

Steady & Strong

REDUCING FALLS RISK THROUGH SCREENING, INTERVENTION, AND
COMMUNITY COLLABORATION

Tanya Wells, MEd, CHES, CPST-I
Injury Prevention Chief
Vermont Department of Health

Maggie Holt, PT, CEEAA
Physical Therapist
VT Chapter, American Physical
Therapy Association

Amy Rogers, MFT, ATR-BC
Training Coordinator
SASH

What is the Falls Free Vermont Coalition?

www.fallsfreevt.org



MISSION

Falls Free Vermont is a coalition of organizations and individuals with a mission to reduce preventable falls and fall-related injuries and deaths in older adults.

SCOPE OF WORK

At Falls Free Vermont, we strive to meet our mission through the following goals and activities:

- Provide Statewide Resources,
- Raise Awareness, and
- Increase Education & Training



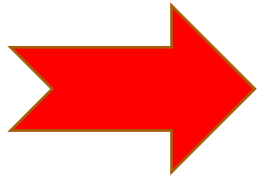
The Impact of Falls



Falls - Seniors by State



STATE	RANK	VALUE
Hawaii	1	24.8%
Florida	2	25.3%
Delaware	3	25.5%
New Jersey	4	25.6%
Nevada	5	26.1%
Washington	45	33.2%
Idaho	46	34.1%
Montana	47	34.8%
Arkansas	48	35.2%
Vermont	49	35.3%
Alaska	50	37.5%



In Vermont, Falls Cause...

more than **125 deaths**,

nearly **2,000 hospitalizations**,

and **20,000 emergency department visits** each year.



Fall Injury Facts



90% of those who fall are age 65 and older



In 2013, falls among older adults cost the U.S. health care system \$34 billion in direct medical costs.



According to the CDC, an average hospital cost for a fall injury is \$30,000.

Leading Causes of Injury-Related Death, by Age Group and Count, 2010-2014

Rank	0-14	15-24	25-44	45-64	65+	Total
1	Suffocation 15	Motor Vehicle Traffic 73	Poisoning 134	Firearm 115	Falls 615	Falls 687
2	Motor Vehicle Traffic 8	Firearm 34	Motor Vehicle Traffic 76	Poisoning 111	Firearm 77	Motor Vehicle Traffic 317
3	Drowning 6	Suffocation 24	Firearm 72	Motor Vehicle Traffic 86	Motor Vehicle Traffic 74	Firearm 303
4	Six Tied -	Poisoning 23	Suffocation 35	Falls 63	Suffocation 39	Poisoning 285
5	Five Tied -	Drowning 7	Poisoning 29	Poisoning 57	Poisoning 17	Suffocation 102

Data Source: Vermont Vital Statistics

Counts less than 6 are suppressed.

White cells indicate deaths due to unintentional injuries; Green coloring indicates deaths by suicide

Leading Causes of Injury-Related Hospitalization, by Age Group and Count, 2010-2014

Rank	0-14	15-24	25-44	45-64	65+	Total
1	Falls 159	Poisoning 284	Poisoning 623	Falls 1,719	Falls 7,229	Falls 9,669
2	Poisoning 63	Motor Vehicle Traffic 224	Falls 399*	Poisoning 478*	Poisoning 284*	Poisoning 1,486*
3	Motor Vehicle, Other 44*	Falls 163	Motor Vehicle Traffic 262	Poisoning 306	Motor Vehicle Traffic 217	Motor Vehicle Traffic 1,024
4	Struck by/against 33	Motor Vehicle, Other 82*	Poisoning 194	Motor Vehicle Traffic 299	Struck by/against 129	Poisoning 923
5	2 Tied** 22	Poisoning 76	Motor Vehicle, Other 123	Motor Vehicle, Other 182	Overexertion 116	Motor Vehicle, Other 528


Data Source: Vermont Uniform Hospital Discharge Dataset

* where "other" would have replaced this cause

** Motor Vehicle Traffic, Intentional Poisoning

White cells indicate unintentional injuries; Green coloring indicates intentional injuries (including self-inflicted)

Leading Causes of Injury-Related Emergency Department Visits, 2010-2014

Rank	0-14	15-24	25-44	45-64	65+	Total
1 	Falls 20,783	Falls 13,560	Falls 19,547	Falls 21,474	Falls 24,925	Falls 100,299
2	Struck by/against 11,734	Struck by/against 11,144	Overexertion 13,366	Overexertion 7,896	Overexertion 2,525*	Struck by/against 39,348
3	Overexertion 4,303*	Overexertion 7,965	Cut/Pierce 9,918	Cut/Pierce 7,229	Cut/Pierce 2,259	Overexertion 36,056
4	Cut/Pierce 4,143	Cut/Pierce 6,507	Struck by/against 9,344	Struck by/against 5,080*	Bites/Stings 2,117	Cut/Pierce 30,053
5	Bites/Stings 3,657	Motor Vehicle Traffic 6,457	Motor Vehicle Traffic 6,863*	Bites/Stings 4,010	Struck by/against 2,046	Motor Vehicle Traffic 20,443*

