WHITE PAPER

Understanding Fall Risk and Fall Prevention

By Russ L'HommeDieu, DPT, ATP, CFPS · Doctor of Physical Therapy, RESNA Assistive Technology Professional, Certified Fall Prevention Specialist · November 2, 2026

Executive summary

Falls are the leading cause of injury and injury death in Americans 65 and older, and most are preventable when risk is found early and addressed across the person, the medications and the home. More than 14 million older adults (about 1 in 4) report a fall each year, 43,020 died from falls in 2024, and fall injuries sent more than 3.85 million to emergency departments in 2023 (National Safety Council; the CDC's estimate, which counts differently, is about 4.5 million a year).

Key messages for Home Safety Solutions:

- **Falls are multifactorial.** About a third of the drivers are intrinsic (body and health), a third are medications and alcohol, and a third are environmental. Most falls happen when several risks combine, so single fixes rarely solve the problem.
- **Exercise is the strongest single intervention.** Progressive balance, functional and strength training reduces the rate of falls by about 15% in pooled trials and is a USPSTF Grade B recommendation (2024). Programs need roughly 50 hours over 3 to 6 months and must continue, or the benefit fades.
- **High-risk people need a multifactorial assessment and a tailored plan.** The 2022 World Falls Guidelines and CDC STEADI agree: screen everyone, assess those at risk, and intervene on what is found (gait, strength, balance, medications, blood pressure, vision, hearing, feet, cognition, continence, mood and the home).
- **Home modification works best for those at highest risk and when delivered by a trained clinician.** The guidelines specifically favor assessment of the person's capacities and behaviors in their own home, not a generic checklist alone.

- **Medications are the most modifiable risk.** Sedatives, sleep aids, antidepressants, antipsychotics, opioids, gabapentinoids, anticholinergics and blood pressure drugs all raise risk. Three or more central nervous system active drugs together is a red flag (2023 AGS Beers Criteria).
- **Prepare for the fall that still happens.** Teaching people how to get up from the floor, keeping a phone or alert device on the body, and protecting bone health reduce the harm of falls that are not prevented.

Home Safety Solutions applies this evidence where it matters most: inside the client's home, along the routes they actually walk, with recommendations the client chooses and can sustain.

Scope and limits. This paper is educational. It does not replace evaluation by the person's physician, physical therapist, occupational therapist or pharmacist. Medication changes are made only by the prescriber. Some interventions described here are outside the scope of practice of some professions; each reader is responsible for practicing within their license.

The scope of the problem

Older adult falls are common, rising and expensive: the age-adjusted fall death rate rose 21% in six years, from 64.7 per 100,000 in 2018 to 78.4 per 100,000 in 2024 (CDC).

- **Older adults who report a fall each year:** more than 14 million, about 1 in 4 (2020 survey; CDC Falls Data).
- **Share reporting a fall, by age:** 25.9% at 65 to 74, 28.5% at 75 to 84, and 33.8% at 85 and older (2018; USPSTF 2024).
- **Fallers injured badly enough to need care or limit activity for a day:** about 37% (2018; CDC Facts).
- **Emergency department visits for falls:** about 4.5 million a year by CDC estimate, with 3.1 million treated and released and 1.4 million admitted (recent annual data; CDC Facts).
- **Deaths from falls, age 65 and older:** 43,020 (2024; National Safety Council).
- **Ten-year change:** deaths up 51% and ED visits up 38% (through 2024; National Safety Council).
- **Hip fracture hospitalizations:** nearly 319,000 a year; falls cause 88% of hip fracture ED visits and admissions and 83% of hip fracture deaths (2019; CDC Facts).

- **Traumatic brain injury:** falls are the most common cause in older adults (2016 to 2017; CDC Facts).
- **Healthcare spending on nonfatal falls:** $80.0 billion, mostly paid by Medicare (2020; Haddad et al., *Injury Prevention* 2024).
- **Worldwide:** about 30% of adults over 65 fall each year (global estimate; World Falls Guidelines 2022).

Why the numbers keep climbing. The population is aging, people survive longer with heart disease, cancer and stroke, and more older adults live with several chronic conditions and the medications used to treat them. Most fall deaths occur in people 85 and older, the group with the fastest-growing death rate.

Who falls and who is hurt. Women report more falls and more nonfatal injuries; men have higher fall death rates, and the gap widens with age. When health, body composition and balance are similar, men over 50 are actually more likely to fall than women (Pereira 2013). Age alone is not the driver: under favorable conditions of health, body composition and balance, age is not a significant risk factor.

What a fall sets in motion.

- Falling once doubles the chance of falling again, yet fewer than half of people who fall tell their doctor.
- Hip fractures usually result from falling sideways; lateral falls raise the hip fracture rate about sixfold.
- Many people who are not injured become afraid of falling, cut back on activity, lose strength and fall more: the "vicious cycle" of falls.
- One in eight older adults who fall lie on the floor for more than an hour, and up to 80% of people over 90 cannot get up unaided. A long lie brings dehydration, pressure injury, rhabdomyolysis, pneumonia and loss of confidence.
- Falls and hip fractures are leading drivers of nursing home admission and loss of independence.

As Professor Bernard Isaacs observed, it takes a child years to gain independent mobility, and an older person can lose it in a day.

Defining and classifying falls

A fall is an unexpected event in which a person comes to rest on the ground, floor or other lower level. This definition, used by the World Health Organization, ProFaNE and the World Falls Guidelines, includes slips, trips and syncopal (fainting) events.

Three types of falls (Morse classification). Knowing the type tells you where to aim prevention.

- **Anticipated physiological (about 78% of falls):** falls in people who score at risk on fall risk testing. Typical causes are abnormal gait, prior falls, assistive device use, slowed righting reactions, frequent toileting, altered mental status and fall-risk medications. These are preventable through tailored interventions for each identified risk factor.
- **Accidental (about 14% of falls):** slips, trips and other accidents, usually environmental. Typical causes are spills, urine on the floor, rugs, clutter, pets and leashes, grandchildren underfoot, long pant legs, poor footwear and equipment failure. Prevention focuses on the environment, footwear, equipment checks and education.
- **Unanticipated physiological (about 8% of falls):** falls from a sudden medical event the person's risk profile did not predict, such as seizure, syncope, delirium, heart attack, orthostatic hypotension or stroke. These cannot always be prevented, so the focus is post-fall care, injury protection and preventing a repeat.

About half of injuries in hospitalized older adults are linked to bathroom use, more than half to medications known to contribute to falls, and about 40% of inpatient falls occur within 30 minutes of an hourly rounding visit.

Terms used in the World Falls Guidelines (2022)

- **Recurrent falls:** Two or more falls in the previous 12 months
- **Unexplained fall:** No cause found after a multifactorial assessment, and not explained by a hazard or a gait or balance problem; treat as possible syncope
- **Severe fall:** A fall with injury needing a physician, a lie on the floor for an hour or more, an emergency visit, or loss of consciousness
- **Fall-related injury:** Fracture, dislocation, head injury, sprain, bruise, laceration or other injury after a fall

- **Fall risk stratification:** Grading a person's risk to decide what further assessment and intervention they need
- **Multifactorial falls risk assessment:** Assessment across many domains to find the risk factors that can be changed
- **Multidomain intervention:** Two or more interventions, chosen from the assessment and tailored to the person
- **Multicomponent intervention:** A fixed package given to everyone, not tailored
- **FRIDs:** Fall risk increasing drugs

Why falls happen: risk factors

About 60% of falls result from several factors acting together, and risk rises with each added factor. A useful rule of thumb: roughly one third of fall causes are intrinsic (medical and age-related), one third are medications, alcohol and over-the-counter products, and one third are environmental.

The strongest modifiable risk factors are balance impairment, gait impairment, lower body weakness and medication use (Moncada and Mire 2017). A history of falling raises future risk two- to sixfold.

- **Mobility and musculoskeletal (largely modifiable):** lower body weakness, sarcopenia, poor endurance, gait and balance impairment, reduced flexibility, kyphosis or scoliosis, osteoporosis, arthritis, foot problems, musculoskeletal pain, use of an assistive device, limited activity.
- **Sensory (often partly modifiable):** low visual acuity, poor contrast sensitivity and depth perception, field loss, multifocal lenses, hearing loss, vestibular disorders, peripheral neuropathy and lost proprioception.
- **Cardiovascular and autonomic (often modifiable):** orthostatic and postprandial hypotension, arrhythmia, heart failure, carotid sinus hypersensitivity, syncope, POTS.
- **Neurological and cognitive (partly modifiable):** Parkinson disease, stroke, multiple sclerosis, dementia and mild cognitive impairment, delirium, poor executive function and dual tasking.
- **Psychological (modifiable):** fear of (concern about) falling, depression, anxiety, stress, distraction.

- **Medications (modifiable):** psychoactive drugs, blood pressure drugs, opioids, anticholinergics, polypharmacy (4 or more drugs), alcohol mixed with medications.
- **Metabolic and general health (often modifiable):** diabetes (especially on insulin), low body mass index or obesity, vitamin D or B12 deficiency, dehydration, anemia, acute illness, cancer, recent hospital discharge (within a month).
- **Bladder and sleep (modifiable):** urgency, incontinence, nocturia (2 or more times a night), sleep deprivation, sleep apnea.
- **Environment and behavior (modifiable):** clutter, rugs, cords, poor lighting and glare, stairs without rails, slippery bathrooms, low or soft seating, wrong bed or toilet height, pets, ice, rushing, carrying objects, unsafe footwear, living alone, poor nutrition.
- **Nonmodifiable, but they flag who needs the most help:** age over 80, female sex, prior falls, prior fractures, prior stroke or TIA, cognitive impairment.

Gaps STEADI does not emphasize. Six factors clinicians often miss are: sleep deprivation, fear of falling, depression, stress, distraction and pain. Each is addressed later in this paper.

Trade-offs. Some risk factors come from treating something else. For an older adult on blood pressure medication, the risk of stroke must be weighed against the risk of a serious fall injury, and the right answer differs from person to person (Tinetti 2014). Decisions belong to the patient and prescriber together.

