Discharge Planning: Why it Matters
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Background

- Physical Therapists
  - are required to multi-task, selecting and utilizing not only evidence-based assessment and treatments for specific disease processes, but also to foresee what environment or program a patient is going to be safe in post discharge.
  - want patients to maintain the functional gains they have achieve during skilled physical therapy episodes of care.
  - work within an ever-changing health care environment with new regulations to implement/ follow.
  - may vary in their approach to discharge planning
  - often face barriers and challenges in achieving desired outcomes.

Course Objectives

At the conclusion of the course, participants will be able to:
- Discuss current Medicare, Center for Disease Control, and health care efforts to avoid patient hospital re-admission.
- Describe and differentiate available community based exercise programs to optimize patient education and participation at time of discharge from physical therapy services.
- Discuss and model elements of Janis and Mann’s Decision Making Theory and Bandura’s Theory of Self Efficacy in simulated patient education and discharge planning sessions.

Objectives. continued

- Identify key elements of an environmental safety assessment conducted in the patient’s home or the health care institution.
- Design comprehensive patient home/community programs that demonstrate facilitation of mobility, strength, and balance following discharge from skilled PT services at time of discharge from skilled services.
- Discuss strategies to maximize family/ caregiver participation and compliance in programs following PT discharge.

Navigating the ever changing health care environment. Focus: decreasing hospital re-admissions.
Pressure to Reduce Re-Admissions to Health Care Facilities

The focus on re-admissions began first with review of data. Nearly 1 in 5 Medicare patients discharged from hospitals are re-admitted within 30 days at a cost of $26 billion annually. Reducing avoidable re-admissions is a high priority of current health care reform measures.

The Patient Protection and Affordable Care Act (PPACA) established the Hospital Readmissions Reduction Program which began in 2013, and is aimed at adjusting hospital payments for those institutions that have higher than expected readmissions.

Incentives to Reduce Health Care Re-Admissions

- Hospital readmission quality metrics were introduced into other settings, such as inpatient rehabilitation facilities in 2014, and are expected to be integrated in to additional settings in the near future.
- Rehabilitation professionals need to be informed of changes in the health care system to better serve their patients and the facilities where they practice.

Medicare Hospital Re-admission Measures by Setting

- In-patient (acute care) hospitals..condition specific 30 day post discharge from acute care hospital: (subject to penalty up to 3% based on their performance on readmission compared to national benchmarks)
  - Acute MI (2013)
  - CHF (2013)
  - Pneumonia (2013)
  - COPD (2015)
  - Elective total hip and knee arthroplasty (2015)

Medicare Hospital Readmission Measures by Setting

- Long Term Care Hospitals (2017): 2% penalty for all-cause unplanned re-admissions for 30 days post LTHC discharge
- In-Patient Rehabilitation Facilities (2017): 2% penalty for all-cause unplanned re-admissions within 30 days post IPRF discharge.
- Skilled Nursing Facilities (2018): incentives and penalties to be based on performance compared to national benchmarks for all cause re-admissions within 30 days post SNF discharge
- Home Health Agencies (2014) 2% penalty for re-hospitalization during first 30 days of home health care

Falls: A Frequent Cause of Hospital Re-admission

- Falls with associated injuries are also a major cause of re-admissions to the hospital. Often following total hip and knee arthroplasty, but associated with many other diagnoses and co-morbidities.

- The CDC reports that annually, emergency departments treat about 2.5 million nonfatal fall injuries among older adults; more than 30%, or about 734,000 of these patients have to be hospitalized.

Role of the PT

- Physical Therapy personnel play important roles, with expertise in patient safety and patient care transitions.
- PTs should advocate and communicate their expertise and critical-decision making in providing recommendations for the most appropriate level of care post discharge within the health care team prior to and during care transitions to help in reducing hospital, in-patient rehabilitation, SNF, and other health care re-admissions.
- PTs provide screening for medical conditions (i.e. BPPV, DVT, orthostatic hypotension) . When the patient is in a non-acute care setting , screening/ Rx may assist in reducing hospital re-admissions.
Role of PT in transition of care

• “PT provides a unique information-bearing relationship in the hospital setting. It involves hands-on, personal treatment often by the same individual or team, which is an increasingly rate component in fragmented, technology-driven health care delivery.”

• “Of paramount importance is that patients tend to share with PTs personal pertinent details that could inform discharge planning and re-admission risk.”

• “PT contributes to patient/family education and discharge planning through narrative (information) and quantitative data such as mobility and balance.”

APTA House of Delegates Position (HOD P06-08-16-16):
Physical Therapist of Record and “Hand Off” Communication

• Whereas, research has identified medical errors in all practice errors as a direct result of failures in communication.

• Whereas, models to reduce errors related to communication have been evaluated, and evidence demonstrates that implementation strategies have successfully reduced errors related to poor communication.

• Whereas, communication practices have been recognized by accrediting agencies as an area of opportunity for improvement in patient/client safety.

• Resolved: The PT of record is the therapist who assumes primary responsibility for patient/client management and as such is held accountable for the coordination, continuation, and progression of the plan of care. APTA encourages development of “hand off” communication procedures.

Rehab Involvement in Post-Discharge Recommendations

• The voice of the PT “should be part of the d/c planning process to reduce hospital re-admission.”

• Barrier: The PT may not be part of the process or PT discharge plan recommendations may not be followed by the health care team.

• Challenge: Some physicians may be reluctant to order post-discharge therapy, i.e. home health or out-patient services. PT needs to empower patients/families to insist on follow up rehab services, especially if a fear of falling exists or there are complex medical conditions to manage.

Examples of Strategies That are Working

• Beyond Home Health Care, Jacksonville FL: “When the patient comes home there needs to be a paradigm shift in the PT’s mind. The goal is no longer to ambulate 200’ with min assist using a walker. The goal should be to keep this individual out of the hospital.”

