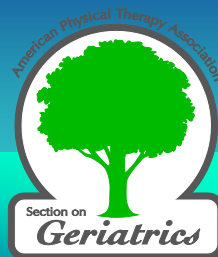


STAYING VERTICAL:

Balance and Falls Reduction



SECTION ON GERIATRICS

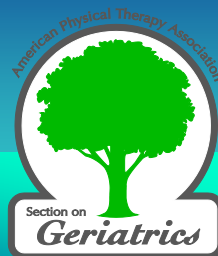
American Physical Therapy
Association

Adapted from presentations by:

Nancey Bookstein, PT, PhD

Kathryn Brewer, PT, MEd

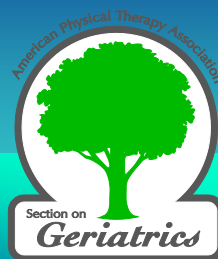
Ann Williams, PT, PhD





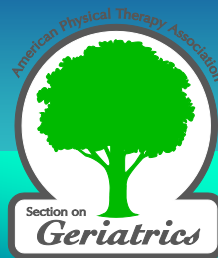
Balance and Falls Prevention

- Related to Osteoporosis
- Need to work on higher bone density and reduce risk of falling

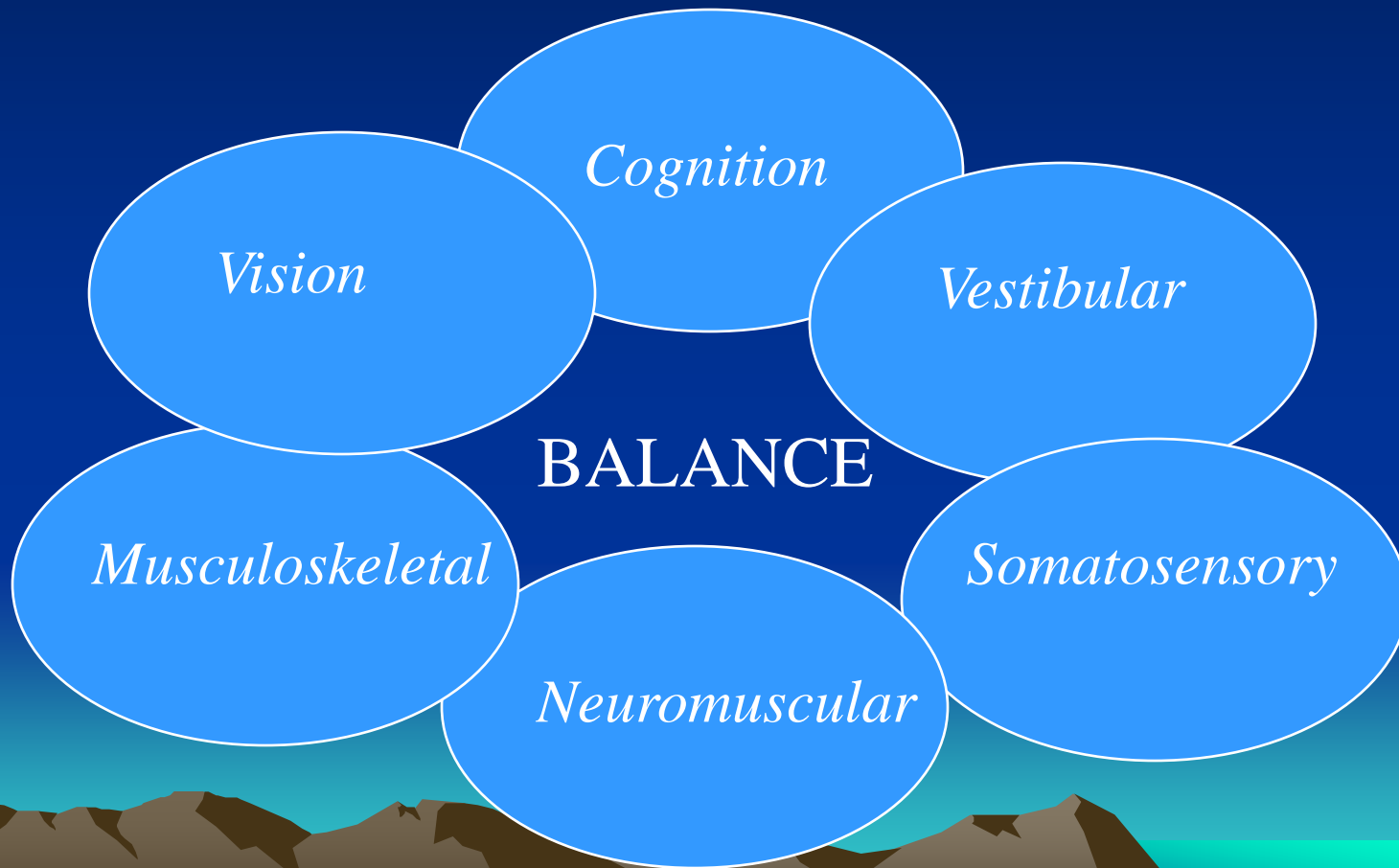


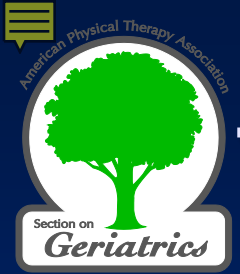
What is balance???

- The ability to control and maintain your body's position as it moves through space
- Requires coordination of sensory systems (vision, proprioception and vestibular), neurological and muscular response
- Balance is a skill – a learned motor pattern... you can keep it or relearn it by PRACTICING IT!!!



Model for Postural Control



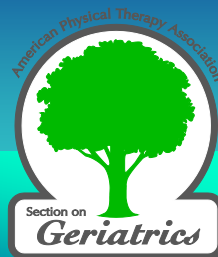


Typical Changes with Aging

- Reduced flexibility in the lower extremity joints
- Decreased strength of the ankles, knees and hips
- Less control of momentum
- Decreased coordination and
- Decreased reflexes and increased reaction time
- Vision and sensory changes
- Gait: slower speed, shorter step, wider base of support

The Problem - Falls

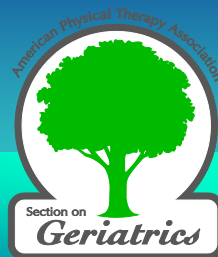
- Leading cause of death from injury in elderly persons
- Greatly increased risk with advancing age
- Estimate 40% of those over 80 and 66% of institutionalized elders fall each year
