Acute Care of Elderly Patients

24th Annual Clinical Update
Geriatric Medicine

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Learning Objectives

• Describe hospitalization-associated disability and its prevention
• Summarize evidence of safe and efficient hospital care
• Review bedside interdisciplinary patient-care

You just learned of a new admission

- On your way to see the patient (82 year old, probable pneumonia, no prior admission) .........
- You ask yourself, “What do I need to know about this woman when I see her?
- How can I get relevant information quickly and reliably? (I have a busy load)

Lots to Think About!

“Why, When and Where?”
(What We Tell the Team)

“Why is the patient in the hospital?”
- Inpatient diagnosis or reason for admission
- Relevant comorbid conditions

“How is the patient ready for transition?”
- Estimated length of hospital stay
- Barriers to discharge?

“Where will patient go from hospital?”
- Postacute needs and patient safety

Acute Care Hospitalization:
Patients Age 65 +

13% of the American population, but:

- 38% of discharges from acute hospitals
- 43% of days of care
- Longer hospital stays
- Greater costs and adverse outcomes

http://hcup.ahrq.gov/HCUPnet.asp
General Considerations

- Inpatient admission criteria?
- VTE prophylaxis?**
- Blood pressure management
- Blood sugar management (diabetics)
- Medication reconciliation

**Thromboprophylaxis, either mechanical or pharmacological?

Sudden Increase in SE

- Acute Pain
- Acute Anxiety
- Withdrawal (ETOH, Benzos, BP meds)
- Medications (adrenergic agonists)

Treat the cause not the number
Rates of Estimated Hospital Admissions for Hyperglycemia and Hypoglycemia Among Medicare Beneficiaries With DM, 1999 to 2011

*More likely to be admitted with hypoglycemia than hyperglycemia
*Hypoglycemia rates were 2-fold higher for older patients (≥75 years)

Make Friends with a Pharmacist

Medication Reconciliation
- Verification
- Clarification (appropriate?)
- Reconciliation

At admission and each transition

Some Good Outcomes of Hospitalization
- Acute illness resolves (the easy part)
- Patient returns home
- Patient returns to baseline ADL/mobility
- No hospital-acquired conditions
- Patient is not readmitted in 30 (90) days

“Happy to be home”

“Made some money”

Hazards Of Hospitalization
- Functional decline
- Delirium
- Immobility
- Restraints
- Falls/Pressure ulcers
- Undernutrition
- Incontinence

Activities of Daily Living:
(Needs personal assistance?)

**Basic ADL**
- Bathing
- Dressing
- Transferring
- Toileting
- Eating
- (Walking)

**Instrumental ADL**
- Medications
- Finances
- Shopping
- Cooking
- Laundry
- Household chores
- Transportation

Physical Functioning in Hospital DOES Matter

Impacts

Activities of Daily Living: (Needs personal assistance?)

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- Toileting
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**Instrumental ADL**
- Medications
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ADL Disability—Pushing Back

On surer ground

Edge of precipice

But how common? Can we prevent?

ADL From Admission To Discharge: 2-site cohort (n=300; n=736)

- Improved
- No Change
- Declined

Basic ADL: bathing, dressing, transferring from bed to chair, toileting, eating.

ADL Recovered or Not At One Month: Outcome At 12 Months

Death
ADL Decline
Baseline


ADL Recovered or Not At One Month: Outcome At 12 Months

Why Hazards of Hospitalization?

- Reduced homeostatic reserve (homeostenosis)
- Multiple chronic diseases (comorbidities)
- Under-recognition (geriatric syndromes)
- Immobility
- Silos of care

Homeostatic failure

- Aging (apoptosis)
- Immunosenescence
- Multimorbidity

One organ system goes—so do the others

Cumulative decline in many physiological systems during a lifetime


24 Hour Mobility

24 Hour Mobility and Basic Mobility During Hospitalization

- Black Bar= Ambulatory patients (N=42)
- Only 1:1 hours per day

Low Mobility During Hospitalization and Functional Decline in Older Adults (%)

<table>
<thead>
<tr>
<th>Low Mobility</th>
<th>Moderate Mobility</th>
<th>High Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>87</td>
<td>65</td>
<td>29</td>
</tr>
<tr>
<td>72</td>
<td>66</td>
<td>39</td>
</tr>
</tbody>
</table>