• How do we keep people at home and avoiding unnecessary hospitalizations?

• Every health care worker should be involved with medication reconciliation; medication errors is a frequent reason of re-admission. Read materials re: drug-drug interaction.

• Read the hospital discharge instructions and educational materials given.

• Ask nurses/referring providers questions related to adverse events.

• Cognitive concerns? Involve OT/ST.

Strategies to Avoid Re-Admissions

• At Beyond Home Health Care Services (FL):
  • All PTs are required to participate in case studies that look at why select patients were re-hospitalized
  • Every PT must recognize which hospitalizations were preventable or not (i.e. CVA’s not preventable; UTI re-admission may have been prevented).
  • If a patient was re-admitted for a UTI, were there signs/symptoms that the home care team should’ve caught and acted on? Develop an improvement process to < re-admissions secondary to UTI.
  • The expectation is that all clinicians are discussing the biomedical and psychosocial aspects of patient care and are working together to anticipate and to respond appropriately to adverse changes. (i.e. it’s not “just a nursing issue”)

Screening for Medical Conditions May Help to Decrease Hospital Re-admissions

• Additional training is necessary for those PTs without the DPT to participate in direct access. Screening for medical diseases is now seen as a necessary adjunct to history and physical examination.

• William Boissonault PT MS has been key in developing screens for medical conditions for the physical therapist.

• Review of Systems Checklists have been designed to screen body systems for signs/symptoms of general pathology. Not specific diseases. The role of the PT is not to diagnose disease, but to identify areas of concern and refer to the physician for specific diagnosis.

• “Guide to Physical Therapist Practice” is available on line for members.

Bundling of Rehab Services

- On January 31, 2013, the Centers for Medicare & Medicaid Services (CMS) announced the health care organizations selected to participate in the Bundled Payments for Care Improvement initiative, which includes four innovative new payment models.
- Under the Bundled Payments for Care Improvement initiative, organizations will enter into payment arrangements that include financial and performance accountability for episodes of care.
- There are various models of bundling currently; the goal of the models is to lead to higher quality, more coordinated care at a lower cost to Medicare.
- Bundling of total joint replacements began 4-1-16 in select regions.

APTA Efforts to Educate Membership Re: Bundling of Payments

- In TN, the areas included in the Comprehensive Care for Joint Replacement model (CJR) or bundling model for payment of elective hip and knee replacements include Memphis and Nashville/ Murfreesboro/ Franklin, TN.
- The Bundling Model includes the in-patient stay and post-op care 90 days post discharge.
- CJR requires that all IPPS hospitals in the selected MSA’s participate.
- Medicare cost savings are estimated to be $1.53 million over the 5 years.
- APTA has provided a power point presentation with program highlights and a free webinar at the website below.
  - http://www.apta.org/CJR/

Creation of Patient Centered Medical Home Models

- Current emphasis not only in hospital changes but changes in primary care.
- Definition (AHQR): “a model of the organization of primary care that delivers the core functions of primary care”
- May involve additional staff to provide education since many primary care practices are small.
- Payers may provide funding for additional educational or case management staff; payers see savings from reduced re-admissions.
- Combination of Patient-Centered Medical Home and Re-Admission Reduction provides a mechanism for achieving 3 important goals: 1) improving primary care, 2) improving patient outcomes, and 3) reducing healthcare expenditures.
  - https://pcmh.ahrq.gov/page/defining-pcmh

Other Health Care Trends - 2016

- Value-based payment (payment based on outcomes)
- Population Health: “the health outcomes of a group of individuals, including the distribution of such outcomes within the group”. It is an approach to health that aims to improve the health of an entire human population
- Increased use of technology
  - Use of tablets, apps, telemedicine, email, videos to increase access and improved patient participation and motivation, > patient accountability.

Falls

A Major Cause of Re-Admissions to Health Care Facilities
Center for Disease Control Efforts to Address Falls in the Older Adults (U.S.)

- Dedicated website: [http://www.cdc.gov/homeandrecreationalsafety/Falls/data.html](http://www.cdc.gov/homeandrecreationalsafety/Falls/data.html)
- Statistics, Costs of Falls, Resources, Home Safety Assessment - Checklist (available in English, Spanish, Chinese), Keeping Seniors Safe: podcasts
- [http://www.cdc.gov/traumaticbraininjury/seniors.html](http://www.cdc.gov/traumaticbraininjury/seniors.html)
- Statistics, Event Planning Materials (Ads, Banners), Tri-Fold brochure of educational materials for patients/families (recognizing signs/symptoms of TBI, prevention of TBI)
- CDC works with state health departments in coordination of efforts to prevent falls and related injuries in older adults. They currently have a CDC fellow working with the state of TN Department Injury Prevention in the area of falls prevention.

Preventing Re-Admissions Secondary to Falls: STEADI (Stopping Elderly Accidents, Deaths, and Injuries)

- Developed by the CDC for providers who see older adults at risk for falls or who have a history of falls. Information is available online.
- The STEADI tool is based on a simple algorithm (based on AGS/BCS Guidelines) and is designed to assist the provider in screening for falls and making appropriate recommendations to their patients.
- The STEADI tool kit is made up of case studies, conversation starters regarding falls (based on Stages of Change in Behavior), information regarding falls, standardized gait and balance assessments (with videos for training), and educational materials for patients and family members.

