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SPECIAL ARTICLE

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American Geriatrics Society response to the World Falls Guidelines

Elizabeth Eckstrom MD, MPH[1] | **Jennifer L. Vincenzo PhD, MPH, PT**[2] | **Colleen M. Casey PhD, ANP-BC, CNS**[3] | **Shelly Gray PharmD, MS**[4] | **Kristina Cosley PT, DPT**[5] | **Jamie Caulley DPT**[6] | **Manisha Parulekar MD, AGSF**[7] | **Anita Rasheed MD**[8,9] | **Martine Sanon MD**[10] | **George Demiris PhD**[11] | **Robbie Zimbroff MD**[12] | **Bryanna De Lima MPH**[1] | **Elizabeth Phelan MD, MS**[13,14]

[1]Division of General Internal Medicine & Geriatrics, Oregon Health & Science University, Portland, Oregon, USA

[2]Lewis E. Epley Jr. Department of Physical Therapy, College of Health Professions, University of Arkansas for Medical Sciences, Fayetteville, Arkansas, USA

[3]Senior Health Program, Providence Health & Services, Portland, Oregon, USA

[4]Department of Pharmacy, University of Washington, Seattle, Washington, USA

[5]Rehab Therapies, University of Washington, Seattle, Washington, USA

[6]Providence Northeast Rehabilitation, Providence Health & Services, Portland, Oregon, USA

[7]Hackensack Meridian School of Medicine, Hackensack University Medical Center, Hackensack, New Jersey, USA

[8]Department of Internal Medicine, The University of Arizona College of Medicine – Phoenix, Phoenix, Arizona, USA

[9]Department of Internal Medicine, Banner-University Medical Center Phoenix, Phoenix, Arizona, USA

[10]Icahn School of Medicine at Mount Sinai, Mount Sinai Hospital, New York, New York, USA

[11]Perelman School of Medicine, University of Pennsylvania, Philadelphia, Pennsylvania, USA

[12]Division of Geriatrics, University of California, San Francisco, California, USA

[13]School of Medicine, Division of Gerontology and Geriatric Medicine, University of Washington, Seattle, Washington, USA

[14]School of Public Health, Department of Health Systems and Population Health, University of Washington, Seattle, Washington, USA

Correspondence
Elizabeth Eckstrom, Division of General Internal Medicine and Geriatrics, Oregon Health & Science University, 3181 SW Sam Jackson Park Rd., L475, Portland, OR 97239, USA.
Email: eckstrom@ohsu.edu

Abstract

Falls are a major cause of preventable death, injury, and reduced independence in adults aged 65 years and older. The American Geriatrics Society and British Geriatrics Society (AGS/BGS) published a guideline in 2001, revised in 2011, addressing common risk factors for falls and providing recommendations to reduce fall risk in community-dwelling older adults. In 2022, the World Falls Guidelines (WFG) Task Force created updated, globally oriented fall prevention risk stratification, assessment, management, and interventions for older adults. Our objective was to briefly summarize the new WFG, compare them to the AGS/BGS guideline, and offer suggestions for implementation in the United States. We reviewed 11 of the 12 WFG topics related to community-dwelling older adults and agree with several additions to the prior AGS/BGS guideline, including assessment and intervention for hearing impairment and concern for falling, assessment and individualized exercises for older adults with cognitive impairment, and performing a

standardized assessment such as STOPPFall before prescribing a medication that could potentially increase fall risk. Notable areas of difference include: (1) AGS continues to recommend screening all patients aged 65+ annually for falls, rather than just those with a history of falls or through opportunistic case finding; (2) AGS recommends continued use of the Timed Up and Go as a gait assessment, rather than relying on gait speed; and (3) AGS recommends clinical judgment on whether or not to check an ECG for those at risk for falling. Our review and translation of the WFG for a US audience offers guidance for healthcare and other providers and teams to reduce fall risk in older adults.

KEYWORDS

exercise, fall prevention, guidelines, multifactorial assessment, screening

INTRODUCTION

Globally, falls are a leading cause of injury, death, and disability in adults aged 65 years and older and accounted for 17 million years of life lost due to premature mortality in 2017.[1,2] In the United States, similar to the rest of the world, an estimated 30% of community-dwelling older adults fall each year, and rates are higher for those living in institutional settings. Deaths from falls increased in the United States between 2011 and 2020, and the total cost of falls in the United States is estimated to be $50 billion annually.[3] As the population ages and suffers a greater burden of obesity, frailty, and disability, falls will become a more pressing public health crisis around the world.

The American Geriatrics Society and British Geriatrics Society (AGS/BGS) were early to recognize falls as a growing health concern and that many falls are preventable. They published, with the American Academy of Orthopaedic Surgeons (AAOS), a Clinical Practice Guideline for Fall Prevention in 2001, which AGS/BGS updated in 2011.[4] The guideline included recommendations relevant for ambulatory care, including assessment and intervention guidance for balance and gait impairments, high-risk medications, cardiovascular issues such as orthostatic hypotension, and other risk factors (multifactorial risk assessment and intervention). From these guidelines, the Centers for Disease Control and Prevention (CDC) developed the Stopping Elderly Accidents, Deaths and Injuries (STEADI) initiative[5] to assist primary care teams in implementing the AGS/BGS guideline. STEADI has been studied in multiple health systems and found to increase rates of fall screening and decrease fall-related hospitalizations by 40% through an algorithm that promotes systematic assessment of modifiable risk factors and tailored interventions to reduce fall risk in older adults.[6–8] The STEADI initiative includes the Stay Independent Questionnaire[9] (a 14-item, self-reported fall risk screen), and the briefer "3 Key Questions" screen,[10] to identify older adults at risk for falls, along with tools and resources to conduct a multifactorial risk assessment and intervene on modifiable fall risk factors.

