

Head Injury/Heart Failure Scenario

Butler Community College

By

Mitchell S. Taylor

Head Injury/Heart Failure Scenario

Developed by Mitchell S. Taylor, RN, BSN, CCRN for Butler CC Nursing Program – Critical Care

Purpose: This scenario was created for students in the third semester of nursing school after having instruction in assessing and intervening with a patient with multiple problems, in this case a patient with head injury and heart failure in the critical care setting.

Objectives (Note only the **Bolded** items are tested in this scenario):

1. Assessment and recognition of the signs and symptoms of decreased level of consciousness and of worsening heart failure.
 - a. Assess for responsiveness.
 - b. Assess signs of inability to support airway.**
 - c. Assess for signs of hypoxia.**
 - d. Assess neurological status by means of a consistent approved scale such as the Glasgow Coma Score.
 - e. Assess for signs of fluid volume overload such as crackles in the lung fields, jugular venous distension, edema, elevated CVP, PAOP reading if a pulmonary artery catheter is in place.
 - f. Assess vital signs for signs of poor perfusion and unstable blood pressure.**
 - g. Assess for low cardiac output.
 - h. Assess pain on a 0-10 scale, type, quality, symptom onset, duration.
 - i. Assess blood glucose levels.
 - j. Assess BNP (brain or beta type natriuretic peptide) lab.
 - k. Assess for irregular rhythm or dysrhythmias.**
 - l. Assess elevated ST segment on a 3 or 5 lead monitor or on a 12-lead ECG performed in the Emergency Department or on admission.
 - m. Assess report of CT scan of the brain if available.
 - n. Assess Intake and Output for fluid retention.
 - o. Assess alignment of the neck and body to maintain alignment of the cervical spine.
 - p. Assess if C-collar is in place and on properly.
2. Initiate interdisciplinary collaboration in a hospital setting.
 - a. Inform the physician of the assessment and of patient's inability to maintain a patent airway.
 - b. Inform the physician of the assessment and of patient's irregular heart pattern from the 3 or 5 lead monitor or from the report on a 12-lead ECG.**
 - c. Implement standing orders or take new orders for admission possibly from two services such as trauma and cardiology.
 - d. Notify the respiratory therapy for oxygen therapy and maintaining an open airway.**
 - e. If patient is intubated, communicate regularly with physician and respiratory therapists regarding maintaining airway and oxygenation and a plan for prevention of ventilator associated pneumonia (VAP) and potentially weaning when possible.
 - f. If intubated, begin communication about alternate nutrition strategies.
3. Select appropriate interventions.
 - a. Perform five rights of medication administration.
 - b. Oxygen – Apply as ordered.**
 - c. Suction patient using sterile technique as ordered.**

- d. Provide access to intubation supplies if airway cannot be maintained.
 - e. Notify physician immediately for intubation if airway cannot be maintained.
 - f. Start a peripheral IV as ordered.
 - g. **Give medications as ordered being careful of fluid volume overload and decreasing level of consciousness.**
 - h. Provide pain relieving measures as ordered.
 - i. Provide diuretics and positive inotropic support as ordered.
 - j. Maintain C-Spine precautions.
 - k. Draw lab as ordered.
 - l. Perform 12-lead ECG as ordered.
 - m. Be cautious of negative inotropic medications initially for decompensated heart failure.
 - n. Be cautious of medications normally given to heart patients such as aspirin and heparin if patient is a new head injury patient as to avoid bleeding.
4. Monitor therapeutic response to interventions (Outcomes)
- a. Monitor that patient will remain responsive.
 - b. **Monitor that patient will not have difficulty breathing and will maintain oxygen saturations at $\geq 90\%$.**
 - c. Monitor the GCS for changes in neurologic status and prepare to contact the physician with changes (prepare to repeat CT scan of the brain without contrast if ordered).
 - d. **Monitor that patient will not have dysrhythmias.**
 - e. Monitor the patient's pain that it is decreasing.
 - f. Monitor signs and symptoms of heart failure that they are decreasing.
 - g. Monitor lab values for changes.
 - h. Monitor electrolytes to be within normal limits to prevent problem that may produce dysrhythmias such as K, Mg, Ca, P.
 - i. Monitor CBC to be absent of infection and no signs of bleeding.
 - j. Monitor changes in the 12-lead ECG or even on the 5 lead monitor that ST segment elevation decreases.
 - k. Monitor changes in level of consciousness and other neurological changes and prepare to repeat CT scan of the brain without contrast.
 - l. Monitor when to call a Code Blue on a patient that becomes unresponsive, stops breathing, has lethal dysrhythmias, or has no pulse.