STEADI Gait Assessment: Timed Up and Go

- Patients are asked to stand up, walk 10’, turn and come back to sitting.
- Regular footwear and usual assistive walking device are permitted.
- Instructions to the patient:
  - When I say “Go,” I want you to: Stand up from the chair, Walk to the line on the floor at your normal pace, Turn, Walk back to the chair at your normal pace, Sit down again. Time patient. Score > 12 seconds are associated with > falls risk.
  - Observe the patient’s postural stability, gait, stride length, and sway.
  - Circle all that apply: Slow tentative pace, Loss of balance, short strides, Little or no arm swing, Stepping self on walls, Shuffling, En bloc turning, Incorrect use of assistive gait device

STEADI Strength Assessment: 30 Second Chair Test

**Purpose:** Assess leg strength and endurance

**Equipment:** 17” standard height chair without arms; stopwatch

**Instructions to the patient:**
- Sit in the middle of the chair.
- Place your hands on the opposite shoulder crossed at the wrists.
- Keep your feet flat on the floor.
- Keep your back straight and keep your arms against your chest.
- On “Go,” rise to a full standing position and then sit back down again.
- Repeat this for 30 seconds.

30 Second Stand Test, Continued

- **On “Go,” begin timing.**
- If the patient must use his/her arms to stand, stop the test. Record “0” for the number and score.
- Count the number of times the patient comes to a full standing position in 30 seconds.
- If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand.
- Record the number of times the patient stands in 30 seconds.
- **A below average score indicates increased risk for falls.”**
30 Second Stand Test Norms

- **Chair Stand—Below Average Scores**
  - **Age**
  - **Men** | **Women**
  - 60-64 | < 14 | < 12
  - 65-69 | < 12 | < 11
  - 70-74 | < 12 | < 10
  - 75-79 | < 11 | < 10
  - 80-84 | < 10 | < 9
  - 85-89 | < 8 | < 8
  - 90-94 | < 7 | < 4

**STEADI: 4 Stage Balance Test**

- Ask the patient to obtain each position. They are asked to maintain that position for 10 seconds. They are allowed to hold their arms out if needed, but not move their feet. Eyes are open throughout.
  - 1. Feet together.
  - 2. Semi-tandem stance (feet touching; 2/4 Berg position)
  - 3. Tandem stance (heel toe; 4/4 Berg position)
  - 4. Single limb stance
- "An older adult who is unable to maintain tandem stance for 10 seconds is at increased risk for falls."

**STEADI: Interventions when triage reveals recurrent falls or fall/s with injury**

- Conduct multifactorial Risk assessment
  - Review Stay Independent brochure
  - Falls history
  - Physical exam including:
    - Postural dizziness/ postural hypotension
    - Medication review
    - Cognitive screening
    - Feet & footwear
    - Use of mobility aids
    - Visual acuity check

- Recommend high risk fall interventions
  - Educate patient
  - Vitamin D +/- calcium
  - Refer to PT to enhance functional mobility & improve strength & balance
  - Manage & monitor hypotension
  - Manage medications
  - Address foot problems
  - Optimize vision
  - Optimize home safety

**Take Home Message**

- Medical institutions, i.e. SNF, home health, acute care hospitals, Inpatient Rehab facilities are all preparing and/ or implementing new CMS guidelines.
- Financial incentives are or will soon be in place to encourage timely and appropriate discharges to decrease the rate of re-hospitalization.
- Pilot bundling of billing programs are currently in place, so that poor outcomes may impact several medical facilities.
- Use of CDC recommended measures in screening for falls may facilitate appropriate referrals and falls reduction.
- Efforts to reduce hospital re-admissions will require increased collaboration between medical institutions and therapists in those varied settings.

Optimizing patient and family education prior to discharge from skilled PT services.
Learning and Older Adults

- Older adult learning is best if self-paced. (difficult in some health care environments)
- “Older adults ability for analytic, creative, and practical skills continues to match those of younger adults.” (Hartley, 1998)
- Decreased hearing and differences in learning styles can affect learning, but may be interpreted as cognitive deficits. (Hartley, 1998)
- Older adults have the capacity for learning and change, but they need an environment that facilitates that. It is the responsibility of the “teacher/therapist” to be positive, utilize good communication skills, and explain the rationale/purpose of each activity.
- Sometimes finding that optimal environment may be difficult with background noise, crowded treatment areas, etc.

Overcoming Patient Misbeliefs

- Sometimes our patients come to us with “strong beliefs about their health care that are not supported by evidence or facts”. (i.e. immunizations, BPPV, diabetes)
- Patient misbeliefs can negatively impact their care and well-being.
- Misbeliefs: due to ignorance, cultural differences, language barriers, or family stories/myths, urban legends.

How do we respond?

- Listen... don’t cut them off... be open... don’t judge... teach, don’t preach
- Make patients feel they have a role in their health, i.e.
  - “What do you think will make your condition better?”
  - “Are there reasons you have or have not followed through with your home program/other medical recommendations?”
  - “Is there other information you need to help you make decisions about your health care?”

Principles of Adult Education

- The therapist (or group leader) who uses principles of adult learning should:
  - treat all patients or members of the group as experts
  - build on the experience of participants... allowing them to bring their own experience/knowledge into the group
  - share knowledge and have a personal interest in learning
  - provide an atmosphere that encourages deeper level learning and reflection. Deeper-level learning uses approaches that develop critical thinking and problem solving. Reflection involves both thought and affect, and occur when people explore and evaluate their experiences, a process that can lead to new perspectives and behaviors.

Self Efficacy Beliefs as a Tool for Change

- Self Efficacy involves a person’s expectation of their ability to function well in certain situations. (Bandura, 1977, 1986, 1997) The concept derives from Bandura’s social cognitive theory.
- “What people are capable of achieving and what they actually achieve is mediated by their sense of self-efficacy, so a positive belief in personal ability is central to motivation and action.”
Self Efficacy Beliefs as a Tool for Change, continued

• Increasing a person’s self-efficacy has been shown to be very powerful in initiating and changing health behavior (Bandura, 1995), i.e. the belief in need to exercise and the ability to engage in exercise can predict exercise participation.

