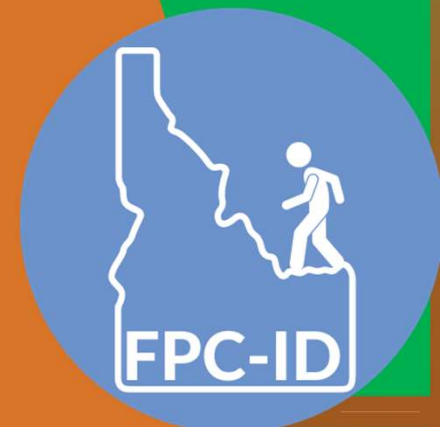


STAY INFORMED:

**WHY FALLS MATTER AND HOW TO
PREVENT THEM**



IT'S A GREAT DAY TO BE FALLS-FREE

Idaho celebrates
Falls Prevention Awareness Month
each September





GOT QUESTIONS?

Use the Questions panel to ask what you're
curious about

Our ZOOMbie will pose them to the
appropriate presenter

SEMINAR MATERIALS

Materials are available
on the ICOA FPAM website
<http://aging.idaho.gov/falls>



TECHNICAL EMERGENCY PLAN

- You are **disconnected**, log back in as soon as possible
- We **lose a panelist**, they will log back in ASAP and continue their discussion
- We **lose our “mother ship”** at ICOA, we have people who can take over
- **Solar flares** shut down this hemisphere, we will contact you when rescheduled



SEMINAR RECORDING

- The seminar is being **recorded**
- You will receive a link via e-mail when it is available
- It will also be available on our **Falls**

**Prevention webpage and
on our YouTube channel**

WHAT WE'LL DISCUSS, SO YOU CAN BE FALLS-FREE

TOPICS FOR TODAY

- Understanding falls
 - Why falls matter
 - Physical health and falls
 - Emotional health and falls
 - Environmental safety and falls
- Medication and falls
- Nutrition and falls

The image features a complex abstract background. A large, light blue circle is the central focus, containing the text 'UNDERSTANDING FALLS'. To its left, a dark blue triangle and a green triangle are positioned. Above the circle, a thick orange ring and a purple ring are partially visible. The top of the image has a horizontal bar with a purple-to-green gradient. The bottom right corner shows a small grey dot on a thin line, and a brown bar is at the very bottom.

UNDERSTANDING FALLS

CAITLYN KINAHAN

Boise VA Medical Center
Geriatrician

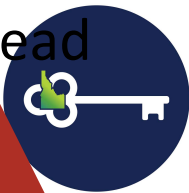
KAITYLYN GAINES

PT/DPT, GCS
Kootenai Health
Inpatient Rehab Services



FALL DATA

- Each year, millions of older adults (>65 and older) fall, but less than half tell their doctor.
- Falling once doubles your chances of falling again
- One out of five falls causes a serious injury such as broken bones or head injury
- Over 800,000 patients a year are hospitalized because of a fall injury



