Preventing Hospital Acquired Debility

IATROGENIC DISABILITY
PARTIALLY AVOIDABLE PHYSICAL DEPENDENCE
MEDICAL DECONDITIONING
HOSPITAL ACQUIRED DECONDITIONING
POST HOSPITAL SYNDROME

Objectives

1. Identify common reasons for hospital acquired debility.
2. Describe ways staff can alter their workflow or processes to prevent hospital acquired debility.

What is Hospital Acquired Debility?

• Sudden loss of ability to complete basic ADLs needed to live independently

• Functional reserve: capacity for older adults to handle additional stressors or illnesses without loss of independence
Hospital Acquired Debility Defined

“Change in functional status is a clinical vital sign and the most important manifestation of illness in older adults across admitting diagnoses.”

- powerful prognostic tools:
  - Mortality
  - Institutionalism
  - Readmission within in 30 days
  - Adverse health outcomes during and after hospitalization
- Rarely a single cause
- Accumulate impairments over multiple domains
- Functional status should guide care

Frailty Defined

- 3 of the 5 symptoms define frailty
  - Muscle weakness
  - slow movement speed
  - self reported exhaustion
  - decreased physical activity
  - unintentional weight loss
- Frailty is an independent risk factor for increased mortality, institutionalism, and disability

Frailty or Hospital Acquired Debility?

<table>
<thead>
<tr>
<th>Frailty</th>
<th>Hospital Acquired Debility</th>
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<tbody>
<tr>
<td>gradual accumulation of impairments</td>
<td>Fast accumulation of impairments – (2-3 days)</td>
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Frailty plus Hospital Acquired Debility

- When an already frail older patient is admitted to the hospital and doesn’t get mobilized often:
  
  **accelerated decline in function and even increased rates of institutionalism and mortality**  

Risk Factors for Hospital Acquired Debility

- Increased age
- Poor mobility prior to admit – use of assistive devices
- Need assist with ADL or IADL before admit
- Prior history of falls or incontinence
- Poor cognitive function
- Poor social factors
- Depression
- Illness itself

- After hospitalization risk factors for readmission:
  Environmental factors, resources, poverty, lack of community support, quality of discharge plan

Statistics

- Adults over 65 years old account for 60% hospital admissions
- 77.9% pts considered able to ambulate, did not ambulate at all while hospitalized
- 83% patient time spent in bed
- Hospital older patients are 61 times more likely to develop disability in ADL’s than those not hospitalized
- 30% pts over 70 years old, and hospitalized with medical illness, are discharged with an ADL disability they didn’t have before
- More than 50% older adults over 85yo leave hospital with major new ADL disability
Why should these statistics alarm us?

- 1 yr after discharge less than ½ older adults are at their pre-morbid level
  - 29% remained disabled at 1 year
  - 36% returned to PLOF
- Death and NH placement are increased 1 year after hospitalization
  - 54% died in 1 year
- Diagnosis of deconditioning = poorer trajectory of functional recovery than a clearer medical diagnosis
- Older adults with HAD have higher than average rates of readmission and lower rates of community discharge
  - Poor physical function = 9x more likely to be re-hospitalized with in 30 days compared to older adults with medically complex conditions and increased physical function.

“I just want to rest” – What happens?

- Decreased outcomes/Health
  - Multiple body systems affected:
    - Cardiovascular
      - Impaired stamina
    - Respiratory
      - Pneumonia
    - Gastro-intestinal
      - Decreased appetite
    - Integument
    - Musculoskeletal
      - Impaired coordination
    - Decreased muscle mass and strength
    - Renal
    - Endocrine
    - Nervous
      - New onset delirium
    - Increased pain

What happens with hospital Rest?

- Decreased Outcomes
  - Decreased ADL, IADL independence
  - New (or worsening) walking dependence 2 days of bed rest
    - 16-59% hospitalized older patients
    - Remains persistent with 67% of patients failing to improve by D/C. 27% still dependent in ambulation 3 months after discharge
    - Physical functional decline and ADL decline are predictive of hospital readmission, institutionalism, and mortality
  - Falls
  - Decreased ability to follow post D/c instructions
  - Reserves depleted
    - Body can’t defend against health threats
What happens with hospital rest?

