

Evidence in Action

“It Started With a Fall” Part I: Fall Risks

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CLINICAL SCENARIO: A 68-year-old woman has low-back pain. She is 5'4", 120 lbs., uses a cane and walks with a slight limp. Her past history includes high blood pressure, diabetes and insomnia, for which she has concurrent medical management. She has had a left-hip replacement and is considering getting the right replaced because the “arthritis is getting bad.” She uses medication to deal with the hip pain. She is sedentary and generally remains at home. She lives alone so she rarely cooks. She often eats TV dinners. She is lactose intolerant and takes medication for gastroesophageal reflux disease. When you ask her about her present condition, she says, “It started with a fall.”

“It started with a fall”

What clinician has not heard this? No doubt this phrase has been uttered in the typical chiropractor's office hundreds or thousands of times. Frequently, patients presenting with musculoskeletal pain report that the cause of their problem was an injury secondary to a fall.

I was very purposeful in selecting that phrase in the last sentence, “injury secondary to a fall,” because the importance of fall prevention is injury prevention. That might sound obvious, but the implication is that there are two key strategies involved. One is to prevent the fall from happening, and the other is to minimize the injury if the fall does occur.

Fall prevention is pertinent throughout a lifetime. However, a 9-year-old child who falls will most likely sustain a minor injury that heals quickly, whereas a 90-year-old person who falls is much more likely to sustain a fracture, which carries significant morbidity.¹

With the 9-year-old child, it makes sense to minimize the likelihood of injury from a fall. Proper surfaces for play or sports, correct equipment and common sense all play a part. For example, use of a bicycle helmet can play a significant role in minimizing the severity of a head injury. Head injuries from bicycle accidents lead to 75 percent of deaths and 65 percent of hospital admissions among bicyclists. By using helmets, the risk of head and brain injury is

reduced among all ages of bicyclists by between 63 percent and 88 percent.²

In elderly patients, fall prevention is most important and should incorporate a multitude of factors. Recognizing that this is a significant public health concern is an important first step. Considering that approximately one-third of all individuals over the age of 65 will fall each year highlights the significance of this concern.³ Strategies to minimize falls can be relatively simple or entail multiple elements leading to considerable costs. Therefore, it is important to identify those patients who are at greater risk for falls.

Research Resources

Practical suggestions on how to advise your patients about fall risk and prevention are widely available. If you are interested in a specific intervention, you may want to look for an RCT or systematic review by going to PubMed, EBSCOhost or TRIP Database. If you are looking more broadly, you could check out summary sources, which can be accessed through the above databases. You may also want to look at DynaMed, ACP Journal Club and Cochrane. All are excellent sources of either primary or secondary information.

Evidence-based summary sources are an excellent way of gathering information. One of my favorites is DynaMed. This is a subscription service, but if you often access the literature, it is worth it. It provides up-to-date information on diagnosis, prognosis and management options for nearly every disorder a patient may have.⁵

Other possible sources are online evidence-based textbooks. While searching PubMed using terms extracted from my PICO question, including “elderly,” “risk factors” and “falls,” I came across an evidence-based summary by Ganz et al. published in the *Journal of the American Medical Association* in 2007.⁶ This article was subsumed into an excellent evidence-based textbook called “*The Rational Clinical Examination*.”⁷ Using the same search terms in the PICO search screen of TRIP Database, I came across an evidence summary produced by the Health Evidence Network for the World Health Organization.⁸

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Risk Factors

By using these resources, I can provide a well-supported list of risk factors for falls in older populations. Two factors are most consistently associated with an increased likelihood of falling in older patients who are likely to come to your office:

1. a history of falling; and
2. disorders in gait and balance

Disorders in gait and balance is a large category that might include patients with strokes, neurological disorders or arthritis and those who use ambulation devices such as canes.

Another factor is the patient's age. Falls increase as patients get older. This is especially true for females. The likelihood of falling is close to equal between the sexes in the early elderly, but females become more likely to fall as age advances. They are also more likely to sustain a fracture.

Medications can also influence the likelihood of falling. Certain classes of medications such as psychotropics, anti-arrhythmics, diuretics and sedatives are associated with an increase in falls. Those patients who are on four or more medications, regardless of type, are at greater risk for falls. Cognitive deficit, visual impairment, podiatric issues and nutritional deficiencies all contribute to an increased risk of falling. Paradoxically, being afraid of falling actually increases the likelihood that they will.⁶⁻⁸

A person in pain is much more likely to fall.⁹ Those who are depressed are more likely to fall.¹⁰ Those who are vitamin D deficient are also more likely to fall.¹¹

Now that we've reviewed the background information on the risk of falls, it is time to look at our patient. This 68-year-old female presents with the following risk factors for falls:

- ▶ History of falls
- ▶ Use of a cane – gait disturbance
- ▶ Currently has pain
- ▶ Taking four or more medications
- ▶ Potential vitamin D deficiency
- ▶ Older, female
- ▶ Sedentary – potentially deconditioned

Our patient has a real risk of having a fall in the near future, which can have a devastating effect on her health. Since she lives alone, a fall can lead to marked complications. What are the interventions that have the greatest potential to help? Stay tuned for Part II. ■

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