In 2019, the World Falls Guidelines (WFG) Task Force was created to update guidance around falls screening, assessment, and intervention, including this seminal earlier work of the AGS/BGS, with a specific emphasis on an international perspective across care settings and incorporating older adults, care partners, and other key partners' experiences and perceptions around fall risk and interventions. This article briefly summarizes the ambulatory care components of the new

Key points

- Annual falls screening for adults aged 65 years and older is recommended for the US older population.
- Multifactorial risk assessment and tailored interventions should be implemented for community-dwelling older adults identified as at an increased risk for falls.
- The new World Falls Guidelines align well with previously published guidelines and present an updated and thorough set of recommendations for fall prevention in older adults.

Why does this paper matter?

This article provides a comprehensive assessment of the new World Falls Guidelines and highlights recommendations for ambulatory care in the United States.

TABLE 1 List of recommendations and responses to the World Falls Guidelines (WFG).

Section	Summary of World Fall Guidelines Recommendation[11]	American Geriatrics Society Response	Additional considerations in the United States
1. Fall risk assessment	Screen for gait and balance impairment to determine level of fall risk (intermediate vs. low) in older adults presenting with a history of falls or with opportunistic case finding. The WFG recommends gait speed as the screening measure for gait and balance impairment, with the Timed Up and Go (TUG) as the alternative. Any of the following indicate high fall risk: fall-related injury, multiple (≥2) falls in prior year, frailty, unable to get up without assistance within an hour after a fall, or loss of consciousness	Gait speed has the best evidence to predict future fall risk. The TUG[12] may be a better tool to assess gait and balance, because it assesses multiple aspects of mobility and balance (e.g., transfers, turning, dynamic balance, functional lower extremity strength) which can identify additional mobility impairments and guide interventions needed to mitigate fall risk. The 30-second chair stand[13] and 4-stage balance test[14] are acceptable alternatives to the TUG.	Continue to follow the CDC STEADI and previous AGS/BGS recommendation to screen all adults aged 65+ annually for fall risk (not just those with a history of falls or through opportunistic case finding). Perform gait and balance assessment for all older adults who screen positive for fall risk, preferably using the TUG, 30-second chair stand, or 4-stage balance test.
2. Polypharmacy, fall risk increasing drugs (FRIDs)	Assess fall history and fall risk before prescribing fall-risk increasing drugs (FRIDs) to older adults. Use a validated, structured screening and assessment tool to identify FRIDs. A medication review and deprescribing of FRIDs should be part of a multi-domain falls prevention intervention.	Fall history and risk of falls should be assessed before prescribing FRIDs. STOPPFall is a validated tool to identify FRIDs.[15] Consider patient-specific factors such as frailty status, life expectancy, and patient goals of care and preferences related to deprescribing. Emphasize patient monitoring, support, and documentation to ensure long-term success of deprescribing.	STOPPFall is one of several validated tools that can be used to identify FRIDs. Choice of tool may be dictated by clinician preference, availability, and institutional workflows. Frequency of assessing for FRIDs has not been clearly defined, though the CDC STEADI suggests yearly.
3. Cardiovascular risk factors for falls	Cardiovascular assessment including cardiac history, auscultation, lying and standing orthostatic blood pressure, and EKG should be part of the multifactorial fall risk assessment. No further cardiovascular assessment is required if the initial cardiovascular assessment reveals no abnormalities, unless syncope is suspected, in which case a syncope assessment should be conducted. Assessment and management of orthostatic hypotension should be included as a component of multi-domain interventions in persons at risk for falling.	AGS /BGS fall prevention guidelines and CDC STEADI agree with WFG CV assessment, apart from obtaining routine EKG.	Decision to obtain EKG should be individualized based on overall clinical presentation. Syncope evaluation and intervention should be evidence-based, with orthostatic hypotension recognized as a common cause of syncope in older adults.[16]

(Continues)

TABLE 1 (Continued)

Section	Summary of World Fall Guidelines Recommendation[11]	American Geriatrics Society Response	Additional considerations in the United States
4. Exercise interventions	People at low fall risk should be counseled on physical activity and referred to local community health promotion programs where available.	Evidence-based physical activity programs (where available) should be recommended to all older adults and should include balance training to reduce risk for falls. Where not available, appropriate physical activity engagement should be encouraged.	An evidence-based fall prevention exercise program endorsed by the Centers for Disease Control and Prevention[17] or the National Council on Aging,[18] where available, should be recommended for all older adults, with special consideration for incorporating balance and strengthening to reduce fall risk.
	People at intermediate or high risk for falls should receive an individualized, supervised exercise program (one-on-one or group) with balance, gait, and strength exercises which are challenging and functional, progressive in intensity, and offered at least three times per week for 12 weeks but preferably longer. The exercises should be prescribed and delivered by trained professionals such as a physical therapist. Appropriate physical/exercise activities are recommended after the individualized program is completed.	The timing (whether immediate or after a one-on-one physical therapy intervention), barriers, preferences, and needs of the older adult should be considered in making a program recommendation.	For those with balance, gait or mobility impairment, an individualized exercise program should be developed with the involvement of a physical therapist.
	Tai Chi and/or individualized progressive resistance training should be included when feasible.	Tai Chi and/or individualized progressive resistance training should be included where available and when feasible and with the recommended dose of at least 3x/week for a minimum of 12 weeks.[19] The ongoing benefits of physical activity should be encouraged beyond completion of a formal program and the older adult transitioned to a maintenance program of multicomponent exercise.	
5. Cognition and falls	Assessment of cognition, especially of executive function, should be included as part of a multifactorial fall risk assessment in older adults at high risk of falls.	Screening for cognitive impairment should be included as part of a multifactorial fall risk assessment. Older adults with cognitive impairment or dementia should be offered multicomponent exercise.	Selection of a cognitive screening tool should be based on availability and feasibility in a given clinical setting.

