

CATCH RURAL Falls

***Coordinated Action Toward
Community Health: RedUce
Risk And Limit Falls***

**Assessment and Intervention
for Gait, Strength, and Balance
Impairments**



University of Nebraska
Medical Center™

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Introductions and Contact Information

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Educational Objectives

- Conduct gait, strength, and balance tests as part of a thorough assessment of fall risk
- Identify appropriate interventions when impairments in gait, strength, and balance are identified as risk factors



Steps for Fall Risk Management Recommended by the Centers for Disease Control Stopping Elderly Accidents, Deaths, and Injuries (STEADI) Initiative

- The identification of patients at increased risk of falling to determine if additional in-depth assessment of risk factors is needed

**Fall Risk
Screening**



- The identification of specific risk factors to guide intervention
- *In other words, why is your patient at risk for falling?*

**Fall Risk
Assessment**



- Addressing modifiable risk factors through medical management or referral to other health care professionals or resources

**Fall Risk
Intervention**



Centers for Disease Control Algorithm for Fall Risk Screening, Assessment, and Intervention



STEADI Algorithm

STEADI Algorithm for Fall Risk Screening, Assessment, and Intervention among Community-Dwelling Adults 65 years and older

START HERE

1 SCREEN for fall risk yearly, or any time patient presents with an acute fall.

Available Fall Risk Screening Tools:

- **Stay Independent: a 12-question tool** [at risk if score ≥ 4]
 - **Important:** If score < 4 , ask if patient fell in the past year (If **YES** → patient is at risk)

- **Three key questions** for patients [at risk if **YES** to any question]
 - Feels unsteady when standing or walking?
 - Worries about falling?
 - Has fallen in past year?
 - » If **YES** ask, "How many times?" "Were you injured?"

SCREENED NOT AT RISK

PREVENT future risk by recommending effective prevention strategies.

- Educate patient on fall prevention
- Assess vitamin D intake
 - If deficient, recommend daily vitamin D supplement
- Refer to community exercise or fall prevention program
- Reassess yearly, or any time patient presents with an acute fall

SCREENED AT RISK

2 ASSESS patient's modifiable risk factors and fall history.

Common ways to assess fall risk factors are listed below:

Evaluate gait, strength, & balance

- Common assessments:
- Timed Up & Go
 - 4-Stage Balance Test
 - 30-Second Chair Stand

Identify medications that increase fall risk (e.g., Beers Criteria)

Ask about potential home hazards (e.g., throw rugs, slippery tub floor)

Measure orthostatic blood pressure (Lying and standing positions)

Check visual acuity

Common assessment tool:
• Snellen eye test

Assess feet/footwear

Assess vitamin D Intake

Identify comorbidities (e.g., depression, osteoporosis)

3 INTERVENE to reduce identified risk factors using effective strategies.

Reduce identified fall risk

- Discuss patient and provider health goals
- Develop an individualized patient care plan (see below)

Poor gait, strength, & balance observed

- Refer for physical therapy
- Refer to evidence-based exercise or fall prevention program (e.g., Tai Chi)

Medication(s) likely to increase fall risk

- Optimize medications by stopping, switching, or reducing dosage of medications that increase fall risk

Home hazards likely

- Refer to occupational therapist to evaluate home safety

Orthostatic hypotension observed

- Stop, switch, or reduce the dose of medications that increase fall risk
- Educate about importance of exercises (e.g., foot pumps)
- Establish appropriate blood pressure goal
- Encourage adequate hydration
- Consider compression stockings

Visual impairment observed

- Refer to ophthalmologist/optometrist
- Stop, switch, or reduce the dose of medication affecting vision (e.g., anticholinergics)
- Consider benefits of cataract surgery
- Provide education on depth perception and single vs. multifocal lenses

Feet/footwear issues identified

- Provide education on shoe fit, traction, insoles, and heel height
- Refer to podiatrist

Vitamin D deficiency observed or likely

- Recommend daily vitamin D supplement

Comorbidities documented

- Optimize treatment of conditions identified
- Be mindful of medications that increase fall risk

FOLLOW UP with patient in 30-90 days.

