Overcoming Inertia in the Homebound Elderly: An Evidence-Based Program

Speaker(s):  Melissa Bednarek, PT, DPT, PhD
            James Eng, PT, DPT, MS, GCS
            Jason Woollard, MPT, PhD

Session Type: Educational Sessions
Session Level: Intermediate

This information is the property of the author(s) and should not be copied or otherwise used without the express written permission of the author(s).
Overcoming Inertia in the Homebound Elderly: An Evidence-Based Program

JAMES ENG PT, DPT, MS, GCS
MELISSA BEDNAREK PT, DPT, PHD, CCS
JASON WOOLLARD PT, PHD

Disclosures
The speakers have no relevant financial relationships to disclose.
“I’m done.”

After this session, you will be able to:

1. Utilize and interpret reliable, valid and realistic tests and measures in the home setting to determine primary patient deficits
2. Utilize appropriate dosing guidelines to maximize strength, power, endurance and balance
3. Design meaningful functional activities using motor learning principles and the ICF framework to elicit optimal performance and adherence
4. Modify the plan of care to accommodate for cognitive and psychosocial factors
Course Outline

• Assessment Tools: Equipment, performance and interpretation
• Intervention Strategies: Dosing guidelines, practical applications
• Stand-Up Break
• Intervention Strategies: Videos, demonstration, field recommendations
• Case Study Utilizing ICF Framework
• Questions and Discussion

Meet Our Friends

Conrad

Tony

Janet
Your Patient/Client

Strength
  - Functional
  - Impaired

Endurance
  - Functional
  - Impaired

Balance
  - Functional
  - Impaired

Cognition
  - Motivation
  - Depression
  - Fear avoidance/Fear of falling
  - Social support

Strength Assessment Tools
- Fives Times Sit to Stand Test (FTSST) Guralnik 1994, 2000
  [FTSST Test]
- 30-Second Chair Stand Test (30CST) Rikli & Jones 1999
  [30S_STS_Test]
- Standing Heel-Rise Test Lunsford & Perry 1995
  [Heelraise_Test]
- Single-Step Test (Heel Tap Test) Marmon 2013
  [Stepup_Test]
### Strength Assessment Tools

<table>
<thead>
<tr>
<th></th>
<th>Norms Men</th>
<th>Norms Women</th>
<th>Instructions/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5-Times STS</strong></td>
<td>60-69 y/o: 11.4 sec</td>
<td>60-69 y/o: 15</td>
<td>17” seat height</td>
</tr>
<tr>
<td></td>
<td>70-79 y/o: 12.6 sec</td>
<td>70-79 y/o: 14</td>
<td>&gt;13.6 seconds associated with increased disability</td>
</tr>
<tr>
<td></td>
<td>80-89 y/o: 14.8 sec</td>
<td>80-89 y/o: 11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>90 &amp; &gt; y/o: 9</td>
<td>90 &amp; &gt; y/o: 9</td>
<td></td>
</tr>
<tr>
<td><strong>30 second STS</strong></td>
<td>60-69 y/o: 17</td>
<td>60-69 y/o: 15</td>
<td>17” seat height</td>
</tr>
<tr>
<td></td>
<td>70-79 y/o: 15</td>
<td>70-79 y/o: 14</td>
<td>Chair against wall</td>
</tr>
<tr>
<td></td>
<td>80-89 y/o: 12</td>
<td>80-89 y/o: 11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>90 &amp; &gt; y/o: 9</td>
<td>90 &amp; &gt; y/o: 9</td>
<td></td>
</tr>
<tr>
<td><strong>Heel Rise Test</strong></td>
<td>61-80 y/o: 4 (±2)</td>
<td>61-80 y/o: 3 (±1.5)</td>
<td>Single-leg. Can use only “finger-touch” on wall/examiner’s shoulder to assist in balance</td>
</tr>
<tr>
<td><strong>Single Step Test</strong></td>
<td>Before TKA 65 y/o 34 (±12) sec involved LE</td>
<td>30 (±11) sec non-involved LE</td>
<td>15cm (6 inch) step height. Test is a “heel tap” of the uninvolved LE. Allowed to hold testers hand only for safety. Complete 20 heel taps as fast as able.</td>
</tr>
<tr>
<td></td>
<td>1-year after TKA 20 (±7) sec involved LE</td>
<td>20 (±5) sec non-involved LE</td>
<td></td>
</tr>
</tbody>
</table>

