**ESSR Journal Club**

**Covered Article:** “Exercise Intolerance in Heart Failure: Central Role for the Pulmonary System”  
Authors: Sophie Lalande, Troy J. Cross, Manda L. Keller-Ross, Norman R. Morris, Bruce D. Johnson, Bryan J. Taylor  

1) What evidence suggests that a bronchovascular engorgement affects pulmonary function in heart failure?

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3) How does the increase in pulmonary capillary blood volume during exercise differ between patients with heart failure and healthy individuals?

4) What are the principal loads imposed on the respiratory muscles during spontaneous breathing? During exercise, which of these loads contributes to a larger extent to the work of breathing in patients with heart failure in comparison to healthy individuals?

5) What are the muscle myopathies, known as the “skeletal muscle hypothesis,” that lead to exercise intolerance, dyspnea and fatigue in patients with heart failure?

6) Explain how systemic hypoxemia plays a role in pulmonary hypertension due to heart failure.

7) Explain how using a ventilator increases exercising stroke volume in patients with heart failure with reduced ejection fraction.

8) What are some of the strategies that could lead to an improved exercise tolerance in heart failure?