TABLE 1 (Continued)

Section	Summary of World Fall Guidelines Recommendation[11]	American Geriatrics Society Response	Additional considerations in the United States
	Community-dwelling older adults with mild cognitive impairment or mild to moderate dementia should be offered an exercise program to prevent falls.	Multi-domain interventions, in addition to multicomponent exercise, should be included in a fall risk care plan for persons with dementia.	There is strong evidence for the effectiveness of multidomain fall risk reduction interventions, especially exercise-related, in persons with cognitive impairment across disease severity.
	Care partners should be included in the fall risk assessment and care planning for older adults with dementia.	Care partners should be included in the fall risk assessment and care planning for older adults with dementia.	Physical therapy referral and care partner involvement in training and supervision of exercise for persons living with dementia is recommended.
7. Falls in Parkinson's disease (PD) and related disorders	Screen patients with PD for falls using the self-report, 3 item tool (history of falls in past 12 months, history of freezing of gait in past month, and self-selected gait speed).	Patients with PD should be asked about history of falls, and assessed for freezing of gait and gait speed	All people with PD at risk for falls should work with a physical therapist that specializes in PD where available and start at an early stage of disease, because this strategy reduces disease-related complications and is associated with lower healthcare costs, fewer fractures and other injuries.[20]
	People with early to mid-stages of PD and mild to no cognitive impairment should be offered multi-domain interventions based on their individual fall risk factors. People with more complex PD should complete an exercise program under the supervision of a physical therapist or other qualified professional.	People with PD at risk for falls should be offered a multicomponent exercise program based on their fall risk factors.	Skilled maintenance therapy may be indicated to decrease functional decline and fall risk.
8. Falls and technology	If access to wearable technology is available and an older adult has the cognitive ability to use the wearable technology, it can be a helpful tool to increase participation in exercise and other interventions.	There is emerging evidence in research settings that using wearable technology (i.e., devices worn on the body to detect and prevent falls) may be effective for detection and prevention of falls.	More research needs to be done before health professionals will be able to recommend evidence-based strategies for which wearable technologies are most effective for preventing falls.
	Wearable technology and artificial intelligence can offer access and interpretation of large data, which can be helpful in assessing gait and balance for falls risk assessment.		

(Continues)

TABLE 1 (Continued)

Section	Summary of World Fall Guidelines Recommendation[11]	American Geriatrics Society Response	Additional considerations in the United States
9. Falls in low and middle income countries (LMIC)	Assessment of risk factors that are more prominent contributors to falls in LMIC (e.g., cognitive impairment, obesity including sarcopenic obesity, diabetes, lack of appropriate footwear and environmental hazards) is recommended.	Use of validated tools that are freely available should be encouraged in all settings.	Evidence for these culturally specific risk factors and tailored interventions is limited.
	Clinicians in LMIC should use culturally acceptable and validated tools that are freely available in their country of residence to assess mobility and fall risk. Local context needs to be considered when implementing fall prevention programs in low- and middle-income countries	Fall prevention program offered in LMIC should be culturally appropriative and acceptable for the population.	The WFG findings could be applied to the increasingly diverse aging population in the US, including minority populations disproportionately burdened by falls such as American Indian/Alaska Native, older adults in rural areas, older refugees, houseless individuals and other older adults with limited access to healthcare.
10. Multifactorial assessment and interventions for falls	Offer interprofessional, multifactorial assessment to community-dwelling older adults identified to be at high risk of falling in order to guide tailored interventions.	Multidomain interventions should be individualized rather than a set of generic, one-size-fits-all interventions.	People identified as being at increased risk for falls would benefit from multifactorial fall risk assessment and interventions tailored to the individual risk factors identified.
	Offer multidomain interventions informed by this risk assessment to community-dwelling older adults identified to be at high risk of falling. Identify high-risk individuals' environmental hazards where they live and assess their capacities and behaviors in relation to said hazards as a part of the multifactorial risk assessment. Recommend modification of the home based on the assessment of an occupational therapist, considering an older adult's capacities and behaviors in context.		A large body of evidence supports exercise in the form of gait, strength, and balance training as effective in reducing falls. Therefore, tailored multicomponent exercise should be included in any multidomain intervention to reduce fall risk.
11. Cross cutting themes: Older person and stake holder perspective	As part of comprehensive fall risk assessment, clinicians should inquire about the perceptions the older adult holds about falls, their causes, future risk, and how they can be prevented.	This WFG recommendation supports and builds on the STEADI Coordinated Care Plan to Prevent Falls in Older Adults.	Incorporating goals, values, and preferences of older adults aligns with the Age-Friendly Health System initiative's "What Matters" element to improve care of older adults and with more specific efforts such as the