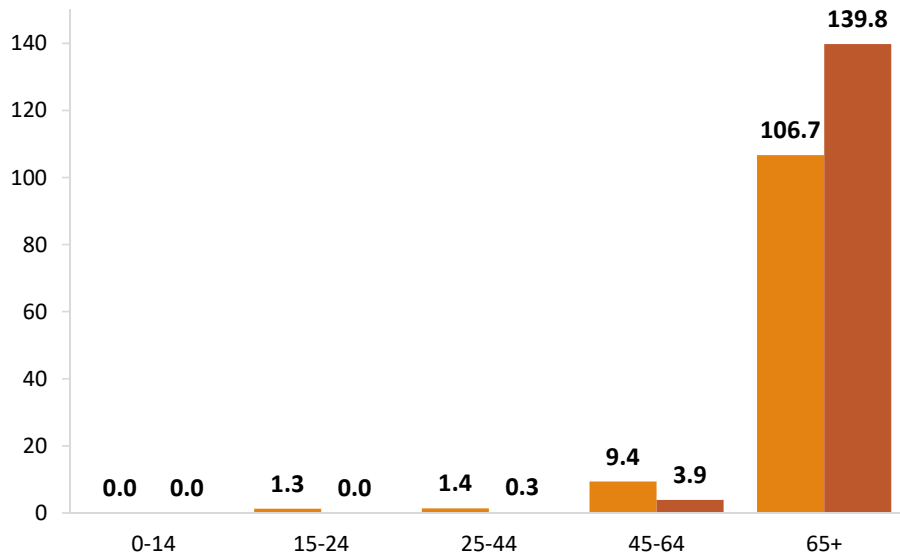
Data Source: Vermont Uniform Hospital Discharge Dataset

All leading causes by age group are of unintentional intent

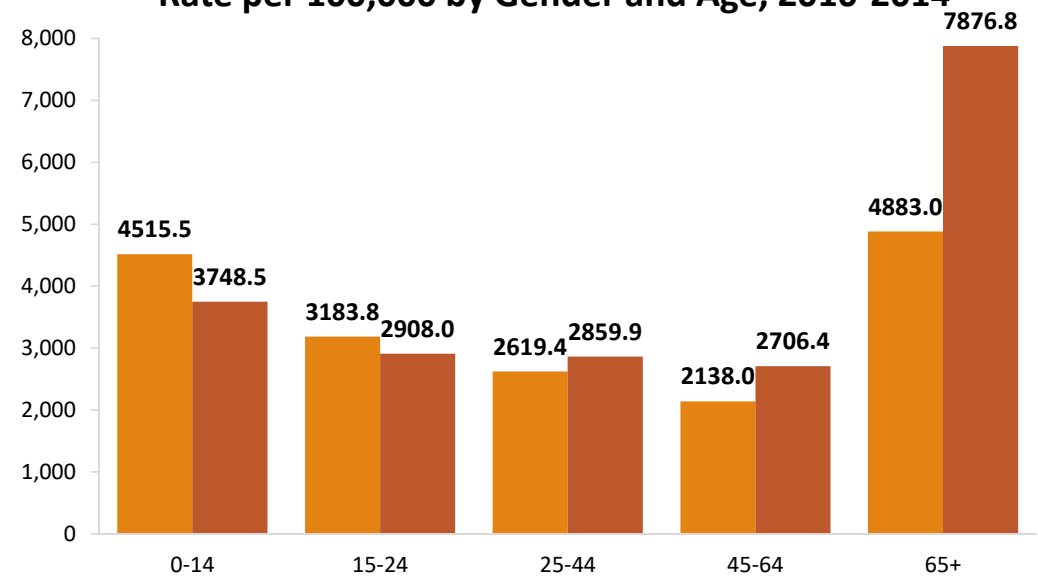
* where "other" would have replaced this cause