- Decreased quality
  - 1/5 patients discharged (2.6 million seniors) readmit within 30 days
  - Original admit for heart failure, pneumonia, COPD - These patients were only readmitted for these reasons 37%, 29% and 36% of the time.
  - Increase risk adverse health events
- Increased cost
  - Increased LOS
  - Delayed discharge
  - NH placement is a substantial public expense:
    - Prolonged hospital stay with HAD

Barriers to Mobilizing Older Patients

- Patient Factors
  - Illness severity
  - Co-morbid conditions (COPD, Depression, dementia, etc.)
  - Symptoms (pain, weakness, etc.)
  - Cognitive issues and Delirium
  - Fall concerns
  - Weakness
  - Pain
  - Fatigue

Barriers - Institutional Factors

- Staffing
  - Nursing to pt ratio - staffing patterns
  - Staff illness, unfilled position
  - Unexpected increase in work demands (deteriorating health of patient, many admits/discharges, high census, etc.)
- Unit Expectations
  - Expectations visible to colleagues, supervisors (white boards, CQI, end of shift report) increases accountability
  - Manager and physician support increases accountability
- Unit activity level - increased activity, increased admissions, D/C, codes = decreased ambulation
Barriers – Institutional Factors

- Inadequate orientation
- Handoff problems from floor to floor
- Environmental factors
  - Bed most comfortable to watch TV
  - Lack of chairs
- Ineffective delegation
  - Failure of RN to obtain buy in from nurse assistant
- Lack of financial support

Barriers – Institutional Factors

- RN training and critical thinking/planning treatment
  - Risk
    - Potential for injury patient or RN = increased risk = lower level of mobility
    - RN knows ambulation is ideal, but not necessary as there are other options that are almost as effective
      - Spinning, rolling, SCDs, dangling, chair
    - Completing tasks
      - "Mobility is used primarily as a means to another end not as an end in itself"
      - Roll to look at rash, chair for lunch, walk to bathroom, not to walk because it is good for
        - Available resources of staff, equip
        - If not enough support, mobility moves to next lower level (instead of ambulation – go to chair, instead of chair, sit up in bed)
    - Nurse characteristics
      - Personal strength, size, expectance, self-confidence prior injury
      - Smaller patient, lower risk = ambulate more

Attitudinal factors of staff

- Attitudes toward mobility during hospitalization
  - Labeling patients:
    - Nursing home patient perceived non ambulatory = won’t mobilize them
    - Community ambulators, RN pushed them more
    - **"Perception could be changed by family, NP, Physician telling us their FLOE, complaining, or being persistent"**
- “The fact that missed nursing care was more prevalent in areas where the impact was not immediately apparent is noteworthy.”
  - (lack of ambulation not evident till d/C, eating)

- Prevention:
  - DVT, pneumonia, pressure ulcer, functional decline.

- Ineffective delegation

- Lack of financial support
Barriers – Institutional Factors

- Not my job syndrome 5
  - Once delegated to PCA, no longer RN responsibility
  - PT’s job ("the nursing staff reported that they believed all ambulation was PT’s job.") nurses still stated pts didn’t ambulate enough
- Habit - skip something one day, don’t get ‘caught’, easier to skip the next day
- Denial - RN’s don’t want to know if NA’s don’t do something. Makes them feel bad
- RN’s may not begin mobilizing patients until they are ready for discharge

Barriers – Treatment Related

- Bed rest 4, 9
  - Some required, others not necessary
  - Ambiguous orders
- Restraining devices 5, 3, 9
  - lines/tubes, restraints
  - Catheter = 1 point restraint
- Medicine
- Time required for intervention
  - Increased time = less likely to do (tilt table)
    - Ambulation
    - pt education
    - Hygiene
    - emotional support

Solutions Hospital Wide

- Form a Lift Team 12
  - Goal to increase mobility, decrease adverse outcomes, LOS and injury,
  - focus on older patients, obese, patients
  - Transport staff were trained by PT/OT in 4 hour sessions
  - Used lift equipment
  - Positive outcomes in decreasing falls and staff injury
  - Caution: Only wanted male staff
- Mobilization Program 10
  - Assisted ambulation RED
    - Maintained their pre-hospital function up to 1 month after discharge - used recreation therapists, volunteers, mobility aids
- Hospital Wide Walking Program
  - Specially trained transporters (nights and weekends because patients busy in the day)
  - 5.6 walks/patient
Solutions – Hospital Wide

