📘 Teaching Heart Failure: A Step-by-Step Plan to Boost Student Retention

✅ Includes versions for EMT & Paramedic classrooms

🫀 *Visualize this: A heart split down the middle—one side strong, one side failing.*

🔹 **This class plan includes:**
🎥 Video prompts
🧠 Analogies
🎲 Active learning games
📝 Assessment strategies

Intro for the Educator

💡 Why This Matters:

Too often, heart failure is taught as a **list of signs and symptoms**. But to recognize it in the field, students need to **understand** what's actually happening inside the heart.

That means starting with the *why*, not just the *what*.

🧠 Teaching Strategy Highlight:

This plan is designed to move students through a retention-building flow:
📌 **Concept → Connection → Clinical Application**

We use:
🎥 Short videos to introduce physiology
🔁 Analogies to simplify complex concepts
🎮 Games to reinforce learning
🚑 Scenarios to link it to prehospital care

EMT-Level Class Plan

Heart Failure Basics & Why It Happens

🎯 **Learning Objective:**

> "Explain the basic function of the heart and identify what happens when the heart begins to fail."

🟢 Quick Physiology Intro (5–7 min)

🎥 **Video Prompt:** Pathophysiology of Heart Failure
💬 **Discussion Prompt:** "What happens if the ventricle gets weak or stiff?"
🔄 **Analogy:** "The heart is like a water pump—if it weakens, pressure backs up in the system."

🟡 What Is Heart Failure? (10 min)

📝 Sketch Left vs. Right heart failure with arrows for backup and symptoms.
🎲 **Signs/Symptoms Game:** Use a matching game or Kahoot:

- JVD
- Crackles
- Pedal edema
- Pink frothy sputum

(Students guess which side of the heart is failing)

🔴 EMT Relevance (10 min)

📖 **Scenario Prompt:**
"You walk in, your patient is sitting upright, gasping for air. Legs are swollen. What are you thinking?"

🚨 **Action Plan:**

- Position upright 🪑
- Apply oxygen 💨
- Recognize CHF → Transport 🏥
- Monitor vitals, prep for worsening

👩‍⚕️ *This connects the physiology to the real-world*

Paramedic-Level Class Plan

📌 Topic: Understanding Ventricular Dysfunction & Clinical Implications

🎯 Learning Objective:

> "Describe the pathophysiology of left and right-sided heart failure and relate it to clinical presentation and management."

🔵 Deeper Physiology (10 min)

🎥 **Video Prompt:** Use a visual explaining preload, contractility, and afterload.
💬 **Class Discussion:** "How does ↓ ejection fraction affect stroke volume?"
🧠 **Patho Build:**
Concept map:
⬇ Contractility → ⬇ Cardiac Output → ⬆ Preload → Pulmonary congestion

🟣 Systolic vs. Diastolic dysfunction (10–15 min)

🧠 **Whiteboard Compare & Contrast:**

- Systolic vs. Diastolic dysfunction
- EF < 40% vs. EF preserved

  👥 **Group Activity:**
  Give short patient cases—students decide which type of failure it is and justify why.

🟠 Real-World Application (15 min)

📖 **Case Simulation:**
68 y/o with orthopnea, rales, + hypertension

💬 **Prompt:**
"What meds are they likely on?
What do you expect for vitals?
How does CPAP help?"

💊 **Treatment Focus:**

- Oxygenation
- Preload reduction (nitro if in scope)
- Diuretics (mention only, unless in scope)
- Monitoring & rapid transport