

MDS Alert

Quality Management: Fall And Fracture Assessment Tool Takes Risk Prediction To A New Level

The right info keeps you a step ahead of injuries.

Ever wish you had a crystal ball to predict which residents will fall or suffer fractures in the near future?

The MDS-based computerized risk assessment tool, EQUIP for Quality, might be the next best thing.

Using it, you can predict with more than 70 percent accuracy which residents will suffer a fracture in the next quarter, says **Christie Teigland, PhD**, director of health informatics research for the **New York Association of Homes & Services for the Aging**, which developed EQUIP for Quality. Armed with the resident-specific risk information, staff can then develop strategies to preempt the falls and injuries, she says.

NYAHS developed the EQUIP for Quality risk assessment scales for falls and fractures through a longitudinal patient safety research study funded by the **Agency for Health- care Research and Quality**. The researchers performed the study in 650 nursing facilities in New York state from 2000 to 2006. The EQUIP for Quality software also includes risk assessments for other conditions, including pressure ulcers.

Weight-Related Risk Factors

The study showed that females with low body mass, especially white women, have increased risk for osteoporotic fractures. Conversely, men who have a high body mass index or BMI have a higher risk for fractures from falls. Heavier men "may fall harder," Teigland says, "but men are at lower risk overall for fractures."

Yet the likelihood of falling increases with BMI for both men and women, an important consideration for nursing homes, given that people overall are getting heavier, she adds.

A balancing act: Significant weight loss (5 percent within 30 days or 10 percent within 180 days) also increases the likelihood of falling, Teigland adds.

Other risk factors for falls and fractures include:

- A higher score on the MDS-driven Cognitive Performance Scale. The higher the score, which ranges from 0 to 6, the greater the risk a person will have a fall-related fracture, Teigland says.

However, residents with a CPS score of 0 (cognitively intact) or 6 (severely cognitively impaired) are not as likely to fall. The risk of falling increases with a CPS score of 1 to 5. Using the MDS-driven Cognitive Performance Scale to identify a resident's level of impairment is easier than doing a mini-mental exam, says Teigland.

- Depression and antidepressant therapy. Residents with depression coded on the MDS -- and those receiving antidepressants -- have a greater likelihood of falling and fracturing.

"This is related to depression symptoms of persistent anger and repetitive movements, which are significantly related to falls," Teigland explains.

Depressed residents also tend to have more functional decline, requiring help to get out of bed and get dressed, which increases fall risk, she adds.

Other research studies have also found an increased risk of fracture related to antidepressant therapy, observes **Colene Byrne, PhD**, outcomes researcher for NYAHSA. It's difficult to explain that finding, she adds. But recent clinical research suggests that antidepressants increase the risk of dizziness and fainting. "The drugs also lower bone density in the spine and hip."

Antipsychotic medication use, however, does not increase risk of fractures -- only falls.

"Antipsychotics are often ordered to treat behavior symptoms of wandering and physically abusive behaviors," Teigland notes. And residents with those symptoms are more than 20 percent likely to fall. But she cautions against off-label use of the antipsychotic medications to treat behavioral symptoms.

Risk Linked to Certain ADL Dependencies

The research showed that residents needing certain levels of ADL assistance are at higher risk of fracturing. "It could be that they fractured when they were being assisted -- or they tried to do things on their own and suffered a broken bone," Byrne says. For example, women and men dependent on others for bathing had a 20 percent higher risk of fracturing.

For women only: Women who need a one- or two-person assist in dressing are more likely to fracture, although men are not, Teigland says. Limited-to-extensive assistance in toileting also increases the likelihood of fracture for women but not men.

On the other hand, men who require support in positioning themselves in bed are almost 15 percent more likely to fracture.

"Similarly, males needing supervision or limited assistance in walking off their unit are up to 20 percent more likely to fracture," Teigland points out. And neither of those conditions increases fracture risk for women.

Don't miss: The next MDS Alert will include tips on how to use ADL and restorative nursing techniques to help prevent fractures in vulnerable residents.