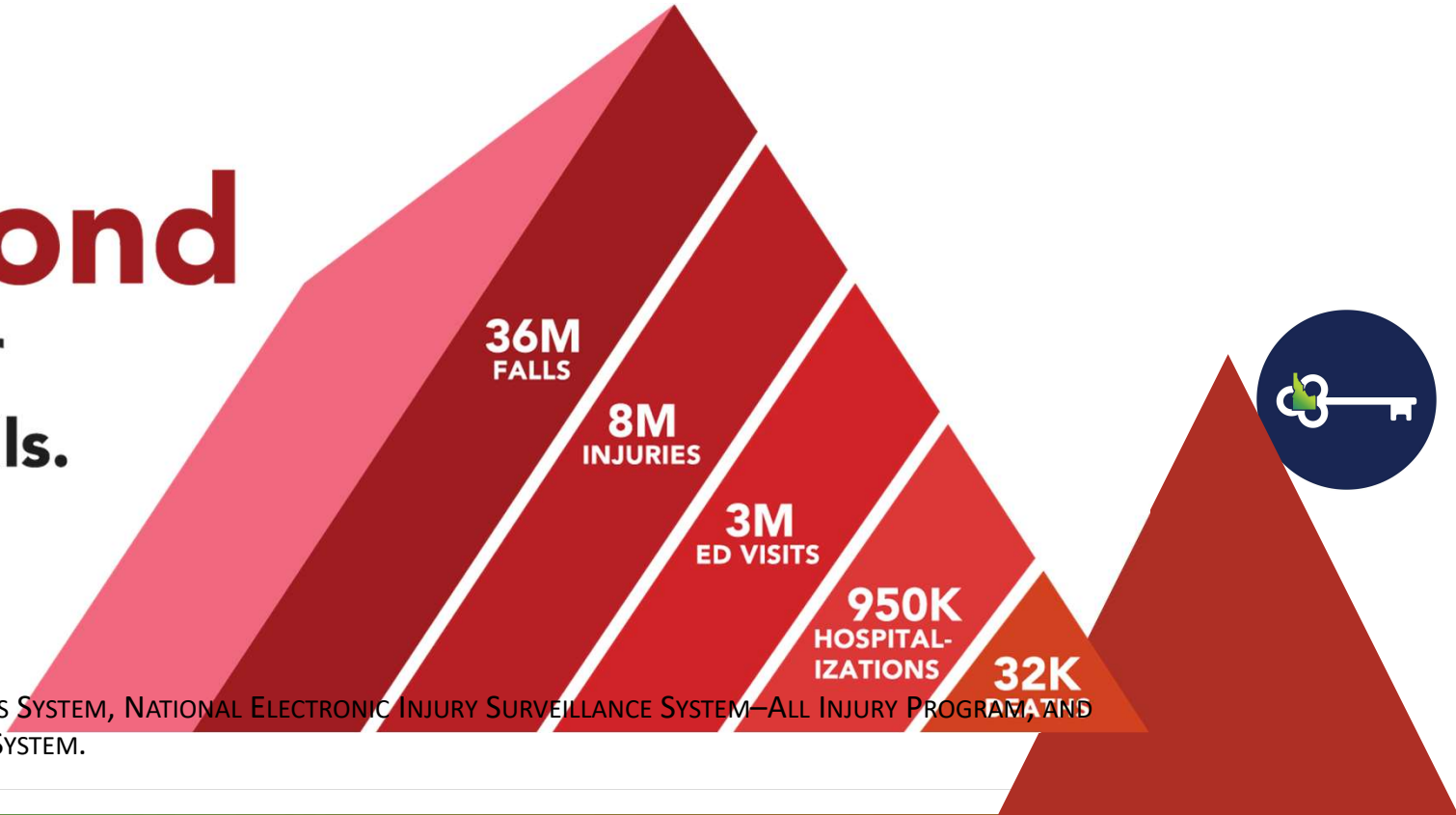
FALL DATA CONT.

- Each year, at least 300,000 older people are hospitalized for hip fractures
- Falls are the most common cause of traumatic brain injuries (TBI)
- In 2015, the total medical costs for falls totaled more than \$50 billion, with Medicare and Medicaid paying for 75% of these costs
- Falls and fall injuries increase the risk of nursing home placement



