Physiological Aging Changes

BODY COMPOSITION
- ⬇lean muscle mass
- ⬇ subcutaneous fat
- ⬆ overall body fat
- ⬇ sweat glands
- ⬇ skin pigmentation
- ⬇ serum protein binding

CENTRAL NERVOUS SYSTEM
- ⬇ neuronal density
- ⬇ reflexes
- ⬇ sympathetic response
- ⬇ proprioception
- ⬇ barorecptor response (postural hypotension)

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

ENDOCRINE
- ⬆ or ⬇ thyroid function

Hypo/hyperthyroidism
- ⬇ insulin sensitivity

GASTROINTESTINAL
- ⬇ gastrointestinal absorption
- ⬇ gastric emptying
- ⬇ hepatic blood flow, drug clearance
- ⬇ drug absorption
- ⬇ motility
- ⬇ transit time

IMMUNE
- ⬇ neurohumoral response
- ⬇ white blood cell reserve (secondary to bone marrow/splenic sclerosis)

"Sluggish" T cell response

METABOLIC
- ⬇ basal metabolic rate
- ⬆ risk for hypothermia
- ⬇ temperature regulation response

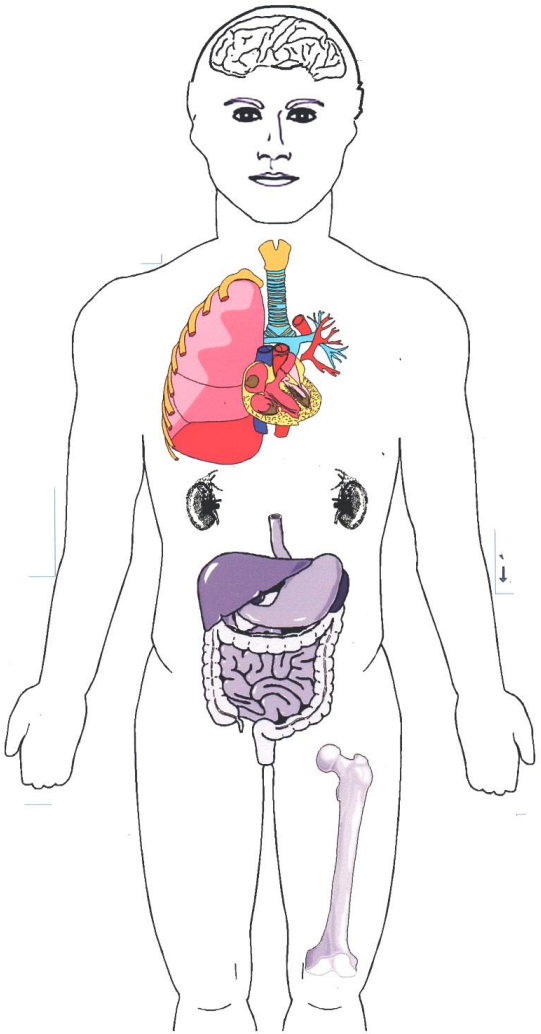
ORTHOPEDIC
Osteopenia
- ⬆ risk of fractures
- ⬇ range of motion
- ⬆ ligamentous stiffness

RENAL
- ⬇ bladder capacity
- ⬇ renal blood flow
- ⬇ glomerular filtration
- ⬇ renal clearance of drugs and metabolites

RESPIRATORY
- ⬇ tidal volume
- ⬇ vital capacity
- ⬆ residual volume
- ⬇ lung capacity
- ⬇ compliance
- ⬇ response to hypoxemia/hypercapnia

SENSORY
- ⬇ salivation
- ⬇ taste buds for sweet and salty (most tastes are bitter or sour)
- ⬇ visual acuity
- ⬇ sensitivity to sound
- ⬇ response to pain
- ⬇ thirst sensation
- ⬇ motor skills

Changes in dentition



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.