Mobility in ED and SMART
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Objectives

1. To understand the importance of mobility in the ED.

2. To gain broader knowledge on how to do a comprehensive mobility assessment.

3. To understand how an interprofessional approach can facilitate mobilization of seniors in the ED.

4. To develop criteria for discharge from the ED.
The Growth of JBH’s Mobility Program

2009-Mobility “Ready-Set-Go” Program started in Medicine Program

2013-Expanded Mobility Program to ED and ICU updated program in Medicine

2015-Updated Mobility Program in ICU
Prevalence of Mobility Issues in the ED

- Rates of mobilization in geriatric patients admitted to acute care hospitals are unacceptably low. Studies show that hospitalized seniors who were ambulatory during the 2 weeks prior to admission spent an average of only 43 minutes per day standing or moving (Brown et al. 2009)

- 35-50% of geriatric patients experience functional decline during hospitalization

- Second most common reason for delaying hospital discharge in geriatric patients

- Only half of those who declined regained their function 3 months after discharge

Covinsky, K et al. (2003), Lim et al. (2006), Hanson K et al (1999)
The Impact of Deconditioning

Mobility is everyone's Business

Did you know that each day that you are immobile every part of your body begins to decrease in function?

- **Pulmonary**
  - Decreased Vital Capacity
  - Decreased respiration volume
  - Increased secretions and risk of aspiration
  - Pneumonia, Pulmonary Embolism, Acute Respiratory Distress
  - Increased risk for atelectasis

- **Cardiovascular**
  - Decreased stroke volume, CO and O2 intake
  - Tachycardia and heart muscle atrophy
  - Urinary incontinence
  - Decreased peristalsis, constipation, saus

- **GI/GU**
  - Fludreception
  - Urinary incontinence

- **Musculoskeletal**
  - Skeletal muscle atrophy
  - Loss of muscle strength
  - Weakened muscles, increased in O2 cellular demand
  - Urologic, calculous formation

- **Endocrine**
  - Increased excretion of Calcium, Nitrogen, phosphorus
  - Renal calculi
  - Osteoporosis, fractures
  - Increased insulin resistance

- **Central Nervous System**
  - Emotional and behavioral changes
  - Anxiety, lability, depression
  - Decreased attention span and intellectual performance
  - Altered sleep pattern
  - Perceptual and coordination deficits

Reference: King (2012)
Why aren’t patients being mobilized?

- Perception of patient being ‘too ill’ to mobilize by the patient, visitor and/or staff
- Patients/visitors perception of needing permission
- Fear of falling
- Role confusion
- Busy environment and staff availability
- Lack of equipment and space
- Lack of appropriate footwear
- Not considered a (corporate) priority
- Lack of knowledge about consequences of immobility
- Patient refusing to mobilize (e.g. fear, safety issue)
- Foley catheters, IV lines, restraints etc…
- Care that creates dependency
- Policies and environments that prevent/decrease opportunity

Where Do We Need to Go?

“Innovative philosophies that optimize aging from a physical and psychosocial perspective AND do so in a cost effective manner…even when hospitalized.”

Implement a four step approach:

Step I: Evaluate the environment and policies
Step II: Educate staff
Step III: Establish patient goals
Step IV: Ongoing motivation of nurses and patients

Barbara Resnick, PhD, CRNP
University of Maryland School of Nursing
AGS Conference 2015
Mobility Assessment

• A barrier to mobility assessment has been the inability to accurately and unobtrusively measure patient ambulation during hospitalization.

• Ask the patient or family member about their baseline mobility.

• Consider pedometers.

• Set mobility goals.
Mobility Assessment

Bed mobility
Transfers
Gait
Bed Mobility

Lying to Sitting

- Start in side lying position on patient’s strongest side
- Bring legs over edge of bed and have patient push up with elbow/hand
- Assist on the iliac crest of the pelvis and under the dependent shoulder
- Don’t pull on the arm to assist!
Check Sitting Balance

Once in sitting ...

Place feet on floor if possible

Able to maintain independent sitting balance?

