



Learning Objectives

FALLS

Falls

At the conclusion of the module on falls and the older adult, the learner should:

KNOW

- Definitions and risk factors for falls
- Prevalence and impact of older adult falls in the U.S.
- The concepts of fall screening, assessment, and treatment
- Resources to aid in the prevention and treatment of falls

DO


- Screen, assess, treat, and refer an individual at risk for falls


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Case

Mrs. Milroy


- 80-year-old female seeing PCP after recent pneumonia
- No pulmonary complaints, but reports pain in her left wrist after a near fall yesterday at home
- Reports she did not fall; however, is afraid of falling
- PMHx: T2DM, HTN depression, and knee OA
- SOCHx: lives alone in a two-level home
- **Medications**
 - Atenolol (Tenormin) – 100 mg daily
 - Glimepiride (Amaryl) – 2 mg every morning
 - Sertraline (Zoloft) – 50 mg once daily
 - Zolpidem (Ambien) – 10 mg every night
 - Acetaminophen (Tylenol) – 500 mg prn
 - Fish Oil – 1200 mg once daily
- **Visit Summary:**
 - Normal respirations and vital signs, no pulmonary S/S
 - Recommends use of cold pack & not to worry because she did not fall



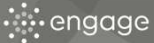
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FALLS

Definitions



- ! **Geriatric Syndrome**
- ✓ **Screening**
- 🔍 **Assessment**
- 🏠 **Treatment**
- ★ **Falls / Near Falls**

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4Ms
FRAMEWORK


FALLS


Definitions

! Geriatric Syndrome

- A multifactorial condition prevalent in older adults that develops when an individual experiences accumulated impairments in multiple systems that compromise their compensatory abilities.

Overarching Topics	Geriatric Syndromes		
Age-Friendly Care	Chronic Pain	Falls	Polypharmacy
Ageism	Cognitive Impairment	Frailty	Pressure Injury
	Delirium	Incontinence	Sleep Disturbance
	Depression	Malnutrition	






4Ms
FRAMEWORK


FALLS

Definitions

☑ Screening ²

- Screening tools are tests or measures to evaluate for diseases and health conditions before symptoms appear.
- Screenings allow for earlier management and referral to appropriate providers.
- An age-friendly provider conducts screenings for conditions that are prevalent in older adults.





WHAT MATTERS
MEDICATION
MOBILITY
MIND
4Ms
FRAMEWORK


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Definitions

🔍 Assessment ³

- Assessment tools are tests and measures used to evaluate the patient's presenting problem, confirm a diagnosis, determine its severity, and aid in identifying specific treatment options.
- An age-friendly provider uses appropriate assessments, makes referrals, and communicates with the patient's care providers.



WHAT MATTERS
MEDICATION
MOBILITY
MIND
4Ms
FRAMEWORK


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Definitions

🏠 Treatment


- An age-friendly care provider considers the 4Ms when making treatment recommendations so that **what matters** to the patient is always part of the plan of care.
- An age-friendly provider communicates with the patient, family, and interdisciplinary team.



FALLS

Definitions


- ★ **Fall ⁴**
 - An event which results in a person coming to rest inadvertently on the ground or floor or other lower level.
- ★ **Near Fall ⁵**
 - A stumble event or loss of balance that would result in a fall if sufficient recovery mechanisms were not activated.



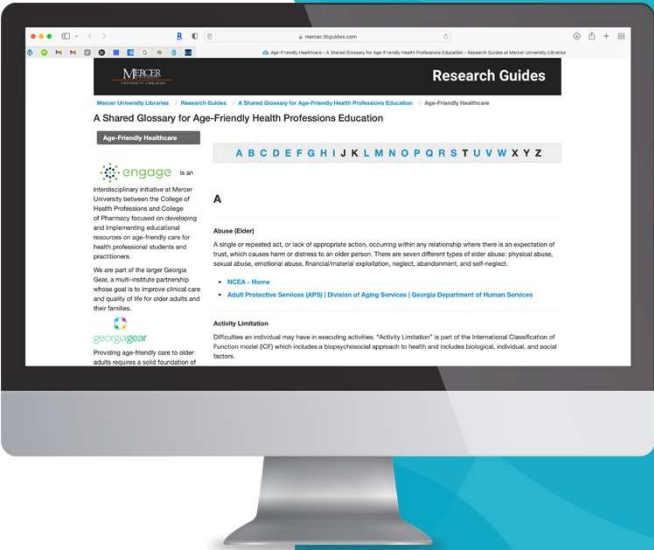

Falls

Know and Use the Shared Language...

