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Urgent Care Evaluation & Management of Geriatric Falls

Andrew P. Johnson

University of Lynchburg, johnsoa459@lynchburg.edu

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URGENT MESSAGE

Low mechanism falls among the elderly population are common in urgent care clinics. Elderly patients are particularly vulnerable to more significant morbidity and mortality from low mechanism trauma due to poor compensatory mechanisms related to normal aging. As clinicians, we must quickly identify patients appropriate for outpatient management and those who require a higher level of care and further evaluation in the emergency department (ED).

INTRODUCTION

Geriatric falls commonly present to urgent care clinics. For many providers, these cases are uncomfortable and fraught with medicolegal challenges. The U.S. Census Bureau data suggest that adults >65 years will make up approximately 20% of the population by 2040, with that number expected to rise through 2060.¹ Unintentional injury stands as the seventh leading cause of death in this population and remains a tremendous burden on our healthcare system.²

The degenerative and physiologic changes that occur with age contribute to poor health outcomes in the elderly. This age group is susceptible to adverse outcomes from low mechanism trauma, has less capable compensatory mechanisms, and suffers greater complications rates.³ Changes in posture, coordination, reaction time, strength, polypharmacy, and chronic medical conditions make falls the leading mechanism behind fatal and non-fatal injury in the elderly.³ This review will briefly address the keys to evaluation, red flags, treatment options, medical decision-making, and disposition management of geriatric falls.

Case Presentation

A 73-year-old woman presents to the urgent care clinic after sustaining a ground-level fall approximately 6 hours ago. She has a past medical history significant for osteoporosis, atrial fibrillation, diabetes, and osteoarthritis in her knees. She reports that she was walking to the kitchen to make tea when she slipped on a throw rug. She could not get herself up until her son arrived later that day for a scheduled visit. She complains of left wrist pain, and the provider notices an antalgic gait as she walks into the room with her walker. Her vitals are within normal limits; however, she seems somewhat aloof during the conversation. She is accompanied by her son, who found her today.

This scenario leads to the following questions:

- What diagnoses are essential to consider with this elderly patient?
- How can these conditions be diagnosed?
- How should this patient be managed?
- Does this patient need a higher level of care?

DISCUSSION

Initial Assessment

The history and physical examination are arguably the most important aspects of managing geriatric falls. Therefore, we recommend prioritizing the initial triage of any geriatric (>65 years) patient presenting to the clinic with a fall to expedite care. Initial triage should include an accurate set of vital signs, a review of medications, and a brief incident history. To prevent undertriage, we recommended utilizing our modified

geriatric-specific trauma triage criteria to rapidly determine appropriate candidates for transfer to the closest ED or trauma center (Table 1). This criteria applies to the urgent care setting and is primarily adapted from Ohio's Geriatric Specific Trauma Triage Criteria.^{4,5} Patients who meet one or more of these criteria should be transferred to the closest ED for imaging and further evaluation.

Table 1. Modified geriatric-specific trauma triage criteria adapted from Ohio's Geriatric Specific Trauma Triage Criteria	
Physiologic Considerations	<ul style="list-style-type: none"> - GCS <14 - ANY loss of consciousness - Respiratory rate <10 or >29 - Heart Rate >90
Anatomic Considerations	<ul style="list-style-type: none"> - Abdominal tenderness, distension, or seatbelt sign - Signs or symptoms of a spinal injury - Pelvic Fracture - Long bone fracture - Chest injury (rib or clavicle fracture)
Mechanism of Injury	<ul style="list-style-type: none"> - Fall with a head injury on anticoagulants - Traffic crash with airbag deployment
Special Considerations	<ul style="list-style-type: none"> - Any patient with extensive co-morbidities

History of Presenting Illness:

In assessing the geriatric trauma patient, it is crucial to elicit a thorough history from the patient and family members when available. Essential questions to ask can be reviewed in Table 2. These questions will aid in guiding the initial workup for these patients. Determining the mechanism is key to stratifying risk and determining etiology. For example, did the patient slip on a loose rug, or did they get dizzy and lose balance? The latter suggests an organic cause that warrants further workup. Additionally, a comprehensive review of systems will aid in identifying red flag symptoms suggestive of life-threatening causes that require urgent evaluation (Table 3).