TABLE 1 (Continued)

Section	Summary of World Fall Guidelines Recommendation[11]	American Geriatrics Society Response	Additional considerations in the United States
	A care plan developed to prevent falls and related injuries should incorporate the goals, values and preferences of the older adult.		Patient Priorities Care approach to aligning care.[21]
12. Concerns about falling and falls	Ask if older adults experience any concerns about falling causing limitation of usual activities. Assess fear of (concerns about) falling, preferably in a structured manner, for example, by the Falls Efficacy Scale (FES-I)[23] or short FES-I.[24] Include an evaluation of concern about falling in a multifactorial falls risk assessment of older adults. Recommend exercise, cognitive behavioral therapy (CBT) and/or occupational therapy (OT) (as part of a multidisciplinary approach) to reduce concern for falling in community dwelling older adults.	The STEADI "Stay Independent" Questionnaire[9] and "Three Key Questions"[10] address concern about falling. Adding specific interventions to reduce concern about falling (exercise, CBT, OT) as part of a multidisciplinary approach is a valuable addition.	In the United States, A Matter of Balance is an example of an evidence-based fall prevention program that targets concern about falling and incorporates CBT.[22]

guidelines, compares them to the AGS/BGS guideline,[4] and offers recommendations for healthcare and public health practitioners in the United States for implementing the new recommendations to reduce falls and fall risk in community-dwelling older adults.

METHODS

The WFGs were developed by a group of 96 experts from 39 countries after completing a systematic review in 2020[11] on existing falls prevention and management guidelines. A Steering Committee established the approach the WFG took and oversaw the project. Eleven topic-driven working groups (WGs) addressed gaps identified by the 2020 systematic review and developed preliminary graded recommendations for each topic. An additional WG considered older adults' perspectives as a cross-cutting theme. Additional rapid reviews, international Expert Group external review and feedback, and a vote that involved Steering Committee members and WG leaders finalized the recommendations that were published in *Age and Ageing* in September 2022.[11] In addition, another WG of eight clinician experts developed an algorithm, linking risk stratification, assessment, management, and interventions based on the evidence provided by the WGs. These guidelines considered a person-centered approach, with perspectives from older adults, care partners, and other key partners; emerging evidence on telehealth for fall prevention; and challenges to implementing across settings and locations with limited resources, including low- and middle-income countries (LMIC).

During the winter of 2022, AGS convened clinicians, fall prevention experts, and AGS staff who had worked on the prior AGS/BGS guideline to review the WFG to compare these newer guidelines to the prior AGS/BGS fall prevention guideline and articulate considerations to advance implementation and dissemination of the WFG across the United States. This group organized into 12 subgroups to consider the recommendations of each individual WFG WG, including a group for older adult

TABLE 2 Fall prevention resources.

Resources	Brief description	Link
Administration for Community Living Falls Prevention Resources	Fall prevention resources for older adults and caregivers	https://acl.gov/FallsPrevention
APTA Geriatrics Falls Prevention Awareness Toolkit	A comprehensive guide to professional and community engagement	https://aptageriatrics.org/sig/balance-falls-special-interest-group-bakup/falls-prevention-awareness-toolkit-updated/
CDC Falls Compendium	Describes 50 effective, evidence-based fall prevention interventions for community-dwelling older adults	https://www.cdc.gov/falls/programs/compendium.html
CDC Talking About Fall Prevention with Your Patients Quick Start Guide	One-page reference sheet with flow chart to guide discussions	https://www.cdc.gov/steadi/pdf/STEADI-ReferenceSheet-TalkingWPatients-2023-508.pdf
CDC Talking About Fall Prevention with Your Patients Discussion Guide Factsheet	10-page guide for clinicians to address fall risks with patients	https://www.cdc.gov/steadi/pdf/STEADI-FactSheet-TalkingWPatients-2023-508.pdf
CDC MyMobility Plan	Guidance on mobility planning to stay safe, mobile, and independent	https://www.cdc.gov/transportationsafety/older_adult_drivers/mymobility/index.html
CDC Still Going Strong	Resources to help older patients stay safe and independent longer	https://www.cdc.gov/stillgoingstrong/index.html
CDC STEADI Provider Training	Training and resources to help healthcare provides put fall prevention strategies into practice	https://www.cdc.gov/steadi/training.html
CDC STEADI Clinical Resources	Additional resources for healthcare providers to screen, assess, and reduce fall risk among their older patients	https://www.cdc.gov/steadi/materials.html
Exercise is Medicine	Global health initiative to promote and assess physical activity in clinical care	https://www.exerciseismedicine.org
Move Your Way	Tools and resources to make it easier to be active	https://health.gov/moveyourway#older-adults
National Council on Aging National Falls Prevention Awareness Week Toolkit	Resources associated with the 2023 Falls Prevention Awareness Week Toolkit	https://www.ncoa.org/page/falls-prevention-awareness-week-toolkit
National Council on Aging National Falls Prevention Resource for Professionals	Resources and articles related to fall prevention for healthcare providers	https://www.ncoa.org/professionals/health/center-for-healthy-aging/national-falls-prevention-resource-center
National Institute on Aging Exercise and physical activity	Articles to encourage exercise and physical activity as you age	https://www.nia.nih.gov/health/topics/exercise-and-physical-activity
Physical Activity Guidelines for Americans	Guides to improve health through regular physical activity	https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf https://www.exerciseismedicine.org
USC Falls Prevention Center of Excellence	Home modification information and resources	https://research.usc.edu/news/2021/10/fall-prevention-center-of-excellence/ https://homemods.org/
Journal article: Validation and Comparison of Fall Screening Tools for Predicting Future Falls Among Older Adults	Assesses six falls screening tools	https://pubmed.ncbi.nlm.nih.gov/35526339
Journal article: One Size Does Not Fit All: Choosing Practical Cognitive Screening Tools for Your Practice	Recommendations for cognitive screening tools	https://doi.org/10.1111/jgs.16713

