

Preventing Falls Through Physical Activity:

A Guide for People Working with Older Adults



Alberta
Centre for
Active & Living

Preventing Falls Through Physical Activity: A Guide for People Working with Older Adults



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Preventing Falls Through Physical Activity: A Guide for People Working with Older Adults

Each year, thousands of seniors in Alberta are injured when they fall. Falls can result in physical, social, and emotional trauma and loss of independence.

The good news is that active, physically strong seniors have better balance, and they are less likely to fall. They also have a better chance of avoiding or recovering from a fall-related injury.

As a planner and leader of fitness classes and physically active recreation for older adults, you have a very important role to play in preventing falls. You can use physical activity to help older adults become stronger and more resistant to falling.



What's in This Guide for You?

This guide is for people who are helping older adults to be more physically active.

Page 4 Facts About Falls

Statistics and other facts about falls among older adults.

Page 6 Being Active, Being Safe

Information about how physical activity affects falling and a list of benefits provided by physical activity.

Page 9 Planning Physical Activity for Preventing Falls

Things to consider when choosing, planning, and leading physical activities that help to prevent falls.

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Practical, low-cost exercises that target risk factors for falls and ideas to make being active enjoyable.

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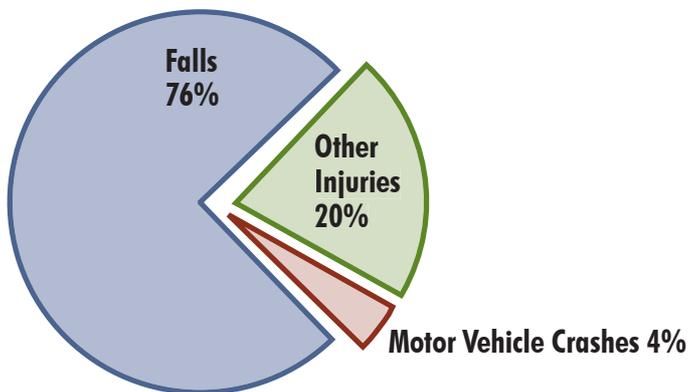
Facts About Falls

Did You Know?

- One out of three Albertans over 65 and living independently in their communities is likely to fall at least once a year.
- Adults 65 and older have nine times more fall-related injuries than adults under 65.
- More older adults are admitted to hospital for injuries related to falls than for any other type of injury.

Statistics from the Alberta Centre for Injury Control & Research (2006).

Alberta Seniors' Injury Hospital Admissions in 2006



Alberta Centre for Injury Control & Research (2006). Reprinted with permission.

How can Falls Affect Older Adults?

- Falls put older adults at risk of injury, disability, and death.
- 40% of all nursing home admissions among Canadian seniors occur as a result of a fall (Public Health Agency of Canada, Division of Aging and Seniors, 2005).
- Older adults who have fallen may lose confidence in their ability to move around. Being less active can affect their health and independence for the worse and further increase their risk for more falls.

When Do Older Adults Fall?

Falls happen during day-to-day activities:

- Standing up too quickly
- Rushing (e.g., to get to the bathroom, to catch the bus, to answer the phone)
- Changing direction quickly to avoid bumping into someone or tripping over something

- Stepping out of a wet tub or shower without using the wall bar for support
- Walking on icy roads, gravel, uneven pavement, a slippery floor, or loose throw rugs
- Reaching for something while standing on unstable support like a rickety chair
- Bending down while carrying a heavy purse or grocery bag
- Moving in one direction while looking in another direction (e.g., looking to one side to watch for traffic while crossing a road)

Other Factors That Contribute to Falls

As we age, our bodies experience many changes. For example:

- Vision: We don't see things as brightly or sharply as we used to.
- The inner ear: We sway more when standing and moving.
- Muscle strength and endurance: We tire more easily.
- Reaction time: Our reaction time is slower.

These changes affect how we stand and walk. Our stance becomes narrower, the length of our steps becomes shorter, and we don't lift our feet as high. It becomes harder to avoid things that get in our way. All these factors increase the risk of losing balance, tripping, and falling.

Some other factors that contribute to falls:

- Health conditions such as arthritis, osteoporosis, diabetes, and depression combine with normal aging changes to affect our stability for standing and moving around.
- Some medications have side effects that can increase the risk of falling.
- Inadequate nutrition—not eating a healthy diet, not having enough food, or being dehydrated—can contribute to falls as well.
- Being inactive affects muscle strength, flexibility, coordination, balance, and posture, which can increase a person's risk of falling.

Physical Activity: A Way to Reduce Falls and Their Consequences

Older adults who are regularly physically active:

- have better balance
- are less likely to fall
- have a better chance of avoiding injury if they do fall
- have a better chance of recovering from a fall-related injury

The next sections of this guide will help you to plan and lead activities that challenge people's balance in a safe way. These activities, if done regularly, will help to reduce people's risk of falling.

Being Active, Being Safe

What's in This Section for You?

- Physical Activity and Falls: What We Know and What We Don't Know
- Being Active May Contribute to a Fall if...
- Myths About Being Active and Falling
- Benefits of Physical Activity

Physical Activity and Falls: What We Know and What We Don't Know

Physical activity is an important part of a falls prevention program. Being active works effectively with other prevention practices including monitoring medication, ensuring home is safe, and eating healthy.

If you're thinking about developing a falls prevention program in your community, check out the Find out More section.

