

HEART FAILURE

Estimated Time: 20 minutes • Debriefing Time: 10 minutes



Scan to Begin



Patient Name: Henry Foster

SCENARIO OVERVIEW

Henry Foster is a 62-year-old male patient, with a history of chronic heart failure, who called 911 when he became increasingly short of breath at home.

Level 3 requires a “Scene Size-Up,” “Primary Survey,” and “Secondary Assessment” based on the National Registry of Emergency Technicians Psychomotor Exam.

Note: To emphasize the clinical criteria of a 15-minute time limit, timers are in place so that if a student does not make a Transport decision within 10 minutes, they receive a warning. If they do not make a Transport decision within 15 minutes, they will automatically be exited from the scenario.

LEARNING OBJECTIVES

1. Gather information related to dispatch
2. Perform a “Scene size-up”
3. Perform a “Primary Survey” and “History Taking”
4. Make transport decision
5. Perform a “Secondary Assessment” and interpret vital signs
6. Verbalize proper interventions/treatment

CURRICULUM MAPPING

WTCS EMT-P PROGRAM OUTCOMES

- Prepare for incident response and EMS operations
- Integrate pathophysiological principles and assessment findings to provide appropriate patient care.
- Communicate effectively with others
- Demonstrate professional behavior
- Meet state and national competencies listed for EMT- paramedic certification(s)

SIMULATION LEARNING ENVIRONMENT & SET-UP

PATIENT PROFILE

Name: Henry Foster

Gender: Male

DOB: 09/06/19xx

Height: 175 cm (5 ft 10 in)

Age: 62

Weight: 81.8 kg (180 lbs)

EQUIPMENT/SUPPLIES/SETTINGS

Patient

- Street clothes, flannel shirt, knit hat

- Side table in home contains various cues related to his condition: empty beer bottles, open potato chip packages, a bottle of whiskey, a gun, a wastebasket overflowing with tissue

Monitor Settings

- none

QR CODES

<p>DISPATCH</p> 	<p>SCENE</p> 	<p>PATIENT</p> 	<p>FAMILY MEMBER</p> 
<p>ASPIRIN PO</p> 	<p>FENTANYL IV</p> 	<p>FUROSEMIDE IV</p> 	<p>NITROGLYCERIN IV</p> 
<p>NITROGLYCERIN SUBL</p> 			

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:
 - Facilitator note: This scenario has been designed to flow without scanning additional QR codes for convenience in the classroom. For added flexibility, you may elect to use the QR codes provided above to design your own scenario flow.
- Discuss the simulation “Learning Objective(s)” (on iPad) as well as any other Prebrief materials

STATE 1

RECEIVE DISPATCH

- Play “Dispatch” (on iPad): “ARISE EMS, respond emergent to the address of 2610 Main Street, in Anytown. Report of a 62-year-old male having shortness of breath, history of Congestive Heart Failure. Family is reporting increased shortness of breath, unable to get up today.”
- View the “En Route to the scene” message
- Preview the National Registry of EMT Psychomotor Examination form for Medical Assessment
- Possible Facilitator Question
 - What are your plans based on the dispatch you received?

STATE 2

SURVEY THE SCENE

- Play “Scene Survey” video
- View the plaque with the following questions:
 - Verbalize appropriate body substance isolation precautions
 - Verbalize how you will perform a “scene size-up”
- View the plaque reminding students “Your transport decision must be made within 15 minutes.”
- View the “Patient” video
 - Verbalize how you would respond to the patient.
- View the “Family member” video
 - Verbalize how you would respond to the family member.
- View the plaque entitled “Primary Survey and History Taking” with the following questions:
 - Verbalize how you perform a Primary Survey for this patient.
 - What is your transport decision?
 - Verbalize the questions you would ask to obtain a “History of Present Illness”.
 - Verbalize the questions you would ask to obtain “Past Medical History”.
 - Facilitator Note: students may also replay the patient video
- View the plaque entitled “Indicate Transport Decision” with text stating “Indicate your transport decision by tapping the Transport tab.”
 - Students should then tap Transport Tab and indicate their decision (see instructions under the Transport Tab below.)
- Students should tap the Menu icon on the top left corner of the screen, then tap on the Transport tab to indicate their transport decision
- Tabbed iPad Content

EMERGENCY HOME SCREEN

This is the home screen. In the top left corner is the “menu” icon where the tabs described below can be accessed.

MEDICAL ASSESSMENT FORM

The National Registry of Emergency Medical Technicians, EMT Psychomotor Exam: Patient Assessment/Management – Medical form is displayed here. (It is also attached in Appendix A so that it can be printed out for the student if desired.)

PATIENT PROFILE

Patient demographic information is displayed here.

SCENE SURVEY

Tap here to replay the Scene Survey video if desired

PATIENT

Tap here to replay the Patient video if desired

FAMILY MEMBER

Tap here to replay the Family Member video if desired

TRANSPORT

Students are asked, “Have you made your transport decision?”

- If they select “Yes”: they will receive another question: “Will you transport?”
 - If they select “Yes” then then will receive a message “Prepare to transport” and will progress to State 3.
 - If they select “No” then they will receive a message “Communicate your decision to dispatch.” They will then receive a message “Discuss your

transport decision with your facilitator.” (The transport decision can be revised by tapping the Transport tab again.)

- If they select “No”: they will see an image of a clock timer with the message “Your decision must be made within 15 minutes.”

Note: Students have 15 minutes to indicate a Transport decision or they are automatically exited from the scenario. Students will receive a 10-minute warning.

LEVEL

Level 2 is displayed. In order to progress to State 3, students must indicate their transport decision using the Transport tab.