Current guidelines and frameworks

The major guidelines agree on the core approach: ask everyone about falls, assess those at risk across many domains, and intervene on what is found, with exercise as the foundation. They differ mainly on who gets screened and how much assessment is needed before acting.

- **CDC STEADI (2012; algorithm revised 2025).** Developed by the CDC from the AGS/BGS 2011 guideline. Screen, assess and intervene; Stay Independent and 3 Key Questions; TUG, 30-second chair stand and 4-stage balance; follow up in 30 to 90 days.
- **AGS/BGS Clinical Practice Guideline (2011).** American and British Geriatrics Societies. Annual fall screening for all adults 65 and older; multifactorial assessment and intervention for those at risk.

- **World Falls Guidelines (2022).** 96 experts from 39 countries and 36 societies (Montero-Odasso et al., *Age and Ageing*). Opportunistic case finding; stratify into low, intermediate and high risk; multifactorial assessment and a person-centered multidomain plan for high risk.
- **AGS response to the World Falls Guidelines (2024).** American Geriatrics Society (*JAGS* 72:1669). Keep annual screening of all adults 65 and older; ECG by clinical judgment, not routinely; cognitive screen with whatever tool is feasible.
- **AGS recommendations to update STEADI (2025).** AGS workgroup for the CDC (Johnson et al., *JAGS* 73:2019). STEADI-3 first, then STEADI-12; add hearing, cognition and bladder health; FRID-focused medication review; refer straight to PT when screening points there; frame fall risk as a chronic condition.
- **USPSTF (2024).** U.S. Preventive Services Task Force. Exercise for adults 65 and older at increased risk (Grade B); individualize multifactorial interventions (Grade C).
- **AGS Beers Criteria (2023; alternatives list 2025).** American Geriatrics Society. Potentially inappropriate medications, including those to avoid with a history of falls.
- **WHO Step Safely (2021).** World Health Organization. Life-course strategies for preventing and managing falls.

Key World Falls Guidelines recommendations (with grade). Grade 1 is strong, 2 is conditional; A is high-quality evidence, B moderate, C low; E is expert consensus.

- Clinicians should routinely ask older adults about falls, because many do not report them. *Grade 1A*
- Older adults who report a fall or concerns should have an objective gait and balance assessment. *Grade 1A*
- Use gait speed to stratify risk (under 0.8 m/s); the TUG (over 15 seconds) is an alternative. *Grade 1A; TUG 1B*
- Offer a multiprofessional, multifactorial assessment to community-dwelling adults at high risk. *Grade 1B*
- Offer multidomain interventions based on that assessment to those at high risk. *Grade 1B*
- Exercise with balance-challenging and functional work, 3 or more times a week, progressed, for at least 12 weeks and continued. *Grade 1A*
- Add tai chi and/or progressive resistance training when feasible. *Grade 1B*
- Review medications and deprescribe FRIDs as part of a multidomain intervention. *Grade 1B*
- Manage orthostatic hypotension as part of a multidomain intervention. *Grade 1A*

- Have a trained clinician assess and modify home hazards, considering the person's capacities and behaviors. *Grade 1B*
- Assess cognition as part of the multifactorial assessment. *Grade 1B*
- Evaluate concern about falling with the FES-I or Short FES-I. *Grade 1A (community)*
- Use exercise, CBT and/or occupational therapy to reduce concern about falling. *Grade 1B*
- Build the older adult's goals, values and preferences into the plan. *Grade 1B*
- Give vitamin D only to those at risk of deficiency, not universally. *Expert advice*
- Do not use physical restraints to prevent falls in care homes. *Grade 1B*
- Do not use scored fall risk screening tools in hospitals; do a multifactorial assessment instead. *Grade 2B*
- Wearables alone are not supported for prevention; telehealth or smart home systems may be combined with exercise. *Grade 2C*

Where U.S. guidance stands in 2026. STEADI remains the U.S. clinical standard. The AGS recommendations above were submitted to CDC for a planned STEADI update; clinicians can adopt them now because they are evidence-based and reduce visit time. The USPSTF Grade B for exercise matters for access: under the Affordable Care Act, private insurers must cover Grade A and B preventive services without cost sharing.

Screening and risk stratification

> **Check your own risk in two minutes.** Our fall risk quick check starts with these same three key questions, then adds the 12-question Stay Independent checklist if any answer is yes. Your answers stay on your device. Take the fall risk quick check at homesafety.solutions/resources

Every adult 65 and older should be asked about falls at least once a year and after any fall, because most will not raise it themselves. The visit's reason may have nothing to do with falls, yet a fall risk screen may be the most important thing the clinician offers.

Step 1: the three key questions (STEADI-3). At risk if yes to any:

1. Have you fallen in the past year? If yes: how many times, and were you injured?
2. Do you feel unsteady when standing or walking?
3. Are you concerned (worried) about falling?

The single question "Have you fallen in the past 12 months?" is specific but misses many people: its sensitivity is about 43% at ages 65 to 74 and 67% at 85+. Adding the other two questions catches more.

Step 2: the Stay Independent checklist (STEADI-12). Use it when any key question is positive, or as a previsit questionnaire. A score of 4 or more means increased risk. If the score is under 4 but the person fell in the past year, they are still at risk.

- "I have fallen in the past year" (2 points): one fall predicts another.
- "I use or have been advised to use a cane or walker" (2 points): marks existing mobility limits.
- "Sometimes I feel unsteady when I am walking" (1 point): a sign of poor balance.
- "I steady myself by holding onto furniture at home" (1 point): "furniture walking," a sign of poor balance.
- "I am worried about falling" (1 point): concern predicts falls and activity restriction.
- "I need to push with my hands to stand up from a chair" (1 point): weak leg muscles.
- "I have some trouble stepping up onto a curb" (1 point): weak leg muscles.
- "I often have to rush to the toilet" (1 point): urgency, especially at night.
- "I have lost some feeling in my feet" (1 point): neuropathy and stumbles.
- "I take medicine that sometimes makes me light-headed or more tired than usual" (1 point): medication side effects.
- "I take medicine to help me sleep or improve my mood" (1 point): psychoactive drugs.
- "I often feel sad or depressed" (1 point): depression is linked to falls.

The National Council on Aging's online Falls Free CheckUp is a public version of this tool; it scores the answers and urges people at high risk to see their doctor.

Step 3: stratify and act (World Falls Guidelines).

- **Low ("average") risk:** no falls, or one non-severe fall, and no gait or balance problem. Offer education, physical activity advice (150 to 300 minutes a week plus balance and strength), bone health, and a yearly reassessment.
- **Intermediate risk:** one non-severe fall plus a gait or balance problem (for example gait speed under 0.8 m/s or TUG over 15 seconds). Offer all of the above plus targeted strength and balance exercise or physical therapy.

- **High risk:** a fall with injury, 2 or more falls in a year, frailty, being unable to get up for an hour or more, or suspected loss of consciousness. Offer all of the above plus a multifactorial assessment and a co-designed multidomain plan, with follow-up within 30 days.

Making screening work in practice. Send the Stay Independent brochure and the CDC Check for Safety home checklist before Medicare Annual Wellness Visits. Train front desk and medical assistants to give the questionnaire and flag positives. Spread assessment across visits when time is short, and remember that some answers point straight to the right action: a person who feels unsteady and furniture-walks can be referred to physical therapy without waiting for in-office testing. Use "average risk" rather than "no risk", and talk about safe mobility and staying independent rather than "falls" when that lands better.

In hospitals and care homes, every older adult is treated as high risk; scored screening tools add time without reducing falls (see Care settings).

Assessment tools

No single test predicts falls well, so choose a small battery that matches the person's level of function and the setting, and always watch how they move while testing. The Shirley Ryan AbilityLab Rehabilitation Measures Database describes the reliability and norms of each tool.

Gait, strength and balance

- **Gait speed (4 m walk)** measures overall mobility and is called the sixth vital sign. Under 0.8 m/s signals risk (World Falls Guidelines, Grade 1A), and it predicts decline, discharge destination and mortality.
- **Timed Up and Go (TUG):** rise, walk 3 m (10 ft), turn, return and sit; it also taps executive function. At risk at 12 seconds or more (STEADI) or over 15 seconds (World Falls Guidelines).
- **30-Second Chair Stand** measures leg strength and endurance, arms crossed, in a 17 inch chair. Scores below average for age and sex signal risk: under 14 for men and 12 for women at 60 to 64; 12 and 11 at 65 to 69; 12 and 10 at 70 to 74; 11 and 10 at 75 to 79; 10 and 9 at 80 to 84; 8 and 8 at 85 to 89; 7 and 4 at 90 to 94. Needing the arms scores 0.
- **4-Stage Balance Test:** feet together, semi-tandem, tandem and single leg, 10 seconds each. At risk if unable to hold tandem stance for 10 seconds.

- **Berg Balance Scale:** 14 static and dynamic tasks scored 0 to 56, taking 15 to 20 minutes. 41 to 56 is low risk, 21 to 40 medium and 0 to 20 high; a change of 8 points is needed to show true change.
- **Tinetti POMA:** balance and gait subscales; lower totals mean higher risk. Pairs well with observational gait analysis.
- **Short Physical Performance Battery (SPPB):** balance, gait speed and chair stands; sensitive to change in intervention studies.
- **Functional Gait Assessment and Dynamic Gait Index:** walking with head turns, pivots, obstacles and stairs; useful for vestibular and community-level clients.
- **Functional Reach, Four Square Step Test, 3 or 6 Minute Walk:** limits of stability, stepping and endurance; good choices for higher functioning clients.
- **Floor transfer test:** the ability to get down to and up from the floor; screens frailty and the risk of a long lie.

Watch the walk. During the TUG, Tinetti or Berg, note asymmetry, head or trunk lean, forward flexion, reduced arm swing, hip hiking, circumduction, scissoring, path deviation, Trendelenburg, foot drop, antalgic or ataxic gait, festination, shuffling, en bloc turning, a wide base, slow speed, short strides, steadying on walls and improper use of the walking aid. Fallers often show reduced cervical rotation, plantarflexion, dorsiflexion and hip extension, less lateral sway and reduced arm swing.