• Bandura (1986): Four main influences on self-efficacy: enactive mastery experiences/ accomplishments, vicarious experiences (influence of others), verbal persuasion, and message from our body and feelings (physiological and emotional states).

Enactive Mastery Experiences (Accomplishments)

• Accomplishments have the most influence on behavioral change. It involves doing, success and failure, and overcoming barriers. It involves practice which can be assisted by breaking skills into sub-skills and building on the success with sub-skills.

• Telling others about progress made enhances self-efficacy. People value a sense of control over their achievements. So they need to know the “technique” in carrying out exercise or safety behaviors and also the “rationale” behind their actions.

Using Vicarious Experiences to Enhance Self-Efficacy

• Hearing of other people’s stories or experiences serve as vicarious experiences that can alter efficacy beliefs. Can affect someone’s appraisal of their own capabilities.

• Role models are people seen in a similar circumstance with some similarity in situation or personal characteristics.

• Hearing of someone who may have identified that the shoes they were wearing were not safe or that the environment they lived in may have contributed to falls may strengthen personal beliefs and enhance self-efficacy. “perhaps I would be safer if I made those changes too”

Verbal Persuasion

• Positive and realistic social persuasion can encourage individuals to try harder.

• Provide rationale to support behavioral changes.

• Reporting research findings (in understandable lay language) about the efficacy of activities/treatments can provide sound verbal persuasion vs. “this is just my opinion.”

• Support groups are often helpful in providing verbal persuasion an increasing self-efficacy.

• Having spouses/significant others participate in educational sessions may be invaluable since an uninformed family member or friend may provide negative feedback or discouragement.

Physiological and Emotional States

• People use information from their physiological and emotional states to judge their capabilities.

• The impact of bodily responses are powerful and should not be overlooked.

• If a person is feeling stronger, they may be more likely to exercise or walk more.

Physiological and Emotional States, continued

• If a person is dizzy or in pain they may not want to participate or feel safe in participating in a session/program.

• It is important for individuals to interpret their body’s responses, i.e. pain with an exercise indicates looking for an alternative.

• Improved emotional state can be assessed through use of confidence scales and other functional subjective measures (ABC Confidence Scale, Modified Falls Efficacy Scale, Dizziness Handicap Index, Borg Perceived Exertion Scale).
Decision Making as a Process

- Decision making is complex. It involves more than one person giving advice and the other person taking it.
- Commitment to action and barriers to action can occur at any point.
- Risk-related information from experts is inadequate on its own (Fischoff, 1989). Individuals need to define risk themselves. Then move to active problem solving.

Five Stages to Decision Making

- Janis and Mann (1977) identified five stages to decision-making.
  1) Appraising the challenge. (person exposed to a threat or opportunity. It can be ignored or accepted and then move on to the next stage)
  2) Surveying the Alternatives. (person may actively seek advice/information/ways to cope)
  3) Weighing Alternatives (cost? Time? Advantages and disadvantages)
  4) Deliberating about Commitment. (talk to others?)
  5) Adhering to Commitment Despite Negative Feedback.

Example: Decision Making Regarding Use of an Assistive Device

- Appraising the challenge. (person exposed to a threat or opportunity. It can be ignored or accepted) "I'm very careful now. I don't think I need one. I just fell that one time; I was just careless."
- Surveying the Alternatives. (person may actively seek advice/information/ways to cope) "Do you think I really need one?" Don't you think I could just hold the furniture?"
- Weighing Alternatives. "A friend of mine has a walker with a seat; I think that might be helpful." If I just do my exercise won't I get strong enough without having to use a cane?"
- Deliberating about Commitment. "I talked to my sister about using a cane; she said she wouldn't go out to dinner with me if I used it."
- Adhering to Commitment Despite Negative Feedback. "I've decided to use the cane even though my sister thinks I should not become dependent on it."

Talking With Your Patients About Falls: From STEADI Pocket Guide for Providers

If you hear
- "Falling is just a matter of bad luck." (Pre-contemplation Stage)
- "My friend down the street fell and ended up in a nursing home." (Contemplation Stage)
- "I'm worried about falling. Do you think there's anything I can do to keep from falling?" (Preparation Stage)
- "I know a fall can be serious. What can I do to keep from falling and stay independent?" (Action Stage)
- You can say
  - "As we age, falls are more likely for many reasons, including changes in our balance and how we walk."
  - "Yes, preventing falls can prevent broken hips & help you stay independent."
  - "Let's look at some factors that may make you likely to fall & talk about what you can do about one or two of them."
  - "I'm going to fill out a referral form for a specialist who can help you improve your balance."

Use of the “The Preventive Framework” in Adult Education

- From Janis and Mann’s decision-making process (1977)
- The following five questions can be used to facilitate patient participation and behavioral change:
  1. Why did this work or not work, and what are some other things that could work? (i.e. why do you think you fell?)
  2. Which way works best for you? (how can you stop falling in the future?)
  3. How can you make this change in behavior happen? (i.e. what can you do to < your risk for falling?)
  4. Are there barriers to making the change in behavior happen? (what might keep you from using your cane?)
  5. Now, how can you keep this happening?
- **note:** adapt the wording of the questions as indicated by the situation

Course participant activity

- Break up in groups of 2-3. Be prepared to discuss with the group at the end of the activity.
  1) Using the decision making framework, facilitate a patient education session using the scenario provided.
  2) With the patient scenario provided, discuss three examples of ways to increase patient self-efficacy.
Patient Educational Scenarios

- An 86 year old female status post fall 2 mo. prior with resultant head injury and loss of consciousness is referred to your out-patient clinic for gait training, balance activities, falls prevention. The patient states she does not want to use a cane. Objective findings on the initial evaluation include: 46/56 on the Berg Balance Test, 15/30 on the Functional Gait Assessment, impaired LE strength (hip abductors: 2+/5 R, 2/5 L; hip adduction: 3+/5 R, 3/5 L; hip extension 3/5 BLE; hip IR/ER 3/5 BLE; knee flexion 3+/5 BLE, knee extension 4+/5 BLE

- This patient reports she doesn’t like to use the cane, feeling that it makes her look old. Her best friend is only 69 years old. She likes to go take her granddaughters shopping and buy them clothes.

