

# HEART FAILURE

Estimated Time: 15 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 follow-up visit for his heart failure and medication reconciliation. He also needs a urinalysis, capillary puncture (blood glucose), and an ECG. When students “meet the patient,” he is very short of breath and speaking in a few words at a time. Students should recognize his altered respiratory status and demonstrate safety and appropriate emergency procedures.

## LEARNING OBJECTIVES

1. Demonstrate professionalism in a healthcare setting
2. Obtain patient history
3. Employ elements of therapeutic communication based upon theories of psychology.
4. Assist physician with patient care: routine examinations
5. Analyze the causes, signs and symptoms, diagnosis, treatment, and prevention of common diseases and disorders of the endocrine and cardiovascular systems
6. Prioritize tasks based on patient's current status
7. Demonstrate safety and emergency practices in a healthcare setting

## 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 (Hives)

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

#### Monitor Settings

- Vitals: HR 68, RR 35, BP 188/94, Temp 37.4, O2 sat 85% on RA, Pain 2/10

#### Supplies

- Equipment to obtain vitals including oxygen saturation
- Note: QR codes for medications can be scanned for images of medication bottles. The following medications are included in this scenario:
  - 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
-

## QR CODES

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

ASPIRIN



# 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 Question:
    - What is your plan of care for this patient?
- Play the “Patient” video on iPad
  - Possible Facilitator Questions
    - After meeting the patient, what are your concerns?
- The Patient Profile is displayed
- A prioritization question is displayed. Students answer the following question: “Prioritize the following tasks in order in which they should be accomplished based on patients’ current status:
  - Reconcile patient’s medications
  - Obtain a ECG

- Instruct patient on how to obtain a clean catch midstream urine sample
  - Obtain a capillary blood glucose reading
  - Obtain vital signs
- Students should order these responses in the proper order using drop down boxes, then tap Submit Answer.
  - The correct answer is “obtain vital signs” as the first priority, with the other tasks in any order. When answered correctly, students will receive the following message: “Correct! Mr. Fernandez is demonstrating signs of respiratory distress. Vital signs should be obtained immediately and reported to a provider.”
  - If students answer incorrectly, they will receive the following message: “Try again. Based on Mr. Fernandez’s current status, there is something else that receives top priority in the tasks you should perform.” Students may then re-order their answers.
- A plaque displays an image of the pulse oximeter with the results “85” displayed. The message states, “Interpret the vital signs you obtained. What are your concerns?”
  - Possible Facilitator Questions:
    - Based on Mr. Fernandez’s health history, what are potential causes of his current status?
    - How will you address these concerns and demonstrate safe patient care?
    - What emergency procedures will you initiate?
- A plaque displays with the message, “Report your findings to the provider and initiate appropriate emergency measures.” At this point, the student may go back to the Patient Profile screen and click on the menu icon in upper left-hand corner to view the chart forms listed below for this patient, such as emergency contact information. Students may also enter vital signs at this time.
- The iPad will return to the Patient Profile plaque where the menu icon in the top left corner of the screen can be tapped to view the various chart forms as the student communicates with the provider and initiates emergency procedures.



## CHECKLISTS

- Procedure checklists for obtaining a capillary blood glucose, obtaining a clean catch midstream urine specimen, obtaining an ECG and performing a urinalysis using reagent strips are located here as well as in Appendix B.

## VITALS

- The iPad shows the “enterable” vitals screen.
  - If values are entered, they are checked for accuracy against following values (+/- 5): HR 68, RR 35, BP 188/94, Temp 37.4, O2 sat 85% 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 enter medications. Scan the medication QR codes to view realistic medication bottles.

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

A Patient Education handout on Heart Failure is provided under this tab. A printable form is also included in Appendix A.

## 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

# PATIENT CARE AND COMPLETE TASKS

- Overview
  - State 1 information is provided for reference if this scenario is completed in the simulation lab after students answer the first prioritization question. Students should recognize his respiratory status and maintain patient safety by immediately notifying the provider and/or initiating emergency procedures.
- Expected Student Behaviors if done in simulation lab:
  - Introduce themselves to the patient
  - Verify patient identity with name and date of birth
  - Communicate therapeutically regarding patient concerns
  - Answer prioritization question on iPad
  - Immediately obtain vital signs
    - This may be entered in the Vital Signs Entry tab.
  - Report findings to the provider using SBAR format
  - Initiate appropriate emergency procedures based on agency protocol that you provide such as:
    - Initiate oxygen therapy
    - Notify emergency contact using appropriate patient confidentiality procedures
    - Call 911 and report pertinent information
    - Stay with patient and explain what is occurring in a therapeutic manner until help arrives
    - An ECG may be obtained until EMS arrives; checklist is provided and **QR Code: ECG machine** and **QR Code: ECG results** may be scanned
    - The other tasks will likely be postponed due to patient status
    - Report pertinent information to EMS when they arrive using SBAR format

