

**Program to Preventing Resident Falls, Part 1**



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**Objectives**

- Utilize root cause analysis in the investigation of resident falls
- Identify the information, evidence and data needed to determine the root cause(s) of a resident fall
- Analyze the internal, external and system conditions and operations that may have contributed to a resident fall

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**Recent Results to Date**

- Prevalence of Falls (number of residents who have fallen) – decreased by 31% (CMS QI 1.2)
- Incidence of Depression – decreased 20% (CMS QI 2.1)
- Worsening ADLs – decreased 17% (CMS QI 9.1)
- Worsening Room Movement – decreased 12% (CMS QI 9.3)
- Falls per 1000 resident days (number of falls that occurred) – decreased by 14%
- Recurrent Falls – double digits to single digit

\* Compared to a baseline from July 1, 2006 to June 30, 2007

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### Two Tiered Approach

- **Reactive (post falls action)**
  - Investigate current falls that occurred
  - Collect factual evidence from the fall event
  - Study the causation of falls
- **Proactive (fall prevention)**
  - Speculate on risk factors of falls
  - Actions based on conjecture
  - Actions based on predictions

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### What is root cause analysis?

- RCA is a process to find out what happened, why it happened, and to determine what can be done to prevent it from happening again.

Icon: A black silhouette of a person holding a magnifying glass over their eye, set against a yellow square background.

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### Root Cause Analysis:

- Root cause analysis (RCA) transforms an old culture that reacts to problems, into a new culture that solves problems before they escalate.
- Aiming performance improvement operations at root causes is more effective than merely treating the symptoms of problems.
- Problems are best solved by eliminating and correcting the root causes, as opposed to merely addressing the obvious symptoms with "scatter-gun approaches" to solutions.

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### The Application of Root Cause Analysis to:

- Incontinence
- Pain
- Falls



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What might be the root cause(s) of her incontinence?

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What might be the root cause(s) of her incontinence?

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What might be the root cause(s) of their incontinence?

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What might be the root cause(s) of her incontinence?

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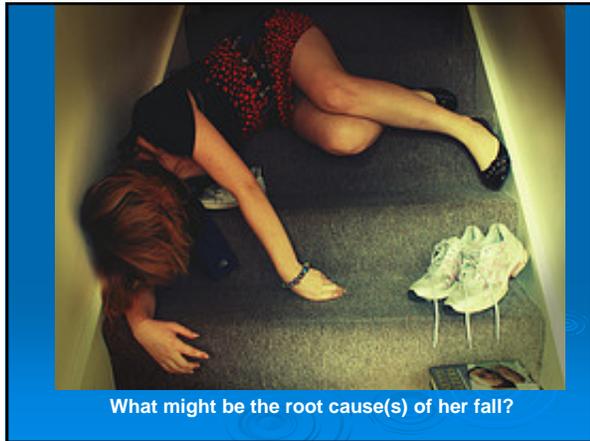
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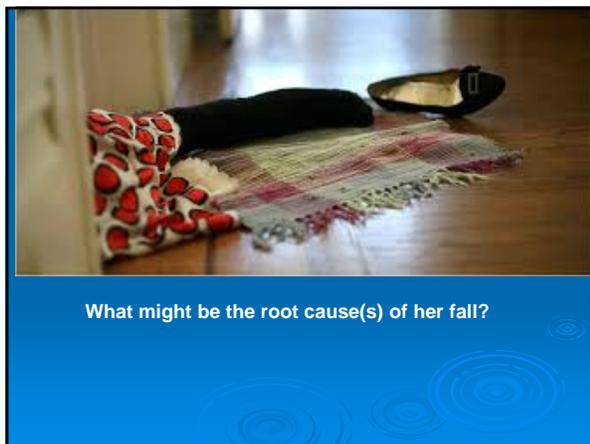
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### Why Do RCA After a Fall?

- Q: "It's a single event and won't happen that way again?"
- Q: "No one, including that resident, will ever fall that way again?"
- A: If the brakes failed in your car on an icy road, don't figure out "why" or tell the manufacturer because that accident will never happen that way to you or anyone else again. WRONG!! NOT!

