

HEART FAILURE

Estimated Time: 30 minutes • Debriefing Time: 30 minutes



Scan to Begin



Patient Name: Hector Fernandez

SCENARIO OVERVIEW

Hector Fernandez is a 62-year-old Hispanic male patient who presents to a clinic for a routine follow-up visit for his heart failure. He also needs a urinalysis and capillary puncture (blood glucose) at this visit. Students obtain a patient history and vital signs, perform medication reconciliation, obtain a capillary blood glucose, instruct patient on how to supply a clean catch midstream urine sample, and describe how to obtain the results using urinalysis reagent strips. Images of the supplies needed to accomplish these tasks are displayed as the student progresses through the scenario.

LEARNING OBJECTIVES

1. Demonstrate professionalism in a healthcare setting
2. Practice standard precautions
3. Obtain vital signs
4. Obtain patient history
5. Employ elements of therapeutic communication based upon theories of psychology
6. Assist physician with patient care: routine examinations
7. Analyze the causes, signs and symptoms, diagnosis, treatment, and prevention of common diseases and disorders of the cardiovascular system
8. Instruct patients in the collection of specimens
9. Perform capillary puncture and obtain blood glucose reading
10. Obtain clean catch midstream urine sample and perform urinalysis using reagent strips

CURRICULUM MAPPING

WTCS PROGRAM OUTCOMES

- Provide patient care in accordance with regulations, policies, laws, and patient rights
- Demonstrate professionalism in a healthcare setting
- Demonstrate safety and emergency practices in a healthcare setting

SIMULATION LEARNING ENVIRONMENT & SET-UP

PATIENT PROFILE

Name: Hector Fernandez

Weight: 86.4 kg (190 lbs)

DOB: 09/06/19xx

Allergies: Penicillin

Age: 62

Code Status: Full Code

MR#: 41219

Ethnicity: Hispanic

Gender: Male

Spiritual Practice: Catholic

Height: 175 cm (5 ft 10 in)

Primary Language: Spanish

EQUIPMENT/SUPPLIES/SETTINGS

Patient

- Street clothes
- Has Ziploc bag of various medications with him
 - Medication bottles can be blank with the various QR codes below attached to each bottle for students to view a realistic label. Otherwise, to create your own labels the medications are:
 - Aspirin 81 mg PO
 - Furosemide 40 mg PO
 - Lisinopril 10 mg PO
 - Metoprolol tartrate 25 mg PO
 - Atorvastatin 40 mg PO
 - Digoxin 0.125 mg PO
 - Acetaminophen 500 mg PO
 - Regular insulin vial
 - Lantus insulin vial

Monitor Settings

- Vitals: HR 68, RR 15, BP 188/94, Temp 37.4, O2 sat 100% on RA, Pain 2/10

Supplies

- Equipment to obtain vitals including oxygen saturation

QR CODES

REPORT 	PATIENT 	LEG 	BLOOD GLUCOSE MONITOR 
BOTTLE OF URINALYSIS STRIPS 	URINE SPECIMEN CUP 	URINALYSIS REAGENT STRIP 	BLOOD GLUCOSE RESULT 
ATORVASTIN 	DIGOXIN 	FUROSEMIDE 	LISINOPRIL 
METOPROLOL 	ACETAMINOPHEN 	ASPIRIN 	FACILITATOR 

TEACHING PLAN

PREBRIEF

The facilitator should lead this portion of the simulation. The following steps will guide you through Prebrief.

- Scan the **QR code: “Scan to Begin”** while students are in Prebrief.
- “Meet Your Patient” (on iPad) and explain how the iPad works in the simulated learning environment including:
 - Explain how to use the iPad scanner and QR codes. Remind students that there are multiple QR codes in the simulation, but they should only scan them if they think it will provide data necessary for their assessment and evaluation of the patient.
 - As the facilitator, you should be aware that throughout the simulation some QR codes are necessary to the programming of the iPad content. Directions for which QR codes are required (to be scanned) in each state are listed under each state of the documentation below. The QR codes are also in **BOLD** type.
- Discuss the simulation “Learning Objective(s)” (on iPad) as well as any other Prebrief materials
- Get “Report” on iPad
 - Possible Facilitator Questions
 - What are your priorities when you are rooming a patient with heart failure?
- Play the “Patient” video on iPad
 - Possible Facilitator Questions
 - After listening to the patient’s statement, is there anything you would like to add to your plan?
- Advance to the “Patient Profile” screen (on iPad). This will act as a simulated patient chart.
- Students can view the tabbed content on the iPad (see below) prior to entering the patient’s room and throughout the simulation as needed.

