

# PHARMACOLOGY: GERIATRIC CONSIDERATIONS



Adults aged 65 and over are at increased risk of adverse effects of medications for several reasons. Older adults are more likely than other age groups to have multiple health conditions, leading to **polypharmacy** and risk of **drug–drug interactions**.

Age-related physiologic changes also affect drug pharmacokinetics, increasing or decreasing the intensity of drugs' effects in older adults.



## Effects of pharmacokinetic changes in adults aged 65 years and older

Increased drug concentration, duration, or intensity	Absorption		Slower gastric emptying delays absorption of oral medications. Low gastric acid may reduce absorption of some medications that dissolve in acid.	Decreased drug concentration, duration, or intensity
	Distribution	Decreased total body water increases drug concentration of water-soluble drugs in a relatively smaller blood volume. Reduced serum albumin results in fewer protein binding sites, increasing free drug concentration.	Increased body fat serves as storage space for lipid-soluble drugs, decreasing serum levels and reducing efficacy of lipid-soluble drugs.	
	Metabolism	Decreased rate of metabolism with age results in longer drug half-life. Diminished first-pass effect increases proportion of active drug entering systemic circulation.		
	Excretion	Decreased renal blood flow and filtration rate allow greater accumulation of drug in bloodstream.		

### BEERS criteria:

- Tool to assist health care providers in assessing **B**enefits, **E**fficacy, **E**vidence, and **R**isks to improve medication safety for older adults
- Identifies potentially inappropriate drugs, potential drug–drug interactions, and renal dosing adjustments

### Nursing interventions to improve medication safety in older adults:

- Obtain a complete list of client medications, including over-the-counter medications, vitamins, and supplements.
- Utilize BEERS criteria to assess safety and appropriateness of client's medication list.
- Collaborate with pharmacist to identify potential drug–drug interactions.
- Assess for physical changes that may impact client's ability to follow medication plan and provide accommodations as needed.
- Adapt medication education if vision, hearing loss, or other age-related changes are present. Use return demonstration or teach–back to confirm understanding.

## NOTES

