

Staying Active to Prevent Falls

Presented by:



Welcome...

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Exercise Considerations & Importance of Physical Activity

A Pattern for Good Health & Fall Prevention

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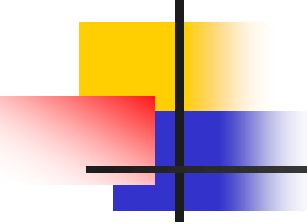
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A few interesting bits of information:

- Did you know that physical activity and exercise are two different concepts?
 - **Physical Activity** = essentially any bodily movement that burns calories
 - **Exercise** = subset of physical activity that is planned or structured with the objective to improve or maintain physical fitness
- Physical activity, if performed regularly, can reduce your risk of many chronic conditions like:
 - Heart Disease
 - Stroke
 - Diabetes
 - Obesity
 - Cancer
- Physical activity can also improve your sleep and mental health, as well as can sometimes outperform pharmaceutical drugs to treat/prevent these conditions - with little to no side effects and it's FREE!



So, why is only 23% of the US Adult population meeting the physical activity guidelines?

- Increase in sedentary occupations
- Increase use of passive transportation
- Urbanization has also increased – more traffic, pollution, low air quality, lack of parks, sidewalks, and recreational facilities
- Intrapersonal barriers:
 - Lack of time, knowledge, motivation, cost, boredom, no available resources for support



GOOD NEWS!

It doesn't take much physical activity
to start seeing benefits.

- Studies suggest that even short bouts of physical activity (<10 minutes) accumulated throughout the day can be beneficial to your health!
- There are many ways to fit in some kind of physical activity into our days.
- Exercise creates same-day and long-term benefits for your body - research shows that a single exercise session that gets your heart rate up can lower blood pressure, improve sleep, lower anxiety, and improve insulin sensitivity on the day you do it.
- Other benefits such as lowering your risk of many chronic diseases and cancers, start adding up within days or weeks of regular physical activity.
- On top of all of that, regular activity sets you up to stay independent as you age and lowers your risk of fall-related injuries.



Risk Factors for Falls Include:

- Muscle Weakness
- Balance Problems
- Gait Problems
- Poor Vision
- Limited Mobility
- Cognitive Impairment
- Functional Limitations
- Postural Hypotension



Balance is...

- The ability to maintain a chosen posture or movement against the affects of gravity.
- An interaction between the sensory, cognitive processing, and motor systems in our bodies.
- Maintained through the Central Nervous System with information provided by our vision, vestibular, and proprioceptive systems.



Multiple Facets of Balance

- Strength – Specifically the weight-bearing muscles of the legs, hips, and core that aid us in changing levels (sitting to standing) and shifting weight.
- Postural Alignment – Issues aligning joints vertically and standing tall will challenge ability to balance.
- Limits of Stability – Moving one’s Center of Mass (CoM) beyond one’s base of support (feet) requires positional adjustments to prevent a fall. Leaning, reaching, and stepping activities challenge our sense of where center is relative to our base.
- Movement Strategies - Anticipatory (bracing) and reactionary (agility) postural strategies enable us to maintain an upright position when we are faced with expected and unexpected balance challenges.
- Sensory Orientation – Information received about body’s position and environment from vision, vestibular, and somatosensory systems. Percentage each system is used changes depending on environmental factors.
- Cognitive Processing – Brain’s ability to focus attention and dual-task as well as interpret information about position and environment then activate corresponding motor units to adjust for optimal positioning.



Our Body's Balance Information Systems

- Using the systems below, healthy individuals will first orient themselves perpendicular to the surface they stand on and then to gravity when that surface becomes compromised (tilted, unstable, etc.)
- Somatosensory – Gives our brain information about our position relative to the surfaces with which we come into contact.
- Visual – Gives our brain information about our motion relative to the motion of our environment.
- Vestibular – Gives our brain information about our head position relative to the force of gravity.



Balance Recovery Strategies

- The strategies below are automatically activated when our brains perceive positional imbalances in response to its reception and interpretation of sensory information. Of important note, a lack motor pattern practice, decreased muscular strength, or impaired cognition may minimize the effectiveness of these strategies.
- Ankle - Utilizes muscles around the ankle joint to stabilize body when minor balance challenges are present between the feet and their support surface.
- Hip - Utilizes muscles around the hip to maintain one's CoM over their BoS during more moderate balance challenges.
- Step - Attempt to regain one's balance by increasing the size of their Base of Support (BoS) or realigning their CoM over their BoS by taking one or more steps



Simple Suggestions for Your Balance Practice

- Static Balance – Stand on one foot or with one foot in front of the other (tandem stance) during everyday activities like brushing your teeth, waiting for the microwave or elevator, etc. Stand on a folded towel or pillow for more challenge.
- Dynamic Balance – Widen your stance laterally and front to back and shift 70% or more of your body weight onto one foot and then shift it into the other during TV commercial breaks, waiting in a line, etc. Step on/off stairs, curbs, etc. in forwards and sideways directions. Step over objects (such as a small shoebox) in multiple directions. Use sturdy support like railings/counters as needed.
- Strengthening – Every time you stand up, sit back down right away and then stand up – you’ll double your squats every day. Incorporate a couple standing leg exercises into your breakfast routine. Seek professional support & guidance.
- Dual-Task – Can you walk and talk? Grab a friend and engage in conversation while out for a stroll. March in place while turning head right and left; add counting by 3’s for more challenge. Stand on one foot while writing the alphabet with the other.

What more can you do??

