

Firelands Regional Medical Center School of Nursing  
AMSN 2023  
Comprehensive Simulation: STEMI scenario

**Patient: Nicky Heartbreaker DOB: 1/1/59**

- Nicky is a 64-year old male who developed diaphoresis and mid-sternal chest pain at 10/10 this morning while at work. He drove himself to the local Emergency Department.
- Past medical history: HTN, Hyperlipidemia, DM Type II, Smokes 1 ppd; Noncompliance; Family History CAD; Erectile dysfunction.
- Social history: Divorced, 2 adult children, 3 grandchildren, rents apartment, factory laborer
- **Home medications:** (patient has not refilled the first three medications and has not taken since beginning of April)
  - Atorvastatin 20 mg po QHS
  - Metformin 500 mg PO BID
  - Enalapril 10 mg PO BID
  - Sildenafil 25 mg PO Daily PRN
- Weight: 90kg
- Allergies: Contrast Dye

**Emergency Department**

- Vital Signs: T- 98<sup>0</sup> F (oral); HR-55; RR-18; BP 80/60; SpO2-92%. Weight: 90kg
- A 12-Lead ECG was done which showed ST elevation in Leads II, III, and aVF. He was started on O2 2L per NC, and 2- 18-gauge IV's were started. Fast patches placed.

**Diagnosis: Inferior STEMI**

- He was given the following: four- ASA 81 mg tablets (chewed), three- 0.4 mg SL NTG (has not taken Sildenafil within last 24 hours), Brilinta loading dose (180 mg), Morphine Sulfate 4 mg IV, a Heparin bolus and started on a drip per protocol, and an IV bolus of 2,000 mL of NS.
- The time between his arrival to the Emergency Department and arrival to the Cardiac Cath Lab was 30 minutes.

### **Cardiac Catheterization Lab**

- Procedure: Left Heart Catheterization with PTCA to: **Right Coronary Artery (RCA)**  
Right radial: **TRB Band**
- 2 drug eluting stents
- Medications:
  - Versed 2 mg IV
  - Fentanyl 50 mcg IV
  - Bivalirudin (Angiomax): Supply 250 mg in 50 mL NS
    - Bolus:  $0.75 \text{ mg/kg} (90 \text{ kg} \times 0.75 \text{ mg} = 67.5 \text{ mg}/250 \text{ mg} \times 50 = 13.5 \text{ mL})$
    - Drip:  $1.75 \text{ mg/kg/hr} (90 \times 1.75 = 157.5 \text{ mg/hr}/250 \text{ mg} \times 50 = 31.5 \text{ mL/hr})$
  - Verapamil 5 mg IV
  - Diphenhydramine 50 mg IV
  - Solumedrol 125 mg IV
  - Famotidine 20 mg IV
- TRB band placed
- Stent card placed in chart

### **4C**

- He has just arrived to 4C from the Cath Lab.
- Vital signs: T- 98.9<sup>O</sup> F (oral); BP 108/56; HR- 118; RR- 24; SpO2- 91% on 2L NC
- You performed a 12-Lead ECG with the following findings: **Atrial Fibrillation, ST flat.**
- Present condition: Chest pain free currently; complaint of fatigue & dyspnea; crackles present; low back pain 3/10; EF 35%
- Ecchymosis at right radial site; TR Band in place
- Medications: All but the IV fluid are medications the patient will also be prescribed at discharge
  - ASA 81 mg PO Daily
  - Brilinta 90 mg PO BID
  - Atorvastatin 40 mg PO QHS
  - Metformin 500 mg PO BID- Hold for 48 hours
  - Enalapril 10 mg PO BID
  - Acetaminophen 500 mg PO Q 4-6 hours PRN non-cardiac pain
  - D5 0.45 NS at 80 mL/hr- slowed this due to probable HF and fluid overload

### **1-hour post simulation assignment and survey: due April 24, 2023 at 1600**

Discharge Education: A copy of this document is on Edvance360 under Simulation Resources- use this electronic version to complete and submit the assignment.