CHECKLISTS

- Procedure checklists for obtaining a capillary blood glucose, obtaining a clean catch midstream urine specimen, and performing a urinalysis using reagent strips are located here. Copies are also located in Appendix B to optionally print out for student use.

VITALS

- The iPad shows the “enterable” vitals screen.
 - If values are entered, they are checked for accuracy against following values (+/- 5): HR 68, RR 15, BP 188/94, Temp 37.4, O2 sat 100% on RA, Pain 2/10

PROBLEM LIST

Problem List

Currently Known Medical Problem(s)

1. Chronic Heart Failure, NYHA Class 2
2. Coronary Artery Disease
3. Diabetes Type 2
4. Chronic Kidney Disease, G3a
5. Obstructive Sleep Apnea
6. Hypertension
7. Osteoarthritis
8. Tinea pedis, recurrent
9. Gastroesophageal Reflux
10. Allergies, seasonal

CURRENT MEDICATION LIST

Facilitator Note:

This is an enterable form for students to use to enter medication information. QR codes for various medications are provided above to simulate medication bottles. By typing the first few letters in the box labelled “Medication,” a list of possible medications and dosages appear for the student to tap to select. The instructions/prescription for how to take the medication should be entered in the box labelled “Notes,” then tap Submit. The medication will appear in the list, with a hyperlink provided to read more about the medication. Students may also tap “Discontinue” to remove the medication from the list.

Metoprolol Succinate and Tartate are both drop-down options to stimulate discussion about the difference between the two medications.

The Facilitator should scan the **QR Code: Facilitator** to indicate when students have completed the medication reconciliation accurately. Once this code is scanned, the iPad will lead them through a series of tasks, as described under State 1.

Medication <input type="text"/>	Notes <input type="text"/>	<input type="button" value="Submit"/>
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Current Medication	Daily Med Link	Notes	Edit
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PATIENT EDUCATION

Patient Education handout on Heart Failure is provided under this tab. Appendix A contains a printable Patient Education handouts for optional student use.

EMERGENCY CONTACT INFORMATION

Emergency Contact Information

Contact	Contact Information
Wife: Maria Fernandez	Phone: 555-555-0156 Address: 220 South Main Street Anytown, WI

LEVEL

When the Level 1 tab is tapped, the iPad reads, “The iPad is at Level 1.”

SCANNER

Use this to scan available QR codes.

EXIT

The iPad reads, “Are you sure you want to exit? All data will be lost.”

- If “No” is selected, the iPad will return to the tabbed content.
- If “Yes” is selected, the iPad will let the student(s) exit and prompt them to complete an embedded 3-5 minute survey.

STATE 1

OBTAIN PATIENT INFORMATION

- Patient Overview
 - Patient is returning to the clinic for a follow-up visit for chronic heart failure. He brought all the medications he has been taking in a Ziploc bag.
- Expected Student Behaviors
 - Introduce themselves to the patient
 - Verify patient identity with name and date of birth
 - Communicate therapeutically regarding patient concerns
 - Obtain and document vital signs accurately
 - Enter medications appropriately into medication record. Students may scan **QR codes** for various medications above that simulate medication bottles. (See instructions for entering medications under the “medications” tab above.)
 - After medications are entered accurately, the Facilitator should scan the **QR Code: Facilitator** to indicate the student is ready to proceed to the remaining tasks.
 - The iPad will immediately display an image of a urine specimen cup with the message, “Verbalize how you will instruct Mr. Fernandez to obtain a urine sample for a urinalysis. (Students may view a checklist on how to obtain a clean catch midstream urine sample.)”
 - The iPad will then display an image of urine reagent strips with the message, “Verbalize the steps you will take to analyze the urine using the reagent strips.” (Students may view a checklist on how to test urine using reagent strip.)
 - An image of a dipped reagent strip next to the bottle will display with the message, “Verbalize the key components checked in a urine dipstick test.”
 - An image of a glucometer and lancets will display with the message, “Verbalize the steps you will take to obtain a capillary blood glucose reading.” (Students may view a checklist on how to obtain a capillary blood glucose.)

