



Exercise Physiologist Helps Prevent Patient Falls

West Virginia Facility Zeros In On Contributing Factors

Patient
Falls

When Heidi Postlethwait, MS, C-ES, meets with the patients at Wheeling Renal Care (WRC), she looks far beyond the clinical data detailed before, during and after each dialysis treatment. Instead, she delves into broader issues of the whole person—vital to creating individual strategies to help people maximize their opportunities for physical activity and a fuller life.

“Most of my job is trying to help people do more physically, which has many benefits, including helping prevent falls,” she said. “I work to understand what will motivate patients to get back to the level of activity they may have had before getting sick, or to be more involved physically around the house, with their families.”

An exercise physiologist, Postlethwait is an integral part of the WRC team focused on fall prevention strategies that were enacted as policy several years ago, following a retrospective survey to understand issues surrounding several fall events that occurred in late 2001-early 2002. Although dialysis population-specific data on falls had not been published at the time, the study included review of publications related to patient falls in the general population. The review identified that 33 percent of “healthy” people over age 65 fall each year, and that 5 to 10 percent of falls result in serious injury. A patient’s history of a fall is the most accurate predictor of future fall risk, and simple screening tools, referral for physical therapy and other evaluation have been identified as effective preventive elements.

As part of WRC’s fall prevention policy, Postlethwait meets with every new patient to conduct a fall risk assessment and educates everyone, regardless of their risk. “In general, the majority of our patients are at high risk for falls, and it is not necessarily related to age, although falling is the number-one unintentional injury of elderly patients,” she explains. “Some younger patients in their 50s, for example, are really surprised that their risk is so high, but it doesn’t take a lot to increase their risk if they’re not medically stable.”

Using a standard risk assessment form, staff evaluate patients in nine parameters: mental status, history of falls, ambulation, vision, gait and balance, orthostatic changes, medications, predisposing diseases, and equipment issues.

Many factors can impact a patient’s score in any of the parameters, and many issues may not be linked to a specific disability. “Impaired vision and an ability to maintain balance are critical. There are so many easy techniques—sitting down, standing up, and turning—that we may not even think about,” Postlethwait explained. “But if a patient has a lack of balance and coordination or impaired vision, they could have difficulty making some of those basic techniques that we take for granted.”

A dialysis patient’s medical complexities can compromise many issues related to fall risks. Particular medications, including anti-hypertensives that many dialysis patients take, can increase the risk for falling. A wide range of co-morbid conditions, as well as a history of injury, can increase risk as well. “High blood pressure, vertigo, stroke, Parkinson’s, seizures, osteoporosis, and arthritis all can predispose a patient to falls,” she said. “Even if you had a bone fracture as a child, you’re highly likely to get arthritis in that area as you age, so that could contribute to your fall risk.”

An assessment of equipment issues examines the assisted device a patient uses, whether it is the proper equipment, and if the patient is using it correctly. Oxygen tubing, for example, can be an easy trip hazard for patients, as can catheters. Ironically, even a cane can become problematic and lead to falls if the patient is not using it correctly, if it is not the right size or shape for the individual, or if the cane is damaged.

While age is not an indicator of fall risk, many of our WRC's elderly patients seem to be more aware of falling, according to Postlethwait. Younger patients tend to try to maintain their work around the house, for example, without being aware of their safety being compromised, while elderly patients may be more aware of falling, knowing that their physical ability has declined.

Based on each patient's assessment, Postlethwait meets with them during treatments to educate them about their specific fall risks, basic movement techniques to prevent falls, and individualized physical activity plans. Sessions range from 30-60 minutes, depending on the patient, and may include demonstrations of techniques such as the best way to get up from a recliner versus a kitchen chair, or safety tips for sitting down. "We send people home with sheets that detail what we've discussed with them, and I modify items so that they're specific to the individual patients and their home environments," she said. Patient tip sheets focus on assistive devices, loss of balance, trips/slips, and weakness. (See attached Tip Sheets)

Physical activity plans are tailored to the individual's goals, motivation and willingness to exercise and may include aerobic exercise during treatment and/or at home. Some WRC patients use an exercise bike during dialysis treatment, for example. Research indicates that aerobic exercise among people with chronic kidney disease can improve physical functioning and performance, as well as improve blood pressure control, lipid profile, and mental health. Studies into resistance training also have shown increased muscle strength and size, which can improve physical function¹.