we are all connected

 GLOSSARY

<https://mercer.libguides.com/AFH>

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Fall Statistics

33%
of adults aged > 65
fall annually

40-50%
of adults aged > 80
fall annually

**EVERY
18 SECONDS**
an older adult has a
fall-related ED visit

95%
of hip fractures are
caused by falls

30%
increase in death
rates from falls from
2007-2016

**\$50
BILLION**
estimated medical
costs of falls in 2015

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Fall Risk Factors

Intrinsic ⁶	Extrinsic ⁶
<ul style="list-style-type: none"> Advanced Age Female Gender Previous Falls Muscle Weakness (lower body) Gait & Balance Problems Poor Vision Postural Hypotension Chronic Conditions Fear of Falling 	<ul style="list-style-type: none"> Lack of stair handrails Poor stair design Lack of bathroom grab bars Dim lighting or glare Tripping hazards Slippery or uneven surfaces Improper use of an assistive device Medications <ul style="list-style-type: none"> Anticonvulsants Benzodiazepines Antidepressants Opioids Antipsychotics Sedative Hypnotics Anticholinergics Antihistamines Nonprescription medications, supplements, & herbals

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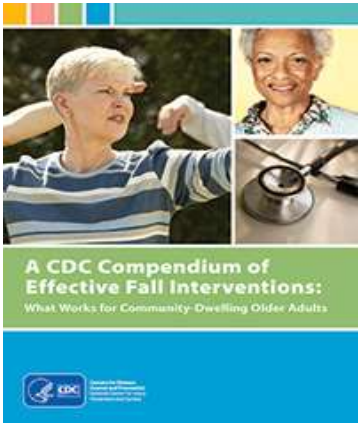
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Fall Risk Factors




Clinical & Community-based Interventions


- Vestibular – Balance Disorder
- Fear of Falling
- Postural Hypotension
- Impaired Vision
- Foot or Ankle Disorder
- Home Hazards




A CDC Compendium of Effective Fall Interventions:
What Works for Community-Dwelling Older Adults




