**Human Body Systems and Homeostasis (8.1)**

Cells🡪 Tissues🡪 Organs 🡪 Organ Systems 🡪 Organisms

Human Body Systems:

* Circulatory
* Lymphatic
* Immune
* Digestive
* Respiratory
* Excretory (urinary)
* Integumentary
* Muscular
* Skeletal
* Nervous
* Endocrine
* Reproductive

Human body works best @, T = 37ºC, blood pH = 7.35, blood sugar = 100 mg/mL

Homeostasis: body’s attempt to keep a constant internal environment. Can be called “dynamic equilibrium” to refer to a condition that remains stable within fluctuating limits

Homoiossimilar, like

Stasis🡪 standing still

P345: Fig. 8.2

Requires constant monitoring and feedback regarding the body’s condition.

3 functional components to all homeostatic feedback control systems;

1. Sensor: located throughout body, detects changes in the internal environment

2. Control Centre: signaled by sensor that an organ is operating outside of normal limits and in turn relays info. to appropriate regulator

3. Effector: receives signal from control centre and responds helps to restore regular function.

Two types of feedback systems to regulate your internal environment:

Negative feedback System: a mechanism is activated to restore conditions to their original state.

SENSOR: detects a change that disrupts a balanced state

CONTROL CENTRE: activates

EFFECTOR: reverses the change and restores the balanced state

E.g.: Exercising

P346 Fig 8.3 A & B

## Positive feedback System: less common in the body. Designed to reinforce the change. Move the controlled variable even further away from a steady state.

E.g. Blood Clotting or Child birth (p347 Fig. 8.4)

HMK:

P348 # 1,3,4,6,8-10