Postlethwait sees specific physical and mental improvements among her patients who have established a routine of regular exercise. "They tend to exhibit better balance coordination and agility. This helps in the event that if they would start to fall they would be able to better catch themselves," she said. "The exercise also helps to build confidence in their ability to do physical things, even if it is just mowing their yard to carrying laundry up a flight of stairs."

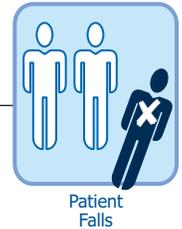
WRC's fall prevention continues from the risk assessment, to education and physical activity plans, to follow-ups before every treatment, as well as a monthly meeting with Postlethwait (or more frequently, depending on the patient). Preceding each dialysis treatment, each patient is asked about any falls that have occurred since the previous dialysis, and information is entered in the medical record. For more details, see Best Practices description at <http://www.kidneypatientsafety.org>. Details include where and why the patient fell, as well as how long it occurred after the previous dialysis treatment, if any injuries were sustained, and whether the patient went to the ER or was hospitalized after the fall. "Before I meet with a patient, I have specific information about any fall they may have had, and I can address the issue with them, whether or not the patient thinks the fall was traumatic or not significant," Postlethwait said. "I work with them on any particular techniques, or talk about what changes in their home could help, as an example."

Each month, approximately 6.5 percent of all patients undergoing hemodialysis will fall, with the most common reasons for the falls being tripping or slipping, loss of balance, and weakness, according to WRC's analysis of patient data. Most falls occur in patient's home (82 percent) on non-dialysis days,² which highlights the need for patient education and increased physical activity training to help prevent falls.

For Postlethwait, the patients' positive results are enormous. "My greatest reward," she said, "is knowing that I have helped someone make even a baby step toward a stronger, happier, fuller life while on dialysis." ■

¹ Johansen KL. Exercise and chronic kidney disease; current recommendation. *Sports Med.* 2005;35(6): 485-99

² Latos, DM. Prevention of Fall-Related Injuries in Hemodialysis Patients, presented February 28, 2008, Mid-Atlantic Renal Coalition Annual Meeting, Baltimore, MD.



Patient Fall Prevention Education

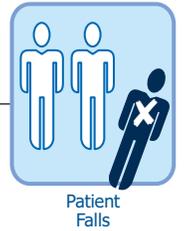
Weakness

Muscle weakness, especially in your legs, knees and hips, dramatically increases your risk for future falls, which can result in injury, trips to the emergency room and hospitalization. This is why prevention of falls through improving your weakness is a top priority in your dialysis care. Most falls among our dialysis patients happen at home on a non-dialysis day with about half resulting in injury.

Here are tips to reduce your risk of falls due to muscle weakness.

1. The best way for you to improve weakness is by performing regular exercise. Specific exercises to target your weak areas can be prescribed by Heidi (Exercise Physiologist). These exercises can increase muscular strength and endurance while maintaining flexibility in your joints.
2. Learn about your medications so you will know if you take something that may cause dizziness, vision or hearing difficulties, or sudden blood pressure drops. These side effects can increase your risk of future falls.
3. To ease standing from a chair during periods of fatigue/ weakness, push yourself up from your chair while leaning slightly forward.
4. To more easily get up stairs, use your strong leg first and follow with your weak leg. Always take only one step at a time and use handrails when available.
5. To more easily go down stairs, move your weak leg down to the next step followed by your strong leg. Remember, take one step at a time and always use handrails.
6. You should get assistance when walking on curbs or inclines that do not have a handrail.
7. Always use your assistive device as it has been prescribed for your needs.
8. If you are prone to fatigue after your dialysis treatment, be more aware of this and know that you may also be weak increasing your risk of falling.
9. Have a heightened awareness of your surroundings and your ability to maneuver your body in times of weakness.

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Patient Fall Prevention Education

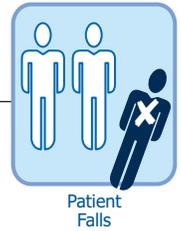
Trips/slips

Preventing future falls is an important part of your dialysis care. Falls can result in injury, trips to the emergency room and hospitalization. At Wheeling Renal Care, it is a top priority for you to know what you can do to prevent such incidents from occurring. Most falls among our dialysis patients happen at home on a non-dialysis day with about half resulting in injury.