### Endurance Assessment Tools

- **Seated Step Test** Smith and Gilligan 1983 [Seated_steptest_progression](#)
- **2-Minute Step Test (2MST)** Jones and Rikli 2002 [2min_steptest](#)
- **2 Minute Walk Test (2MWT)** Connelly et al. 2009
- **6 Minute Walk Test (6MWT)** Steffen et al. 2002, ATS Guidelines 2002
### Endurance Assessment Tools

<table>
<thead>
<tr>
<th></th>
<th>Norms Men</th>
<th>Norms Women</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seated Step Test</strong></td>
<td>None Available</td>
<td>Used if patient/client has difficulty standing</td>
<td>Four stages available</td>
</tr>
<tr>
<td><strong>2MST</strong></td>
<td>See Table</td>
<td>Number of times right knee reaches the height between the patella and the iliac crest</td>
<td></td>
</tr>
<tr>
<td><strong>2MWT</strong></td>
<td>Retirement dwelling older adults: 150.4 meters</td>
<td>Used if patient/client can ambulate without physical assist</td>
<td>Assistive device can be used but should be kept consistent between tests</td>
</tr>
<tr>
<td><strong>6MWT</strong></td>
<td>60-69 y/o: 572 m 70-79 y/o: 527 m 80-89 y/o: 417 m</td>
<td>60-69 y/o: 538 m 70-79 y/o: 471 m 80-89 y/o: 392 m</td>
<td></td>
</tr>
</tbody>
</table>

### 2-Minute Step Test

<table>
<thead>
<tr>
<th>Age</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-64</td>
<td>87-115</td>
<td>75-107</td>
</tr>
<tr>
<td>65-69</td>
<td>86-116</td>
<td>73-107</td>
</tr>
<tr>
<td>70-74</td>
<td>80-110</td>
<td>68-101</td>
</tr>
<tr>
<td>75-79</td>
<td>73-109</td>
<td>68-100</td>
</tr>
<tr>
<td>80-84</td>
<td>71-103</td>
<td>60-91</td>
</tr>
<tr>
<td>85-89</td>
<td>59-91</td>
<td>55-85</td>
</tr>
<tr>
<td>90-94</td>
<td>52-86</td>
<td>44-72</td>
</tr>
</tbody>
</table>
Monitoring Exercise Tolerance

- Heart rate response/recovery
- Heart rate reserve
- Blood pressure response
  - normal = increased systolic
  - normal = decreased/no change diastolic
  - systolic blood pressure via palpation
- Oxygen saturation (SpO₂)
  - relationship with heart rate
- Rate of perceived exertion (RPE)

<table>
<thead>
<tr>
<th>CATEGORY SCALE</th>
<th>CATEGORY-RATIO SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 No exertion at all</td>
<td>0 Nothing at all</td>
</tr>
<tr>
<td>7 Extremely light</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>0.5 Extremely weak</td>
</tr>
<tr>
<td>9 Very light</td>
<td>0.7</td>
</tr>
<tr>
<td>10</td>
<td>1 Very weak</td>
</tr>
<tr>
<td>11 Light</td>
<td>1.5</td>
</tr>
<tr>
<td>12</td>
<td>2 Weak</td>
</tr>
<tr>
<td>13 Somewhat hard</td>
<td>2.5</td>
</tr>
<tr>
<td>14</td>
<td>3 Moderate</td>
</tr>
<tr>
<td>15 Hard (heavy)</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>5 Strong</td>
</tr>
<tr>
<td>17 Very hard</td>
<td>6</td>
</tr>
<tr>
<td>18</td>
<td>7 Very strong</td>
</tr>
<tr>
<td>19 Extremely hard</td>
<td>8</td>
</tr>
<tr>
<td>20 Maximal exertion</td>
<td>9</td>
</tr>
<tr>
<td>10 Extremely strong</td>
<td>“Maximal”</td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Absolute maximum</td>
<td>Highest possible</td>
</tr>
</tbody>
</table>
Balance Assessment Tools

