

What's Happening to My Older Adult Body: Normal or Pathologic?

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Disclosure

I have no financial interests or relationships to disclose.



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Learning Objectives

1. Identify what normally happens with age to the body and what processes need further work-up.
2. Describe interventions that support successful aging and improve the lives of your older adult patients.
3. Learn about tools to help older adults plan for their future needs as they age.



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Head

Hair Loss

- Decreased scalp hair density
- anagen (growth phase)
< telogen (rest phase)

...More Gray Hair

- Graying of Hair secondary to changes in follicular melanocytes



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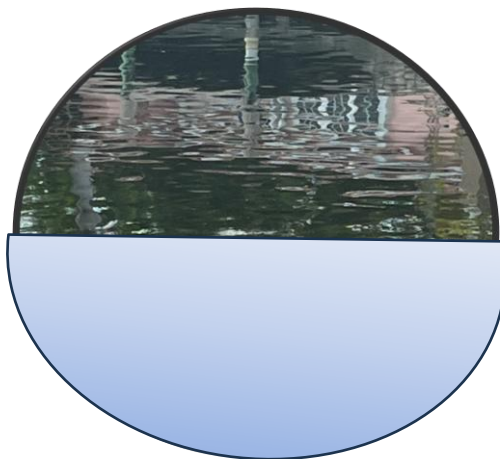
Eyes

- Decreased vision – decreased depth perception, contrast sensitivity, acuity
- Increased Visual Threshold
(minimum amount of **light** needed to see object)
- Decrease in speed of light adaptation
- Distance needed to focus near objects increases owing to decreased lens elasticity and ciliary muscle atrophy
- Decreased number of photoreceptors
- **Decreased production of tears**

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Recs for Age-Related Vision Changes?

- Larger font
(in technology)
- More light
- Glasses but...
- Lose the bifocals



Reuben, D. B., Herr, K. A., Pacala, J. T., Semla, T. P., & Potter, J. F. (2026). Geriatrics at your fingertips (28th ed.). American Geriatrics Society.

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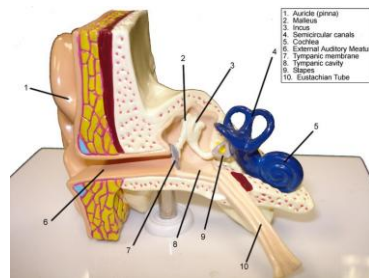


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Ears

- External Ear Canal wall thinning.
- Thicker and longer hair follicles in the ear canal orient towards TM (*Hairy Ears anyone?*)
- TMs becomes thicker and dull
- Calcification of auditory structures (does not affect sound transfer)
- Decreased vestibular system
 - loss of labyrinthine hair cells do affect sound transfer



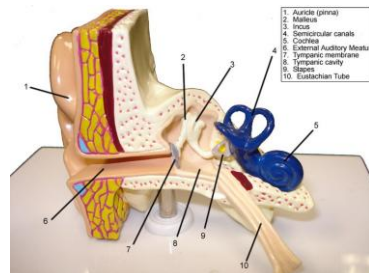
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Ears

Lots more ear wax!

- Decreased number and activity of cerumen glands
- Cerumen becomes drier



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Recs for Hearing Loss?

- Watch out for Cerumen Impactions (Avoid Qtips)
 - Debrox drops w shower flush
- Audiology referral
- Stop screaming!
 - Use Low tone voice or flip your stethoscope
- Hearing Aids – Check the battery by cupping with hands
- Behind the ears are my favorite!



AGS Choosing Wisely Workgroup. American Geriatrics Society identifies five things that healthcare providers and patients should question. J Am Geriatr Soc. 2013 Apr;61(4):622-31.

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Mouth

- Dentition has increased thickness (decreased pulp space)
- Decreased sensitivity of dentition,
- Salivary glands experience fatty replacement of acini
(Dry Mouth)
- Decreased smell, decreased taste, decreased teeth #
 - Can lead to weight loss and diet preferences



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Esophagus / Swallowing

- Increased duration of each swallow = presbyesophagus
- With age (e.g., 80+), it is normal to lose the gag reflex.
 - Provide more time to eat
 - Moisten food (e.g. gravy, butter, ice cream)
 - Don't over-stress about "coughing at meals"
(It's okay to skip the swallow study!)

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Recs: Avoid Gastric Tubes

G-tubes are not useful for older adults for non-stroke swallowing issues

- No evidence that a G-tube prolongs life or improves the quality of life.
- Increased aspiration risk: Tube feeding does not prevent aspiration pneumonia and may even increase the risk. (It does not stop oral secretions!)
- Risk of skin irritation, leakage, nausea, vomiting, and diarrhea.
- May try to pull it out, which can lead to the use of restraints or sedating medication.
- Liquid nutrition from a G-tube is often not well absorbed and lead to diarrhea.

AGS Choosing Wisely Workgroup. American Geriatrics Society identifies five things that healthcare providers and patients should question. J Am Geriatr Soc. 2013 Apr;61(4):622-31.

