SLIPS, TRIPS & FALLS

AUGUST 24, 2016

Presented by

CANYON PHYSICAL THERAPY AND AQUATIC REHABILITATION

"Uncompromising Care"

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Kelly Vredeveld, PT, DPT, COMT, CSCS: Physical Therapist and Owner

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Audience Participation:

How many people have had a fall in the last 6 months?

How many have had a family member that has had a fall in the past 6 months?

How many of these falls resulted in an injury?

Clayton and I will be providing information on two populations with the highest incidents of slips, trips and falls: The older adult population, ages 65 and up and the working population.

Statistics on falls: Older population and workplace

Risk factors for falls

Testing and screening for fall risk

Preventative measures to reduce risk of falls

Balance exercises

What to do if you have a fall

Conclusion and give away

Statistics:

Older Population Statistics:

One out of three older people (65 and older) fall each year.

Falling once doubles your chance of falling again.

One out of five falls causes a serious injury such as broken bones or a head injury.

Each year, 2.5 million older people are treated in emergency departments for fall injuries.

Over 700,000 patients a year are hospitalized because of a fall injury, most often because of a head injury or hip fracture.

Falls are the leading cause of injury-related death for adults age 65 and older, according to *Injury Facts 2016.* Over 20,000 older people die from unintentional falls each year.

Each year at least 250,000 older people are hospitalized for hip fractures.

More than 95% of hip fractures are caused by falling, usually by falling sideways

Falls are the most common cause of traumatic brain injuries.

Adjusted for inflation, the direct medical costs for fall injuries are $34 billion annually. Hospital costs account for two-thirds of the total.

Workplace Statistics:

It is estimated that 3.8 million disabling work injuries are caused each year by slips, trips and falls, accounting for 12-15% of all workers' compensation costs.

The average disabling claims cost of a slip, trip and fall claim is $22,000.

Slips, trips and falls cause 15% of all accidental deaths, second only to motor vehicle accidents.

25% of all reported injury claims per fiscal year.

More than 95 million lost work days per year – about 65% of all work days lost.

25,000 slip, trip and fall accidents occur daily in the US.

Risk Factors for Falls

Most falls are caused by a combination of intrinsic and extrinsic risk factors. The more risk factors a person has, the greater their chances of falling.