What We Know

- Being physically active lowers older adults' risk of falling and the number of falls they have.
- Older adults who are strong and flexible are less likely to injure themselves if they fall. They also have a better chance of recovering from a fall or injury.
- Depression and fear of falling are both risk factors for falls. Physical activity can improve mood and lessen the symptoms of depression and anxiety. Physical activity can also help older adults feel more confident about moving around and therefore reduce their fear of falling.
- Exercises that involve walking, muscle strengthening, balance, and coordination help to improve balance.
- Being inactive negatively affects leg strength and flexibility, coordination, posture, and balance.

What We Don't Know

Although studies have looked at a variety of activities including strength and balance exercises, walking, dancing, martial arts, and even computerized balance training, no one has identified a "best" type or amount of physical activity for reducing people's risk of falling.



Being Active May Contribute to a Fall if...

- The activity leader starts at a level that is too hard. Remember: it's not enough to tell people to go at their own pace. Start slowly and build up gradually.
- The environment is not safe. Slippery, uneven, or cluttered floors, loose gravel, loose carpeting, poor lighting, and a lack of places to rest or things to hold onto for support increases people's risk of falling.

Myths About Being Active and Falling

Here are two common myths about falling and being active. Discuss these with the older adults participating in your classes and programs.

Myth 1: Falling is a normal part of getting older. Being active won't make a difference.

Fact: Falling can be avoided as we age. However, older adults do have more risk factors for falling, and these risk factors are often related to health changes associated with aging. One of these risk factors is being inactive. Older adults who are not physically active are more likely to have falls. Older adults need to work on strength, balance, posture, and flexibility to keep their stability. The maxim "Use it or lose it" definitely applies here.

Myth 2: I have fragile bones. I should avoid being active so I don't get hurt.

Fact: Being active helps to build and maintain healthy bones and reduce the risk of breaking bones. Physical activity plays an important role in preventing and managing osteoporosis. A person with fragile bones can be active—safely! Participants should:

- Ask their health care provider about any movements they should do differently or avoid completely.
- Learn proper technique for each activity or exercise.
- Have something sturdy to grab onto for support when doing balance activities.
- Go at a comfortable pace, and build up gradually.

Has Someone Had a Fall Recently?

If one of your participants tells you they've recently had a fall, encourage them to see their health care provider.

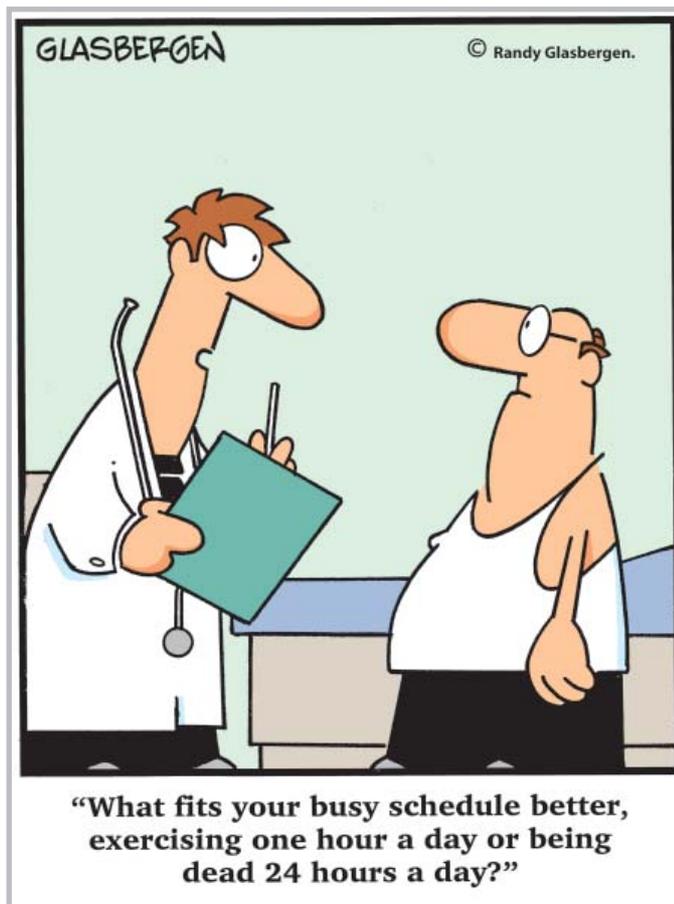
Benefits of Physical Activity

In addition to preventing falls, being physically active on a regular basis helps older adults to:

- Stay physically and mentally healthy.
- Achieve and maintain a healthy weight.
- Move with less muscle soreness and joint stiffness.
- Sleep better and have more energy.
- Feel more relaxed and positive.
- Meet new people and have fun.
- Stay independent longer and enjoy retirement and life in general.

“The greatest risk for older adults is being physically inactive.”

World Health Organization (1997)



Planning Physical Activity for Preventing Falls

What's in This Section for You?

- Things to Consider When Planning Activities
- Safety Measures
- In the Event of a Fall...



Things to Consider When Planning Activities

Choose activities that:

- Include balance, coordination, muscle strengthening, and core strengthening components.
- Can be modified for sitting, standing, or using a cane or other mobility aid.
- Relate to day-to-day activities, so participants can see how the activity applies to better balance in their daily routine.
- Are fun!

Safety Measures

A Fall-Safe Environment

- Make sure your activity area is well-lit and clutter-free. It should have an even, non-slip floor. Repair, clear, or avoid broken or icy sidewalks and loose gravel.
- Make sure seating is readily available along your walking route or in the room where you're doing the activity.



Good Physical Support

- Always have a counter, a sturdy chair, or a wall close by that participants can use for support when they do balance activities.
- Remind your participants to use their mobility aids (e.g., cane, walker) or other supports during the activity.



