

Case Study: Safe Medication Administration**Introduction:**

Medication errors are a major concern for every nurse and represent the most frequent malpractice claims against hospitals and nurses. Preventing medication-related errors must be at the front of every nurse's mind with every medication administered. As you see medications and laboratory results, take time to look them up; using your nursing drug handbook for the medications and a laboratory text reference if available for the labs.

Please note: you will not be expected to evaluate the laboratory studies in this course. However, interpretation of lab values is a nursing responsibility and will become a routine part of your nursing care. By taking some time now to become familiar with this process you can improve your skill in evaluating laboratory values as you advance in your curriculum.

Please review your text readings carefully before completing this case study to discover how your role as an upcoming nurse must incorporate safety standards into daily nursing practice.

Case Study: Max Bedford**History & Physical:**

Mr. Bedford has a history of congestive heart failure (CHF) secondary to a large myocardial infarction (MI) suffered 2 years ago. In addition, his history is positive for hypertension, hyperlipidemia, and type II diabetes mellitus. He was admitted yesterday with respiratory distress and diagnosed with an exacerbation of his CHF.

Current Medications:

Aspirin 325 mg po daily
Digoxin (Lanoxin®) 0.125 mg po daily
Carvedilol (Coreg®) 25 mg bid
Furosemide (Lasix®) 40 mg bid
Lisinopril (Zestril®) 5 mg po bid
Simvastatin (Zocor®) 40 mg qhs
Glyburide (Micronase®) 2.5 mg daily

Allergies:

Penicillin & Sulfa

Physician Orders:

Admit to progressive care unit with telemetry monitoring
Saline lock
Bedrest with BRP
Low cholesterol, low sodium diet
EKG Stat, repeat with chest pain
Oxygen 2-4 l/min per n/c, maintain spo2 > 90%
Increase furosemide to 80 mg IV bid; dose now

Aspirin 325 mg po QD

Digoxin (Lanoxin®) 0.125 mg po daily

Carvedilol (Coreg®) 25 mg bid

Lisinopril (Zestril®) 5 mg po bid

Simvastatin (Zocor®) 40 mg qhs

Humulin R insulin sq; based on ac/hs blood glucose level as follows:

- glucose level 0-200 = 0 units
- glucose level 201-300 = 2 units
- glucose level 301- 400 = 4 units
- glucose level > 400 = call physician

Radiology Exam

- A/P lateral chest x-ray
- Echocardiogram

Labs:

- ABG's (arterial blood gas)
- Digoxin level
- Electrolytes (sodium, potassium, chloride, calcium, magnesium)
- CBC (complete blood count)
- Troponin
- Bedside blood glucose levels ac/hs

Assessment

Mr. Bedford is alert and oriented to time and place. Denies pain, states "breathing is much easier with the oxygen on." Anterior lungs are clear bilaterally, posterior lung sounds have inspiratory crackles ¼ up bilaterally with auscultation. Heart sounds are s¹ & s², regular, with a mild murmur noted. No JVD or peripheral edema, bowel sounds are active in all quadrants, peripheral pulses are +2 bilaterally. Skin is dry and slightly pale.

Vital signs = Temp 37.4°C, P 96, R 26, BP 152/88.

Morning (fasting) glucose level obtained by bedside monitoring was 140 mg/dL.

Other lab work results include the following:

TEST	RESULTS
ABG	pH - 7.31 PCO ₂ - 51 HCO ₃ - 26 PO ₂ - 68 SaO ₂ - 88% (room air)
Digoxin Level	1.2 mg/dL

Electrolytes	Na ⁺ - 136 mEq/L K ⁺ - 3.8 mEq/L Cl ⁻ - 99 mEq/L Ca ²⁺ - 10 mg/dL Mag ²⁺ - 1.8 mEq/L
CBC	WBC - 10,000 mm ³ RBC - 5.0 million/mm ³ Hgb - 13.6 g/dL Hct - 49% Platelet count - 360,000 mm ³ /mL Differential (not ordered)
Troponin	<0.03 ng/mL

Medication Administration

Julie White, a nursing student at Belmont University School of Nursing, is preparing to give morning medications to Mr. Bedford on October 3rd 2011. Please review the following medication administration record (MAR):

Max Bedford P-22760				
BD 12/02/1933				
Room 216				
® MAR				
Medication Order	Date 10/02/2011	Date 10/03/2011	Date/Time 10/04/2011	Date/Time 10/05/2011
Aspirin 325 mg po QD	0900 - LB			
Digoxin (Lanoxin®) 0.125 mg po daily	0900 - LB			
Furosemide (Lasix®) 80 mg IV bid	0610 - SP 1830 - LB	0550 - SP		
Carvedilol (Coreg®) 25 mg bid	0900 - LB 2120 - LB			
Lisinopril (Zestril®) 5 mg po bid	0900 - LB 2120 - JS			
Simvastatin (Zocor®) 40 mg qhs	2120 - LB			

Regular Insulin sq	0730 = 0 units <i>LB</i> 1100 = 0 units <i>LB</i> 1600 = 2 units <i>AS</i> 2230 = 2 units <i>AS</i>	0730 = 0 units <i>LB</i>		
Acetaminophen (Tylenol®) 650 mg po q 4 h PRN	10/02/2011 2245 = <i>AL</i>	10/03/2011 0410 = <i>LS</i> 10/03/2011 0745 = <i>LB</i>		

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