Questions about Falls

# Questions

## Introduction

I’m inviting you to join our asynchronous expert panel for a project about fall risk.

Falls among adults 65 and older is the leading cause of injury-related deaths.

Medical record narratives are a rich yet under-explored source of potential insights about how, when, and why people fall.

As part of a CDC-sponsored contest, we are exploring narratives of fall ED visits in people over 65 captured through the National Electronic Injury Surveillance System (NEISS).

This contains information about patient demographics, top 3 diagnoses, disposition, and a short narrative.

Our theory is that there are discrete categories of factors that lead to more severe falls requiring hospitalization. These might include the physical environment in which the fall occurred, the activities the patient was doing when he/she fell, or intrinsic factors in the patients.

We are seeking input from a range of clinicians and health professionals to understand which factors merit additional investigation.

We will compensate you for your time with one of several gifts. If you choose, we can either forgo a gift or ensure that the gift falls below your organization’s standards for reporting.

## Questions

1. *In your clinical practice, describe your interaction with elderly patients who have falls or related injuries?*
2. *What percent of time do you think you spend dealing with these kinds of patients?*
3. *What factors do you think lead to more severe falls in people over 65?*
4. *Are there any injury types particularly associated with fragility?*
5. *Are there any health conditions particularly associated with challenges in balancing or recovering from a stumble or trip?*
6. *Are there any substances particularly associated with falls in patients over 65?*
7. *What categories of patient might be more likely to present with a trivial or self-evidently nonsevere fall?*
8. *What else do you think merits investigation in this group.*
9. *Where should we send the google forms survey link for followup?*

# Answers

## Itty Mathew

1. *In your clinical practice, describe your interaction with elderly patients who have falls or related injuries?* 
   1. Was an ER physician in rural and large urban emergency departments. Saw many patients from the Geriatic community presenting with falls. Generally not solely mechanical; usually disorientation, substance use (prescribed or recreational), issues with balance.
2. *What percent of time do you think you spend dealing with these kinds of patients?*
   1. 5-10%, with additional time spent in placement observation
3. *What factors do you think lead to falls that are more severe in people over 65?*
   1. Deconditioning, leading a sedentary life (from mid-adulthood onward) that catches up to them. Loss of activity, muscle tone, balance, strength (esp. Core and lower extremity). Also polypharmacy (which is a failure of the medical system in general). Anticholinergics and chronic pain medications, recreational opiates. People getting up in the middle of the night and living space is disorganized for needs. No grab bars, things on the floor, not a clear path to the toilet, trip and fall! Multiple steps are bad too.
4. *Are there any injury types particularly associated with fragility?*
   1. Hip fractures; a 45 year old wouldn’t fall and break their hip. Dislocating artificial hips too. Also head trauma, complex facial trauma, scalp trauma, intracranial hemorrhages. Fragility of the skin and fragility of the brain. Faceplanting might be frailty related, or old person related.
5. *Are there any health conditions particularly associated with challenges in balancing or recovering from a stumble or trip?*
   1. Dementia (with gait disturbances). Dementia requires additional care that is hard to access in New Mexico. Also elderly women with a UTI rushing to the bathroom. Diabetic peripheral neuropathy / sensory loss, which comes with gait issues.
6. *Are there any substances particularly associated with falls in patients over 65?*
   1. Opiates, alcohol, anticholinergics.
7. *What categories of patient might be more likely to present with a trivial or self-evidently nonsevere fall?*
   1. Anxious patients / family members coming in to “just get checked out”, underlying populations with isolation who use healthcare as a way to get some social interaction.
8. *What else do you think merits investigation in this group?*
   1. No, but he has a strong belief that we should engage with our bodies as we age, with a strength and balance perspective.
9. *Where should we send the google forms survey link for followup?*
   1. [justin.itty.mathew@gmail.com](mailto:justin.itty.mathew@gmail.com)