- Moving more
- Strength and Balance exercises
- Increasing your flexibility
- Watching your diet





Current Activity Guidelines:

- **Sit less and move more:**
 - People who sit less and get even small amounts of moderate or vigorous physical activity gain some health benefits. If the guidelines don't feel doable right now, just start by sitting less. Some activity is better than none.
- **For big health benefits, aim for these numbers:**
 - At least 150 minutes (2.5 hours) to 300 minutes (5 hours) of moderate intensity activity per week, or 75 minutes (1.25 hours) to 150 minutes (1.5 hours) of vigorous aerobic activity per week.
 - Moderate Activity = you're breathing hard and can hold a conversation, but you can't sing.
 - Vigorous Activity = you can't get more than a couple of words out without a breath.
 - At least 2 days per week of activities that strengthen muscles.
 - Activities to improve balance: Tai Chi, Yoga, and other forms of balance activities can help prevent falls. Especially when you also get other kinds of activity every week.



Where and how do I start?

- **Find what motivates you**

- If the idea of lowering your risk for disease isn't motivating enough, you're not alone. Most people stick with a good habit because of the everyday benefits. Notice what motivates you: better sleep, lower stress levels, workout out with a friend...

- **Multi-task**

- Incorporate movement into your regular activities. Watch a show you enjoy while walking on the treadmill; listen to a podcast or audio book while walking outdoors; bike or walk to a friend's house, or store, instead of driving.

- **Listen to your body and go slow**

- Risk of injury comes when you're trying to do too much, too fast. Know your body, where your current fitness level is and gradually build from there.

- **Don't discount the little things**

- All the activity you do counts, even if it's 5 minutes. Take the stairs when available, park a little farther away and walk, lift weights while having the news on. It all adds up.



Devising your exercise plan:

1) Always a good idea to be assessed by a fitness professional.

- Acquire benchmarks
- Have a clear idea of what you want to accomplish so your plan can be set to get you there
- Review health history - illnesses, injuries, chronic issues
- Receive exercises that suit your current fitness level and body's ability

2) Strength Training = 2x per week

- Incorporate exercises that targets all the muscles in your body
- Have some degree of specificity - exercises that mimic and support the mechanics of movements for your goals

3) Aerobic Activity = up to 5x per week

- At least 150 minutes of moderate aerobic activity per week
- Mix it up! Walking, biking, swimming, kayaking, etc..

4) Balance Exercises – 10 minutes daily – anywhere, anytime

- Stand alone balance exercises
- Add them into strength training exercises
- Taking a tai chi or yoga class, or follow videos of those things



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Welcome...

Ian Connors, PT
SSM Health



Pickleball and Fall/Injury Prevention



Pickleball Injuries

Overuse

- Tennis elbow
- Rotator cuff
- Achilles tendon

Pre Existing Condition

- Arthritis
- Previous strains/sprains

Acute Injuries

- Falls
- Fractures
- Strains/sprains
- Eye injuries



Avoiding Injuries

- Talk to your doctor
- Train up and ease into it
- Don't over do it
- Hydrate
- Have the proper equipment
- Consider the environmental conditions
- Warm up
- Learn pickleball strategy and proper technique
- Listen to your body
- AED/CPR



Welcome...

Suzanne Morley, CHES

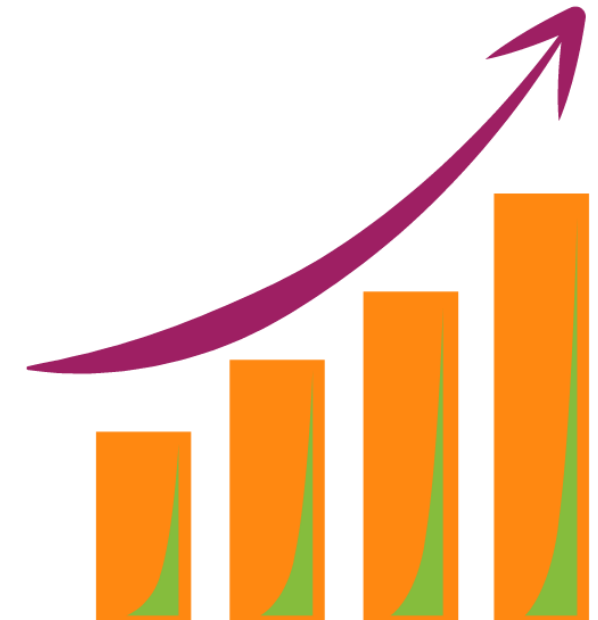
Wisconsin Institute for Healthy Aging

Falls Free[®] Wisconsin



The Falls Problem...

- Nationally, more than 1 in 4 older adults falls each year. (CDC)
- Wisconsin has the highest rate of injury-related deaths due to falls among older adults in the country. (CDC)
- In 2022, over 47,600 older adults in WI went to the emergency department for a fall. (DHS WISH)
- In 2022, EMS in WI responded to over 130,000 falls and the number of falls that EMS responds to are increasing by nearly 10,000 a year statewide. (WARDS)



Q&A

Thank you!

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Feedback

- <https://wiha.wufoo.com/forms/wd5ewvd1ifc54f/>
- Share your thoughts & be entered to win a set of pickleball racquets courtesy of Firefly Real Estate!



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Next for Age Well Series

- Wednesday, June 12 @ 1:00pm



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Age Well
FREE Webinar
The Mind-Body Connection:
How metabolic health contributes to brain health
June 12 1-2pm

Good brain health and the prevention of dementia is impacted by our blood sugars, cholesterol, blood pressure, and body weight (collectively called metabolic health). Join us as researcher Dr. Taryn James from UW-Madison discusses how these things impact our cognition and chance for developing dementia and what we can do to reduce our risk and improve brain health and function. Invite your friends! And learn what you can do to improve the health of your brain.



Presenter: Dr. Taryn James
Alzheimer's Disease
Research Center
UW - Madison

[Register Here](#)

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