perspectives but omitting hospital and long-term care, because the focus for the prior AGS/BGS review was on community-dwelling older adults. Each subgroup developed a response to their WFG WG and presented it to the entire group for consideration and refinement. A summary of the responses is presented in this article and in Table 1, and a list of resources applicable to US practices is included in Table 2.

RESULTS

Fall risk assessment

Overview/context

Identification of those at increased fall risk is essential, as risk may be reduced through evidence-based interventions. The STEADI Stay Independent Questionnaire (score ≥4) or Three Key Questions (yes to any) are evidence-based tools to screen for increased risk for falls.

Assessment

The WFG created an algorithm for risk stratification that has two entry points: opportunistic case finding (i.e., asking older adults about falls during medical encounters) and assessing fall risk when an older adult presents with a fall. If an older adult presents to healthcare with a fall but none of the following markers of high risk—injury, multiple (≥2) falls in the prior year, frailty, unable to get up without assistance within an hour after a fall, or loss of consciousness—then the algorithm recommends testing gait speed (with the Timed Up and Go Test [TUG][12] as an alternative) to distinguish low versus intermediate fall risk. The algorithm offers accompanying recommendations based on three risk levels: low, intermediate, and high.

The AGS/BGS guideline and STEADI initiative recommend screening all adults aged ≥65 years rather than relying on opportunistic case finding or waiting until an older adult has fallen. The STEADI initiative algorithm categorizes people into two tiers: not at risk or screened at risk for falls (the latter tier aligning with the WFG intermediate and high risk for falls). The STEADI two-tiered categorization for fall risk may be most feasible in the US healthcare system, given the existing familiarity with and adoption of the STEADI algorithm by some healthcare systems; the practical and operational constraints of many primary care settings where the screenings occur; and the population-based primary screening approach already foundational to US healthcare.

Recommendations

We agree with the WFG that any person presenting to a healthcare provider with a fall injury, multiple (≥2) falls in the prior year, frailty, inability to get up without assistance, or loss of consciousness should be considered at high risk for falls and does not need further screening but should receive fall risk assessments and interventions.

As a population health, primary prevention strategy, we continue to recommend use of the STEADI Stay Independent Questionnaire (score ≥4) or Three Key Questions (yes to any) to screen all older adults for risk for falls. For those who score 3 or below on the STEADI Stay Independent Questionnaire or score 0 on Three Key questions, we recommend using the term "average risk for falls." All older adults are at some increased risk of falls based on age alone, even without any additional fall risk factors.[25] As pointed out in the WFG, 20%–30% of those at low risk for falling go on to fall each year, and "low risk does not mean 'no risk at all.'"[11] We recommend avoiding the terms "not at risk" and "low risk," as they may convey to older adults that they will not fall. For those who score ≥4 on the Stay Independent Questionnaire or who answer "yes" to any of the Three Key Questions, we recommend using the term "increased risk for falls."

Although gait speed has the best current evidence to predict risk for future falls, we recommend the TUG if only one gait test is feasible. The TUG is a broader clinical assessment of mobility that, when observed in its entirety, can identify additional impairments (e.g., transfers, turning, dynamic balance, functional lower extremity strength) and guide interventions to address these impairments.[26] If the TUG is not feasible in a clinical setting, we recommend the 30-s chair stand test[13] or the 4-stage balance test[14] as alternatives.[27]

Polypharmacy and fall risk increasing drugs

Overview/context

Certain medications increase the risk of falls and are termed fall risk increasing drugs (FRIDs).[15,28] A comprehensive medication review assists prescribers to identify the risks and benefits of certain FRIDs and deprescribe FRIDs when possible.

Assessment

The WFG recommends assessing fall history and risk of falling before prescribing potential FRIDs. A validated, structured tool (e.g., STOPP/START,[29] STOPPFall,[15] STOPPFrail,[30] AGS Beers Criteria®,[31] FORTA[32] or Web-based Meds 75+ Guide) should be used to identify FRIDs as part of a medication review. For people living with frailty and multiple chronic conditions, and potentially prone to more tenuous health status, a medication review may need to occur more frequently (no defined interval).

The AGS/BGS guideline recommends medication reduction and withdrawal for those at risk for falls but does not recommend using a structured tool for this. STEADI recommends using the CDC-developed SAFE Medication Review Framework,[33] which includes a list of FRIDs.

Recommendations

We agree with assessing fall risk prior to prescribing a potential FRID using a standardized instrument, with the STOPPFall tool being the most specific for this purpose.[15] We support medication review and reduction at least yearly, and any time an older adult is prescribed a FRID. We agree with the WFG holistic approach that considers patient-specific factors such as frailty status, life expectancy, and patient preferences with respect to deprescribing FRIDs, with patient monitoring, support, and documentation to ensure long-term success of deprescribing.