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AMSN 2023: Comprehensive Simulation  
**Discharge Education (1H-Sim)**

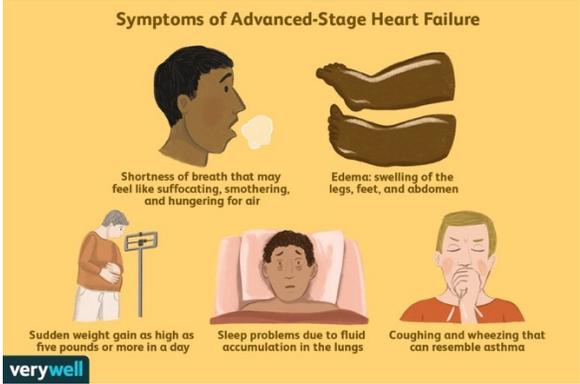


**Directions:** For **each** education topic, include specific information you would provide to Nicky Heartbreaker at discharge. The information must be specific to the patient, scenario, social determinants of health concerns, and be thorough and detailed (this will not be a brief list). Include handouts, video links, pictures, etc. that you could present for **at least 4** of the education topics. This assignment is due in the Comprehensive Simulation dropbox on Edvance360 at **1600 on April 24, 2023 (along with the simulation survey)**. If the assignment is late or not completed in full it will result in 1-hour missed simulation time, and will have to be completed prior to beginning the final exam on 4/28/2023 at 0800.

Topic	Education
<b>Diagnosis</b>	<p>Decreased Cardiac Output related to alerted heart rate/rhythm AEB patient's ECG changes: Atrial Fibrillation</p> <p>In simple terms, this means that your heart doesn't pump enough blood to supply your organs and tissues with adequate oxygen. Decreased cardiac output can lead to a rapid heart rate, as your heart works harder to try to pump more blood. Having a PCI should improve the flow of blood without having to have open heart surgery. You should get less pain. A PCI may also improve your breathing because the blocked or narrowed arteries were causing you to be short of breath. Medication compliance, adequate exercise and following a diet are major areas that you need to adhere to!</p> <p><a href="https://www.heart.org/-/media/files/health-topics/heart-failure/hf-discharge-packet.pdf?la=en&amp;hash=90463681A07EE6230276BC27A08F5D337D1D6D8C">https://www.heart.org/-/media/files/health-topics/heart-failure/hf-discharge-packet.pdf?la=en&amp;hash=90463681A07EE6230276BC27A08F5D337D1D6D8C</a></p>
<b>Medications</b>	<p>Take each medication as prescribed.</p> <p>Develop a system such as a daily chart or a weekly pillbox to ensure the medications are taken.</p> <p>Count pulse rate each day before taking medications (if indicated). Know the limits that your HCP wants for your pulse rate.</p> <p>Take blood pressure at determined intervals if indicated. Know your target blood pressure.</p> <p>Know the signs and symptoms of orthostatic hypotension and know how to prevent them such as rising slowly from the bed, sitting on the side of the bed for a few minutes, standing slowly, and beginning to move if no symptoms develop (dizziness, lightheadness). Do not stand still for prolonged periods, do leg exercises to increase venous return or sleep with the head of the bed raise. Lay down or sit down when dizziness occurs.</p> <p>If you are bleeding from gums, increased bruises, have blood in stool or in urine-</p>

	<p>these can be signs of internal bleeding and you should contact HCP.          Take blood sugars a few times a day and make sure sugars are within normal range.          Hold Metformin for the next 48 hours to prevent lactic acidosis. Continue after 48 hours to help control blood glucose levels.          Take ASA 81 mg PO Daily to help prevent heart attack or stroke.          Britlinta 90 mg PO BID along with ASA to reduce the change of a blood clot forming. These two medications together are called “dual antiplatelet therapy”          Atorvastatin 40 mg PO QHS helps to lower your blood level of cholesterol and fats; has been shown to prevent heart disease, chest pain, strokes and heart attacks.          Enalapril 10 mg PO BID to help treat high blood pressure. When blood pressure is controlled it helps prevent strokes, heart attacks and kidney problems. It is also used to treat heart failure.          Acetaminophen 500 mg PO Q4-6 hours PRN non cardiac pain. Helps by changing the way the body senses pain and by cooling the body.</p>
<p><b>Follow-up/          Compliance</b></p>	<p>Keep all scheduled appointments.          Follow up with doctor especially with medications          If unable to afford medications, we can provide resources for you to lessen the cost.          Inform your HCP if you have any concerns, abnormal findings or worsening symptoms.          Stay up to date on vaccines such as influenza and pneumococcal          Make sure to get blood work done when needed in the case the doctor needs to change medications          If you need a way to and from appointments, we can set a resource up for you.</p>
<p><b>Puncture site care</b></p>	<p>You may remove the bandage 1 day after your PCI or as your doctor directed.          You may shower 1 day after your PCI, do not soak in the tub. Do not sit upright for more than 1 hour at a time during the first day home. If you happen to travel for long periods, stretch your legs out, get up and walk every hour during your first day home.          If any complications occur such as bleeding, hematoma or infection contact your provider right away. Bruising is a common occurrence afterwards, but it will go away soon.</p>
<p><b>Diet</b></p>	<p>Low sodium diet          Enhance foods with substituting lemon juice or spices          Do not add salt to foods          Read food labels, especially for “hidden” salt          Read labels of OTC drugs as well such as laxatives, cough medicines, and antacids for sodium content          Weigh yourself at the same time each day, preferably in the morning, using the same scale and wearing similar clothes          Eat small, frequent meals          AHA website  <a href="https://www.albertahealthservices.ca/facilities/images/Mazankowksi/maz-pv-">https://www.albertahealthservices.ca/facilities/images/Mazankowksi/maz-pv-</a></p>