- Major source of disability through fractures, activity restriction, fear





Intrinsic and Extrinsic Causes of Falls

Interaction of multiple factors



Fall Factors

INTRINSIC:

↓ Vision, hearing

↓ Strength

↓ Balance

Medications (4+)

Lack of sleep

Mental status

Chronic disease

EXTRINSIC:

Stairs

Clutter

Wet surfaces

Loose rugs/carpets

Cords

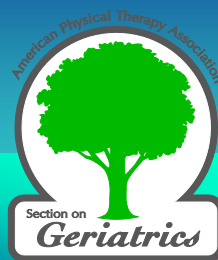
Poor lighting

Hurrying/rushing



Medications

- Anti-hypertensives
- Anti-depressants
- Levodopa
- Antipsychotics
- Any sedative drugs including some muscle relaxants
- Long-term steroids – proximal muscle weakness

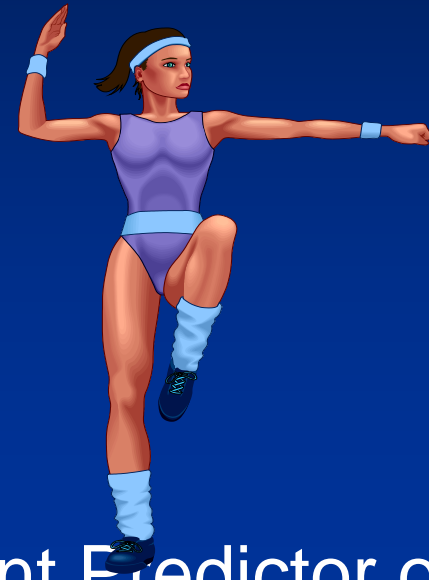


Fear of Falling

- 60% of fallers express “fear of falling”
- 33% indicate restriction of activities due to fear
- Fear of falling also indicated by non fallers

What is your risk???


- If a person is unable to balance 5 seconds they are at risk for INJURIOUS falls.



One-Leg Balance Is an Important Predictor of Injurious Falls in Older Persons;
Vellas B. et al; JAGS,45 (6)-1997,735-8

Assessment

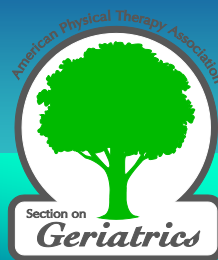
- Screens
 - History of Falls
 - Tandem Stand or Walk
 - Single leg stand
 - Stand and Reach – Less than six inches highly predictive of falls
 - Timed Up and Go (TUG)



Detailed Assessment

Often done by a Physical Therapist

- Tinetti Scale
- Berg Balance Scale
- FEMBAF – Fast Evaluation of Mobility, Balance, and Fear
- Dynamic Gait Index
- Activities Balance Confidence Scale



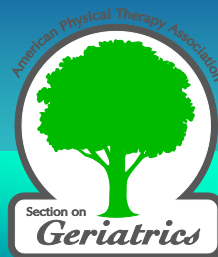
What can YOU do to prevent falls?