Sensory and vestibular

- **Romberg:** Feet together, eyes open then closed for up to a minute. Worse with eyes closed means reliance on vision (proprioceptive or vestibular loss); poor with eyes open suggests cerebellar involvement
- **Modified CTSIB:** Four 30-second conditions: eyes open and closed on firm ground, then on foam. Failing condition 2 shows visual dependence; failing 3 and 4 shows poor use of vision or vestibular input
- **Dix-Hallpike and roll test:** Positional nystagmus for BPPV
- **Head Impulse, nystagmus, test of skew (HINTS); oculomotor exam:** Separate central from peripheral causes of dizziness
- **Dynamic Visual Acuity:** Read a chart while the head turns at 2 Hz; a loss of more than 2 lines indicates a gaze stability deficit

- **Motion Sensitivity Quotient:** 16 movements scored for intensity and duration; maps which positions to use in habituation
- **Snellen chart, contrast test, confrontation fields, clock test:** Acuity (worse than 20/40 flags risk), contrast sensitivity, field loss and blind spots
- **Whisper test or hearWHO app:** Hearing screen

Cognition, mood and concern about falling

- **Mini-Cog, MoCA, SLUMS, Trail Making Test B, clock drawing:** Cognitive and executive function screen; executive dysfunction strongly predicts falls
- **4AT or CAM:** Delirium
- **Geriatric Depression Scale (15 item), PHQ-2:** Depression
- **Falls Efficacy Scale International (FES-I, 16 items) or Short FES-I (7 items):** Concern about falling; recommended Grade 1A, free in 30+ languages from the FES-I site
- **Tinetti Falls Efficacy Scale (10 items):** Total over 70 indicates fear of falling
- **Activities-specific Balance Confidence (ABC), Dizziness Handicap Inventory:** Balance confidence and dizziness disability

Medical measures. Orthostatic blood pressure (supine 5 minutes, then standing at 1 and 3 minutes; a drop of 20 systolic or 10 diastolic, or symptoms, is positive). Medication review against a FRID list. Feet, sensation and footwear. Three Incontinence Questions (3IQ). Nutrition with the Mini Nutritional Assessment, plus vitamin D and B12 when indicated.

Setting-specific tools. In home health, the Missouri Alliance for Home Care MAHC-10 is a validated fall risk tool. In hospitals, the Morse Fall Scale and Johns Hopkins Fall Risk Assessment Tool (6 to 13 moderate, over 13 high) are widely used, though the World Falls Guidelines advise replacing scored screening with a multifactorial assessment for every older inpatient. Software such as the webFCE Fall Risk Assessment combines 12 evidence-based measures into a one-year risk estimate.

Medications and fall risk

Medications are among the most modifiable fall risks: three of every four older adults take at least one drug linked to falls, and in one trial withdrawing psychotropic medications cut the fall rate by 66%. The approach is STOP when possible, SWITCH to a safer option, or REDUCE to the lowest effective dose, always by the prescriber and with a monitoring plan. Risk climbs with four or more medications, and a drug started or increased shortly before a fall should be

suspected first.

Fall risk increasing drugs (FRIDs)

- **Benzodiazepines** (alprazolam, clonazepam, diazepam, lorazepam, temazepam) cause sedation, slowed reaction and poor balance; avoid in older adults (Beers).
- **"Z-drug" sleep aids** (zolpidem, eszopiclone, zaleplon) are linked to delirium, falls and fractures.
- **OTC sleep and allergy aids, the first generation antihistamines** (diphenhydramine, doxylamine, hydroxyzine, meclizine, dimenhydrinate, promethazine), are strongly anticholinergic: confusion, blurred vision and sedation.
- **Antidepressants** (tricyclics such as amitriptyline and doxepin over 6 mg, paroxetine, SSRIs, SNRIs) cause sedation, orthostasis, low sodium and slowed reaction.
- **Antipsychotics** (haloperidol, olanzapine, quetiapine, risperidone) cause sedation, orthostasis and parkinsonism.
- **Anticonvulsants and gabapentinoids** (gabapentin, pregabalin, carbamazepine) cause dizziness, sedation and ataxia.
- **Opioids** (oxycodone, hydrocodone, tramadol, morphine) cause sedation, orthostasis and low sodium.
- **Skeletal muscle relaxants** (cyclobenzaprine, methocarbamol, carisoprodol, baclofen) cause sedation and anticholinergic effects and are linked to fractures.
- **Blood pressure and heart drugs** (diuretics, alpha blockers such as doxazosin, terazosin and prazosin, clonidine, beta blockers, ACE inhibitors, digoxin) cause orthostatic hypotension, dehydration and slow heart rate.
- **Bladder antispasmodics** (oxybutynin, tolterodine) cause anticholinergic confusion.
- **Diabetes drugs** (insulin; sulfonylureas such as glipizide and glyburide) cause hypoglycemia; insulin-treated diabetes nearly doubles fall risk.
- **Others:** anticoagulants (which raise injury severity), metoclopramide, laxatives, NSAIDs and alcohol, through varied effects.

2023 AGS Beers Criteria points that matter for falls

- With a history of falls or fractures, avoid anticholinergics, antidepressants (SSRIs, SNRIs, TCAs), antiepileptics, antipsychotics, benzodiazepines, Z-drugs and opioids unless safer alternatives are not available.
- Avoid any combination of three or more central nervous system active drugs (antiepileptics, antidepressants, antipsychotics, benzodiazepines, Z-drugs, opioids, skeletal muscle relaxants). Gabapentinoids and muscle relaxants were added in 2023.
- Opioids with gabapentin or pregabalin risk severe sedation and respiratory depression.
- Several anticholinergics together raise the risk of delirium, cognitive decline and falls.
- In 2025 the AGS published a list of safer drug and non-drug alternatives to Beers medications (AGS).

Recommended medication review tools: STOPPFall (a FRID-specific screening and deprescribing tool), STOPP/START, the Beers Criteria, CDC STEADI-Rx for pharmacists, and the CDC MyMedications list and action plan for patients. The AGS 2025 STEADI recommendations suggest limiting the fall-focused review to FRIDs to save time.

Spot the class from the name

- **-olol** (beta blocker): watch for a blunted heart rate response, fatigue and dizziness.
- **-pril** (ACE inhibitor): watch for hypotension.
- **-sartan** (ARB): watch for hypotension.
- **-statin** (cholesterol drug): watch for muscle pain and weakness.
- **-azepam, -azolam** (benzodiazepine): watch for sedation and imbalance.
- **-prazole** (proton pump inhibitor): watch for bone loss and fractures with long use.

Red flags during rehab or a home visit: unexplained fatigue or weakness (statins, beta blockers, CNS drugs); dizziness or sudden blood pressure drops (diuretics, antidepressants, alpha blockers); new tremor or movement changes (antipsychotics, Parkinson drugs); big energy swings tied to dosing times (insulin, Parkinson and pain medications); a cluster of eye drop bottles (low vision). Also ask about supplements, herbals and alcohol.

Raise it with patients. Few older adults have ever discussed falls and medications with anyone; most will consider a change when the prescriber explains it. Never advise stopping a medication on one's own.

Cardiovascular and autonomic factors

Recurrent unexplained falls are most often cardiovascular, and orthostatic hypotension is the most common cause. Managing it is a Grade 1A World Falls Guidelines recommendation.

Measuring orthostatic blood pressure. Lie the person down for 5 minutes and record blood pressure and pulse. Stand them up and repeat within 1 minute and again at 3 minutes (up to 5 minutes if symptoms suggest a delayed drop). A fall of 20 mm Hg systolic or 10 mm Hg diastolic, or lightheadedness or dizziness, is positive. People with postural hypotension are often taking several drugs that lower blood pressure, so review the medication list.

Managing orthostatic hypotension

- Stop, switch or reduce medications that lower blood pressure, and set a blood pressure goal that balances stroke and fall risk.
- Encourage at least 48 ounces of fluid a day unless the physician limits fluids.
- Teach staged rising: pump the ankles about 20 times, sit at the edge of the bed, then stand and keep moving the feet before walking.
- Consider waist-high compression stockings or an abdominal binder.
- Medications such as midodrine or fludrocortisone are physician decisions.

Postprandial hypotension. Blood pressure can drop during or after meals, causing dizziness. Smaller, lower-carbohydrate meals and rising slowly after eating help.

Syncope and arrhythmia. The World Falls Guidelines recommend a cardiac history, auscultation, orthostatic readings and an ECG in a multifactorial assessment (the AGS prefers an ECG by clinical judgment). Unexplained falls should be worked up like syncope: vasovagal syncope, carotid sinus hypersensitivity, bradycardia and tachyarrhythmias. Pacemakers reduce falls in people with carotid sinus hypersensitivity.

POTS and post-viral dysautonomia (including Long COVID). After cardiac, neurological and pulmonary causes are ruled out, one approach is a gradual reset of the autonomic nervous system: hydration (lemon or lime adds electrolytes), compression garments, reduced stressors, starting exercise supine with core work, ankle pumps and heel slides before rising, slow nasal breathing, standing up while keeping the feet moving, scheduled bathroom breaks every 2 hours, cooling vests, and "fitness snacking" to avoid post-exertional crashes. Recovery is slow and variable.

Cervicogenic and vertebral artery symptoms. Dizziness with neck rotation and extension needs physician referral when vertebral artery involvement is suspected; test for BPPV as well.

Vision and low vision

Older adults with low vision are about twice as likely to fall, and about 1 in 6 Americans over 70 live with low vision. Aging eyes need roughly three times as much contrast to detect objects, so lighting and contrast are as important as the eyeglass prescription.

Definitions. Low vision is vision loss that glasses cannot correct. Mild low vision is about 20/40 to 20/60, moderate 20/60 to 20/200; legal blindness is 20/200 or worse in the better eye after correction, or a visual field of 20 degrees or less. The three most common causes behave differently:

- **Age-related macular degeneration** takes central vision (faces, reading, color), so people struggle to identify items and read labels and medication bottles.
- **Glaucoma** takes peripheral vision (tunnel vision), so people miss obstacles, doorframes, pets and steps to the side.
- **Diabetic retinopathy** causes patchy blind spots, poor night vision and glare sensitivity, so night bathroom trips and changes in lighting are high-risk moments.

