Congestive Heart Failure

Done-For-You Class Outline

This lesson moves from a patient encounter through cardiac foundations to CHF pathophysiology. Each video builds on the last. Use the discussion questions to check understanding before moving forward.

PHASE 1 | OPENING SCENARIO

VIDEO 1 | OPENING SCENARIO

Male Patient in Bathroom with Chest Pain

Play the scenario video without introduction or context. Let students observe the scene, the patient presentation, and the environment before any teaching begins. This grounds the entire class in a real patient encounter and gives students a reason to care about the physiology that follows.

- *What did you notice first about this patient and his environment?*
- *Based on what you observed, what body systems are you thinking about right now?*
- *What questions would you want to ask this patient, and in what order?*
- *What about this scene would change how you approach your assessment?*

Educator Note: Do not teach yet. This is a hook. Let the conversation surface what students already know and where their gaps are. You will reference this patient throughout the rest of the class.

PHASE 2 | CARDIAC PHYSIOLOGY (4 Videos)

VIDEO 2 | CARDIAC PHYSIOLOGY

Foundations of Cardiac Physiology

This video establishes the baseline: cardiac anatomy, the cardiac cycle, and the core mechanics of how the heart functions as a pump. Everything that follows builds from this foundation.

- *In your own words, what is the heart actually doing during each phase of the cardiac cycle?*
- *Why does it matter that we understand normal physiology before we talk about what goes wrong?*
- *How would you explain cardiac output to someone with no medical background?*

VIDEO 3 | CARDIAC PHYSIOLOGY

Electrical Pathways and Coronary Arteries

Covers the conduction system (SA node through Purkinje fibers) and coronary artery anatomy. Connects electrical function to perfusion, setting up why disruption in either system leads to clinical problems.

- *What happens to cardiac output if the electrical system is delayed or blocked?*
- *Which coronary artery supplies the largest area of the heart, and what happens if it is occluded?*
- *How does understanding the conduction system change how you interpret a rhythm on the monitor?*

VIDEO 4 | CARDIAC PHYSIOLOGY

Contractility, End-Diastolic Volume (EDV), and End-Systolic Volume (ESV)

Introduces the mechanical concepts of contractility and ventricular volumes. Explains how the heart fills, ejects, and how much blood remains. These terms become critical in understanding heart failure.

- *What is the clinical significance of blood remaining in the ventricle after contraction?*
- *If contractility decreases, what happens to ESV and what does that look like in a patient?*
- *Think back to our opening patient. Could any of these mechanical changes explain what you saw?*

VIDEO 5 | CARDIAC PHYSIOLOGY

Preload, Afterload, and Contractility

Brings the previous three videos together. Explains how preload (volume coming in), afterload (resistance going out), and contractility (squeeze strength) interact to determine cardiac output. This is the bridge video between normal physiology and heart failure pathophysiology.

- *How would you explain preload and afterload using a fire hose analogy?*
- *If preload increases but contractility stays the same, what happens to the patient?*
- *Which of these three factors do you think is most affected in heart failure, and why?*

Educator Note: This is the key transition point. Confirm students understand these three concepts before moving into the CHF video. If there is confusion here, pause and clarify using analogies or the whiteboard. Do not move forward until the foundation is solid.

PHASE 3 | CHF PATHOPHYSIOLOGY

VIDEO 6 | CONGESTIVE HEART FAILURE

Signs, Symptoms, Pathophysiology, and Management of Right and Left-Sided Heart Failure

The core lesson. Covers how and why the heart fails on each side, the clinical presentation of each, the difference between forward and backward failure, and field management strategies. This video ties every physiology concept from Phase 2 directly to a clinical picture students can recognize and treat.

- *What are the key differences in how a right-sided vs. left-sided failure patient presents?*
- *Why does left-sided failure often lead to pulmonary edema, and how does that connect to preload?*
- *Walk me through your management priorities for a CHF patient in acute respiratory distress.*
- *Think back to our opening scenario patient. Based on everything you have learned today, what type of heart failure do you suspect, and what is your treatment plan?*

Educator Note: Circle back to the opening scenario here. Ask students to reassess the patient from Video 1 using everything they have learned. This closes the loop and reinforces the entire lesson arc.

PHASE 4 | REVIEW GAME

JEOPARDY REVIEW GAME

Team-Based Review Covering All Lesson Content

Split students into teams. Run the Jeopardy game covering cardiac physiology foundations, electrical pathways, contractility and volumes, preload/afterload/contractility, and CHF pathophysiology and management. The game reinforces recall through retrieval practice in a low-stakes, competitive format.

- *After the game: What category was hardest for your team, and why?*
- *What is one concept from today that you want to review again before next class?*

Educator Note: The game serves as both retrieval practice and a formative assessment. Pay attention to which categories students struggle with. Those gaps are your signal for what to revisit or reinforce in future sessions.
