Optimizing Function and Physical Activity Across all Settings

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The Challenge

• 1. Motivating older adults to engage in physical activity
• 2. Decreasing nurses fear
  – Fear of having people fall
  – Fear of assessing and acting
  – Fear of not following orders
  – Fear of not knowing
Where are We Now

• Less than 30% of older adults adhere to current PA recommendations.
• AL residents are generally dependent in 2 ADLS.
• NH residents are dependent in 4 ADLS.
• Rates of decline are similar across both settings.
• Hospitalized older adults spent 83% of the time in bed.
Where are We Now

• NH residents engage in no moderate level physical activity; are active for only 25% of time in a 24 hour period.

• AL residents engage in 0.70 minutes (SD=2.4) of moderate level PA or exercise, and used 54.4 kcals (SD=47.9 kcals) in a 24 hour period.

• Acute Care patients engage in 4.6(SD=9.2) minutes of moderate intensity activity and burned on average 16.7 (SD=1.7) kcals over a 24 hour period.
Challenges to Physical Activity

• Provider issues: FEAR, knowing what to do and how to do it, motivation and beliefs

• Patient issues: FEAR, knowing what to do and how to do it, motivation, beliefs, and symptoms and medical interventions.
  – Care that creates dependency
  – Policies and environments that prevent/decrease opportunity for physical activity
Current Care

- The philosophy of care with older adults is generally focused on meeting all care needs of the individual
  - A tendency to complete tasks for older patients and limit the amount of activity they need to perform
  - Make access easy and avoid the physical challenges in day to day life
  - KEEP EM SAFE! (ie no falls, meds on time)
Theoretical Support for Change

• Social Cognitive Theory
  – Self-efficacy
  – Outcome expectations
    • Performance
    • Verbal encouragement
    • Role models
    • Physiological feedback
A Motivation Approach to Facilitate Change in Residents/Patients and Providers

RESILIENCE

New Activities
Physical Sensations
Goals
Environment
Benefits
Physical Emotional
Mastery
Individual Care
Social Support

Social Cognitive Theory Expanded
Change Happens with Social Ecological Model Approach

- Social Ecological Models
  - Intrapersonal factors
  - Interpersonal factors: social cognitive theory
  - Environment
  - Policy
Intrapersonal Level

• Cellular level and beyond
  – Vitamin D
  – Anemia
  – C/V-CHF and EF/
    Afib/Aortic stenosis/DJD
  – Cognition
  – Motivation, resilience
  – Genetics
Genetics

• Resilience & motivation have been associated with the individual’s flexibility in his or her neurochemical stress response systems and the neural circuitry involved in stress response
  – genetic make-up may indirectly influence resilience and motivation through impact on multiple neurochemicals such as HPA axis, serotonin transporters or neurotrophin signaling pathways such as Brain-derived neurotrophic factor (BDNF)
Genetics

- Genetic predisposition is one of the factors accounting for interindividual differences in responses to exercise, particularly the propensity to engage in exercise.
  - A common variant in a single gene - the angiotensin-1 converting enzyme gene may help identify older individuals more likely to benefit from and adhere to a specific type of exercise activity.

Nicklas, 2010
A Note On Resilience

- If you weren’t in line when it was handed out....... 
  - Resilience can be developed
    - vigor, optimism, and physical robustness;
    - improving socialization practices; and
    - strengthening self-efficacy, self-esteem, and motivation through interpersonal interactions as well as experiences.
Intrapersonal: Motivation

• Inner urge that moves or prompts a person to action

• It is what it is and what it is can be manipulated in frail older adults...we can help them!
  – It is never too late
  – Never give up!
# Intrapersonal Factors