Signs of unrecognized vision loss: many eye drop bottles, trailing a hand along walls or counters, shorter steps, closing one eye (possible double vision after stroke or brain injury), hesitating at doorways, stairs and changes in lighting, and trouble with paperwork that may be blamed on cognition. Ask when the last eye exam was and how they would describe their vision.

Evidence-based vision interventions

- An annual eye exam after age 50; replace outdated prescriptions.
- For active people who wear multifocals, single-lens distance glasses for walking outdoors and on stairs reduce falls (VISIBLE trial). Multifocals blur the ground when looking down; use separate reading glasses.
- Expedite first-eye cataract surgery and minimize delay to the second eye: risk rises between the two operations.
- Warn that new glasses can briefly raise fall risk; practice outdoor walking and stairs with them.

- Home hazard reduction by an occupational therapist prevents falls in people with severe visual impairment.

The low vision home assessment looks at lighting, glare, contrast and color, patterns, safety hazards and organization.

- Lighting: layered and adjustable, task lamps placed below eye level and behind the shoulder, motion sensor night lights, lights in dark cabinets and closets, portable clip lights for outings. Trial warm, cool and natural white bulbs with the client.
- Glare: understand discomfort, disabling and blinding glare (the moment the bathroom light flicks on at night lasts much longer for someone with low vision). Use sheer curtains, matte surfaces, dimmers and tinted filter glasses.
- Contrast: a contrasting strip on each step edge, a toilet seat and grab bars that stand out from the wall, dark placemats under white plates, contrast between floor and wall at doorways.
- Patterns: busy carpets and tile hide edges and dropped items; solid surfaces are safer.
- Organization: fixed places for everything, labels facing forward, frequently used items between hip and shoulder height.

Low vision tools

- **Identifying items.** Low-tech: bump dots, puff paint, rubber bands, safety pins, sock locks. High-tech: talking label pen, smartphone NFC tags (WayAround), color identifier.
- **Reading and writing.** Low-tech: bold-line paper, felt-tip pens, signature and check guides, large-print checks. High-tech: lighted handheld and stand magnifiers, portable video magnifiers, desktop CCTV, OCR readers (OrCam, desktop scanners).
- **Medications and health.** Low-tech: large-print planner, eye drop guide, contrasting tray for pills. High-tech: talking blood pressure cuff, scale, thermometer and glucometer; ScripTalk talking prescription labels, free through participating pharmacies.
- **Kitchen.** Low-tech: liquid level indicator, cutting guides, mandoline with guard. High-tech: talking thermometer.
- **Phone and home.** Low-tech: high-contrast keyboard stickers. High-tech: phone accessibility settings (zoom, larger text, color invert, VoiceOver), Be My Eyes and Seeing AI apps, smart speakers for lights, locks and thermostat.

Safety caution: head-worn magnifying wearables distort depth perception; never walk while wearing one. Refer clients who need magnification beyond simple aids to a low vision specialist. State vision rehabilitation services (in Florida, the Division of Blind Services) may help with device costs.

Vestibular disorders and dizziness

Dizziness should always be asked about, and its cause matters: BPPV is fixed with a repositioning maneuver, vestibular hypofunction improves with exercise, and central or cardiovascular causes need medical referral. By age 40 about 35% of people have some inner ear dysfunction, and the share rises with age. Balance requires at least two of the three inputs: vision, vestibular and proprioception.

Common causes of dizziness

- **Peripheral vestibular:** BPPV; vestibular hypofunction (neuritis, labyrinthitis, Meniere disease, acoustic neuroma)
- **Central:** Stroke or TIA, vestibular migraine, post-concussion syndrome, Parkinson disease, MS, progressive supranuclear palsy, cerebellar disorders
- **Cardiovascular:** Orthostatic and postprandial hypotension, arrhythmia
- **Other:** Cervicogenic dizziness, chronic motion sensitivity, medications

BPPV compared with hypofunction

- **Spinning.** In BPPV it comes with position changes and lasts under 1 minute. In vestibular hypofunction it is constant for hours to days at onset, then gives way to motion sensitivity.
- **Balance.** In BPPV it worsens with position change or head movement. In hypofunction the person leans or falls toward the affected side and veers.
- **Nystagmus.** In BPPV it is torsional and vertical on Dix-Hallpike, or horizontal on the roll test. In hypofunction it is horizontal and direction-fixed, seen at rest early on and with fixation removed later.
- **Hearing.** Unaffected in BPPV; may be reduced in hypofunction.
- **Treatment.** BPPV responds to canalith repositioning (Epley and related maneuvers). Hypofunction needs vestibular rehabilitation, started within 2 weeks of onset.

Red flags for central causes: abnormal smooth pursuit or saccades, vertical or direction-changing nystagmus, skew deviation, ataxia, dysmetria, new neurological signs. Refer urgently.

Vestibular rehabilitation components and dosing (APTA Academy of Neurologic PT guideline)

- Gaze stabilization (VOR x1): acute or subacute unilateral loss, 3 times a day for at least 12 minutes total; chronic unilateral loss, 3 to 5 times a day for at least 20 minutes for 4 to 6 weeks; bilateral loss, 3 to 5 times a day for 20 to 40 minutes for 5 to 7 weeks. Progress speed toward 2 Hz, add busy backgrounds, narrower stance and foam.
- Habituation: repeat the movements that provoke mild to moderate symptoms (guided by the Motion Sensitivity Quotient), increasing speed and complexity; optokinetic and virtual reality stimuli are newer options.
- Balance and gait: static and dynamic, varying surface, base of support and vision; at least 20 minutes a day for 4 to 6 weeks in chronic unilateral loss and 6 to 9 weeks for bilateral loss.
- Endurance: walking programs. Stationary cycling alone has not helped.
- Vestibular suppressants are for the first days only; they are not supported for chronic dizziness.

Make it functional. Translate drills into real tasks: scanning grocery shelves, bending to load a dishwasher, walking outdoors at dusk, and the night walk to the bathroom by night light. Cervicogenic dizziness also needs manual therapy and neck exercise; a post-concussion client needs a team approach.

Proprioception, neuropathy, feet, footwear and hearing

Proprioception, the body's sense of where its parts are, is an often-overlooked part of postural control. With age, people lose sensitivity to light touch, vibration and joint position; neuropathy, joint replacement, casts and boots, edema, scars and chronic pain blur the brain's map of the body further. A positive Romberg points to sensory ataxia from causes such as vitamin B12 deficiency (including from long-term metformin), diabetic neuropathy and CIDP.

Restoring proprioception

- Active, weight-bearing movement and progressively harder balance: one-leg stance, 3-way kicks, wall-supported shoulder stability, then single-leg squats, cone pick-ups and crossover walking.
- Sensory input: tapping and brushing the limbs, vibration, weighted vests (BalanceWear torso weighting), compression garments, barefoot exercise on safe surfaces.
- Everyday tasks indoors and outdoors, because practice is task specific.
- Remember that fatigue and soreness, especially after eccentric work, temporarily degrade proprioception and raise fall risk.
- After knee, hip or ankle replacement, train the joints around the new one; coordination between joints is often impaired.

Neuropathic pain combines numbness with burning or tingling, often worse at night when there are fewer distractions. Daytime activity, footwear, compression, ankle pumps, TENS and topical options help; gabapentinoids and SNRIs carry fall risk of their own.

Feet and footwear

- Examine feet for deformity (bunions, claw toes), calluses, ulcers, reduced sensation and pain. A podiatry program of foot care, foot and ankle exercises, orthoses and footwear advice reduced falls in older adults with disabling foot pain.
- Safer shoes have low heels (under about 1.5 inches), a firm heel counter, thin firm soles with good traction, a high surface contact area, and secure fastening such as hook and loop. Avoid backless slippers, worn treads and walking in socks; if shoes are not worn indoors, use non-skid socks.
- Some clinicians also use minimalist footwear to activate intrinsic foot muscles (abductor hallucis, toe spread) and reduce knee loading in knee osteoarthritis; transition gradually and only when sensation and balance allow.
- Orthotics for fallers range from off-the-shelf to custom carbon fiber, floor reaction and toe-off AFOs; functional electrical stimulation (such as the Bioness L300 Go) helps foot drop.
- Keep cane and walker tips intact; use ice tips and traction cleats where needed.

Hearing. Hearing loss independently raises fall risk, probably through shared vestibular damage, the mental effort of listening and reduced spatial awareness. Ask about hearing, screen with a whisper test or the WHO hearWHO app, keep hearing aids working with fresh batteries (rechargeable models avoid battery changes), and refer to audiology.

Exercise as prevention

Exercise that challenges balance, done often enough and long enough, is the single most effective fall prevention strategy. In the 2024 USPSTF review of 37 trials (16,117 people), exercise cut the rate of falls by 15% (IRR 0.85), the number of people who fell by 8% and injurious falls by 16%; other meta-analyses found fall-related fractures reduced by up to 61%.

The dose that works

- At least 50 hours of training over 3 to 6 months (Sherrington meta-analysis); programs with a balance component cut falls by about 17% more. Lower doses, or walking alone, do not reliably reduce falls and can raise risk in high-risk people.
- Three or more sessions a week, individualized and progressed for at least 12 weeks, then continued (World Falls Guidelines, 1A). Benefits disappear when exercise stops.
- Balance work must be done standing and must be genuinely challenging: moderate to high balance challenge is essential.
- Add progressive resistance training and/or tai chi when feasible (1B). Strength training alone or balance training alone is less effective than the combination.
- Background activity for all: 150 to 300 minutes of moderate (or 75 to 150 of vigorous) aerobic activity a week, muscle strengthening 2 or more days, plus multicomponent balance activity (Physical Activity Guidelines for Americans). Break up long periods of sitting every 1 to 2 hours.
- "Do not prescribe under-dosed strength training programs for older adults" (APTA, Choosing Wisely).

Proven programs

- **Otago Exercise Program:** a PT-prescribed home program with a warm-up, 5 leg strengthening exercises with ankle weights and 12 balance exercises progressed from supported to unsupported, done 3 times a week, plus walking twice a week. About 35% fewer falls in high-risk older adults (up to 46% in some reports).
- **Tai Ji Quan: Moving for Better Balance:** group tai chi, with about 55% fewer recurrent falls.
- **Stepping On:** a 7-week group workshop on fall prevention strategies, with about 30% fewer falls.

