Approach to the Hospitalized Geriatric Patient

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Objectives

- Delirium, Aspiration, Skin (Pressure Ulcers), Heading for a Fall--DASH
- DASH: Prevention, the evidence
- DASH: Prevention, Practically
- DASH: Screening
- DASH: Approach DASH as one geriatric syndrome and learn to prevent all 4 by targeting their overlapping Risk Factors.

Ms. Jones is a 78 yo woman with HTN, Hypothyroidism and COPD on 3L home Oxygen BIBA with altered mental status.

The patient’s caretaker accompanied her to the ER and explained that the patient has not been herself the last few days.

Three days ago she became much more sleepy and less talkative than usual.

Ms. Jones answers no to all questions, drifts in and out of the interview, and believes she is at home.
The night of admission, the intern was called to evaluate the patient.

The nurse had found Ms. Jones on the ground near the door of the bathroom, confused, clutching her right hip and crying out in pain.

Ms. Jones was given morphine for her right hip pain, presumed secondary to her fall.

A plain film showed no evidence of fracture.

The intern was very concerned that Ms. Jones had fallen and ordered both a sitter and fall precautions.
Over the next few days, the patient continued to have right hip pain and required moderate amounts of morphine.

Orthopedic Surgery evaluated the patient and felt that there was no fracture but fairly significant bruising.

After six days of ongoing delirium, the patient finally began to clear. She became consistently fully oriented, able to follow commands, able to answer questions appropriately.

Physical Therapy was consulted to evaluate the patient and noted on their first assessment that Ms. Jones was extremely weak and requiring maximal assistance for all activities.

That afternoon, the nurse contacted the intern with a concern about a skin lesion.

The intern identified a Stage III Sacral Pressure Ulcer.
Are we surprised that Ms. Jones fell while she was hospitalized?

Are we surprised that Ms. Jones developed a sacral pressure ulcer?

**Delirium**
- 14-56% incidence among hospitalized patients
- Delirium a/w increased 1 yr mortality indep of dementia
- A/w prolonged hospital stay
- A/w increased admission to LTC

**Aspiration**
- Aspiration Leading Cause of Death in NH pts
- 3X higher mortality in patients who aspirate

**Pressure Ulcer**
- 0.4% to 38% acute care patients
- Median excess length of stay of 4.31 days
- Price for managing a single full thickness ulcer up to $70,000
- “Stage 3 or 4 pressure ulcers acquired after admission to a healthcare facility” is on the CMS, National Quality Forum “Never Event” List

**Fall**
- Falls are leading cause of injury-related death for age 65 and older
- “Patient death or serious disability associated with a fall while being cared for in a healthcare facility” is on the CMS, National Quality Forum “Never Event” List
**Delirium**

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<thead>
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**DASH**

- Prevention--the Evidence
- Prevention--Practically
- Screening
DASH--Prevention Practically

**Intrinsic Factors**

- Cognition/Attention
- Sensory Deficits
- Elimination
- Mobilization
- Dehydration
- Malnutrition

**Extrinsic Factors**

- Positioning
- Environment, Sleep
- Medications
- Monitoring
- Education
- Interdisciplinary Approach

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**Delirium Prevention--the Evidence, Cochrane**

- Siddiqi et al, Systematic Review 2007¹
- RCT’s involving delirium prevention interventions in hospitalized patients
- 6 studies, all surgical, 5/6 Ortho

**Delirium Prevention--the Evidence, Cochrane**

- Only one trial with sufficient power to detect difference in incident delirium¹
- Trial Proactive Geriatric Consultation
- 126 hip fracture patients
- Reduction in delirium
Delirium Prevention—the Evidence, Cochrane

- Another study of low dose prophylactic halder
- Reduction in severity and duration of delirium
- Reduction in LOS

Delirium Prevention—the Evidence, Summary

- Lacking RCT’s with sufficient power to evaluate intervention effect
- Lacking RCT’s evaluating Medical Patients
- More research is needed…

Delirium Prevention—Practically, Intrinsic Factors

- Cognition/Attention: Orient Frequently
- Sensory Deficits: Vision Aids
- Amplifying Devices
- Elimination: Treat and Avoid Constipation
- Treat and Avoid Urinary Retention