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Screening

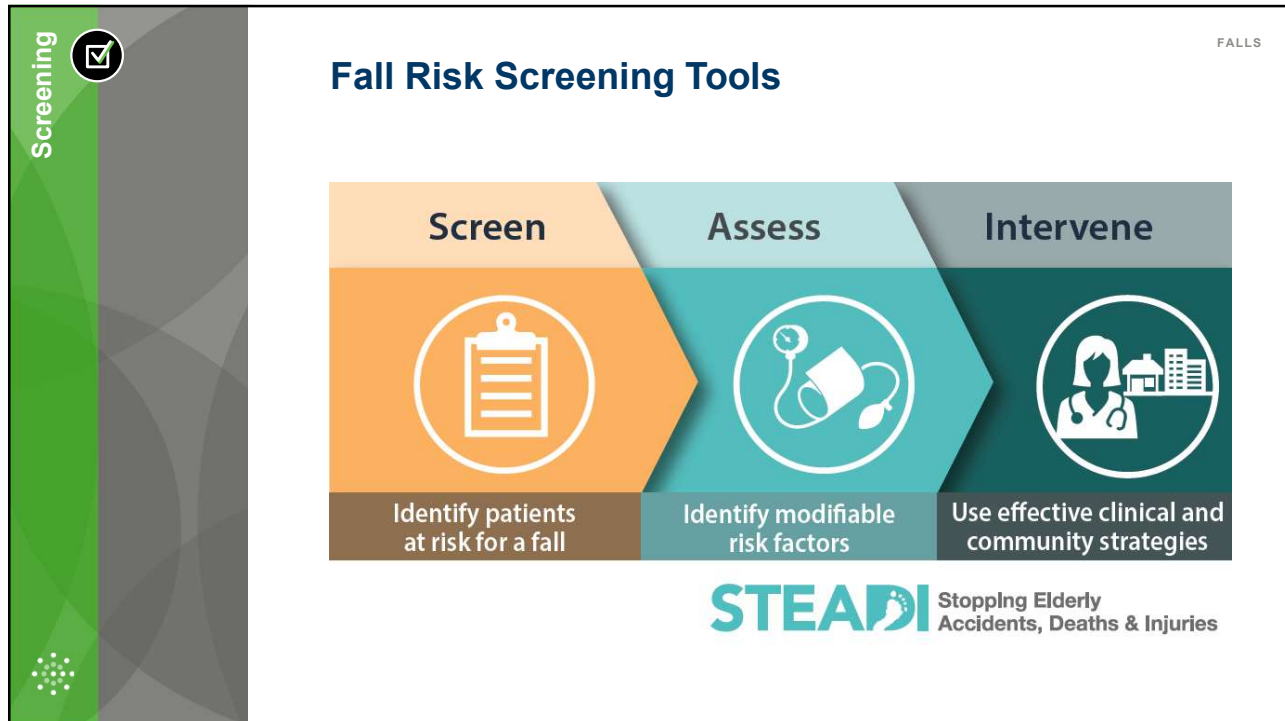


Assessment




Treatment







Centers for Disease Control and Prevention
National Center for Injury Prevention and Control


Screening 

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STEADI – Screen ^{8,9}

- Screen for fall risk annually
- Three Key Questions
 - Person screens AT RISK if answers yes to any of the 3 questions
 - Feels unsteady when standing or walking?
 - Worries about falling?
 - Has fallen in past year? If yes, How many times? Were you injured?
- Stay Independent Tool
 - 12-question tool
 - Screens AT RISK if score > 4
 - If a person is AT RISK, ask if fallen in the past year
- NCOA Falls Free Check-up