Table 2. Ten key questions in the evaluation of geriatric falls
What were you doing when you fell?
Did you fall on a hard or soft surface?
What was the approximate height?
Did you lose consciousness?
Did you hit your head?
Did anyone see you fall?
How long were you down and who helped you?
What medications are you taking?
What medical problems do you have?
Have you fallen before?

Review of Systems

Table 3. Red flag symptoms and their differential diagnosis	
Syncope	<ul style="list-style-type: none"> • Arrhythmia • Aortic stenosis • MI • Pulmonary hypertension • Hypovolemia • Hypoglycemia • Electrolyte derangement • Drugs (BB, CCBs, vasodilators) • Vasovagal (micturition, cough, defecation) • Carotid sinus hypersensitivity (shaving)
Headache	<ul style="list-style-type: none"> • Subarachnoid hemorrhage (sudden onset) • Meningitis • Hypertension • Space occupying lesion
Shortness of breath	<ul style="list-style-type: none"> • Pulmonary edema • Pulmonary embolism • Pneumothorax • Heart failure • MI • Anemia
Chest pain	<ul style="list-style-type: none"> • MI • Pulmonary embolism • Esophageal rupture • Aortic aneurysm • Rib fracture • Pericarditis
Dizziness/Vertigo	<ul style="list-style-type: none"> • BPPV • Meniere's disease • CVA • Ototoxicity (loop diuretics, aminoglycosides, NSAIDs)
Altered Mental Status	<ul style="list-style-type: none"> • Hypoglycemia • Hyperglycemia • CVA • Drugs • Sepsis • Hypo/Hyperthyroidism • Carbon monoxide poisoning • B12/Thiamine deficiency (alcoholics) • Psychiatric disorders

Physical Exam

Vitals. A thorough review of vital signs is essential in your initial assessment. Tachycardia or bradycardia may suggest an underlying cardiovascular etiology to the fall. Therefore, it is important to consider medications such as beta-blockers and calcium channel blockers during your assessment. Orthostatics should be performed to rule out postural hypotension. Elderly patients are more likely to be symptomatic with normal range blood pressures because their baseline is typically higher. Patients with symptomatic hypotension should receive fluid bolus and transfer to the nearest ED. As a general rule, all patients with abnormal vital signs that cannot easily be accounted for should be transferred to the ED.

General. Start your evaluation with a general survey for apparent injury. Skin tears, lacerations, contusions, ecchymosis, and obvious bony deformity are common injuries easily identified on clothed patients. It is good practice to have all elderly trauma patients disrobe so as not to miss potentially significant injuries.

HEENT. Examine the face and scalp for ecchymosis, hematoma, and deformity. Look for ecchymosis of the mastoid process (Battle Sign) and eyes (Raccoon Eyes) along with hemotympanum that may indicate a basilar skull fracture. Assess the eyes for pupillary shape and reactivity as well as nystagmus. Do not fail to assess the nose for septal hematoma as this may lead to permanent disfigurement if not promptly corrected. Patients with any evidence of basilar skull fracture or abnormal eye exam will require advanced imaging.

Cardiorespiratory. Examine and palpate the chest wall for tenderness, deformity, and adequate expansion. Rib fractures are a common injury seen in elderly patients who fall from standing. Palpate distal pulses for strength, bilateral equality, and

rhythm. Auscultate for carotid bruits and heart murmurs that indicate structural heart or vessel disease. Listen for absent or diminished breath sounds, indicating pneumothorax or pleural effusion.

Abdomen. Palpate the abdomen and flanks for distension, ecchymosis, and tenderness. Patients taking anticoagulants are at significant risk for bleeding and require an immediate transfer if any of the above is found on exam.