Proper Pacing

- Include a proper warm-up and cool-down in your activity (see Appendix A: Sample Warm-Up and Cool-Down).
- Start slowly and work up gradually. Encourage your participants to go at their own pace.
- Plan rest breaks. Remind participants to listen to their body. Encourage them to hold onto a support, sit for some exercises, or take rests as needed.



Appropriate Footwear

Talk to your participants about wearing proper footwear for all activities. The right pair of shoes goes a long way towards good balance. Shoes should have:

- Enough room to wiggle your toes and accommodate any bunions, but enough support so your foot and ankle do not slide or rub against the shoe
- A low, wide heel
- Support around your heel (no slingbacks or flip-flops)
- A flat sole that bends where your foot bends
- Laces or Velcro straps so you can adjust the fit of the shoe

Note: People who have swelling in their feet and ankles or decreased sensation in their feet from conditions like diabetes should see their health care provider to arrange a proper footwear assessment.

Shoe Shopping Tips for Your Participants

- Shop for shoes at the end of the day when your feet are at their widest.
- Wear the type of socks you plan to wear with that shoe.
- Get someone to help you trace the outline of your foot while you stand on a piece of paper. Take the tracing with you when you go shoe shopping. Place shoes on top of the tracing. The outline of your foot should fit within the edges of the shoes.

Shoe Grips for the Winter

Shoe grips are a great thing to wear for traction when walking on icy or snowy paths and roads. There are two different styles: one for ice and one for snow.

Shoe grips fit on the bottom of your shoes or boots and come in different sizes to fit your shoe size. They sell for about \$30. Ask at your local sporting goods or department store, shop online, or stop at a camping or medical supply store next time you're in the city.



In the Event of a Fall...

See Appendix B: How to Safely Help Someone Get up From a Fall if one of your participants has a fall during an activity. Also contact the person's health care provider and report the fall.

Exercises

What's in This Section for You?

- Balance and Strengthening Exercises
 1. Modified Mountain Pose
 2. Heel Raise
 3. Stand on One Foot
 4. Side Leg Raise
 5. Back Leg Raise
 6. Sit to Stand
 7. Heel-Toe Pose
 8. Backwards Steps
 9. Shift Forward and Back
- Ideas for Keeping Things Fun



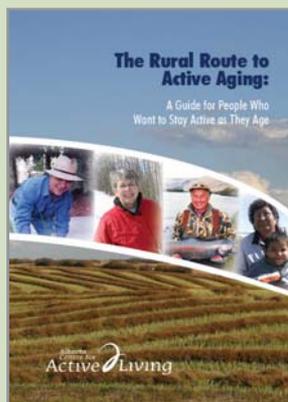
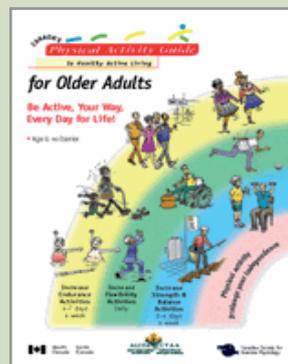
Remember

These exercises and activities are just part of an overall physical activity program that should include flexibility, strength, and endurance activities as well as a warm-up and a cool-down.

For a sample warm-up and cool-down, see Appendix A: Sample Warm-Up and Cool-Down.

For more information about flexibility, strength, and endurance activities, check out *Canada's Physical Activity Guide to Healthy Active Living for Older Adults*: www.paguide.com

For additional strength and flexibility exercises for older adults, check out *Rural Route to Active Aging: A Guide for People Who Want to Stay Active as They Age*: www.centre4activeliving.ca/older-adults/rural/guide.html



Balance and Strengthening Exercises

These balance and strengthening exercises are appropriate for older adults who can walk on their own with or without a mobility aid (e.g., cane or walker).

Your participants will:

- Strengthen core postural muscles (stomach, back, shoulder, and hip areas) needed for safe standing, walking, bending, and reaching.
- Practice balancing with their feet further apart and closer together.
- Learn to shift their weight smoothly (forward and back, side to side).



You don't have to include all the exercises in each class, but try to include at least a few in every class. Vary them from class to class, and try to work through all nine.

Always start with the modified mountain pose (exercise #1), as it shows people what stability feels like and helps them position their bodies properly for all the exercises.

For each exercise:

- Read What's the Point? to your participants to let them know how the exercise benefits them and how it applies to their everyday activities.
- Read the Cue for Participants to them to help them do the exercise correctly.
- Start with the basic form of each exercise before trying the more challenging variations.
- Except for the modified mountain pose, heel-toe pose/walk, and backwards steps exercises, gradually build up to doing two sets of 15 repetitions for each exercise. Rest for one minute between sets.
- Remind people to check their posture and breathe throughout each exercise.

Warning

If participants have arthritis, osteoporosis, a hip replacement, or any other health condition, they should talk with their health care provider to find out if they should avoid some exercises or movements.

If they are on medication, they need to talk with their doctor or pharmacist about any side effects that could affect their balance or their ability to do the exercises.

General Cues for Participants

Challenge your balance safely!

When you do balance activities, always have a support close by such as a counter, a sturdy chair, or a wall. If you use a cane or a walker, keep it within reach.

Follow the ABCs:

- **A**lignment. Check your posture! This increases the benefit of the exercise and helps you to do it more easily. Stabilize your “core”: tighten your stomach muscles and buttocks. Tuck in your chin slightly, and keep your shoulders down and back. Look straight ahead.
- **B**reathing. Breathe through all the movements—don’t hold your breath.
- **C**ontrol. Do each exercise slowly and smoothly. Don’t rush. Work at your own pace.

Be patient with yourself.

Some days will be better than others. Many factors like feeling tired, getting over an illness, changing medications, being distracted, or missing a meal can affect your balance.