Here are tips to reduce your risk of falls due to trips or slips.

1. Have a heightened awareness of your surroundings at all times when moving or walking.
2. Remove all throw rugs from the floor in your home. They are very easy to trip over even if they have a non-slip surface on the bottom.
3. Be aware of any wet floors from spilled liquids. This can occur anywhere but you are usually at a higher risk in your bathroom, kitchen and near doorways.
4. Be cautious of potential ice on the ground. Salt pellets and sand that are frequently used to treat ice can also cause slippage.
5. Walk carefully on ground near streets and sidewalks where black cinders could be.
6. Be careful when walking on floors that have plush carpeting and/or thick padding.
7. When sitting, always turn completely around so both legs touch the chair or bed.
8. Reach back to the chair or bed when sitting for added balance.
9. Keep all necessary items (telephone, paper, TV remote) in a close position instead of rushing to get them.
10. Learn about your medications so you will know if you take something that may cause dizziness, vision or hearing difficulties, or sudden blood pressure drops. These side effects can increase your risk of future falls.

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Patient Fall Prevention Education

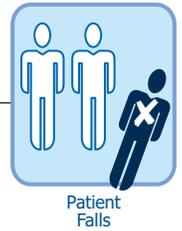
Loss of balance

Loss of balance is a common complaint that often results in falling. Even when the reason for losing your balance may be unclear, safety precautions can decrease your risk of future falls. Because falls can result in injury, trips to the emergency room and hospitalization, prevention is a top priority in your dialysis care. Be aware that most falls among our dialysis patients happen at home on a non-dialysis day with about half resulting in injury.

Here are tips to reduce your risk of falls due to loss of balance.

1. Have a heightened awareness of your surroundings at all times when moving or walking. If you do lose your balance, you may be able to locate a place to sit more quickly if you know your surroundings.
2. Learn about your medications so you will know if you take something that may cause dizziness, vision or hearing difficulties, or sudden blood pressure drops. These side effects can hinder your ability to maintain your balance.
3. Always wear shoes or slippers with rubber soles to avoid quick shifts of your body weight that will affect your balance.
4. Keep the lights on in your house when getting up to walk, even if just to the bathroom. Night lights are very helpful throughout your home.
5. Always wear your prescription glasses as directed since your vision directly affects your balance.
6. Stop walking before turning your head to look sideways.
7. Since quick movements can throw off your equilibrium, turn your entire body sideways to see things instead of turning just your head.
8. After reclining for a prolonged time, sit up for a few minutes before standing. This will reduce episodes of dizziness and blood pressure changes when standing too suddenly.
9. Be careful when bending over from a standing position, especially after your dialysis treatment. Your body may still be adjusting to being "off dialysis" and bending can cause your blood pressure to drop unexpectedly.
10. Since your activity level can influence your balance, do a prescribed exercise program regularly to keep muscles strong and joints flexible. This is a great way to improve your balance and decrease your risk of future falls.

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Patient Fall Prevention Education

Assistive devices

Because falls can result in injury, prevention is important. Dialysis patients that use an assistive device are twice as likely to experience falls as patients that do not. You should fully understand this increased risk and be more aware of your surroundings. Assistive devices can include canes, walkers, wheelchairs, handrails, and commode seats.

Here are ten tips to reduce your risk of falls due to use of assistive devices.

1. An assistive device should be prescribed to you by a health care professional. If you are using one that has not been prescribed, you may be using the incorrect one for your specific needs. Please talk with your dialysis staff about this.
2. Always use your device when walking or moving about your surroundings. Don't rely on getting around your home by holding or bracing your weight onto other objects. They may not be stable enough to hold you.
3. When available, always use handrails when walking up or down stairs.
4. Put on any braces that have been prescribed before walking.
5. Place handrails in your shower to improve your stability in this high risk area.
6. If necessary, sit on a bench while bathing or showering.
7. If necessary, use an elevated commode seat to ease in getting on and off the toilet. Place handrails near the toilet for added assistance.
8. You should have your device checked regularly for any damaged or worn out pieces.
9. Before using a new device, your health care professional should provide you with education on safety issues and proper techniques for use.
10. It is important to have your device checked for proper height before using.

** If you feel your device is not appropriate for your needs, please talk with your dialysis staff about your concerns.

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