**NO**
- Use mechanical lift

**YES**
- Test quad strength to determine assistance with transfers
Bed to Chair Transfers

General Tips:

- Lead towards patient’s strongest side
- Have patient’s heels angled towards chair
- Place your feet/inner thighs around patient’s weak leg → don’t block the knee when attempting to stand
Bed to Chair Transfers

General Tips:

• Rock *weight forward*, don’t lift up

• Bend your knees and get close to patient

• *Turn your feet* during the transfer, don’t twist spine

• Always have a 2\textsuperscript{nd} person if unsure
Gait Assessment
Figure 12-1. Gait cycle. The series of postures illustrates the gait cycle. Events used to demarcate specific epochs in the gait cycle are provided immediately below the figures, while the specific epochs of the gait cycle are denoted in bold.
Cane:
Need to be able to take ~90% of weight on affected leg. Can relieve pain; balance.

Rollator walker:
Suitable for assisting with balance and energy conservation

Two-wheeled walker or Standard walker:
Suitable when weight bearing is difficult or prohibited
Four Wheeled Walker

These instructions are guidelines only. Use only as instructed by your healthcare provider.

What is a Four Wheeled Walker Used For?
A four wheeled walker is a lightweight frame that is used to provide walking support, with the added advantages of swivel front wheels and a temporary seat.

How Do I Adjust the Walker Height?
- Stand with your shoulders relaxed and your arms hanging loosely at your sides.
- The handlebar height should be at the crease of your wrist when your arms are relaxed at your sides (Figure 1).
- Loosen the knobs on the outside of the handlebars (Figure 2). For some models this may be sufficient to allow you to raise and lower the handlebars. If so, move the handlebars to the desired height. Tighten the knobs.
- If the walker has bolts which go through the handlebars, remove them and then move the handlebars to the desired height. Re-install the bolts and screw the knobs to the bolt. The knobs should be on the outside of the handlebars. Some frames have a hexagonal hole for the bolt head to fit into. Ensure the bolt head is properly aligned with hole before tightening fully.
- The seat height is not adjustable. If the seat is too high or too low, a different size of walker may be more appropriate. You should be able to sit on the seat with the balls of your feet touching the ground.

Figure 1: Correct sizing
Common Mobility Impairment/Gait Disturbances
Mobility Impairments in Older Adults

Impaired mobility has been shown to be an early predictor of physical disability (Hirvensalo et al., 2000).

The key determinants of mobility include cognitive, psychosocial, physical, environmental, and financial influences (Webber et al. 2010).

2012 Statistics Canada Survey:
- 20.5% of seniors reported a disability related to mobility
### Table 5. Common Gait Patterns in Older Adults

<table>
<thead>
<tr>
<th>Type of gait</th>
<th>Description</th>
<th>Associated signs</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antalgic</td>
<td>Limited range of motion; limping; slow and short steps; unable to bear full weight</td>
<td>Pain worsening with movement and weight bearing</td>
<td>Degenerative joint disease; trauma</td>
</tr>
<tr>
<td>Cautious</td>
<td>Arms and legs abducted; careful; en bloc turns; like walking on ice; slow; wide-based</td>
<td>Associated with anxiety, fear of falling, or open spaces</td>
<td>Deconditioning; post-fall syndrome; visual impairment</td>
</tr>
<tr>
<td>Cerebellar ataxia</td>
<td>Staggering; wide-based</td>
<td>Dysarthria; dysdiadochokinesia; ataxia; impaired balance; intention tremor; nystagmus; postural instability; rebound; Romberg sign present; titubation</td>
<td>Cerebellar degeneration; drug or alcohol intoxication; multiple sclerosis; stroke; thiamine and vitamin B12 deficiency</td>
</tr>
<tr>
<td>Choreic</td>
<td>Dance-like; irregular; slow; spontaneous knee flexion and leg rising; wide-based</td>
<td>Choreathetic movements of upper extremities</td>
<td>Huntington disease; levodopa-induced dyskinesia</td>
</tr>
<tr>
<td>Dystonic</td>
<td>Abnormal posture of foot or leg; distorted gait; foot dragging; hyperflexion of hips</td>
<td>Worse with the action of walking; may improve when walking backward</td>
<td>—</td>
</tr>
<tr>
<td>Frontal gait disorder (gait apraxia)</td>
<td>Magnetic; start and turn hesitation; freezing; marche à petits pas</td>
<td>Dementia; frontal lobe signs; incontinence</td>
<td>Frontal lobe degeneration; multi-infarct state; normal-pressure hydrocephalus</td>
</tr>
<tr>
<td>Hemiparetic</td>
<td>Extension and circumduction of weak and spastic limb; flexed arm</td>
<td>Extensor plantar response; face, arm, and leg weakness; hyperreflexia</td>
<td>Hemispheric or brainstem lesion</td>
</tr>
<tr>
<td>Paraparetic</td>
<td>Adduction; extension; scissoring of both legs; stiffness</td>
<td>Bilateral leg weakness; extensor plantar response; hyperreflexia; spasticity</td>
<td>Spinal cord or bilateral cerebral lesions</td>
</tr>
<tr>
<td>Parkinsonian</td>
<td>Short-stepped; shuffling; hips, knees, and spine flexed; en bloc turns</td>
<td>Bradykinesia; muscular rigidity; postural instability; reduced arm swing; rest tremor</td>
<td>Parkinson disease; atypical or secondary forms of parkinsonism</td>
</tr>
<tr>
<td>Psychogenic</td>
<td>Astasia-abasia; bizarre and nonphysiologic gait; lurching; rare fall or injury</td>
<td>Absence of objective neurologic signs; give-way weakness</td>
<td>Factitious, somatoform disorders or malingering</td>
</tr>
<tr>
<td>Sensory ataxia</td>
<td>Unsteady; worse without visual input, particularly at night</td>
<td>Distal sensory loss; impaired position and vibratory sensation; Romberg sign present</td>
<td>Dorsal column dysfunction; neuropathy; sensory neuropathy</td>
</tr>
</tbody>
</table>

