Preventing Falls: Best Practices and Tools

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Speaker

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Objectives

• Describe best practices in falls prevention
• Distinguish between practices that have stronger and weaker levels of evidence to support them
• Identify tools provided in the Pennsylvania Patient Safety Authority’s Falls Toolkit
“Sometimes I wish for falling
Wish for the release
Wish for falling through the air
To give me some relief
Because falling's not the problem
When I'm falling I'm in peace
It's only when I hit the ground
It causes all the grief”
— Florence Welch
(lead singer, Florence and the Machine)
Gravity is a contributing factor in nearly 73 percent of all accidents involving falling objects.

-Dave Barry (comedian)
Grading Levels of Evidence

• **Level I**: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

• **Level II**: Single experimental study (randomized controlled trials [RCTs])

• **Level III**: Quasi-experimental studies

• **Level IV**: Non-experimental studies

• **Level V**: Care report/program evaluation/narrative literature reviews

• **Level VI**: Opinions of respected authorities/Consensus panels

(Capezuti 2008)
Key Components

• Organizational support and leadership
• Multidisciplinary falls prevention team
• Risk assessment
• Multifactorial interventions
• Communication
• Reassessment
• Data collection and quality improvement
Organizational Support and Leadership

Level of Evidence: V, VI

- Strong organizational support is necessary for the success of any falls reduction program
- Policies and protocols alone will not significantly impact rates of falls and falls with harm
- Organizations must allocate resources to implementing a falls reduction program. Without additional resources, the program may increase falls rates.


*Guidelines: ICSI, NCPS, RNAO*
Multidisciplinary Falls Prevention Team

Level of Evidence: IV

• Requires support across departments and disciplines
• Consists of clinical and non-clinical staff
• Engages the medical staff
(Miake-Lye 2013)

Guidelines: ICSI, RNAO, NCPS
Falls Prevention Team Members

• Clinical Staff
  – Falls Clinical Nurse Specialist
  – Nurse Managers
  – Nursing Assistants & LPNs
  – Pharmacist
  – Physical & Occupational Therapists
  – Physician/Nurse Practitioner

• Non-Clinical Staff
  – Patient Safety Manager/Quality Manager Coordinator
  – Facility Management Manager
  – Supply Processing & Delivery Manager
  – Biotechnology Manager
  – Transportation Manager

Guideline: NCPS
Risk Assessment

Level of Evidence: II

• Patients should be assessed for their falls risk:
  – On admission
  – Upon transfer from one unit to another
  – With any status change
  – Following a fall
  – At regular intervals

In other words...

Risk Assessment, Re-Assessment and Post-Fall Assessment

Guidelines: ICSI, HCANJ, HIGN, NCPS, NICE, PSF, RNAO, TCAB
Risk Assessment Tools

- Risk assessment tools by themselves do not prevent patient falls - they predict them

**Sensitivity**
The ability to predict a true positive
*A high score = the patient will fall*

**Specificity**
The ability to predict a true negative
*A low score = the patient will not fall*
Risk Assessment Tools

*What’s the Evidence?*

- Sensitivity and specificity can vary greatly between tools (Perell 2001)

- Risk assessment tools with high sensitivity and specificity assess:
  - gait instability
  - agitated confusion
  - urinary incontinence/frequency
  - falls history
  - prescription of ‘culprit’ drugs (especially sedative/hypnotics) (Oliver 2004)
Risk Assessment Tools

What’s Out There?

• Morse
• Hendrich I & II
• STRATIFY
• Johns Hopkins
• Conley
• Innes
• Downton
• Tinetti
• Schmid
# Risk Assessment Tools

*Comparison of Domains/Variables*

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<th></th>
<th>Morse</th>
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<tbody>
<tr>
<td>History of falls</td>
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<td>Secondary diagnosis</td>
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<tr>
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<td>IV/heparin lock</td>
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<tr>
<td>Gait transferring/Mobility</td>
<td>✔</td>
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<tr>
<td>Mental status/cognition</td>
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<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Altered elimination</td>
<td>✔</td>
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<tr>
<td>Dizziness/vertigo</td>
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<td></td>
</tr>
<tr>
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<tr>
<td>Gender (male)</td>
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<td>High risk medications</td>
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</tr>
<tr>
<td>Age</td>
<td>✔</td>
<td>✔</td>
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</tr>
<tr>
<td>Automatic low or high risk triggers</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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</table>
Depression and Falls

• Patients with depression are twice as likely to fall as those without depression (Perell 2001)
• Observe for any of the following signs:
  – prolonged feelings of helplessness, hopelessness, or being overwhelmed
  – tearfulness
  – flat affect or lack of interest
  – loss of interest in life events
  – melancholic mood
  – withdrawal
  – the patient’s statement of depression (Hendrich 2007)
Risk Assessment Tools