SCANNER

Use this to scan optional QR Codes.

EXIT

If the student taps the Exit tab at this point, 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.

When ALL of the objectives of the program HAVE been met at the end of the scenario, and this tab is tapped, the iPad reads, “All scenario objectives have been completed. Would you like to exit the scenario?”

- 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 3

SECONDARY ASSESSMENT

- View the plaque entitled “Secondary Assessment” with the following questions:
 - Verbalize how you would assess the affected body part(s)
- View the plaque entitled “Pulmonary Assessment: Anterior” with instructions to “Tap on anatomical location(s) to listen to lung sounds.”
 - An image of the patient’s chest appears with “hot spots” located over each anatomical location of the chest. When a “hot spot” is tapped, lung sounds can be heard (with best audio using earbuds or headphones).
- View the plaque entitled “Respiratory Assessment: Posterior” with instructions to “Tap on anatomical location(s) to listen to lung sounds.” (Facilitator note: fine crackles will be heard over posterior lower lobes.)
- View plaque entitled “Verbalize Interventions” and answer the associated questions:
 - Interpret Henry’s vital signs:
 - Pulse 122, RR 35, BP 144/58, O2 sat 85%
 - Verbalize field impression of patient
 - Verbalize proper interventions/treatment based on the Protocol provided (see Protocol tab below)
- Tabbed iPad Content

VITAL SIGNS

Vital signs are displayed here: Pulse 122, RR 35, BP 144/58, O2 sat 85%

PROTOCOL

See Protocol in Appendix A

Note: Students may tap on hyperlinked medications to view medication information.

Once the Protocol is reviewed, students will receive a message that “Learning objectives have been met. You may exit the scenario.”

SCANNER

QR Codes for medications may be scanned at this time to view sample images of the labels of the medication.

EXIT

Students may exit the scenario after viewing the Protocol and verbalizing their interventions.

DEBRIEF

Nothing needed from the iPad.

QUESTIONS

1. How did you feel this scenario went?
2. Review understanding of scenario learning objectives.
 - a. Was the scene safe? Explain.
 - b. What actions are required when a patient is in a car?
 - c. What body isolation precautions were appropriate?
 - d. What is the nature of the patient's illness?
 - e. What did you discover during your Primary Survey?
 - f. What information did you gather while performing History Taking?
 - g. What was your transport decision? Why?
 - h. What information did you gather during your Secondary Assessment and vital signs interpretation?
 - i. What treatments did you initiate per protocol?
 - j. If you could "do over," would you do anything differently?
3. Summary/Take Away Points:
 - a. "Today you analyzed the scene and performed a Scene Size-up, Primary Survey, and Secondary Assessment for a 62-year-old patient, in his home, with chronic heart failure experiencing shortness of breath. What is one thing you learned from participating in this scenario that you will take with you into your EMS practice?" (Each student must share something different from what the others' share.)

NOTE: Debriefing technique is based on INASCL Standards for Debriefing

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 (PULMONARY EDEMA) PROTOCOL

ARISE EMERGENCY MEDICAL PROTOCOLS**RESPIRATORY DISTRESS***(Pulmonary Edema)***Emergency Medical Responder**

- Initial Medical Care
- Position patient upright or in position of comfort
- Provide **O₂** to maintain SPO₂ at >94%

Emergency Medical Technician

- Apply **CPAP** if indicated
- Cardiac monitor
- Acquire 12 lead ECG and transmit to receiving facility
- Monitor End-Tidal CO₂ via nasal cannula for severely ill patients
- Call for paramedic intercept if prolonged transport.

Advanced EMT

- IV **NS** at TKO / Saline Lock
- **Nitroglycerin**: 0.4 mg SL
 - May repeat as needed (Maintain systolic BP > 100)

Intermediate

- **Fentanyl**: 1 mcg/kg IV

Per MCPO:

- **Furosemide (Lasix): 40-60 mg IV**
 - Advise MCP of patient's home dose when calling for possible EMS dose increase

Paramedic

- **Nitroglycerin Infusion: 10 mcg/ minute**
 - Increase to **20 mcg / minute** in 5 minutes if no improvement
 - Maintain systolic BP >100

CREDITS

Lung sounds from ThinkLabs at <http://www.thinklabs.com/lung-sounds>

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

National Registry of Emergency Medical Technicians (2011). Emergency Medical Technician Psychomotor Examination: Patient Assessment/Management - Medical. Downloaded from <https://www.nremt.org/rwd/public/document/psychomotor-exam>

REFERENCES

American Heart Association (2016). Get with the Guidelines: Heart Failure. Downloaded from http://www.heart.org/HEARTORG/HealthcareResearch/GetWithTheGuidelines/GetWithTheGuidelines-HF/Get-With-The-Guidelines-Heart-Failure_UCM_306087_SubHomePage.jsp

International Nursing Association for Clinical Simulation and Learning (2016). Standards of Practice: Simulation. Downloaded from <http://www.inacsl.org/i4a/pages/index.cfm?pageid=3407>

Yancy CW, Jessup M, Bozkurt B, Butler J, Casey DE Jr, Drazner MH, Fonarow GC, Geraci SA, Horwich T, Januzzi JL, Johnson MR, Kasper EK, Levy WC, Masoudi FA, McBride PE, McMurray JJV, Mitchell JE, Peterson PN, Riegel B, Sam F, Stevenson LW, Tang WHW, Tsai EJ, Wilkoff BL. (2013) ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *Circulation*. 2013;128:e240–e327. DOI: 10.1161/CIR.0b013e31829e8776



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