Educational Scenarios .. continued

- An 86 year old male is referred to your home health agency s/p hospitalization for acute MI, stent placement, and recent falls history. He is being followed short term by skilled nursing and physical therapy. He was diagnosed with Type 2 Diabetes Mellitus during hospitalization. He has a history of one fall within the past 6 months when walking outside his home. He is resistant to making changes in diet, checking blood sugar, or increasing his activity level. His Berg Balance Test score is 42/56.

- This patient states he’s having the problems he has because he’s 86 .. it is just because he’s old, and doing all these things will not make a difference. He lives at home with his wife suffering from memory loss post CVA and son who is on disability.

Take Home Message

- We often lecture to our patients and provide them with as much information as we can in a short period of time. Adult learners do best and retain more when allowed to participate in the learning process. There are available learning theories that we can use to foster maximum participation in the learners we work with.
- “One minute manager” concept – allow patient to tell you what they know, assist with problem solving allowing for customization of home program with emphasis on what is important to the them. Patients should talk 2-3 times more than the therapist.

Decreasing re-admissions through reduction of environmental hazards

The Importance of Environmental Safety

- As therapists, we must be aware of environmental threats/ barriers in all settings, i.e. acute care, SNF, assistive living, home health, out-patient. (Falls prevention teams/ efforts in all settings)
- Environmental hazards contribute to falls: poorly working wheelchairs, slippery surfaces, poor lighting, long clothing, unsafe footwear, lack or railings, uneven surfaces, etc.
- An important part of preventing re-hospitalizations is to facilitate safety in the patient environment.
- The CDC provides a home safety assessment free that can be provided to patients and family Available in English, Spanish, Chinese [http://www.cdc.gov/steadi/patient.html]

Did Environmental Factors Play a Role in These Falls Stories?

- Coming for Christmas Dinner
- Greeting a Friend on a Rainy Evening
- Making an Unexpected Entrance into Church
- Falling Out of the Bed At the Assisted Living
Efforts to Increase Environmental Safety: “The Home Safety Council” (HSC)

• Falls in the home result from a complex interaction among hazards in the home environment, physiological limitations, and risk taking. (Lord et al., 2006)
• Kocher (2002) reported that a majority of falls (55%) occur inside the home, another 23% outside but near the home, 22% away from the home.
• HSC Developed by the National Council on Aging
• HSC is a 501 (c) (3) nonprofit organization designed to help prevent the nearly 21 million medical visits annually from unintentional falls in the home.
• “The Creative Practices in Home Safety Assessment and Modification Study” by B. Beattie PT, MPT, MHA and E. Peterson MPH, OTR/L, FOTA.

“Ten Creative Practices in Home Safety for Falls Prevention”

Example One
• Holy Redeemer Home Care (Philadelphia PA). All home care recipients 85 and older receive a comprehensive home safety assessment and modifications. Funding for home modifications provided.

Example Two
• Senior Health Link (Chester County, PA). Partners with 4 area nursing schools. Moderate to low income individuals targeted. Initial interview post discharge from ER or hospital. Continued relationship with nursing students/ supervisors follow. City pays for completed home safety assessments.

Links to Home Safety Assessment Tools On-Line

• https://www.ces.ncsu.edu/depts/fcs/pdfs/FCS-461.pdf
• http://agingresearch.buffalo.edu/hssat/caregiver_checklist.pdf

Elements of Comprehensive Home Safety Assessment

• All entrances/ exits
• Front/ back yard and driveways
• Hallways
• Kitchen
• Living Room
• Bedrooms
• Staircases
• Laundry/ Basement
• General safety issues: escape routes in case of fire, presence of smoke detectors and fire extinguishers, emergency #s posted
• Focus assessment on clear pathways, adequate railings and lighting, no loose cords or rugs.

Not Commonly Considered Environmental Risk Factors

• Furniture that is too high or too low
• Rocking or pivoting chairs for individuals who are frail of have balance difficulties
• Wearing clothing that is too long.. May cause a trip with bending forward or in climbing steps
• Bed linens that fall to the floor causing a trip hazard when getting out of bed.
• Unsafe footwear.
• Inability to see edges of steps with depth perception or visual issues.

Home Safety Assessments

Home Safety Self Assessment Tool (HSSAT)

• Potential kitchen hazards
  • Presence of pet
  • Improper ladder/ step stool
  • Loose rug
  • Cabnets used are too high
  • Loose cord from toaster
  • Potential slippery floor

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HSSAT

Potential hazards in Bedroom
• Loose cords
• Clutter on floor
• Luggage not completely under bed
• Legs of garment rack pose a risk
• Loose rug
• Control for light not in easy reach of bed

Steps as a potential environmental hazard

No railing, uneven lighting may > risk
Delineated step edges and railing < risk

Uneven Outdoor Surfaces

Various height surfaces, uneven
Well marked cut in the curb

Bedrooms and baths

Loose bed control cord and O2 tubing
Assistive equipment in place to > safety

Environmental Safety Efforts in SNF, assisted living, outpatient environments

• The basics apply to all settings:
  • Equipment in good working order, i.e. leg rest on w/chairs, wheelchair locks
  • Adjustable height beds
  • Armchairs with arm rests of appropriate height (Good seating/mobility)
  • Flooring.. Dry, non-slip cleaning materials..mats by bed
  • Good lighting.. avoid glare

Environmental Safety Efforts in SNF, assisted living, outpatient environments, continued..