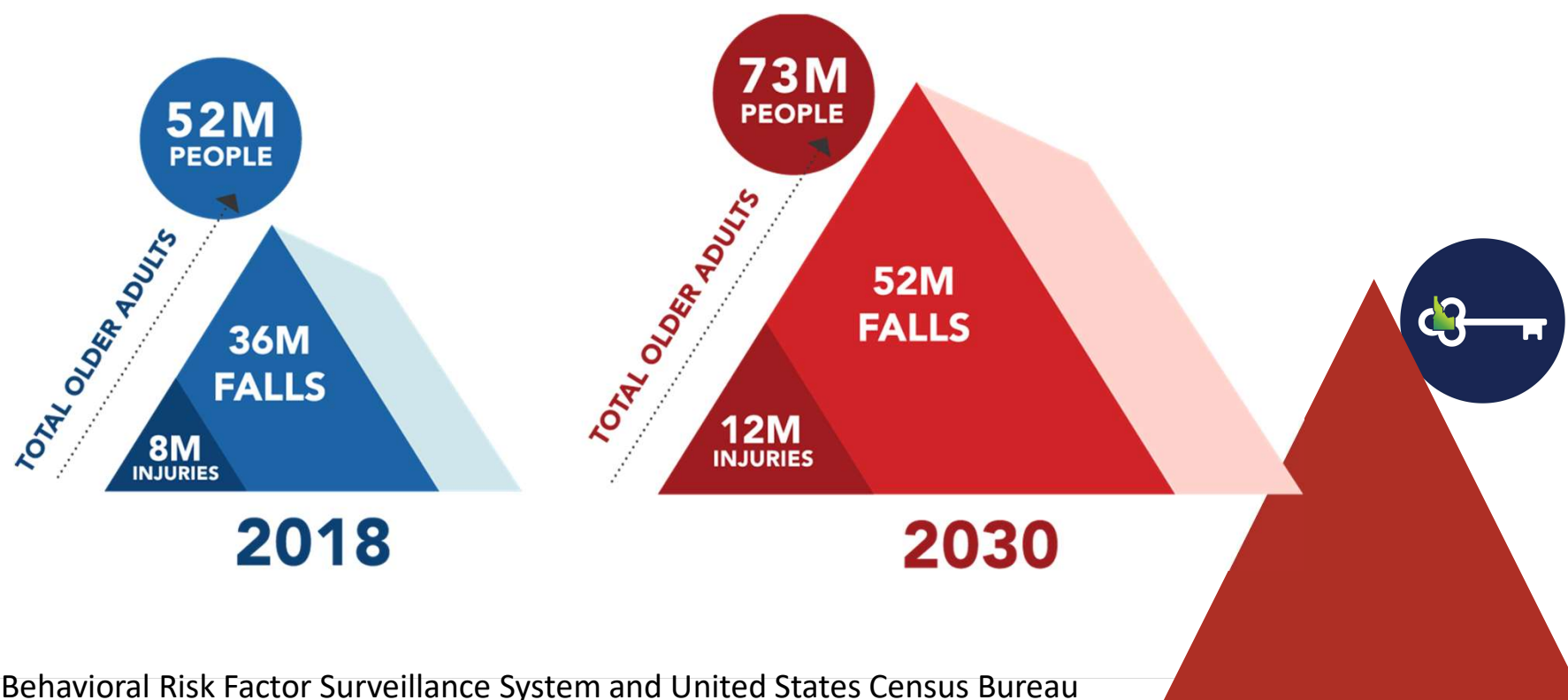
Falls are common (2018)

Every
second
an older
adult falls.



DATA SOURCES: NATIONAL VITAL STATISTICS SYSTEM, NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM—ALL INJURY PROGRAM, AND BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM.

FALLS ARE A GROWING BURDEN



IDAHO DATA (2020)

- 26.8% of older adults in Idaho have had a fall
- Total: 73,316 falls
- 119.7 falls (per 100,000)
- 298 deaths total

*keep in mind, these are REPORTED falls



IDAHO DATA (2014)

Total cost of a fall for the state
of ID

- **164,000,000**

Medicare Cost

- 111,000,000

Medicaid Cost

- 27,000,000

Private/Out of Pocket

- 26,000,000



OUTCOMES AFTER HOSPITALIZATION DUE TO FALLS

- Over ½ discharged to a skilled nursing facility
 - 33% went home without assistance
 - 6% home with assistance
 - 5% to inpatient rehab facilities
-
- Within one year
 - 44.6% were readmitted
 - 1-year mortality is 33%



LET'S START WITH A STORY...

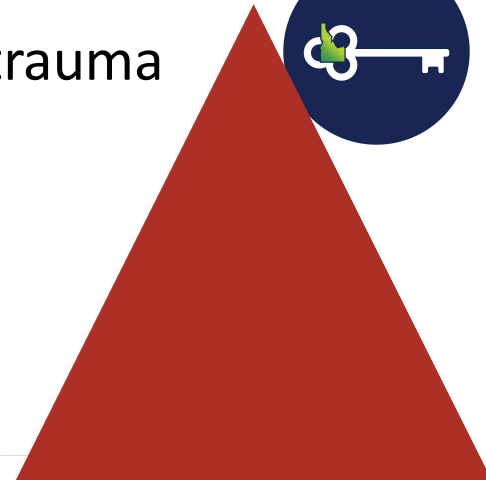
- “Barbara” is an 85 year old woman with insomnia, high blood pressure, and chronic back pain
- She lives alone in an apartment that has an elevator and she is able to manage driving, finances, and her medications without help.
- She attends her Annual Wellness Visit and shares that she has fallen 3 times this month.