Case Study:

A 38 year old male presents to the Surgical Intensive Care Unit with severe headaches from a closed head injury and difficulty breathing due to heart failure, diabetes mellitus-type II, and depression. Medications that the patient was on at home were:

Furosemide 20mg PO BID, Sertraline 100 mg PO 1X daily

Digoxin 0.25 mg PO one time daily,

Potassium 20mEq PO every day,

Metoprolol 50 mg PO BID,

Regular Insulin 10 Units SQ in the am,

Lantus Insulin 25 Units SQ at bedtime

Student Name: _____ Examiner #1: _____

EVALUATION

Examiner #2: _____

Assessment/Interventions	Find the problem	Prompts	Score
Notes the decreasing O2 saturations	1		
Recognizes the need for suctioning (listens to lung sounds)	1	“He sounds very congested.”	
Suctions the patient via ET tube or notifies RT to suction the patient	1		
Recognition of rapid heart rate and blood pressure drop	2		
Checks the chart for orders to lower heart rate	1	“Were there any orders for that?”	
Notifies physician/nurse practitioner/PA of concerns	1		
Writes a phone order for medication to lower the heart rate and repeats it back to the physician.	2	“Does that need to be written anywhere?”	
Total Score			/9

Psychomotor Skills	Give IV medication	Prompts	Score
Calculates Dose, Draws up Right Dose, Labels the syringe	3	“How much are you giving?”	
Labels syringe before taking to bedside	1		
Right Patient 1 st ID name, 2 nd ID DOB, Allergy Check	3	“Is he allergic to that?”	
Double checks order with Right Drug	2		
Able to verbalize reason giving and precautions	2	“What is that for? Is it dangerous?”	
Gives dose over Right Time	1		
Maintains sterile area on IV site, on syringe, on medication, gives in the appropriate line (Right Route)	4	“Where are you giving that?”	
Total Score			/16

Evaluation	Is it resolved?	Prompts	Score
Properly charts medication given on Medication Admin. Record (MAR)	2	“Do you need to chart that you gave that?”	
Writes P.I.E. Charting of the top priority nursing diagnosis to the instructor detailing the problem, intervention, and evaluation of the client (did the HR and BP resolve?)	3	“Do you have to chart all of this?”	
Total Score			/5
Final Score			/30

Orders from the physician are:

Give Cardizem 0.15mg/kg IV push, then follow it by a Cardizem drip at 5 mg/hr.

Call back in 30 minutes and let me know what is going on.

Dr. Getwell.

Written order should look like:

Date and Time: 1. Give Cardizem 0.15mg per kg IV push. -----
2. Then start an IV drip of Cardizem at 5mg per hour. -----
3. Call back in 30 minutes with progress report. -----
Telephone Order Dr. Getwell/Mitch Taylor, RN -----

mL = 1mL/5mg X 0.15mg/1kg X 129.5kg = 3.9 mL or 4 mL, give over 2 minutes, watch for low BP, low heart rate, may worsen CHF, that's why the physician ordered the low dosage and low drip rate.

P.I.E. charting - Also Charting can be done on the computer at <http://assessment.homestead.com> if a computer is available.

P: O2 sats decreasing to 83%.

I: Notified Respiratory Therapy to come suction the patient. Or Suctioned the patient via the in-line suctioning system via the ET tube for 10 seconds with 100% supplemental oxygen per hospital policy.

E: O2 sats increased to 94%

P: During suctioning, the HR increased to 180s. BP decreased to 80/40.

I: Notified Dr. Getwell of the increased HR and BP that happened during suctioning. Gave Cardizem IV as ordered, and IV drip started as ordered.

E: HR decreased to 120s and BP increased to 100/50. Will continue to monitor HR and BP.

