Knee Buckling in Older Adults

What is the problem and what is known about it so far?
Knee buckling is a sudden “giving way” of the knee. It may happen when weight-bearing demands are increased, such as when one goes up or down stairs. Buckling commonly occurs in persons with severe knee arthritis and after knee-related surgical procedures. Some experts think that buckling is also common among adults without these problems, but few studies have examined its frequency or consequences in a general community population.

Why did the researchers do this particular study?
To assess the frequency of knee buckling among adults, and to identify factors and outcomes associated with buckling.

Who was studied?
2351 community-dwelling adults who were middle-age or older. Their median age was 64 years.

How was the study done?
The researchers recruited adults 36 to 94 years of age who had participated in 2 other population-based studies conducted in Framingham, Massachusetts. None had rheumatoid arthritis or a history of bilateral knee replacement surgery. Researchers asked the adults questions about knee buckling in the past 3 months; knee pain and stiffness in the past month; and physical function activities related to lower limbs, such as climbing stairs. They measured the strength of thigh muscles (quadriceps). They also took knee x-rays to check for osteoarthritis and sometimes did magnetic resonance imaging (MRI). They then analyzed data to explore factors that might be associated with buckling.

What did the researchers find?
The researchers found that 278 (12%) adults reported at least 1 episode of buckling in the past 3 months. Of these, 13% fell during the episode. The frequency of buckling was similar both among men and women and among middle-age and older persons. Most persons were walking or climbing stairs when their knees buckled. Most people (217 people) reported more than 1 episode of buckling. Knee pain, quadriceps weakness, radiographic osteoarthritis, and limitations of physical function were more common among patients with buckling than among those who reported no buckling.

What were the limitations of the study?
Patient recall of buckling may not have been accurate. Causes of buckling were not established.

What are the implications of the study?
Knee buckling seems to be common among middle-age and older adults. It may cause falls and may be associated with functional limitations, such as limited ability to climb stairs.