DEFINITION OF A FALL

**An unplanned move
that results in
coming to rest
at a lower level**

- Does not include fainting, seizures, fits, or overwhelming trauma



FALLS – WHY THEY HAPPEN

- Usually not one single cause!
- Accumulation of challenges associated with aging
 - Age-related changes to balance, eyesight, strength
 - Medication effects
 - Environmental factors
 - Chronic medical conditions



FOUR PILLARS

- Nutrition/Hydration
- Physical Health
- Emotional Health
- Environmental Safety



RISK FACTORS FOR FALLS

Intrinsic Risk Factors

- Age-related changes to balance
- Decreased muscle mass and strength
- Low vision
- Memory loss
- Vertigo
- Joint or foot conditions
- Movement Disorders (Parkinson's Disease, Huntington's Disease)
- Fear of Falling

Extrinsic Risk Factors

- Low lighting in the home
- Small pets
- Loose rugs/cords
- Footwear
- Medication side effects

SKELETAL TISSUE

- Peak bone mass is reached at 20-30 years of age which is followed by a slow decline
- Bone loss is accelerated in postmenopausal women
- It's estimated that 10 million Americans have osteoporosis and that 2 million osteoporosis-related fractures occur yearly.
- Fracture risk increases with decreasing bone density
- Exercise is critical to bone health and osteoporosis prevention



Source: Avers, D., & Wong R. (2020). *Guccione's Geriatric Physical Therapy*. Elsevier Publishing.

MUSCLE TISSUE

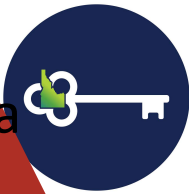
- There is about 20%-40% decrease in muscle mass by the age of 70
- There are decreasing muscle fiber sizes in aging adults
- Aging can lead to sarcopenia
 - A progressive impairment of muscle function due to loss of muscle mass that occurs with advancing age
- Exercise has a positive effect on muscle function and performance



Source: Avers, D., & Wong R. (2020). *Guccione's Geriatric Physical Therapy*. Elsevier Publishing.

BODY COMPOSITION

- Typically, lean mass (muscle) decreases while fat mass increases
- This can contribute to a decrease in resting metabolic rate from 1-2% per decade after the age of 20
- Obesity has significantly increased over the years, sedentary behavior contributing to this
- Exercise has a significant role in controlling fat mass and maintaining a healthy body composition



Source: Avers, D., & Wong R. (2020). *Guccione's Geriatric Physical Therapy*. Elsevier Publishing.

BACK TO BARBARA...

- Barbara describes her last fall:
 - Up in the middle of the night getting some water when she tripped on her dog
 - She was not able to get up on her own, had to crawl to her bedroom to call 911
 - She had no injuries, and denies fainting
 - She has been taking her medications as prescribed, and all of her falls have happened in her home at night
- She takes pain medicine for her back and 2 sleep medications

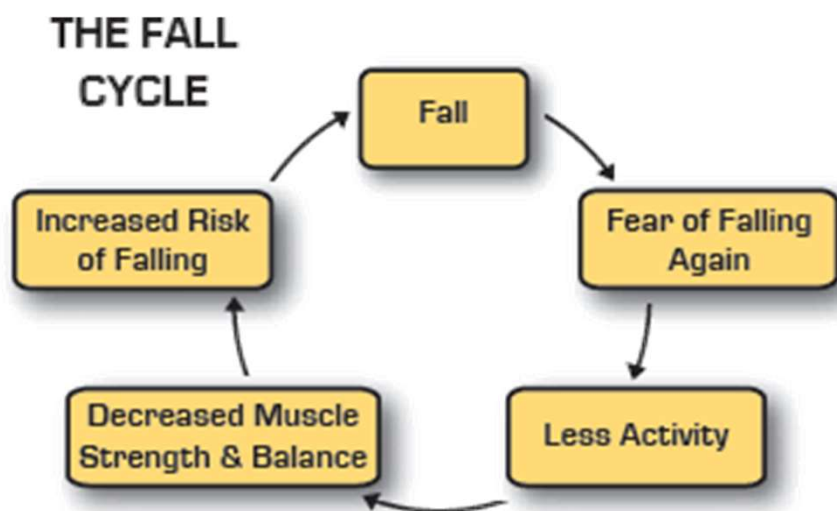


THE IMPACT OF FALLS

- Barbara describes feeling very limited because of her falls
- She is less interested in going out of the house because she worries about getting hurt
- She is less active overall, and her family is worried about her