- **A Matter of Balance:** a group program that addresses concern about falling and increases activity and confidence.
- **Other community programs:** YMCA Moving for Better Balance, Enhance Fitness, SAIL, Fit and Strong, Healthy Steps, Bingocize and CAPABLE (a home program with an OT, nurse and handyman), all listed in the CDC Compendium and NCOA directory.
- **Perturbation-based balance training:** unpredictable pushes, slips or trips in several directions while safely harnessed. It improves reactive stepping, with benefits seen after a single session in some studies.
- **Aquatic balance training:** water-based work with perturbations that builds confidence and suits people with pain or weight-bearing limits.

What a good session includes

- Static balance progressed from a wide to a narrow base (feet together, tandem, single leg), then eyes closed or foam.
- Dynamic balance: reaching, turning, stepping in all directions, figure-8s, obstacle courses, dance steps.
- Dual-task training: walking while talking, counting backward, carrying a cup or laundry, with variable priority instructions. Teach people to be present and to stop talking or answering the phone on uneven ground or in crowds.
- Strength of the anti-gravity muscles (neck and back extensors, glutes, quadriceps, calves) and the hip abductors and quadratus lumborum for lateral stability; sideways falls multiply hip fracture risk about sixfold.
- Sit-to-stand power, stairs, floor transfers and core work (seated dead bug, bridges, wood chops, planks as able).
- Rotation of the eyes, trunk and pelvis; rotation is lost early in Parkinson disease.
- For frail clients, low-intensity blood flow restriction walking may build strength when heavy loading is not possible.

Neuroplasticity principles behind training: use it or lose it; use it and improve it; specificity; repetition; intensity; time; salience (it must matter to the person); age; transference; interference (bad compensations block good learning). Sleep consolidates motor learning, and a sedentary life produces maladaptive plasticity. A single bout of aerobic exercise improves mood, attention and reaction time for about 2 hours.

The home environment

Home modification reduces falls most in people at high risk and in those with severe vision loss, and works best when a trained clinician (typically an occupational or physical therapist) assesses the person's abilities and habits in their own home and solves problems with them (World Falls Guidelines, 1B). A checklist alone finds hazards; a clinician also sees how this person gets out of this bed, onto this toilet and up these steps. Recommended structured tools include the Westmead Home Safety Assessment, the Falls Behavioural Scale and the University at Buffalo Home Safety Self-Assessment Tool (HSSAT).

Top five fixes to make today

1. Remove or secure throw rugs.
2. Add motion sensor lights in the bedroom, hallway and bathroom.
3. Clear clutter and cords from walkways.
4. Check handrails and grab bars and install them where missing.
5. Store daily-use items where no reaching, bending or climbing is needed.

Room-by-room hazards and solutions

- **Whole home.** Watch for clutter, cords, rugs, poor lighting, narrow paths and a phone out of reach. Fix with clear paths at least 36 inches wide (wider for walkers), rugs removed or given non-slip backing, motion sensor lighting, rearranged furniture, and a phone kept on the body at all times.
- **Front, back and side entries.** Watch for missing or loose railings, broken or steep steps, unmarked thresholds, dark entries, uneven pavement, wet or slick walkways and no grab bar. Fix with rails on both sides, repaired steps, contrasting tape on step edges and thresholds, motion lights, threshold ramps, an outdoor grab bar by the door, and a bench to set packages down.
- **Hallway and foyer.** Watch for slippery or uneven flooring, clutter, dim light and hard-to-reach fixtures. Fix with secured runners, stretched carpet, shoe trays and hooks, brighter fixtures and battery motion lights.

- **Living room.** Watch for rugs, cords across the floor, unstable, low or soft chairs, chairs without arms and hard-to-reach switches. Fix with firm chairs with armrests at the right height (risers or firm cushions), cord covers or rerouted cords, remote or smart switches and a couch cane.
- **Kitchen.** Watch for high or low cabinets, step stools and chairs used for reaching, spills, pets underfoot and poor light. Fix by keeping daily items at waist to shoulder height, using a sturdy step stool with a handrail (never a chair), cleaning spills at once, and adding under-cabinet lights, a pet gate while cooking and non-slip anti-fatigue mats.
- **Bedroom.** Watch for a bed too high or low, no night light, phone and glasses out of reach, rugs and cords. Fix with a bed height that lets the feet rest flat with knees level with hips, a bed cane or half rail, at least two night lights plus lights along the path to the bathroom (under-bed motion lights), phone, glasses, flashlight, water and medications on the nightstand, and shoes or non-slip slippers by the bed.
- **Bathroom.** Watch for no grab bars, a slippery tub or floor, a low toilet, a high tub wall, bath rugs and clutter. Fix with grab bars by the toilet and inside and outside the tub or shower (into studs, not suction), tension-mounted floor-to-ceiling poles where walls do not allow bars, a non-slip mat and decals, a raised toilet seat or safety frame, a tub transfer bench or shower chair, a handheld shower, a contrasting toilet seat and a toilet bowl night light.
- **Stairs.** Watch for poor light, no rails, clutter, steep or slippery steps and a last step the same color as the floor. Fix with switches at top and bottom, rails on both sides for the full length, adhesive treads and contrasting nosing; carry less and keep a hand free, count the steps, and never rush to answer the phone.
- **Laundry and basement.** Watch for steep stairs, cords, heavy baskets and a same-colored floor at the bottom of the stairs. Fix with smaller baskets, a contrasting color painted at the stair base, rails and lighting.
- **Garage and yard.** Watch for uneven or slick floors, shoes by the door, loose items on shelves and threshold steps. Fix with floor repairs, a designated shoe spot, secured shelving, marked thresholds and lighting.
- **Outdoors in winter and travel.** Watch for ice and snow. Fix with snow service, traction cleats, cane ice tips and heated steps where needed.

Design details that matter

- Contrast: older eyes need about three times the contrast. Make edges of steps, counters, grab bars and toilet seats stand out, and keep a distinct color change between floor and wall and at doorways.
- Night routes: the walk from bed to toilet is the highest-risk trip of the day. Light the whole route, consider a bedside commode, and address urgency and nocturia.
- Pets: dogs and cats trip people and leashes pull them over; train pets to stay clear and use gates.
- Accessibility standards: the 2010 ADA Standards for Accessible Design give dimensions for grab bars (1.25 to 2 inch diameter, 1.5 inch wall clearance), clear floor space and ramps; they are not required in private homes but are a sound reference. Ramp run is set by rise: at 1:12, each inch of rise needs 12 inches of run.
- Hire qualified installers for grab bars, rails, ramps and electrical work, and match every modification to the person's abilities, habits and preferences. A Certified Aging-in-Place Specialist (CAPS) remodeler can help with larger projects.

Assistive devices and technology

The right device, correctly sized and taught, reduces falls; the wrong device, a damaged one or one never taught, causes them. Technology can speed help after a fall, but current evidence does not show that wearables alone prevent falls (World Falls Guidelines, 2C).

Mobility aids

- Choose the least restrictive device that is safe, and train its use, including turns, doorways, curbs and transfers.
- Use caution with four-wheel rollators for people with poor control: they roll in many directions and brakes are often not used or not working. Alternatives include two-wheel walkers, rollators with locking rear legs, Lofstrand crutches, walking sticks and stabilizing walkers such as the U-Step 2 (U-shaped base, reverse braking, laser and sound cueing for Parkinson freezing).
- Check for worn tips, loose parts and correct height at every visit. In long-term care, the most falls happen during transfers and when rising from an unlocked wheelchair.

- Bed canes, couch canes, car canes, standing canes with trays, transfer benches, reachers, elastic shoelaces and sock aids reduce risky bending and reaching.

Getting help after a fall

- Keep a phone on the body, not across the room. Personal emergency response systems (pendant or wrist, ideally with automatic fall detection and GPS) shorten long lies and reduce hospital use. Many older adults still delay pressing the button, so practice using it.
- Smartwatches offer fall detection (Apple Watch fall detection must be turned on for some users). The iPhone Health app's Walking Steadiness measures balance and gait from normal walking and can alert the person and a family member when steadiness is low; watch for sudden changes in walking asymmetry.
- Regular check-in calls from family or neighbors and a key safe for responders complement devices.

Sensors and smart homes

- Motion sensor lighting, smart speakers to control lights, locks and thermostats by voice, and video doorbells reduce trips in the dark and rushing to the door.
- Passive monitoring (radar, AI vision such as VSTAlert bed-exit prediction, bed and chair sensors) is growing in facilities. Bed alarms have weak evidence and alarm fatigue is real; wireless modular bed-absence sensors performed well in one hospital study. Telehealth or smart home systems combined with exercise are conditionally recommended (2C).
- Respect privacy and consent: no cameras in bathrooms, clear consent for drop-in calling, and the ability to turn monitoring off. Technology supplements, and never replaces, human help.

Protective devices

- Hip protectors reduce hip fractures in high-risk institutional residents when worn; adherence is the problem. Wearable airbag belts and vests (Helite Hip'Safe, about $800; airbag vests about $1,000 to $1,170) are emerging options.
- Beveled bedside fall mats and low or floor beds reduce injury for people who roll out of bed, though they can become a trip hazard for walkers.

Injury mitigation and bone health

Some falls will happen despite the best plan, so prevention also means making falls less harmful: stronger bones, safer landings, faster rescue and the skill to get up.

Bone health

- The USPSTF recommends osteoporosis screening (bone density testing) for women 65 and older and younger postmenopausal women at increased risk. Anyone with a low-trauma fracture should have both a falls assessment and a bone health assessment; fracture liaison services link the two.
- Fracture risk tools (FRAX, Garvan) and DEXA guide treatment. Medications that reduce fractures include bisphosphonates (alendronate, ibandronate, risedronate) and bone-building or antiresorptive agents (teriparatide, abaloparatide, denosumab).
- Weight-bearing, resistance and balance exercise protect bone and reduce falls together. Adequate protein, calcium and vitamin D support bone and muscle.