- An image of a glucometer with the results 165 appears, with the text: “Verbalize the meaning of this result in terms of Mr. Fernandez’s diabetes disease process.”
 - At this point, students receive a message that they have completed the learning objectives and may exit the scenario. The facilitator can request that they communicate their findings with the provider before exiting. They may also provide patient education using the handout provided under the Patient Education tab.
- Technician Prompts
 - Patient brought his medications in, but does not understand what they are for, or how to take them as prescribed. There is somewhat of a language barrier since his primary language spoken is Spanish. He can speak English, but does not understand medical “lingo.”
 - Initial patient responses can include:
 - “They told me I have a failing heart... But I don’t know what that means.”
 - “When I feel short of breath, I take all of the medicine in this bag. On days I feel well, I don’t take anything.”
 - If students ask about the patient’s current weight, you may simulate measuring weight then state result is “200 pounds.” Ask them to convert this to kg.
 - If students ask the following questions, provide these responses:
 - Do you feel short of breath today?
 - Answer: “A little.”
 - Do you have a cough?
 - Answer: “Yes, sometimes.”
 - Is your cough productive?
 - “I don’t understand what ‘productive’ means.
 - Do you bring up anything when you cough?
 - “Yes, sometimes.”
 - What does it look like?

- “White and... what word do you use... frothy.”
- Do you take any other medications?
 - “When I have pain and it won’t go away with this medication, my wife gives me one of her pain pills.”
- Do you know what medication your wife gives you?
 - “No. It is “poquito” and white.
- Do you smoke?
 - “Yes.”
- Does anyone in your household smoke?
 - “Yes, my wife does.”
- How much alcohol do you drink?
 - “A couple every day when I get home from work.”
- Do you watch how much cholesterol, fat and salt you eat?
 - “I’m not sure, I just eat what my wife gives me.”
- What kind of food do you generally eat every day?
 - “Coffee and eggs, tortillas, burritos and refried beans.”
- Possible Facilitator Questions
 - What are general topics to address when providing care for a patient with heart failure?
 - How will you modify your approach for someone who does not speak English as their primary language?
 - What coaching is important to provide patients for with heart failure for self-management of their condition at home?
 - What is the normal range of a capillary blood glucose? What do these results indicate?
 - How will you modify your approach for explaining a medical procedure for someone who does not speak English as their primary language?
 - What information is gained by performing a urinalysis?

- Why is it important to follow the procedure for obtaining a midstream clean catch urine sample?

EXIT

After the **QR Code: Facilitator** is scanned, when this tab is tapped, a message will display: “Scenario objectives have been met. Are you sure you want to exit the game? Yes/No”

DEBRIEF

Nothing needed from the iPad.

QUESTIONS

1. **Reaction:** How do you feel this scenario went? (Allow students to vent their emotional reactions before delving into learning objectives.)
2. **Review understanding of learning objectives: Demonstrate professionalism in a healthcare setting**
 - a. How did you professionally manage the patient visit when there may be a language barrier?
3. **Review understanding of learning objectives: Practice standard precautions**
 - a. Describe the standard precautions you used while caring for Mr. Fernandez.
4. **Review understanding of learning objectives: Obtain vital signs**
 - a. Review the vital signs you obtained for Mr. Fernandez. Are these within normal limits for a 62-year-old male?
5. **Review understanding of learning objectives: Obtain patient history**
 - a. What kind of health history questions are important to review with a patient with heart failure?
6. **Review understanding of learning objectives: Employ elements of therapeutic communication based upon theories of psychology**
 - a. Did Mr. Fernandez exhibit any “cues” that indicated you should utilize some therapeutic communication?
 - b. How did you respond to his concerns? Was it effective?
 - c. If you could “do over” while communicating with Patrick, is there anything you would do differently?
7. **Review understanding of learning objectives: Assist physician with patient care: routine examinations**
 - a. When assisting with patient care of a patient with heart failure, what data is especially important to be obtained?
8. **Review understanding of learning objectives: Coach patients regarding: treatment plan**

- a. Describe the handout that you reviewed with a patient with heart failure. What are some important topics to emphasize for self-management of this condition?
9. Review understanding of learning objectives: Perform capillary puncture and obtain blood glucose reading.
 - a. Evaluate your explanation of the blood glucose procedure to Mr. Fernandez. How did it go?
 - b. Evaluate your performance of the capillary blood glucose procedure. Is there anything you would do differently if you could “do over?”
10. Review understanding of learning objectives: Obtain clean catch midstream urine sample and perform urinalysis using reagent strips
 - a. Evaluate your explanation of the clean urine catch procedure to Mr. Fernandez. How did it go? If you could “do over,” would you explain anything in a different manner?
 - b. Why is the clean catch procedure important for an accurate sample?
 - c. Explain how you evaluated the reagent strip.
11. Summarize/Take Away Points:
 - a. “In this scenario you assisted in caring for a Hispanic male patient with chronic heart failure. You performed a capillary blood glucose and obtained a clean catch urine sample for urinalysis. What is one thing you learned from participating in this scenario that you will take into your nursing practice?” (Ask each student to share something unique from what the other students share.)