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### Different theories for the failed investigation of serious events:

- The Blame game
- Human Factors
- Tunnel Vision
- Swiss cheese or The Perfect Storm Effect

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### The Blame Game

- Blame/shame: Whose fault is this?
- Just find that one person who messed up and we find the cause. NO!
- Move from who did it, to → Why did this happen?



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### Human Factors

- Humans forget
  - They succumb to a busy lifestyle and avoid being diligent
- Humans make mistakes
  - They inadvertently do things they shouldn't do
- Humans have at-risk behaviors
  - They do things that increase risk or danger but believe it is justified
- Humans don't learn all that they are taught



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“People make errors, which lead to accidents. Accidents can lead to deaths. The standard solution is to blame the people involved. If we just find out who made the errors and punish them, we solve the problems. Right?”

“Wrong. The problem is seldom the fault of an individual. It is frequently the fault of the system. Change the people without changing the system and the problems will still continue.”

~ Don Norman, Apple Fellow,  
Professor of Engineering,  
Northwestern University



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### Tunnel vision

- In reconstructing an event, we view the event with a hindsight bias.
- We look at the event seeing all the options the staff person could have or should have done.
- The person behaved, at the time of the event, seeing only one way to perform and not seeing other options.



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“The point of a human error investigation is to understand why actions that are now questionable, made sense to people at the time they did it. You have to push on people’s mistakes until they make sense – relentlessly.”



– Sidney Dekker, Professor of Human Factors and Systems Safety and Director of Research at the Lund University, School of Aviation

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### Swiss Cheese or The Perfect Storm Effect

- Happenstances in the system or environment occasionally will line perfectly to cause a breakdown in the system
- Holes in the cheese slices represent individual or system weaknesses – when they line up, protection is broken and an untoward event could happen
- If barometer drops, warm air currents move up from the south and meet cold air currents from the north, a horrible storm can occur

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### Challenges to Root Cause Analysis: urge to treat, to take care of



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### Challenges to Root Cause Analysis: it takes time and practice

- Time is limited
- Time is precious
- Time is needed to . . .



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### Challenges to Root Cause Analysis: myth versus evidence

- More comfortable in holding onto the known
- Suspicious of the unknown



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### Steps to Root Cause Analysis: Step One → Step Two → Step Three

1. What happened: Gather the clues and evidence by observation, examination, interviews and assessment.
2. Why did this happen? What conditions allowed this problem to exist? Investigate, assess and deduce. Determine the primary root causes or reasons for the fall based upon the aggregate data tracked.
3. Implement corrective actions and interventions to eliminate the root cause(s) of the problem. What can be done to prevent the problem from happening again? How will it be implemented? Who will be responsible to do what? How will it be audited and evaluated?

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**Step 1: Gather clues, evidence, data**

- Observation skills are critical!
  - It's easy to miss something you're not looking for
- Gather the clues:
  - Look, listen, smell, touch
  - Question, interview, re-enact, huddle – immediately
  - Note placement of resident, surrounding environment and operational conditions
- Protect the area around the incident:
  - Secure the room/equipment immediately
  - Observation and recording begins immediately – while things are still fresh!
- (Awareness Test)

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**RCA, Step 1: Gather the clues –**



Why might she fall? What are the clues?  
What can you and your staff do to prevent her from falling?

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**Post Fall RCA:**

- Root Cause(s) Analysis:
  - Why did they fall? →
  - What were they doing just prior to their fall? →
  - But, what was different this time? →
  - Where did they fall? →
  - When did they fall? →
  - So, why did they fall? →
- Apply Root Cause(s) Analysis to:
  - Internal / Intrinsic conditions
  - Environmental / Extrinsic conditions
  - Operational / Systemic conditions

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**Internal Evidence & Clues:**

- What was the resident doing or trying to do just before they fell?
  - Ask them
  - All residents, all the time
- Place of fall:
  - At bedside, 5 feet away, > 15 feet
  - Orthostatic, Balance/gait, Strength/endurance
  - In bathroom/at commode: ✓ contents of toilet
  - Urine or feces in toilet/commode? Urine on floor?