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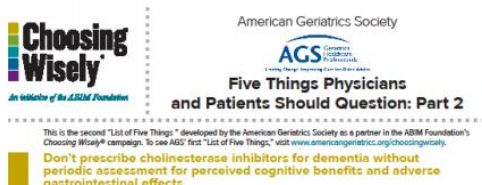
Stomach Shrinks with Age

Weight loss
Common with
older age



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Avoid using prescription appetite stimulants or high-calorie supplements for treatment of anorexia or cachexia in older adults



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Recs: Alternatives to Supplements

Nutrition Facts

Serving Size 1 bottle (8 oz)

Amount Per Serving	
Calories 250	Calories from Fat 50
% Daily Values*	
Total Fat 6g	9%
Saturated Fat 1g	5%
Polysaturated Fat 3g	
Monounsaturated Fat 2g	
Trans Fat 0g	
Cholesterol 5mg	2%
Sodium 190mg	8%
Potassium 390mg	
Total Carbohydrate 40g	13%
Dietary Fiber 1g	4%
Sugars 22g	
Protein 9g	
Vitamin A 25%	• Vitamin C 50%
Calcium 30%	• Iron 25%

* Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Nutrition Facts

Serving Size 1 8 oz container

Amount Per Serving	
Calories 143	Calories from Fat 32
% Daily Values*	
Total Fat 3.52g	5%
Saturated Fat 2.27g	11%
Polysaturated Fat 0.1g	
Monounsaturated Fat 0.967g	
Cholesterol 14mg	5%
Sodium 159mg	7%
Potassium 531mg	
Total Carbohydrate 15.98g	5%
Dietary Fiber 0g	0%
Sugars 15.98g	
Protein 11.92g	
Vitamin A 0%	• Vitamin C 3%
Calcium 42%	• Iron 1%

* Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

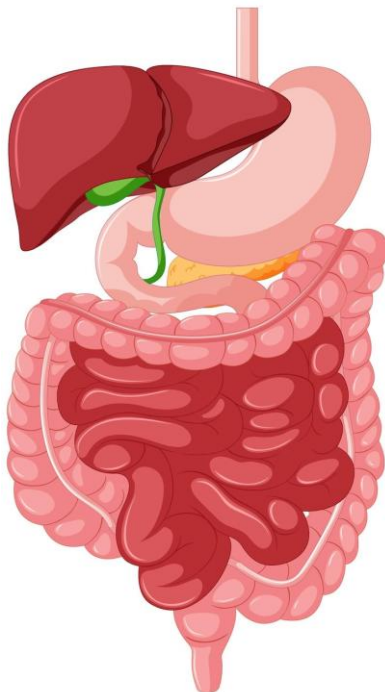
Nutrition Facts

Serving Size 1 slice (1 oz)

Amount Per Serving	
Calories 113	Calories from Fat 84
% Daily Values*	
Total Fat 9.28g	14%
Saturated Fat 5.906g	30%
Polysaturated Fat 0.264g	
Monounsaturated Fat 2.629g	
Cholesterol 29mg	10%
Sodium 174mg	7%
Potassium 27mg	
Total Carbohydrate 0.36g	0%
Dietary Fiber 0g	0%
Sugars 0.15g	
Protein 6.97g	
Vitamin A 6%	• Vitamin C 0%
Calcium 20%	• Iron 1%

* Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

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Motility of the small intestine does not change with age.....
 Large intestine motility does!
 Decrease GI tract absorption rates

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Constipation

- Stop using Docusate (Colace, Dulcolax) for Constipation in Older Adults.
- Docusate when compared with placebo or psyllium or sennosides in these trials did not show any benefits for constipation.
- No differences found between docusate versus placebo.
- Use Psyllium (Metamucil), Sennosides, or Polyethylene Glycol (Miralax)

Nguyen T. The Role of Docusate for Constipation in Older People. *The Senior care pharmacist*, 36(10), 501–507. Tarumi, Y., Wilson, M. P., Szafran, O., & Spooner, G. R. Randomized, double-blind, placebo-controlled trial of oral docusate in the management of constipation in hospice patients. *Journal of pain and symptom management*, 45(1), 2–13. McRorie, J. W., Daggy, B. P., Morel, J. G., Diersing, P. S., Miner, P. B., & Robinson, M. (1998). Psyllium is superior to docusate sodium for treatment of chronic constipation. *Alimentary pharmacology & therapeutics*, 12(5), 491–497. Hawley, P. H., & Byeon, J. J. A comparison of sennosides-based bowel protocols with and without docusate in hospitalized patients with cancer. *Journal of palliative medicine*, 11(4), 575–581. <https://doi.org/10.1089/jpm.2007.0178>

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Constipation Fix?

- **Fiber:** Something in the chute
- **Fluid:** Something to grease the chute
- **Gravity:** Exercise



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Liver

- Insulin levels increase or remain the same
 - Insulin release decreased but also decrease in clearance
- Peripheral tissue is less responsive to insulin

- Decrease in metabolism by hepatocytes

(Tylenol max dose is 3000 mg not 4000mg for older adults)

Reuben, D. B., Herr, K. A., Pacala, J. T., Semla, T. P., & Potter, J. F. (2026). Geriatrics at your fingertips (28th ed.). American Geriatrics Society.
Tylenol Max dosing 3000mg daily.
<https://www.tylenolprofessional.com/products-dosage-adult>

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Muscles

- Gait slowing
- Decreased stride length
- Broad based stride with small steps
- Decreased arm swing
- Increased flexion of hips and knees
- Decreased proprioception (decreased sensitivity)
- Decreased lean muscle mass
- Increased sarcopenia (decreased type 2 muscle fibers)

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What Does This Mean?