NOTE: Debriefing technique is based on INASCL Standard for Debriefing and NLN Theory-Based Debriefing by Dreifuerst.

SURVEY

Print this page and provide to students.

Students, please complete a brief (2-3 minute) survey regarding your experience with this ARISE simulation. There are two options:

1. Use QR Code: Survey
 - a. Note: You will need to download a QR Code reader/scanner onto your own device (smartphone or tablet). There are multiple free scanner apps available for both Android and Apple devices from the app store.
 - b. This QR Code will not work in the ARIS app.



2. Copy and paste the following survey link into your browser:
 - a. https://ircvtc.co1.qualtrics.com/SE/?SID=SV_6Mwfv98ShBfRnBX

APPENDIX A: HEART FAILURE PATIENT EDUCATION HANDOUT

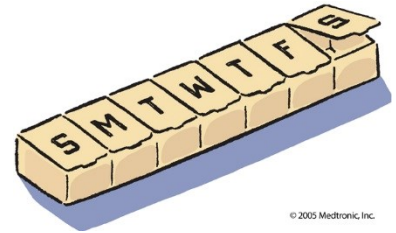
What Can I Do to Manage Heart Failure?

Although heart failure cannot be cured, it can be managed well. Your treatment plan may include medicines, surgery, implantable medical devices, or a combination of these approaches. There are also a lot of things you can do to help improve your condition. Together with proper medical care and careful monitoring, good self-care can help you feel better, stay out of the hospital, and live a longer life.

To manage your heart failure, it is best if you do the following:

Take your medicines regularly as prescribed by your doctor.

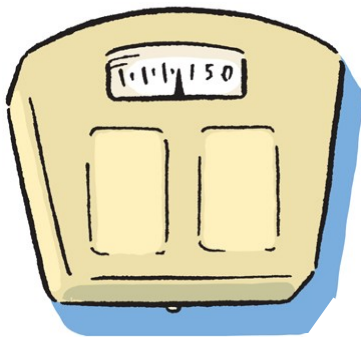
When the medicines that your doctor has prescribed are taken regularly and at the correct doses, they can make you feel better, reduce hospitalizations, and help you live longer. Experts in heart failure call many of these medicines “lifesaving.” Since your medication is very important, when traveling, keep your medication



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in your carry-on luggage and bring it with you on the plane. It is helpful to keep your medicine organized, and remember to refill your prescriptions before you travel so that they do not run out.

Weigh yourself every day and write it down.



Daily changes in weight are usually the result of water weight. By weighing yourself every day at the same time, you can help monitor whether your body is retaining fluid due to heart failure. Even though you may feel the same, a gain of just 3 to 4 pounds over a few days is a sign of worsening congestion that must be treated. If treated, your heart and lungs can function more easily and you may feel more comfortable. If left untreated, it may become more serious and require hospitalization.

Follow a low-sodium (low-salt) diet.

Heart failure can cause your body to retain sodium and result in fluid buildup. The extra fluid makes your heart work harder and your symptoms get worse.

A low-sodium diet generally means that you eat no more than about 2,000 milligrams (mg) of sodium per day. That amount is less than 1 teaspoon of salt from all sources, including the salt that is already in your food.

To reduce the sodium in your diet, stop adding additional salt to your food. Avoid processed foods –especially canned, boxed, or bagged foods – and eat more fresh vegetables and fruit. Be sure to review the nutritional information labels on all packaged foods for sodium content, and decrease the total amount of salt you eat per day. Pay close attention when eating at restaurants. Many restaurants will tell you nutritional information of foods if you ask. They will hold salt when cooking if you ask and will serve salad dressing and sauces/gravies on the side. Also pay attention to certain foods that contain a large amount of water, such as head lettuce or watermelon. Although following a low- sodium diet might be a challenge, by following the diet recommended by your doctor or nurse you will gain better control of your condition.



Get regular physical activity.

Heart failure can make you feel tired. One of the ways to feel better is to keep physically active through a regular exercise program. In general, start slowly and increase your exercise gradually. Talk to your doctor about an exercise program that is best for you. Exercise can be a highly valuable plan to improve your condition.

Quit smoking.

Quitting smoking is one of the best things you can do for your heart and overall health. Smoking damages your blood vessels, increases your blood pressure, and causes lung disease in addition to other problems. Quitting smoking is strongly recommended for all people with heart disease, including heart failure. Talk to your doctor or nurse about new methods for helping people quit smoking.





energy.

