

Office of Integrated Health Health & Safety Information

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Falls First Aid Health & Safety Alert

The Center for Disease Control and Prevention (CDC) (2017) (after reviewing several retrospective studies of fall injuries for those 65 and older) reported that:

- 1 out of every 4 people (age 65 years or older), will fall this year.
- 1 out of 5 falls results in a serious injury.
- 95% of all hip fractures are due to falls.

Fall prevention strategies aid in reducing risk for falls and injuries related to falls, but falls still occur.

The Direction People Fall

- The direction a person falls often determines the type of injury they receive (Rubenstein, 2006).
- **Forwards or backwards falls** onto an outstretched hand usually result in wrist fractures. (Wrist fractures among individuals between the ages of 65-75, are more common than hip fractures).
- **Falls to the side** usually result in hip fractures.
- **Falls backwards** onto the buttocks results in a much lower rate of hip fractures.

Fear of Falling

Falls may cause individuals to become fearful of falling again, even if the fall did not result in an injury. Many individuals who have experienced a fall, suffer from some type of psychological difficulty as a result. Fear of falling, lack of self-confidence and activity avoidance are among some of the psychological symptoms that individuals who fall may experience (Legters, 2002). Some individuals develop a fear of falling, even though they have not yet experienced a fall (Legters, 2002; Suzuki, Ohyama, Yamada & Kanamori, 2002). Fear of falling can lead to a decrease in participation in activities and important events. When individuals repeatedly refuse to participate in activities due to fall-related fears, they begin to lose muscle tone and bone strength (Hsieh, Heller & Miller, 2001).

When a Fall Occurs What Should You Do (Mayo Clinic, 2019a, b, c)?

Serious Injuries

- Assess immediate danger to all involved. Assess airway, breathing, and circulation.
- If the individual is not breathing, start CPR, call 911, and follow First Aid/CPR protocols.
- Is the individual conscious or unconscious (even for a short time)? If yes, the individual should be assessed for concussion in the ER immediately, call 911.
- Does the individual have confusion, vomiting, or poor skin color? If yes, call 911.
- If the individual has bleeding that will not stop with direct pressure over the wound, call 911.
- If the individual has a cut or burn that is large, deep, or one that involves the head, chest, or abdomen, call 911.
- If the individual has skin or lips that look blue, purple, or gray, call 911.
- If the individual has a seizure (rhythmic jerking or loss of consciousness) immediately following the fall, call 911.
- If the individual has an inability to move, call 911.
- If the individual is having trouble breathing, or choking after a fall, call 911.
- If the individual displays any lack of responsiveness, call 911.
- If an individual (who can typically ambulate), can't bear weight, call 911.
- If the individual fell from any elevation or height (such as off a porch, a deck, a ramp, etc., call 911.
- If the individual fell from any type of lift (a vehicular lift, a patient lift, etc.), call 911.
- If the individual is involved in any type of DME-related falls (falls from a manual wheelchair, a power wheelchair, a stander, a gait trainer, a patient lift, etc.), call 911.
- If the individual falls out of a vehicular seat onto the ground, and/or is thrown from a vehicle or falls "out of" a vehicle, call 911.
- If you observe excessive swelling to any area of the individual's body or any limb (legs, arms, etc.) after a fall, call 911.

Treating Minor Injuries After a Fall (Mayo Clinic, 2019a, b, c) (When the individual has none of the above listed serious injuries)

- If the injury from the fall is a minor skin abrasion, such as a simple skinned knee or a scratched up hand, clean the wound and bandage it.
- Cover the wound. Apply a bandage, rolled gauze or gauze held in place with paper tape. (Covering the wound will keep it clean.) If the injury is just a minor scrape or scratch, leave it uncovered.
- Change the dressing frequently. Do this at least once a day or whenever the bandage becomes wet, dirty, etc.
- Make sure the individual has had a recent tetanus shot, if it has been more than five years (since they had their last one), and/or the wound is deep or dirty.
- Watch for signs of infection. Take the individual to their primary care physician, if you see any signs of infection on the skin or near the wound, such as redness, increasing pain, any type of drainage, warmth or swelling (Mayo Clinic, 2019a).
- Document the injury, per your agency's policies.
- It is always a good idea to alert the members of the individual's care team and explain the incident, so that everyone is well-informed.