<table>
<thead>
<tr>
<th>Intrapersonal</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delirium</td>
<td>Assess for delirium using the Delirium-O-Meter and establish and eliminate the underlying cause(s) of delirium and implement preventive interventions</td>
</tr>
<tr>
<td>Cognitive Status</td>
<td>Evaluate using the Mini-Cog; Establish simple FFC goals; Provide multiple cues (verbal, written) and modeling of behavior; Inform caregivers of patient's goals</td>
</tr>
<tr>
<td>Anemia</td>
<td>Evaluate hemoglobin levels; Discuss management with physician/Nurse practitioner (NP)/Physician Assistant (PA); Moderate activity with rest</td>
</tr>
<tr>
<td>Pain</td>
<td>Evaluate pain using the verbal descriptor scale or hospital pain assessment tool; Coordinate pain management with physician/ NP/PA/pharmacist; Use pharmacological and nonpharmacological interventions (e.g., ice, positioning).</td>
</tr>
<tr>
<td>Fear of falling</td>
<td>Evaluate fear using the 0-4 fear rating scale; Discuss fear; Review ways to prevent falls; Initiate graded exposure plan; Build confidence with activity.</td>
</tr>
<tr>
<td>Mood</td>
<td>Evaluate mood using the 5 item Geriatric Depression Scale; Discuss pharmacological management with physician/NP/PA/pharmacist; Encourage physical activity and nonpharmacological interventions to decrease depression.</td>
</tr>
<tr>
<td>Motivation</td>
<td>Implement interpersonal interventions discussed</td>
</tr>
<tr>
<td>Nutritional status</td>
<td>Assure regular meals are available for patient; Monitor fluid and calorie intake; Provide supplements as available and palatable to patient (e.g., protein bars).</td>
</tr>
<tr>
<td>Sedation</td>
<td>Review medications as possible cause; Discuss pharmacological management with physician/NP/PA/pharmacist; Optimize nighttime sleep via sleep hygiene.</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>Review medications and side effects and discuss with physician/NP/PA/pharmacist drug elimination or replacement. Review history of drug and alcohol use/abuse and evaluate for overdose or withdrawal.</td>
</tr>
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## Prevent Delirium

<table>
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<tr>
<th>Cause</th>
<th>Interventions</th>
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</thead>
<tbody>
<tr>
<td>Sedentary</td>
<td>Encourage functional and physical activity; Eliminate unnecessary tethering interventions and/or facilitate activity within boundaries of necessary tethers.</td>
</tr>
<tr>
<td>Isolation</td>
<td>Avoid over or under stimulation; provide appropriate cognitive and sensory stimulation; consider prior life activities and response to interactions with others.</td>
</tr>
<tr>
<td>Electrolytes</td>
<td>Work with physician/NP/PA to implement appropriate replacement/management.</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Monitor for orthostatic hypotension; monitor labs; Facilitate intake of oral hydration.</td>
</tr>
<tr>
<td>Infection</td>
<td>Work with physician/NP/PA to identify source of infection and treat appropriately.</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>As noted in prior slide</td>
</tr>
</tbody>
</table>
Interpersonal/ SCT Interventions

Influence Motivation

• Performance: Just do it
• Verbal encouragement: Just push it
• Physiological feedback: Just eliminate the unpleasant sensations
• Cueing/Role modeling : Just remind
Motivating the Older Adult

• Tricks of the trade
  – Use cueing!
  – Allow extra time to accomplish tasks
  – Do not RUSH!
  – Be kind/patient
  – Set up to succeed!
  – Use appropriate devices to make task easier
Motivating Confused/Delirious Patients

- Activities should be kept simple-use simple explanations that allow the patient to succeed with most tasks.
- Use of a task-oriented approach to encourage the patient to perform simple activities -- ROM of upper and lower extremities, bathing etc
- If indicated use visual demonstration, visual feedback, tactile and proprioceptive methods to improve patient's sensory awareness.
- Increase patient’s physical activity by integrating simple things..encourage transfers in and out of bed, standing, marching in place and ambulation.
- Make physical activity fit with the patient’s real world –bathing, dressing \(\rightarrow\) great ROM.
- Get to know the person and build that into activities
- Eliminate distractions (e.g, background noise)
Motivation Tricks of the Trade in Dementia