Salzman B. (2010)
Antalgic Gait

- Gait pattern in which stance phase on affected side is shortened
- Corresponding increase in stance on unaffected side
- Common causes: pain, arthritis, fracture, soft tissue injury
- Cane in **OPPOSITE** hand can decrease pain & normalize gait pattern

- Video Antalgic Gait
Trendelenburg Gait

• Weak hip abductors
• Causes opposite side of pelvis to drop

• Video Trendelenburg
Parkinsonian Gait

- Flexed & forward leaning posture
- Difficulty initiating gait, turning and crossing thresholds
- Decreased hip and knee flexion
- Short stride
- Helps to be cued “Left, right, left, right, etc.” and encourage “big” steps

- Video: Parkinsonian Gait
Functional Mobility Assessment

Need direct observation of walking ability prior to discharge – self-report is not reliable (Roedersheimer et al. 2015)

Timed Up and Go Test (TUG):
• is a screening tool
• tests basic mobility skills in elderly people who can walk on their own, with or without a walking aid such as a cane or walker
• Patient is timed -- stands from a regular arm chair, walk 3m, turns and sits down again
Timed Up and Go Test

Greene BR et al. (2010)
Interpretation of TUG

Various thresholds reported in the literature…

• **<20 seconds** – usually independently mobile, can do basic transfers & stairs
• **>20 seconds**—likely some impairment in functional mobility, likely requires walking aid
• **>30 seconds** – likely requires assist with ADLs and mobility

>13.5 seconds reported as cut-off point for identifying falls risk but not confirmed in recent meta-analysis Barry et al (2014)
### Mobilization Record

**Instructions:**

- Complete the Mobilization Record using codes from Patient Mobility Status and Mobility Intervention Codes box.
- After intervention completed, document patient response to interventions, using codes below.
- Before mobilizing or encouraging a patient to mobilize, ensure the patient has the following:
  - Check with nurse if patient has no contraindications to mobilizing or tests booked.
  - Given pain meds 1 hour prior to mobilizing, if applicable. Equipment set-up (e.g., walker or wheelchair is nearby; IV line capped; Foley catheter bag changed to leg bag). Ask patient’s family/POA to bring in mobility devices, rubber-soled footwear and comfortable clothing.
- If patient/family hesitant to mobilize, determine reason and eliminate any barriers if possible.
- Provide reassurance to patient. Inform them and family of the benefits to mobilization.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Mobility Status</th>
<th>Mobility Intervention</th>
<th>Patient Response</th>
<th>Staff Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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**Patient Bradma**
Interprofessional Team Involvement

- Involves everyone, including patient and family
- Proactive approach to mobility rehab
- Make mobility routine part of care
- Implement structured walking and exercise activities
- Therapeutic positioning and transfers of patient to treat and reduce abnormal tone
- ROM exercises to maintain and improve joint flexibility
- Use motivational and teaching skills
Working with Patients to Mobilize

Motivational Interviewing

• Setting the precedence in ED-patient understands mobility is a regular part of care, carry over to inpatient units which may reduce rehab referrals.