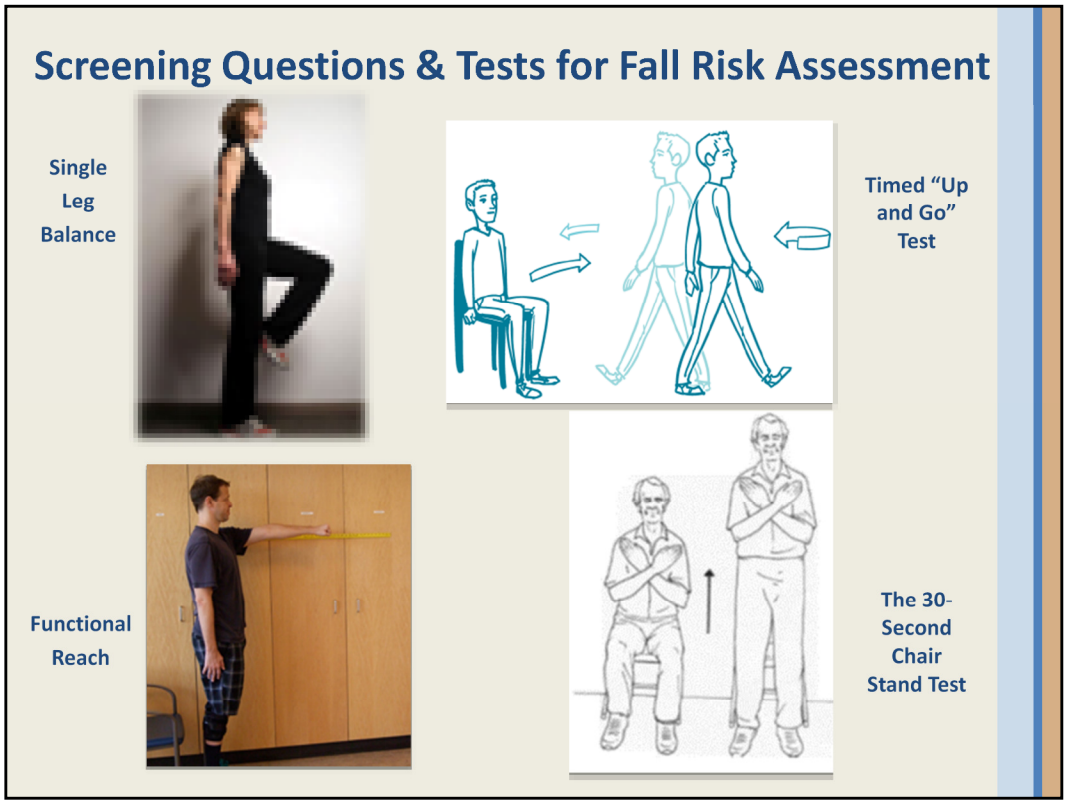
Intrinsic

Advanced age
Previous falls
Fear of falling (reduced physical and social activity and subsequent losses in physical capabilities)
Muscle weakness, especially lower body
Decreased flexibility (inhibit the ability to move freely)
Low levels of vitamin D (low levels can lead to bone and muscle weakness, recommended dosage of 800 IU's daily)
Difficulties with gait and balance
Postural dizziness(postural hypotension)
Poor vision, hearing
Chronic conditions including arthritis, diabetes, stroke, Parkinson's, incontinence, dementia

Extrinsic (most of these factors apply both to the older population and the work environment)

Home hazards
- Broken or uneven steps
- Throw rugs or clutter that can be tripped over
- No handrails along stairs or grab bars in the bathroom

Dim lighting or glare
Obstacles and tripping hazards
Slippery or uneven surfaces
Psychoactive, Antihypertensives and Skeletal Muscle Relaxant medications
Improper use of assistive device
Contaminants on the floor
Shoes with wet, muddy, greasy or oily soles
Ramps and metal surfaces without skid-resistant surfaces
Weather hazards – rain, sleet, ice, snow, hail, frost
Stepstools and ladders



Screening Questions and Tests for Fall Risk Assessment

Screening Questions: (Questions you can ask yourself)

Have you fallen in the past year?

Do you feel unsteady when standing or walking?

Do you worry about falling?

*Yes to any of these questions indicates an increased risk of falling.

Tests: (performed near a stable surface such as countertop and with the A of a family member)

Single Leg Balance

To assess static balance

Standing on one leg without use of external support.

Goal is to hold single leg stance for 30 seconds.

Less than 10 seconds indicates balance impairment and less than 5 seconds indicates a high risk of INJURIOUS fall.

Functional Reach

To assess static balance

Must be able to stand for one minute without assistance.

Individual stands with one side next to a wall without touching and feet shoulder width apart. Individual is asked to hold arm straight out parallel to the floor, making a fist. Next they will attempt to lean forward as far as possible without touching the wall and without moving the feet. The distance from the starting position of the fist to the finish position is measured with a tape measure on the wall. Typically 2-3 times can be performed and take an average.

Results:

High Risk for falls: < 6 inch reach

Moderate Risk for falls: 6-10 inch reach.

Low Risk for falls: > 10 inch reach.

Timed "Up and Go" Test

To assess mobility

Start with individual seated with back against chair. Individuals are asked to rise from the chair on the signal "GO", walk 10 feet, turn, walk back to the chair, turn and sit down. The total time to complete the test is recorded in seconds. The goal is to complete the test in the shortest time possible.

Results: Individuals who take 12 seconds or greater to complete the TUG are at a high risk for falling.

The 30-Second Chair Stand Test

To assess leg strength and endurance

Individual sitting in the middle of a chair with a seat 17" high without arm rests. On the instruction of "GO" timing begins. The individual is to stand up and sit down as quickly as possible for 30 seconds.

Results: Less than 10 sit-stands is an indicator of poor leg strength and indicates a high risk for falls.

Preventative Measures to Reduce Risk of Falls

Environmental modification (home and workplace)
- Decrease clutter
- Reduce wet or slippery surfaces (clean spills immediately)
- Remove throw rugs and mats or insure that they are secure
- Utilize non-skid surfaces in areas that are wet or contaminated with slippery substances
- Repair broken or uneven steps, surfaces
- Install stair rails and grab bars (stairs, steps, bathrooms)
- Avoid obstacles in aisles and walkways (furniture, workplace equipment)
- Maintain proper lighting (accessible flashlights or night lights)
- Keep items accessible, decrease need to use stools or ladders
- Proper footwear (no slip soles, avoid trendy footwear)
- Proper use of assistive devices (canes, walkers)

Medication management
- Review your medications with your physicians
  - Determine medications that may have side effects that may affect your coordination and balance or cause dizziness.
    - Antihypertensives (postural hypotension as a result)
    - Skeletal Muscle Relaxants (decreased muscle control)
    - Psychoactive drugs (benzodiazepines) (drowsiness, sedation or confusion)
    - Sedating over-the-counter medications (e.g., Benadryl, Tylenol PM)
  - Assess the dosage of medications to take the lowest effective dose.
  - Medication risk increases with the number of medications that are taken. Four or more have been shown to increase fall risk.
  - Consult your physician prior to making any changes to your medications.

