

**Office of Integrated Health
Health & Safety Information**

Mary Irvin, BSN
Director, Office of Integrated Health

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Falls Prevention Health & Safety Alert

The Virginia Department of Behavioral Health and Developmental Disabilities (DBHDS) defines a fall as ***any situation in which someone descends (or falls) suddenly or involuntarily toward a lower surface or the ground.***

Important Facts About Falls

- There were 608 falls with injury reported through the (DBHDS) Computerized Human Rights Information System (CHRIS) incident management system from September 1, 2018 through March 31, 2019.
- In a retrospective study of falls, the CDC reported that in individuals over the age of 65, falls are the number 1 cause of injuries, and death from injury (CDC, 2017).
- 1 out of 4 persons (age 65 or older) will fall this year (CDC, 2017).
- 1 out of 5 falls (in those age 65 or older) results in serious injury (CDC, 2017).
- 95% of all hip fractures (in those age 65 or older) are due to falls (CDC, 2017).

Individuals with intellectual and developmental disabilities (IDD) may experience a fall due to physical factors, environmental factors, impaired cognitive processing, neurologic factors, other health problems, and/or a combination of the above. Some studies have found that the most common reason an individual with IDD falls is due to seizure activity (Hsieh, Heller and Miller, 2001).

Hsieh, Heller and Miller (2001) also determined that individuals with intellectual disabilities had an increased risk for falls if they: were female (when compared to males); had a diagnosis of arthritis, had a seizure disorder diagnosis, were taking more than 4 medications (polypharmacy); used walking aids; and/or if they had difficulty lifting/carrying greater than 10 lbs. (low upper extremity muscle strength). For those who do not have a seizure disorder, the potential risk factors included: severity of intellectual disability, arthritis, heart condition, back pain, urinary incontinence, use of walking aids, difficulty walking three blocks, a history of osteoporosis, a history of back pain; and a history of urinary incontinence, all of which are mentioned in the study, and categorized below.

Factors that Increase Risk for Falls

Environmental Factors

- The presence of wet or slippery floors.
- The presence of loose carpets or unstable rugs.
- The presence of poor lighting.
- Wearing poorly fitting footwear.
- A lack of surfaces to grab (Example: no grab bars).
- Seat heights on chairs that are too low.
- DME in a condition of disrepair (Example: wheelchairs, canes, walkers, and wheelchairs that are missing parts and/or are not fully functional).
- The presence of clutter on the floor.

Cognitive Processing Factors

- An inability to distinguish between safe and dangerous activities (Example: running on a tile floor, or a floor surface that is slick).
- Slowed decision making.
- A dementia diagnosis.

Neurological Risk Factors

- A seizure diagnosis.
- Head trauma.
- Stroke.
- Cerebral palsy.
- Autoimmune diseases.
- Infections.
- Paraneoplastic syndromes.
- Tumor.
- Toxic reaction.
- Vitamin E, vitamin B-12 or thiamine deficiency.
- Parkinson's disease.
- Multiple Sclerosis.
- Neurological disorders that negatively affect muscle control.
- Neurological disorders that affect proprioception.
- Ataxia.

Physical Factors

- Having vision or hearing loss.
- Having an unsteady gait.
- Having poor balance.
- Having weak muscles (Example: inability to walk more than 3 blocks).
- Being age 65 or over.
- Having fallen once before.
- Being female.
- Having skeletal problems.
- A diagnosis of arthritis.
- Taking 4 or more medications.
- The use of walking aids and other Durable Medical Equipment (DME).
- Experiencing fatigue.
- Having urinary incontinence.

Other Health Problems/Medical Conditions Which May Elevate Fall Risk in an Individual

- A diagnosis of diabetes.
- A history of low blood sugar levels in the past (hypoglycemia).
- A history of Vertigo.
- A diagnosis of Meniere's disease.
- A recent illness that has caused generalized weakness.
- Substance use such as alcohol.
- Syncope.
- Ataxia.
- Orthostatic Hypotension.