• Modifying Communication Techniques
  – Verbal & written cues; communicating “face on”; repetition; role modeling

• Care and Consistency

• Enhancing Sensory Experiences and the Physical Environment-strong and multiple stimulations (dance & music)

• Individualized Care
Safety Phobia: Being Physically Active Safely

- Adhere to weight bearing and range restrictions
- Gait belts
- Sturdy equipment/safe adaptive equipment
- Age appropriate exercise equipment on the units (weights etc)
- Clear hallways with rest areas
- Appropriate environments (e.g., chair/bed height)
- Increase time out of room and under observation to decrease risk of fall
- Appropriately position of tubes/lines, splints, etc prior to activity
Safe Optimization of Function: Transfers

• It is all about technique, body mechanics and environmental set up
  – Before performing any transfer [complete Physical Capability Assessment] be aware of the patient's cognitive status, ability to communicate and/or understand verbal cues, physical limitations in all extremities and orthopedic weight-bearing and ROM precautions.
Knowing What to DO

- The resident/patient must feel you are competent and know what you are doing with regard to transfers and ambulation.
- Transferring patients is within the scope of nursing—it is not delegated to physical therapy only! THINK TEAM.
- Is there ever any reason for a patient to be on bedrest?
Knowing What to Do, AND doing it safely!

- **Patient Monitoring**
  - **Heart Rate Changes:** To remain within 75% of age predicted maximum and no evidence of a new onset arrhythmia.
  - **Respiratory Status:** To maintain sufficient oxygenation:
    - Pulse ox of ≥ 90% or patient baseline
    - Pulse ox of ≥ 88% or patient baseline for patients with COPD
  - **Blood Pressure:** No orthostatic hypotension
  - **Assess for consciousness and no evidence of new onset pallor, flushing, sweating, clamminess, cyanosis, visible or acute pain, or excessive fatigue.**
Falls Prevention

• Eliminate risk factors
  – Sedation/drug side effects
  – Address delirium
  – Meet elimination needs
  – Assure safe environment that optimizes function-(e.g, equipment, low bed and padded floors, limit tethering)
  – Optimize nutrition and hydration
  – OPTIMIZE strength, gait and function
Fall Prevention

• Physical activity and exercise DO NOT INCREASE the risk of falls
Fall Prevention

• Risk of falls is increased by
  – Medical and nursing treatments (e.g., medications and restraint use)
    • High risk meds: antidepressants, benzodiazepines, antipsychotics, and psychotropic agents.

Key Points of Control

• The head, shoulders and pelvis are the key points of control for the entire body
• Upper body mechanics are vital to performing proper and safe transfers.
  – If the patient retropulses (lean backwards) place one hand in the center of the upper back to help her lean forward into the "nose-over-the-toes" position to prepare for standing.
Safe Transfers

• It is all about technique, body mechanics and environmental set up
  – Before performing any transfer [complete Physical Capability Assessment] be aware of the patient's cognitive status, ability to communicate and/or understand verbal cues, physical limitations in all extremities and orthopedic weight-bearing and ROM precautions.
Environmental Tidbits for Safety

- Bed height for transfers should be 115% of patient’s lower leg length.
- > 120 lower leg length is too high; < 80% lower leg length is too low.
- Low beds and floor pads as appropriate- depending on transfer ability
- Activity spaces that allow for visualization of patients
- Floor free of cords and tubes
- Chairs and beds with working locks
- Proper lighting
- PRETTY IS NOT ALWAYS SAFE OR FUNCTIONAL
General Environment

• Are there opportunities for challenges?
• Are there pleasant/goal producing destinations?
• Is it safe-flat smooth but not slippery etc.
• Is it wide open and flat and clear
  – Doorways and clutter freeze individuals with PD?
Easy Environmental Changes