1. Begin a regular exercise program
2. Review your medications with your health care provider or pharmacist
3. Make your home safer
4. Have your vision checked



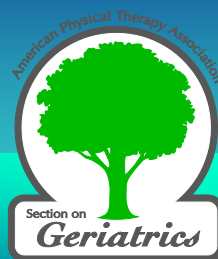
See a Physical Therapist

- PTs are able to develop an exercise program for you that will be appropriate for your condition
- PTs will evaluate your posture, your strength, your range of motion, and your conditioning status and will develop a balance program which should help keep you fit as well as safe
- PTs can answer your questions or refer you to others who will



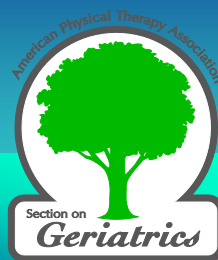
Change Activities

- Allow for Dizziness
- Reduce High Risk Behaviors
- Use Assistive Devices if Recommended

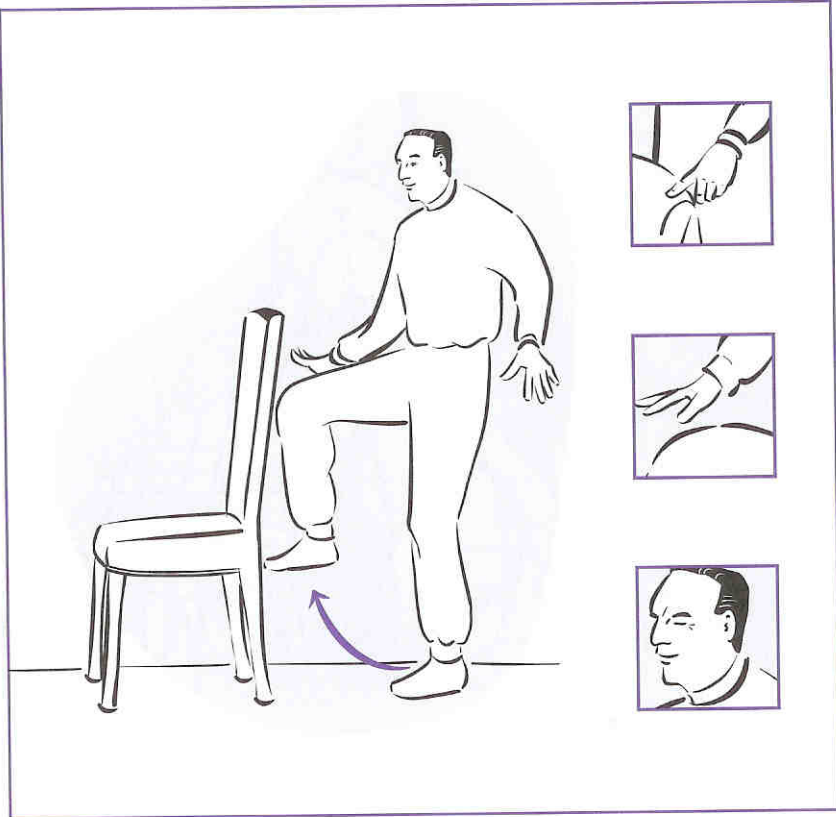


Balance Exercises

- Tai Chi
- Slow movements emphasizing one legged balance



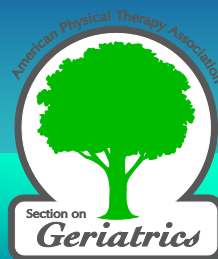
Strength/Balance Exercises



Exercises

Fall Prevention Checklist

- Exercise regularly
- Wear proper footwear
- Look where you walk!
- Correct common home safety hazards – loose throw rugs, poor lighting, slippery bathtubs & showers, clutter and obstacles in walkways, loose cords, unstable stools/chairs, hazardous steps or curbs



Example of Tub Seat

**Adjustable
height in 1/2"
increments**

**Seat adjusts to
face right or left**

Example of Toilet Supports



Fitness for Life!



It's never too early and it's never too late!

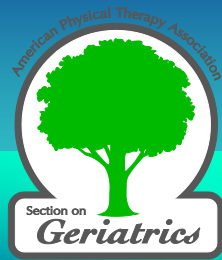


**Remember,
Ginger Rogers
did everything
Fred Astaire did,
but she did it
backwards and in
high heels!**





See a Physical Therapist for More Details



QUESTIONS ?