Falls with Head Injuries

According to the Mayo Clinic (2019b), it is best practice for an appropriate licensed healthcare provider to evaluate the severity of the head injury and make recommendations. An appropriate licensed health care provider means a physician, physician assistant, osteopath physician, or athletic trainer licensed by the Virginia Board of Medicine; or a neuropsychologist licensed by the Board of Psychology; or a nurse practitioner licensed by the Virginia State Board of Nursing (Virginia Board of Education (VBOE), 2016). Part of the assessment that the medical professional will complete is an assessment for signs and symptoms of a concussion. In the Commonwealth of Virginia, no other licensed health providers are qualified to do a concussion assessment (VBOE, 2016).

A person does not have to experience a blow to the head to suffer from a concussion. The CDC (2019b, p. 1) describes a concussion as,

“a type of traumatic brain injury—or TBI—caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth. This sudden movement can cause the brain to bounce around or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging brain cells.”

Facts about Concussions

- A concussion may be caused by a direct blow to the head, face, neck, or another part of the body, which results in a force being transmitted to the head.
- A concussion typically is a short-lived impairment of neurologic functioning.
- A concussion usually resolves spontaneously.
- In some cases, concussion symptoms may evolve over a number of minutes, hours, days, weeks or months.
- A concussion may result in neuropathological changes, but many times no structural abnormalities will be seen on standard neuroimaging studies, such as MRI's.
- A concussion may or may not involve loss of consciousness.

Who is Qualified to Perform a Concussion Assessment?

An appropriate licensed health care provider means a physician, physician assistant, osteopath physician, or athletic trainer licensed by the Virginia Board of Medicine; a neuropsychologist licensed by the Board of Psychology; or a nurse practitioner licensed by the Virginia State Board of Nursing (VBOE, 2016).

Call 911 or your local emergency number if any of the following signs or symptoms are apparent, because they may indicate a more serious head injury (Mayo Clinic, 2019a, b, c):

Indicators of Serious Injury in Adults

- Severe head or facial bleeding.
- Bleeding or fluid leakage from the nose or ears.
- Severe headache.
- Any change in level of consciousness.
- Black-and-blue discoloration below the eyes or behind the ears.
- Cessation of breathing.
- Confusion.
- Loss of balance.
- Weakness or an inability to use an arm or leg.
- Unequal pupil size.
- Slurred speech.
- A seizure.

Indicators of Serious Injury in Children

- Any of the signs or symptoms for adults (listed above).
- Persistent crying.
- Refusal to eat.
- Bulging in the soft spot on the front of the head (infants).
- Repeated vomiting.

If the individual that experiences a fall is between the ages of 2 and 22, (and attends school in Virginia), you may want to consider the implications of the following Virginia law when formulating your provider policies:

“Pursuant to Senate Bill 652, (2010), House Bills 410 and 1096, and Senate Bill 172 (2014), and House Bill 954 (2016), the Code of Virginia was amended to include § 22.1-271.5 and § 22.1- 271.6 directing the Board of Education to develop and distribute to school divisions by July 1, 2016, guidelines for policies dealing with concussions in students, and requiring each school division to develop policies and procedures regarding the identification and handling of suspected concussions in students.” You can find guidance for caregivers, providers, parents, etc., in the 2010, 2014, and 2016 Virginia legislation addressing concussions here: <http://www.doe.virginia.gov/boe/guidance/health/2016-guidelines-for-policies-on-concussions-in-students.pdf> (VBOE, 2016).

Centers for Disease Control: What is a concussion (CDC, 2013)?

https://youtu.be/Sno_0Jd8GuA

WATCH this Video - *What is a Concussion?*

In Addition to Concussion Symptoms, Be Familiar with Signs and Symptoms of Head, Neck, Back or Spine Injuries (Mayo Clinic, 2019a, b, c):

- Check for bumps, bruises or depressions on the head, neck, back or spine.
- Bruising of the head, especially around eyes and behind ears.
- Blood or other fluids coming from the ears and nose.
- Confusion.
- Change in level of consciousness.
- Seizures.
- Nausea or vomiting.

- Partial or complete loss of movement of any body part.
- Loss of balance.
- Impaired memory, repeating self, speech difficulties.
- Severe pain of the head, neck, back, or spine.
- Weakness, tingling or loss of sensation in hands, feet, fingers, toes.
- Severe, persistent headache.
- Helmet was broken or damaged during fall.