Falls by Gender and Age

Unintentional Fall-Related Death Rate per 100,000 by Gender and Age, 2010-2014



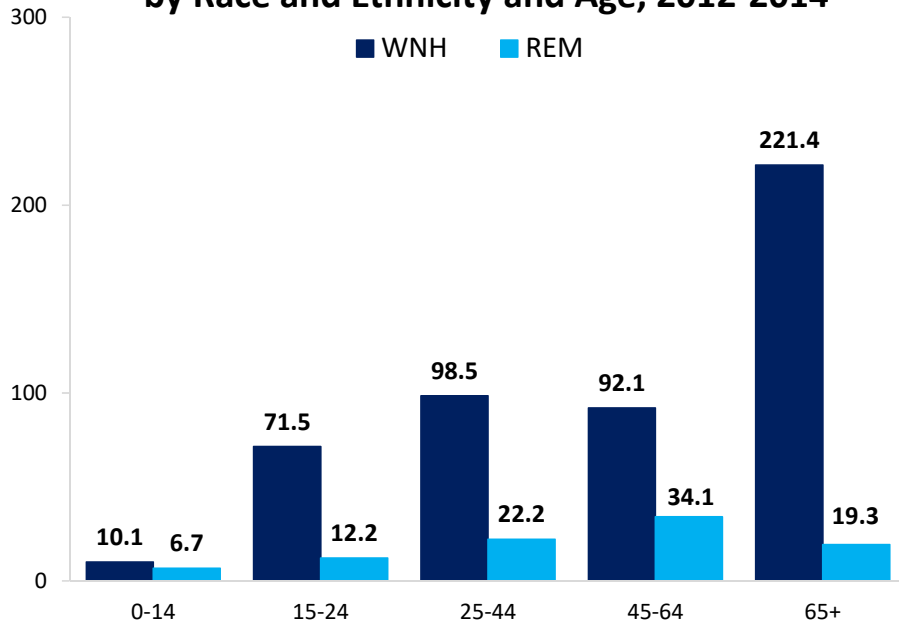
Unintentional Fall-Related Hospitalization/ED Visit Rate per 100,000 by Gender and Age, 2010-2014



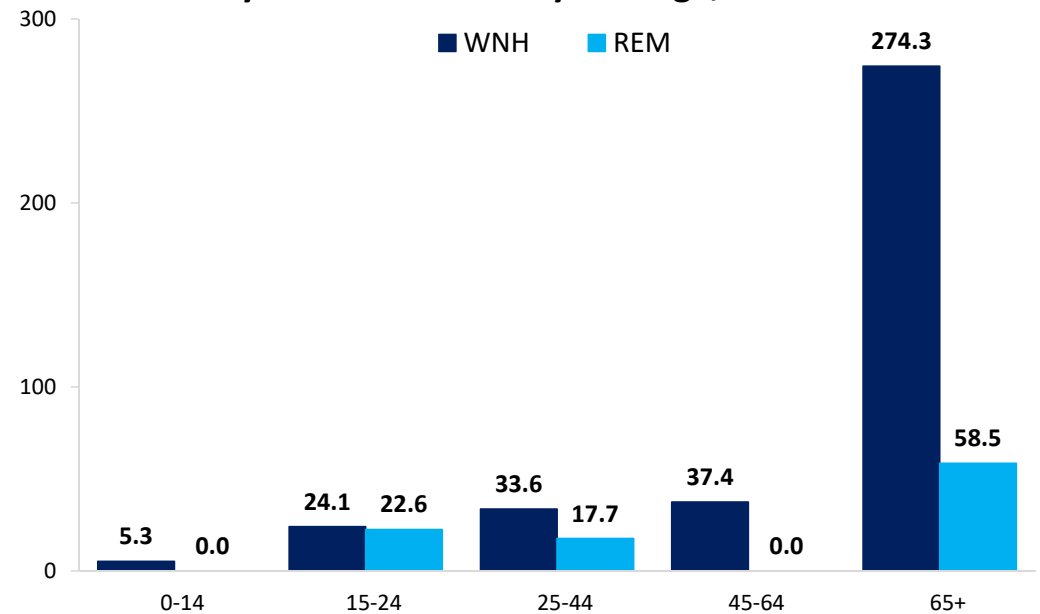
Data Source: Vermont Vital Statistics

Health Disparity

**Male Injury Death Rate per 100,000
by Race and Ethnicity and Age, 2012-2014**



**Female Injury Death Rate per 100,000
by Race and Ethnicity and Age, 2012-2014**



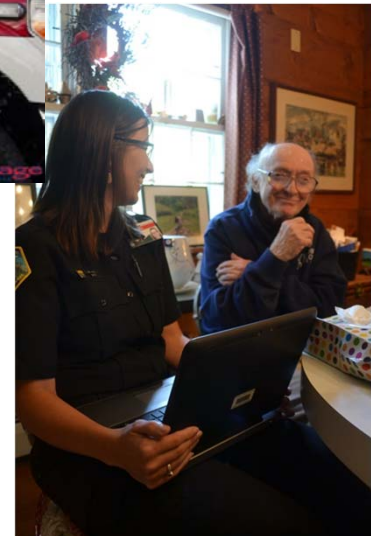
Data Source: Vermont Vital Statistics

WNH: White, non-Hispanic; REM: Racial Ethnic Minority

Emergency Medical Services

SIREN Data, 2015-2016

- Falls are the number one call to EMS in Vermont
- 1,497 EMS calls for lift assists
- 79% for individuals ages 65 and older





