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Physical Therapy for Older Adults

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Objectives

1. Describe how the physical therapist serves as a movement expert for older adults
2. Identify the role of the physical therapist within the interprofessional team
3. Refer older adults to physical therapy for mobility check-ups
4. Evaluate older adults for fall risk with STEADI

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Physical Therapy

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Physical Therapy Origins



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Physical Therapy Profession Today



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Professional Vision & Mission

Vision:

Transforming society by optimizing movement to improve the human experience.

Mission:

Building a community that advances the profession of physical therapy to improve the health of society.

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Roles of the Physical Therapist



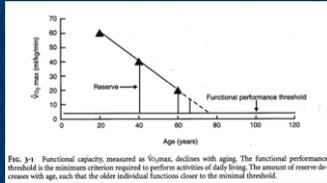
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Practice Settings of the Physical Therapist

- Hospitals and Health Systems
- Inpatient Rehabilitation
- Sub-Acute Rehabilitation
- Specialty Hospitals
- Long Term Care
- Home Health
- Hospice
- Outpatient Clinics
- Wellness/ Prevention/ Sports and Fitness
- Industrial, Workplace, or other Occupational Environments
- Local, State, and Federal Government
- Research Settings

Functional Performance Threshold

- Individuals need a minimum of strength, ROM, endurance and balance to perform ADL'S
- Older adults function closer to the threshold
 - they have less reserve to "bounce back" after injury (e.g. CVA, fracture)



Changes in Aging

- Decreased cardiac compensation and responsiveness
- Decreased lung compliance; overall increased work of breathing
- Loss of muscle fibers (sarcopenia), especially Type II
 - Decreased torque, power and endurance
- Reduced motor units
- Cartilage dehydration and fibrillation

Frailty

Fried et al 2001

Frail = 3 or more criteria - Prefrail = 2 criteria

1. Unintentional weight loss of 10# or more in the past year
2. Self-reported exhaustion 3 or more days per week
3. Muscle weakness (grip strength <23# in women, <32# in men)
4. Walking speed <.8m/sec
5. Low level of activity (270kcal in women, 383Kcal in men = sitting quietly or lying down the majority of the day)

Frailty

Abellan et al 2008/Lopez et al 2012

0 = not frail, 5= most frail

Fatigue

Resistance (ability to climb single flight of stairs)

Ambulation (ability to walk 100m)

Illnesses (>5)

Loss of weight (>5%)



Aging, Frailty and Function

- Healthcare expenditures - average cost/person =\$10,739 (CDC/DHHS 2017 data)
- Frailty is related to quality of life, disability and falls
- Sarcopenia is a risk factor for falls
- Sedentary lifestyle is related to dependence in older adults
- Chronic disease is related to NH admission

Aging, Frailty and Function

- A 5-year study of Medicare costs indicates that older adults who are healthy but sedentary average \$6780 more in Medicare costs than those who engage in low-intensity physical activity (National Blueprint Project)
- Regular exercise in frail individuals preserves independence (Jensen et al 2004)
- Screening (balance, endurance, cognition, medications) and wellness program in older adults in assisted living preserved function and reduced falls at 1 year (Hatch and Lusardi 2010)

Why are most older adults less active?

- No perceived need for activity
- Acceptance of current level of function
 - Doing "fine"; getting older, nothing will change that
 - Changes to lifestyle are unnecessary "at my age"
 - Worries about safety with exercise
 - Fears about pain with activity
 - Perception that doctor wouldn't approve

How can a PT help?

Annual Fitness-Mobility Screens in Older Adults

- *American Heart Association (2016)* - cardiorespiratory fitness should be measured in all adults because of its relationship to chronic diseases
- *American College of Sports Medicine - Exercise is Medicine®* Call for health care providers to screen and encourage increased physical activity
- *Centers for Disease Control and American Geriatrics Society* - Screening needed for fall prevention

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Annual Check-up with a PT

- Health Promotion IS a part of physical therapy practice
 - Experts in restoration of function and independence
 - Relationship builders - extended individual patient time
- Preventative health examinations by a PT focus on mobility, balance, and ambulation
- Key to "buy-in" is to link physical activity/mobility with something tangible like not falling, staying at home, being social, being a part of family activities (e.g. grandchildren)

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Annual Check-up with a PT

- Physical activity screening can contribute to continued confidence and motivation (*Resnik et al 2005, Stathokostas 2017*)
- Can be a part of a Comprehensive Geriatric Assessment/ Medicare (B) Annual Wellness visit (*Jang et al 2016*)
- Justification for providing PT in older adults with chronic conditions provided by case law (*Jimmo vs. Sebelius 2013*)