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Recs for Muscles: Use It or Lose It

Exercise More!!!!

(Sit 5 minutes less every hour)

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Bones

- Nucleus Pulposus of backbones become less gel like and do not herniate
- Decreased bone mass
- Decreased 1, 25 (OH)₂ D Levels;
- Decreased uptake by Ca⁺⁺ by GI tract,
- Decreased Vit D synthesis by skin
(decreased sunlight exposure)

Halter JB, Ouslander JG, Studenski S, et al., eds. Hazzard's Geriatric Medicine and Gerontology. 8th ed. McGraw Hill; 2022.

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Recs for Bones

- Calcium from natural sources if possible
- 20 minutes of sun/nature daily
- Strength training = Yes, even when 100 y/o
 - Best exercise for Osteoporosis prevention???

Halter JB, Ouslander JG, Studenski S, et al., eds. Hazzard's Geriatric Medicine and Gerontology. 8th ed. McGraw Hill; 2022. Hoong CWS, Saul D, Khosla S, Sfeir JG. Advances in the management of osteoporosis. BMJ. 2025 Jul 30;390:e081250.

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Renal/Urinary

- Renal function decreases after age 40 at a rate of 1% per year
- Serum Magnesium decreases by about 15% -between 3rd to 8th decade
- Decreased renal excretion of drugs

For Drug Prescribing: *Go low and go slow.*

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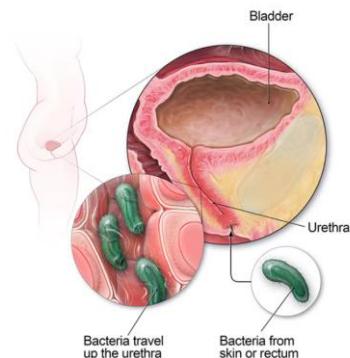
Urinary Tract Infections (UTIs)?

- About 50% of people over 80 y/o have **asymptomatic bacteriuria**

(Bacteria in urine but no UTI symptoms)

- UTI symptoms = Fever, flank pain, burning with urination

**NOT COGNITION CHANGES OR
CONFUSION**



<https://www.cdc.gov/antibiotic-use/media/pdfs/Consult-pharm-11by17poster-Bacteriuria-P.pdf>

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Fluid Intake

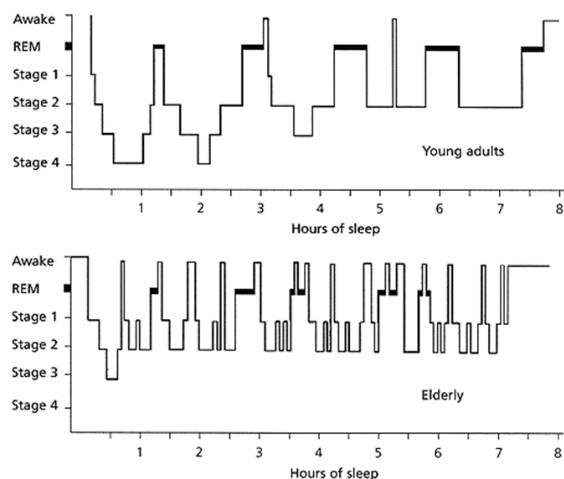
- What else do people do when diagnosed with a UTI? **“Push Fluids.”**
- **Dehydration** is common among older adults and causes confusion.
- Lose the thirst mechanism.... First signs can be pre/syncope, confusion.



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Sleep Changes with Age

- Decreased sleep efficiency,
- Decreased total sleep time,
- Increased sleep latency,
- Early AM awakenings
- Shortened period of REM
- Increased REM density
- Decreased stage 3 and 4 sleep,
- Stage 1 and 2 remain the same or increase



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Recs for Insomnia

- Avoid Benadryl (Diphenhydramine) containing products (e.g., Tylenol PM, Aleve PM)
 - Increases confusion, agitation, and urinary retention
- Lower patient expectations:
Sleep patterns change with age....
- Push Non-Pharm
 - Increase Exercise*
 - Cut back on naps, Day-night reversals*
 - Avoid fluid intake after 6pm*
 - Target urinary incontinence*

Matheson EM, Brown BD, DeCastro AO. Treatment of Chronic Insomnia in Adults. Am Fam Physician. 2024 Feb;109(2):154-160. PMID: 38393799.

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Summary

- Your body is constantly changing – It's better than the alternative!
- Avoid Bifocals to prevent falls
- Check hearing aids are working by cupping them.
- Don't order routine Urinalyses
- Older people lose gag reflex... Skip the Gastric tube
- Skip docusate - Fiber, Fluids, and
- Exercise More, Drink More, Eat Pie!!!



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