Screening 

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STEADI Screening Outcomes ⁸

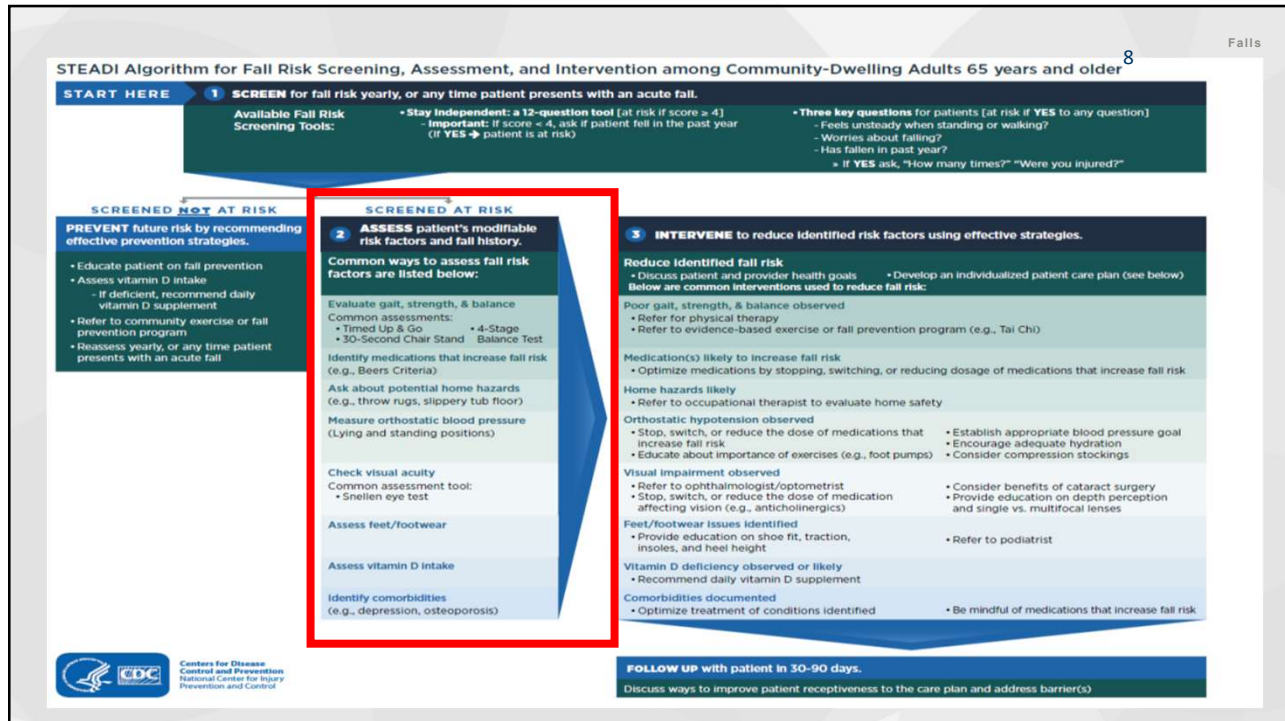
Screened NOT at Risk

- Focus on reduction of future risk through recommending effective prevention strategies
- Educate on fall prevention
- Refer to community exercise or fall prevention program
- *CDC Compendium of Effective Fall Interventions: What Works for Community-Dwelling Older Adults, 3rd ed*


Screened AT RISK

- Assess modifiable risk factors and fall history






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Assessment 

STEADI Assessment ⁸

- Gait
 - Timed Up & Go Test
- Strength
 - 30-second Chair Stand Test
- Balance
 - 4-Stage Balance Test



Assessment

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Timed Up & Go (TUG) ¹⁰

Mobility Assessment

- Stopwatch, chair, 3 meter (10 foot) walkway
- When I say “Go”, I want you to:
 - Stand up from the chair
 - Walk to the line on the floor at your normal pace, turn
 - Walk back to the chair, sit down
- Start timing on “Go”, stop timing after patient sits down
- ≥ 12 seconds to complete indicates fall risk

Gait Observation

- Stride Length
- Slow Pace
- Arm Swing
- Shuffling
- En bloc turning
- Use of Assistive Device
- Postural Stability
- Trunk Sway
- Loss of Balance

The diagram illustrates the TUG test setup. On the left, there is a chair. A horizontal line extends to the right, labeled '3 meters'. At the end of this line, there is a vertical line with a curved arrow pointing back towards the chair, indicating a 180-degree turn.

Assessment

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30-Second Chair Stand Test ¹¹

- Leg Strength & Endurance
- 17" high chair with straight back, no armrests, stopwatch
- Sit in Chair, place hands on opposite shoulders crossed at wrists, feet flat on floor
- Keep back straight, arms on chest. On “Go”, rise to full stand and sit down, repeat for 30 seconds

The illustration shows three stages of the 30-second chair stand test. On the left, a person is sitting on a chair with their hands on their shoulders. In the middle, the person is rising from the chair. On the right, the person is standing upright with their hands on their chest.





Scoring		
Chair Stand Below Average Scores		
AGE	MEN	WOMEN
60-64	<14	<12
65-69	<12	<11
70-74	<12	<10
75-79	<11	<10
80-84	<10	<9
85-89	<8	<8
90-94	<7	<4

Assessment

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4-Stage Balance Test ¹²

- Assesses static balance
- Equipment: Stopwatch
- Instructions:
 - Demonstrate 4 positions to patient
 - Help patient attain position then time how long able to maintain
 - If able to hold position for 10 seconds without moving feet or needing support move to next position
 - Inability to maintain positions 1 to 3 for 10 seconds is a positive test for fall risk

	① Stand with your feet side-by-side.	Time: _____seconds
	② Place the instep of one foot so it is touching the big toe of the other foot.	Time: _____seconds
	③ Tandem stand: Place one foot in front of the other, heel touching toe.	Time: _____seconds
	④ Stand on one foot.	Time: _____seconds

Assessment

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STEADI Assessment ⁸

Medications


- AGS Beers Criteria - Psychoactive medication
- SAFE Medication Review Framework
 - Screen for medications that may increase fall risk
 - Assess the patient to best manage health conditions
 - Formulate the patient's medication action plan
 - Educate the patient and caregiver about medication changes and fall prevention strategies