- Technician Prompts
  - Patient came in for a routine visit but is extremely short of breath. There is somewhat of a language barrier since his primary language spoken is Spanish. He can speak English, but does not understand medical “lingo.” Students should recognize his altered respiratory status and maintain patient safety by immediately notifying the provider and/or initiating emergency procedures.
  - Initial patient responses (in 2-3 word phrases with labored breathing) can include:
    - “I’m feeling... short on breath... today.”
    - (Coughing) “I have... been coughing a lot... the past few days.”
    - If asked: “When I cough... I spit out... white frothy stuff.”
  - If students obtain an ECG, ask questions like:
    - “Is something wrong... with my heart?”
    - “Will that machine... shock me... like those shows on TV?”
    - “They told me... my heart is failing... But I don’t know... what that means.”
  - If students perform a medication reconciliation while waiting for help to arrive, say things like:
    - “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... to save money.”
    - “I don’t know ...what that medication... is for. I just take... what the doctors tell me.”
    - “That white one... makes me... go to the bathroom... all the time... so on work days... I can’t take it... I can’t ‘hold it’... until my break time!”
  - When roleplaying EMS arrival, students should report pertinent information using SBAR format. Ask questions regarding any “missing” pertinent information such as medical history, current vital signs, current medications, and if oxygen has been applied.
- Possible Facilitator Questions

- Based on Mr. Fernandez's health history, what are some important focused questions to ask?
  - What information should be immediately reported to the provider?
  - What information should be reported to emergency services?
  - How can information be communicated with the emergency contact while still maintaining patient confidentiality?
- Tabbed iPad Prompts & Content Changes
    - Students may exit after they have scanned the **QR Code: Facilitator**, indicating they have performed the Expected Behaviors

## 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: Obtain patient history
  - a. What focused questions did you ask based on the patient's status?
  - b. If you could "do over," is there anything else you would have asked?
4. 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?
5. Review understanding of learning objectives: Assist physician with patient care: routine examinations
  - a. How did you communicate your concerns to the provider?
  - b. If you could "do over," would you communicate anything differently?
  - c. Evaluate your performance of the capillary blood glucose procedure. Is there anything you would do differently if you could "do over?"
6. Review understanding of learning objectives: Analyze the causes, signs and symptoms, diagnosis, treatment, and prevention of common diseases and disorders of the endocrine and cardiovascular systems

- a. Interpret Mr. Fernandez’s symptoms based on his health status. What symptoms are “expected” and what symptoms indicated emergency measures were required?
7. Review understanding of learning objectives: Prioritize tasks based on patient’s current status
  - a. Several tasks were supposed to be obtained prior to the patient’s visit with the provider. How did you prioritize the tasks based on the patient’s status?
  - b. If you could “do over,” would you prioritize the tasks differently?
8. Review understanding of learning objectives: Demonstrate safety and emergency practices in a healthcare setting
  - a. How did you maintain patient safety during this visit?
  - b. What emergency practices did you implement?
  - c. If you could “do over,” is there anything different you would do in this type of situation?
9. Summarize/Take Away Points:
  - a. “In this scenario you assisted in caring for a Hispanic male patient with chronic heart failure who arrived for a routine visit with several tasks to accomplish, but demonstrated shortness of breath. 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](https://ircvtc.co1.qualtrics.com/SE/?SID=SV_6Mwfv98ShBfRnBX)



## APPENDIX A: HEART FAILURE PATIENT EDUCATION HANDOUT

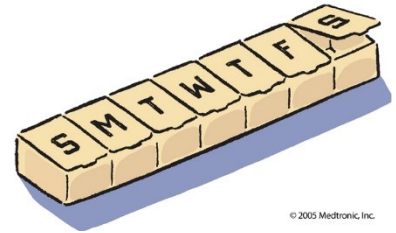
**What Can I Do to Manage Heart Failure?**

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:

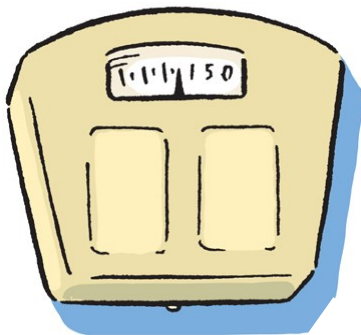
**Take your medicines regularly as prescribed by your doctor.**

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.





### 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

energy.

### 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.

## OBTAINING 12 LEAD ELECTROCARDIOGRAM

- Sanitize hands
- Check expiration date on electrodes
- Identify patient and explain the procedure
- Instruct patient that he or she will need to lie still, breathe normally, and not talk during the procedure
- Ask patient to remove appropriate clothing
- Assist patient to supine position on table
- Make sure patient's arms and legs are adequately supported on the table
- Drape the patient properly

- Position the electrocardiograph with the power cord pointing away from the patient and not passing under the table.
- Prepare the patient's skin for application of the disposable electrodes
- Apply the limb electrodes
- Properly locate each chest position and apply the chest electrodes
- Connect the lead wires to the electrodes
- Arrange the lead wires to follow body contour
- Plug the patient's cable into machine and properly support cable
- Turn on electrocardiograph and enter the patient's data
- Remind the patient to lie still and press the AUTO button to run the recording
- Check to make sure the standardization mark is 10 mm high
- Check the recording for artifacts and correct them if they occurred
- Inform the patient he or she can move and talk
- Disconnect the lead wires
- Remove and discard the disposable electrodes
- Assist patient from the table
- Sanitize hands
- Document procedure accurately
- Place the recording in the appropriate place to be reviewed by the provider
- Return equipment to proper place.

## 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](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](http://www.shutterstock.com)

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

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