<table>
<thead>
<tr>
<th></th>
<th>Norms</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Stage Step Balance Test</td>
<td>Inability to sustain Tandem Stance for 10 seconds (+) Fall Risk</td>
<td>Progress from patient standing with feet together, to semi-Tandem, to Tandem to Single Leg Stance, 10 seconds each position</td>
</tr>
<tr>
<td>Timed Up and Go</td>
<td>&gt;14 seconds (+) Fall Risk</td>
<td>Patient ambulates rises from standard height chair, walks 10 feet, turns, walks to chair and sits. Record time of task</td>
</tr>
<tr>
<td>Dynamic Gait Index</td>
<td>&lt; 19/24 = (+) Falls Risk</td>
<td>8-item gait test on level surfaces, varying speeds, head turns, stepping around and over obstacles and stair negotiation Requires shoe box, cones, stairs and 20 feet pathway</td>
</tr>
<tr>
<td>Gait Speed</td>
<td>&lt;1.97ft/sec (+) Hospitalization risk</td>
<td>Measured over 10 feet (allow several feet before and after)</td>
</tr>
<tr>
<td></td>
<td>&lt; 1.86ft/sec = (+) Fall Risk</td>
<td></td>
</tr>
</tbody>
</table>
## Balance Assessment Tools

<table>
<thead>
<tr>
<th>Norms</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Although the results of the mCTSIB can be used to distinguish normal vs. abnormal balance performance, it cannot be used to discern the specific patterns of sensory dysfunction.&quot;  &lt;br&gt; (NeuroCom Website) <a href="http://resourcesonbalance.com/NeuroCom/protocols/sensoryImpairment/mCTSIB.asp#FunctionalImplications">http://resourcesonbalance.com/NeuroCom/protocols/sensoryImpairment/mCTSIB.asp#FunctionalImplications</a></td>
<td>1. Stand on firm surface with the eyes open.  &lt;br&gt; 2. Stand on firm surface with the eyes closed.  &lt;br&gt; 3. Stand on compliant surface (foam) with the eyes open  &lt;br&gt; 4. Stand on compliant surface (foam) with the eyes closed.  &lt;br&gt; Patient performance is timed for 30 seconds. If a patient is unable to maintain the position for 30 seconds they are provided with 2 additional attempts. The scores of the 3 trials are averaged.</td>
</tr>
</tbody>
</table>

---

"How do I treat these deficits in the home?"  

[Image](http://www.allhealhomehealth.com/home_health/physical_therapy.html)
ICF Framework

Health Condition (disease or disorder)

Body Functions and Structures

Activities

Participation

Environmental Factors

Personal Factors

ICF Framework Applied

ICD-9 Codes

Health Conditions:
1. Lack of Coordination
2. Abnormality of Gut
3. Muscle Weakness
4. Parkinson’s Disease

Impairments

Activities

Participation

Limitations

Restrictions

Relevant or Mediating Factors

Technology

Environmental Factors
1. Low vision due to (-)
2. High blood (-)
3. Raised blood pressure (-)
4. Headache (-)
5. Safe building environment (-)
6. Vocational training in (+)
7. Supportive friends and family (-)
8. Access to Church (+)
9. Stress, sales, and compassion (+)

Personal Factors
1. Social (-)
2. Motivated (-)
3. Discouraged (-) Should be (+)
4. Fearful (-)
5. Has never exercised (-)
Dosing Guidelines: Strength