- **Add therapy staff – costs**
  - Most frequently mentioned solution: PT. “That is why we try to encourage the doctors to order physical therapy, because we don’t have time to ambulate patients in the hallway like the doctor expects.” This article also stated the PT’s have the equipment.
- **Add nursing staff – costs**
  - “Due to their consistent presence at the patient’s bedside, nurses have been identified in the literature as health care providers who can affect the incidence of new walking dependence in hospitalized older adults.”
  - Outcomes:
    - Nurse driven mob program:
      - Total steps - low or negative from 1st to 2nd day = increased LOS
      - Quantity ambulation more than 5 m on 1st day and amount of time upright predicted LOS
      - Ambulation outside room at least 1x/day = 1.5 shorter LOS (even adjusted for pre-admission mobility levels)

Solutions – Hospital Wide

- **Improve our assessments and ACT on them**
  - 2 week pre-hospital function (questionnaire), admit function, and daily assessments
  - ADL, Mobility and Cognitive
  - AMPAC-6 click
  - Could use as scorecard for the patient to help plan discharge
  - Sedation, agitation, delirium status (CAMS)
  - BMAT – mobility assessment – decide how to mobilize patient - CoxHealth
- **Financial support**
  - Form team
    - ID champions across disciplines, include all players
    - ID and address barriers
    - Ed, communicate, coordinate
  - create business plan demonstrating cost savings, improved outcomes
  - if no money = prioritize, work as team

Solutions

- **Sleep**
- **Nourishment**
- **Pain control**
- Provide schedules
- Sedate appropriately
- Incorporate prevention
Ace Unit: Acute Care of Elders - strongest evidence, best outcomes
• Interdisciplinary care includes geriatrician
• Cost savings may be greater than added costs of unit
  o More discharges to home
  o Decreased LOS
  o Increased satisfaction of patients, RN’s, physician’s (just having these pieces not in a unified unit doesn’t help as much as a dedicated unit with a geriatrician)
• NO DISCHARGE planning
  o Plan to go home

Environmental changes in ACU Unit -
• Carpeted floors decrease falls and noise, orientation aids (large calendars)
• Cultural changes in ACE Unit
  • get rid bed rest, enable safe mobility, avoid tethers and restraints
• Rehab protocols and prevention
  o Encourage ADL’s without assist
  o Dress in street clothes
• Daily pharmacy reviews
  • Decrease psychoactive drugs and anticholinergics
• Decrease NPO
  o Avoid strict diets
  o Provide snacks

If no ACE Unit, many elements can be incorporated, but it isn’t as successful
• Communication with Dr., social worker, PT, OT, RN, daily rounds
• WALK in HALLS 3-4x/day, exercises, to chair at least for meals
• Decrease tethers
• EAT - common dining areas socialization, access to snacks
• Family to stay overnight
• Earphones, large clocks, calendars, low bed with rails down
Solutions – Hospital Wide

- GEM Unit - Geriatric Evaluation and Management Unit
  - Admit after acute issues stabilized
  - Increase focus rehab, not prevention
  - Selective - patients who would benefit from rehab
  - Multidisciplinary and geriatric assessments
- HAH - hospital at home - modest reduction in disability

Solutions – Hospital Wide

- HELP - Hospital Elder Life Program
  - Targets delirium
  - Decreased hospital costs
    - Institutionalism lower
    - Decreased LOS

Solutions – Therapy

- Return patients to PLOF
  - Add prevention
  - DON'T under dose strength
    - No general conditioning - Need to use overload principle
    - DO high resistance training
      - Older adults have decreased muscle protein synthesis
      - Their response to protein intake is dependent more heavily on exercise to maintain balance between muscle protein breakdown and synthesis
  - High Intensity strength training - 70-80% 1 RM
    - OK even for patients with osteoporosis
    - No need for 1 RM max, no special equip
    - Encourage enough resistance to cause muscle fatigue to the point of failure at 8-12 reps with form deterioration over last two reps
    - Borg PRE = 15-17 on 6-20 scale
      - Muscle soreness: ok
      - Increased ADL performance, increased lower body strength and gait speed
      - No risk increased serious adverse events
Solutions - Therapy

- Task specific ADL training - increase muscle strength and motor learning
- Balance also recommended by ASCM – multi-component training
  - Improves Berg score and decreases fall rates
- Motor control based gait training with high level task-orientated activities
  - Greater gains in gait speed and self reported function than traditional endurance based programs
- General conditioning is typically what we do, but is NOT skilled therapy
  - Need intensity, frequency, duration and specificity to be skilled

References