</td>
</tr>
<tr>
<td>50 – 90</td>
<td>□ 750 mg IV every 12 hours</td>
<td>□ 1000 mg IV every 8 hours</td>
<td>□ 1250 mg IV every 8 hours</td>
<td>□ 1500 mg IV every 8 hours</td>
</tr>
<tr>
<td>15 – 49</td>
<td>□ 750 mg IV every 24 hours</td>
<td>☑ 1000 mg IV every 24 hours</td>
<td>□ 1250 mg IV every 24 hours</td>
<td>□ 1500 mg IV every 24 hours</td>
</tr>
<tr>
<td>Less than 15 or HD</td>
<td>□ 7 0 mg IV once</td>
<td>□ 1000 mg IV once</td>
<td>□ 1250 mg IV once</td>
<td>□ 1500 mg IV once</td>
</tr>
</tbody>
</table>

- □ For patients dosed every 8 – 12 hours, check trough 30 minutes prior to 4th dose
- ☑ For patients dosed every 24 hours, check trough 30 minutes to 3rd dose
- □ For patients with CrCl less than 15 or with acute renal failure, check a random Vancomycin level 24 hours after dose
- □ For patients on intermittent hemodialysis, check a random Vancomycin level 2 hours after hemodialysis

**GROUP A**

If serum creatinine is not yet available, use SCr < 1.5 to cover for potential Pseudomonal risk

**Following initiation of empiric therapy, MD to streamline antibiotics or establish endpoints ASAP based on cultures, sensitivities**

<table>
<thead>
<tr>
<th>Drug</th>
<th>SCr less than 1.5</th>
<th>SCr 1.5 – 2.5</th>
<th>SCr greater than 2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zosyn (piperacillin/tazobactam)</td>
<td>□ 3.375 g IV every 4 hours</td>
<td>☑ 3.375 g IV every 6 hours</td>
<td>□ 3.375 g IV once, then 2.25 g IV every 6 hours</td>
</tr>
<tr>
<td>Fortaz (ceftazidime)</td>
<td>□ 2 g IV every 8 hours</td>
<td>□ 2 g IV every 12 hours</td>
<td>□ 2 g IV every 24 hours</td>
</tr>
<tr>
<td>For minor penicillin allergy Drug has no anaerobic coverage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doribax (doripenem)</td>
<td>CrCl greater than 50 mL / min</td>
<td>CrCl 30 – 50 mL / min</td>
<td>CrCl 11 – 29 mL / min</td>
</tr>
<tr>
<td>For major penicillin allergy Caution in seizure prone patient</td>
<td>□ 500 mg IV every 8 hours</td>
<td>□ 250 mg IV every 8 hours</td>
<td>□ 250 mg IV every 12 hours</td>
</tr>
</tbody>
</table>

**GROUP B – Patient Weight: ________ kg**

□ Tobramycin 7 mg / kg IV once (not to exceed 700 mg), then MD to follow and dose.

_Add to Vancomycin plus Group A when there is suspected infection of non-pulmonary site (GI, GU, etc.)_
Ciprofloxacin 400 mg IV once. To continue past one dose, MUST CALL antibiotic pager 303-266-6966 and receive approval code.

Add to Vancomycin plus Group A when there is suspected infection of pulmonary site (caution in seizure prone patients)

<table>
<thead>
<tr>
<th>Transcribed by:</th>
<th>Title</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Verified by:</th>
<th>Title</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
</table>

R. Bowler, M.D.
**Medication Administration Record (MAR)**  
**Name:** Marsh, Evelyn  
**MRN:** 89890920  
**Date of Birth:** September 25  
**Allergies:** Iodine, Demerol

<table>
<thead>
<tr>
<th>Scheduled Medications</th>
<th>Time</th>
<th>Yesterday</th>
<th>Today</th>
<th>Tomorrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9% Normal Saline</td>
<td></td>
<td>One time</td>
<td></td>
<td>0830</td>
</tr>
<tr>
<td>20 Ml/Kg</td>
<td></td>
<td>now</td>
<td></td>
<td>KR</td>
</tr>
<tr>
<td>IV Fluid Bolus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOW; repeat every 60Min for CVP &lt; 8, MAP &lt; 65mm Hg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vancomycin</td>
<td>0830</td>
<td></td>
<td>0830</td>
<td>KR</td>
</tr>
<tr>
<td>1000 Mg IVPB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every 24 hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zosyn</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.375 Gm IVPB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every 6 hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature</th>
<th>Initial</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerri Reid, RN</td>
<td>KR</td>
<td></td>
</tr>
</tbody>
</table>