Vitamin D in 2026: what changed

- **USPSTF falls recommendation (2024):** No longer addresses vitamin D for falls; a separate review is in progress. The 2018 advice against routine vitamin D to prevent falls in community-dwelling adults is no longer part of the falls statement
- **USPSTF fracture recommendation (2018):** Against 400 IU or less of vitamin D with 1,000 mg or less calcium for primary fracture prevention in postmenopausal women; insufficient evidence at higher doses
- **World Falls Guidelines (2022):** Not universal; supplement those at risk of deficiency (care home residents, homebound, frail); 800 to 1,000 IU daily is reasonable for them
- **AGS STEADI recommendations (2025):** About 1,000 to 2,000 IU of vitamin D3 daily from diet plus supplements; no high-dose bolus; check levels only when clinically indicated (for example osteoporosis or fracture)
- **Older handouts (STEADI 2017, AFP 2017):** Recommended at least 800 IU daily for all at risk; this is now outdated as a universal fall measure

Bottom line for Home Safety Solutions: encourage clients to discuss vitamin D and bone health with their physician; deficiency should be corrected for bone and muscle, but vitamin D is not a substitute for exercise and home modification.

Safe falling. Teach and practice, when safe and supervised, how to fall: tuck and roll, let the body rotate and land on large muscular areas such as the buttocks and thigh, squat into backward falls, and avoid catching the fall on a stiff outstretched arm, which risks wrist fracture. Martial arts break-fall techniques can be adapted carefully. Practice on a mat or bed first.

Getting up from the floor. Up to 80% of people over 90 cannot get up after a fall, and lying an hour or more causes dehydration, kidney injury, pressure injury, hypothermia and pneumonia. Teach floor recovery with backward chaining, starting from the final step (kneeling to sitting in a chair) and working back to lying on the floor. The usual sequence: stay still and check for injury; roll to the side; push up to hands and knees; crawl to a sturdy chair; bring one foot forward; push up and turn to sit. If you cannot get up, call for help, keep warm, shift position and stay as comfortable as possible. Caregivers should be taught not to drag or lift an uninjured person, but to coach them through the steps. A lift assist call is itself a trigger for a falls assessment.

Getting unstuck (freezing or loss of balance in place): the 5 S method. Stop, stand tall, shake it off, shift your weight, then step (or shoot) forward.

Psychological and lifestyle factors

Concern about falling, depression, poor sleep, pain, poor nutrition and alcohol all raise fall risk and are all treatable. They are also the factors standard screening most often misses.

Concern (fear) about falling. When anxiety is low, caution is protective. When anxiety is high, concern becomes maladaptive: people avoid activity, weaken, adopt a slow, wide-based "cautious gait" with longer double support that is actually less stable, and fall more. This fearful gait is largely reversible and is seen mostly in women. Fear of falling parallels post-traumatic stress: it follows a trauma, reacts to reminders and is context specific. Building self-efficacy through mastery experiences, modeling, encouragement and calming techniques is the key.

- Measure it with the FES-I or Short FES-I.
- Treat with exercise (supervised holistic programs such as Pilates, yoga and tai chi show the largest effects), cognitive behavioral therapy, occupational therapy and A Matter of Balance.
- Use the word "concern" rather than "fear" with older adults; panels preferred it.
- Upright, confident postures ("power poses") may help some clients rise and move with more confidence; treat this as an adjunct.

- After a fall and hospitalization, many people stop looking down at the floor, stop bending forward to stand and never lie prone again; hospital beds encourage hip flexion contractures. Restore lying flat and, when appropriate, prone positioning.

Depression. Untreated depression raises fall risk about 37%, through slowed movement, deconditioning, poor sleep and inattention, and antidepressants also raise risk. Screen (PHQ-2 or GDS-15) and treat thoughtfully; exercise helps both mood and balance. Loneliness and social isolation increase frailty; combined home hazard removal and twice-weekly exercise reduced frailty in one study.

Sleep. Sleep deprivation impairs postural control, judgment and motor learning and increases inflammation; motor memories consolidate during sleep. Encourage sleep hygiene before sleep medications:

- A consistent wake and bed time, daylight exposure early in the day (skip sunglasses in the morning), daytime activity and regular meal times.
- A wind-down routine: dim lights and screens, warm bath, breathing exercises, prayer, meditation or reading; a dark, cool room (an eye mask helps); white noise.
- Avoid caffeine, alcohol and large meals near bedtime; do not lie in bed worrying, and keep problem solving to the daytime.
- Short naps (15 to 25 minutes) in early afternoon; avoid naps if insomnia is a problem.
- Address sleep apnea, a spouse's sleep problems, nocturia and pain. Motion sensor lights under the bed make night trips safer without waking the household.

Pain. Over 60% of community-dwelling older adults report pain, often in several places, and chronic pain impairs balance. Treat it with a personalized plan: physical therapy, graded movement, pain neuroscience education ("hurt does not always mean harm"), cognitive behavioral approaches, and medications chosen with fall risk in mind.

Nutrition and hydration. Fallers carry higher nutritional risk, and nutritional risk independently predicts falls alongside leg strength and balance. Both low body mass index and obesity raise risk. Encourage protein at each meal to protect muscle, healthy snacks, flavor with herbs rather than salt, supplements or shakes when intake is poor, regular fluids, social dining and a dietitian referral. Screen with the Mini Nutritional Assessment; check B12 when neuropathy or metformin is present.

Alcohol and substances. Alcohol impairs balance and judgment, interacts with many medications and contributes to falls at any age. Ask about it routinely and without judgment.

Distraction. Teach clients to be present in the moment: stop to talk, let the phone ring, and give full attention to balance on uneven ground, in crowds and when hurrying.

Special populations

Several conditions add their own fall mechanisms on top of the general risk factors, and each needs a tailored approach in addition to the standard multifactorial plan.

- **Parkinson disease.** About 25% fall in the first year after diagnosis. Falls come from bradykinesia, freezing, festination, retropulsion, reduced rotation, dyskinesia, orthostatic hypotension, poor dual tasking, reduced awareness of small movements and low vitamin D. What helps: exercise with balance and resistance training in early to mid stage (World Falls Guidelines 1A) and supervised training in complex stage; LSVT BIG, PWR! and Rock Steady Boxing; laser and sound cueing for freezing; forward weight-shift strategies (reach for a ball when standing, lead with the hips when sitting, staggered stance); and medication timing reviewed by neurology. Screen with falls in the past year, freezing in the past month and slow gait.
- **Stroke.** Falls come from hemiparesis, spasticity, circumduction, foot drop, knee hyperextension, neglect, visual field loss, impaired judgment, incontinence, depression and postural hypotension. What helps: individualized balance, strength and walking programs (2C), AFOs or FES for foot drop, high-intensity stepping practice, mirror therapy, bathroom safety and caregiver training.
- **Multiple sclerosis.** Falls come from weakness, spasticity, ataxia, sensory loss, fatigue, heat sensitivity, vision problems and bladder urgency. What helps: energy conservation, cooling vests, lightweight devices, weighted torso vests for ataxia, wheeled mobility for distance and avoiding overheating.
- **Diabetes.** Falls come from neuropathy, hypoglycemia (insulin nearly doubles fall risk), retinopathy and cataracts, muscle loss and B12 deficiency from metformin, and injuries tend to be more severe. What helps: glucose targets that avoid lows, foot care and footwear, vision care, and strength and balance training.
- **Osteoarthritis.** About 30% more falls and 20% higher fracture risk, driven by pain, stiffness, poor proprioception, spinal stenosis and inactivity. What helps: pain management, strengthening, tai chi, appropriate bracing, joint replacement when indicated, and managing sleep and fear.

- **Dementia and MCI.** Fall and injury risk double, with poor safety awareness, impulsivity, wandering, executive dysfunction and delirium. What helps: exercise for mild cognitive impairment and mild to moderate dementia (1B); routines, repetition and cueing; caregiver involvement in the plan (1C); and a simpler environment with visual cues.
- **Traumatic brain injury.** Falls cause about a third of all TBIs and over 60% of TBIs in people over 65; afterward, cognitive, vestibular, visual, sleep and behavioral changes raise risk. What helps: multidisciplinary rehab and close review of anticoagulants after any head strike.
- **Hip fracture.** Risk of a second fall and fracture is high. What helps: individualized progressive exercise that starts in the hospital and continues at home (1B; community 1A) and bone health treatment.
- **Frailty and sarcopenia.** Frailty doubles recurrent falls, and sarcopenia triples fall risk in people over 80. What helps: supervised progressive strength and balance training, adequate protein and closer supervision.
- **Low vision.** Fall risk doubles. What helps: see the vision section, plus occupational therapy home modification.
- **COPD and home oxygen.** Breathlessness, fatigue and oxygen tubing raise risk. What helps: pulmonary rehabilitation and tubing management (Tidy Tubing or ceiling routing).
- **Long COVID and POTS.** Fatigue, orthostatic intolerance and deconditioning raise risk. What helps: gradual autonomic retraining and pacing (see the cardiovascular section).

Care settings and transitions

Falls are more common in hospitals and care homes than in the community, and the month after hospital discharge is one of the highest-risk periods of all. Every older adult in these settings should be treated as high risk.

Hospitals

- Do a multifactorial assessment for every inpatient over 65 rather than relying on a scored risk tool (World Falls Guidelines 2B). Deliver tailored fall prevention education to every older inpatient (1A) and implement individualized strategies (1C acute care, 1B subacute).
- Universal precautions: orient the patient to the room, have them demonstrate the call light and keep it in reach, keep possessions in reach, handrails in bathrooms and halls, bed low when resting and raised to transfer height, brakes locked on beds and wheelchairs, non-slip well-fitting footwear, night lights, clean dry floors, uncluttered rooms and safe patient handling.

- Patient and family instructions: wear shoes (not slippers) whenever up; call for help if dizzy or weak; ask for help to the bathroom; steady yourself only on fixed objects, never on an IV pole or tray table; wear glasses and working hearing aids (reading glasses are not for walking).
- Prioritize safe bed exit: assess bed mobility, choose a firm mattress (air mattresses raise fall risk), set the safe exit side, adjust bed height, use slide boards or assistive transfer technology, and consider position change alerts. Bathrooms with less slippery metal and bedside documentation stations improve surveillance.
- Avoid restraints, which increase injurious falls. Do not let older adults lie in bed or only sit up during a stay (Choosing Wisely). Evidence for bed and chair alarms and grip socks alone is weak.
- The AHRQ toolkit *Preventing Falls in Hospitals* guides implementation, and CMS treats inpatient falls with serious injury as preventable events.