• Clear pathways and rails
  – Provide a wonderful opportunity to walk
  – Pleasant walking areas and destinations

• Cues
  – Reminders-signs and posters
  – Opportunities

• Bed height
  – Optimal between 80 and 120 % of lower leg length
Policy

• The message
• The law
Policy Messages

• Is it safety over function and physical activity
  – Locked doorways and limited access
  – Lack of outdoor opportunities
  – In facilities marketing materials
    • Care for or Care with? What is the philosophy of care?
    • We keep mom safe and out of trouble!
Making Physical Activity Happen with a Function Focused Care (FFC) Approach

FFC = Care that is focused on optimizing function and engaging older adults in all care interactions and to increase time spent in physical activity
Function Focused Care

• Based on underlying capability
• Includes a range of activities such as walking to the dining room rather than getting taken in a wheelchair, encouraging and engaging an older adults in exercise classes, or ROM
• As with drug safety...start low and progress slowly
At the Facility Level

• Implement Four Components*
  – (I) Environmental and Policy Assessments and Interventions to Optimize Function;
  – (II) Education of Team Members, Patients and Families;
  – (III) Function Focused Goal Development with Older Adults; and
  – (IV) Mentoring and Motivating of All

*Identify a champion: Is it be you?
Education

• Anyone and everyone who might interact with older individuals

• Teach philosophy and SKILL – transfers, ROM, simple exercises

• Formally and informally and repeatedly reinforcing knowledge to be gained.
  – Changing knowledge and beliefs
Setting Goals

• Based on underlying capability
• Pushing it to the next level appropriately and realistically
Capability Assessment

- ROM
- Sit to stand
- Cognitive ability to follow 3 step command
<table>
<thead>
<tr>
<th>Item</th>
<th>Score</th>
<th>Directions to Participant</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Extremity Range of Motion</td>
<td></td>
<td>Evaluator demonstrates task and asks them to do the same thing.</td>
<td></td>
</tr>
<tr>
<td>Full flexion (hands over head)</td>
<td>1/0</td>
<td>Evaluator demonstrates and says, &quot;put your hands over your head like this.&quot;</td>
<td>1= range to 160-180 degrees; 0=inability to range at least to 160-180 degrees</td>
</tr>
<tr>
<td>Full external rotation (hands behind head)</td>
<td>1/0</td>
<td>Evaluator demonstrates and says, &quot;put your hands behind your head like this.&quot;</td>
<td>1= ability to put hands behind head; 0= inability to put hands behind head.</td>
</tr>
<tr>
<td>Full internal rotation and adduction</td>
<td>1/0</td>
<td>Evaluator demonstrates and says, &quot;put your hands behind your back this.&quot;</td>
<td>1=ability to put hands together in small of back; 0= inability to put hands together in small of back.</td>
</tr>
<tr>
<td>Lower Extremity Range of Motion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to flex ankle</td>
<td>1/0</td>
<td>When lying or sitting point toes to ceiling</td>
<td>1=ability to point toes to the ceiling; 0= inability to point toes to the ceiling</td>
</tr>
<tr>
<td>Able to point toe</td>
<td>1/0</td>
<td>When lying or sitting point toes to the foot of the bed.</td>
<td>1=ability to point toes to the foot of the bed/floor; 0= inability to point toes to the foot of the bed/floor.</td>
</tr>
<tr>
<td>Able to flex knees and march</td>
<td>1/0</td>
<td>March with knees flexed at 90 degrees.</td>
<td>1= ability to march with knees flexed; 0= inability to march.</td>
</tr>
</tbody>
</table>
Physical Capability assessment continued