Home Hazards

- CDC Check for Safety brochure
- Stairs & Steps (indoors/outdoors)
- Floors / Rugs / Carpet
- Kitchen
- Bedrooms
- Bathrooms

Orthostatic Blood Pressure

- Positive Screen
- Drop in BP of >20 mmHg systolic, or >10 mmHg diastolic, or
- Experiencing lightheadedness or dizziness



Assessment

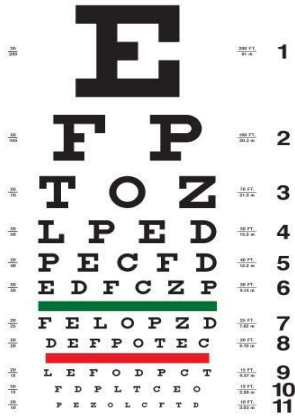
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STEADI Assessment ⁸

Check Visual Acuity

- Snellen eye test



Identify Comorbidities

- Fear of Falling
 - Falls Efficacy Scale International
 - Cut Point > 24 points
- Depression
 - Geriatric Depression Scale-15
 - Cut Point < 6 points

Assessment

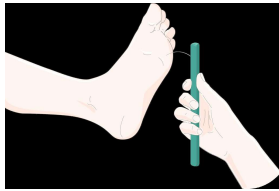
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STEADI Assessment ⁸

Assess feet/footwear

- Foot deformities, callus
- Sensation (monofilament)
- Shoes/footwear fit (ABC's)
 - Arch
 - Ball
 - Cut
 - Size



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Treatment

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Age-Friendly Treatment – Prevention ^{8,13,14}

- **STEADI-Intervene:** Reduce identified risk factors using effective strategies
- Evidence-based programs (EBP)
 - Standardized, research-supported interventions demonstrating improvements in health and well-being or reducing disease, disability, and/or injury for specific populations
- Effective
- Cost-efficient
- Widely available
- Delivered with fidelity
- Promote behavior change

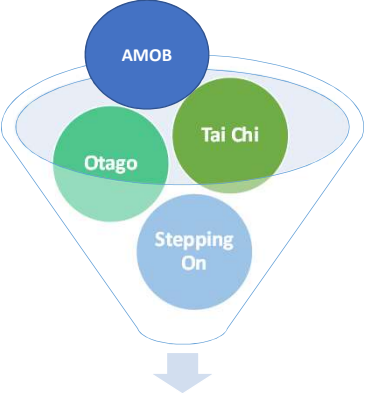


Treatment

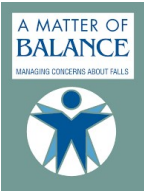
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Age-Friendly Treatment – Prevention ¹⁵


- Fall Prevention
 - NCOA Evidence-based Fall Prevention Programs
 - A Matter of Balance
 - Otago Exercise Program
 - Stepping On
 - Tai Ji Quan Moving for Better Balance
- Health Promotion
 - Chronic Disease Self-Management
 - Medication Management
 - Behavioral Health
 - Physical Activity




Decreased Fall Risk










Treatment

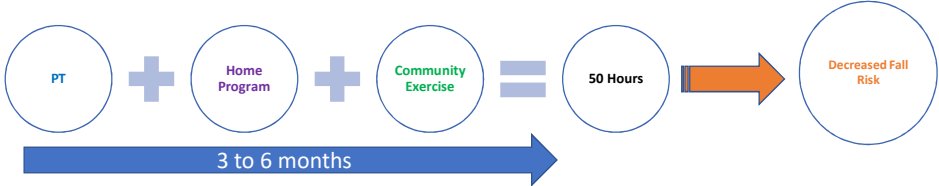
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Age-Friendly Treatment – Physical Therapy ¹⁶

- Refer for gait, balance, and strength impairments
- Individualized plan of care addressing systems of balance
 - Biomechanical Limitations
 - Postural responses
 - Sensation
 - Static/Dynamic Stability
- Dose
 - **Minimum of 50 hours** of exercise intervention over 3 to 6 months
 - Balance (static & dynamic)
 - Lower extremity and core strength
 - Gait training with balance challenges