Butler Community College
SIMULATION ADMITTING ORDERS

DATE	TIME		Other Orders Write In
2/28/08	0600	ADMIT TO: <input checked="" type="checkbox"/> SICU <input type="checkbox"/> CCU <input type="checkbox"/> MICU <input type="checkbox"/> Telemetry Floor <input type="checkbox"/> Non-telemetry Floor	
		DIAGNOSIS: <input type="checkbox"/> Type II Diabetes Mellitus, <input type="checkbox"/> R/O Myocardial Infarction, <input checked="" type="checkbox"/> Heart Failure, <input type="checkbox"/> S/P CABG, <input type="checkbox"/> Chest Pain, <input checked="" type="checkbox"/> Head Injury, <input type="checkbox"/> Stroke, <input type="checkbox"/> GI Bleed, <input type="checkbox"/> S/P Lung surgery _____, <input type="checkbox"/> S/P abdominal surgery _____, <input type="checkbox"/> S/P ortho surgery _____, <input type="checkbox"/> MVC _____, <input type="checkbox"/> Lacerated Spleen, <input type="checkbox"/> HTN <input type="checkbox"/> Cancer _____ <input checked="" type="checkbox"/> Other Nausea/Vomiting _____	
		CONDITION: <input type="checkbox"/> Stable, <input type="checkbox"/> Serious, <input checked="" type="checkbox"/> Critical	
		ALLERGIES: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, list: Midazolam	
		ACTIVITY: Bed rest	
		VITAL SIGNS: <input type="checkbox"/> Every 1 hour <input type="checkbox"/> Every 4 hours <input type="checkbox"/> O2 Sats. Q shift <input checked="" type="checkbox"/> Every 15 minutes and prn, O ₂ sats. and cardiac monitor – continuous	
		DIET: <input checked="" type="checkbox"/> NPO <input type="checkbox"/> 2gm Low Na, low fat, <input type="checkbox"/> 1800kcal ADA, <input type="checkbox"/> 2000kcal ADA	
		<input checked="" type="checkbox"/> NPO	
		<input checked="" type="checkbox"/> IV: Saline Lock <input type="checkbox"/> D51/2NS with 20mEq KCL TRA _____ <input checked="" type="checkbox"/> 0.9% Sodium Chloride IV TRA _55mL/hr_ <input type="checkbox"/> Lactated Ringers TRA _____	<input type="checkbox"/> Other: _____
		O ₂ : <input type="checkbox"/> None <input checked="" type="checkbox"/> 2Liters/minute via Nasal Cannula <input type="checkbox"/> Other: <input checked="" type="checkbox"/> titrate to keep sats > 90%	
		MEDICATIONS: <input checked="" type="checkbox"/> Aspirin non enteric coated 325 mg po daily <input type="checkbox"/> Acetaminophen 650mg po q 6 hours prn pain or temp > 101.5 F. <input checked="" type="checkbox"/> ceftazadime 500mg IV daily <input type="checkbox"/> digoxin 0.125mg IV X 1 <input checked="" type="checkbox"/> digoxin 0.5mg PO daily <input checked="" type="checkbox"/> furosemide 60 mg IV prn Urine Output < 30 mL/hr x 2 hours <input type="checkbox"/> ketorolac tromethamine 15mg IV at 1300 <input checked="" type="checkbox"/> labetalol 10mg IV prn for SBP > 180 every 10 minutes until under 180. <input checked="" type="checkbox"/> lansoprazole 60mg IV q day <input checked="" type="checkbox"/> metoclopramide 10 mg IV, q 6 hours prn nausea or vomiting <input type="checkbox"/> metoprolol 5mg IV q 10 min x 3 doses, then start PO dosing, hold if SBP < 90 or HR < 40. <input checked="" type="checkbox"/> metoprolol 50mg PO BID <input checked="" type="checkbox"/> midazolam 2mg IV prn q 2 hours for sedation <input checked="" type="checkbox"/> morphine 4mg IV q 1-2 hours prn pain <input type="checkbox"/> hydromorphone 0.2mg IV q 1-2 hours <input checked="" type="checkbox"/> NS 10mL IV BID and prn for IV flush <input checked="" type="checkbox"/> Lantus 25mg SQ at 2200 daily Others _____ <input checked="" type="checkbox"/> Place hypoglycemic orders on the chart.	<input checked="" type="checkbox"/> Regular Insulin Sliding Scale Q 6 hours BS - Insulin Dose 0-110 - No insulin 111-125 - 2 Units 126-135 - 4 Units 136-145 - 6 Units 146-155 - 8 Units 156-200 - 10 Units <60 >200 Call ordering physician and start Regular Insulin drip IV at 0.05 Units/kg /hr and place Adult Insulin Titration in the Simulated ICU orders on the chart.
		(Treatments) <input type="checkbox"/> Dressing Changes <input checked="" type="checkbox"/> Place Foley to dependent drainage <input checked="" type="checkbox"/> Place NG Tube <input type="checkbox"/> Place Dobhoff <input checked="" type="checkbox"/> Place peripheral IV	
		<input checked="" type="checkbox"/> If chest pain occurs, obtain STAT ECG, notify MD, <input checked="" type="checkbox"/> Nitroglycerin 0.4 mg (1/150 gr) SL PRN chest pain (unless: SBP < 90). May repeat every 5 min x 2. Maximum 3 doses.	
		<input checked="" type="checkbox"/> 12 lead ECG on arrival and every 8 hours X 2, for a total of 3 ECGs.	
		LAB TESTS:	
		<input checked="" type="checkbox"/> CBC <input checked="" type="checkbox"/> BMP <input type="checkbox"/> CMP <input checked="" type="checkbox"/> PTT/INR <input checked="" type="checkbox"/> Mg <input checked="" type="checkbox"/> Phos <input checked="" type="checkbox"/> Ionized Ca <input type="checkbox"/> Type and Cross Units	
		<input checked="" type="checkbox"/> Other tests: BNP, Cardiac Enzymes and Troponin, ABG	