Delirium Prevention—Practically, Intrinsic Factors

- Mobilization: Early Mobilization, PT/OT consults
- Dehydration: Recognize and Tx Dehydration Early
- Use Fluid Balance Charts
- Malnutrition: Address early
Delirium Prevention—Practically, **Extrinsic** Factors

- **Positioning:**
  Up to chair for all meals if possible
- **Environment, Sleep:**
  Avoid Ward/Room Transfers
  Limit PIV’s, Cardiac monitors, Avoid Foley’s
  Protocol for Physical Restraints
  Nonpharmacologic Sleep Protocol
  Noise reduction, Avoid Constant Light

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Delirium Prevention—Practically, **Extrinsic** Factors

- **Medications:**
  Review Medications Daily
  Consider Reduced Doses in Geri pts
  Avoid Meds most a/w Delirium
  Reevaluate Long-Term Medications
  Treat Pain: ATC Tylenol, ATC rather than PRN narcotics

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Delirium Prevention—Practically, **Extrinsic** Factors

- **Medications to Avoid:**
  Benzos, Barbiturates, Sleeping meds
  Narcotics, especially Demerol
  Anticholinergics: Benadryl, Hydroxyzine, Antispasmodics, TCAs, Parkinson’s Meds, Quinidine, Disopyramide
  Anticonvulsants

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Delirium Prevention—Practically, **Extrinsic** Factors

- **Medications to Avoid:**
  Digoxin, Lidocaine, B-B’s, Methyldopa
  H2-Blockers
  Steroids
  Metoclopramide
  NSAIDS
  Lithium
  Atropine/diphenoxylate
Delirium Prevention—Practically, **Extrinsic Factors**

- **Monitoring:**
  - Safety Attendant, Not Drugs

- **Education:**
  - Anticipate Delirium, Engage Family
  - Educate re Hazards Bed Rest
  - Staff Education re Delirium

- **Interdisciplinary Approach:**
  - MDR’s, Nursing, Safety attendants, PT, OT

Delirium—Screening

- Screen Early and Often
- Nearly 1/3-2/3 cases unrecognized, especially hypoactive form
- CAM: Confusion Assessment Method:
  - Acute Onset & Fluctuating Course +
  - Inattention +
  - Disorganized Thinking OR Altered LOC

Aspiration Prevention—the Evidence

- 2003 JAGS Systematic Review
- 8 RCT’s, only few of hospitalized pts
- Insufficient data to support positioning strategies, oral hygiene, modified diets, feeding tube placement
- Aspiration PNA was prevented with amantadine & cilostazol (antithrombotic)
- Cilostazol→excessive bleeding

Delirium Prevention—Practically

- **Misc:**
  - Prevent, Detect Early and Treat
  - Metabolic and Infectious Diseases

Aspiration Prevention—the Evidence

- 2007 *American Journal of Geriatric Pharmacology* Systematic Review\(^\text{19}\)
- ACE Inhibitors reduced Aspiration PNA in Asian subgroup of RCT and in non-RCT’s\(^\text{19}\)
- Capsaicin improved cough, swallowing reflexes\(^\text{19}\)
- Amantadine decreased Aspiration PNA but GI, Neuro adverse effects & interactions with psychotropics\(^\text{19}\)
- Cilostazol decreased Asp PNA in elderly stroke patients, but high risk for bleeding\(^\text{19}\)

Aspiration Prevention—the Evidence, Summary

- Overall Paucity of RCT’s looking at Aspiration Prevention Interventions.
- Very few assessing the hospitalized population specifically.
- More research is needed…

Aspiration Prevention—Practically, **Intrinsic** Factors

- **Cognition/Attention:** Treat Delirium, other causes of AMS
- **Malnutrition:** Soft mechanical diet, thickened liquids\(^\text{10}\) Given Modified Diet, Nutrition Consult

Aspiration Prevention—Practically, **Extrinsic** Factors

- **Positioning:** Keep HOB higher than 30-45 degrees\(^\text{10}\) during meals and 30 minutes after\(^\text{8}\) Chin down position during feeding\(^\text{10}\)
- **Environment/Sleep:** Post Signs re Modified Diet, Eating Instructions
Aspiration Prevention—Practically, **Extrinsic Factors**

- **Medications:**
  - Reduce total number Medications
  - Minimize Sedating Drugs
  - Minimize Medications that reduce Salivary Flow: diuretics, anxiolytics, anticholinergics, antipsychotics
  - Minimize H2-Blockers, ?increase gastric colonization w/enteric organisms