Decline ADL At Discharge
Decline ADL After Month

Zisberg A et al. JAGS 2011;59:266

Lessons Learned From Models of Care

- Hospital-associated disability can be prevented
- Geriatric syndromes can be prevented
- Interdisciplinary team care is effective
- Readmissions can be prevented

Challenge–translate research into practice

Shared Risk Factors for Geriatric Syndromes: The Geriatrician’s Secret

- Falls
- Pressure Ulcers
- Incontinence
- ADL Decline
- Delirium
- Impaired Mobility
- Impaired Cognition
- Impaired ADL

Syndromes in Hospital

Adapted from: Inouye SK et al. JAGS 2007;55:780

Preventing Geriatric Syndromes

- Reduce risk factors for a syndrome
- Reduce risks of all syndromes
- Evidence:
  - Clinical Trials
  - Systematic reviews

Reducing Risk Factors for Hospital Falls

- Enhance Mobility: Avoid bedrest orders, restraints/tethers; mobility protocol
- Enhance ADL: Occupational Therapy; Hearing/vision aids; Assistive devices
- Enhance Cognition: Avoid sedatives; minimize sleep disruptions; reorientation

Falls Prevention
Reducing Risk Factors for Delirium

- **Enhance Mobility**: Avoid bedrest orders, restraints/tethers; mobility protocol
- **Enhance ADL**: Occupational Therapy; Hearing/vision aids; Assistive devices
- **Enhance Cognition**: Avoid sedatives; minimize sleep disruptions; reorientation

Delirium Prevention

Delirium Prevention Trial (HELP)

**Results:** Prevents Delirium

Inouye SK et al. NEJM 1999; 340:669

Delirium Prevention Trial

Hospital Elder Life Program (HELP)

- Patients age 70 years and older
- >1 risk factors for incident delirium: cognitive impairment, vision/hearing impairment, dehydration
- Protocols for 6 risk factors
- Elder Care Specialist
- Trained volunteers
- Team approach


Models of Care (Interdisciplinary) that Reduce Risks of Syndromes (EBM)

- Hospital Elder Life Program (HELP)
- Acute Care for Elders (ACE) (Unit)

Lesson: Reducing risk factors prevents ADL disability, falls and delirium
Acute Care for Elders (ACE)

- Prepared environment—promote safety/ADL
- Nursing guidelines—maintain ADL/Safety
- Medical care review—meds, practice standards
- Interdisciplinary team care—comprehensive discharge planning (“planning for home”)

- Landefeld CS et al. NEJM 1995; 332:1338

The Functional Trajectory

ACE Unit RCT: Prevented Disability ADL Change—Admission to Discharge

Cost & Readmission Outcomes ACE vs Usual Care Age ≥ 70 who spent entire hospital stay on unit

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean or %</th>
<th>ACE (N=428)</th>
<th>UC (N=390)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS (days)</td>
<td></td>
<td>4.0</td>
<td>4.2</td>
<td>0.34</td>
</tr>
<tr>
<td>Variable Direct Cost/Case ($)</td>
<td></td>
<td>2,109</td>
<td>2,480</td>
<td>0.009</td>
</tr>
<tr>
<td>Daily Variable Direct Cost/Case ($)</td>
<td></td>
<td>542</td>
<td>595</td>
<td>0.01</td>
</tr>
<tr>
<td>Patients readmitted to UAB ≤ 30 days</td>
<td></td>
<td>7.9%</td>
<td>12.8%</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Fox MT et al. JAGS 2012;60:2237

Landefeld CS et al. NEJM 1995; 332:1338
New Onset Disability--Hospital Discharge

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Point Score</th>
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</thead>
<tbody>
<tr>
<td>Age—80-89 years</td>
<td>1</td>
</tr>
<tr>
<td>Age—90+</td>
<td>2</td>
</tr>
<tr>
<td>IADL Dependencies (Baseline)-3+</td>
<td>2</td>
</tr>
<tr>
<td>Mobility (B) up/hill/stairs not short run</td>
<td>1</td>
</tr>
<tr>
<td>Mobility: (B) Unable to walk up/hill/stairs</td>
<td>2</td>
</tr>
<tr>
<td>ADL dependent (A)-2-3 ADL</td>
<td>1</td>
</tr>
<tr>
<td>ADL dependent (A)-4-5 ADL</td>
<td>3</td>
</tr>
<tr>
<td>Cancer Mets or Stroke</td>
<td>2</td>
</tr>
<tr>
<td>Severe Cognitive Impairment</td>
<td>1</td>
</tr>
<tr>
<td>Albumin &lt; 3.0 g/dL</td>
<td>2</td>
</tr>
</tbody>
</table>


Prevention of Pressure Ulcers
ACP Guideline

- Perform a risk assessment to identify patients at risk of developing pressure ulcers.
  