Waiver Providers in Virginia

After any fall, document the incident, outcome, and initial and ongoing observations, and complete a Fall Risk Assessment. Contact the individual's care team and make sure they are aware of the injury. A person's care team can be any of the following: a legal guardian, parents, a primary care physician, an agency's nurse, a physical therapist, etc. If this is the first incidence of a fall, complete the Fall Risk Assessment and update all plans with care team members and include recommended interventions from the team (DBHDS, 2012; 2016; 2018).

If the fall results in more than minor injuries and the individual has been seen in the ER and/or hospitalized, after discharge: follow discharge instructions, schedule an appointment with the individual's primary care physician and make sure they know that the individual has had a serious fall. If you have any questions about discharge instructions, contact the individual's PCP. The PCP may want to order diagnostic tests and/or schedule medical specialty evaluations. Make sure the Individual Service Plan (ISP) (for adults with ID/DD) or the Individualized Education Plan (IEP) (for children ages 2-22) reflects any physician and/or team recommended interventions (DBHDS, 2012; 2016; 2018).

All Other Caregivers (Parents, Teachers, Etc.)

After any fall, document the incident, outcome, and initial and ongoing observations. Contact the individual's care team and make sure they are aware of the injury. A person's care team can be any of the following: a legal guardian, parents, a primary care physician, an agency's nurse, a physical therapist, etc. (DBHDS, 2012; 2016; 2018).

If the fall results in more than minor injuries and the individual has been seen in the ER and/or hospitalized, after discharge: follow discharge instructions, contact the individual's primary care physician and make sure they know that the individual has had a serious fall. If you have any questions about discharge instructions, contact the individual's PCP. The PCP may want to order diagnostic tests and/or schedule medical specialty evaluations. Make sure the Individual Service Plan (ISP) (for adults with ID/DD) or the Individualized Education Plan (IEP) (for children ages 2-22) reflects any physician and/or team recommended interventions.

Resources

Fall Resources

- Yale School of Medicine (Yale School of Medicine, 2019). Facts about falls. Retrieved from <https://medicine.yale.edu/intmed/geriatrics/fallprevention/facts/>
- Centers for Disease Control and Prevention (CDC, n.d.). STEADI Older Adult Fall Prevention Online Training for Providers. Retrieved from <https://www.cdc.gov/steady/training.html>.
- Centers for Disease Control and Prevention (CDC, 2013). STEADI: Webinar for health care providers [Webinar]. Retrieved from <https://search.cdc.gov/search/?query=Falls&sitelimit=&utf8=%E2%9C%93&affiliate=cdc-main>

Concussion Resources

- American Academy of Pediatrics, (AAP, 2018) <https://www.aap.org/en-us/advocacy-and-policy/state-advocacy/Documents/Concussion.pdf>
- Brain Injury Association of Virginia, (BIAV, 2013) <https://www.biav.net/?s=concussion>
- Children's Hospital of the King's Daughters, (CHKD, 2019) <https://www.chkd.org/Patients-and-Families/Health-Library/Quick-Tips/Could-It-Be-A-Concussion-/>
- Children's National Health System (CNHS, 2019) <https://childrensnational.org/departments/center-for-neuroscience-and-behavioral-medicine/programs-and-services/safe-concussion-outcome-recovery--education-score-program/concussion-faqs>
- Virginia Department of Health (VDH, 2019) <http://www.vdh.virginia.gov/traumatic-brain-injury/concussions/>
- Virginia High School League (VHSL, n.d.) <https://www.vhsl.org/sports-medicine/concussions/>

Concussion Assessment Tools

- Adults Concussion Assessment Tool (CDC, 2019b) <https://www.cdc.gov/headsup/pdfs/providers/ace-a.pdf>
- Sports Concussion Assessment Tool (SCAT) (AMSSM, 2005) http://www.amssm.org/MemberFiles/SCAT_v13-Side_2.doc

Educational Strategies for Working with Students Who Have Concussions

- Brain Injury and the Schools: A Guide for Educators, Brain Injury Association of Virginia, http://www.doe.virginia.gov/special_ed/disabilities/traumatic_brain_injury/brain_injury_schools.pdf

