

## CSM INTRODUCTORY PHYSIOLOGY CARDIOVASCULAR CASE

Mr. Patel is a 70 year old man who has had cardiovascular disease for the past 20 years. Five years ago he had a major heart attack. Over the past two days Mr. Patel has had increasing dyspnea at rest, as well as orthopnea, and paroxysmal nocturnal



dyspnea. He lives at home and has a daughter who comes in every other day to clean and help.

- Mr Patel
- Age: 70
- HR 104
- RR 26
- BP 90/60
- O<sub>2</sub> sat 85%
- Anxious, agitated, tired, difficulty sleeping at night.
- Shortness of breath (SOB) at rest, worsening on activity, bilateral wheeze and crackles.
- Chest radiograph shows: pulmonary venous congestion, pattern of interstitial edema.
- Elevated JVP, skin pale.
- History of constipation.

# CASE ANALYSIS

1. Identify the potential issues and major topics in the case. What is this case about? Underline terms or phrases that seem to be important to understanding this case. Then list 3 or 4 physiology related topics or issues in the case.
  
2. What specific questions do you have about these topics? List what you already know about this case in the "What Do I know?" column. List questions you would like to learn more about in the "What Do I Need to Know?" column.

| <b>What Do I Know?</b> | <b>What Do I need to Know?</b> |
|------------------------|--------------------------------|
|                        |                                |

3. Put a check mark by one to three questions or issues in the "What Do I Need to Know?" list that you think are most important to explore.
  
4. What kind of references or resources would help you answer or explore these questions? Identify two different resources and explain what information each resource is likely to give that will help you answer the question(s). Choose specific resources.

## CORE INVESTIGATIONS

### I. Critical Reading

- a. Marieb *Anatomy and Physiology*, Chapter 18 Heart
- b. Lewis, et.al. *Medical Surgical Nursing: Assessment and Management of Clinical Problems*, Mosby Publishers, 2007

### II. PhysioEx Cardiovascular Dynamics Lab

### III. Human Cardiovascular Physiology Lab from Integrate custom lab for CSM Physiology

### IV. Questions

1. What are the main signs and symptoms of Mr. Patel. What are normal values for each of the measurements taken, and which of the measurements indicate a problem.
2. What does each sign or symptom tell you about the physiological problem Mr. Patel has?
3. How is the heart affected after a myocardial infarction? What is normal cardiac output?
4. Why is Mr. Patel's oxygen saturation below normal?
5. Explain the etiology of congestive heart failure (CHF). Draw a concept map that relates the myocardial infarction to the symptoms and signs.
6. How is congestive heart failure diagnosed? What tests can be done?
7. What are the treatments for CHF?

## REFERENCES

Lewis, et.al. *Medical Surgical Nursing: Assessment and Management of Clinical Problems*, Mosby Publishers, 2007

Marieb, Hoehn, *Human Anatomy and Physiology*, Pearson Publishing, 2009

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