The FITT Principle

To make exercises and activities easier or more challenging, use the FITT principle:

Frequency	How many repetitions?	Do more or fewer repetitions of an exercise or a dance step.
Intensity	How hard will we work?	Do the activity a little faster or slower. Depending on the activity, faster might be harder or easier, and same for slower.
Time	How long will we do the exercise?	Hold a pose for more or less time.
Type	Which exercise will we do?	Choose a variety of activities to exercise different body parts and to keep things interesting. Do the mountain pose at the beginning of each class, but vary the other balance and strengthening exercises from class to class.

Did You Know?

Yoga is a practice that originated in India thousands of years ago. Aspects of yoga include moving your body into poses and focusing on your breathing.



1. Modified Mountain Pose

What's the Point? This yoga exercise strengthens your postural muscles (back, stomach, legs, and shoulders) and makes you more aware of what stability feels like. It will help you to be strong and stable when you're standing (e.g., in the shower or in line at the bank or the grocery store).

Tips

This exercise can be done in shoes or bare feet. Doing it in bare feet makes it easier to tell if your feet are in the right position. Make sure people sit down to remove and put on their shoes.

Help participants place their feet in the correct position. Using green painters' tape (it's easy to see and remove), make a pair of parallel lines on the floor. Make each line about 46 cm (18 inches) long, and place the lines shoulder-width apart (about 20 cm or eight inches). Ask participants to stand with one foot on each line. If they're in bare feet, they should see the line going between their second and third toes (from their big toe) and through the middle of their heel.

1. Stand behind a counter or a sturdy chair. Use both hands to hold onto the counter or the back of the chair for support.
2. Plant your feet firmly on the floor shoulder-width apart. Your feet should be parallel to each other, not turned in or out.



3. Adjust your weight so it is spread evenly over each foot. Don't lock your knees—keep them just slightly bent. **Posture check!** Is your core (stomach and buttocks) tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?

4. When you feel steady, let go of your support and place your arms by your sides with your palms touching the sides of your legs. Or, if you need to, keep holding onto the counter or chair for support.
5. Look straight ahead and breathe comfortably. Stand in this position for one minute.

Cue for Participants

Plant your legs and feet firmly on the ground. Allow your head and upper body to feel very light and tall. This gives you a strong base for standing.



Too Easy? Then Try One of the Following:

- Start with your feet closer together.
- Turn your head slowly to the right, then to the left, as if you're shoulder-checking.
- Add more movement. As you breathe in during Step 5, interlace your hands with your thumbs facing out and slowly lift your arms as high as you can. Don't lean backwards. Slowly separate your hands and lower your arms to your sides as you breathe out. Repeat this three times, lifting your arms a little higher each time. See if you can lift them over your head.
- Reach across your body with one hand while holding onto the counter or chair with the other hand. Imagine you're picking fruit from a branch just within your reach while holding onto a ladder.





2. Heel Raise

What's the Point? This exercise strengthens your ankle and lower leg muscles. This will help you with activities such as walking, climbing stairs or a ladder, or getting on and off a tractor.

1. Stand beside a wall. Place one hand lightly on the wall for support. You can also put something sturdy on your other side for additional support if you need it.
2. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. Don't lock your knees. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
3. As you breathe out, lift your heels off the floor, and stand on your tiptoes. Look straight ahead.
4. While breathing normally, stand on your tiptoes for three seconds. Then slowly lower your heels to the floor.



Cue for Participants

Imagine that you're trying to make yourself as tall as you can to peek over a high fence. Check your posture. Keep breathing.



Too Easy? Then Try One of the Following:

- Hold the position for five seconds.
- Stand close to the wall in case you need it, but don't hold onto it for support.
- **If that's still too easy:** Face the wall so you can touch it with your outstretched fingertips if you need it. Do the exercise with your arms in front of you at shoulder height. Imagine you're on a diving board getting ready to dive.

3. Stand on One Foot

What's the Point? This exercise strengthens the muscles that stabilize your hips. This will help you with climbing stairs, getting in and out of trucks, vans, or buses, and stepping in and out of your bathtub.

1. Stand beside a wall, a counter, or a sturdy chair, and hold onto it for support. You can put something sturdy on your other side for additional support if you need it.
2. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
3. Lift your right heel so just your right toes are touching the floor.
4. Most of your weight should be on your left foot. Don't lock your knee, and don't lean to the left.
5. When you feel stable, slowly lift your right leg so that your knee is as high as your hip and your toes point down. Hold for three to five seconds.
6. Slowly lower your right foot to the floor. Repeat with the left foot.

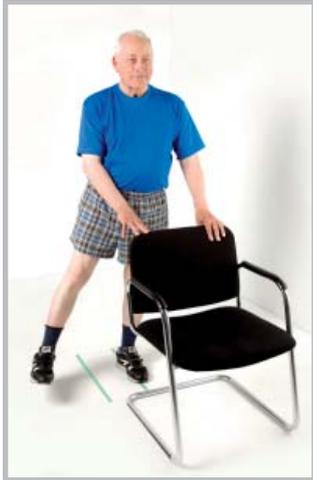
Cue for Participants

When just your toes are touching the floor, imagine that they're touching an egg. You don't want to break the egg, but you don't want it to roll away either. Your toes are touching the floor very lightly.

Too Easy? Then Try One of the Following:

- Hold your leg up for a longer amount of time.
- Gradually let go of your support. Over several sessions, you could try progressing from two hands on your support to one hand to just your index finger.
- When you feel steady, try the exercise without holding on to anything—but stay close to the wall, counter, or chair just in case.
- Add more movement. Alternate lifting your right foot and left foot a little faster.