Vision and Hearing assessment (allow you to maintain awareness of surroundings)
- Have your hearing and vision checked regularly.

Exercise to Prevent Falls (to address strength, balance and gait impairments)
- Exercise program should have sufficient intensity to improve muscle strength
- Are regular and sustainable (2-3 x week)
- Include dynamic balance activities
- Can be done at home
- Can be group or individual programs
- Are simple and low cost

Examples:
- Walking program
- Tai Chi
- Yoga
- Aerobic exercises
- Bowling, dancing, gardening

Balance Exercises for Home or at Work (performed standing next to a countertop or table)

Heel Raises – raise up on to toes as high as possible

Hold position for 1 second, slowly return

Repeat 10-15 times

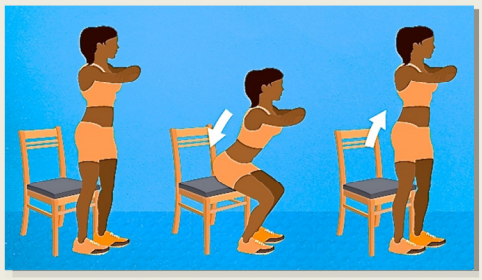
Marching in place – alternate raising knee to chest

Hold position for 1 second, slowly return

Repeat 10-15 times

Balance Exercises for Home or at Work

Side Leg Raise



Sit to Stand

Side Leg Raise – lift leg straight out to the side, keep back straight and toes point forward. Slowly lower leg and alternate with the opposite leg.

Hold position for 1 second, slowly return

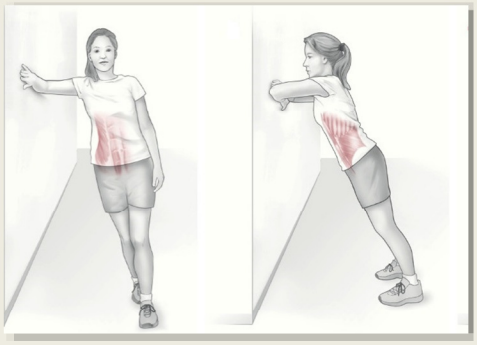
Repeat 10-15 times

Sit to Stand – stand up and sit down from a chair without using hands and keep back straight. Lower slowly to the chair.

Repeat 10-15 times

Balance Exercises for Home or at Work

Single Leg Balance



Front Plank

Side Plank

Single Leg Balance – attempt to hold position standing on one leg for up to 30 seconds

Repeat 3-5 times on each leg

Progression:

Hand support

No hand support

Eyes closed

Unstable surface

Front Plank/Side Plank – 2 variations, on floor or leaning against wall or desk

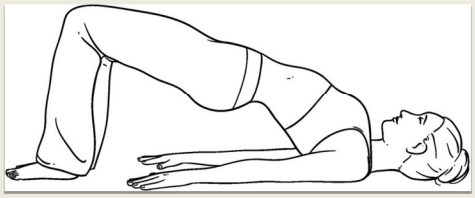
In the push-up position or modified on forearms and knees

Side plank performed leaning on side

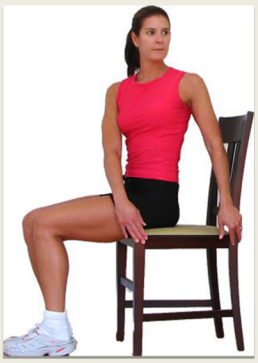
Maintain tight abdominals and neutral spine, hold position for 10-30 seconds

Repeat 3-5 times

Balance Exercises for Home or at Work



Bridge



Seated Torso Twist

Bridge – lie on back with knees bent, feet flat on floor, tighten abdominals and squeeze gluteals raising buttocks off the floor

Hold for 5 seconds

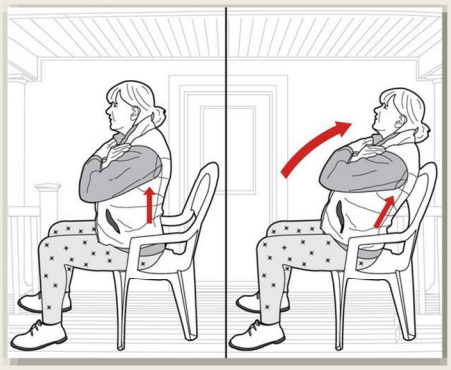
Repeat 10-15 times

Seated Torso Twist – Sit on edge of chair in an upright posture, tighten abdominals and turn to look to one side and repeat to the other direction