Musculoskeletal. Examine the neck and back for obvious deformity. Palpate for midline spinal tenderness or step-off. Assess range of motion of the neck and back. Nuchal rigidity may indicate subarachnoid hemorrhage. Closely examine the shoulders, humerus, wrist, pelvis, and knees for swelling, discoloration, tenderness, and deformity. Be sure to document crepitus, contractures, reductions in range of motion, limb length discrepancy, and proximal vs. distal muscle weakness. Proximal weakness indicates age-related deconditioning, while distal weakness suggests spinal stenosis or amyotrophic lateral sclerosis (ALS).

Neurological. Begin your neurologic exam by assessing the patient's mental status. Next, assess gait and balance with a timed "get up and go" test. The patient is instructed to stand up from a seated position without using armrests, walk 10 feet, turn around, and return to their original position in less than 16 seconds. Patients who cannot pass the "get up and go" test require further workup by their primary care provider. Be sure to look for rigidity, wide stance, tremors, and shuffling gait that may suggest Parkinsonism. Look for focal deficits that may indicate CVA. Consider assessing cerebellar function with Romberg and distal sensation for peripheral neuropathy.

Diagnostics

Point of care diagnostics and imaging are somewhat limited in the urgent care setting. Tests should be targeted based on the circumstances surrounding the fall. Diagnostics to consider include complete blood count, electrolytes, TSH, blood glucose, urinalysis, and ECG.

Initial treatment

Wrist Fractures

Diagnosis. Wrist and distal forearm fractures are common injuries seen with a fall on an outstretched hand (FOOSH). Their diagnosis is primarily with radiographs and physical exam findings. Commonly seen fractures include Colles, Smith, radial/ulnar styloid, and carpal fractures. In addition, providers should maintain a high degree of suspicion for scaphoid fractures.

Management. Closed, minimally displaced, extra-articular wrist fractures should be splinted with close follow-up with orthopedics in 5-7 days. Most carpal fractures, excluding scaphoid and trapezium, can be immobilized with a volar forearm splint. Distal radial and ulnar fractures should be immobilized using a single sugar-tong splint.⁶ Consider hematoma block with weighted finger traps to set displaced fractures. Next day orthopedic follow-up should be arranged for these patients. Scaphoid and trapezium fractures must be immobilized using a thumb spica splint. Ensure adequate padding is placed over bony prominences to prevent pressure injury.

Humerus Fractures

Diagnosis. Proximal humerus fractures are most commonly seen in the geriatric population following low-mechanism fall.⁷ Patients with suspected proximal humerus injury have their shoulder imaged in AP, scapular Y, and axillary views.⁷ Ensure to

evaluate sensation over the lateral deltoid as the axillary nerve is frequently injured in proximal humerus fractures.

Management. Minimally displaced fractures are typically managed conservatively with sugar tong splint and sling for 6-8 weeks.⁷ Patients should be referred to orthopedics for further evaluation and management.

Hip Fractures

Diagnosis. Patients presenting to the clinic with hip pain after a fall are considered to have a fracture until proven otherwise. Patients often complain of groin pain radiating to the knee or proximal femur. They will most likely be unable to bear weight on the affected side; however, patients may be able to ambulate with the assistance of a cane or walker. Ambulatory patients complain of pain in the buttock and groin that is worse with weight-bearing activity.⁸ A physical exam will often show an externally rotated leg when the patient is lying supine. The affected extremity may be shorter than the other.⁸ AP and cross-table lateral views of the pelvis are usually sufficient to diagnose most fractures. Most patients will not tolerate a frog-leg view and should be avoided due to excess manipulation and pain.⁸

Management. Patients with confirmed hip fractures should be transferred to the nearest ED for pain management and surgical consultation. CT or MRI imaging is indicated for patients with suspected occult hip fractures.⁸

Rib Fractures

Diagnosis. Rib fractures are frequently encountered in the urgent care setting. Patients will complain of chest wall pain worse with breathing and coughing. Chest radiographs are indicated for all elderly patients complaining of chest pain or shortness

of breath after a fall. Non-displaced rib fractures may be challenging to identify and usually appear as cracks in the rib.⁹ Displaced rib fractures are easily identified by the lack of contour along the bony structure.⁹ Ensure to rule out other significant pathologies such as pneumothorax, pleural effusion, and flail chest.