**Admit height:** 62 inches  
**Admit weight:** 60 Kg
Evelyn Marsh  
89890920  
D.O.B.: September 25  

**Laboratory Data**

<table>
<thead>
<tr>
<th>Hematology</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WBC</strong></td>
<td>(3.5-11.0) – 27.6</td>
<td>85% Granulocytes; 30% Band</td>
</tr>
<tr>
<td><strong>Hgb</strong></td>
<td>(11.0-15.0) – 7</td>
<td></td>
</tr>
<tr>
<td><strong>Hct</strong></td>
<td>(32.0-45.0) – 21</td>
<td></td>
</tr>
<tr>
<td><strong>Plt</strong></td>
<td>(150-400) – 284</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Na</strong></td>
<td>(135-145 meq/L) – 123</td>
<td></td>
</tr>
<tr>
<td><strong>K</strong></td>
<td>(3.6-5.1 meq/L) – 4.5</td>
<td></td>
</tr>
<tr>
<td><strong>Cl</strong></td>
<td>(98-110 meq/L) – 84</td>
<td></td>
</tr>
<tr>
<td><strong>CO2</strong></td>
<td>(20-30 meq/L) – 34</td>
<td></td>
</tr>
<tr>
<td><strong>BUN</strong></td>
<td>(6-24 mg/DL) – 35</td>
<td></td>
</tr>
<tr>
<td><strong>Creat</strong></td>
<td>(0.4-1.3 mg/DL) – 1.7</td>
<td></td>
</tr>
<tr>
<td><strong>Glucose</strong></td>
<td>(67-109 mg/DL) – 289</td>
<td></td>
</tr>
<tr>
<td><strong>CrCl</strong></td>
<td>(estimated) 25.4</td>
<td></td>
</tr>
<tr>
<td><strong>Mg</strong></td>
<td>(1.5-2.2 mEq/L) - 1.8</td>
<td></td>
</tr>
<tr>
<td><strong>Serum Lactate</strong></td>
<td>(0-2) – 12.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coagulation</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PT</strong></td>
<td>( 10-13 seconds) - 15</td>
<td></td>
</tr>
<tr>
<td><strong>INR</strong></td>
<td>( 0.9- 1.1) - 1.5</td>
<td></td>
</tr>
<tr>
<td><strong>aPTT</strong></td>
<td>( 21-45 seconds) 55</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type and Hold</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Type: A+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Completed. 2 Units PRBC’s available in the Blood Bank
Scenario #4
Medication Administration

Recommendations: Your patient is settled into the MICU and has stabilized. It is now 1200 and time to administer noon medications. The MICU Pulmonary team has decided to initiate steroid therapy. You will need to prepare the appropriate medications for administration. (Multiple routes) PO, IM, IVP, SQ. Refer to the MAR for the medications to administer to the patient.

Please complete:
- Perform a basic assessment and any assessment necessary as is related to the medication(s)
- Assess your patient’s MAR. Administer the medication using the 6 rights of medication administration.
- Provide appropriate education to your patient regarding the medications you are about to administer.
- Evaluate patient status and determine if your patient is improving or deteriorating; determine possible interventions necessary.
## MICU Admission Orders

### General

<table>
<thead>
<tr>
<th>Date:</th>
<th>Today</th>
<th>Time: 1100</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICE:</td>
<td>Critical Care</td>
<td></td>
</tr>
</tbody>
</table>

### Diagnosis

- Pneumonia, UTI, urosepsis

### Condition

- ☐ Good
- ☐ Fair
- ☑ Guarded

### Allergies

- ☐ NKDA
- ☑ Allergy: Iodine, Demerol

### Vital Signs

- ☑ Per MICU routine
- ☑ Call Intensivist for Systolic BP less than 90 mmHg; MAP < 65; Temperature equal to or greater than 38.5°C, or acute change in status