Care homes

- Treat all residents as high risk; assess on admission, after any change in condition and at least yearly.
- Multifaceted programs (staff training, decision support, individualized actions) reduce falls about 33% and recurrent fallers 21%. Include rational deprescribing (1C), supervised individualized exercise (1B), nutrition with calcium and protein, and vitamin D supplementation (1B).
- Do not use physical restraints, including bed rails, lap belts and hard-to-exit chairs, to prevent falls (1B).
- After a fall, do a post-fall huddle and assessment to find the mechanism and adjust the plan, avoiding unnecessary hospital transfer. Place high-risk residents near staff, choose roommates thoughtfully, and use low beds and bevelled mats where they help.

Home health

- Use a validated home care tool such as the MAHC-10, assess the actual home, and coordinate PT, OT, nursing and the physician.
- Teach caregivers to assist rather than carry, drag or lift, including bed, toilet, car and floor transfers.

Transitions of care. Most handoff failures are communication failures. At every transition (hospital to rehab to home), transfer responsibility explicitly, confirm the fall risk information and any change in condition or medication, and use two-way communication that allows errors to be caught and corrected. Verify before discharge that the home is ready: the route from car to bed to bathroom, equipment delivered and fitted, and the person trained in each recommendation by home health PT or OT. The Geriatric Acute and Post-acute Fall Prevention Intervention (GAPcare) shows emergency departments can start this process.

Strategy by client profile

The same principles apply to everyone, but the emphasis changes with function: power and adaptability for high-functioning adults, safety and supported strength for frail adults, and routine and caregiver partnership for those with cognitive impairment.

High-functioning

- Goal: Prevent the first fall; maximize independence
- Exercise focus: Lower body power (fast sit-to-stand, step-ups, squats), dynamic gait and agility (cones, zig-zags, obstacle courses), dual tasking, real scenarios (crossing a busy street, unloading groceries, floor transfers)
- Home program progression: Sit-to-stand x10, then add weight or an unstable surface; heel-to-toe walk 10 ft, then add turns and distraction; outdoor walking on grass and gravel, then carry loads
- Home changes: Motion lighting, high-lumen bulbs, secure flooring transitions, items between hip and shoulder height, 36 inch paths
- Red flags to reassess: More trips, slower gait, catching balance, new fear without falls, new vision or vestibular complaints, avoiding stairs or outings
- Helpful phrases: "Even elite athletes train balance and reaction."
- Referrals: Community programs (tai chi, YMCA, SilverSneakers), vision, podiatry and hearing checks, wearables

Frail or mobility-impaired

- Goal: Safety, confidence and strength for daily activities

- Exercise focus: Seated strength (marches, heel and toe taps, band rows), supported standing (counter balance holds, mini squats), transfer and bed mobility practice, short walks with the device
- Home program progression: Seated marches 10 to 20, then add a band; sit-to-stand with arm support, then reduce support; short walks with the device, then add turns and carrying a light object
- Home changes: Grab bars, raised toilet seat, shower chair, non-slip mats, chairs with arms, proper bed height, fall mats in high-risk spots
- Red flags to reassess: Fatigue with seated work, unsafe transfers, new pain or breathlessness, unsafe device use, reluctance to move
- Helpful phrases: "A little each day builds strength and helps you rely less on others."
- Referrals: Home health PT and OT, DME vendors, caregiver training, physician review of medications

Cognitively impaired

- Goal: Safety through routine, repetition and caregiver collaboration
- Exercise focus: Same path and time each day, sit-to-stand with cues 3 times daily, movement built into familiar chores (folding laundry, setting the table), music and rhythm
- Home program progression: Seated heel taps to music, then add reaching; cued sit-to-stand, then fewer cues; short indoor walks, then add a purposeful task
- Home changes: Night lights, clocks and calendars in several rooms, bold signs and picture labels, contrast on edges and toilet seat, less clutter and stimulation, limit access to stairs and exits if wandering
- Red flags to reassess: More confusion or agitation, wandering, impulsivity, new trouble with familiar transfers, overwhelmed caregiver, medication or behavior changes
- Helpful phrases: "We're doing these moves the same way each day to help your body remember."
- Referrals: Memory care teams, neurology or primary care, OT, caregiver support and respite

Coding, coverage, and reimbursement

This section summarizes common codes and coverage pathways. Codes and payment rules change every year, so confirm with the current CMS fee schedule, the patient's plan, and a billing professional before relying on any item here. This is general information, not billing or

legal advice.

Diagnosis codes (ICD-10-CM)

- **Z91.81**, history of falling: documents fall history as a risk factor.
- **R26.2**, difficulty in walking, not elsewhere classified: gait impairment.
- **R26.81**, unsteadiness on feet: balance impairment.
- **R29.6**, repeated falls: recurrent falls, often while the cause is still being worked up.
- **W00 to W19**, external cause codes for falls: the mechanism of a fall-related injury.

Quality and screening codes (CPT Category II)

- **1100F:** Patient screened for future fall risk; 2 or more falls, or any fall with injury, in the past year
- **1101F:** Patient screened for future fall risk; no falls, or only one fall without injury, in the past year
- **3288F:** Falls risk assessment documented (reported with 1100F)

Medicare visit types that support fall prevention

- **Annual Wellness Visit (AWV):** includes a review of functional ability and safety, which covers fall risk screening. No cost sharing for the beneficiary.
- **Evaluation and management (E/M) visits:** a full multifactorial fall risk assessment and plan is usually billed as a problem-oriented visit.
- **Transitional Care Management (TCM):** covers the 30 days after a hospital or facility discharge, a period of very high fall risk.
- **Chronic Care Management and Advanced Primary Care Management (APCM):** CMS added APCM codes G0556 to G0558 for CY2025; these bundle ongoing care management that can include fall risk follow-up.
- **Therapy services:** physical and occupational therapy for balance, gait, strength, and home safety training under Part B, subject to coinsurance.
- **Home health:** for homebound patients, includes PT, OT, and nursing that address fall risk.

Preventive services and the ACA

The Affordable Care Act requires most private plans to cover USPSTF Grade A and B services without cost sharing. The 2024 USPSTF recommendation gives **exercise interventions a Grade B** for community-dwelling adults 65+ at increased fall risk, and multifactorial interventions a Grade C (offer selectively). Coverage for exercise programs themselves varies by plan; some Medicare Advantage plans include fitness benefits or community class reimbursement.

Equipment and home modifications

- **Durable medical equipment (DME):** walkers, canes, wheelchairs, and hospital beds may be covered under Medicare Part B when ordered by a clinician and supplied by a Medicare-enrolled supplier. The beneficiary usually pays about 20% coinsurance after the Part B deductible.
- **Bathroom safety items and home modifications:** grab bars, raised toilet seats, shower chairs, ramps, and stair lifts are generally **not** covered by Original Medicare. Some Medicare Advantage plans, Medicaid waiver programs, and local agencies help.
- **Veterans:** the VA Home Improvements and Structural Alterations (HISA) grant provides up to $6,800 (service-connected) or $2,000 (non-service-connected) for medically necessary home changes.
- **Other sources:** Area Agencies on Aging, Older Americans Act Title III funds, Florida's Community Care for the Elderly program, Rebuilding Together, and Florida Alliance for Assistive Services and Technology (FAAST) loan and reuse programs.

For questions about whether Medicare pays for a home safety assessment, see the Home Safety Solutions article Does Medicare pay for a home safety assessment? and the verified Medicare links in the Resources section.

The Home Safety Solutions approach

Home Safety Solutions, a product line of Practical Innovations, Inc., serves older adults, families, and care teams in the Tampa Bay area. Assessments are led by Russ L'HommeDieu, MAPT, DPT, Assistive Technology Professional (ATP), Age-In-Place Specialist. The approach applies the evidence in this paper to the setting where most falls happen: the home.

Principles

1. **Person first, house second.** Every visit starts with the person: fall history, concern about falling, medications, vision, footwear, strength, balance, and daily routines. The home is then assessed against that person's abilities, not a generic checklist.
2. **Evidence-based screening.** Visits use STEADI-aligned questions and standard tests such as the Timed Up and Go, 30-Second Chair Stand, and 4-Stage Balance Test, so findings can be shared with the client's physician in familiar terms.
3. **Room-by-room review.** Entrances, steps, lanais and sliding doors, living areas, sunken rooms, kitchens, bathrooms, bedrooms, and night-time pathways are reviewed for lighting, clutter, flooring, transfers, and reach.
4. **Prioritized recommendations.** Findings are ranked by risk and cost, from free behavior and layout changes to equipment, grab bars with proper blocking and anchoring, and larger modifications.
5. **Coordination with the care team.** When a finding points to a medical issue (for example orthostatic symptoms, a medication of concern, a vision change, or vertigo), the report recommends follow-up with the physician, pharmacist, eye doctor, or a vestibular or balance therapist.
6. **Technology is optional.** Smart lighting, sensors, cameras, and alert devices can help, but they never replace human help or a plan for what happens after a fall.
7. **No referral fees.** Home Safety Solutions does not accept referral fees from contractors, suppliers, or vendors, so recommendations stay unbiased.

What a client receives

- A written, branded home safety report with photos, prioritized findings, and specific recommendations
- Clear notes on what Medicare and other programs may or may not cover
- Local resources for exercise programs, equipment, and funding
- Suggestions for what to share with the physician

Florida-specific considerations

Common Tampa Bay issues include lanai and sliding-door thresholds, sunken living rooms, wet entry areas during the rainy season, and hurricane planning for people who use power wheelchairs or home oxygen. These topics are covered in more depth on the Home Safety Solutions articles page (see Resources).

Contact

Home Safety Solutions · (813) 365-9171 · info@homesafety.solutions · www.homesafety.solutions

Resources

Every link below was opened and confirmed live on November 2, 2026. Phone numbers are as listed on each organization's site.

