Human bio can be studied on multiple levels of organisation - atomic to biosphere. Our focus is cell to organism, with particular focus on structure and function of organ systems.

<u>Organs and organ systems perform complex functions.</u> Complex functions cannot be performed by a single tissue type alone - a combination of tissue types is necessary.

- *Organs* are composed of 2+ tissue types connected together that cooperate to perform a specific function or functions
    - E.g., the heart is composed of muscle tissue (for pumping blood), nerve tissue (presumably to send the signal to pump?), connective tissue (wraps around the heart to hold it together), and epithelial tissue

- *Organ systems* are groups of organs that cooperate with each other to perform a shared crucial biological function
    - There are 11 organ systems in the human body
    - If one organ in the organ system fails, it leads to rapid failure of the overall organ system
    - e.g., the digestive system is composed of the mouth, throat, stomach, intestines, and liver
    - e.g., the lymphatic system is composed of lymph nodes, tonsils, and the spleen
        - The lymphatic system is important for immune response and for draining excess fluid

<u>Cavities of the human body</u>

<u>*Cavities* are 'compartments' that house and protect organs, lined by serous membranes.</u> They are not 'holes' - they are packed full of stuff including organs. They are essential for understanding medical imagery and surgery, and help us understand injury risk, inflammation, and organ movement. They also help us understand diseases and locations of the human body.