

Physiological Aging Changes

SENSORY

- ↓ salivation
- ↓ taste buds for sweet & salty: most tastes are bitter / sour
- ↓ visual acuity
- ↓ sensitivity to sound
- ↓ response to pain
- ↓ thirst sensation
- ↓ motor skills
- Changes in dentition

CENTRAL NERVOUS SYSTEM

- ↓ neuronal density
- ↓ reflexes
- ↓ sympathetic response
- ↓ proprioception
- ↓ baroreceptor response (postural hypotension)

GASTROINTESTINAL

- ↓ gastrointestinal absorption
- ↓ gastric emptying
- ↓ hepatic blood flow / drug clearance
- ↓ drug absorption
- ↓ motility
- ↓ transit time

CARDIOVASCULAR

- ↑ myocardial irritability
- ↑ dysrhythmias, e.g.
 - ↑ PVC's/PAC's
 - ↑ A/V blocks
 - ↓ maximal heart rate
 - ↓ sinus rate
- ↓ arterial compliance
- ↑ systolic blood pressure
- ↓ cardiac output
- ↑ circulation time
- ↓ cutaneous/tissue perfusion

RENAL

- ↓ bladder capacity
- ↓ renal blood flow
- ↓ glomerular filtration
- ↓ renal clearance of drugs & metabolites

METABOLIC

- ↓ basal metabolic rate
- ↑ risk for hypothermia
- ↓ temperature regulation response

IMMUNE

- ↓ neurohumoral response
- ↓ white blood cell reserve (secondary to bone marrow/splenic sclerosis)
- "Sluggish" T cell response

BODY COMPOSITION

- ↓ lean muscle mass
- ↓ subcutaneous fat
- ↑ overall body fat
- ↓ sweat glands
- ↓ skin pigmentation
- ↓ serum protein binding

RESPIRATORY

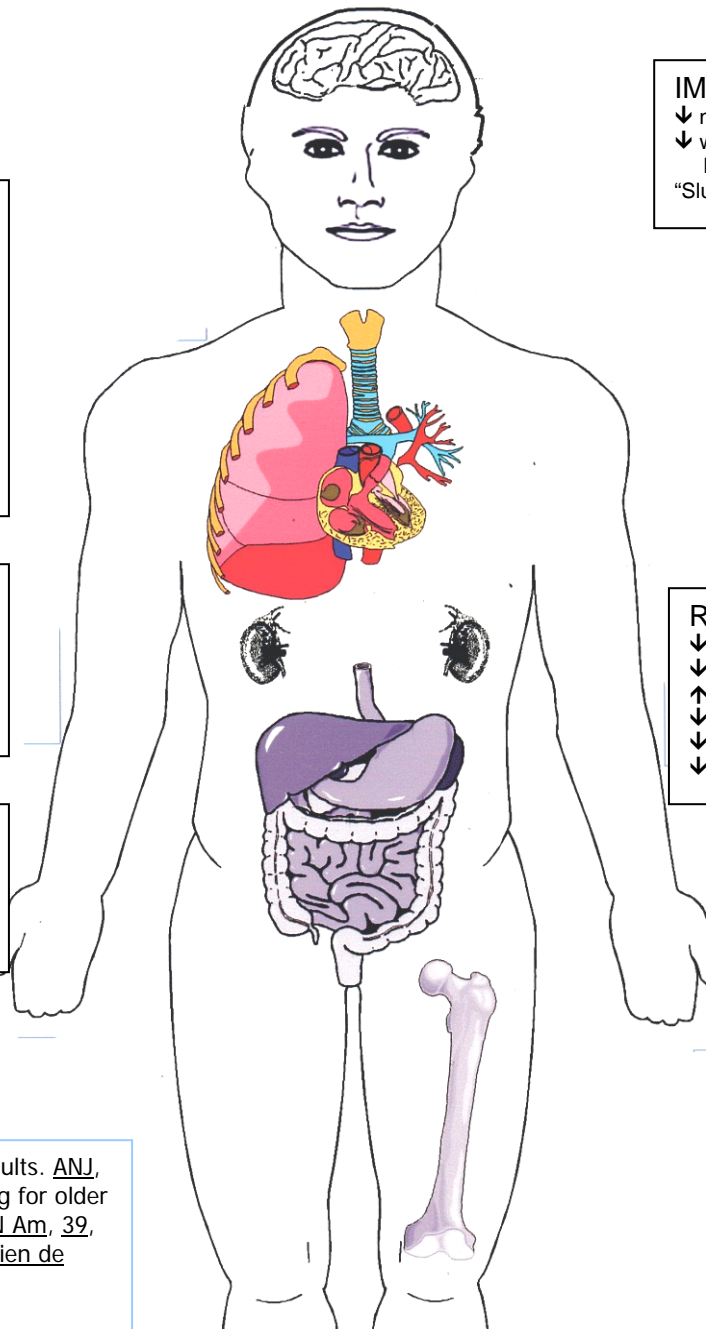
- ↓ tidal volume
- ↓ vital capacity
- ↑ residual volume
- ↓ lung capacity
- ↓ compliance
- ↓ response to hypoxemia/hypercapnia

ENDOCRINE

- ↑ or ↓ thyroid function
- Hypo/hyperthyroidism
- ↓ insulin sensitivity

ORTHOPEDIC

- Osteopenia
- ↑ risk of fractures
- ↓ range of motion
- ↑ ligamentous stiffness



Sources: Graf, C. (2006). Functional decline in hospitalized older adults. *ANJ*, 106(1), 58-67; Mick, DJ, Ackerman, MH. (2004). Critical care nursing for older adults: pathophysiological and functional considerations. *Nurs Clin N Am*, 39, 473-493; Watters, JM. (2002). Surgery in the elderly. *Journal canadien de chirurgie*, 45(2), 104-108.