

MODULE 3 L03

Cardiac Muscle Tissue

Dr. Lisa Brinn
lbrinn@fiu.edu

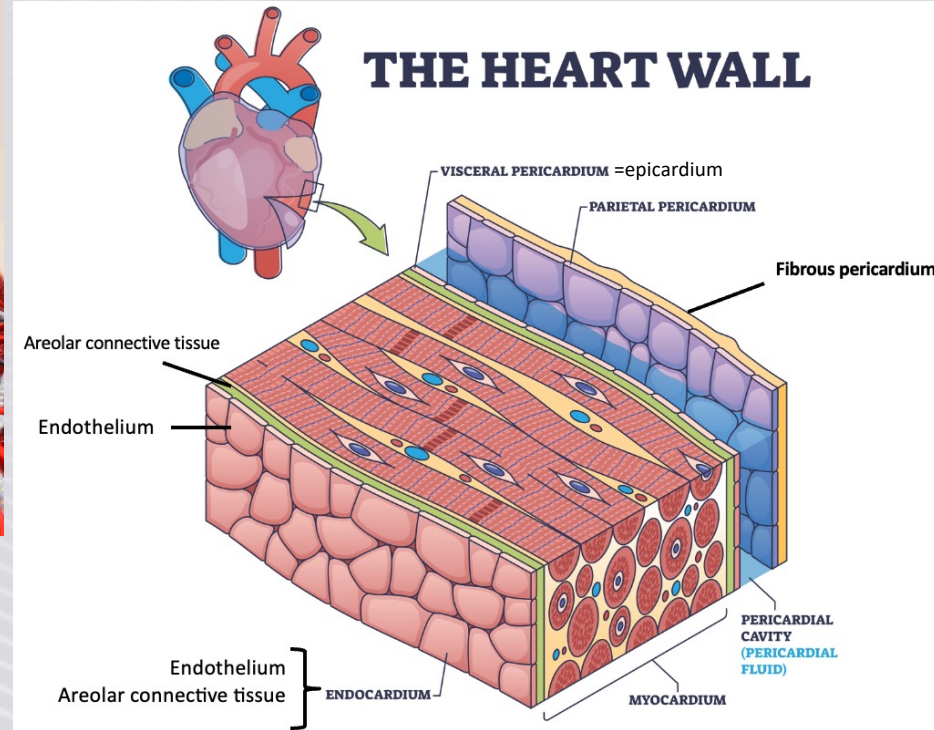
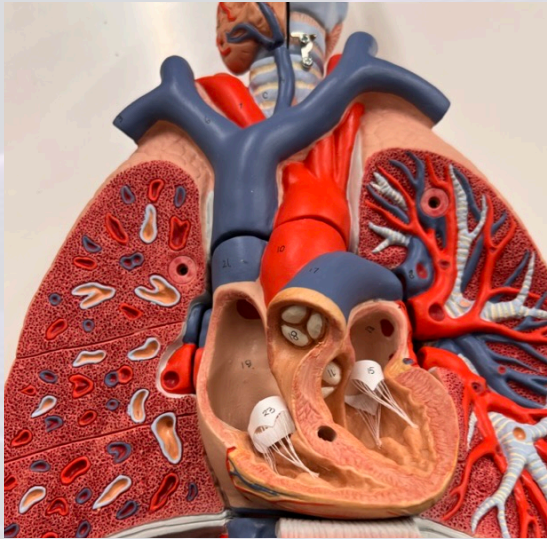


3. Cardiac Muscle Anatomy

- Heart wall structure

- ❖ Three distinct layers

- Epicardium
 - Visceral pericardium
- Myocardium
 - Muscular heart tissue
- Endocardium
 - Areolar connective tissue
 - Simple squamous epithelium
 - Continuous with endothelium
 - Covers:
 - Inner surface of heart
 - Valves



Cardiac Muscle Tissue

- Cardiocyte (cardiomyocyte)
 - ❖ Organized in myofibrils
 - ❖ Sarcomeres → striations
- Different from skeletal muscles
 - ❖ Single, central nucleus
 - ❖ Branched cells
 - ❖ Almost totally dependent on aerobic respiration
 - Mitochondria abundance
 - Myoglobin abundant reserves
 - Energy reserves maintained in the form of:
 - Glycogen and lipid inclusions
 - ❖ Relatively short T-tubules
 - Do not form triads with sarcoplasmic reticulum
 - ❖ Vast circulatory supply
 - ❖ Present autorhythmicity
 - Contract without instructions from the NS
 - ❖ Presence of intercalated discs
 - Hold cardiomyocytes together – functional syncytium
 - ❖ Presence of gap junctions