Sim, John T. DOB 08-26-69
Adm. #00087654321
Med. Rec. #007654321



MEDICAL RECORD	REPORT OF MEDICAL HISTORY	Date of Exam 2/28/08
-----------------------	----------------------------------	-------------------------

Note: This information is for official and medically-confidential use only and will not be released to unauthorized persons.

1. Name of Patient (First, Middle, Last) <p style="text-align: center;">John Thomas Sim</p>	2. Identification Number <p style="text-align: center;">00087654321</p>	3. Date of Birth <p style="text-align: center;">8/26/1969</p>
4a. Home street address (Street, City, State, and Zip Code) 11410 East Wally Street, Apartment 705		5. Examining Facility <p style="text-align: center;">Butler Community College Simulation Hospital</p>
4b. City Wichita,	State KS	

6. Purpose of Visit to the Hospital
"I'm having severe headaches and difficulty breathing."

7. Statement of Patient's Present Health and Medications Currently Used

a. Present Health <p style="text-align: center;">Poor</p>	b. Current Medications at Home Furosemide 20mg PO BID, Sertraline 100 mg PO 1X daily, Digoxin 0.25 mg PO one time daily, Potassium 20mEq PO every day, Metoprolol 50 mg PO BID, Regular Insulin 10 Units SQ in the am, Lantus Insulin 25 Units SQ at bedtime
--	--

c. Allergies (include medications, latex, bee stings, and foods) Midazolam – causes rash	d. Height <p style="text-align: center;">6'2"</p>	e. Weight <p style="text-align: center;">285 lbs</p>
---	--	---

8. Patient's Occupation <p style="text-align: center;">Construction Worker</p>	9. Are you: (check one) <p style="text-align: center;"><input checked="" type="checkbox"/> Right Handed <input type="checkbox"/> Left Handed</p>
---	--

10. Past/Current Medical History

Check Each Item	Yes	No	Don't Know	Check Each Item	Yes	No	Don't Know	Check Each Item	Yes	No	Don't Know
Household Contact with anyone with tuberculosis				Shortness of Breath	X			Bone or joint deformity			
Tuberculosis or positive TB test				Pain or Pressure in chest	X			Loss of finger or toe			
Blood in Sputum or when coughing				Chronic Cough				Painful shoulder or elbow			
Excessive bleeding after injury or dental work				Palpitation or pounding heart				Recurrent back pain or any back injury			
Suicide attempt or plans				Heart trouble	X			Knee injury			
Sleepwalking				High blood pressure	X			Foot trouble			
Wear corrective lenses	X			Low blood pressure				Nerve injury			
Eye surgery to correct vision				Cramps in your legs				Paralysis			
Complete vision loss in either eye				Frequent Indigestion				Epilepsy or seizure			
Wears a hearing aid				Stomach, liver, or intestinal trouble				Car, train, or sea sickness			
Stutters or Stammers				Gall bladder trouble				Frequent trouble sleeping			
Wears a brace or back support				Jaundice or Hepatitis				Depression or excessive worry			
Scarlet fever				Broken bones				Loss of memory			
Rheumatic fever				Skin diseases				Nervous trouble of any sort			
Swollen or painful joints				Tumor, growth, cyst, or Cancer				Periods of unconsciousness			
Frequent or severe headache	X			Hernia				Parent/sibling with diabetes, cancer, stroke or heart disease.	X		
Dizziness or fainting spells	X			Hemorrhoids or rectal Disease				X-Ray or other radiation therapy			
Eye Trouble				Frequent or painful urination				Chemotherapy			
Hearing Loss				Bed wetting since age 12				Asbestos or toxic chemical exposure			
Recurrent ear infections				Kidney stones or blood in urine				Plate or pin in any bone			
Chronic or frequent colds				Sugar or Protein in urine	X			Been told to cut down or criticized for alcohol use			
Severe tooth or gum trouble	X			Sexually transmitted disease(s)							
Sinusitis				Recent gain or loss of weight	X						
Hay Fever or allergic rhinitis				Eating Disorder				Easily fatigued	X		
Head injury	X			Arthritis, Rheumatism, or Bursitis				Used illegal substances			
Asthma				Thyroid trouble				Used tobacco	X		

