Doctor, Please Explain Fall Prevention

Insight into preventing injuries caused by falls

• Why are falls more likely during the senior years?

• How does lifestyle management affect fall prevention?

• and more…

Today's society is more active than ever, but inevitably every year more than two million Americans fall and sustain serious injury, costing the healthcare system in excess of $3 billion dollars. Hidden costs affecting the individual include pain, disability, lawsuits, loss of independence, deterioration in well-being, and the impact on other family members. Nonetheless, falls are predictable and preventable, even for older adults.

Why are falls more likely during the senior years?

Falls and the resulting injuries are among the elderly's most serious health issues caused by the body's deterioration through inactivity and the central nervous system (CNS)'s damaged through injuries. For example, the sensory cells in the ears' balance system gradually decrease and cannot be replaced, as well as the nerves carrying sensory information to the brain to perform complex brain interconnections lose fiber and nerve cells. In addition, nerve endings loose their ability to generate the chemicals responsible for the transmission of information. This process accelerates after the age of 50.

Many diseases affect the CNS and sense organs too. Also, muscle strength gradually decreases with age, joint tendons and ligaments lose their flexibility and limit motion. The combined ravages of bone and joint injury, arthritis, and inactivity can result in a body that cannot carry out motion commands initiated by the brain. Hardening of the arteries is probably the worst. It is accelerated by high blood pressure, smoking, and diabetes. Although artery hardening gradually increases during middle age, there is a point at which a slight additional decrease in blood flow causes serious vascular impairment such as stroke.

Head injuries, sometimes caused by falls, can damage the sense organs in the inner ears, or the brain itself. Therefore, physical activity is very important for injury recovery to the sensory systems. The general debility of aging can negatively affect recovery if it results in a decreased level of activity. Often, injuries to the knees, hips, and back do not completely heal, leaving some limitation of motion.

The worst disability occurs when both sense organs and CNS structures are damaged simultaneously, as is the case with Alzheimer's Disease. Also, arthritis can cause permanent, crippling, nonreversible effects and osteoporosis can lead to bone weakness and increases the probability of serious injury from a fall or a spontaneous fracture that might lead to a fall.

How can medications affect my sensory functions?

In this time of specialization, it is possible for one patient to receive prescriptions from several physicians that might have additive side effects on the brain and sensory function. Therefore, patients should keep a complete list of all their medications and dosages, and make this list available to each physician they consult. Coordination of all medications through a single primary care physician would help avoid adverse drug reactions to the brain and sensory functions. The list should include:

• Over-the-counter medications, such as antihistamines, sleeping medications, analgesics, and cough suppressants.

• Medications used to treat high blood pressure, heart disease, allergy, insomnia, stomach acidity, and depression.

• Medications listing alcohol as an ingredient since it affects movement and judgment and adversely interacts with many medications.

How can I recover from an injury caused by a fall?

Rehabilitation

• A thorough and complete evaluation of sensory, CNS, muscles/joints, and balance function should be performed. This includes a search for causes of dizziness, such as inner ear diseases; an evaluation of the inner ear balance system, which might be adversely affected by certain drugs (such as a class of antibiotics known as aminoglycocides); trauma; and the aging process.

• Tests of higher mental function are important since falling may be a sign of serious mental deterioration.

• A careful review of all medications (both prescription and over-the-counter) is very important. If medication for anxiety or depression is used, switching from a long acting drug to one that is more quickly passed from the body seems to decrease the risk of falling.

• All correctable problems should be treated. Visual correction with proper eyeglasses, improvement of hearing by hearing aids, adjustment or elimination of medications, and any other disease, which could impair balance must be accomplished.

Rehabilitation includes increasing the range of motion as well as physical strength. A very important part of rehabilitation is overcoming the fear of falling and thus avoiding further injury. Walkers and canes can aid stability, while simple changes in the home, such as installing hand holds in bathrooms or along walls, could decrease the likelihood of falling and increase confidence. But keep in mind, drastically changing a familiar environment often hampers recovery. As soon as possible, rehabilitation should include family members and home support groups. Rapid return to physical activity and social interaction with family and community can often stop the vicious spiral into inactivity, reclusiveness, and progressive deterioration that falls and injuries cause.

How does lifestyle management affect fall prevention?

As many of the problems responsible for falling develop during early and middle age, initial efforts to prevent injuries should begin at a younger age. Many of the changes in muscle, bone, and the central nervous system are not inevitable results of aging, but are brought on by inactive lifestyles and self-inflicted damage from smoking, poor diet, and lack of exercise. Although hardening of the arteries is occasionally hereditary, in most cases it can be reduced by diets low in cholesterol and saturated fatty acids, as well as regular physical exercise.

Tips to prevent falls among seniors

Health

• Have hearing and vision check-ups regularly. If hearing and vision are impaired, important cues that help maintain balance can be lost.

• Get up slowly. A momentary drop in blood pressure can cause dizziness when standing up too quickly.

• Use a cane or walker to help maintain balance on uneven ground or slippery surfaces. Wear sturdy, low-heeled shoes with wide, nonslip soles.

• Exercise to improve your strength, muscle tone, and coordination. Walking is a good form of exercise.

Home

• Remove raised doorway thresholds in all rooms. Rearrange furniture to keep electrical cords and furniture out of walking paths. Fasten area rugs to the floor with tape or tacks.

• Never stand on a chair. Use nonskid floor wax
and wipe up spills immediately.

• Be sure stairways have sturdy hand rails.

• Install grab handles and nonskid mats inside and outside your shower and tub.

• Use shower chairs and bath benches to minimize the risk of falling.

• Put a light switch by the bedroom door and by your bed so you don’t have to walk across the room to turn on a light. Night lights in your bedrooms, halls, and bathroom are a good idea.