Hold for 5 seconds

Repeat 10-15 times

Balance Exercises for Home or at Work



Seated Trunk Stabilizer

Static Lunge

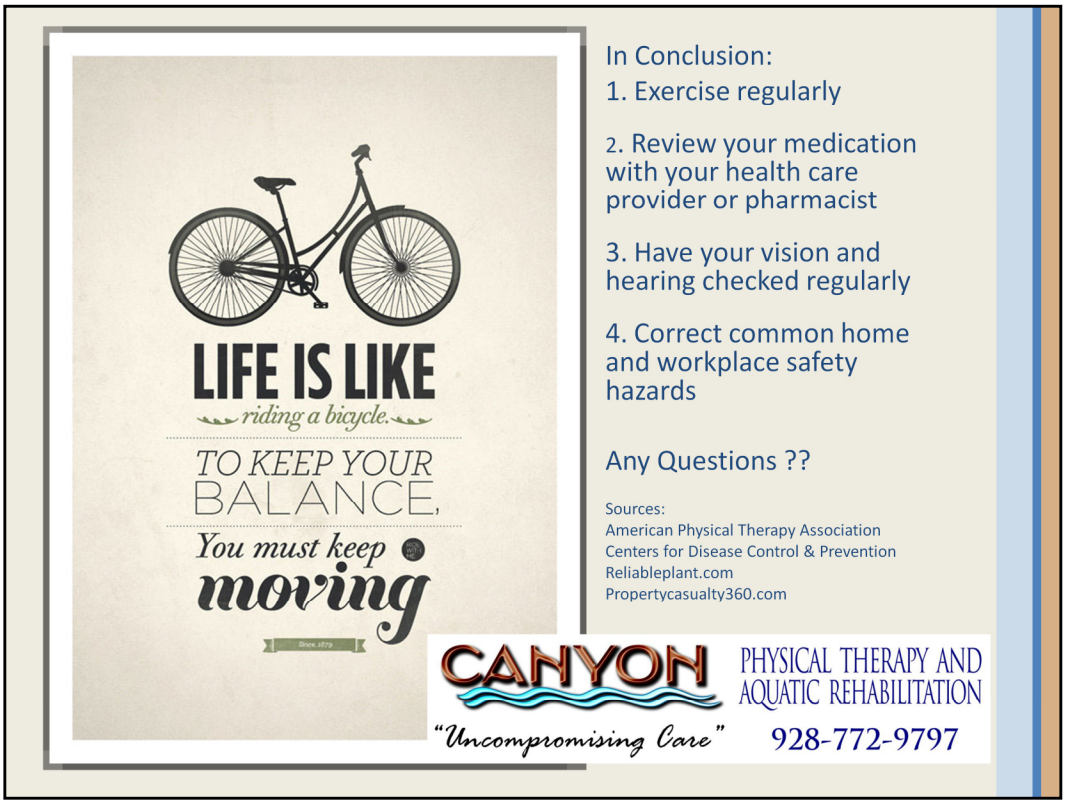
Seated Trunk Stabilizer – Sit on edge of chair in an upright posture, with hands across chest and maintain a neutral posture. Lean back at a 45' angle pause, then sit back up without using hands.

Repeat 10-15 times

Added difficulty, slowly raise one thigh off of the chair while leaning back, pause and put thigh back down, sit up and then repeat with the alternate leg.

Static Lunge – Stand with feet shoulder width apart and hands on your hips, then take a step forward. Maintain the wide staggered stance position and spine with a slightly forward bent position at the hips. Lower body towards the floor keeping front foot planted on the ground, the rear heel can lift off the floor.

Repeat 10-15 times



What to do if you have a fall?

Have a plan to get help in case of an emergency

- Personal alert system (MedicAlert)
- Accessible telephones (cell phones, hand-held phones)
- Emergency contacts (911, physician, personal contact)
- Have directions and emergency contacts accessible for others to help you

If you are hurt put emergency plan into action and stay calm

If you are not hurt badly , you can begin to get up from the fall

- First, roll onto your side.
- Next, find a sturdy piece of furniture (chair, kitchen table, countertop) and crawl or roll over to it.
- Then, from a kneeling position, put your arms up onto the stable surface.
- Finally, put one foot flat on the floor and push up into the stable surface. Sit down and rest.

In conclusion what can you do to prevent falls?

Exercise regularly

Review your medication with your health care provider or pharmacist

Have your vision and hearing checked regularly

Correct common home and workplace safety hazards

****Give away question.

What is the estimated # of slips, trips and falls that occur each day? (25,000)

What was one specific type of risk factor that increases a person's chance of falling?

Thank you!