A Closer Look at Some of the Medical Conditions that May Elevate Fall Risk in an Individual

Ataxia

Ataxia is a symptom of many different types of neurological disorders or can be caused by a combination of neurological disorders. Ataxia can develop slowly over time or come on very suddenly. Ataxia can cause:

- Unsteady walk and a tendency to stumble
- Difficulty with fine motor tasks, such as eating, writing or buttoning a shirt
- Change in speech
- Involuntary back-and-forth eye movements (nystagmus)
- Difficulty swallowing
- Poor coordination

Syncope

Syncope is the medical term for fainting or passing out. Syncope can be caused by a temporary drop in the amount of blood that flows to the brain, a sudden drop in blood pressure, or a drop in heart rate. Individuals who have a history of syncope have an elevated risk for a fall. If an individual is prescribed certain medications, that may be at higher risk for an episode of syncope. Antihypertensives, diuretics, nitrates, arterial vasodilators, l-dopa, phenothiazines, and tranquilizers are some of the medications that can cause syncope (Linzer, et al., 1997). Individuals diagnosed with cardiomyopathy, arrhythmias, epilepsy and congestive heart failure are all at higher risk for an episode of syncope (Bhangu, et al., 2016; Kapoor, et., al., 1986; Linzer, et., al., 1997; Parry, et al., 2008).

Orthostatic Hypotension

Most people experience some drop in blood pressure (BP) after standing. It is a normal process and usually is not noticed by young people because their blood pressure usually recovers quickly to baseline (usually within 30 seconds or so of standing). However, as individuals age, the ability of the body to respond and readjust quickly becomes impaired. This impairment can occur due to the normal aging process, as well as chronic disease progression. Cardiovascular disease, dehydration and some medications, can also impair the body's normal ability to readjust blood pressure to normal after standing (Gangavati, et al., 2011; Puisieux, et al., 2000).

Orthostatic hypotension (OH) is usually diagnosed in individuals who have a sustained reduction of systolic BP (at least 20 mm Hg), and/or a sustained reduction of diastolic BP (at least 10 mm Hg) within 3 minutes of standing. OH may lead to dizziness, vertigo, fainting, or syncope and due to this, OH also increases an individual's risk for a fall.

Ménière's Disease

Meniere's Disease is an inner-ear condition that can cause a specific type of dizziness called vertigo. Everyone has probably felt dizzy at one time or another in their life. Dizziness (for most people), usually lasts for a few seconds or a few minutes, is fairly rare, and resolves quickly. However, vertigo is extreme dizziness that can make someone feel as if they are constantly spinning and can last for several hours or several days.

Meniere's occurs when fluid builds up inside a part of your inner ear called the labyrinth. The labyrinth is the part of the ear which holds helps with balance. Fluid in the labyrinth interferes with the signals an individual's brain receives from their inner ear and can cause both vertigo and hearing problems (Sajjadi and Paparella, 2008).

There Can Also Be a Behavioral Component to Why a Person Falls

An individual might exhibit a behavior that causes a fall or an individual might "pretend to fall."

A pretend fall is not one in which "someone descends (or falls) suddenly and involuntarily toward a lower surface or the ground" as defined by the DBHDS CHRIS reporting system.

In a pretend fall, the person purposefully places themselves on the floor. If a pretend fall is suspected, the presence of an injury should be considered and protocols for a possible injury followed and consultation with a behavioral specialist is recommended.

Tips for Preventing Falls

- The goal of preventing falls should focus on minimizing the risk of falls and the risk of injurious falls, while still maintaining individual independence.
- There are important things to consider when working to prevent falls.

Learn All You Can About Falls

One resource is a program the CDC created called STEADI (Stopping Elderly Accidents, Deaths, & Injuries). It is an initiative, for people who care for individuals who are at risk of falling, or who may have fallen in the past. You can find it here: <https://www.cdc.gov/steady/about.html> (CDC, 2019a).

Determine if the individual is at risk for falls, and if so, how high is the risk?

- Is the individual known to have any of the risks identified in the lists above?

- Consider utilizing a validated fall risk screening tool such as the MORSE, FRAT or STRATIFY.
- Talk to the individual about their risk for falls. Ask them about their fall history.
- Discuss possible risk factors (and recommendations for addressing them), with the individual's Primary Care Provider (PCP).
- Obtain a fall risk assessment from a medical professional such as the individual's PCP, a Podiatrist, a Physical Therapist, Occupational Therapist, or a Registered Nurse.