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**Internal Evidence & Clues:**

- Medications
  - Side effects, adverse drug reactions, Black Box Warnings
  - Cascading medications
- Wandering vs. Pacing
  - Wandering: without a goal, usually provides comfort
  - Pacing: a need not met, rhythmic or repetitive
- Grabbing vs. Pushing
  - Grabbing: due to dizziness to stop from spinning – don't move, hold on to resident.
  - Pushing: to get away from being startled/attacked – slowly back away from resident.
- Cognitive Abilities & Mood Status

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**External Evidence & Clues:**

- Noise levels (staff, alarms, tv)
- Busy activity
- Bed height incorrect
- Clutter/mats on floor
- Personal items not within easy reach
- Assistive devices not within easy reach
- Incorrect footwear
- Visual conditions – contrast, illumination



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### Systemic Evidence & Clues:

- Time of day
- Shift change
- Break times
- Day of week
- Location of fall
- Type of fall (transfer, walking, reaching)
- Staff times, staff assignments
- Routines of services



\* Data tool to identify systemic causes

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### RCA, Step 2: Analyze, deduce:

- Decide what were the primary root cause(s) of this fall based upon the evidence and clues:
  - Internal, External, Systemic
- Blameless Autopsy:
  - “Resident didn’t use call light.” – It’s NOT the resident’s fault!
  - “Nursing assistant transferred her alone.” – Why?
- FSI Report → Fall Huddle → Fall Committee Mtg



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### Step 2: Tools to determine RCA

- “10 Questions”
- Post Fall Huddle
- Staff Interviews
- Reenact

} Fall Scene Investigation (FSI) Report

- FSI Report
- Alarm Tracking
- MDS, QM/QI Report
- Hourly Rounding (4Ps)

} Weekly Falls Committee Meeting

- FSI Report
- Falls Comte Mtg Results

} Fall Summary Monthly Report → Fall Summary Quarterly Report

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**10 Questions at the time a resident falls:**

1. Ask resident: Are you ok?
2. Ask resident: What were you trying to do?
3. Ask resident or determine: What was different this time?
4. Position of Resident?
  - a. Did they fall near a bed, toilet or chair? How far away?
  - b. On their back, front, L side, or R side?
  - c. Position of their arms & legs?
5. What was the surrounding area like?
  - a. Noisy? Busy? Cluttered?
  - b. If in bathroom, contents of toilet?
  - c. Poor lighting – visibility?
  - d. Position of furniture & equipment? Bed height correct?
6. What was the floor like?
  - a. Wet floor? Urine on floor? Uneven floor? Shiny floor?
  - b. Carpet or tile?
7. What was the resident's apparel?
  - a. Shoes, socks (non-skid?) slippers, bare feet?
  - b. Poorly fitting clothes?
8. Was the resident using an assistive device?
  - a. Walker, cane, wheelchair, merry walker, other
9. Did the resident have glasses and/or hearing aides on?
10. Who was in the area when the resident fell?




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### Fall Huddle



- Performed immediately after resident is stabilized
- Charge nurse has all staff, working in the area of the fall, meet together to determine RCA
- Review “10 Questions” with staff
- Also ask staff:
  - “Who has seen or has had contact with this resident within the last few hours?”
  - “What was the resident doing?”
  - “How did they appear? How did they behave?”




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### Re-enact or “Show & Tell”

- The persons involved in the fall or incident are asked to re-create what happened – “do exactly what you did when the fall happened the first time.”
- Use the same people, same equipment, same room, same time of day



**Activity: Let's re-enact a fall scene**

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### Fall Scene Investigation (FSI) Report

- Data collection tool used to investigate and determine RCA
- Completed soon after the fall occurs and/or during the fall huddle
- Completed by nurse in charge on duty at time of the fall



Let's look at the FSI report

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### Draw the Picture

- Room orientation: door, window, bathroom, beds (head & foot of beds) chairs, w/chair, nightstands
- Position of Resident: how close to furniture, head & feet, sitting, lying, on R or L side
- Equipment: call light, oxygen, tubing, catheter, commode, walker, cane
- Personal items: phone, glasses, footwear, clothing
- Activity: Draw a fall scene picture