4. Side Leg Raise

What's the Point? This exercise strengthens hip, thigh, and buttock muscles. This helps you to widen your stance so you are more stable. It also helps you to step sideways to avoid tripping (e.g., when your grandkids run around you, when you're walking in a crowd, or when pets or livestock get underfoot).

1. Stand behind a counter or a sturdy chair.
2. Use both hands to hold onto the counter or the back of the chair for support.
3. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
4. As you breathe out, slowly lift your leg out to the side until the inside of your foot is about an inch off the floor. **This is a very small, slight movement.** Don't lock your left knee. Keep your back straight—don't lean forward, backward, or sideways.
5. Hold for three to five seconds. Lower your leg.
6. Repeat five times. Then switch to the other leg.



Cue for Participants

Imagine that you're getting out of your car, and you need to stretch your leg out to the side a bit to avoid stepping into a puddle.

Too Easy? Then Try One of the Following:

- Hold your leg up for a longer amount of time.
- Do more repetitions. Work up to 10-15 repetitions for each leg.
- Gradually let go of your support. Over several sessions, you could try progressing from two hands on your support to one hand to just your index finger.
- When you feel steady, try the exercise without holding on to anything—but stay close to the counter or chair just in case.

5. Back Leg Raise

What's the Point? This exercise strengthens your lower back and buttock muscles. This will help you with walking.

1. Stand behind a counter or a sturdy chair.
2. Use both hands to hold onto the counter or the back of the chair for support.
3. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
4. Slowly lift one of your legs straight back to a 30-degree angle without bending your knee or pointing your toes. Your toes should be about an inch off the floor. **Try not to lean forward.** The leg you're standing on should have the knee slightly bent—don't lock your knee.
5. Hold this position for three to five seconds. Slowly lower your leg.
6. Repeat five times. Then switch to the other leg.

Too Easy? Then Try One of the Following:

- Hold your leg up for a longer amount of time.
- Do more repetitions. Work up to 10-15 repetitions for each leg.
- Gradually let go of your support. Over several sessions, you could try progressing from two hands on your support to one hand to just your index finger.
- When you feel steady, try the exercise without holding onto anything—but stay close to the counter or chair just in case.





6. Sit to Stand

What's the Point? This exercise strengthens your stomach and thigh muscles. This will help you with getting in and out of chairs, sofas, cars, and your bed.

Use a chair with armrests that is stable and will not slide away.

1. Sit toward the front of the chair. There should be some space between the back of your knee and the edge of the chair seat.
2. Plant your feet firmly on the ground, shoulder-width apart. Your feet should be tucked under your knees slightly.
3. Tighten your stomach muscles, **lean forward slightly**, and, using your arms and legs, slowly stand up. Keep your knees a little bit bent.
4. Slowly lower yourself back into the chair.
5. Repeat this movement five times, increasing up to 15 repetitions.



Cue for Participants

The slower and more deliberately you do this exercise, the harder your muscles will work.



Too Easy? Then Try the Following:

- Do the exercise with your arms out in front of you at shoulder height instead of using the armrests for support.

7. Heel-Toe Pose

What's the Point? This exercise helps you to keep your balance when you have to narrow your stance to squeeze through a tight area or avoid bumping into someone.

1. Stand beside a wall, a counter, or a sturdy chair with one hand on it for support. You can put something sturdy on your other side for additional support if you need it.
2. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
3. Place one foot right in line with the other one so that the heel of your front foot touches the toes of the other foot.
4. Looking straight ahead, choose a spot in front of you. Focus on it.
5. Stand still for five to 10 seconds, breathing normally. Gradually build up to 30 seconds.
6. Repeat this exercise twice, alternating the foot that is in front.



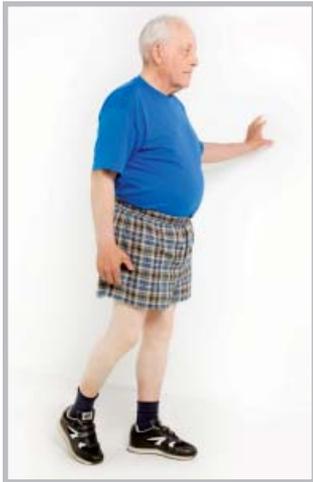
Cue for Participants

Imagine you're standing on a tightrope, or you have to squeeze through a narrow space.

Too Easy? Then Try One of the Following:

- Stand next to your support in case you need it, but don't hold onto it.
- **If that's still too easy:** Do the exercise with your arms out to your sides at shoulder height.
- Do a heel-toe walk. Stand beside a wall or between two rows of sturdy chairs with the backs facing each other. Take three to five steps forward, touching your support as you go to steady yourself. With each step, put your heel just in front of the toes of your other foot as if you're walking on a tightrope.





8. Backwards Steps

What's the Point? This exercise helps you to keep your balance when you're backing up to get that perfect photo, catching a ball, stepping back to enjoy the right water angle in the shower, or manoeuvring around grandkids and pets.

1. Stand with one hand on a wall, a counter, or the back of a sturdy chair. Or, stand between two rows of sturdy chairs with the backs facing each other. Hold the backs of the chairs for support.
2. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
3. As you look straight ahead, slowly take three to five steps backwards.
4. Use your support as you step backwards. Keep some space between your feet—don't let your feet cross each other.
5. Repeat once.



Cue for Participants

Imagine you're admiring a piece of art or your latest renovation accomplishment. Slowly step back to take in the view.