References

- Acute Concussion Assessment (2006). American Academy of Pediatrics (2018). Concussion management: Return to play. Retrieved from <https://www.aap.org/en-us/advocacy-and-policy/state-advocacy/Documents/Concussion.pdf>
- Agency for Health Research and Quality (2013). Tool 3G: STRATIFY scale for identifying fall risk factors. Retrieved from Agency for Health Research and Quality (2013). Tool 3G: STRATIFY scale for identifying fall risk factors. Retrieved from <http://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtk-tool3g.html>
- American Academy of Pediatrics (2018). Concussion management: return to play. Retrieved from <https://www.aap.org/en-us/advocacy-and-policy/state-advocacy/Documents/Concussion.pdf>
- American Medical Society for Sports Medicine (2005). Sport Concussion Assessment Tool. Retrieved from http://www.amssm.org/MemberFiles/SCAT_v13-Side_2.doc
- American Red Cross (2016), Traumatic injuries (pp. 110-111). First Aid/CPR/AED Instructors Manual. USA: Staywell.
- Bhangu, J., McMahon, C. G., Hall, P., Bennett, K., Rice, C., Crean, P., ... & Kenny, R. A. (2016). Long-term cardiac monitoring in older adults with unexplained falls and syncope. *Heart*, 102(9), 681-686.
- Brain Injury Association of Virginia (2013). Brain injury and the schools: A guide for educators. Retrieved from http://www.doe.virginia.gov/special_ed/disabilities/traumatic_brain_injury/brain_injury_schools.pdf
- Brain Injury Association of Virginia (2019). Concussion: Mild traumatic brain injury in the elderly. Retrieved from <https://www.biav.net/?s=concussion>
- Centers for Disease Control (2019a). About CDC's STEADI. Retrieved from <https://www.cdc.gov/steadi/about.html>
- Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2019). Web-based injury statistics query and reporting system (WISQARS).
- Center for Disease Control and Prevention. (2017). Home and recreational safety: Important facts about falls. Retrieved from <https://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>
- Centers for Disease Control and Prevention, (2019b). Heads up: What is a concussion? Retrieved from https://www.cdc.gov/headsup/basics/concussion_what.html
- Centers for Disease Control and Prevention (n.d.). STEADI Older Adult Fall Prevention Online Training for Providers. Retrieved from <https://www.cdc.gov/steadi/training.html>.
- Centers for Disease Control and Prevention (2013). STEADI: Webinar for health care providers [Webinar]. Retrieved from <https://search.cdc.gov/search/?query=Falls&sitelimit=&utf8=%E2%9C%93&affiliate=cdc-main>
- Centers for Disease Control and Prevention (2013). What is a concussion? Retrieved from https://www.youtube.com/watch?v=Sno_0Jd8GuA&feature=youtu.be
- Centers for Disease Control (2019c). What you can do to prevent falls? Retrieved from <https://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>
- Children's Hospital of the King's Daughters (CHKD) (2019). Could it be a concussion? Retrieved from <https://www.chkd.org/Patients-and-Families/Health-Library/Quick-Tips/Could-It-Be-A-Concussion/>
- Children's National Health System (2019). Concussion FAQ's. Retrieved from <https://childrensnational.org/departments/center-for-neuroscience-and-behavioral-medicine/programs-and-services/safe-concussion-outcome-recovery--education-score-program/concussion-fags>
- Gioia, G. and Collins, M. (2005). Acute concussion evaluation. Retrieved from <https://www.cdc.gov/headsup/pdfs/providers/ace-a.pdf>
- High School League, (n.d.). Concussion. Retrieved from <https://www.vhsl.org/sports-medicine/concussions/>
- Hsieh, K., Heller, T., & Miller, A. B. (2001). Risk factors for injuries and falls among adults with developmental disabilities. *Journal of Intellectual Disability Research*, 45, 76–82.
- Hsieh, K., Rimmer, J., & Heller, T. (2012). Prevalence of falls and risk factors in adults with intellectual disability. *American journal on intellectual and developmental disabilities*, 117, 442-454.
- Jørstad, E. C., Hauer, K., Becker, C., Lamb, S. E., & ProFaNE Group. (2005). Measuring the psychological outcomes of falling: a systematic review. *Journal of the American geriatrics society*, 53(3), 501-510.