## Brian Swendseid

1. *In your clinical practice, describe your interaction with elderly patients who have falls or related injuries?* 
   1. Part of practice is facial trauma; can result in fractures. Falls can be severe for weakened facial bone structure (severe fractures from minor falls). Patient are challenging because they’re on blood thinners; lots of nose bleeds, tongue bleeds, SDH.
2. *What percent of time do you think you spend dealing with these kinds of patients?*
   1. <10%
3. *What factors do you think lead to falls that are more severe in people over 65?*
   1. The most severe falls have a new experience in their life that limits their motion; e.g. post-leg surgery, new pain medication (or medication interaction). An acute-on-chronic situation, they are already a fall risk and then something puts them over the edge. Some ambulation after surgery can be a problem by having PT work with them to make sure they are safe to go home. Some patients would benefit from rehab / SNF, but can’t afford it or won’t go, so they go home in unsafe situations.
4. *Are there any injury types particularly associated with fragility?*
   1. Not from ENT perspective, because facial trauma happens to everyone.
5. *Are there any health conditions particularly associated with challenges in balancing or recovering from a stumble or trip?*
   1. Balance disorder (e.g. inner ear problems). Younger patients can tolerate a semicircular canal dysfunction, where as older populations are less able to compensate. Vertigo is worse in this group. BPPV, meniere’s, vestibular neuritis. These can be mild-severe in younger patients, but older patients often have more severe presentations. True vertigo can lead to hard falls.
6. *Are there any substances particularly associated with falls in patients over 65?*
   1. Patients who are post-surgical and on pain meds, also chronic pain meds. New medications are often problematic due to interactions. Younger patients with substance abuse have falls.
7. *What categories of patient might be more likely to present with a trivial or self-evidently nonsevere fall?*
   1. Not sure if there’s a good characteristic for this. Often patients with falls from a stumble (loose rug, new house, visiting family or otherwise in new environments). Environmental causes might be less severe than vertigo, medication, frailty.
8. *What else do you think merits investigation in this group?*
   1. Not necessarily, as people live longer and get more medically complicated it becomes a bigger risk! Cardiac factors, inner ear factors, etc. The older you are, the more complex it gets! Lots of interplay.
9. *Where should we send the google forms survey link for followup?*
   1. swendseid.brian@gmail.com

## Adam Starr

1. *In your clinical practice, describe your interaction with elderly patients who have falls or related injuries?* 
   1. Works at university as hospitalist (nocturnist 2 years). These frequently result in hospitalization! Out of hospital fall vs in hospital fall. For OOHF, the most frequent factor is dementia. My practice includes both admitting and consults to the orthopedic service (hip fractures, urgent consult because perioperative mortality is high!), trauma surgery for geriatric trauma of any kind. The most common kind is the fall!
2. *What percent of time do you think you spend dealing with these kinds of patients?*
   1. 5-10%
3. *What factors do you think lead to falls that are more severe in people over 65?*
   1. If we include syncope, have to include cardiac syncope (arrhythmia) from standing position, without consciousness. Significant trauma because not protecting self. Degree of dementia tends to make things worse (degree of trauma and ability for a prompt rescue response). Folks coming in with hyponatremia, rhabdomyolysis, AKI after several days on the floor. Dementia and deconditioning and frailty go together.
4. *Are there any injury types particularly associated with fragility?*
   1. There is a thing called “fragility fracture”, especially hip (by far the most common). SDH, vertebral compression. Elderly + pathologic (someone with cancer and also elderly) ends with fracture at tumor sites. Sacrum fractures now and then.
5. *Are there any health conditions particularly associated with challenges in balancing or recovering from a stumble or trip?*
   1. Probably a long list! Neuropathy (diabetes #1), deconditioning, protein-calorie malnutrition, movement disorders, orthostatic hypotension (overtreatment), polypharmacy, delirium, visual changes (diabetic retinopathy).
6. *Are there any substances particularly associated with falls in patients over 65?*
   1. BEERS list of medications holds true! (<https://my.clevelandclinic.org/health/articles/24946-beers-criteria>), especially opioids, benadryl, hydroxyzine, muscle relaxants, benzos. Impaired clearance is a part of it!
7. *What categories of patient might be more likely to present with a trivial or self-evidently nonsevere fall?*
   1. More often in ER and primary care, but sometimes there are borderline folks and the family says “he’s fallen for a dozen times in the last month” and then they get admitted, and Adam figures him out!
8. *What else do you think merits investigation in this group?*
   1. No one knows in most people whether the UTI causes falls or it’s just a dirty UA.
9. *Where should we send the google forms survey link for followup?*
   1. adam.starr@cuanschutz.edu

