Falls Reduction Related to Wheelchair Use

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Preventing Injuries

Goal
Reduce Wheelchair Related Injuries in the Community: Home Health, Assisted Living, and Long Term Care Venues

Falls Related to Seating
- Unlocked Brakes
- Over reaching
- Sliding
- Tipping chair
- Unassisted transfers
Most common causes of falls from chairs

• Poor Fit
  – Due to knees lower than hips putting resident on a sliding board to the floor
  • Lower seat
  – Seat not deep enough causing chair to tip when resident leans forward
• Rises unsafely from chair
  – Tip seat using dual axel adjustment
  – Meet need to move with frequent position changes
  – Keep engaged in activity and visually supervised
• Propelling over uneven ground

For Safety and Comfort

• All chairs should be fit to the resident
  – Size
  – Type of Use
  – Who will propel them

Training needed for safe use

• Provide training to prevent injuries to caregiver:
  – Foot Pedals, folding chair, removing armrests
  – Transfers
    • Car, bed, toilet, chair
  – Up ramps – go forward
  – Down ramps – go backward
• Have therapist do WC mobility safety check
• Prevent injuries to user:
  – Same training as Care giver if they are to be an independent user
  – Safety in use if cognitively able to self propel
  – Propelling over rough ground
Bus Lifts

- Lock Brakes
- Provide assistance to access
- Position so down side of ramp is to rear of individual’s wheelchair
- Follow Manufacturer’s directions for Tie down
- Chair type must be tested and meet ANSI standards for use in transport vehicles

Fit The Chair to Resident and keep it well maintained

Wheelchair Cushions

- Purpose:
  - Increase Comfort
  - Reduce risk of Pressure Ulcers
  - Stabilize the pelvis for increased function
  - Stabilize the body in the chair to prevent sliding

- Types:
  - Open cell foam
  - Memory Foam
  - Multiple density foams combined
  - Wedge
  - Antithrust
  - Gel/foam combo
  - Gel
  - Air
Failure to lock brakes:

Anti-rollback Brakes

- **Advantages:**
  - prevents roll back during attempts to independently transfer

- **Disadvantages:**
  - Must be carefully adjusted to prevent excess pressure on ischial tuberosity

- **Brake Extensions**

Why DO folks attempt to get out of their chairs?

- **Uncomfortable**
  - Pain
  - Fatigue

- **Boredom**
  - Lack of engagement with others
  - Left for long periods in front of TV or in their rooms

- **Confusion**
  - Agitation/anxiety

- **Need to move !!**

When repositioning

We all move away from pain and toward comfort
Provide Alternative Options – YOU don’t sit in one chair all day long!

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Everyone must be able to identify poor W/C fit

- Correct Fit
  - Thighs level
  - Feet flat on floor
  - Back of chair comes up to mid shoulder bone
  - Elbows rest on armrests without leaning and without tucking them inside armrests

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Two Finger Rule

- Width:
  - Two fingers of space between hip and side arm

- Seat depth:
  - Two fingers of space behind back of calf and edge of seat
Sliding from chair

- Pulls self from chair propelling down the hall with feet
- Sacral sitting - oozes from chair
- Effect is worse if
  - seat is too high and knees are lower than hips
  - Recliner chairs

Over Reaching

- Center of gravity must remain within the base of support
- Leaning forward will tip this guy
- Increase seat depth and length of wheel base

Gravity Assisted Seating – Eliminate Restraint Need

- Let gravity help keep the individual in the chair - not slide them out of the chair
- Tip chair using dual axle placement
  - Lower back of seat and raise front
  - May need to start with lower chair frame to get feet flat on floor for propelling chair
- Anti-tippers
What’s wrong with this picture?

Tall lean folks: deeper seat, higher off ground, taller back
Seat or Cushion Depth

- Cushion or seat too short – folding forward
- Cushion or seat too long – slides into sacral sitting

Bariatric Seating

- Large buttocks push pelvis forward in chair
  - Extra depth wheelchair seat
  - Support low back above buttocks
  - Tip chair by lowering back of seat and raising front (dual axle chairs)
- Extra width
- Heavy duty chair

Sacral sitting – high pressure points and pain
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Kyphotic Back – molded back, extra depth seat and tipped seat

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Moldable back – Total Contact

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Recessed deep surround back
Exhaustion: COPD or CHF
Use Lightweight Chair

- Average Wheelchair weights 35-50 pounds plus weight of oxygen tank
- Rugs create resistance
- Wheels don’t turn equally pulling wc to side

When To Use a Tilt In Space Chair?