• Triage/ “huddle” with witnesses of a fall to identify environmental factors
• Bed/ chair alarms for those for whom it is appropriate
• Clutter free environments/ no equipment blocking hallways
• Easy to open or automatic doors
• Safe footwear for all residents
• Supervision of patients with dementia
• Education.. education.. and re-education of all staff.. “safety fair”
Take Home Message

• Environmental issues contribute to up to 50% of falls.
• This extrinsic risk factor is something that can be altered and improved whether the patient is environment is the community, SNF, their own home, assisted living, or hospital setting.
• Providing education regarding safe equipment, floor surfaces, lighting, safe footwear and clothing, and scanning of the environment is essential to maximize our patients and to reduce falls risk.

Describe and differentiate available community based exercise programs to optimize patient education and participation at time of discharge from Physical Therapy Services.

APTA VISION

• Transforming Society by Optimizing Movement to Improve the Human Experience

• How might we use available resources to achieve this vision with each patient/client?

Stepping On Program

• Community based program to build confidence and reduce falls for community dwelling older adults
• Developed University of Australia – RCT results published 2004
• 14 month initial program with control group – 310 older adults who had a fall
• 31% decrease in falls in the program group compared to control
• Wisconsin program - often coordinated at state level
• Leaders – initially were all PT’s, OT’s, RN’s (in the RCT)...now trainers have expanded. .may he health educators, work in a Senior Center, be an EMT, PTA, etc. – PTs still teach the exercise component and must be involved in at least three sessions.

Components of “Stepping On”

• Seven weeks of 2 hour sessions
  1. Introduction/Overview including strengthening & balance exercise – participants also share stories of falls
  2. The exercises & moving about safely
  3. Advancing exercise & home hazards
  4. Vision & falls, community safety & footwear
  5. Medication management, bone health & sleeping better
  6. Getting out and about – including assistive devices
  7. Review and plan ahead
• 3-month Booster Session

Community Based Programs

• Stepping On NCOA -FP
• Matter of Balance NCOA -FP
• Otago NCOA –FP
• Tai Chi for Arthritis NCOA –FP
• Tai Ji Quan: Moving for Better Balance –NCOA -FP
• Other – non-evidence based programs
• Silver Sneakers YMCA
• Local libraries
• Local health departments
• Senior Citizen Centers/ Fifty Forward

We should be aware of what is available in our communities.
(NCOA-FP National Council on Aging recommends for fall prevention also endorsed by CDC)
Emphasis on Safe Footwear including the Yak Trax

- Useful in increasing traction on
- shoes in snow/ice.

“Stepping On” – Community Mobility Expert.
Program Topics Are Multifactorial

Benefits of Sit-to-Stand

- This exercise will help you get in and out of chair, sofa, your bed, toilet and car
- It also increases your feeling of being balanced when you are standing
- Scoot to the front of the chair
- Feet shoulder width apart and tuck them behind your knees
- Lean forward over your knees
- If needed push off with both hands using the armrest and stand up slowly when able come to standing without using your arms
- Weight on your heels as you push up and sit back down.

Benefits of Side-Hip Strengthening

- By strengthening the side of your hips, you will find it easier to walk and climb stairs.
- It will also help you take steps to the side to avoid people or other things that might be in your way when walking.
Benefits and Reasons to Practice Tandem Walking

- People tend to walk with their feet wider apart as they age.
- This will help you keep your balance when you have to move your feet together, i.e. turning.
- Squeezing through a tight area or to avoid running into someone.


Benefits of Heel and Toe Raises

- Very important for walking - strengthens "shin" muscles to help pick up foot when walking.
- Strengthens calf muscles to help stabilize ankles for walking, climbing stairs, or reaching up for something.
- Improve "ankle" strategy.
- Help you regain balance and prevent falls.


Balance Exercises

- Participants encouraged to perform daily.
- Daily exercises include:
  - Sit to stand, sideways walking, heel to toe (tandem) standing, heel to toe (tandem) walking.
- Balance is important for every day activities.
- Balance can be improved and gains can be maintained.

Stay Strong III

- Slow Down Time:
  - Exercise can prevent and reverse age-related loss of muscle strength.
- Resistance exercise improves:
  - Lower body strength which helps you balance, walk, and perform activities such as rising from a chair and reaching.
- Keep doing what you want to do:
  - The "Stepping On" program will help you stay strong, safe, and active.
- Recommendations of Program:
  - Balance exercises: Daily.
  - Strength exercises: 3x per week.

Matter of Balance

- A Matter of Balance is an 8-week structured group intervention that emphasizes practical strategies to reduce fear of falling and increase activity levels.
- Participants learn to view falls and fear of falling as controllable, set realistic goals to increase activity, change their environment to reduce fall risk factors, and exercise to increase strength and balance.
- Target audience; 60 years or older, able to problem solve, concerned about falling.
- Eight 2 hour sessions; master trainer trains others.
- Cost involved in training, participation.