THE IMPACT OF FALLS – THE FALL CYCLE & WELL BEING



- Social isolation
- Depression
- Diminished quality of life

- Reduced activity → functional decline
- Loss of independence
- Increased admission to nursing homes
- Increased risk of death



WHAT YOU CAN DO TO PREVENT FALLS

- 1) Review your medicines with your healthcare provider
- 2) Exercise
- 3) Have your eyes and feet checked
- 4) Make your home safer



EXERCISE

- Exercises that improve balance and strength help to lower your chance of falling
 - Tai Chi
 - Walking
- Lack of exercise leads to weakness, which increases risk of falls and makes it harder to get up
- Ask your doctor what they recommend for safe exercise for you



EYE AND FOOT HEALTH

- Have your eyes evaluated once a year and keep your eyeglasses prescription updated
- Glaucoma and cataracts can limit vision and worsen risk of falling
- Bifocals are not recommended

- Once a year have your doctor check your feet and discuss if a foot specialist is needed
- Discuss your usual footwear with your doctor – a fully enclosed shoe with a rigid sole is safest



MAKE YOUR HOME SAFER

- Remove things that you can trip over from walkways and stairs
- Remove throw rugs and loose cords
- Consider grab bars next to the toilet and in the tub
- Use non-slip mats in the bathtub and shower floors
- Lighting
- Wear appropriate footwear inside the house
- Small pets
- Consider a personal alarm

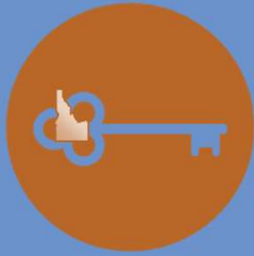


CHECK FOR SAFETY BROCHURE



QUESTIONS?





NATALIE HANSEN

PharmD Candidate

**Idaho State University
School of Pharmacy**

WHO IS AT INCREASED FALL RISK AND WHY?

🔗 Medication side effects

- Additive effects

🔗 Polypharmacy

- $\frac{2}{3}$ of people > 65 years old take 5-9 medications
- Risk of drug interactions:
 - 2 medications: 13%
 - 5 medications: 38%
 - 7 medications: 82%

$$1 + 1 = 3$$

POLYPHARMACY

- ⌘ Definition: regular use of at least 5 medications
- ⌘ Causes: multiple medical conditions managed by numerous providers and pharmacies, poorly updated medical records, potentially inappropriate prescribing
 - Over-prescribing: excessive dose/duration
 - Mis-prescribing: unfavorable choice of medication, dose, or duration
- Risks: reduced adherence, falls, cognitive impairment



HIGH RISK MEDICATION CLASSES

- ⌘ Benzodiazepines
- ⌘ Other Sedatives
 - “Z drugs”
- ⌘ Antidepressants
 - Tricyclic antidepressants
- ⌘ Heart medications
- ⌘ Diabetes medications

MEDICATIONS THAT AFFECT THE BRAIN

Benzodiazepines: Diazepam/Valium, Lorazepam/Ativan, Temazepam/Restoril

“Z Drugs”: Zolpidem/Ambien, Eszopiclone/Lunesta, Zaleplon/Sonata

Antidepressants: Amitriptyline/Elavil, Nortriptyline/Pamelor, Paroxetine/Paxil

Muscle Relaxers: Cyclobenzaprine/Flexeril, Carisoprodol/Soma,
Methocarbamol/Robaxin

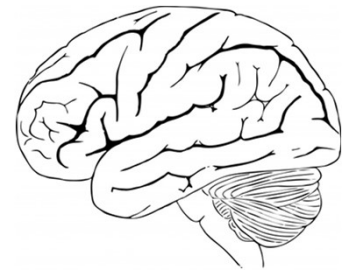
Others:

⌘ Alcohol, CBD, THC

- Between 2015-2018 cannabis use in older adults increased from 2.4% to 4.2%

Caution:

