

Physiology: Core Concepts

Cell-cell communication: The function of the organism requires that cells pass information to one another and coordinate their activities.

Cell membrane: Cell membranes determine what substances enter or leave the cell or its compartments. They are essential for cell signaling, transport, and function.

Movement of substances: The transport of substances (ions, molecules, fluids, and gas) is a central process at all levels of organisation in the organism.

Structure and function: Function of a cell, tissue, or organ is determined by its form. Structure and function (from the molecular level to the organ system level) are intrinsically related.

Homeostasis: The internal environment of the organism is actively maintained constant by the function of cells, tissues, and organs organized into negative feedback systems

Integration: Cells, tissues, organs and neuroendocrine systems interact with one another, and are dependent on the function of one another to sustain life.

Physiological adaptation: Adjustments and adaptations to acute and chronic changes in the internal and external environments and across the lifespan.