FALLS





Addie

- 85 years old
- Community dwelling
- Recently widowed
- Tending to isolate
- Eating poorly

Case Studies

FACES FOR THE NUMBERS



Case Studies

FACES FOR THE NUMBERS

Bob

- 79 years old
- Senior apartment dwelling
- Mild cognitive changes
- Enjoys walking outdoors with his cross-town daughter
- HTN, BPH
- Evidence of falls and injury on an EMS call for shortness of breath



Case Studies

FACES FOR THE NUMBERS

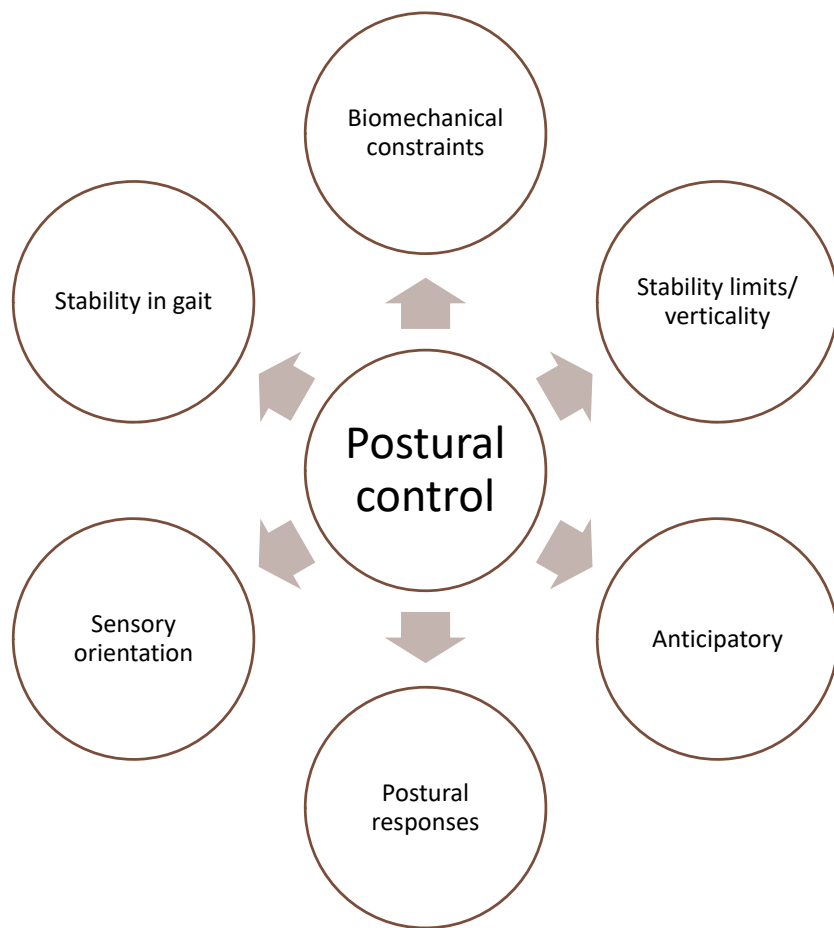
Carol

- 68 year old
- Lives independently in a rural area
- Tai Chi class 5 years
- Progressive neurologic disorder
- Recently lost her license
- Unsteady and fearful on weatherization visit

