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Taking EMS Into Tomorrow: Part 5

**When it comes to falls among the elderly,
an ounce of prevention can go a long way**

Chances are good that you don't remember the TV character Mrs. Fletcher. Chances are superb, though, that you've playfully uttered the line made famous in her 1989 commercial. Along with Jay Leno, Conan O'Brien, Johnny Carson, the Teenage Mutant Ninja Turtles, Scooby-Doo and Roseanne, you've gotten chuckles by saying, "Help! I've fallen, and I can't get up."

Most of us have taken lots of tumbles in our lives. We've hit the ground from wiping out on snowboards, diving to catch footballs and tripping over dog toys. The older we get, the more likely we are to fall, and the more likely we are to have a serious injury when we do. Falls are the No. 1 cause of fatal and nonfatal injuries to older folks in America, and in most EMS systems, falls are one of the top three reasons people call 9-1-1.

Many falls, however, are preventable. It's time we accept that EMS is perfectly positioned to help stop the

suffering, incapacitation, loss of independence and sometimes death that come with older people who fall.

ABOUT FALLS

Falls that result in injury can happen anytime, anyplace, to people of any age. The falls that prompt 9-1-1 calls, though, are more likely to happen to people over 65, in their homes, who are engaging in normal everyday activities. In 2001, the CDC reported that more than 1.6 million seniors were treated in emergency departments for injuries resulting from falls. Over \$20.2 billion are spent each year treating people with injuries from falls.

Thirty percent of people over age 65 fall each year. Additionally, two-thirds of people who fall will fall again within six months. Folks over 75 who fall are five times more likely to be admitted to a long-term care facility for a year or longer. White men have the highest number of fall-related deaths, followed by white women and black men.

As the Baby Boomers age, the number of seniors in the U.S. is expected to double by 2040. That means more falls, more injuries and more traumatic deaths...unless we make a major effort to prevent them.

WHAT CAUSES FALLS?

There are a number of things that play a role in people suddenly finding themselves on the floor. Most people who fall have more than one contributing factor.

Environmental Factors

Approximately one-third or more of falls have some kind of environmental cause. Most commonly people trip over something on the

Broken Hips

Every 80 seconds someone in America breaks their hip, and 90% of the more than 350,000 hip fractures that occur each year are caused by falls. Women have more than twice as many hip fractures as men. One in seven postmenopausal women will break a hip during her lifetime. Most EMS providers know that when they're treating someone with a broken hip, that person's life will never be the same.

Forty percent of people who break their hips will require nursing home care. Fifty percent will require canes or walkers. A quarter will be dead within six months. Only one in four people with a hip fracture will make a full recovery. We asked a prominent New York orthopedic surgeon why such a small percentage of older people with hip fractures make full recoveries. "When older people break a hip," he said, "it's not a clean fracture like it is in younger people. Their bones tend to shatter, which makes it very difficult to put the pieces back together so the joint functions the way it did before."

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floor—a throw rug, dog toy, stack of newspapers, etc. Poor lighting, lack of grab rails, unsteady furniture, electrical cords and slippery bathtubs can also contribute. So can changes in surfaces levels, uneven floors, door mats and the like.

Medication

Look at the shoebox full of medications many patients have, and you'll see several different prescribing physicians. The sad reality of the way medicine is practiced in the U.S. is that some physicians prescribe medications without knowing what the patient's other doctors have prescribed. People taking multiple medications are at greater risk of falling. Several commonly prescribed medications reduce mental alertness, cause blood pressure to drop and make people dizzy. These include sedatives, antidepressants and antipsychotic drugs. Consumption of alcoholic beverages contributes to falls as well.

Strength and Mobility

People who spend most of the day sitting increase their risk of falling. Ironically, fear of falling often causes people to limit their activities, which results in poor muscle tone, loss of bone and muscle mass, and decreased flexibility—all of which increase the risk of falling.

Medical Problems

Osteoporosis, cardiac arrhythmias and blood pressure fluctuations, cancer that affects the bones, depression, Alzheimer's disease, arthritis, strokes, Parkinson's disease, multiple

sclerosis, urinary or bladder problems, diabetes, vertigo, vision loss and more can all increase the risk of falling.