Management. Simple non-displaced rib fractures are treated conservatively with adequate analgesia and incentive spirometry devices to prevent the risk of atelectasis and pneumonia. Multiple displaced rib fractures may require admission for pain control, monitoring, and an orthopedic consult.

Sprains & Strains

Diagnosis. Sprains and strains are diagnosed based on physical exam findings and negative radiographs. Consider occult fracture if symptoms continue to be persistent and there is considerable clinical concern. It is estimated that 5% of acute fractures do not appear on initial x-ray with higher rates seen among the elderly.¹³

Management. Sprains and strains in the elderly tend to have greater significance than in younger patients. Rest, ice, compression, elevation, bracing, early mobilization, and pain control are the mainstays of treatment. Consider the patient's overall mobility and home support when deciding what brace may be most helpful. Care must be taken in choosing and recommending pain medication. Non-steroidal anti-inflammatory drugs should be avoided in patients with renal insufficiency and are generally used with caution if indicated. Acetaminophen should be avoided in patients with hepatic impairment.

Head & Neck Injury

Diagnosis. Most patients with gross neurologic deficits usually present to the ED for their injuries; however, elderly patients are at increased risk of developing delayed symptoms.

Management. Providers must maintain a low threshold for advanced imaging of the head or neck. Patients taking anticoagulants and antiplatelet medications are more likely to develop intracranial hemorrhage. The American Academy of Neurology recommends that patients with any focal neurologic deficit, nausea, vomiting, headache, coagulopathy, age >60, intoxication, or significant mechanism of injury undergo head CT or MRI.¹⁰ Patients presenting with any of the above symptoms should be transferred to the closest ED for further imaging. Likewise, patients with severe neck pain, deformity, focal neurological deficits, intoxication, or significant mechanism of injury should be placed in a c-collar and transferred to the ED. Patients and caregivers should be provided with strict ED precautions before discharge.

Rhabdomyolysis

Diagnosis. Patients with prolonged downtime after a fall are at increased risk of developing this condition. Patients may complain of myalgia, fatigue, muscle cramps, and dark or "tea-colored" urine.

Management Patients with suspected rhabdomyolysis should have their creatinine-kinase levels drawn. This usually requires transfer to the ED and monitoring of electrolytes and IV rehydration. Electrolyte derangements and acute kidney injury are two common complications of rhabdomyolysis.

Lacerations & Skin Tears

Diagnosis. Skin tears and lacerations are commonly seen injuries after elderly falls. Due to the frailty of their skin, geriatric patients often have superficial skin tears rather than deep lacerations.

Management. Superficial lacerations are adequately closed with tissue adhesive. Patients with thin, tissue-paper-like skin that requires sutures can be managed by placing suture bites through adhesive skin closures for added reinforcement.¹¹ Patients on anticoagulation may benefit from pressure dressing and an absorbable gelatin sponge to achieve hemostasis.

Prevention

Although patients may only interact with their urgent care provider on a limited basis, it is a prudent and holistic practice to discuss fall prevention strategies with patients and their caregivers. Discussion should focus on modifiable risk factors and the importance of follow-up with their primary care provider. Encourage patients to remove slippery rugs, install handrails in the bathroom and shower, remove clutter on the floor, place a non-slip mat in the shower, and ensure adequate lighting.¹²

CONCLUSION

As the elderly population continues to grow, urgent care centers across the nation can expect to see a growing number of geriatric patients presenting with minor trauma. Providers must remain vigilant with a high index of suspicion when assessing elderly patients due to increased morbidity and mortality. Always be mindful of underlying reasons for a fall; in many cases, the fall is related to a medical issue. Urgent

care providers are often the first clinicians to see a patient after a fall. Ensure fall prevention strategies and counseling are provided to patients and caregivers, emphasizing close primary care follow-up.

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