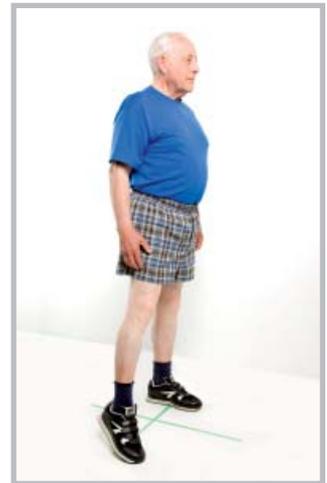
Too Easy? Then Try One of the Following:

- Stand close to your support in case you need it, but don't hold onto it.
- Use the clock game to practice stepping in different directions.

Clock Game

Ask your participants to imagine that they're standing at the centre of a large clock. Call out different times, and ask them to take a step in the direction of the times that you call out. Before you call out the next time, always ask them to bring their foot back to the centre.

Participants should use their right foot for 12, 1, 2, 3, 4, 5, and 6 o'clock and their left foot for 12, 11, 10, 9, 8, 7, and 6 o'clock. Feel free to mix up the times as you call them out.





too narrow



too long



back foot off ground



knee past toes



9. Shift Forward and Back

What's the Point? This modified tai chi exercise makes you aware of how it feels to shift your weight forward and backward. This will help you to keep your balance when you're leaning back, vacuuming, shovelling, or reaching forward to prune your shrubs.

1. Using the same green lines you put on the floor for mountain pose, stand beside a sturdy chair or a counter. Place one hand on the back of the chair or on the counter for support.
2. Plant your feet firmly on the floor, shoulder-width apart, like in mountain pose. **Posture check!** Is your core tight? Are your shoulders back and down? Are you looking straight ahead? Is your chin tucked in slightly?
3. Turn one foot out at a 45-degree angle. Step forward with the other foot. Your step should be as long as when you take a normal walking step.
4. As you breathe out, shift your weight to your front leg, bending your front knee slightly. Your front knee should not go past your toes. Keep your back leg straight and your back foot flat on the ground—you should feel a stretch in your back leg. Look straight ahead. Hold this position for three to five seconds, breathing in and out normally.
5. Then, as you take a breath in, slowly shift your weight to your back leg, bending the back knee. Imagine you're sitting back to perch on the edge of a narrow seat. Your front foot can be flat on the floor, or you can lift your toes up so that only your heel contacts the floor. Don't lock your front knee—keep it slightly bent. Keep a nice straight back—no leaning backwards!
6. Shift forward and back five to 10 times. Take one minute to rest, and then repeat the exercise with your other foot in front. Work up to 15 repetitions on each side.

Cue for Participants

Imagine you're digging in a garden. Shift your weight forward to push the shovel into the dirt; then shift your weight back to lift the dirt.

Did You Know?

Tai chi is an ancient Chinese martial art that coordinates smooth body movements with breathing and concentration. Research on tai chi shows that it helps people to improve their balance and lower their risk of falling.

Too Easy? Then Try One of the Following:

- Do the exercise with your hands on your hips. Stand close to a chair or counter in case you need support.
- Do the exercise with your arms in front of you, elbows bent and palms facing away from you.

Cue for Participants

Imagine you're pushing a heavy door shut.



Ideas for Keeping Things Fun

Here are some things you can do to keep the fun in physical activity!

Use a Theme

Themes help people to visualize the correct movements and keep activities interesting.



For example, apply a yardwork theme to some of the exercises:

- Standing on one foot: climbing a step ladder to prune a tree
- Heel raise: peeking over to check out the neighbour's flowers or picking crabapples from high branches
- Heel-toe walk: measuring the size of the vegetable patch
- Backwards steps: raking or leading a horse out of the stable
- Shift forward and back: digging in the garden or closing a farm gate

Keep in mind popular physical activities and other day-to-day activities like those listed below when you're thinking about a theme for your fitness class.

Popular Activities for Adults in Canada	Examples of Other Day-to-Day Activities
<ul style="list-style-type: none"> • Walking • Gardening • Home exercise • Swimming • Cycling • Social dancing • Strength training • Running/jogging • Golf • Exercise classes/aerobics 	<ul style="list-style-type: none"> • Getting dressed • Bathing/showering • Eating • Preparing food/cooking • Shopping • Driving • Taking the stairs • Yardwork: raking, shovelling, weeding • Taking out the garbage • Picking up your grandchild
Canadian Fitness and Lifestyle Research Institute (2005).	

Find out what activities your participants do regularly, and work these into your program.

Recognize special days (e.g., St. Patrick's Day, Valentine's Day, Earth Day). Incorporate the theme of the special day into your activities and exercises. Play music that matches the theme. Bring themed snacks (e.g., mini-carrots for Easter or green juice for St. Patrick's Day).

For more theme ideas, check out the great Energizer videos by Winnipeg in motion. Watch the Pizza Tai Chi and Sports Galore videos to see how they use themes in their physical activity routines. These free resources are available at www.winnipeginmotion.ca in the in motion Energizers section.

Play Music!

- Music can be energizing, motivational, or relaxing. It helps to keep people moving in rhythm for exercise repetitions and makes the session more enjoyable.
- Find out what types of music your participants enjoy. Include some of their favourite songs. See Appendix C: Music Suggestions for a list of music ideas to get you started.
- Consider using music without words, so participants can hear your instructions clearly.

Offer More!