Sim, John T. DOB 08-26-69
Adm. #00087654321
Med. Rec. #007654321
|||||

11. Female Patients

Check each item	Yes	No	Don't Know	Date of last menstrual period	Date of last pap smear	Date of last mammogram
Treated for a female disorder				N/A	N/A	"Never had one"
Change in menstrual pattern						

Check each item. If "yes," explain in blank space to right. List explanation by item number.

ITEM	Yes	No	
12. Have you been refused employment or been unable to hold a job or stay in school because of:			
a. Sensitivity to chemicals?			
b. Inability to perform certain motions?			
c. Inability to assume certain positions?			
d. Other medical reasons? (If yes, give reasons.)			
13. Have you ever been treated for a mental condition? (If yes, describe and give age at which occurred.)	X		CHF
14. Have you ever been denied life insurance? (If yes, specify when, where, why, and name of doctor and complete address of hospital.)			
15. Have you had, or have you been advised to have, any operation? (If yes, describe and give age at which occurred.)			
16. Have you ever been a patient in any type of hospital? (If yes, specify when, where, why, and name of doctor and complete address of hospital.)			
17. Have you consulted or been treated by clinics, physicians, healers, or other practitioners within the past 5 years for other than minor illnesses? (If yes, give complete address of doctor, hospital, clinic, and details.)			
18. Have you ever been discharged from military service because of physical, mental, or other reasons? (If yes, specify.)			
19. Have you ever been rejected for military service because of physical, mental, or other reasons?			
20. Have you ever received, is there pending, or have you ever applied for pension or compensation for existing disability? (If yes, specify what kind, granted by whom, and reason.)			
21. Have you ever been arrested or convicted of a crime, other than minor traffic violations? (If yes, provide details)			
22. Have you ever been diagnosed with a learning disability? (If yes, give type and what is needed to help overcome.)			

23. List all immunizations received
All Immunizations up to date as of 2/28/2008

I certify that I have reviewed the foregoing information supplied by me and that it is true and complete to the best of my knowledge. I authorize any of the doctors, hospitals, or clinics and their staff that are directly providing management of my care to review and input data into the Medical Record in accordance with local, state, and federal laws.

24a. Typed or Printed Name John T. Sim	24b. Signature John T. Sim	24c. Date 2/28/2008
--	--------------------------------------	-------------------------------

NOTE: THIS DOCUMENT WILL BE PLACED IN THE MEDICAL RECORD

25. Physician's summary and elaboration of all pertinent data.

1. Head injury – monitor LOC and obtain CT scan
2. CHF – treat with diuretics
3. HTN – treat with current beta-blocker
4. Type II diabetes mellitus – Monitor blood glucose and treat with insulin
5. Depression – Will restart the Sertraline when patient stable

26a. Typed or Printed Name of Physician or Examiner Dr. Sim Getwell	26b. Signature Dr. Sim Getwell	26c. Date 2/28/2008	Patient Label Here Sim, John T. DOB 08-26-69 Adm. #00087654321 Med. Rec. #007654321
---	--	-------------------------------	---