Discuss ways to improve patient receptiveness to the care plan and address barrier(s)



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

Assessment of Gait, Strength, and Balance

Administer one or more of the following standardized assessments:



Assessment of Gait, Strength, and Balance – Practical Tips

Promote safety

- Stand next to your patient during assessment
- Consider use of a gait belt
- If a patient is known to have a weaker side, guard them on that side
- Don't use a chair with wheels for the TUG and 30-sec chair stand test
- Place chair for the TUG and 30-sec chair stand test up against a wall

Make it easy and routine

- Set up a standard place in your clinic to conduct these assessments
- Use the same chair each time (seat height of 17" recommended)
- Keep equipment in the same place so it is easily found when needed
- If conducting standardized assessments isn't feasible, look for other clues, such as:
 - Using arms to rise from a chair
 - Touching walls or furniture while walking,
 - Deviation in walking path,
 - Lateral trunk sway while walking
 - Shuffling gait

Develop a workflow

- Determine who will conduct these tests in your clinic and how the results will be documented and communicated to others



Initiate Intervention When Indicated

If fail

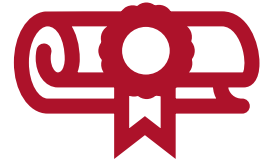
- Refer to PT for further evaluation
 - **Individualized** exercise program, recommendations and training for activity modification, use of assistive devices
- OR
- Consider referral to evidence-based community exercise/fall prevention program (if available)
 - **Generalized/group** exercise program and education

If pass

- Still consider referral to evidence-based community exercise/fall prevention program (if available)
 - **Generalized/group** exercise program and education



Physical Therapy Referral



- Some PTs have specialized training or board certification relevant to fall risk reduction. Examples:

American Board of Physical Therapy Specialties

- Board-Certified Geriatric Clinical Specialist
- Board-Certified Neurologic Clinical Specialist

American Physical Therapy Association

- Certified Exercise Expert for Aging Adults
- Balance and Fall Prevention Credential

- That said, many PTs are still quite skilled and knowledgeable in addressing fall risk for older adults, even without extra training/certification!



Community-Based Exercise and Fall Prevention Programs

(Examples listed below include an exercise component. Many also include education on other fall risk reduction topics.)

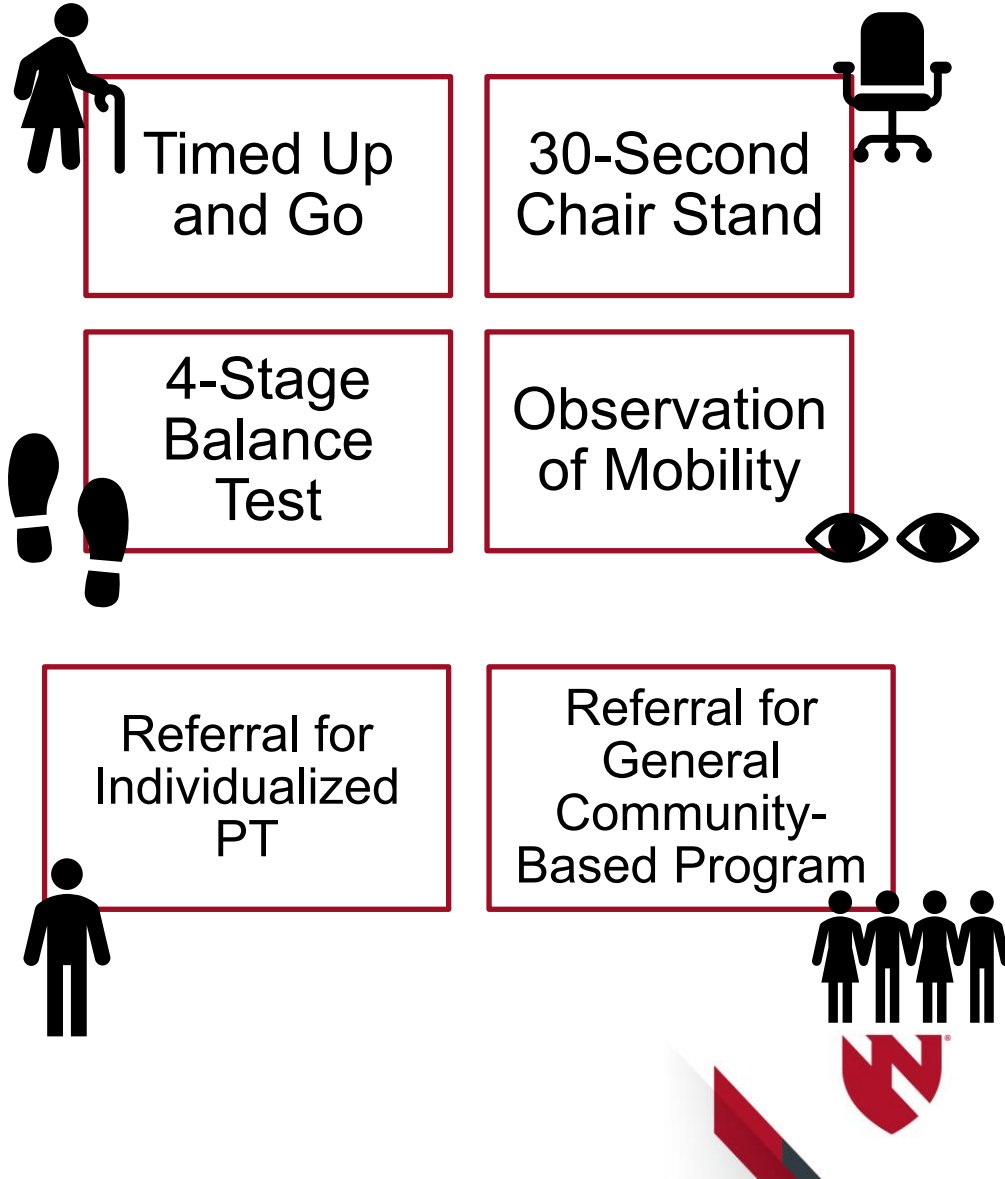
Examples:



Summary: Review of Objectives

Conduct gait, strength, and balance tests as part of a thorough assessment of fall risk

Identify appropriate interventions when impairments in gait, strength, and balance are identified as risk factors



References and Resources

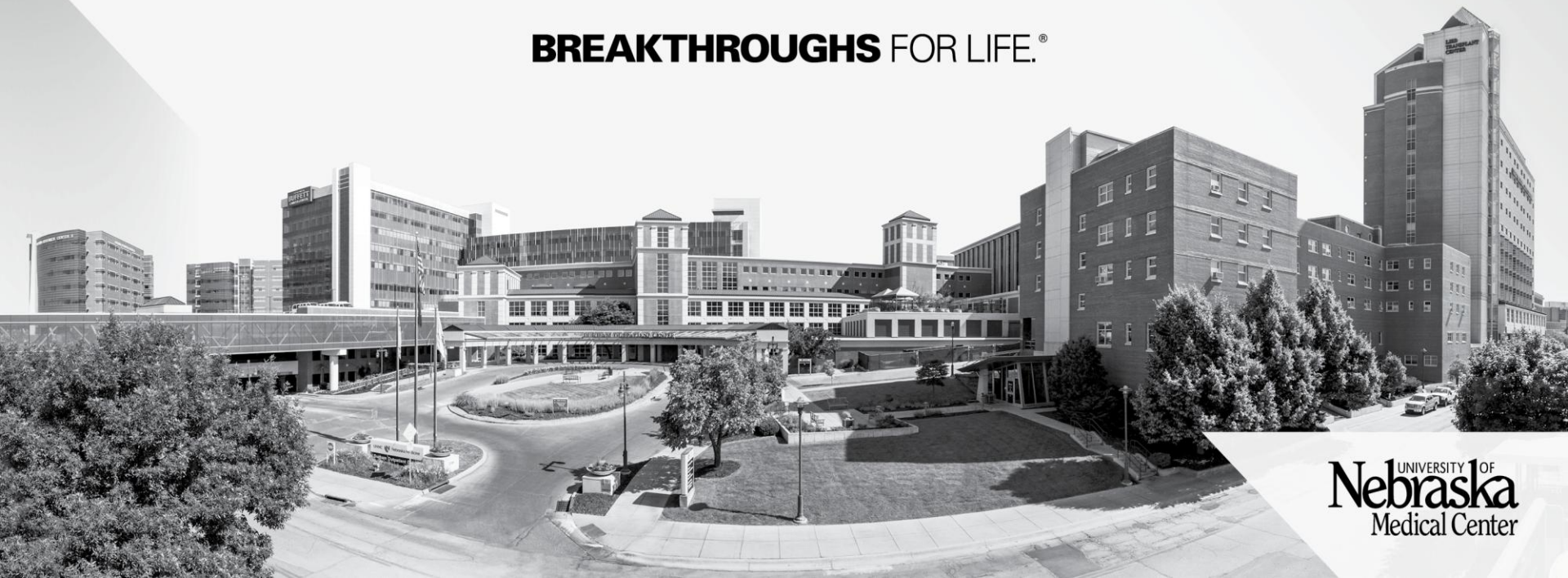
- [Center for Disease Control \(CDC\) Stopping Elderly Accidents, Deaths, and Injuries \(STEADI\) Home Page](#)
- [CDC STEADI Algorithm for Fall Risk Screening, Assessment, and Intervention](#)
- [CDC STEADI Coordinated Care Plan to Prevent Older Adult Falls](#)
- Timed Up and Go (TUG) Test [Instructions](#) [Video](#)
- 30-Second Chair Stand Test [Instructions](#) [Video](#)
- 4-Stage Balance Test [Instructions](#) [Video](#)
- [National Council on Aging List of Evidence-Based Fall Prevention Programs](#)
- [Area Agencies on Aging](#)
- Local Health Departments ([Nebraska Health Departments](#) as an example)





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