- Invite people to come before the class starts and stay after the class has ended. This gives people time to visit and another reason to keep coming to your class. Also, this will help you get to know your participants' interests and give you ideas about future themes to use in your class.
- Offer extra information such as falls prevention and health promotion brochures and announcements about active community events.
- Offer healthy snacks and drinks at the end of each class. If your participants are interested, you could set up a sign-up sheet for bringing snacks and everyone could take turns.
- For people with good balance, offer a line dancing or cultural dance class. Dance is a social activity that can also help with endurance, strength, and balance. In some traditional dance, like Ukrainian and Greek dance, the dancers hold hands. This allows participants to do a fun balance activity and have something to hold for support without having to bring a dance partner.
- Organize a walking group. Check out Appendix D: How to Start a Walking Club.
- Connect people who live along the same route. Maybe they would like to travel together or call and remind each other to come out to classes and activities. This encourages people to keep coming and can make them feel safer during their travels. Also, carpooling is better for the environment.



Find out More

This section shares useful resources for finding out more about physical activity and preventing falls as well as training opportunities for planning physical activity programs for older adults.

Resources on Physical Activity and Preventing Falls

- **A Best Practices Guide for the Prevention of Falls Among Seniors Living in the Community** (www.phac-aspc.gc.ca/seniors-aines/pubs/best_practices/intro_e.htm) This guide by the Public Health Agency of Canada is the result of a review of several falls prevention programs.
- **A Million Messages for Seniors Falls Prevention** (www.capitalhealth.ca/EspeciallyFor/Seniors/MillionMessagesSeniorsFallsPrevention.htm) A package of resources from Alberta Health Services (Edmonton area) that offers information about preventing falls among older adults.
- **Active Independent Aging: A Community Guide for Falls Prevention and Active Living** (www.falls-chutes.com) This guide, targeted at people who work with older adults, provides program ideas, videos, and web-based resources on falls prevention and active living.
- **Alberta 55 plus** (www.alberta55plus.ca) In rural communities, Alberta 55 plus works hand-in-hand with senior and community centres by sponsoring a variety of events throughout the year that aim to keep seniors physically active, mentally stimulated, and socially involved.
- **Alberta Centre for Active Living** (www.centre4activeliving.ca) The Older Adults section links to resources such as Rural Route to Active Aging and Active Independence: The Home Support Exercise Program in Alberta, an evidence-based physical activity program for frail older adults.
- **Alberta Seniors' Falls Prevention Network** (www.acicr.ualberta.ca | click on Networking) This free electronic network coordinated by the Alberta Centre for Injury Control & Research informs people working in seniors' falls prevention about programs, resources, research, and upcoming events and conferences.
- **Canada's Physical Activity Guide to Healthy Active Living for Older Adults** (www.paguide.com | click on Guide for Older Adults) This guide by the Public Health Agency of Canada outlines how much and what types of physical activity older Canadians should do to maintain or improve their health and independence. Includes helpful case studies, answers to FAQs, and a sample program to get people started.



- **Finding Balance** (www.findingbalancealberta.ca) Alberta's annual falls prevention campaign includes a website with a section for practitioners. The website also includes the Inform Alberta directory (in News & Resources), which tells you about programs and services in your area based on your postal code.
- **Preventing Falls Among Older Adults** (www.cdc.gov/HomeandRecreationalSafety/Falls/preventfalls.htm) The Centers for Disease Control and Prevention provide this information about exercise, home modification, and multi-faceted interventions for preventing falls. There is also a how-to guide for communities interested in setting up a falls prevention program.

Training Opportunities

- **Alberta Fitness Leadership Certification Association** (www.provincialfitnessunit.ca/get-aflca) The AFLCA offers training and certification for fitness leaders and activity planners at seniors' housing facilities. Programs include Ever Active Adults, Fitness for the Older Adult, and Functional Independence for Older Adults.
- **Canadian Falls Prevention Curriculum** (www.injuryresearch.bc.ca | click on Injury Topics then Falls Prevention) This two-day workshop/e-learning course offered in English and French provides participants with the knowledge and skills they need for preventing falls and fall-related injuries among older adults.
- **Grande Prairie Regional College Fitness Leader Diploma: Older Adult Fitness and Wellness Specialization** (www.gprc.ab.ca/programs | click on Physical Education) This diploma is designed to advance professional leadership in promoting the fitness and wellness of older adults. Courses prepare graduates to work with a broad range of older adults, from active to frail.
- **Physical Culture Association of Alberta** (www.physicalculture.ca) This association offers certificate programs for older adult and physical activity practitioners. The Physical Culture Older Adult Instructor Training Program provides practitioners with strategies for delivering sound, safe, and suitable exercise programs for their participants. The Functional Exercise Training Program for Rural Alberta Older Adult Practitioners provides practitioners with an exercise program that is adaptable for older adults living in both rural communities and rural seniors' facilities.

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Appendix A

Sample Warm-Up and Cool-Down

Always include a warm-up and a cool-down in your activities and classes.

The purpose of a warm-up is to prepare the body for the activity or exercise to come. The warm-up:

- increases body temperature and gets blood flowing to the muscles
- loosens up the joints
- introduces movements that will be done during the main activity

The purpose of a cool-down is to help the body wind down after being active. The cool-down:

- gradually decreases body temperature, heart rate, and breathing
- prevents blood from pooling in the legs and feet
- stretches muscles to improve flexibility and prevent cramping and soreness



Remember

Older adults need a longer warm-up to prepare for being active compared to other age groups. The warm-up should be about 10-15 minutes long.

These exercises can be done sitting down. You can do the same exercises for the warm-up and the cool-down, each of which should be about 10-15 minutes long. Do each exercise eight times.

Starting Position

Sit in a chair with your back straight, looking forward. Your shoulders should be down and back, your chin tucked in slightly, and your arms on the armrests or in your lap. Use this starting position for each exercise.

Toe Raises

Start with your feet flat on the floor about shoulder-width apart. Raise your toes off the floor, shifting all the weight to your heels. Hold for four seconds. Lower your toes to starting position. Repeat.