Stay connected socially.

Your family and friends can help. Don't keep your condition a secret. Let your family and friends support you and help you stay with your treatment plan. Having an active social life can also help keep your mind off your problems and give you a more positive outlook on life. Participating in activities that you enjoy reminds you of why you want to take good care of yourself and stay healthy. Plan some fun activities that will reduce stress and give you

Monitor your symptoms daily and learn when to call your doctor.

You know your heart failure symptoms best. Write down when you notice your symptoms are getting better or worse, or when you develop new symptoms. This information can help alert you as to when you should call your doctor and can also help your doctor make changes to your treatment.

Feel free to ask your doctor and nurse any questions you might have about your treatment plan.



Adapted by the SCA Prevention Medical Advisory Team from the IMPROVE HF registry toolkit. This material is intended to be educational. It is not intended to replace the information provided to you by your healthcare providers and may not be directly applicable for your individual clinical circumstance.

Please refer to the manufacturers' prescribing information and/or instructions for use for the indications, contraindications, warnings, and precautions associated with the medications and devices referenced in these materials.

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APPENDIX B: PROCEDURE CHECKLISTS

PROCEDURE CHECKLISTS

OBTAINING CAPILLARY BLOOD GLUCOSE MEASUREMENT USING GLUCOMETER

- Sanitize hands
- Assemble equipment
- Verify expiration date on container of test strips
- Calibrate the glucometer (if needed)
- Identify patient and explain the procedure to the patient
- Ask the patient when the last time something was eaten and document appropriately
- Remove a test strip from the container and immediately replace lid on container
- Insert test strip into glucometer
- Open gauze packet
- Clean appropriate anticipated puncture site with antiseptic wipe and allow to dry
- Apply gloves
- Perform a finger puncture at appropriate site with lancet
- Dispose of lancet appropriately
- Wipe away first drop of blood with a gauze pad
- Place finger in dependent position until a large drop of blood is formed
- Apply the drop of blood to target area on the test strip
- Place gauze over puncture site and apply pressure
- Observe digital display of test results

- Remove test strip from meter and discard appropriately
- Check puncture site and apply adhesive bandage, if needed
- Remove gloves and sanitize hands
- Document the test results correctly
- Properly store the glucometer

CLEAN CATCH MIDSTREAM SPECIMEN COLLECTION INSTRUCTIONS

- Sanitize hands
- Identify patient and explain procedure to patient
- Label specimen container
- Instruct male patient to:
 - Wash hands and open antiseptic towelettes, and remove lid from specimen container
 - Pull down undergarments and stand in front of the toilet
 - Retract the foreskin of the penis if uncircumcised
 - Cleanse area around meatus and the urethral opening by wiping each side of the meatus with a separate antiseptic towelette.
 - Use a third towelette to cleanse directly across meatus
 - Discard each towelette into toilet after use
 - Void a small amount of urine into the toilet
 - Collect the next amount of urine by voiding into the sterile container without touching the side of the container.
 - Fill container approximately half full with urine.
 - Void the remaining amount of urine into the toilet
 - Replace lid on specimen container
 - Wipe area dry with tissue, flush the toilet and wash hands
- Test specimen or prepare it for transport to an outside laboratory

TESTING URINE USING REAGENT STRIP

- Sanitize hands
- Assemble equipment
- Check expiration date of reagent strips
- Apply gloves
- Remove reagent strip from container and recap immediately
- Do not touch test areas with fingers
- Mix the urine specimen thoroughly
- Remove specimen container lid and completely immerse reagent strip in urine
- Remove the strip immediately and run the edge against the rim of the urine container
- Hold reagent strip in a horizontal position and place as close as possible to the color blocks on color chart
- Read the results at the exact reading times specified on the color chart
- Dispose of strip into regular waste container
- Remove gloves and sanitize hands
- Document results accurately.

CREDITS

Heart Failure Patient Education handout from American Heart Association, Get with the Guidelines HF Clinical Tools Library. Downloaded from http://www.heart.org/HEARTORG/Professional/GetWithTheGuidelines/GetWithTheGuidelines-HF/Get-With-The-Guidelines-HF-Clinical-Tools-Library_UCM_305817_Article.jsp#.WVZ7a03fPIU

Medication information from National Library of Medicine: Daily Med at <http://dailymed.nlm.nih.gov/dailymed/>

Image of medication bottles from www.shutterstock.com

Picture of edema from Wikipedia at <https://en.wikipedia.org/wiki/Edema>

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