Butler Community College Simulation Lab Medication Administration Record

Start Date	End Date	Initials	Medication/Treatment (Dose/Route/Frequency)	Scheduled Times	Date: 2 / 28 / 2008		24 hour MAR only														
					Chart Actual Times Given										Allergies: Midazolam						
2/28/08		MST	Aspirin non enteric coated 325 mg po daily	0900																	
2/28/08		MST	Digoxin 0.5mg PO daily	0900																	
2/28/08		MST	Ceftazadime 500mg IV daily	0900																	
2/28/08		MST	Furosemide 60 mg IV prn Urine Output < 30 mL/hr x 2 hours																		
2/28/08		MST	Labetalol 10mg IV prn for SBP > 180 every 10 minutes until under 180.																		
2/28/08		MST	Lansoprazole 60mg IV q day	0700	MST																
2/28/08		MST	Metoclopramide 10 mg IV, q 6 hours prn nausea or vomiting																		
2/28/08		MST	Metoprolol 50mg PO BID	0900 2100																	
2/28/08		MST	Midazolam 2mg IV prn q 2 hours for sedation																		
2/28/08		MST	Morphine 4mg IV q 1-2 hours prn pain																		

Initials MST Signature Mitchell S. Taylor/RN Initials _____

Signature _____

Initials _____ Signature _____ Initials _____ Signature _____

Initials _____ Signature _____ Initials _____ Signature _____

Pt label here.

Start Date	End Date	Initials	Medication/Treatment (Dose/Route/Frequency)	Scheduled Times	Date: 2 / 28 / 2008 24 hour MAR only	
					Chart Actual Times Given Allergies: Midazolam	
2/28/08		MST	NS 10mL IV BID and prn for IV flush	0900 2100	MST	0700 am
2/28/08		MST	Lantus 25mg SQ at 2200 daily	2200		
2/28/08		MST	Nitroglycerin 0.4 mg (1/150 gr) Sublingual PRN chest pain (unless: SBP < 90). May repeat every 5 min x 2. Maximum 3 doses.			
2/28/08		MST	Regular Insulin Sliding Scale Q 6 hours BS - Insulin Dose 0-110 - No insulin 111-125 - 2 Units 126-135 - 4 Units 136-145 - 6 Units 146-155 - 8 Units 156-200 - 10 Units <60 >200 Call ordering physician and start Regular Insulin drip IV at 0.05 Units/kg/hr and place Adult Insulin Titration in the Simulated ICU orders on the chart.	00 06 12 18	N/A MST	Not given, patient not on floor. 10 Units Given for BS 176

Initials MST Signature Mitchell S. Taylor/RN Initials _____
Signature _____

Initials _____ Signature _____ Initials _____ Signature _____ Pt label here
 Initials _____ Signature _____ Initials _____ Signature _____
 Initials _____ Signature _____ Initials _____ Signature _____
 Initials _____ Signature _____ Initials _____ Signature _____

CBC	Reference Range	
WBC	12.8 k/mcl (H)	3.8-10.8 k/mcl
Hgb	14.2 g/dl	14-18 g/dl
Hct	42.6 %	40-54%
Platelet	245 k/mcl	130-400 k/mcl
BMP		
Sodium	135 mEq/L	135-145 mEq/L
Potassium	3.1 mEq/L (L)	3.5-5.5 mEq/L
Chloride	95 mEq/L	95-105 mEq/L
CO2	28 mEq/L	22-32 mEq/L
Glucose	176 mg/dL (H)	80-100 mg/dL
BUN	18 mg/dL	10-20 mg/dL
Creatinine	1.3 mg/dL	0.5-1.5 mg/dL
Calcium	7.2 mg/dL (L)	8.5 -10 mg/dL
Magnesium		
Magnesium	1.6 mg/dL (L)	1.8-3 mg/dL
Phosphorus		
Phosphorus	5 mEq/dL (H)	2.5-4.5 mEq/dL
Albumin		
Albumin	3.5 g/dL	3.5-5 g/dL
CPK		
CPK	180 IU/L (H)	55-170 IU/L
CK-MB		
CK-MB	3.4 ng/mL (H)	< 3 ng/mL
Troponin I		
Troponin I	1.3 ng/L (H)	< 1ng/mL
BNP		
BNP	105 pg/mL (H)	< 80 pg/mL
ABG		
pH	7.33 (L)	7.35-7.45
PaCO2	47 (H)	35-45
PaO2	88	80-100
HCO3	24	22-26
BE	-2 (L)	0

Sim, John T. DOB 08-26-69

Adm. #0087654321

Med. Rec. #007654321

||||| ||||| ||| ||| ||||| ||||| |||||