Aspiration Prevention—Practically

- **Monitoring:**
  - Supervised feeding

- **Education:**
  - Family/caregiver involvement crucial

- **Interdisciplinary Approach:**
  - MDR’s, Swallow specialist, PCA’s and others to help feed

Aspiration Prevention—**Practically, Extrinsic Factors**

- **Monitoring:**
  - Regular dental evaluations
  - Regular toothbrushing
  - Antiseptic Mouthwash

Aspiration—Screening Regularly Monitor For:

- **ALTERED SENSORIUM**
- **IMPAIRED NEUROMUSCULAR FXN**
- Coughing, choking peri-swallow
- Wet, gurgly voice after swallow
- Slow or very rapid oral intake
- Unusual head/neck posture during swallow
- Pain with swallowing, Drooling
- If unsure if safe, limit po and consult Dysphagia Team!
Pressure Ulcer Prevention—the Evidence

• JAMA 2006 Systematic Review\textsuperscript{11}
• Only a handful of the 59 RCT’s evaluated met quality standards
• Of these, most were of far too small sample size

Pressure Ulcer Prevention—the Evidence

• Specialized foam, air and other mattresses can reduce incidence (several RCT’s demonstrating this)\textsuperscript{11}
• No RCT’s in the review have looked at q2H turning in the acute care setting\textsuperscript{11}
• Nutritional supplementation may help reduce incidence (one RCT only showed reduced incidence with standard hospital diet plus 2 oral supplements per day)\textsuperscript{11}
• No RCT’s in the review have compared moisturizer vs none\textsuperscript{11}

Pressure Ulcer Prevention—the Evidence, Summary

• Difficult to blind to interventions
• Need more high quality RCT’s
• More research is needed…

Pressure Ulcer Prevention—Practically, \textit{Intrinsic} Factors

• Cognition/Attention:
  May not comprehend need for turning
• Elimination
  Bowel or bladder “toileting” program for those with incontinence
  Hourly rounding
Pressure Ulcer Prevention—Practically, **Intrinsic Factors**

- **Mobilization:**
  Mobilize Patients,\(^{21}\) PT/OT consults
- **Dehydration:**
  Moisturize\(^{21}\)
- **Malnutrition:**
  Nutrition consult: RCT's evaluated did not target interventions to pts with malnutrition\(^{21}\)

Pressure Ulcer Prevention—Practically, **Extrinsic Factors**

- **Positioning:**
  Turn q2H
- **Environment, Sleep:**
  Specialized Mattress (don't use donuts)\(^{21}\)
- **Medications:**
  Treat Pain adequately so pt CAN turn

Pressure Ulcer Prevention—Practically, **Extrinsic Factors**

- **Monitoring:**
  Regular skin exams
- **Education:**
  Educate patient and family about PU risk\(^{21}\)
  “Patient refused to turn” not good enough
- **Interdisciplinary Approach:**
  MDR’s, Nursing, PCA’s

Pressure Ulcer—Screening

- **National Pressure Ulcer Advisory Panel** recommends q24H head-to-toe skin exam, increased when change of clinical status.
- **The nurses at UCSF are required to perform and document a full skin exam every shift.**
- **For MD’s, no clear guidelines. Recommend a full exam on admission, every few days and with changes in clinical status, especially after surgery.**
Pressure Ulcer—Documentation

• Document! Document! Document!
• In order for Medicare to reimburse the highest DRG for a Stage III or IV PU, the presence of a PU on admission must be documented BY A PHYSICIAN within 24-48 hrs.
• And physicians have to be able to STAGE pressure ulcers.