Consider Having an Environmental Assessment by a PT or an OT Completed

- Try to reduce any fall risks that might be present in the individual's environment. This should include all frequently visited locations such as: home, work, day support, group home, etc.
- Ask The Individual's Primary Care Physician (PCP) If the Individual Should Be Placed on a Vitamin D and/or Calcium Supplement to reduce the risk of a fracture if the individual experiences a fall. Some falls are actually a result of the fracturing hip and occur spontaneously, because the individual's bones are thin, porous and brittle (Sevens & Olson, 2000).
- If you have witnessed any tripping, wobbling, stumbling and/or any behaviors that indicate or imply that the individual can be "unsteady on their feet" (at times), let all of the members of the individual's support team know what you have witnessed.
- Write down what you have witnessed, including the date and the time, (so you won't forget).
- Try your best to be the eyes and ears for the team and let them know that you believe the individual may have an elevated risk for falls because you have witnessed the following... then describe the incident to the best of your ability.

When a Fall Occurs What Should You Do?

Despite the best effort to reduce risks and prevent a fall, falls can still occur! They can cause injuries such as:

- Broken bones.
- Head injuries (such as concussion).
- Soft tissue damage (sprains, scrapes, cuts, etc.).
- Fear of falling again.
- Broken teeth.

When a fall occurs remember to always consider IF there could be an injury, (even if you cannot visualize or identify any injuries). **Call 911, if appropriate. (Please see additional information that should be considered below.)** **Even if the individual does not have any injuries, follow – up with the individual’s PCP (as soon as possible), after any fall to determine if diagnostic testing or another medical intervention is needed.** The individual’s primary care physician may want the individual to be evaluated by a neurologist, a physical therapist (PT), an occupational therapist (OT), an Ear Nose and Throat (ENT) specialist, or another medical specialist to determine if diagnostic tests, therapy, medication changes, and/or direct care changes need to be initiated.

The DBHDS Health and Safety Alert “First Aid for Falls” will contain additional information on how to respond to a fall that may have resulted in a serious injury. Go to: <http://www.dbhds.virginia.gov/office-of-integrated-health#>

After a Fall

- After a fall - don’t wait: **inform the team members on the individual’s care team, as soon as possible.** The individual might need additional supports to limit and/or reduce their risk for a serious injury due to a fall.
- Develop a plan to address the risk(s) and reduce the possibility of a future fall with the care team.
- After a fall, conduct an ISP meeting to identify any referrals or interventions that might be appropriate.
- Update the individual’s Individualized Support Plan (ISP).
- Update the ISP annually and/or whenever there is a change in the individual’s health status, and/or if they have had a fall.
- Remember: DME that is in disrepair can cause a serious fall injury. Inspect the individual’s DME (Example: wheelchair, walker, rollator, stander, shower chair, etc.) on a regular basis. (The OIH/MRE Team recommends monthly DME safety checks. However, if you have an individual that knocks or bangs their DME against walls, etc. (either by accident or on purpose, due to behaviors), you might need DME safety checks more frequently. If you see any DME repair needs, such as:
 - ✓ Broken parts
 - ✓ Loose bolts, screws, brackets, clasps, etc.
 - ✓ Seat belt or harness tears

- ✓ Missing armrests
- ✓ Ripped vinyl seat backs or bottoms (can tear and cause a fall to the floor)
- ✓ Loose or damaged wheelchair seat cushions (can cause individual to slip to the floor)
- ✓ Loose wheelchair brakes that don't keep the tires from moving
- ✓ Footrests that don't work properly and/or are missing
- ✓ Parts that are loose and/or wobbly
- ✓ Missing clothing guards (if an individual is wearing a long or loose-fitting garment, (such as a poncho or a sweater), the clothing can be caught in the spokes of the wheels and the individual can be jerked to the floor)

Please email the OIH/MRE Team at: mreteam@dbhds.virginia.gov and request instructions on how to schedule an appointment with the Office of Integrated Health's, MRE Team. The MRE Team will come to any location (home, work, school, day program, group homes, etc.) and perform a DME safety assessment. If a repair can be made, the MRE Team will repair the DME the same day. If the MRE Team cannot complete the repair (due to missing parts, etc.), they will provide you with a resource sheet and will help you find a DME vendor who can make the repair, order the part, etc.

Resources

Fall Resources

- Yale School of Medicine (2019). Facts about falls. Retrieved from <https://medicine.yale.edu/intmed/geriatrics/fallprevention/facts/>
- Centers for Disease Control and Prevention (n.d.). STEADI Older Adult Fall Prevention Online Training for Providers. Retrieved from <https://www.cdc.gov/steady/training.html>.
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