- Individual who cannot reposition and needs pressure relief
- Traumatic Brain Injury
- Severely compromised Cerebral Palsy
- Cost has come down

Habitual Rocking

- Elder with Dementia
  - Pacing in a sitting position
  - Self Stimulation through movement
- Solutions: Provide opportunity for movement
  - Stationery glider
  - Frequent opportunities to walk with staff
  - Stimulation class
  - Anti-tipping devices - front and rear
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**Huntington’s Disease**

- Need longer wider wheelbase to prevent tipping chair
  - Ballistic movements
  - Severe thrusting side to side
- Need low center of gravity
- Need to be able to self propel
- Need tipped seat to prevent forward falls

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**What about a Geri Chair**

- Issues:
  - No Pressure Relief
    - Use a gel overlay
  - Unable to position functionally
  - Does not accommodate contractures
    - Windswept leg position
    - Feet dangle

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**No one wants to be restrained**

MDS: Coding Definition

A restraint is any device that “restrains” you from doing something you could do without the device or from accessing your body parts.
Examples for LTC Correct MDS 3.0 Coding

- A dependent resident with a seat belt or lap buddy is not restrained
- A lap tray is a restraint if it prevents a capable resident from scratching their thigh
- A seat belt is a restraint when used on a resident who rises unsupervised from the wheelchair - if he cannot open it independently

Is Anti-Gravity Seating a Restraint?

- What effect does the chair position have on the individual?
  - If the chair position prevents someone from rising who could rise from a standard seat, it is a restraint
- Discuss the effect with family and client
  - Explain the negative effects of restraints and of falls
  - Make an educated choice
  - Document discussion
  - Reevaluate and modify seating as the condition changes

Managing Family Resistance to Restraint Reduction

- Are you treating the family’s needs or the resident’s needs?
- On admission – provide pamphlet and explain policy “We are a restraint free facility”
  - Don’t wait for the issue to become urgent
- Explore their fear with them
- Create a safe plan
- Explain safe plan to family showing them how it can work
- When eliminating a restraint - Do not take restraint off until safe plan is in place and working
- Do a gradual progression with good family feedback
- When all else fails, do 30 day notification, so family can find a facility which agrees with their philosophy
Gradual reduction of restraint and alarm use

First - put effective alternatives in place
- Gravity assisted seating
- Visual supervision
- Opportunities
  - Alternative positioning
- Fix root cause
  - UTI
  - Medication issues etc

Second – progressive reduction with family participation, care plan, & documentation of results
- Off when visually supervised
  - Meals and activity
- Off during most coherent time of day
  - Not when "sun-downing"
- Increase off time till device is eliminated

Sounds good but how do we pay for a proper chair??

- In Long Term Care - Federal Regulations require facilities to meet the needs of residents it admits. Facility must provide a safe functional chair.
  - Reshuffle current wheelchairs
  - Utilize dual axle component on chairs already owned by facility
  - Prioritize - meet needs of frequent fallers first
  - Prioritize - acquire chairs with deeper seats
  - Therapy assessments and reassessments are reimbursable
- In Assisted Living and Home Care, Medicare will purchase chair
  - Get it right the first time
    - Consult an OT or PT

Resources - Google

- Joann Rader
  - Rethinking Personal Alarms
  - Individualized Wheelchair Seating for Older Adults
- CMS – MDS 3.0 Resident Assessment Instrument (RAI) manual for examples of Restraint coding
- Mountain Pacific QIO web site: Seating ideas
  - Wheelchair Seating tool kit: Betsy Willy PT, MA or email me for copy
- Family Pamphlet - Reducing Restraint Use in Nursing homes: A guide for Residents and Families – Colorado Foundation for Medical Care website
- Email Betsy Willy: Betsy.willy@pathwayhealth.com