PREVENTING FALLS

There's lots of opportunity for research, creativity and new programs in this arena. As a benchmark, consider the U.S. Fire Administration. Its mission is "to reduce life and economic losses due to fire and related emergencies through leadership, advocacy, coordination and support." Data show that the USFA has been extremely successful in fulfilling this mission, reducing fire-related deaths in the U.S. by more than 70% in the first 25 years of its existence. We believe EMS systems can help dramatically reduce fall-related life and economic losses through leadership, coordination and advocacy. Given the impact falling has on people in our communities, doing so would be a major public service.

Leadership/Education

Patients

Start with those uninjured folks we simply help back into bed. We call them *public assists*, *resetting the occupant* or *no ambulance needed*. Without intervention, two-thirds of these folks will fall again within the next six months, so they are prime candidates for education on how they can prevent falls. You can discuss things they can do for themselves, like having their pharmacist review their medications, making their home safer, or joining a local yoga or tai chi class. You can leave them some fall-prevention literature.

Friends, families and the general public

Just as we do with CPR classes today, we can hold education programs focused on teaching people how to keep their friends, family and neighbors from falling.

Coordination/Intervention

There are dozens of things around the house that can contribute to falls. Conduct home-safety assessments focused on fall prevention (of course you will need permission from the person whose home you want to make safer). Some safety improvements can be made right away, some may cost a bit of money, and some will require the services of someone trained in construction. This is a great opportunity for EMS services to partner with other community groups.

The first step is identifying what needs to be done. We recommend taking a family member, caretaker or friend of the person who lives in the home along on your inspection. That gives you the opportunity to train someone else to see potential fall triggers, and they may be able to take responsibility for addressing problems as you find them.

Outside the house

- Inspect all walkways and paths around the house. Look for cracked or uneven sidewalks, overgrown plants and other tripping hazards.



Remove throw rugs. If the person is really attached to a particular rug, suggest that it be hung on the wall as art, rather than left on the floor.

Patient, Help Thyself

There are many things people can do to help decrease their chances of ending up in the back of one of your ambulances. Here's a list of things you can encourage:

- Exercise regularly. This improves strength, balance and coordination. Tai chi, yoga, water aerobics and other forms of senior-friendly exercise are available in most communities. It's helpful if you can provide a list of opportunities.
- Have their primary doctor or pharmacist look at all the medicines they take from all their doctors, including any over-the-counter medicines and supplements. Have that professional recommend alternatives to medications that might cause sleepiness or dizziness. Encourage your patients to fill all their prescriptions at one pharmacy, so the pharmacist can become part of their fall-prevention team.
- Encourage them to have their vision checked at least once a year. If their vision needs correction, encourage them to wear their glasses whenever they're walking.
- Encourage them to get up slowly after sitting or lying down.
- Many people fall because they walk around barefoot or with loose slippers on. Encourage them to wear shoes with nonslip soles both inside and outside their house.
- Good lighting in the home is important. Fluorescent bulbs are bright and cost less to use.
- Have them keep their phones in places where they can reach them from the floor in case they fall and can't get up.
- Encourage them to consider wearing an alarm device that will alert someone in case they fall or have another problem and can't get to a phone. Some alarms are designed to look like attractive jewelry.
- If they have a cane or walker, encourage them to use it. Check to see that the wheels are functioning correctly (they often don't roll well and may even precipitate a fall). Many falls happen when people who normally use assistive devices don't use them when doing routine things around the house.

Floors

- Look at the floor in each room.
- Make sure the furniture is

easy to walk around. Find out if the occupant hangs on to various pieces of furniture when they walk through the house. If so, it may be helpful to secure those items to the walls.

- Remove throw rugs. If the person is really attached to a particular rug, suggest that it be hung on the wall as art, rather than left on the floor. If they insist on keeping it on the floor, secure it with double-sided tape or a nonslip backing.

- Pick up things from the floors (e.g., magazines, shoes, towels).

- Look for extension cords, telephone cords or oxygen tubing that could present a tripping hazard. Coil or tape cords and wires and place them next to the wall.

Stairs and steps

- Look at the stairs inside and outside the home.



Suggest or facilitate having grab rails installed in the shower/tub and near the toilet.