Cardiovascular risk factors for falls

Overview/context

Cardiovascular disease (CVD) is an established risk factor for falls. Regardless of age, more than 60% of adults hospitalized with CVD (i.e., myocardial infarction, atrial fibrillation, and heart failure) have increased risk for falls.[34]

Assessment

The WFG recommends performing a cardiovascular assessment that includes cardiac history, auscultation, lying and standing blood pressure (i.e., orthostatic blood pressure measurement), and surface 12-lead electrocardiogram (EKG) as part of a multifactorial fall risk assessment. The WFG recommends management of orthostatic hypotension as a component of multidomain fall prevention interventions. For unexplained falls, the WFG and AGS/BGS guideline recommend cardiovascular assessment be the same as that for syncope. The AGS/BGS guideline recommends cardiovascular assessment but does not specify a 12-lead EKG.

Recommendations

We suggest that an EKG be obtained if determined necessary by the clinical presentation of the patient (e.g., QTc-prolonging medications; an irregular, fast, or slow cardiac rhythm on exam; MI within the past 6 months; cardiac symptoms accompanying the fall) rather than as a component of cardiovascular assessment in all situations. We agree with the other recommendations for cardiovascular assessment, including (or especially) orthostatics, and agree with no further cardiac work-up if no abnormalities are found on the initial cardiovascular assessment. We also agree that older adults with an unexplained fall be evaluated for syncope.

Exercise interventions

Overview/context

Exercise has the strongest evidence for benefit across a range of fall-related outcomes[35] and is the single most important intervention to reduce risk for falls in all fall risk categories.

Assessment

The WFG recommends offering an individualized exercise program for older adults identified at intermediate and high risk for falls and expands on recommendations for older adults with certain diagnoses, including cognitive impairment, Parkinson's disease, stroke, and hip fracture.

Recommendations

We agree with the recommendations to offer older adults individualized exercise programs. In the United States, all older adults should be offered evaluation by a physical therapist if clinically indicated and/or an evidence-based fall prevention exercise program endorsed by the CDC[17] or National Council on Aging (NCOA),[18] where available, or other community or exercise programs based on

availability. Tai Chi and/or individualized progressive balance, functional and resistance training should be included where available and when feasible and with the recommended dose of at least 3x/week for a minimum of 12 weeks. The timing (whether immediate or after a one-on-one physical therapy intervention), barriers, preferences, and needs of the older adult should be considered in making a program recommendation. Older adults at risk for falling should not simply be asked to walk—walking does not reduce the risk for falling and could pose a fall risk in the absence of balance, functional and resistance training.

Some older adults may benefit from utilizing a Medicare benefit called skilled maintenance therapy. Skilled maintenance is skilled therapy (physical, occupational, or speech therapy) provided when there is a need for "specialized judgment, knowledge and skills of a qualified therapist" to deliver a maintenance program to prevent functional decline such as in individuals with Parkinson's disease (PD), cognitive impairment, frequent falls, or other chronic, progressive disorders.[36,37]

Cognition and falls

Overview/context

Cognitive impairment is an independent risk factor for falls. Older adults with cognitive impairment and dementia are at greater risk for falls compared to those with intact cognition, with an annual rate of approximately 60%.[38]

Assessment

The WFG recommends assessing cognition as part of a multifactorial fall risk assessment, specifically assessing executive function using an instrument such as the Montreal Cognitive Assessment (MoCA) or Trail Making Test (TMT) part B. The WFG recommends an exercise program to reduce fall risk in community-dwelling older adults with mild cognitive impairment or mild-moderate dementia. The WFG also briefly mentions the identification of environmental risk factors, modification of diet/nutrition, and documentation of fall incidents for older adults with cognitive impairment. Although evidence is mixed in persons with dementia, there is evidence to support multidomain interventions, in addition to exercise, in this vulnerable population.[39] Finally, the WFG emphasizes the importance of engaging care partners in interventions for better care plan adherence.

The AGS/BGS guideline recommended that cognitive evaluation be part of a comprehensive fall risk assessment but did not specify executive function as a focus. The AGS/BGS guideline found insufficient evidence to recommend for or against single or multicomponent interventions (including exercise) in community living older adults with known cognitive impairment. However, more robust evidence has been established in this area since the publication of that guideline. Additionally, there are data to support that supervised and/or structured exercise by a rehabilitation professional who can employ tailored learning strategies in a group or home setting offers the most robust effect in persons with cognitive impairment.[40,41]

Recommendations

We agree that screening for cognition, including a component of executive function evaluation, should be included as part of a comprehensive fall risk assessment. We recommend that the choice of screening tool be based on availability and feasibility in a given clinical setting.[42] We agree with the WFG that exercise, with qualified rehabilitation professionals as clinically indicated, should be offered to older adults with cognitive impairment. We support that multi-domain interventions be included in a comprehensive fall risk care plan for persons with dementia. We agree with recommendations to engage care partners.

Falls in Parkinson's disease (PD) and related disorders

Overview/context

People with PD experience high rates of falls due to unique risk factors such as slow gait speed, shortened stride length, freezing of gait, and other motor impairments.[43,44] There are currently no fall prevention clinical guidelines for people with PD and related disorders.