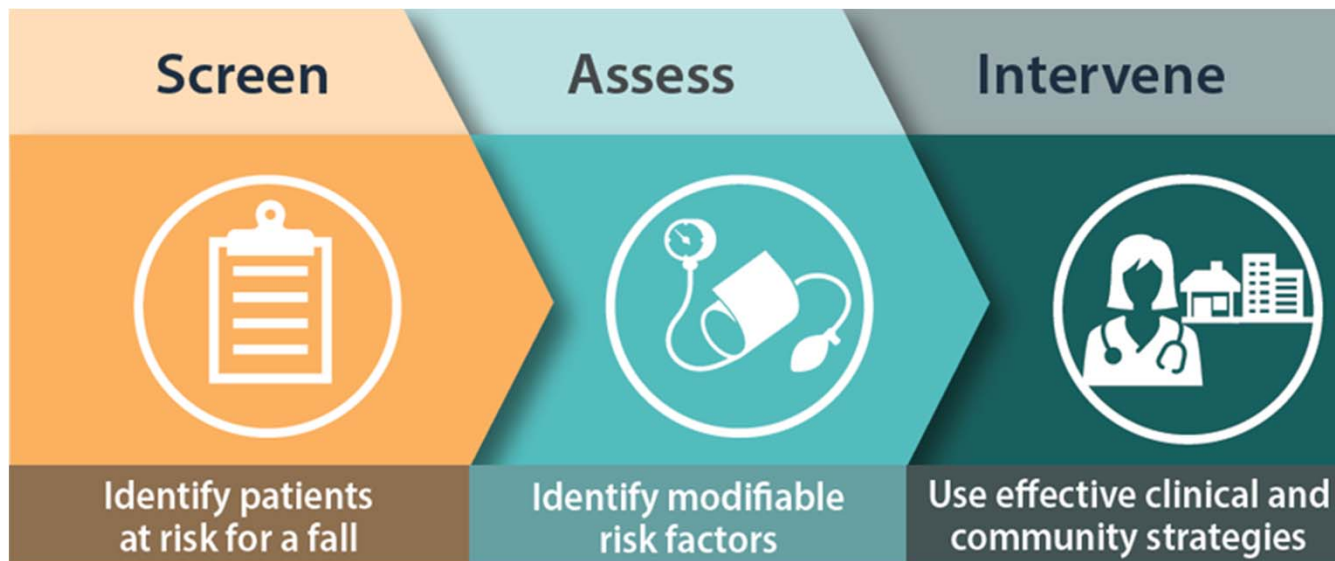


STEADI





Source: Susan J. Herdman, Richard A. Clendaniel: Vestibular Rehabilitation, 4th Edition:
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www.cdc.gov

STEADI | Stopping Elderly
Accidents, Deaths & Injuries

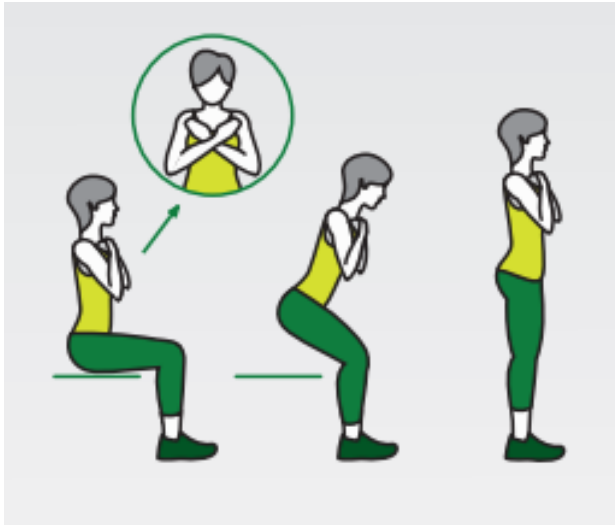
www.cdc.gov/steady/index.html

STEADI screening questions

- **Fell in past year? If YES, ask**
 - **How many times? And**
 - **Were you injured?**
- **Feel unsteady when standing or walking?**
- **Worry about falling?**

EMS STEADI Screening - 2017	Yes	No	Total	Percentage Yes
Has the patient fallen in the past year?	1924	1059	2983	64%
Does the patient worry about falling?	1647	1150	2797	59%
Does the patient feel unsteady when standing or walking?	1990	831	2821	71%

OneTouch Participants		Percent	Count
Adults older than 60 years	76.8%	76.8%	43
Mobility concerns (cane, wheelchair, difficulty walking)	81.7%	81.7%	49
Have you or anyone in your household fallen in the past year?	Yes	42.4%	25
Do you or household member feel unsteady when standing or walking?	Yes	82.3%	51
Do you or household member worry about falling?	Yes	88.7%	55



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

A below average score indicates a risk for falls.

STEADI Functional Assessment: 30 – Second Chair Stand

ASSESSMENT

Timed Up & Go (TUG)

Purpose: To assess mobility

Equipment: A stopwatch

Directions: Patients wear their regular footwear and can use a walking aid, if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters, or 10 feet away, on the floor.

STEADI Functional Assessment: Timed Up & Go Test (TUG)

ASSESSMENT CONTINUED

The 4-Stage Balance Test





Patient _____

Date _____

Time _____ AM PM

Instructions to the patient:

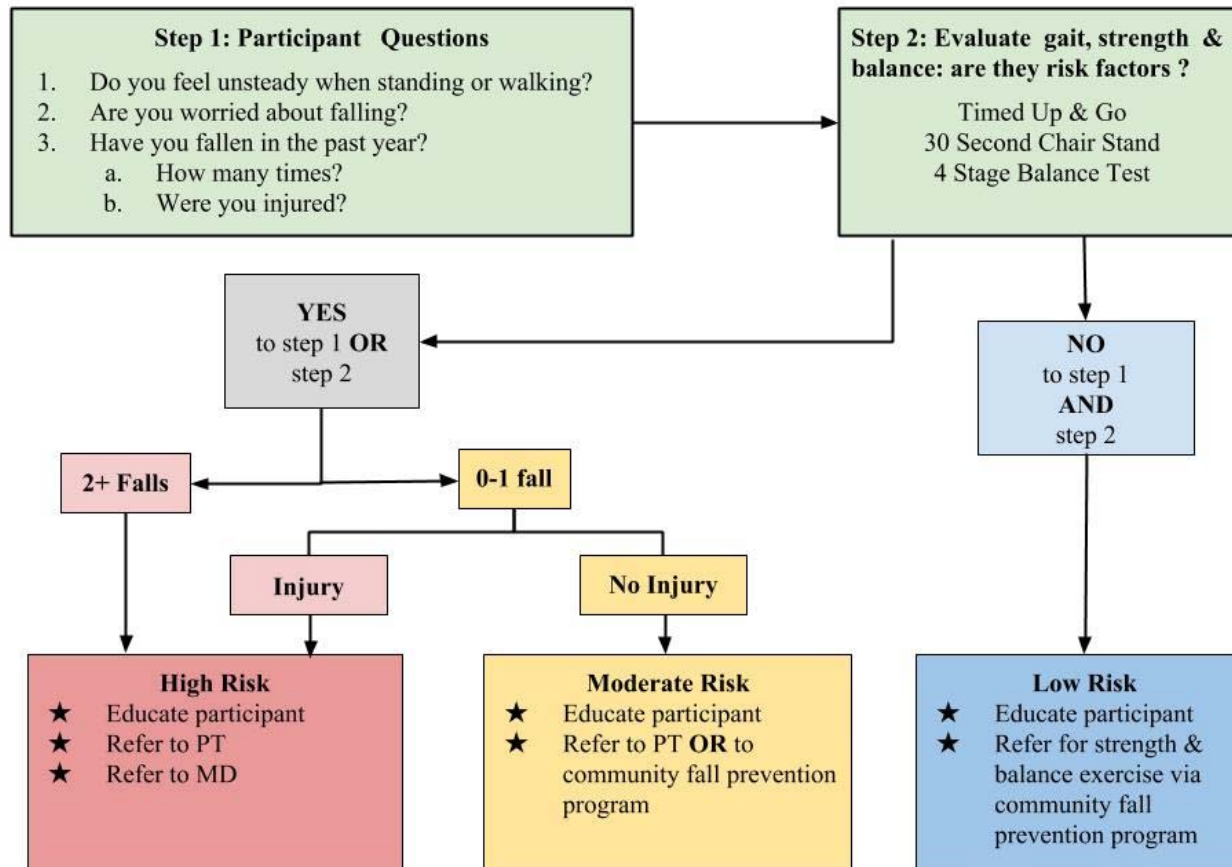
- I'm going to show you four positions.
- Try to stand in each position for 10 seconds.
- You can hold your arms out, or move your body to help keep your balance, but don't move your feet.
- For each position I will say, "Ready, begin." Then, I will start timing. After 10 seconds, I will say, "Stop."






	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






STEADI Functional Assessment: Four Stage Balance Test








Vermont Stay Steady Fall Risk Assessment & Intervention Algorithm



Stay Steady Vermont Recommendations Low Risk <i>Leaves are supposed to fall, people aren't!</i>	
 Follow Up Services	<ul style="list-style-type: none"> <input type="checkbox"/> At the next appointment with your Primary Care Provider share the information from your Stay Steady screening. <input type="checkbox"/> Tell your doctor right away if you have fallen, are afraid you might fall or feel unsteady.
 Medication Review	<ul style="list-style-type: none"> <input type="checkbox"/> Talk to your Pharmacist or Primary Care Provider about your medication regimen and discuss any side effects like, feeling dizzy or sleepy. <input type="checkbox"/> Ask about taking vitamin D supplements for improved bone, muscle, and nerve health.
 Vision Check	<ul style="list-style-type: none"> <input type="checkbox"/> Get your vision checked yearly by an Ophthalmologist and update your glasses as needed.
 Exercise	<ul style="list-style-type: none"> <input type="checkbox"/> Consult your Primary Care Provider before beginning to exercise. <input type="checkbox"/> Work towards the goal of 30 minutes/day, 5 days/week of exercise. <input type="checkbox"/> Join a local exercise class and participate in activities that strengthen your legs and safely challenges your balance (e.g. Tai Chi).
 Home Safety Check	<ul style="list-style-type: none"> <input type="checkbox"/> Review the Stay Steady "Home Fall Prevention Checklist" and make the recommended changes to your home. <input type="checkbox"/> Get a referral for Occupational Therapy to help check for home hazards.