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```

graph LR
    A((PT)) --- B((+))
    B --- C((Home Program))
    C --- D((+))
    D --- E((Community Exercise))
    E --- F(=)
    F --- G((50 Hours))
    G --> H((Decreased Fall Risk))
    I[3 to 6 months] --> G
  
```

Treatment

FALLS

Age-Friendly Treatment – Risk Factor Reduction ⁸

- **Medication Therapy Management**
 - Consult with Pharmacist
 - Optimize medications by deprescribing (stopping, switching, or reducing) medication increasing fall risk
- **Home Safety**
 - Consult with Occupational Therapist or Physical Therapist
 - Home safety evaluation, recommendations, modifications
- **Feet/Footwear**
 - Refer to podiatrist or other provider for deformities, callus, neuropathy
 - Educate on shoe fit, traction, insoles, heel height
- **Vision**
 - Refer to Ophthalmologist or Optometrist
 - Cataract surgery
 - Deprescribe medications affecting vision as appropriate
 - Education on depth perception with single and multifocal lenses
- **Comorbidities**
 - Optimal Management

Treatment

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Referral: Inter-Professional Fall Prevention Practice ¹⁷

Multi-disciplinary teams of health practitioners trained in the detection & prevention of fall risk factors are necessary to address the complex combination of factors contributing to falls.

Communication

Clinical/Community Setting	
Exercise	<ul style="list-style-type: none"> Physical Therapy (PT) Early - in plan of care Exercise Professional -later in care to throughout care Community EBP - throughout care
Medication	<ul style="list-style-type: none"> MD, PA, NP, PharmD, Nurse Medication Therapy Management Polypharmacy, Deprescribing
Vision Care	<ul style="list-style-type: none"> Ophthalmology / Optometry referral Single versus multifocal lenses Occupational Therapy (OT) – Low vision rehabilitation
Home Safety	<ul style="list-style-type: none"> OT or PT referral for home safety assessment In office use of CDC home safety checklist

Resources/Referrals

Remember Mrs. Milroy?

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Un-Age-Friendly Care (4Ms)

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- Patient not listened to or validated about new complaints
- Near fall or fear of falling not addressed
- Wrist pain not assessed

- Medication review for influence on fall risk not completed
- Patient taking sedative-hypnotic (Ambien) and antidepressant (Zoloft) medication

- Comprehensive fall risk screening completed not completed
- No referrals to address complaints

- Fear of falling, a modifiable risk factor, not addressed
- Near fall minimized

Age-Friendly Care (4Ms)

FALLS


- Listen to and validate patient
- Assessing wrist pain
- Not falling & living independently
- 3 Key Questions would show the patient to be Screened AT RISK per STEADI initiative
- Follow-up

- Assess for medications elevating fall risk (sedative-hypnotics, antidepressant, polypharmacy)
- Deprescribing
- Refer to pharmacist for medication therapy management

- Assess fall risk factors by implementing the STEADI initiative
- Assess wrist pain
- Refer to PT, OT, or Podiatrist prn
- Refer to an evidence-based community exercise program: (A Matter of Balance/Tai Chi)

- Fear of falling
- Consider referral to a clinical psychologist or A Matter of Balance to address the fear of falling

Falls



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Clinical Pearls

Evaluating Fall Risk

- Implement the STEADI Initiative in practice
- Screen for fall risk annually
- Screen for fall risk any time is reported/suspected



Managing Falls

- Engage in inter-professional fall prevention
- Address modifiable fall risk factors
 - CORE-4: Exercise, Medication, Vision, Home Safety
- Use evidence to manage fall risk
 - 50 hours exercise; Evidence-based Programs
- Individuals at higher risk for falls are more likely to participate in fall prevention-focused interventions

About Engage

An interdisciplinary team of clinician-educators

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Engage is part of Georgia Gear, a multi-institute partnership whose goal is to improve clinical care and quality of life for older adults and their families.

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Work of the Georgia GWEP is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of Award Number U1QHP33070 totaling \$3.75M with 0% percentage financed with nongovernmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government.

Presentation design by Reckon Branding.

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FALLS

Continue to **ENGAGE...**

with your patients, their families,
your colleagues, and your
communities.

Together for Tomorrow



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