- Untrained can gain strength at 45%-50% of 1-RM \(^{2}\) Ratamess 2009
  - 60\% of a 1-RM is the minimal overload necessary for muscle adaptation in untrained individuals, including older adults \(^{2}\) Pollock 1999
  - A 60\% of 1-RM threshold is reached by completing 15 repetitions where the 13\(^{th}\) to 15\(^{th}\) repetitions are difficult to achieve through the full ROM \(^{2}\) Avers 2009

Dosing Guidelines: Strength

The 75\% - 80\% of 1-RM equates to 10 repetitions where the final 1-2 reps are difficult to complete and form begins to deteriorate \(^{2}\) Avers 2009 \(^{2}\) Avers 2009

White Paper: Strength Training for the Older Adult

Dale Avers PT, DPT, PhD; Marybeth Brown, PT, PhD, FAAFA, FACSIM
Dosing Guidelines: Power

- Power can be trained at 30-45% of 1RM (Sayers 2012)
  - 15 reps per set
- Decrease weight to increase speed of movement
- Evidence that power has a slightly stronger relationship to function than does strength
- Heel Raises
- Lunges

Dosing Guidelines: Endurance

<table>
<thead>
<tr>
<th></th>
<th>Moderate</th>
<th>Vigorous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>30-60 min/day in bouts of at least 10 min each</td>
<td>20-30 min/day</td>
</tr>
<tr>
<td></td>
<td>150-300 min/week</td>
<td>75-150 min/week</td>
</tr>
<tr>
<td>Intensity</td>
<td>5-6/10</td>
<td>7-8/10</td>
</tr>
<tr>
<td>Time</td>
<td>30 min/day in bouts of at least 10 min each</td>
<td>20 min/day of continuous exercise</td>
</tr>
</tbody>
</table>
| Type          | Any mode of exercise that does not cause undue orthopedic stress | Examples: walking, stationary cycle       | ACSM 2009
Dosing Guidelines: Balance

- Higher Frequency for Skill Acquisition
- Minimum Effective Dosage 50 hours
- Continued Activity Retains Training Effect
- Balance Training requisite Components
  - Decrease base of support
  - Move center of gravity
  - Minimize hand support
- Strengthening Important; but Not as Single Intervention
- Walking not Effective in Reducing Fall Risk

Sherrington 2008, Shubert 2011

“Oh no... I can’t do that.”
Mediating Factors

- Cognition
- Motivation
- Depression
- Fear of Falling

Cognition Assessment Tool
Montreal Cognitive Assessment (MoCA)

- 11 step, 15–30 minute test assessing various domains
  - Visuospatial/Executive function
  - Naming
  - Memory
  - Attention
  - Delayed Recall
  - Orientation

http://www.mocatest.org/
Cognition Assessment Tool

<table>
<thead>
<tr>
<th>Norms</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal = &gt; 26/30</td>
<td></td>
</tr>
<tr>
<td>Mild Cognitive Impairment (MCI) = &lt; 26/30</td>
<td></td>
</tr>
<tr>
<td>Range: 19-25 (avg: 22)</td>
<td></td>
</tr>
<tr>
<td>Alzheimer's Disease = &lt; 26/30</td>
<td></td>
</tr>
<tr>
<td>Range: 11-21 (avg: 16)</td>
<td></td>
</tr>
</tbody>
</table>

Cognition and Communication Strategies

**Mild or no Cognitive Involvement**
- Provide simple, concrete instructions; limit instructions
- Have client repeat back instructions
- Suggest and provide written instructions

**Moderate Cognitive Involvement** (Forgetful, repetitive, frustrated, impaired judgment)
- Limit instructions
- Be aware person may not remember instructions
- Delay information about procedures until just prior to task

**Severe Involvement** (Agitated, unaware of deficit, no short term memory, disoriented to present)
- Validate and distract
- Very simple, single step instructions
- Never correct person’s perception
Motivation