Validity Testing and Adjunct Screening

• Each hospital should test for internal validity
• A good tool would have limited false negatives
• These tools may be paired with
  – a mobility test (Get Up and Go)
  – injury risk assessment (ABCs)

Guidelines: ICSI, NCPS, RNAO
Risk Assessment Tools

Pediatric & Outpatient

• Pediatric Falls Risk Assessment Tools
  – Schmid “Little Schmidy”
  – CHAMPS
  – General Risk Assessment for Pediatric Inpatient Falls (GRAF PIF)
  – Humpty Dumpty
  – I’M SAFE

• Outpatient Falls Risk Assessment
  – History of falls
  – Get Up and Go
  – Timed Get Up and Go
Assessing for Risk of Injury

Level of Evidence: II, VI

Use the ABCs to identify patients with the highest risk of falls with injury:
(Quigley 2009)

- **Age** – age > 85
- **Bones** – osteoporosis, previous fracture, prolonged steroid use, bone metastases
- **Coagulation abnormalities** – anticoagulants, bleeding disorders, conditions causing coagulopathy
- **Surgery** – recent limb amputation, or major abdominal or thoracic surgery

*Guidelines: ICSI, TCAB*
Medications and Falls Risk

- > 4 medications
- Benzodiazepines
- Anticonvulsants
- Sedative hypnotics
- Antidepressants
- Antipsychotics
- Opiates

- Antiarrhythmics
- Antihypertensives
- Diuretics
- Antihistamines
The Challenge

• “Unlike other hospital-acquired conditions that were selected by the CMS, falls are often the result not of medical errors but of diseases, impairments, and appropriate uses of medications and other treatments. *Falls and injuries can occur even when hospitals provide the best possible care.*”

(Inouye, Brown & Tinetti, 2009)
The Call for Research

• “Although we have not identified specific prevention guidelines for the conditions . . . we believe these types of injuries and trauma should not occur in the hospital and we look forward to working with CDC and the public in identifying research that has or will occur that will assist hospitals in following the appropriate steps to prevent these conditions from occurring after admission.”

CMS Inpatient Prospective Payment System Final Rule, Federal Register, August 22, 2007
So Now What?! 

Insanity: doing the same thing over and over again and expecting different results. 

- Albert Einstein
Multifactorial Interventions
Level of Evidence: I

- Effective falls prevention interventions
  - address common reversible falls risk factors in all patients
  - target multiple individual risk factors
  - are delivered by an interdisciplinary team


*Guidelines: ICSI, HCANJ, HIGN, NCPS, NICE, PSF, RNAO, TCAB*
Standard Falls Prevention Interventions

- Familiarize the patient to the environment
- Place call bell within reach and have patient demonstrate use
- Position necessary items within patient reach
- Keep hospital bed in low position with brakes locked
- Ensure patient wears non-slip, well-fitting footwear

Guidelines: ICSI, HIGN, NCPS, PSF, RNAO, TCAB
Standard Falls Prevention Interventions (cont’d)

- Provide night light or supplemental lighting
- Keep floor surfaces clean and dry and clean up spills promptly
- Install handrails in patient bathrooms, room and hallway
- Maintain clutter-free patient care areas

Guidelines: ICSI, HIGN, NCPS, PSF, RNAO, TCAB
Interventions for Patients Identified at Risk for Falls

• Use visual alerts to communicate falls risk, for example:
  – Sign outside door and in room
  – Wrist band
  – Colored socks/blankets
  – Alert in electronic medical record

• Provide cued toileting at least every two hours while awake

• Remain with the patient when assisted to the bathroom or commode

Guidelines: ICSI, HIGN, NCPS, PSF, RNAO, TCAB
Interventions for Patients Identified at Risk for Falls (cont’d)

• Use safe patient handling techniques and assistive devices for all transfers

• Use low beds and floor mats when appropriate

• Use bed and chair alarms if necessary

• Provide frequent or continuous observation if necessary

Guidelines: ICSI, HIGN, NCPS, PSF, RNAO, TCAB
Hourly Rounding
Level of Evidence: III, IV, V, VI

• The Four P’s
  – Position
  – Pain assessment
  – Personal needs (“potty”)
  – Placement

• Results
  – Reduction in falls
  – Increase in patient satisfaction
  – Increase in staff satisfaction
  – Decreased call bell use
  – Decreased distance walked by nursing staff
  (Halm 2009)