CDC STEADI: clinician tools

- STEADI home
- STEADI algorithm for fall risk screening, assessment, and intervention (PDF)
- STEADI clinical resources
- STEADI training (free CE)
- Timed Up and Go test (PDF)
- 30-Second Chair Stand test (PDF)
- 4-Stage Balance Test (PDF)
- Medications linked to falls fact sheet (PDF)
- STEADI-Rx for pharmacists
- CDC Compendium of Effective Fall Interventions
- CDC older adult falls data and facts and stats

CDC STEADI: patient and family handouts

- Patient resources hub
- Stay Independent brochure and self-check (PDF)
- What You Can Do to Prevent Falls (PDF)
- Check for Safety home checklist (PDF)
- Postural Hypotension: What It Is and How to Manage It (PDF)
- Chair Rise Exercise (PDF)
- Caregiver brochure (PDF)
- Still Going Strong campaign
- MyMobility plan and medicines and driving fact sheet (PDF)

Guidelines and evidence

- USPSTF: Falls prevention in community-dwelling older adults (2024)
- World Guidelines for Falls Prevention, Age and Ageing 2022 and British Geriatrics Society WFG page
- AGS STEADI update, Johnson et al. 2025 (CDC Stacks)
- AGS Beers Criteria 2023 announcement and 2025 Alternatives list announcement
- STOPPFall deprescribing tool
- National Safety Council: older adult falls
- AHRQ Preventing Falls in Hospitals toolkit (PSNet summary)
- Shirley Ryan AbilityLab Rehabilitation Measures database
- Falls Efficacy Scale International (FES-I)

Exercise and community programs

- NCOA evidence-based falls prevention programs
- Otago Exercise Program patient guide, UNC (PDF) and Otago leader training (Later Life Training)
- Tai Ji Quan: Moving for Better Balance (NCOA)
- Stepping On (Wisconsin Institute for Healthy Aging)

- A Matter of Balance (MaineHealth), 207-661-3762
- CAPABLE program locations
- Bingocize
- NIA Exercise and Physical Activity: Get Fit for Life (GovInfo)
- Move Your Way: materials for older adults
- Physical Activity Guidelines for Americans
- Find a physical therapist (ChoosePT)

National organizations

- NCOA Falls Free CheckUp
- NCOA falls prevention hub and Falls Prevention Awareness Week
- Administration for Community Living: falls prevention
- Eldercare Locator, 1-800-677-1116
- Medicare: yearly wellness visits
- Medicare: durable medical equipment coverage
- VA HISA grant
- HealthinAging: medications and older adults and medications older adults should avoid

Home modification

- USC Leonard Davis School: homemods.org
- University at Buffalo Home Safety Self-Assessment Tool (HSSAT)
- NAHB Certified Aging-in-Place Specialist (CAPS)
- Rebuilding Together
- 2010 ADA Standards for Accessible Design

Condition-specific

- Vestibular Disorders Association (VeDA)
- Parkinson's Foundation helpline, 1-800-473-4636, and fall prevention sheet (PDF)
- LSVT Global: finding a clinician (FAQ)
- National MS Society: Free From Falls

Low vision

- Hadley, 1-800-323-4238
- National Library Service for the Blind and Print Disabled, 800-424-8567
- American Foundation for the Blind
- Be My Eyes app
- Seeing AI app
- ScripTalk talking prescription labels: participating pharmacies, 1-800-890-1180

Florida and Tampa Bay

- Florida Department of Elder Affairs; Elder Helpline 1-800-963-5337
- Senior Connection Center (Hillsborough, Polk, Hardee, Highlands, Manatee), 813-740-3888
- Area Agency on Aging of Pasco-Pinellas, 727-217-8111
- Hillsborough County Aging Services, (813) 272-5250
- Florida Department of Health: older adult falls prevention
- Florida State Falls Prevention Coalition (NCOA listing), 727-560-8965
- FAAST (Florida Alliance for Assistive Services and Technology), 844-353-2278
- Florida Division of Blind Services and Tampa district office, 800-757-7190

Home Safety Solutions articles

- All articles
- What happens during a home safety visit
- Who does a home safety assessment?
- Does Medicare pay for a home safety assessment?
- Bathroom grab bars and grab bar placement, anchoring, and blocking
- Preventing falls at night
- I've fallen and I can't get up
- Lanai sliding door fall risk
- Sunken living room and walker safety
- Ramp vs. threshold ramp vs. lift

- Getting the house ready before hospital discharge
- Can my parent age in place?
- Helping a parent stay independent at home
- Checking on a parent's safety from another state
- Video cameras for Mom and Dad
- Smart home safety for veterans
- Oxygen safety at home and home oxygen equipment insurance coverage
- Hurricane planning with a power wheelchair or oxygen
- PACE and the safe home in Tampa Bay
- Benefits of aging in place in Tampa Bay
- A one-story home for retiring in Florida
- Grandkids' home safety jobs
- The free contractor home safety check
- The quiet negotiation and The fight for freedom

References

American Geriatrics Society Beers Criteria® Alternatives Panel, & Steinman, M. A. (2025). Alternative treatments to selected medications in the 2023 American Geriatrics Society Beers Criteria®. *Journal of the American Geriatrics Society, 73*(9), 2657–2677. https://doi.org/10.1111/jgs.19500

American Geriatrics Society Beers Criteria® Update Expert Panel. (2023). American Geriatrics Society 2023 updated AGS Beers Criteria® for potentially inappropriate medication use in older adults. *Journal of the American Geriatrics Society, 71*(7), 2052–2081. https://doi.org/10.1111/jgs.18372

Centers for Disease Control and Prevention. (2026a, September 4). *Facts about older adult falls*. https://www.cdc.gov/falls/data-research/facts-stats/index.html

Centers for Disease Control and Prevention. (2026b, September 4). *Older adult falls data*. https://www.cdc.gov/falls/data-research/index.html

Centers for Medicare & Medicaid Services. (2024, December 9). *CY 2025 payment policies under the physician fee schedule and other changes to Part B payment and coverage policies* (CMS-1807-F). https://www.cms.gov/medicare/payment/fee-schedules/physician/federal-regulation-notices/cms-1807-f

Eckstrom, E., Vincenzo, J. L., Casey, C. M., Gray, S., Cosley, K., Caulley, J., Parulekar, M., Rasheed, A., Sanon, M., Demiris, G., Zimbroff, R., De Lima, B., & Phelan, E. (2024). American Geriatrics Society response to the World Falls Guidelines. *Journal of the American Geriatrics Society, 72*(6), 1669–1686. https://doi.org/10.1111/jgs.18734

Haddad, Y. K., Miller, G. F., Kakara, R., Florence, C., Bergen, G., Burns, E. R., & Atherly, A. (2024). Healthcare spending for non-fatal falls among older adults, USA. *Injury Prevention, 30*(4), 272–276. https://doi.org/10.1136/ip-2023-045023

Johnson, T. M., Vincenzo, J. L., De Lima, B., Casey, C. M., Gray, S., McMahon, S. K., Phelan, E. A., & Eckstrom, E. (2025). Updating STEADI for primary care: Recommendations from the American Geriatrics Society workgroup. *Journal of the American Geriatrics Society, 73*(7), 2019–2028. https://doi.org/10.1111/jgs.19378

Moncada, L. V. V., & Mire, L. G. (2017). Preventing falls in older persons. *American Family Physician, 96*(4), 240–247.

Montero-Odasso, M., van der Velde, N., Martin, F. C., Petrovic, M., Tan, M. P., Ryg, J., Aguilar-Navarro, S., Alexander, N. B., Becker, C., Blain, H., Bourke, R., Cameron, I. D., Camicioli, R., Clemson, L., Close, J., Delbaere, K., Duan, L., Duque, G., Dyer, S. M., . . . Masud, T. (2022). World guidelines for falls prevention and management for older adults: A global initiative. *Age and Ageing, 51*(9), Article afac205. https://doi.org/10.1093/ageing/afac205

National Safety Council. (n.d.). *Older adult falls*. Injury Facts. Retrieved November 2, 2026, from https://injuryfacts.nsc.org/home-and-community/safety-topics/older-adult-falls/

Panel on Prevention of Falls in Older Persons, American Geriatrics Society and British Geriatrics Society. (2011). Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons. *Journal of the American Geriatrics Society, 59*(1), 148–157. https://doi.org/10.1111/j.1532-5415.2010.03234.x

Seppala, L. J., Petrovic, M., Ryg, J., Bahat, G., Topinkova, E., Szczerbińska, K., van der Cammen, T. J. M., Hartikainen, S., Ilhan, B., Landi, F., Morrissey, Y., Mair, A., Gutiérrez-Valencia, M., Emmelot-Vonk, M. H., Mora, M. Á. C., Denkinger, M., Crome, P., Jackson, S. H. D., Correa-Pérez, A., . . . van der Velde, N. (2021). STOPPFall (Screening Tool of Older Persons Prescriptions in older adults with high fall risk): A Delphi study by the EuGMS Task and Finish Group on Fall-Risk-Increasing Drugs. *Age and Ageing, 50*(4), 1189–1199. https://doi.org/10.1093/ageing/afaa249

Sherrington, C., Fairhall, N. J., Wallbank, G. K., Tiedemann, A., Michaleff, Z. A., Howard, K., Clemson, L., Hopewell, S., & Lamb, S. E. (2019). Exercise for preventing falls in older people living in the community. *Cochrane Database of Systematic Reviews, 2019*(1), Article CD012424. https://doi.org/10.1002/14651858.CD012424.pub2

US Preventive Services Task Force, Nicholson, W. K., Silverstein, M., Wong, J. B., Barry, M. J., Chelmow, D., Coker, T. R., Davis, E. M., Jaén, C. R., Krousel-Wood, M., Lee, S., Li, L., Rao, G., Ruiz, J. M., Stevermer, J., Tsevat, J., Underwood, S. M., & Wiehe, S. (2024). Interventions to prevent falls in community-dwelling older adults: US Preventive Services Task Force recommendation statement. *JAMA, 332*(1), 51–57. https://doi.org/10.1001/jama.2024.8481 *Prepared November 2026 as a background document for Home Safety Solutions. Statistics and policies change; check the linked sources for current figures.*

Want a plan for your own home?

Every service starts with an Initial Consultation, a 30-minute phone call with Dr. L'HommeDieu.
Book at homesafety.solutions