Otago Exercise Program

- Individually tailored balance & strength fall prevention.
- Began New Zealand; U of Otago in Dunedin NZ randomized controlled trials.
- CDC modified and adapted program use in US.
  - 52 weeks in NZ.
  - US minimum 5 visits over 8 weeks – follow-up @ 6 months.
- Decrease fall rate 35%-40%.
- <med.unc.edu/aging/cgec>
Components: Otago Exercise Program

- Warm up
- Strength
- Balance
- Walking
- Start with Functional Assessment (G Codes)
  - 30 sec sit to stand
  - 4 stage balance test
  - TUG

The Otago Exercise Program

Warm Up
- Head rotation
- Neck retraction
- Back bend
- Trunk movement -- rotation (no hip motion)
- Ankle movements

Strength
- Knee extension - sitting
- Knee flexion -- standing
- Hip abduction
- Calf raises
- Toe raises

Otago.. continued

Balance
- Knee bends
- Sit to stand
- Sideways walk
- Backwards walk
- Walk & turn (clockwise, counter, figure 8)

Balance
- One leg stand
- Heel toe stand
- Heel walking
- Toe walking
- Heel toe walking backwards

Who to Refer for Otago...
- People who have fallen in the past year or
- People who have muscle weakness or balance problems
- Patients should live in the community and be able to walk with or without a walking aid

Otago Training Available Online

- APTA is now offering Otago Training on-line for $25. Participants receive 3 contact hours.
- The Otago Exercise Program: Training for Physical Therapists is an online course that aims to train physical therapists to integrate the Otago Exercise Program as part of their practice. It is intended to be used in combination with the Otago Exercise Program Manual available as an attachment in the course.
- The CDC was a key stakeholder whose efforts led to the development of the program manual and this online training format.

Tai Chi for Arthritis

- One of the most effective exercises for preventing falls
- Improves muscular strength, flexibility, balance, stamina and decreases blood pressure
- Gentle flowing movements incorporate inner strength -- enhance Qi

- http://taichiforhealthinstitute.org/
Tai Ji Quan: Moving for Better Balance

- Simplified version of Tai Chi
- Two 1 hour sessions each week for 24 weeks
- Warm up, core practice, mini-therapeutic movements and brief cool down
- [https://www.ncoa.org/healthy-aging/falls-prevention/](https://www.ncoa.org/healthy-aging/falls-prevention/)

Take Home Messages

- Variety of community programs available
- We need to be aware of programs in the area & the qualifications of trainers
- Assist client/patient in finding a community program that is appropriate for them
- Evidence Based Programs – demonstrate efficacy in reducing falls & fear of falling. Leaders are trained to present program in a consistent manner.
- Financial incentives to D/C in a timely manner and set up a home program or D/C plan to decrease rate of re-hospitalization

Take Home Message.. Continued

- Improvement/maintenance of balance requires 1,000’s of repetitions – best to incorporate functional activities & be consistent
- The brain’s capacity for recovery from damage is far greater than previously recognized. Research demonstrates neuroplasticity can be facilitated through experience including environmental enrichment, exercise, forced-use, and complex skills training including complex functional activity.
- To Improve Compliance Consider
  - Social Support – such as group exercise to promote long term involvement
  - Fun (Functional/meaningful to person)

Optimizing Function Post Discharge

- Strength
- Balance
- Mobility
- Posture
- Functional Activities
- Incorporate Patient Preference **

6 Steps to Prevent a Fall – CDC

1. **Find a good balance & exercise program**
2. Talk to your health care provider
3. Regularly review medications with your doctor or pharmacist
4. Get your vision & hearing checked annually & update your eyeglasses
5. Keep your home safe
6. Talk to your family members
**Strength training intensity**

- Older adults gain strength similarly to younger people
  - 2-3x increase in strength in 3-4 months (Frontera et al, 1990; Frontera, 1988; Nelson, 1994; Frontera, 1994)

- Overwhelming evidence that when the intensity of exercise is low, only modest increases in strength are achieved (Aniansson & Gustafsson 1981; Larsson, 1982; Mazzeo, 1998)

- Any overload will result in strength development, but higher intensity effort at or near maximal effort will produce a significantly greater effect (ACSM 9th 2014)

**Clinical Perspective**

- 1 RM determination not recommended by CEEAA (APTA Certified Exercise Expert for Aging Adult) – unless doing research
  - 70-80% 1RM (with use of Borg scale = somewhat hard to hard (13-15 on Borg Scale))
  - 30-60% 1 RM – Borg scale fairly light to somewhat hard (11-13 on Borg Scale)
  - Muscle strength increases with 60-100% 1RM training stimulus (McDonagh & Davies, 1984)

- Monitor for “good form” watch for substitution patterns

**Innovative Research**

- “Adherence to and effectiveness of an individually tailored home-based exercise program for frail older adults, driven by mobility monitoring; design of a prospective cohort study.”
  - 50 frail community dwelling older adults in the Netherlands to join a 6 month home-based physical therapy program in which exercise is provided in the form of exercise videos on a tablet PC and daily activity is monitored by means of a necklace-worn motion sensory. Participants exercise 5x weekly. Exercise is increased and individually tailored in consultation with a coach through weekly telephone contact.
  - Knowledge gained from study to be used in establishing a RCT. (BMC Public Health, 2014 Jun 7; 14:570)

- “What are the Characteristics of Home Exercise Programs that Older Adults Prefer? A Cross-Sectional Study”
  - Two wave cross-sectional telephone survey of community dwelling older adults conducted in Victoria, Australia. Respondents characterized as current, previous, or nonparticipants of a home exercise program in last 6 years.
  - 245 participants completed the survey (54 current, 22 previous, 169 non-participants) of a home exercise program in last 6 years
  - Results: Program adherence influenced by:
    - Program structure and delivery
    - Perceived benefits and barriers
    - Conclusion: Service providers need to consider personal preference and flexibility in program delivery.