  For patient at increased risk of pressure ulcers:
  - Choose advanced static mattresses or advanced static overlays.
  - Avoid alternating-air mattresses or alternating-air overlays.

- Reduce risk factors: enhance mobility, cognition, physical functioning
- Prevent catheter-associated UTI
  - Limit number and duration of indwelling urethral catheter use
  - Limit indwelling catheter use to when specific medical indications present (e.g., urinary retention, stage 3-4 sacral ulcers, I and O is critical, comfort care (EOL))


Urinary Incontinence

- Reduce risk factors: enhance mobility, cognition, physical functioning
- Prevent catheter-associated UTI
  - Limit number and duration of indwelling urethral catheter use
  - Limit indwelling catheter use to when specific medical indications present (e.g., urinary retention, stage 3-4 sacral ulcers, I and O is critical, comfort care (EOL))

http://www.cdc.gov/hicpac/cauti/002_cauti_toc.html

No ACE Unit? “Virtual ACE”

- Review 3 W’s on admission and daily
- Begin planning for transition to home on day 1 (with care manager, bedside nurse)
- Enable patient self care/mobility (activity orders, meals), limit tethers/sedating meds
- Define and respect patient values and goals (including advanced directives)
- Family/patient meeting for tough cases (EOL?)

http://eprognosis.ucsf.edu/walter.php

Huddle with Team
Make Adjustments at the Line
What We Can Do
Perform brief geriatric assessment (team-based)
• Vision/hearing
• Cognition
• Mood/affect
• Nutrition
• ADL and mobility-trajectory: baseline, current, discharge
  Covinsky KE et al. JAMA 2011;306:1782

What We Can Do
• Encourage patient mobility, exercise, ADL: empower them. Get them out of bed!
• Avoid bed rest orders
• Team with nurses, patients, families, rehab therapists
• Look for “Bad Meds” that can be stopped

What We Can Do
Encourage patient mobility, exercise, ADL: empower them. Get them out of bed!

Avoid
Potentially Inappropriate Meds
Categories to Consider
• “Never” appropriate (risks > benefits)
• Sometimes appropriate (risks < benefits)
• Usually appropriate (risks << benefits)

Drug Appropriateness
“Never” Appropriate in Elderly Patients

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Anticholinergics</td>
<td>Cyclobenzaprine</td>
<td>Delirium, constipation, dry</td>
</tr>
<tr>
<td></td>
<td>Oral diphenhydramine</td>
<td>eyes and mouth, blurred vision,</td>
</tr>
<tr>
<td></td>
<td>dicyclomine</td>
<td>tachycardia</td>
</tr>
<tr>
<td></td>
<td>benztropine</td>
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American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults

Family Conference
• Complex illness: unclear or multiple concurrent diseases
• Clarify goals of therapy: patient’s preferences/values, expected hospital outcomes
• Review advance directives: CPR (code status), ICU transfers, life-support, artificial nutrition
• Resolve conflicts in care management
Postacute Care and Sites


Transition Record (24 hours)

- Reconciled medication list received by discharged patient
- Transition record with specified elements received by discharged patients
- Timely transmission of transition record

--AMA-PCPI Care Transitions Work Group, 2009. NQF Endorsed

Specified Elements (Inpatient)

- Reason for admission
- Major procedures/tests/summary
- Principal diagnosis at discharge
- Current medication list
- Studies pending at discharge
- Patient instructions
- Advance directives or surrogate documented
- 24 hour/7 day contact info
- Plan for f/u care
- PCP or other site

AMA-PCPI 2009 NQF Endorsed

Story of Our Patient

- Pneumonia resolves
- She remains alert and attentive
- Regains independence in ADL but is unsteady
- Transitions to home followed by home health care and transition coach and case management
- Daughter assists her with ADL--baseline at 30d
- Follow-up with PCP within one week
- She is not readmitted within 30 days

The Ultimate Goal: Quality of Life

AND IN THE END, IT'S NOT THE YEARS IN YOUR LIFE THAT COUNT. IT'S THE LIFE IN YOUR YEARS.

ABRAHAM LINCOLN

Living at Home (autonomy)

Relief of Symptoms

Being with Family

Self-care