Guidelines: ICSI, NCPS, TCAB
Alarms
Level of Evidence: V, VI

• Alarms are mentioned in several guidelines
• Be sure staff are trained in their proper use according to manufacturer’s instructions
• Ideally the alarm should be triggered in time for staff to respond and prevent a fall

Guidelines: HIGN, ICSI, NCPS, TCAB
Low Beds
Level of Evidence: V, VI

• 8 to 10 inches off the floor
• Low beds have been included as part of effective multifactorial falls prevention plans
• It is difficult to isolate the impact of low beds
• Research suggests no significant increase or decrease in the rate of injuries or falls from bed (Lancaster 2007, Anderson 2011)

Guidelines: HIGN, ICSI, NCPS, RNAO, TCAB
Continuous Observation (AKA “Sitters”)

Level of Evidence: V, VI

- Evidence is mixed
- Demonstrating cost justification is an ongoing challenge
- Low rates of falls with injury correlated with three specific sitter program design elements in HEN 1.0 (P < 0.05):
  - defining criteria for sitter qualifications
  - providing a training program for sitters
  - establishing a pool of sitters
  (Feil & Wallace, 2015)

Guidelines: ICSI, NCPS, TCAB
Communication

• Visual communication
• Communication with patients and families
• Communication with the healthcare team
Visual Communication
Level of Evidence: V, VI

- Signage
- Patient chart
- Bracelets
- Socks
- Blankets

All healthcare workers must be educated to recognize these visual cues. Caution must be given to “sign fatigue”

Guidelines: HCANJ, HIGN, ICSI, NCPS, RNAO, TCAB
Communication with Patients and Families

Level of Evidence: V, VI

• Communicate risk factors identified
• Explain hospital falls prevention program
• Engage patient and family as members of the falls prevention team and get their input into the plan
• Provide education using the “Teach Back” method

Guidelines: HCANJ, HIGN, ICSI, NCPS, RNAO, TCAB
Communication with the Healthcare Team

Level of Evidence: V, VI

• Housewide, interdisciplinary ongoing education
• Transport checklist (“Ticket to Ride”)
• Handoff Tool (SBAR)
• Patient Safety Huddle
• Post Fall Huddle

Guidelines: HCANJ, HIGN, ICSI, NCPS, RNAO, TCAB
Reassessment
Level of Evidence: I, III, VI

• Post Fall Assessment
  – Obtain history of the fall from the patient and witnesses
  – Note the circumstances (e.g. time, location, activity)
  – Review underlying illness and problems
  – Review medications
  – Assess functional, sensory and psychological status
  – Evaluate environmental conditions
  – Review risk factors for falling

  *Guidelines: HCANJ, HIGN, ICSI, NCPS, NICE, PSF, RNAO, TCAB*
Reassessment (cont’d)

Level of Evidence: I, III, VI

• Results serve two purposes
  – Modify the plan for this individual patient in order to prevent repeat falls
  – Collect data to monitor for trends that may focus the attention of the falls prevention team on new strategies to include in the facility’s falls prevention program

  Guidelines: HCANJ, HIGN, ICSI, NCPS, NICE, PSF, RNAO, TCAB
Data Collection and Quality Improvement

Level of Evidence: VI

• The Veteran’s Health Administration, National Center for Patient Safety Falls Toolkit (2004) outlines the following steps in “Measuring Success”

• **Step 1:** Define the scope
  – Definition of a fall
  – Definition of injury levels

(VHA NCPS 2014)
Data Collection and Quality Improvement (cont’d)

Level of Evidence: VI

• **Step 2:** Decide what to measure and how

  – **Outcome measures:** Is the desired goal being met? (e.g. is falls rate, or falls with injury rate declining?)

  – **Process measures:** Are expected actions being implemented? (e.g. are risk assessments and post-fall assessments being done on every patient, or every patient that falls?)

  – **Balancing measures:** Are other areas being affected adversely? (e.g. is restraint use rising?)

  (VHA NCPS 2014)
Data Collection and Quality Improvement (cont’d)
Level of Evidence: VI

• **Step 3:** Collect baseline data
  – Collect baseline data prior to implementing change

• **Step 4:** Collection and analysis of data after implementation
  – Five or six data points should be collected in order to ensure accurate information and draw conclusions

  (VHA NCPS 2014)
  *Guidelines: HCANJ, HIGN, ICSI, NCPS, NICE, PSF, RNAO, TCAB*
Conclusion

• Evidence-based “key components” to falls prevention:
  – Organizational support and leadership
  – Multidisciplinary falls prevention team
  – Risk assessment
  – Multifactorial interventions
  – Communication
  – Reassessment
  – Data collection & quality improvement
Pennsylvania Patient Safety Authority Falls Toolkit