- Vital sign response
- Age-related norms
- ICF Framework
- Activities
- Participation
- Home program for accountability
- Motivational Interviewing (Rollnick and Miller 1995, Rubak et al. 2005)

Depression

- Depressive symptoms predictive of amount of walking activity (Julien 2013)
- Geriatric Depression Scale (GDS) (Yesavage 1982)
- GDS available at RehabMeasures.org
- Allows for a quick assessment of depressive symptoms

GERIATRIC DEPRESSION RATING SCALE

Brink et al. 1982; Yesavage et al. 1983 - SHORT version - Sheik et al. 1996
(to be completed by a trained clinician)

DATE: ___________ TIME (24hr): ___________

Choose the best answer for how you have felt over the past week:

Yes / No

[ ] [ ] 1. Are you basically satisfied with your life?
[ ] [ ] 2. Have you dropped many of your activities and interests?
[ ] [ ] 3. Do you feel that your life is empty?
[ ] [ ] 4. Do you often get bored?
[ ] [ ] 5. Are you in good health most of the time?
[ ] [ ] 6. Are you afraid that something bad is going to happen to you?
[ ] [ ] 7. Do you feel happy most of the time?
[ ] [ ] 8. Do you often feel helpless?
[ ] [ ] 9. Do you prefer to stay at home, rather than going out and doing new things?
[ ] [ ] 10. Do you feel you have more problems with memory than most?
[ ] [ ] 11. Do you think it is wonderful to be alive now?
[ ] [ ] 12. Do you feel pretty worthless the way you are now?
[ ] [ ] 13. Do you feel full of energy?
[ ] [ ] 14. Do you feel that your situation is hopeless?
[ ] [ ] 15. Do you think that most people are better off than you are?

RESET ALL ANSWERS

TEXT FOR YOUR RECORDS
# Geriatric Depression Scale

<table>
<thead>
<tr>
<th>Norms</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geriatric Depression Scale</strong>&lt;br&gt;Score Interpretation:&lt;br&gt;• 1-4 = Normal Score&lt;br&gt;• 5-9 = probability of depression&lt;br&gt;• ≥ 10 = depressive&lt;br&gt;* High sensitivity but poor specificity</td>
<td><strong>Link to GDS</strong>&lt;br&gt;<a href="http://web.stanford.edu/~yesavage/GDS.html">http://web.stanford.edu/~yesavage/GDS.html</a></td>
</tr>
</tbody>
</table>

---

## Fear of Falling

- Therapist makes a judgment regarding whether the senior is at risk for avoiding activities that he/she is **capable** of performing.

- Is the individual’s response a **rational** or an **irrational** response to the task that is causing fear of falling?

- Fear of Falling Avoidance Behavior Questionnaire (FFABQ) **Landers 2011**
  - Helps quantify fear of falling on activity and participation
# Fear of Falling Avoidance Behavior Questionnaire

**Landers 2011**

<table>
<thead>
<tr>
<th>Due to my fear of falling, I avoid...</th>
<th>Completely disagree (0)</th>
<th>Disagree (1)</th>
<th>Unsure (2)</th>
<th>Agree (3)</th>
<th>Completely agree (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Walking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Lifting and carrying objects (eg., car, child)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Going up and downstairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Walking on different surfaces (eg., grass, uneven ground)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Walking in crowded places</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Walking in dimly lit, unfamiliar places</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Leaving home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Getting in and out of a chair</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Showering or bathing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Exercise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Preparing meals (eg., planning, cooking, serving)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Doing housework (eg., cleaning, washing clothes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Work or volunteer work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Recreational and leisure activities (eg., play, sports, arts and culture, crafts, hobbies, socializing, traveling)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please make sure you have checked one box for each question. Thank you! Total: /56

**“Let’s try this!”**

[http://www.althousehealth.com/home_health_physical_therapy.html](http://www.althousehealth.com/home_health_physical_therapy.html)
# Intervention Strategies