Stay Steady Vermont Recommendations Moderate Risk <i>Leaves are supposed to fall, people aren't!</i>	
 Follow Up Services	<ul style="list-style-type: none"> <input type="checkbox"/> Consider making an appointment with your Primary Care Provider and share the information from your Stay Steady screening. <input type="checkbox"/> Tell your doctor right away if you have fallen, are afraid you might fall or feel unsteady. <input type="checkbox"/> Get a referral for Physical Therapy to help reduce your risk for falls.
 Medication Review	<ul style="list-style-type: none"> <input type="checkbox"/> Talk to your Pharmacist or Primary Care Provider about your medication regimen and discuss any side effects like, feeling dizzy or sleepy. <input type="checkbox"/> Ask about taking vitamin D supplements for improved bone, muscle, and nerve health.
 Vision Check	<ul style="list-style-type: none"> <input type="checkbox"/> Get your vision checked yearly by an Ophthalmologist and update your glasses as needed.
 Exercise	<ul style="list-style-type: none"> <input type="checkbox"/> Consult your Primary Care Provider before beginning to exercise. <input type="checkbox"/> Work towards the goal of 30 minutes/day, 5 days/week of exercise. <input type="checkbox"/> Join a local exercise class and participate in activities that strengthen your legs and safely challenges your balance (e.g. Tai Chi).
 Home Safety Check	<ul style="list-style-type: none"> <input type="checkbox"/> Review the Stay Steady "Home Fall Prevention Checklist" and make the recommended changes to your home. <input type="checkbox"/> Get a referral for Occupational Therapy to help check for home hazards.

Stay Steady Vermont Recommendations High Risk <i>Leaves are supposed to fall, people aren't!</i>	
 Follow Up Services	<ul style="list-style-type: none"> <input type="checkbox"/> Make an appointment to see your Primary Care Provider <i>immediately</i> for a multifactorial fall risk assessment and physical exam. <input type="checkbox"/> Share the information from your Stay Steady screening with your doctor. <input type="checkbox"/> Tell your doctor right away if you have fallen, are afraid you might fall or feel unsteady. <input type="checkbox"/> Get a referral for Physical Therapy to help reduce your risk for falls.
 Medication Review	<ul style="list-style-type: none"> <input type="checkbox"/> Talk to your Pharmacist or Primary Care Provider about your medication regimen and discuss any side effects like, feeling dizzy or sleepy. <input type="checkbox"/> Ask about taking vitamin D supplements for improved bone, muscle, and nerve health.
 Vision Check	<ul style="list-style-type: none"> <input type="checkbox"/> Get your vision checked yearly by an Ophthalmologist and update your glasses as needed.
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 Home Safety Check	<ul style="list-style-type: none"> <input type="checkbox"/> Review the Stay Steady "Home Fall Prevention Checklist" and make the recommended changes to your home. <input type="checkbox"/> Get a referral for Occupational Therapy to help check for home hazards.

Recommendations by Risk Level



Case Studies

FACES FOR THE NUMBERS

Addie

- No falls
- Not fearful
- Does not feel unsteady
- 30 second chair stand 7
- TUG 13.6 seconds
- 4 position test negative

**MODERATE
RISK**



Case Studies

FACES FOR THE NUMBERS

Bob

- Two falls, one injury
- Doesn't feel unsteady
- Not fearful
- Sit to stand 14x
- TUG 10.4 sec
- 4 position test +

HIGH RISK



Case Studies

FACES FOR THE NUMBERS

Carol

- No falls
- Does feel unsteady
- Is fearful
- 30 second chair stand 15x
- TUG 11.8 sec
- 4 position balance -

**MODERATE
RISK**



How to Prevent Falls

Speak Up

- Talk to your PCP
- Medication Review
- Vitamin D
- Self-Assessment

FACT SHEET

Medications Linked to Falls

Review medications with all patients 65 and older. Medication management can reduce interactions and side effects that may lead to falls.

STOP medications when possible.
SWITCH to safer alternatives.
REDUCE medications to the lowest effective dose.

Check for psychoactive medications, such as:

- ▶ Anticonvulsants
- ▶ Antidepressants*
- ▶ Antipsychotics
- ▶ Benzodiazepines
- ▶ Opioids
- ▶ Sedatives-hypnotics*

Review prescription drugs, over-the-counter medications, and herbal supplements. Some can cause dizziness, sedation, confusion, blurred vision, or orthostatic hypotension. These include:

- ▶ Anticholinergics
- ▶ Antihistamines
- ▶ Medications affecting blood pressure
- ▶ Muscle relaxants

Develop a patient plan that includes medication changes, and a monitoring plan for potential side effects. Implement other strategies, including non-pharmacologic options to manage conditions, address patient barriers, and reduce fall risk.

Visit the [American Geriatrics Society Beers Criteria](#) for more information on medications linked to falls.

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit [www.cdc.gov/steadi](#)

*Antidepressants include TCAs and SSRIs. Sedative-hypnotics include eszopiclone, zolpidem, and zaleplon.



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

STEADI Stopping Elderly Accidents, Deaths & Injuries

2017



Stay Independent
Learn more about fall prevention.