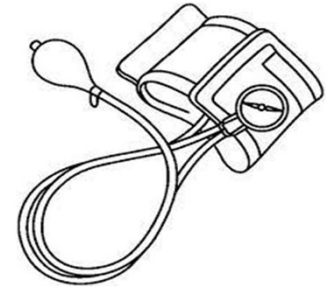
⌘ Cognitive impairment, delirium/confusion, **sedation, dizziness, blurred vision**



MEDICATIONS THAT AFFECT BLOOD PRESSURE

Water pills:

- ⌘ Loop diuretics
 - Furosemide/Lasix
- ⌘ Thiazide diuretics
 - Hydrochlorothiazide/HCTZ



Alpha Blockers: Terazosin/Hytrin, Prazosin/Minipress, Doxazosin/Cardura

- ⌘ Can be used also for enlarged prostate

Caution:

- ⌘ Dizziness/lightheaded after standing up from lying or sitting down
- ⌘ Dehydration
- ⌘ Electrolyte imbalances (sodium)
- ⌘ Increased urination

MEDICATIONS THAT AFFECT BLOOD SUGAR

⌘ Insulin

- Novolog, Humalog, Lantus

⌘ Sulfonylureas

- Glimepiride/Amaryl, Glipizide/Glucotrol, Glyburide/Micronase



Caution:

- ⌘ Low blood sugar can trigger loss of balance and may contribute to falls

OVER THE COUNTER MEDICATIONS

- ⌘ Antihistamines
 - Benadryl/diphenhydramine
 - sleep aids, allergy
- ⌘ Motion sickness
 - Dimenhydrinate/Dramamine, Meclizine/Bonine
- ⌘ Natural products / supplements
 - Melatonin, Doxylamine/Unisom, Valerian root- sleep aids



Caution:

- ⌘ Cognitive impairment, **drowsiness, blurry vision**

RESOURCES CLINICIANS USE

🔗 American Geriatric Society Beers Criteria

- Potentially inappropriate medications in older adults or to avoid in older adults with certain conditions
- Harmful medication interactions
- Safer alternatives available

🔗 STOPP (Screening Tool of Older Persons' Prescriptions) and START (Screening Tool to Alert to Right Treatment)

- Recommendations for and against medications across body systems (cardiovascular system, gastrointestinal system, central nervous system)

STOPP: Screening Tool of Older People's Potentially Inappropriate Prescriptions

The following drug prescriptions are potentially inappropriate in persons aged ≥ 65 years of

Central Nervous System and Psychotropic Drugs.

1. Tricyclic antidepressants (TCAs) with dementia
2. TCAs with glaucoma
3. TCAs with cardiac conduction abnormalities
4. TCAs with constipation
5. TCAs with an opiate or calcium channel blocker
6. TCAs with prostatic or prior history of urinary retention
7. Long-term (i.e. > 1 month), long-acting benzodiazepines and benzodiazepines with long-acting metabolites
8. Long-term (i.e. > 1 month) neuroleptics as long-term hypnotics
9. Long-term neuroleptics (> 1 month) in those with parkinsonism
10. Phenothiazines in patients with epilepsy
11. Anticholinergics to treat extra-pyramidal side-effects of neuroleptic medications
12. Selective serotonin re-uptake inhibitors (SSRIs) with a history of clinically significant hyponatraemia
13. Prolonged use (> 1 week) of first generation antihistamines i.e. diphenhydramine, chlorpheniramine, cyclizine, promethazine

START: Screening Tool to Alert doctors to Right Treatments

These medications should be considered for people ≥ 65 years of age with the following conditions, where no contraindication to prescription exists.

Gastrointestinal System

1. Proton Pump Inhibitor with severe gastro-oesophageal acid reflux disease or peptic stricture requiring dilatation
2. Fibre supplement for chronic, symptomatic diverticular disease with constipation

Musculoskeletal System

1. Disease-modifying anti-rheumatic drug (DMARD) with active moderate-severe rheumatoid disease lasting > 12 weeks
2. Bisphosphonates in patients taking maintenance corticosteroid therapy
3. Calcium and Vitamin D supplement in patients with known osteoporosis

