MAGEC

Intensive Geriatric Training
Physical Therapy Perspective

Lisa Roberts, PT, MS, DPT, GCS
Department of Physical Therapy
Florida International University
lroberts@fiu.edu
Objectives

• Following this discussion, participants will be able to . . . . . . .
  – Value the role of physical therapy in patient care management
  – Identify components of a comprehensive physical therapist examination and overall treatment plan
  – Recognize the interdisciplinary team approach and the need for appropriate referral
  – Understand the concepts of a fall prevention program
Case Study – Mr. Pereza (Age 76)
Past Medical History

• Coronary artery disease: He had an anterior wall MI in 1994 and underwent a CABG at that time. His last angiogram was in 2004.
• Stroke: first one was 4 years ago. He presented with left-sided upper extremity weakness. Symptoms resolved after 2 weeks. He had another one last year that involved slurred speech and left sided facial muscle weakness. Over 3 months his speech improved.
• Diabetes (most recent HbA1c was 8.0)
• Hypertension
• Osteoarthritis right knee
• Gout (last attack in 2005)
• Benign prostatic hypertrophy
• Appendectomy in 1962
Case Study – Mr. Pereza
Social History

- Recently retired from being the owner of a successful insurance sales business
- Currently resides with his wife in Delray Beach, Florida
- He has been married for 46 years and had 2 children. One of his children died 2 years ago. The other (a daughter) lives nearby.
- Stopped smoking cigarettes in 1994.
- Consumes 1-2 alcohol beverages per day
- He stopped driving after his last stroke
- He does not have advance directives
- Has fee-for-service Medicare
Medications

- Lisinopril 20mg daily
- Metoprolol 75mg twice daily
- Advil (ibuprofen) 200mg one to two tablets “several” times per day
- Hydrochlorothiazide 25mg daily
- Clonidine 0.1 mg one tablet PRN for elevated blood pressures
- Lorazepam 0.5 mg PRN insomnia and/or anxiety
- Metformin 850mg twice daily
- Multivitamin daily
- Aspirin 325mg daily
- Garlic supplement daily
- Allopurinol daily
- Folate 1mg daily
Medications

• Glipizide 5mg twice daily
• Vitamin B12 injection Q month (for energy)
• Crestor 10mg daily
• Coenzyme-Q10 200mg daily
• B-Complex tablet daily
• Vitamin E 400 IU BID
• Fish Oil OTC 2 tablets daily
• Terazosin 4mg QHS
• Beta-carotene 25,000 IU daily
Physical Therapy Examination

• Cognition
  – Oriented to person, place, and time. Knows name of president and able to do serial 7’s.
  – Needs assist in preparing medications
  – Wife reports that he is becoming forgetful
  – Preferred learning style?

• Emotional State
  – Appears anxious, denies depression
  – Reports low energy and sex drive

• Visual-Perceptual Deficits
  – Judgment, Safety, Attention
  – Body awareness
PT Examination

• Vital Signs
  – Blood pressure, heart rate, respiratory rate, glucose readings, oxygen saturation
  – VS during medical visit: HR 62, BP 144/72, RR 18, height 5’10” and weight 208 (BMI 30)
  – Heart: RRR, S4 gallop
  – ECG report showing 1st degree heart block and left ventricular hypertrophy
  – Potential for cardiopulmonary complications
    • Aspiration
    • Limitations in activity tolerance
Physical Therapy Examination

- Pain Assessment
- Skin Integrity
- Range of Motion
- Sensation
  - 5.07 monofilament (protective sensation)
  - Light touch, proprioception, kinesthetic awareness
- Motor Function
  - Alterations in tone
  - Abnormal synergy patterns
  - Abnormal reflexes
    - Stretch reflexes
    - Tonic reflexes
Physical Therapy Examination

• Muscle Strength
  – 4+/5 left upper extremity noted during MD visit
  – Any evidence of a foot drop?
• Coordination
• Motor Planning
• Postural Control and Balance
  – Integration of sensory systems
    • Vision, Vestibular, Somatosensory
  – Functional balance testing
    • Examples include the Timed Up and Go, Functional Reach, Berg Balance Score, Single Limb Stance, etc.
Physical Therapy Examination

• Functional Mobility
  – Bed mobility
  – Transfers
  – Gait

• Activities of Daily Living
  – Feeding
  – Toileting
    • Bowel and Bladder Function
  – Bathing
  – Dressing
Physical Therapy Examination

• Home Assessment
  – Need for environmental modification?
  – Need for adaptive equipment?