STEADI
Stopping Elderly Accidents, Deaths & Injuries

<https://www.cdc.gov/steadi/materials.html>

Keep Moving

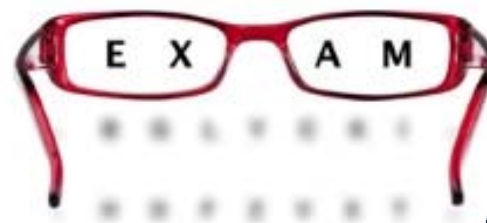
- Improve strength, mobility and balance
- Join falls prevention class



SASH Tai Chi Class at Island Pond

Check Your Eyes & Feet

- Vision checked
- Proper Footwear



Make Your Home Safe

- Keep floors clutter free
- Add grab bars and handrails
- Well-lit home

Use this checklist to find and fix hazards in your home.

STAIRS & STEPS (INDOORS & OUTDOORS)

Are there papers, shoes, books, or other objects on the stairs?

- Always keep objects off the stairs.

Are some steps broken or uneven?

- Fix loose or uneven steps.

Is there a light and light switch at the top and bottom of the stairs?

- Have an electrician put in an overhead light and light switch at the top and bottom of the stairs. You can get light switches that glow.

Has a stairway light bulb burned out?

- Have a friend or family member change the light bulb.

Is the carpet on the steps loose or torn?

- Make sure the carpet is firmly attached to every step, or remove the carpet and attach non-slip rubber treads to the stairs.

Are the handrails loose or broken? Is there a handrail on only one side of the stairs?

- Fix loose handrails, or put in new ones. Make sure handrails are on both sides of the stairs, and are as long as the stairs.

FLOORS

When you walk through a room, do you have to walk around furniture?

- Ask someone to move the furniture so your path is clear.

Do you have throw rugs on the floor?

- Remove the rugs, or use double-sided tape or a non-slip backing so the rugs won't slip.

Are there papers, shoes, books, or other objects on the floor?

- Pick up things that are on the floor. Always keep objects off the floor.

Do you have to walk over or around wires or cords (like lamp, telephone, or extension cords)?

- Coil or tape cords and wires next to the wall so you can't trip over them. If needed, have an electrician put in another outlet.

KITCHEN

Are the things you use often on high shelves?

- Keep things you use often on the lower shelves (about waist high).

Is your step stool sturdy?

- If you must use a step stool, get one with a bar to hold on to. Never use a chair as a step stool.

BEDROOMS

Is the light near the bed hard to reach?

- Place a lamp close to the bed where it's easy to reach.

Is the path from your bed to the bathroom dark?

- Put in a nightlight so you can see where you're walking. Some nightlights go on by themselves after dark.

BATHROOMS

Is the tub or shower floor slippery?

- Put a non-slip rubber mat or non-slip strips on the floor of the tub or shower.

Do you need some support in and out of the tub, or up and down the stairs?

- Have grab bars put in next to and inside the tub, and post to the wall.



<https://www.cdc.gov/steady/patient.html>

How SASH Can
Help!





Case Studies

FACES FOR THE NUMBERS

Addie

- Signed up for SASH
- Created Healthy Living Plan to support better eating
- Attending Tai Chi and Bone Builders at local SASH site
- Joined the site-based book club



Bob

- Already in SASH
- SASH Coordinator connect to home modifications
- Wellness Nurse conducted medication review
- Agreed to “try” Tai Chi

Case Studies

FACES FOR THE NUMBERS



Case Studies

FACES FOR THE NUMBERS

Carol

- Referred to SASH (not interested)
- Referred by weatherization to the Vermont Center for Independent Living
- Referred to PT for unsteady gait
- Started using assistive device
- Aware of alternative housing arrangements

Rural Edge



Falls Prevention Activities



No Slip Socks!



Yak Tracks

Stay Steady Bingo!

Review Medications	Pick Up Clutter	Take Action!	Learn to Get Up	Manage Pain
Try Tai Chi	Get a Grab Bar	Good Lighting	Medication Labels	Worried About Falling
Find a Partner	Stay Hydrated	FREE SPACE	Better Sleep	Join an Exercise Class
Practice Balance	Keep Walking	Talk About It	30 Minutes a Day	Yearly Eye Checks
Pick Up Rugs	Matter of Balance	Light headed?	Get Stronger	Fix Cataracts

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Falls Prevention Bingo!



Resources

- Falls Free Vermont Coalition
<https://fallsfreevermont.org/>
- SASH (Support and Services at Home)
<http://sashvt.org/>
- STEADI
<https://www.cdc.gov/steady/index.html>
- Fall Prevention Center of Excellence
<http://stopfalls.org/resources/organizational-resources/>
- National Falls Prevention Resource Center
<https://www.ncoa.org/center-for-healthy-aging/falls-resource-center/about-the-center-falls-resource-center/>

Tanya Wells
Tanya.wells@Vermont.gov

Maggie Holt
mholt122@gmail.com

Amy Rogers
rogers@cathedralsquare.org