- Place mouse pointer over “Educational Tools”
- Click on “Patient Safety Tools”

www.patientsafetyauthority.org
Accessing the Falls Toolkit

• Click on “Falls” in the list of featured patient safety tools
Falls Toolkit

- Multiple tools are available under the Falls “Prevention Program Tools”
Falls Toolkit (cont’d)

- The toolkit also contains:
  - Educational tools, including webinar recordings
  - Articles
  - Other companion online information
Falls Self-Assessment Tool (SAT)

- Adapted from an existing tool developed by ECRI Institute
- Modified based on a review of the literature
- Gap-analysis evaluating 139 individual best-practices in 17 categories (e.g., patient and family education, medication review)

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Scoring the SAT

- **“YES”** this element has 100% implementation in the current falls prevention program
- **“P/I”** (partial implementation) indicates this element has been partially implemented but could be improved
- **“NO”** this element has not been implemented as part of the current program

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Falls Prevention
Process Measures Audit Tool

- Point prevalence data collection tool
- Used to audit all patients in selected areas

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Audit Components

• Documentation Review
  – Risk assessment
  – Patient and family education
  – Hourly rounds

• Visual Observation
  – Call bell
  – Risk identifiers
  – Appropriate footwear
  – Special equipment
  – Alarms
  – Sitter

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Quarterly Audits

- Periodic evaluation of compliance with fall prevention program interventions
- Can be used more frequently

(Charts display mock data)
Postfall Investigation (PFI) Tool

- Design based on:
  - Evidence-based falls prevention guidelines and toolkits (e.g., AHRQ, VHA)
  - Existing PFI tools shared by HAP PA-HEN collaboration members

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
PFI Tool Components

- Patient information
- Timeline and assessments
- Fall details
- Medications
- Fall prevention interventions
- Environmental status
- Attachments

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Data Aggregation Workbook

- Excel workbook pre-formatted with pivot charts and tables
- Aids in identifying common risk factors and potential root causes to prevent future falls

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Navigating the Workbook

- Right click the forward arrow in the lower left-hand corner of the Excel window to see a list of all available worksheets.

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Fall Records Data Entry

- Enter information about a fall across a single row
- Most questions have a drop-down menu of answer selections
- Click on the green box in the upper left-hand corner when complete

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Sample Pivot Charts

- Pivot charts are generated from falls records data
- All charts can be filtered by:
  - Injury level
  - Cognitive impairment
  - Age group

The creation of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."
Sample Pivot Charts (cont’d)

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Other Tools Available

• **Falls Risk Checklist**
  – Tool to help determine whether the facility’s falls risk assessment tool screens for certain risk factors associated with greater risk of falls and falls with injury

• **Falls With Harm Savings Calculator**
  – Tool to calculate cost savings associated with reductions in falls with serious injury
Other Tools Available (cont’d)

• **Falls Event Type Decision Tree**
  – Guide to help staff systematically evaluate the circumstances after a patient falls and assign an event type in the Pennsylvania Patient Safety Reporting System

• **Radiology Falls Risk Assessment Tool**
  – Sample falls risk assessment tool for use in radiology
How do you eat an elephant? One bite at a time.
- Origin Unknown

Start by doing what’s necessary; then do what’s possible; and suddenly you are doing the impossible.
-Saint Francis of Assisi
Falls Prevention Guidelines

• Agency for Healthcare Research and Quality (AHRQ)

• Hartford Institute for Geriatric Nursing (HIGN)
Falls Prevention Guidelines (cont’d)

• Health Care Association of New Jersey (HCANJ)

• Institute for Clinical Systems Improvement (ICSI)
    https://www.icsi.org/_asset/dcn15z/Falls-Interactive0412.pdf
Falls Prevention Guidelines (cont’d)

• National Center for Patient Safety (NCPS)
    http://www.patientsafety.va.gov/professionals/onthejob/falls.asp

• National Institute for Clinical Excellence (NICE)
    http://www.nice.org.uk/guidance/cg161
Falls Prevention Guidelines (cont’d)

- **Patient Safety First (PSF)**
  - Patient Safety First. The ‘how-to guide’ for reducing harm from falls [online]. 2009 Sep.

- **Registered Nurses’ Association of Ontario (RNAO)**
Falls Prevention Guidelines (cont’d)

• Transforming Care at the Bedside (TCAB)
  http://www.ihi.org/knowledge/Pages/Tools/TCABHowToGuideReducingPatientInjuriesfromFalls.aspx
Reference Articles

Reference Articles (cont’d)


  http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2014/Mar;11(1)/Pages/08.aspx
Reference Articles (cont’d)

Reference Articles (cont’d)


Questions

www.patientsafetyauthority.org

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