<table>
<thead>
<tr>
<th>Chair rise</th>
<th>Score</th>
<th>Rise independently (with or without the use of arm strength) from a standard 18 inch hard back chair with arms and stand.</th>
<th>Scoring</th>
</tr>
</thead>
</table>
| How many tries does it take | 1/0 | A try is defined as any attempt to push up from the chair.  
1=1 to 3 attempts to push up from the chair with success occurring by the third try; 0= unable to rise even on the third try. | |
| Does the participant use arms to get up from the chair | 1/0 | 1=ability to get up without arms; 0= inability to get up without arms. | |
| Can the participant make it to a full stand and stand independently for 1 minute | 1/0 | 1=ability to come to stand for a full minute; 0= inability to come to stand and stay there for a full minute. | |
| Ability to Follow Commands | Take a towel, fold it in half, and put on table | | |
| Follows a one step verbal command | 1/0 | 1=picks up the towel; 0= does not pick up the towel. |
| Follows a two step verbal command | 1/0 | 1=picks up the towel and folds it half; 0= does not pick up the towel or fold it in half. |
| Follows a three step verbal command | 1/0 | 1=picks up the towel, folds it half, and puts it on the table; 0= does not pick up the towel, fold it in half or put it on the bed. |
| Follows a three step visual command | Evaluator demonstrates how to take a towel, fold it in half and put it on the table | | |
| Follows a one step visual command | 1/0 | 1=picks up the towel; 0= does not pick up the towel. |
| Follows a two step visual command | 1/0 | 1=picks up the towel and folds it half; 0= does not pick up the towel or fold it in half. |
| Follows a three step visual command | 1/0 | 1=picks up the towel, folds it half, and puts it on the table; 0= does not pick up the towel, fold it in half or put it on the bed. |
Develop Goals

• Set goals based on physical capability and in communication with patient, family, therapists as appropriate.

• Goals focus on physical activity (e.g. performing ADLs, sitting at edge of bed for extended times etc.)

• INDIVIDUALIZED
# GOAL ATTAINMENT SCALE

<table>
<thead>
<tr>
<th>Level of Predicted Attainment</th>
<th>Goal 1:</th>
<th>Goal 2:</th>
<th>Goal 3:</th>
<th>Goal 4:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much Less Than Expected -2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat Less Than Expected -1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat More Than Expected +1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Much More Than Expected +2</td>
<td></td>
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</tbody>
</table>

**Goal-setting Date:** ______________

**Follow-up Date:** ______________

**Goal Attainment Score** (Range -8 to +8, Expected = 0)
Mentoring and Motivating

- Motivational Interventions
  - For Staff/family caregivers
  - For Older Adults
    - In skilled facilities
    - In the community
Integrating FFC into Routine Care

- Building it into what you already do

- Examples:
  - Routine Care ➔ Physical Activity
    - Bathing
    - Dressing
    - Eating/taking medications
    - Moving in bed
    - Going for tests/treatments/activities
Make it Routine (Examples):

- Med management—include the patient in functional tasks (hold glass etc).
- Wound care—have patient participate—positioning, range, and practice for discharge.
- Transferring to go to procedures/meals/movies; sit unsupported as tolerated; WALK/self-propel.
- Discharge education—reinforce ongoing physical activity as part of discharge; continue goals at home.
Does it Work?

*20 studies focused on Resident outcomes have Been done.

*The majority demonstrate positive outcomes.

*No adverse events
<table>
<thead>
<tr>
<th>Outcomes Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved Dressing, Grooming, Eating and General ADLs</td>
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<tr>
<td>Improved Gait and Balance</td>
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<tr>
<td>Decreased Functional Decline</td>
</tr>
<tr>
<td>Improved Walking</td>
</tr>
<tr>
<td>Increased Physical Activity</td>
</tr>
<tr>
<td>Decreased or No Change in Falls</td>
</tr>
<tr>
<td>Decreased Anxiety</td>
</tr>
<tr>
<td>Decreased Disruptive Behavior</td>
</tr>
<tr>
<td>Decreased Depression</td>
</tr>
<tr>
<td>Goal Attainment</td>
</tr>
</tbody>
</table>
It Isn’t Easy but....