Assessment

The WFG recommends screening people with PD and related disorders for fall risk with three (self-report) questions: history of falls in the past year, freezing of gait in the past month, and slow gait speed.[45] Of note, the area under the curve (AUC) for this screening tool is 0.68 (95% CI 0.59–0.77), indicating less than acceptable prediction performance.[46] Clinical assessment of history of

falls, freezing of gait, and self-selected gait speed <1.1 m/s, with an AUC of 0.80 (95% CI 0.73–0.86), more accurately predicts fall risk.[47]

The WFG recommends multidomain interventions based on identified fall risk factors. PD medications should be optimized to maximize motor function and minimize side effects. It also recommends that individualized exercise programs be offered to people with PD at early to mid-stage disease with mild to no cognitive impairment. The WFG recommends that people with complex phase PD be provided with an exercise program supervised by a physical therapist or other qualified professional.[48]

Recommendations

We favor asking about history of falls and performing clinical assessment for freezing of gait and gait speed for older adults with PD. We support the WFG recommendations for medications and multimodal exercise programs. We recommend an evaluation by a physical therapist who specializes in working with people with PD,[20] where available, and at early stages of the disease process, as older adults with PD will likely have symptoms at diagnosis which increase their risk for falls.[49] This strategy reduces disease-related complications and is associated with lower healthcare costs, fewer fractures, and other injuries.[20] In the United States, we recommend the use of clinical judgment for the utilization of skilled maintenance therapy services as indicated.

Falls and technology

Overview/context

Access to and functionality of wearable technology is increasing. If access is available and people have the cognitive capacity to use wearable technology, it could be a helpful tool to increase participation in exercise and other interventions.

Interventions

The WFG recommends using wearable technology, telehealth and smart home systems (when available) in combination with exercise training, as emerging evidence shows that when wearables are used in exercise programs to prevent falls, they may increase participation.[50–53] Neither the AGS/BGS guideline nor STEADI include recommendations around wearable technology as they were both published before there was evidence in this area.

Recommendations

We recommend wearable technology and passive sensing be considered when feasible and desired by the older adult.

Falls in developing countries

Overview/context

The population in LMICs is aging rapidly, and falls are emerging as a major public health problem. In addition to the recognized fall risk factors, aging individuals in LMICs also have unique and culturally specific fall risk factors.[54] It has been noted that increasing fall-related mortality varies by gender, age, race and ethnicity, and also by state or country of residence.[55]

Assessment

The WFG conditionally recommends prioritizing assessments of risk factors that are more prominent for falls in LMICs—cognitive impairment, obesity including sarcopenic obesity, diabetes, lack of appropriate footwear, and environmental hazards. It further recommends that clinicians and care partners in LMIC settings use validated tools that are freely available in their country of residence to assess mobility and fall risk. These WFG findings could be applied to the increasingly diverse aging population in the United States, including minority populations disproportionately burdened by falls, such as American Indian/Alaska Native, older adults in rural areas, older refugees and houseless individuals, and other older adults with limited access to healthcare.[56,57]

Recommendations

We agree that local context needs to be considered when implementing fall prevention programs in LMICs. In the context of the diverse aging population in the United States, this serves as a valuable reminder to be culturally sensitive and utilize local resources and expertise when considering fall prevention interventions with vulnerable or under-resourced populations.

Multifactorial assessment and interventions for falls

Overview/context

Falls are often multifactorial—that is, the result of a combination of risk factors, both modifiable and non-modifiable. A comprehensive assessment can identify the underlying contributors to falls and guide appropriate interventions with the goal of reducing the risk of future falls.

Assessment

The WFG recommends offering "multi-professional, multifactorial assessment to community-dwelling older adults identified as high risk for falling to guide tailored interventions." A person-centered approach and shared decision-making when developing a plan to address individually relevant risk factors is also recommended. The WFG says modification of the home should be part of a multidomain fall prevention intervention, considering an older adult's capacities and behaviors in context. The AGS/BGS guideline recommends individually tailored interventions to address identified risk factors. Domains that are newly introduced with the WFG are assessment of hearing, nutritional status, alcohol consumption, urinary incontinence, and pain.

Recommendations

We endorse the importance of multi-professional, multifactorial assessment for older adults at increased risk for falling, and agree with assessing these additional risk factors, such as hearing loss and pain, based on clinical judgment and time constraints. In the United States, comprehensive, multidomain falls care by necessity takes on a longitudinal approach, wherein outside of specialized falls clinics, assessment must occur over time and often must be coordinated with multiple professionals and disciplines, including home health teams, occupational and physical therapy, community paramedics, pharmacists, and others.

Cross-cutting themes: Older person and stakeholder perspective

Overview/context

It is important to consider older adults' perspectives as part of fall risk screening and management. Older adults often attribute falls to external factors and view falls as accidents and thus not preventable.[58,59] "Being more careful" is a commonly cited fall prevention strategy, while awareness of evidence-based strategies is limited.[60]

Assessment

The WFG recommends clinicians inquire about the perceptions older adults hold about falls, their causes, future risk, and how they can be prevented; and then develop a care plan for fall prevention that incorporates the goals, values, and preferences of the older adult. The WFG specifies that these perspectives be discussed as part of a multifactorial fall risk assessment for those at high risk. Evidence-based communication and counseling strategies (e.g., motivational interviewing) may be useful to help elicit older adult perspectives and strengthen commitment to behavior change.[61] Providers and care teams should use the individual's perspectives and elicit what matters most to them to personalize, prioritize, and facilitate behavior change consistent with recommended interventions.[62]

CDC's Coordinated Care Plan to Prevent Older Adult Falls recommends reviewing the older adult's goals, developing an individualized treatment plan, discussing ways to optimize engagement with recommendations, and addressing barrier(s) to adopting fall prevention strategies.[63]

Recommendations

We recommend that clinicians approach fall risk discussions with older adults and their care partners with the awareness that many older adults underestimate their own risk, often believing that they are not at risk for falls, even though they may have previously fallen.[64] We recommend that older adult perspectives be addressed as part of fall prevention discussions with individuals at all levels of fall risk to promote uptake of fall prevention behaviors, and not just during a multifactorial fall risk assessment for those at high risk. We recommend using the "what matters" from the Institute for Healthcare Improvement's Age-Friendly Health Systems (4Ms) framework[65] to help identify patient priorities in addressing fall risk and engage them in fall prevention behaviors.