	<p><a href="#">nutrition-guidelines-for-heart-failure.pdf</a></p>
<p><b>Exercise/Activity</b></p>	<p>Exercise 30 mins per day 5 days a week but increase gradually, provided they do not cause fatigue or dyspnea          On the day of discharge take the day off to rest          Frequent rest periods, especially after exercise and ADLs          Consider shorter working hours or schedule rest period during working hours          Avoid extremes of heat and cold</p>
<p><b>Smoking cessation</b></p>	<p>Nicotine in tobacco causes catecholamine (epinephrine, norepinephrine) release. These neurohormones cause an increase in heart rate, peripheral vasoconstriction, and increased blood pressure. These changes increase the heart's workload. Tobacco smoke is related to an increase in LDL level, a decrease in HDL level, and release of toxic O<sub>2</sub> radicals. All of these add to vessel inflammation and thrombosis. Carbon monoxide, found in tobacco smoke, affects the O<sub>2</sub> carrying capacity of hemoglobin by reducing the sites available for O<sub>2</sub> transport. Thus the effects of an increased cardiac workload and the O<sub>2</sub> depleting effect of carbon monoxide significantly decrease the O<sub>2</sub> available to the heart muscle. The benefits of smoking cessation are dramatic and almost immediate. However, nicotine is highly addictive and people usually need intensive intervention to quit. Individual and group counseling, nicotine replacement therapy, and smoking cessation drugs such as bupropion or varenicline (Harding, et al., 2020).</p> <p><a href="https://www.mentalhealth.va.gov/quit-tobacco/docs/bupropion.pdf">https://www.mentalhealth.va.gov/quit-tobacco/docs/bupropion.pdf</a></p>
<p><b>Signs and symptoms to report/Seek medical care</b></p>	<p>Know the signs and symptoms of worsening HF, including increasing dyspnea, cough, orthopnea, PND, weight gain, edema, fluid retention, fatigue and tiredness with physical activity.          Recall the symptoms when illness began          Report any of the following symptoms to HCP: weight gain of 3 lb. in 2 days or 3-5 lbs. in a week, difficulty breathing, especially with activity or when lying down, fatigue, weakness, frequent dry, hacking cough especially when laying down, waking up breathless at night, swelling of ankles, feet or abdomen, swelling of the face or difficulty breathing (because taking an ACE), nausea with abdominal swelling, pain, and tenderness, dizziness or fainting.</p>

	 <p><b>Symptoms of Advanced-Stage Heart Failure</b></p> <ul style="list-style-type: none"><li>Shortness of breath that may feel like suffocating, smothering, and hungering for air</li><li>Edema: swelling of the legs, feet, and abdomen</li><li>Sudden weight gain as high as five pounds or more in a day</li><li>Sleep problems due to fluid accumulation in the lungs</li><li>Coughing and wheezing that can resemble asthma</li></ul> <p>verywell</p>
<p><b>Other</b></p>	<p>Avoid emotional upsets and share any concerns with your HCP. HF is a progressive disease, treatment plans are established with goals, symptom management depends to a significant degree on adherence to self management protocols such as daily weights, diet, exercise, recognizing signs and symptoms of worsening, precipitating factors, etiologies and contributing comorbid conditions must be addressed, complex care needs often require multiple settings, increased risk for fragmented care and support systems are essential to the success of the entire treatment plan. I provided you with handouts because I know this is a lot of information to take in. If you have any further questions, do not hesitate to reach out!</p>

Harding, M., Kwong, J., Roberts, D., Hagler, D., & Reinisch, C. (2020). *Lewis's Medical Surgical Nursing: Assessment and Management of Clinical Problems* (11<sup>th</sup> ed.). Elsevier.