MANAGEMENT AND PREVENTION

- ⌘ Discuss risk vs benefit
- ⌘ Dizziness: prepare before standing up:
 - If in bed, sit up before standing up
 - Make sure a soft chair/bed is close by
 - Rise slowly
 - Have a sturdy anchor to hold onto to keep you steady
- ⌘ Stay hydrated
- ⌘ Know how to monitor and correct low blood sugar
- ⌘ Talk to a provider before starting any new medication, supplement, or over-the-counter product!
- ⌘ Address medical conditions / underlying causes (vision issues-optometry, podiatry or insoles)
- ⌘ Keep an up-to-date medication list
 - Phone apps (Medisafe, iPhone medical ID, wallet card)

MEDICINES – QUESTIONS FOR YOUR PROVIDER

- Does this medicine increase my risk of falling?
- Is there a safer alternative I can try?
- Are you concerned about a potential medication interaction?
- Should I take a Vitamin D supplement?

- Periodically review ALL medications, including over the counter medicines and supplements
- As you get older your ability to tolerate medications changes. Some medicines can make you dizzy or sleepy and cause a fall



QUESTIONS?



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NUTRITION AND FALLS



EMILY CLAY

Registered Dietitian

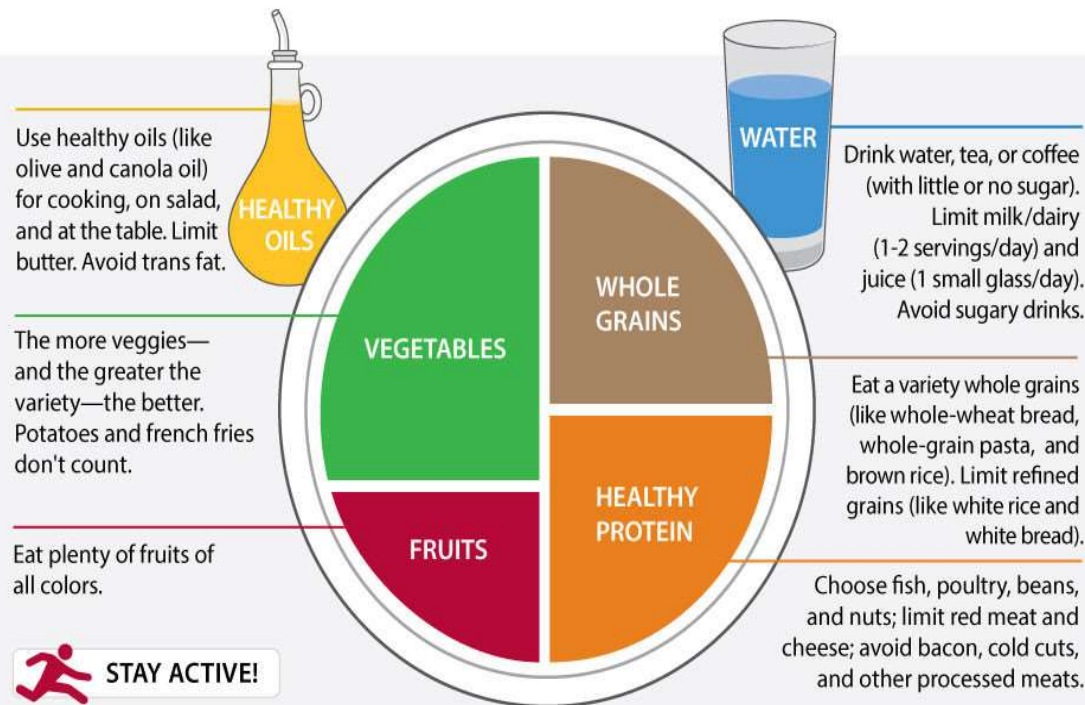
**Saint Alphonsus Regional
Medical Center**

NUTRITION AND AGING

- Losing lean muscle is part of aging process- can lead to weakness, muscle wasting, frailty, and FALL RELATED INJURIES.
- Exercise/movement builds and maintains muscle mass, improves balance and mobility

BASIC NUTRITION FOR ADULTS:

HEALTHY EATING PLATE



© Harvard University



Harvard T.H. Chan School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publishing
www.health.harvard.edu



POTENTIAL IMPACTS OF AGING ON NUTRITION

- Loss of appetite
- Decline of mobility and independence
- Dementia
- Loss of taste
- Loss of smell
- Poorer absorption of nutrients
- Polypharmacy
- Swallowing difficulties
- Dental issues
- Inability to communicate as effectively
- Reduced balance and strength
- Malnutrition