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The Adult Functional Independence Test (A-Fit)

Older adults who participated in screening:

- Were highly satisfied
- Could implement the recommendations
- Thought screen was unique
- 58% said they would participate annually, 36% unsure (*Putthoff 2019/ Lalin&Lewis 2017*)

Test Component	Threshold for Deficits	Percent/Percentage Who Had Deficits
Postural control		
Center of Gravity—distance of back of head to wall when standing	≤40.0 cm	13(20%)
Right leg support wall	≤2 fingers	6(9%)
Thoracic/Lumbar Spine—number of investigator's finger that fits between lowest rib and hip crest		
Handy Strength		
Shoulder Flexion—Active Brachii Test	≥4 in for males or ≥4 in for females on either side	13(20%)
Wrist Flexion—Active Brachii Test	≥8 in	16(24%)
Balance control		
Unilateral Function—Standing with right head turn up and		
Right side table		
Static Balance—Single leg stance	Dizziness or loss of balance during testing	6(9%)
Dynamic Balance—Function walking open eyes and then eyes closed	Unable to hold either side for ≥20 s	18(24%)
	Unable to walk 20 m with open eyes or take 5 error free steps with eyes closed	25(37%)
General Mobility		
Stand Up and Go—30 sec get seated	≥10 s	1(2%)
	≤10 sec	1(2%)
Endurance		
6-Minute Walk Test	Use of age- and gender-based normative values	32(11%)
Strength		
Arm Strength—Hand grip dynamometer assessment	Use of age- and gender-based normative values	13(20%)
Shoulder External Rotator Strength—Dynamometer assessment	Use of age- and gender-based normative values	28(39%)
Hand/Finger Strength—Single leg heel raise	Use of age- and gender-based normative values	12(17%)
	Use of age- and gender-based normative values	1(2%)
Lower extremity strength—30 s Sit-to-Stand Test	Use of age- and gender-based normative values	3(4%)
Abdominal Strength—Prone planks	Unable to hold for ≥25 s	17(24%)
Back Strength—Back extension	Unable to hold for ≥20 s	25(37%)

When should I refer to a physical therapist?

1. Mobility issues (bed mobility, transfers, gait)
 - o Ambulation <100m
 - o Can't climb flight of stairs
 - o Gait speeds < .8 to 1m/s
2. Balance issues (turns, picking up objects, changing conditions)
 - o STEADI tool - determined "at risk"
 - o Any history of falls or almost falls

When should I refer to a physical therapist?

3. Older adults that are overweight/obese but also have significant co-morbidities
 - o Waist circumference >35 women, >40 men
 - o BMI > 24
4. Patients who are sedentary (little to no activity beyond ADLs) or or lightly active (exercise 1-3 days a week)
5. Patients with chronic disease that can affect safe mobility
 - o e.g. Osteoporosis, Diabetes, CAD, COPD

When should I refer to a physical therapist?

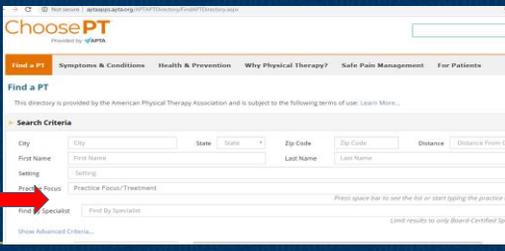
5. Driving assessments
6. Nurse observes reduced participation, especially related to mobility
7. Patients who express a desire to improve function/mobility; want exercise recommendations; are concerned about aging changes

Practical Considerations

Referral to PT Services



Finding a PT



Options for Additional Services

- Cash Based Clinics
- Pro-Bono Services
- Telehealth Services
- Non-Therapy Options
 - Community Health and Prevention Services



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Concluding Thoughts



Thank you!
Questions?

Additional Resources

1. Chodzko-Zajko, W. J. (2014). *ACSM's exercise for older adults*. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins.
2. World Health Organization. *International Classification of Functioning Disability and Health (ICF). Classification 2018*: <http://www.who.int/classifications/icf/en/>. Accessed March 10, 2018.
3. Centers for Disease Control (CDC). *STEADI: older adult fall prevention*. <https://www.cdc.gov/steady/index.html>. Updated January 31, 2019. Accessed August 2, 2019.