## Ben Kuhns

1. *In your clinical practice, describe your interaction with elderly patients who have falls or fall-related injuries?* 
   1. I’m an orthopedic surgeon, often I see people with hip fractures or geriactirc fractures post fall.
2. *What percent of time do you think you spend dealing with these kinds of patients?*
   1. Less than 5%
3. *What factors do you think lead to falls that are more severe in people over 65?*
   1. More severe falls portend an underlying diagnosis that haven’t been made yet. Most people can recover from falls, but repeated falls mean something is wrong. Myopathy, diabetic neuropathy.
4. *Are there any injury types particularly associated with fragility?*
   1. Osteoporosis, diabetic neuropathy (well known, but poorly publicized). Hip fractures, distal radius fractures, pelvic fractures. Diabetic neuropathy, the same; more falls, less fractures. Sometimes people present late for fractures, or don’t present.
5. *Are there any health conditions particularly associated with challenges in balancing or recovering from a stumble or trip?*
   1. Myelopathy; cervical. Polypharmacy, generalized weakness.
6. *Are there any substances particularly associated with falls in patients over 65?*
   1. Opioids, lots of drugs, anxiolytics.
7. *What categories of patient might be more likely to present with a trivial or self-evidently nonsevere fall?*
   1. Not for me!
8. *What else do you think merits investigation in this group?*
   1. Find the underlying diagnosis! Falls are not a feature of healthy people. Neurologic, orthopaeic, polypharmacy. Bad arthritis leads to falls, too!
9. *Where should we send the google forms survey link for followup?*
   1. bkuhns87@gmail.com

## David Bonda

1. *In your clinical practice, describe your interaction with elderly patients who have falls or related injuries?* 
   1. Is a pediatric neurosurgeon, but in residency. About once a day consulting on a patient over 65 who fell and had imaging with SAH or SDH, vertebral injury.
2. *What percent of time do you think you spend dealing with these kinds of patients?*
   1. 25-30%
3. *What factors do you think lead to falls that are more severe in people over 65?*
   1. Intrinsic factors: other morbidities. If they are esrd, they'll have uremic platelets and will bleed more. More atrophy in the brain leads to more vein bleeding. Gait or move.ent disorder leads to worse hospitalizations..other things are blood thinners. Reasons for the fall- syncope is usually outpatient if it's not intracranial, but if it's a high velocity or there is bleed, they're going to come in. Ankylosing spondylitis leads to worse falls.
4. *Are there any injury types particularly associated with fragility?*
   1. Chronic or subacute subdural (lots of room in the braid), doesn't get resorbed in old folks. Ankylosing spondy or djd or vertebral arthritis leads to maybe destabilizing spinal fracture or a central cord syndrome. Ligementous calcifications can lead to vertebral issues and spinal chord issues.
5. *Are there any health conditions particularly associated with challenges in balancing or recovering from a stumble or trip?*
   1. Poor protoplasm- some people are just frail! Would healing, blood resorption, it's all worse! Preexisting neuro injury, like a stroke, tumor resection, TBI would make it worse, and the recovery will be longer.
6. *Are there any substances particularly associated with falls in patients over 65?*
   1. Alcohol, intoxicants, blood thinners, antihypertensives, antidiabetics make you hypoglycemic.
7. *What categories of patient might be more likely to present with a trivial or self-evidently nonsevere fall?*
   1. Better health and protopasm makes you less fragile! The older you are the less likely it will be trivial.
8. *What else do you think merits investigation in this group?*
   1. Activities are something to look at
9. *Where should we send the google forms survey link for followup?*
   1. [Djbonda@gmail.com](mailto:Djbonda@gmail.com)

The older they are the harder they fall: Injury patterns and outcomes by age after ground level falls☆

<https://www.sciencedirect.com/science/article/abs/pii/S0020138316302595>

Injury patterns

Certain injury patterns were commonly seen with this mechanism. Hip and lower extremity fractures (46.3%) occurred most frequently followed by upper extremity fractures (12.5%) and rib fractures (8.9%) across all age groups.

Managing Older Adults with Ground-Level Falls Admitted to a Trauma Service: The Effect of Frailty

<https://agsjournals.onlinelibrary.wiley.com/doi/full/10.1111/jgs.13338?casa_token=vHUHvmodtSAAAAAA%3AA69B64EfQtIJCV9vO_CVKsgdgEPXzbs2ShryXFCOZN8jjk3vWM3DOaUx2KgvIg89nqhJPjE29eMg5g7o>

The most common injuries were extremity fractures (n = 45), followed by chest injury (n = 14), traumatic brain injury (n = 10), and abdominal injury (n = 2).