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### Fall Committee Meeting

- Meets weekly at same time and day
- All appropriate departments represented
- Charge nurse & nurse aide from fall site are "ad hoc"
- Have all relevant information available; FSI report, MAR, resident's chart, fall huddle findings, hourly roundings
- Agenda:
  - New falls;
    - Review FSI report, huddle findings, review RCA
    - Review interventions – Do they match the RCA? Are they weak, intermediate, or strong interventions? Suggestions?
  - Status of residents from previous falls and interventions?
  - Are systems and operational changes needed?
- Status reports and audits; alarm reduction, med reduction, wake at will, Fall Summary, QI/QM reports, falls per 1000

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### Hourly Rounding or the "4 Ps"

- **Position:**
  - Does the resident look comfortable?
  - Ask the resident, "Would you like to move or be repositioned?"
  - Ask the resident, "Are you where you want to be?" Report to the nurse.
- **Personal (Potty) Needs:**
  - Ask the resident, "Do you need to use the bathroom?"
  - Ask if they'd like help to the toilet or commode. Report to the nurse.
- **Pain:**
  - Does the resident appear in to be uncomfortable or in pain?
  - Ask the resident, "Are uncomfortable, ache or in pain?"
  - Ask them what you can do to make them comfortable.
  - Report to the nurse.
- **Placement:**
  - Is the bed at the correct height?
  - Is the phone, call light, remote, walker, trash can, water, urinal, tissues, all near the resident?
  - Place them all within easy reach.

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### Alarm Reduction & Elimination

- Evidence based studies for the reduction and elimination of alarms to reduce:
  - Falls, depression, skin breakdown, confusion, incontinence, inappropriate behaviors
- Results from alarm elimination



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### Correct Bed Height – marked

- Resident sits on the edge of the bed with their feet flat on the floor, hips are slightly higher than knees.
- Mark wall with tape to indicate top of mattress or top of headboard at this position
- Who does this?
  - Bed heights are checked and maintained by all staff every time they enter or leave a resident's room.

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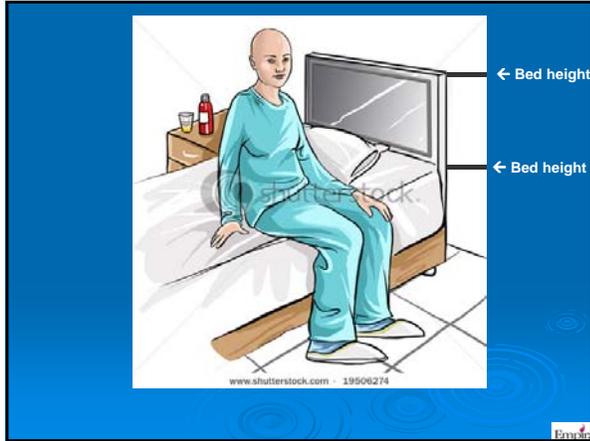
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### Mats on Floor Reduction

United States Department of Veterans Affairs, Falls Tool Kit, Floor Mats:  
Applegarth, S.P. [Tips and Tricks for Selecting a Bedsize Floor Mat](http://www.patientsafety.gov/SafetyTopics/fallstoolkit/resources/other/Tips_and_Tricks_for_Selecting_a_Bedside_Floor_Mat.doc).  
Website: [http://www.patientsafety.gov/SafetyTopics/fallstoolkit/resources/other/Tips\\_and\\_Tricks\\_for\\_Selecting\\_a\\_Bedside\\_Floor\\_Mat.doc](http://www.patientsafety.gov/SafetyTopics/fallstoolkit/resources/other/Tips_and_Tricks_for_Selecting_a_Bedside_Floor_Mat.doc)

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### Mats on Floor Reduction

- Mat creates an uneven floor surface
- Mat does not go full length of bed
- Mat is confusing to dementia residents
- Efficacy of mats has not been proven: VA study
- Presence of floor mat creates a fall hazard
- Staff, families and residents trip over mat

Don't get tripped up by thicker pads:

Overs

Trips

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### Protect Sleep



- At admission, obtain information on usual, sleep/awake patterns when at home.
- What are their normal bedtime routines?
- Do they get up during the night? If so, how often and for what reasons?
- Do they nap during the day? If so, when?
- Do they have a preference for a favorite pillow, blanket, music to assist with sleeping?