- Pick up things on the stairs (e.g., books, shoes, etc.).
- Look for loose or broken steps. Suggest or facilitate getting them fixed.
- Look at the lighting around all stairways. Is there a light with a working bulb? Does the light illuminate the entire staircase? Is there a switch at both the top and bottom of the stairs? If the answer to any of these questions is no, suggest or facilitate having an electrician install lights at the top and bottom of the stairs, along with glowing light switches on both ends.
- Make sure the carpet is firmly attached to every step, or remove the carpet and attach a nonslip rubber tread to the stairs.
- Are the handrails loose, broken or inadequate to support the weight of the person using them? Are there handrails on both sides of the steps? Are the handrails the same length as the stairs, or are they too short? Suggest or facilitate having someone repair, replace or improve the handrails.

- Many falls occur because someone with poor vision doesn't see they've made it to the top or bottom of their staircase, causing them to stumble. Painting brightly colored strips on the top and bottom steps helps.

Kitchen

- It's common to fall while reaching for something on a high shelf in the kitchen. Move commonly used items to the lower shelves.
- If they must use a step stool, make sure they have one with a bar to hold on to. Remind them that they should not use a chair as a step stool.

Bathroom

- A significant percentage of falls that cause injuries occur in bathrooms. Who has not dropped the soap or a shampoo bottle while taking a shower? Bending over to pick it up with a little stiffness in your back or dizziness from medications sets a person up for a fall. Removing bars of soap and bottles of shampoo and replacing them with dispensers wall-mounted at shoulder height helps.
- Suggest or facilitate having grab rails installed in the shower/tub and

to the bed, where it's easy to reach.

- Is the path from the bed to the bathroom well lit? Place a night-light or two along the path. Motion-sensitive lights can be useful for people who need darkness to sleep.
- Suggest your subject talk with their physician about taking their diuretics in the morning. This may help decrease those midnight bathroom runs and prevent a fall.

Advocacy

By coordinating with other agencies, EMS systems can serve as the hubs of their communities' fall prevention wheels. We can invite community resources to work with us to help. In Pinellas County, FL, Sunstar EMS worked with a company called Aging Wisely to establish and coordinate the Pinellas County Fall Prevention Coalition. The mission of the coalition is to measurably reduce injuries and fatalities from falls. Membership includes home health agencies, the health department, fire departments, police departments, construction companies, hospices, hospitals, senior living centers and more.

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near the toilet. This is one of the most powerful things you can do to help prevent falls in the bathroom. Without them, people will use toilet paper holders and towel racks as weak substitutes.

- Put a nonslip rubber mat or self-stick strips on the floor of the tub or shower.
- Make sure the toilet is well secured/bolted to the floor.

Bedroom

- Make sure there's a lamp close

American fire services have been successful in changing building codes to reduce the likelihood of fire in homes and businesses. It's reasonable for us to work to change codes to require grab rails to be installed in showers/tubs and around toilets. The folks who fund healthcare in this country don't have a problem paying thousands of dollars to repair a broken hip, but they won't spend a few hundred dollars to prevent that hip from breaking in the first place. We

More Resources

More resources can be found at:

- www.cdc.gov/ncipc/pub-res/toolkit/brochures.htm
- www.stopfalls.org
- <http://orthoinfo.aaos.org>

can work with our national organizations to push for reimbursement for prevention services.

STEWARDS OF OUR COMMUNITIES' HEALTH

My favorite EMS author, Thom Dick, dropped me off at the airport after a visit with him and his wife, Susie, a few months ago. He had his tools and some boxes in the back of his truck. I asked him what he was

up to, and he said, "There's an elderly lady who lives alone near our ambulance station. She's pretty frail, and I know she has the potential to fall any day now. One of the guys at work and I are going over this morning and putting grab rails in her bathroom."

I said it was great his department paid for this service. "They're not paying," Thom replied. "I'm not sure they even know we're doing this. The rails don't really cost that much."

EMS systems, organizations and providers can become stewards of our communities' health. While keeping someone from falling may not seem as exciting as defibrillating or dropping a nasal tube, it's just as lifesaving. Preventing death,

reducing suffering and caring for others are the reasons most of us got into this business. Actively working to prevent falls fits with our mission. ■

Special thanks to the Pinellas County Fall Prevention Coalition for their support with this article.

Cindy Tait, RN, MPH, NREMT-P, is founder of the Center for Healthcare Education in Riverside, CA, and the creator of Happy at Home, a program designed to create the safest home environment possible and promote "aging in place"—the concept of living well at home as long as possible.

Mike Taigman is a lifelong student who is committed to helping EMS services better serve their communities. He's always gotten up one more time than he's fallen.