Concerns about falling and falls

Overview/context

Concern for falling increases the risk of falls, fractures, and mortality.[66] Concern for falling may also lead to

activity restriction, new mobility disability, and institutionalization.[67] Between 3% and 85% of older adults express concern for falling (depending on the measure used and population assessed)[68]; this concern is present among both those with a history of falls and those who have never experienced a fall.[69]

Assessment

The WFG recommends asking older adults at high risk for falls if they have any concerns about falling. The WFG prefers the term "concern" over "fear" because the former is "less intense... and therefore may be more socially acceptable for older adults to disclose" and because the older adult stakeholder group that consulted for the WFG development preferred the term "concern."[11] The WFG recommends using a standardized instrument—in particular, the Falls Efficacy Scale International (FES-I)[23] or Short Falls Efficacy Scale International (Short FES-I)[24]—as reliable and valid tools to assess this construct. Assessing worry about falling is included in the AGS/BGS guideline and is part of the STEADI Stay Independent Questionnaire and Three Key Questions screening tools through the question "worries about falling?"

The WFG recommends exercise, cognitive behavioral therapy (CBT), and/or occupational therapy (OT) to reduce concern for falling in community-dwelling older adults. There are no AGS/BGS or STEADI recommended interventions aimed specifically at concern for falling.

Recommendations

We agree with the WFG that when feasible, the short FES-I should be administered to assess concern for falling. We agree with the WFG that exercise should be recommended to reduce concern for falling, given findings from systematic reviews and meta-analyses that exercise interventions reduce concern for falling among community-dwelling older adults.[70] We agree that CBT and OT interventions should be recommended to address concern for falling, when appropriate and if available. *A Matter of Balance* is an example of an evidence-based program designed to address concern for falling that is grounded in CBT and has been disseminated throughout the United States.[22]

DISCUSSION

The World Falls Group published a comprehensive, thoughtful, and detailed new set of recommendations for fall prevention in older adults from a global perspective. Our AGS response group looked at 11 of their 12 working group topics (omitting the hospital and long-term care fall prevention topics) to suggest implementation to benefit community-dwelling older adults served by ambulatory care in the United States. This article summarizes our review and responses and provides practical suggestions to implement these guidelines in the United States. We realize that most older adults in the United States do not have access to medical professionals with specific geriatrics training, and so it is important that these guidelines be translated for implementation by all health professionals caring for older adults in ambulatory settings regardless of having completed geriatrics training.

The CDC developed the STEADI initiative to provide ambulatory care practices and clinicians resources and tools to feasibly implement the AGS/BGS guideline, including a STEADI Coordinated Care Plan to Prevent Falls in Older Adults that is a comprehensive guide to assist ambulatory practices in implementing STEADI.[63] This initiative has gained traction across the country, but only 14% of primary care clinicians report they know about STEADI,[71] so its reach remains limited. In practices where STEADI has been implemented, clinicians identify[71] that it can be time-consuming and multiple competing priorities reduce the frequency of use.[6] The CDC has continuously responded to clinician feedback to further streamline and simplify its approach while retaining fidelity to the evidence. The American Geriatrics Society will work closely with CDC and primary care leaders to operationalize these new guidelines in a way that is feasible and meaningful in primary care practice.

One limitation of our AGS response is that while the WFG team included an older adult collaborative group, our AGS group was unable to include an older adult group to review and provide feedback on our work. We also did not conduct our own separate literature searches, so we may not have identified potential biases in the WFG (though their methods were rigorous, so the likelihood of this is deemed low).

In summary, the WFG offers a detailed new set of recommendations to prevent falls in older adults, with potential high value in ambulatory care settings in the United States. With some of the caveats we have highlighted in this article, such as continuing to screen all adults aged 65 years and older for fall risk and applying the multifactorial risk assessment and interventions to all persons at increased risk of falling, we find that the WFG guidelines align with advances in the evidence base since the AGS/BGS guideline was published in 2011, and update it in meaningful ways that will help inform the ongoing implementation of fall assessment and management across ambulatory practices nationwide. The WFG

recommendations, while thorough and inclusive, are more complex than the AGS/BGS guideline and STEADI initiative, and thus translating this to busy US healthcare settings may be more challenging than implementing STEADI. It is up to those of us who have additional geriatrics expertise to work with our colleagues to consider how to make these guidelines feasible, acceptable, and standardized across our local settings.

AUTHOR CONTRIBUTIONS

All authors contributed meaningfully to the conceptualization, writing, and editing of this article.

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ORCID

Manisha Parulekar https://orcid.org/0000-0002-2896-2805
George Demiris https://orcid.org/0000-0002-6318-5829
Bryanna De Lima https://orcid.org/0000-0002-4603-4084

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