• Transportation Issues
  – Mr. Pereza gave up driving after last stroke
  – Mrs. Pereza has a diagnosis of early macular degeneration
  – Need for assisted transportation?
Requested Information

• Lab Work (Diabetes and Cardiac Function)

• Imaging Studies
  – Knee (x-ray, MRI)
  – Brain scans (MRI, CT scans)

• Consult with Physicians
  – Neurologist
  – Cardiologist
  – Orthopedic physician
Physical Therapy Intervention

• Individualized plan of care to address noted impairments
• Included interventions
  – Pain Management
  – Movement (range of motion, strength training)
  – Balance and coordination training
  – Functional training, including gait activities
    • Dual task training
  – Cardiopulmonary endurance
  – Patient and family education
  – Home assessment and modification
  – Safety training and fall prevention strategies
Referrals

- **Speech Pathology**
  - Swallowing examination
  - Communication

- **Dietitian**
  - Diabetes management
  - Assisting with weight loss

- **Social Services**
  - Transportation options
  - Need for Advance Directives

- **Psychological Services**
  - Adjustment issues (loss of adult child, retirement, moving to a new home)
  - Sexuality concerns
  - Caregiver stress
  - Dealing with anxiety and depression
Referrals

• Medical and Nursing
  – Diabetes management
  – Medication reconciliation
• Occupational Therapy
  – Activities of daily living training
  – Use of adaptive equipment
• Orthotist
  – Possible use of an ankle-foot-orthosis or extra depth diabetic shoes
• Vendors
  – Equipment and assistive devices
Fall Epidemiology

• Approximately one third of community residing elders fall each year. Of these elders, one-half experience multiple falls.
• Mr. Pereza has experienced multiple falls (bruise noted above left eye)
• Many falls are underestimated.
Complications Due to Falls

- Fractures
  Most common: Hip and Forearm
- Disability
- Death
Falls Without Injury Can Also Cause Negative Consequences

- Fear of falling
- Immobility
Causes of Falling

• Age-related physiological changes
• Diseases
• Medications
• Environmental factors
Age-Related Physiological Changes

• Vision (acuity, depth perception, glare recovery, etc)
• Balance (visual, vestibular and proprioceptive systems)
Age-Related Physiological Changes

- Musculoskeletal (weakness, decreased range of motion)
- Blood pressure (cardiovascular changes, increased risk of hypotension and hypoxia)
Diseases

- Visual disorders
- Neurological disorders
- Cardiovascular disorders
- Musculoskeletal disorders
- Psychological disorders
Medications

• Side effects
  – Many of Mr. Pereza’s medications have dizziness as a side effect

• Multiple medications
  – Impact of polypharmacy

• Many drugs interfere with postural control, cerebral perfusion, and/or cognition
Environmental Factors

• Obstacles
• Poor design of home
• Poor use of assistive devices
Fall Assessment

• Obtain a fall history
  – Previous falls (Mr. Pereza has experienced 3 falls within the past 12 months, most recent fall last week when going to the bathroom)
  – Symptoms
  – Activity
  – Timing of falls
  – Location of falls
  – Assess trauma (physical or psychological)
Importance of assessing fall risk before a fall occurs!!!!

- Medications
- Fear of falling
- Functional testing could indicate fall risk
  Berg Balance Score
  Tinetti Gait and Balance
  Functional Reach
  Gait Velocity
Physical Therapy Intervention

- Intrinsic interventions
- Extrinsic interventions
Intrinsic Interventions

- Treatment of acute or chronic conditions
- Consult with MD regarding medications
- Gait, balance, and strength training
- Proper fit and use of assistive devices
- Proper footwear
- Exercise programs
Intrinsic Interventions

• Importance of increasing daily activity
  – Promote motivation to resume walking
• Allows for repetition and practicing of functional movements
Extrinsic Interventions

- Safety training
- Modification of the environment
- Use of adaptive equipment
Fear of Falling

• Causes social isolation, limited mobility, and weakness
• Increases the risk of falling
• Must be addressed
  Education
  Behavioral modification
Fall Recovery

- Emergency alert systems
- Portable phone
- Floor transfer
- Education
- Mrs. Pereza should not attempt to lift her husband off the floor due to her own medical conditions
Conclusion

- Teamwork
- Effective Communication
- Knowledge of what other health care professionals can contribute
- Respect
- Achieve the best outcomes!
References and Resources

- Centers for Disease Control and Prevention, Healthy Aging . . . . . . http://www.cdc.gov/aging/
- American Physical Therapy Association www.apta.org
- American Physical Therapy Association, Geriatrics Section  www.geriatricspt.org
References and Resources

- Florida Department of Elder Affairs
  [http://elderaffairs.state.fl.us/index.php](http://elderaffairs.state.fl.us/index.php)


References and Resources

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