WHAT WE CAN DO

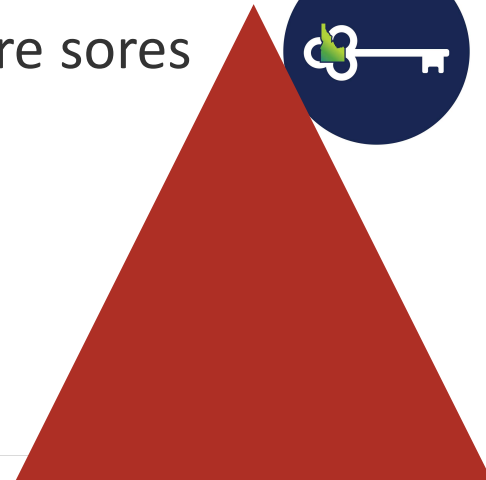
- Eat 3xday with snack, don't skip meals
- Have a protein source at all meals and snacks
- Address unintended weight loss early
- Prevent malnutrition
- Improve appetite through exercise and activity.
- Choose healthy fats that are calorie dense if small appetites are an issue.



MORE ON HYDRATION:

WHAT ARE THE RISKS OF DEHYDRATION?

- Increased rate of hospitalization and mortality.
- Increased risk of falls
- Low blood pressure
- Even mild dehydration is significantly related to memory impairment, lack of attention and concentration, and reduced reaction time.
- People with dehydration are also prone to develop pressure sores
- Suffer more kidney infections and kidney injuries.



SIGNS OF DEHYDRATION YOU SHOULDN'T IGNORE:

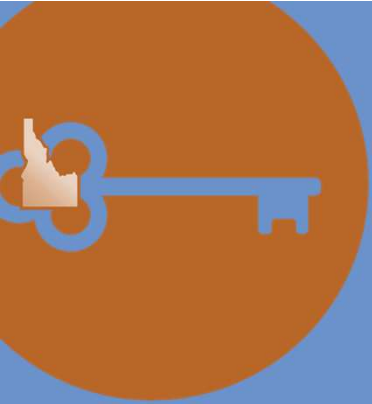
- Thirst is often the first sign of dehydration. If you feel thirsty you're likely already a little dehydrated.
- Dizziness or light-headedness.
- Dark colored and potent smelling urine.
- Reduced or less frequent urination.
- Fatigue, headache or confusion.
- Dryness of mouth, lips and a lack of tears, poor skin turgor, dry skin
- Constipation



BARRIERS TO ADEQUATE HYDRATION

- Physical limitations
- Urination urgency
- Alzheimer's/dementia/alcoholism
- Stroke/swallowing





GOAL: KEEP WATER WITHIN REACH AS WELL AS HELP IN REACHING THE TOILET WELL IN TIME. ANOTHER METHOD COULD BE TO ROUTINELY OFFER WATER ALL MEALS AND WITH MEDICATIONS AND BEFORE DAILY PHYSICAL ACTIVITIES.

So, HOW CAN WE ENSURE ADEQUATE HYDRATION?



QUESTIONS?



WHAT'S THE MESSAGE?

Falls are *not* a normal part of aging and can be prevented!



PUTTING IT ALL TOGETHER

Ask about falls

Assess for fall risk

Watch for Fof,
isolation,
loneliness,
depression

Review & adjust
meds annually

Check on nutrition
& hydration

Facilitate ANY
movement

Manage chronic
health conditions

Collaborate with
entire healthcare
team

Include family.
Neighbors, friends

Utilize ICOA
workshops &
classes

PANELIST Q&A

Please submit your questions
via the Q&A panel or chat
(bottom center of screen OR ALT+H)



THANK YOU FOR YOUR TIME & SUPPORT

■ Participants

- Participants:
- We hope you understand falls & how to prevent them. Thank you for your support!

■ Panelists

- Our experts' insights, knowledge & experience are irreplaceable!

■ ZOOMbies

- We can't do any of it without our behind-the-scenes ZOOM gurus!



READY TO ASSIST



Your local Area Agency on Aging is ready to assist with services and referrals

<http://aging.idaho.gov/Area-Agencies-On-Aging/>