## STRENGTH

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sit to Stand</td>
<td>STS_Ex STS_EX (2)</td>
</tr>
<tr>
<td>Long Arc Quads</td>
<td>LAQ_10#_Ex</td>
</tr>
<tr>
<td>Hip Abduction</td>
<td>Hip Ab Ex</td>
</tr>
<tr>
<td>Wall Pushups</td>
<td>Wall push-up_Ex</td>
</tr>
</tbody>
</table>

## POWER

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid Sit to Stand</td>
<td></td>
</tr>
<tr>
<td>Lunges</td>
<td>Lunges_Ex</td>
</tr>
<tr>
<td>Quick Heel Taps</td>
<td>Step-up_Ex</td>
</tr>
<tr>
<td>Quick Heel Raises</td>
<td>Heelraise_Ex</td>
</tr>
</tbody>
</table>

## ENDURANCE

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking Laps</td>
<td>Walk_Ex</td>
</tr>
<tr>
<td>Restorator</td>
<td>Restorator_Ex</td>
</tr>
<tr>
<td>Arm Exercises (1)</td>
<td>ArmExercise_no Wts_Ex</td>
</tr>
<tr>
<td>Arm Exercises (2)</td>
<td>Arm_Large_Ex</td>
</tr>
</tbody>
</table>

## BALANCE

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved Gait Balance with Function</td>
<td>Walk_walker_cane</td>
</tr>
<tr>
<td>Semi-Tandem to Tandem</td>
<td>Semi_tandem_Balance</td>
</tr>
<tr>
<td>Fast TUG</td>
<td>TUG_Fast</td>
</tr>
</tbody>
</table>

## Posture

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td>Correct Posture_Stand</td>
</tr>
<tr>
<td>Rows Sitting</td>
<td>Rows_Sit_Ball</td>
</tr>
<tr>
<td>Shoulder Retractions Standing</td>
<td>Rows_Stand</td>
</tr>
</tbody>
</table>
Case Study

65 year old Asian female

**Health Conditions:**
- Right hip disarticulation (status post): V 49.77
- Squamous Cell Carcinoma metastasis: 173.72
- Difficulty Walking: 719.7
- Generalized Weakness: 728.87
- Debility: 799.3

Case Study

**Body Functions and Structures**
- Amputated R Leg
- Right hip phantom pain
- Compromised endurance (vital signs)
- Right inguinal incision (healing, clean)
- Abdominal metastasis
Case Study

Body Functions and Structures
• Right hip phantom pain
• Compromised endurance (vital signs)
• Right inguinal incision (healing, clean)
• Abdominal metastasis

Activities
• Compromised Bed Mobility
• Compromised Transfers
• Compromised Standing Time
• Compromised Walking
Case Study

**Environmental Factors**
- One floor elevator apartment building
- Bathroom not accessible
- Hallways and doors sufficient for wheelchair
- Pet pit-bull
- Standard walker
- Rolling bar stool with back
- Wheelchair

Case Study

**Personal Factors**
- Family Oriented
- Motivated to be Useful
- Good Cook
- Working Class
Questions and Discussion
References


References

• Landers MR, Durand C, Powell DS, Dibble LE, Young DL. Development of a Scale to Assess Avoidance Behavior Due to a Fear of Falling: The Fear of Falling Avoidance Behavior Questionnaire. Phys Ther. 2011;9;1253–1265.
References


References

References

• Shumway-Cook A, Baldwin M, Polissar NL, Gruber W. Predicting the probability for falls in community-dwelling older adults. Phys Ther. 1997;77:812–819
• Skelton DA, Greig CA, Davies JM, Young A. Strength, power and related functional ability of healthy people aged 65–89 years. Age and Ageing. 1994; 23:371–377
• Smith E, Gilligan C. Physical activity for the older adult. Physician and Sportsmedicine. 1983;11(8):91-101

References