Fall Prevention—the Evidence, Coussement

• 2008 JAGS Systematic Review and Meta-Analysis by Coussement et al\textsuperscript{15}
• Fall prevention programs in hospitals
• 8 Prospective Controlled Trials

Fall Prevention—the Evidence, Coussement

• 4 involved unifactorial interventions\textsuperscript{15}
• 4 involved multifactorial interventions
• Only 2 studies on acute units
• Overall low quality; only one truly blinded

Fall Prevention—the Evidence, Coussement

• Results: No conclusive evidence that hospital fall prevention programs can reduce number of falls or fallers.\textsuperscript{15}
Fall Prevention—the Evidence, Oliver

- 2007 BMJ Systematic Review and Meta-Analysis by Oliver et al\textsuperscript{16}
- **Broader inclusion criteria**: individual or cluster randomization, case-control studies, observational cohort studies
- Fall prevention programs in hospitals or care homes

Fall Prevention—the Evidence, Oliver

- 43 studies included (16 randomized controlled)\textsuperscript{16}
- 13/43 assessed multifactorial interventions in the hospital
- Overall the quality was highly variable

Fall Prevention—the Evidence, Oliver

- Results: Meta-analysis of multifactorial interventions in the hospital revealed a rate ratio of 0.82 for falls (no significant effect on fallers.)\textsuperscript{16}

Fall Prevention—the Evidence Summary

- Challenging population to study
- Difficult to blind to interventions
- Lacking in robust RCTs of Fall Prevention Programs in patients hospitalized on a regular Acute Care Ward
- More research is needed…
Fall Prevention—Practically, **Intrinsic** Factors

- **Cognition/Attention:** Assess and Tx Delirium\(^{22}\) & Dementia\(^{22}\)
- **Sensory Deficits:** Glasses, pocket-talkers, hearing aids
- **Elimination:** Assess Incontinence,\(^{22}\) Diarrhea,\(^{22}\) Polyuria\(^{22}\)
  - Bowel or bladder “toileting” program for those with incontinence
  - Hourly rounding Bedside commode

Fall Prevention—Practically, **Extrinsic** Factors

- **Environment, Sleep:**
  - Bed alarms, low beds
  - Fall slippers, signs, blankets\(^ {17}\)
  - Environmental Modifications\(^ {17}\)
  - Nonpharmacologic sleep protocol best\(^ {17}\)

Fall Prevention—Practically, **Intrinsic** Factors

- **Mobilization:**
  - Tx Weakness & Impaired gait
  - PT/OT Consults
- **Dehydration:**
  - Check Orthostatics\(^ {22}\)
  - Dehydrated, diarrhea, diuresis, poor po, bleeding, prolonged immobility?

Fall Prevention—Practically, **Extrinsic** Factors

- **Medications:**
  - Medication Review crucial
  - Consider DC unnecessary PRN’s
  - Consider dose reduction
Fall Prevention—Practically, Extrinsic Factors

- Medications to Avoid:
  Anxiolytics, Hypnotics, Sleepers\textsuperscript{17}
  Antidepressants, Antipsychotics
  Neuroleptics
  Opioid analgesics
  Hypoglycemics
  Antihistamines
  Antihypertensives, Diuretics\textsuperscript{17}

- Medications:
  Blood thinners\textsuperscript{17}, thrombocytopenia and coagulopathy increase risk of INJURY. When you start a heparin gtt, make fall education part of your pt counseling.

- Monitoring:
  Frequent comfort/safety rounding\textsuperscript{17}
  Safety Attendant

- Education:
  Education of patient and family re risk

- Interdisciplinary Approach:
  MDR’s, Nursing, PCA’s, PT/OT

Fall Prevention—Practically, Extrinsic Factors

- Interdisciplinary Approach:
  Be part of the TEAM
  Don’t leave the room after moving the patient’s call light and walker out of reach.
  If a patient needs to urinate, and needs help to get up, don’t leave patient alone.
Fall—Screening

- Readdress Risk Daily
- Has the patient become newly confused, weak, orthostatic?
- New med with increased fall risk?
- Assess also ABCs = Injury Risk\textsuperscript{17} Age, Bones, Coagulation, Surgery

Summary—DASH

- The Evidence for Prevention: Not great but need more research…
- Approach DASH as one geriatric syndrome and thereby treat the hospitalized Geriatric patient more systematically and comprehensively.
- Anticipate DASH from the moment the geriatric patient is hospitalized.
- Focus on Practical Prevention Strategies.
- Focus on Regular Screening and Early Dx.

DASH—Prevention Practically

**Intrinsic** Factors

- Cognition/Attention
- Sensory Deficits
- Elimination
- Mobilization
- Dehydration
- Malnutrition

**Extrinsic** Factors

- Positioning
- Environment, Sleep
- Medications
- Monitoring
- Education
- Interdisciplinary Approach
Thank you

Questions?

Please feel free to email me:
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References