- Kapoor, W., Snustad, D., Peterson, J., Wieand, H. S., Cha, R., & Karpf, M. (1986). Syncope in the elderly. *The American journal of medicine*, 80(3), 419-428.
- Legters K. (2002). Fear of falling. *Physical Therapy*, (82), 264-72.
- Linzer, M., Yang, E. H., Estes, N. M., Wang, P., Vorperian, V. R., & Kapoor, W. N. (1997). Clinical guideline: diagnosing syncope: part 1: value of history, physical examination, and electrocardiography. *Annals of internal medicine*, 126(12), 989-996.
- Mayo Clinic (2019a). Cuts and scrapes: First aid. Retrieved from <https://www.mayoclinic.org/first-aid/first-aid-cuts/basics/art-20056711>
- Mayo Clinic (2019b). Head trauma: First aid. Retrieved from <https://www.mayoclinic.org/first-aid/first-aid-head-trauma/basics/art-20056626>
- Mayo Clinic (2019c). Spinal injury: first aid. Retrieved from <https://www.mayoclinic.org/first-aid/first-aid-spinal-injury/basics/art-20056677>
- Nandy, S., Parsons, S., Cryer, C., Underwood, M., Rashbrook, E., Carter, Y., ... & Feder, G. (2004). Development and preliminary examination of the predictive validity of the Falls Risk Assessment Tool (FRAT) for use in primary care. *Journal of Public Health*, 26(2), 138-143.
- National Council on Aging (2019). National falls prevention resource center. Retrieved from <https://www.ncoa.org/center-for-healthy-aging/falls-resource-center/>
- Parry, S. W., Frearson, R., Steen, N., Newton, J. L., Tryambake, P., & Kenny, R. A. (2008). Evidence-based algorithms and the management of falls and syncope presenting to acute medical services. *Clinical Medicine*, 8(2), 157-162.
- Peninsula Health (1999). Fall Risk Assessment Tool (FRAT). Retrieved from <https://media-openideo-rwd.oengine.com/attachments/c8eb3c60-7a44-4550-b580-4cf23ee8801c.pdf>
- Rubenstein, L. Z. (2006). Falls in older people: Epidemiology, risk factors and strategies for prevention. *Age and Ageing*, 35(suppl. 2), 37-41.
- Scheffer, A. C., Schuurmans, M. J., Van Dijk, N., Van Der Hooft, T., & De Rooij, S. E. (2008). Fear of falling: measurement strategy, prevalence, risk factors and consequences among older persons. *Age and ageing*, 37(1), 19-24.
- Suzuki, M., Ohyama, N., Yamada, K., & Kanamori, M. (2002). The relationship between fear of falling, activities of daily living and quality of life among elderly individuals. *Nursing & health sciences*, 4(4), 155-161.
- Virginia Board of Education (2016). Virginia Board of Education guidelines for policies on concussions in students. Retrieved from <http://www.doe.virginia.gov/boe/guidance/health/2016-guidelines-for-policies-on-concussions-in-students.pdf>
- Virginia Department of Behavioral Health and Developmental Services (DBHDS), Commonwealth of Virginia Government (2012). Fall Risk Assessment Guidance Document. Retrieved from <http://www.dbhds.virginia.gov/assets/document-library/archive/library/licensing/ol/fallriskassessments.pdf>
- Virginia Department of Behavioral Health and Developmental Services (DBHDS), Commonwealth of Virginia Government (2016). Orientation manual for direct support professionals (DSPs) and supervisors: supporting people in their homes and communities [Brochure]. Retrieved from https://partnership.vcu.edu/DSP_orientation/downloadables/DSP%20Orientation%20Manual%20-%20REVISED_08102016_with%20test_effective%20date09012016.pdf
- Virginia Department of Behavioral Health and Developmental Services, Commonwealth of Virginia Government (2018). Chapter 105: Rules and regulations for licensing providers by the Department of Behavioral Health and Developmental Services (DBHDS). Retrieved from <http://www.dbhds.virginia.gov/assets/QMD/licensing/ch.105.full.wemerqcompliance.9.01.18docx.pdf>
- Virginia Department of Health (2019). Concussion: What is a concussion? Retrieved from <http://www.vdh.virginia.gov/traumatic-brain-injury/concussions/>
- Virginia High School League (n.d.). Concussions. Retrieved from <https://www.vhsl.org/sports-medicine/concussions/>
- Yale School of Medicine (2019). Facts about falls. Retrieved from <https://medicine.yale.edu/intmed/geriatrics/fallprevention/facts/>
- Zijlstra, G. A. R., Van Haastregt, J. C. M., Van Eijk, J. T. M., van Rossum, E., Stalenhoef, P. A., & Kempen, G. I. (2007). Prevalence and correlates of fear of falling, and associated avoidance of activity in the general population of community-living older people. *Age and ageing*, 36(3), 304-309.