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### Medication Reduction

- Why so many meds?
- Reduce; type, dose, frequency, times, all.
- No crushing – if this is a “refusal”
- Eliminate medication carts
- Do not disturb sleeping residents
- Explain side effects
- Tell NARs:
  - Which resident has been given a “water pill”
  - New meds or change in meds



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### Unnecessary Medications

- What makes a drug “unnecessary”?
- CMS F329 Unnecessary Drugs –
- General Drugs: Any drug when used;
  1. In excessive dose; or
  2. For excessive duration; or
  3. Without adequate monitoring; or
  4. Without adequate indications for its use; or
  5. In the presence of adverse side effects, which indicate the dose should be reduced or the drug discontinued; or
  6. Any combinations of the reasons above.

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### And . . . Unnecessary Medications

- Antipsychotic Drugs: Based on a comprehensive assessment of a resident, the facility must ensure that:
  - Residents who have not used antipsychotic drugs are not given these drugs, unless it is necessary to treat a specific condition as diagnosed and documented in the clinical record; and
  - Residents who use antipsychotic drugs receive gradual dose reductions, and behavioral interventions, unless clinically contraindicated, in an effort to discontinue these drugs.

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### Reasons for the Use of Unnecessary Meds



- Resident's condition changes
  - need help / desire to help / unable to help
- Overestimate of effectiveness of drugs; believe drugs will produce desired results
- Underestimate the side effects of drugs
- Lack of training in non-pharmacological approaches to treatment
- Patient/family demands
- Influences of media and drug manufactures

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### “Prescribing Cascade” of Drugs



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**“Balance Exercise Reduces Risk of Falling”**

- **“Strength training alone may not effectively reduce falls since impaired balance is a stronger reason for falls than poor muscle strength.”**
  - **“The greatest effect in preventing falls were seen with exercises that challenged balance.”**
- Journal of the American Geriatrics Society, December 2008
- **Create opportunities to stand and reach**
  - **Incorporate balance into current activities & ADLs & newly created TR programs**



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**Balance in Therapeutic Recreation**

- **Resident assessed by PT for their ability to stand and balance (static & dynamic) then evaluation sent to TR**
- **Resident identified as:**
  - Hands free
  - 1 hand support
  - 2 hand support
  - Assist by staff
- **Opportunities to balance incorporated into current TR programs**
- **New TR programs specifically designed to offer opportunities to balance**

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**NAR: How can YOU encourage balance while caring for a resident?**

- **“Count to 4, stay off the floor.”**
  - **“Reach for it.”**
  - **“Stand tall, sit tall.”**
  - **Tapping while sitting**
  - **Standing after toileting**
- **Little times but BIG rewards!**



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### Standing, Reaching and Turning in ADL's



- Reach for towel at sink
- Turn to get toilet paper and do self hygiene
- Turn and reach for clothing items once set up
- Lift arms and lift head to assist with dressing
- When offering something to resident have them reach — meds, toothbrush, tissues, snack
- Encourage self propel wheelchair (works lots of muscles, posture, balance and independence)




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### Balance Challenges with ADLS

Easy → → → → Difficult

  
Head straight

  
Head turn

  
Head lift

  
Reach

  
Turn

  
Lift arms overhead

  
Wide stance

  
Feet together

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### Fall Causes: Intrinsic - internal, Extrinsic - environmental, Systemic - operations

- Intrinsic
  - Poor balance, sleep deprivation, medications (type & amt) O2 deprived, B/P (distance fall occurs from transfer surface) continence status (toilet contents), pain, cognitive status, mood, depression, vision/hearing loss
- Extrinsic
  - Noise (alarms, staff, TV) environmental contrasts, bed heights room/bed assignment, placement of furniture & personal items mats, footwear, lighting, flooring
- Systemic
  - Time of day, shift change/times, break times, day of week, location of fall, type of fall, routine assignments (cleaning, stocking, repairing) staffing levels, consistent staff

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### Summary: Key Points to RCA

1. RCA is a useful process for understanding and solving problems
2. Figure out what conditions and negative events are occurring
3. Look at complex systems around those problems
4. Identify key points of failure
5. Determine solutions that address the root causes

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### Summary: Root Cause Analysis (RCA)

- Figuring out why something happened
- In order to prevent it from happening again



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