**BORG PERCEIVED SCALE OF EXERTION**

Average RPE associated with physiological adaptation to exercise is 12-16 (“somewhat hard” to “hard”)

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“Adherence to Exercise Programs for Older Adults is Influenced by Program Characteristics and Personal Factors: A Systematic Review”

- Nine eligible papers identified
- Adherence measured by % of participants completing the exercise program (65% to 86%)
- Proportion of available sessions attended (58% - 77%)
- Average % of home exercise sessions completed/ week (1.5-3 x week)
- Adherence rates higher in supervised programs
- Personal factors associated with better adherence: higher socioeconomic level, living alone, fewer health conditions, better physical abilities, better self-rated health, taking fewer medications, better cognition, lower rate of depression.
Balance Home Program

- Make balance activities tied to function and tied to status at time of discharge from skilled rehab program.
- Make sure the patient/caregiver understands the rationale ("the why") for performing balance exercises.
- Create a "safe" place always to perform the balance activities, i.e. corner, in front of sink, performing with family member. Patient safety comes first.
- Not everyone has the same program. The activities are based on the functional level and goals of the patient.
- For lower level patients, the program may be simply standing with SBA or supervised sitting balance.

Balance is More Than Single Limb Stance

- Visual cues for balance
- Vestibular cues for balance
- Somatosensory cues for balance

BESTest (Horak, 2008) Balance Evaluation Systems Test

- Visual cues for balance
- Vestibular cues for balance
- Somatosensory cues for balance

Balance Strategies

- Ankle
- Hip
- Stepping

- Tested along with balance systems during functional assessment. Mini-BEST addresses balance systems & strategies including stepping strategy.

Ideas for a Balance Program Post Discharge

Utilize a corner. Put a firm chair in front for maximum safety

Balance Activities to Perform in the Corner or at Sink
- Anterior/ posterior and lateral weight shifting
- Diagonal LE ext. shifting
- Standing with feet together EO/ EC
- Full or partial tandem stance
- Single steps forward/ backward/ laterally (protective stepping)
- Single limb stance time
- Head turns EO and EC
- Higher level patients: Tai Chi, Dance

Encouraging Mobility

- Mobility may be walking with or without an assistive gait device. Need for the assistive gait device may vary according to environment/setting. Provide recommendations to patient/caregiver with rationale.
- Assess patient’s endurance (i.e. 6 Minute Walk Test or other aerobic activity) using vital signs, perceived exertion before encouraging gait long distances.
- Encourage walking every day if possible. Discuss alternative environments in bad weather.
- Individuals may be mobile in wheelchair.
Don’t Forget to Address Posture

- Many patients have postural issues that impact function (sitting, standing).
- Patients with PD often have forward head, flexed trunk, flexed hips. Lying prone with arms over head daily provides rest and stretch for all extremities.
- Older adults may present with thoracic kyphosis, forward head, leg length discrepancies not yet addressed.
- Instruct in use of lumbar roll to facilitate posture, LE measurements with possible heel lift, scapular retraction.
- Core Exercises may be helpful.
- Small measures can make a big difference.

Posture is KEY

Sitting Posture

- Many long-term care patients, other individuals with chronic functional disabilities may be unable to be functional ambulators and sit for long periods of time.
- Wheelchairs in long term care are often not custom chairs and are not optimal. The PT/OT should advocate for optimal positioning in sitting for all patients.
- Wedges, lumbar or lateral supports, foot rests at appropriate settings, pressure relief cushions may provide huge benefits to patient.

Identifying the VIPs for Education at Time of Discharge from PT Services

- Regardless of setting, there are always key people who should be included in education at the time of discharge. Patients may be overwhelmed by the amount of information received. We do not retain all we are told. Having that person who will be facilitating the home program post discharge may demonstrate their role.
  - Patient
  - Caregiver? Family member or paid outside support.
  - Spouse or significant other?
  - If remaining in a long term or assisted living setting, director of nursing/charge nurse, restorative nursing tech

Consider Offering
The Physical Therapy Annual Check-Up

- APTA has proposed that clinics promote and provide an annual PT “Check-Up” / Screening for current clients or the community served
- APTA provides on their website an Annual Check Up Form Template. You can utilize the form or use the template for input into the electronic medical record. “Check-ups” may be cash basis.
- Purpose:
  - Promote and utilize the broad skill set of PTs to identify changes in functional status and possible need for referral to PT or other health care providers
  - Assess chronic conditions and collect functional outcomes over time, i.e. Parkinson’s Disease, MS, arthritic conditions, etc.
  - http://www.apta.org/AnnualCheckup/
Take Home Message

• Our program at D/C should be comprehensive considering prevention strategies to maintain and or improve functional level.
  • Mobility
  • Strength & Endurance
  • Balance
  • Posture
  • Cognitive component as it relates to functional mobility
• Discharge program needs to address patient specific goals with emphasis on improving limitation and capitalizing on strengths to promote long term function and should include community resources.
• MUST BE INDIVIDUALIZED

Take Home Message

• Research tells us the rate of compliance with the computerized handout or standardized home program is not high.

• We as health care professionals are challenged to identify key resources within the setting to which the patient is being D/C and to educate those individuals who may facilitate follow through

• It is important to include “real life” benefits of the activity/program.

Summary

• As physical therapy professionals, we must be informed of ever changing regulations within the workplace and profession to best serve and advocate for our patients.

• We will be forced to utilize best evidence even more with condensed lengths of stay and increased degree of accountability.

• As health care becomes less segmented and increased coordination of services is required, physical therapy professionals are poised to be leaders in the development and implementation of effective discharge planning.

Resources

• BPIPS (Best Practice Intervention Packages): www.homehealthquality.org/Education/Best-Practices.aspx
• BOOST (Better Outcomes by Optimizing Safe Transitions): www.hospitalmedicine.org/BOOST/
• CMS Readmissions Reduction Program Webpage
  • www.cms.gov/Medicare/medicare-fee-for-service-payment/acuteinpatientPPPs/readmissions-reduction-program.html
• APTA Hospital Re-Admissions Webpage
  • www.apta.org/HospitalReadmissions/