### Activity

- ☐ Bed rest
- ☑ Bed rest with commode privileges
- ☑ Out of bed to chair with assistance (BID, TID)
- ☐ Ambulate in hall with assistance (BID, TID)
- ☑ SCDs while on bed rest
- ☑ Physical therapy consultation
- ☐ Cardiac rehabilitation consultation

### Diet

- ☑ NPO (except for meds)
- ☐ ___ calorie-restricted diet, no caffeine
- ☐ CAD/ACS Diet (4 gram Na, low cholesterol), no caffeine
- ☐ Heart Failure Diet (2 gram Na), no caffeine
- ☑ Dietary consult
- ☐ Other: ________________________________

### IV Fluids

- ☐ HEPLOCK with 3 mL normal saline flush Q12 hours (document on flow sheet 0800H and 2000H)
- ☑ IV fluid__________ with _____ mEq KCL/L @ ____mL/hour x ____ hours

### I/O and Weight

- ☑ Strict I / O
- ☑ Daily weights; record in chart

### Foley

- ☑ If patient is unable to void, place Foley catheter
### Monitoring
- Cardiac monitor
- Pulse oximetry: continuous
- Accucheck every 6 hrs; Call Intensivist for glucose greater than 150.

### Oxygen
- O₂ 100% Non-rebreather
- Titrante oxygen to saturation per Oxygen Protocol
- RT to evaluate and treat per Respiratory Protocol

### Tests
<table>
<thead>
<tr>
<th>Labs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ CBC with diff  in a.m.</td>
</tr>
<tr>
<td>☐ Basic metabolic panel</td>
</tr>
<tr>
<td>☑ Liver panel  in a.m.</td>
</tr>
<tr>
<td>☐ Cardiac Troponin I</td>
</tr>
<tr>
<td>☑ PT/INR  in a.m.</td>
</tr>
<tr>
<td>☑ PTT  in a.m.</td>
</tr>
<tr>
<td>☑ Other: Add Magnesium, Phosphorous, and Calcium to labs drawn in ED</td>
</tr>
</tbody>
</table>

### Radiology:
- Portable Chest X-ray  in a.m.
- Chest PA / Lateral

### Medication
- Acetaminophen 500 mg PO or rectally PRN fever > 38.3°C
- Famotidine 20 mg PO every 12 hours
- Refer to Sepsis Orders for IV fluids and antibiotics
- Call MD for maintenance IV orders after boluses are completed
- *Heparin, 5000 Units SubQ every 12 hours*
- *Hydrocortisone 50 mg, IV Push every 6 hours*

---

MD Signature: R. Bowler, M.D. Pager: 555-321-4567
Date/Time TODAY 0815
Medication Administration Record (MAR)

<table>
<thead>
<tr>
<th>Scheduled Medications</th>
<th>Time</th>
<th>Yesterday</th>
<th>Today</th>
<th>Tomorrow</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9 % NS 20 mL / Kg IV over 60 minutes as initial bolus</td>
<td>0800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 liter 0.9% NS IV every 60 minutes until CVP greater than 8 mmHg</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Call MD if 2 liters of fluid have been given and patient has not reached goal CVP</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vancomycin 1000 mg IV every 24 hours</td>
<td>0400</td>
<td>1000</td>
<td>1600</td>
<td>2200</td>
</tr>
<tr>
<td>Zosyn 3.375 Gm IV every 6 hours</td>
<td>0000</td>
<td>1200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobramycin 7 mg / Kg IV once (not to exceed 700 mg)</td>
<td>0000</td>
<td>0600</td>
<td>1200</td>
<td>1800</td>
</tr>
<tr>
<td><strong>MD to follow and dose after initial dose</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Famotidine PO every 12 hours</td>
<td>0000</td>
<td>0600</td>
<td>1200</td>
<td>1800</td>
</tr>
<tr>
<td>Heparin 5,000 units SQ every 12 hours</td>
<td>0000</td>
<td>0600</td>
<td>1200</td>
<td>1800</td>
</tr>
<tr>
<td>Hydrocortisone 50 mg IV push every 6 hours</td>
<td>0000</td>
<td>0600</td>
<td>1200</td>
<td>1800</td>
</tr>
<tr>
<td>Acetaminophen 500 mg PO or rectally PRN every 6 hours fever &gt; 38.3°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature: Kerri Reid, RN

Initial: KR

Complex Care Day 2 CEC/Sim Workbook

21