• *Do you suspect your patient has a knowledge deficit about mobility?*
  1) Ask what the patient knows about mobility/immobility or what he or she can do?
  2) Affirm that information, if any
  3) Ask permission to ‘fill in the blanks’
  4) Give the information or advice
Change Talk predicts action

Change Talk is the intention to change or thinking about change. Patients express the acceptance or movement regarding a target behavior. These may include plan or goal of change, importance of the behavior.

How do you do Change Talk?

Even though the patient may know the benefits of mobilization, when the ‘cons’ are verbalized it becomes reinforced for the patient.

Ask the patient to state the benefits to you. It can actually help the patient self-evaluate the benefits of the behavior change.
Examples: “What has helped you in the past to mobilize?”

“What would be the top 3 ‘pros’ for mobilizing?”

“How did you feel when you were mobilizing?”

“On a scale from 0-10 (0 meaning no confidence, 10 being extremely confident), how confident are you to mobilize or do ROM exercises?”
Despite all the discussion about mobility, my patient doesn’t seem interested. What do I do?

Ask the patient about the pros/cons of mobility.

Ask about the behaviors that don’t support the mobility goals
(e.g., “We have tried to mobilize you over the past few times but you have declines, and I’m concerned that you are going to get weaker. What are your thoughts about how this might affect your goal for going home?”)

Ask thought provoking questions
(e.g., “What would have to happen for you to think about mobilizing?”)

Give patient positive feedback after each mobility session and review their progress with them and the family

Seniors Mobile Assess
Restore Team (SMART)
What is SMART?

Seniors Mobile Assess Restore Team

• A proactive approach to prevent and reduce functional decline in hospitalized seniors.
What is SMART?

The approach includes:
✓ early identification
✓ collaborative assessments
✓ early access to therapy
✓ maintaining or improving the patient’s independence with mobility & activities of daily living
✓ discharge planning & timely return to home setting
✓ improving the patient’s experience in hospital

5 facilities in HNHB LHIN participating
Assess Restore2014 Pilot Project Successes

- Patients returned home sooner

- Less need for referrals to other in-patient programs such as Acute Rehabilitation
SMART in 2015-2017

Funding for 2 new positions (up to 2 years):
- Occupational Therapist (OT)
- Physiotherapist (PT)

In-kind resources:
- Nurses
- OT/PT assistants
- Social Workers
- Speech Language Pathologists
- Dietitians
- Pharmacists
- Clinical Nurse Specialists
- Patient Navigators
- Community Care Access Centre

Based in the ED
Candidates for SMART

• Seniors- typically 65 and older
• At risk for functional decline
• Medically able to participate in therapy
• Evidence of clear, obtainable goals which can be met within a general 1-2 week time frame
• Keen to participate in therapy as required
Candidates for SMART

- Able to get from bed to chair with 1 person assist
- Able to follow general directions
- Able to participate in therapy
- Returning to home or retirement home setting
SMART Results to Date

• Commenced late April 2015

• 170+ patients enrolled at JBH

• 18% improvement in function (Barthel Index)
Components for an Appropriate Discharge

Has the patient’s mobility returned or close to baseline?

Does the patient/family understand:
• fall prevention strategies
• how to use assistive devices (if applicable)
• simple exercises

• Home Safety Assessment post discharge (if applicable)
• CCAC support for ADLS/IADLS (if applicable)
• Emergency Response Systems eg. Life-line (if applicable)
• Consider referral to community exercise/fall prevention programs
To improve mobility is to improve all other functions

• Mobility will not improve with there are not interventions to address:
  * Restraint use
  * Continence  (regular toileting routines)
  * Screening/management/prevention of delirium
  * Engaging in meaningful activities
  * H.E.L.P
Key messages
Questions?
References

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