Heel Raises

Start with your feet flat on the floor about shoulder-width apart. Raise your heels off the floor, shifting all the weight to your toes. Hold for four seconds. Lower your heels to starting position. Repeat.

Ankle Circles

Raise one foot off the floor, and slowly rotate your ankle in a full circle to the left eight times (counter-clockwise), then to right eight times (clockwise). Lower your foot back to the floor.

Repeat with your other foot.

Knee Lifts

People with a hip replacement should skip this exercise.

With your knees bent, lift one leg up. Hold for four seconds. Lower your leg. Repeat with your other leg.

Marching in Place

For one to two minutes, march. Use just your legs at first, gradually lifting them a little higher. Then add in some arm movement, swinging your arms while you march.

Arm Circles

With your arms out to your sides at shoulder height, slowly make small circles forward. Gradually make the circles bigger. After eight circles, go in the other direction. Remember to start with small circles and gradually make them bigger.

Elbow Circles

Start with your arms out to your sides at shoulder height. Bend your elbows and touch your shoulders with your hands. Make full circles forward eight times, and then make full circles backward eight times.

Shoulder Rolls

Slowly rotate your shoulders, making circles. Rotate them forward eight times and then backward eight times.

Shoulder Shrugs

With your arms at your sides, slowly shrug your shoulders up towards your ears. Lower your shoulders. Repeat.

Shoulder Checks

People with neck problems should skip this exercise.

Keep your arms at your sides, your shoulders back and down, and your chin tucked in slightly. Look straight ahead.

Without turning your whole body, slowly turn your head to look over your left shoulder. Slowly return to looking straight ahead. Slowly turn your head to look over your right shoulder. Slowly return and look straight ahead. Repeat.

Appendix B

How to Safely Help Someone Get up From a Fall

When someone falls, it is important to help them up safely.

Do not hurry them, and let them rest as often as they need to. If they get stuck at any time, make them comfortable, and call the ambulance.

1. Do not try to get the person up straight away.
2. Calm yourself and the person. Get them to take deep slow breaths.
3. Check for injuries. If they are badly injured, such as with a broken bone, they need to stay where they are. Make them as comfortable as possible and call an ambulance. Keep them warm while you wait for the ambulance.
4. If they are not badly injured and feel they can get up, get two sturdy chairs. Place one near the person's head and one near their feet.
5. It is important that the fallen person does the work. Guide the person lightly, helping them to roll onto their side.
6. Help the person to kneel on all fours. If they have sore knees, place a towel under their knees as cushioning.
7. Place one chair in front of the kneeling person. Ask the person to place their hands on the seat of the chair for support, lift one leg up, and put that foot on the floor.
8. Place the second chair behind the person. Ask them to push up with their arms and legs and then sit back in the chair behind them. Guide them up and back into the seat, remembering not to lift them—they should be doing the work. Keep your back upright.
9. Let the person's health care provider know that they have had a fall.

Adapted from *Don't fall for it. Falls can be prevented! A guide to preventing falls for older people* by Adelaide West and the National Ageing Research Institute for the Australian Government Department of Health and Aging (2004). Copyright Commonwealth of Australia. Reproduced and adapted with permission.

Appendix C

Music Suggestions

Marches and military band music, folk tunes, and piano tunes can be great choices. Look through your own music collection, or check out your local library for instrumental music and popular tunes. Also find out what songs and music your participants like.

Here are a few CD titles to get you started:

- Marching with McGuire
- 2006 Royal Nova Scotia International Tattoo
- The Best of Scott Joplin
- Happy Piano
- Movin' with the Masters: Aerobic/Step Training
- International Marches: Premium Music Collection
- In Which We Serve: The Best of Military Bands

Thanks to Loretta Kroeker for providing music suggestions.

Appendix D

How to Start a Walking Club

Walking is the most popular form of physical activity for Canadians. It can be done by anyone, at any age, and at little or no cost! As a regular physical activity, walking is a safe way to develop a healthy and balanced lifestyle.



Any excuse for a walk is good, whether it's for staying in shape, getting a breath of fresh air, improving digestion, sleeping better, feeling better, taking time for thinking, or having time with friends. Some people enjoy walking alone and others like to walk in groups.

Walking clubs are a great way to meet other active people, stay fit, and discover safe and new places to walk in your neighbourhood. Some walking clubs are formal with fees, programs, and special leaders. Others are informal with just a group of friends who agree to walk together. Some clubs walk outdoors. Other clubs walk indoors at malls or recreation or leisure centres.

Where to Start

You may already have a walking club in your area. Call your local community centre, seniors' centre, or municipal information line to locate the walking clubs near you.

If you can't locate a club that suits your needs or interests, or if you want to form a special club just for your centre's members, start by finding other like-minded people who are enthusiastic about starting one with you.

Informal Walking Club

If you are setting up an informal walking club, it may be as easy as deciding when and where you'll get together for your next walk.

Formal Walking Club

If your goal is to have a more structured walking club at your seniors' centre or legion, you will need people who will take care of the following work:

- Coordinating the overall walking club operations
- Managing the walking club finances
- Recording minutes of club meetings
- Planning and organizing the walking club activities
- Promoting interest in the walking club (making posters and brochures, telling people about club activities)

Planning Walks

Keep safety, access, and attractiveness in mind. You will also need access to services such as benches, toilets, and phones.

- Find a good gathering place for your walk.
- Decide on the days and times for your walks.
- If outdoors, decide on the route(s).

These decisions need to fit your members' needs and your organizers' ability.

Each walking session includes four parts:

- Reception: Welcome everyone, make announcements, and welcome new members.
- Registration: Make sure you have everyone's names, and collect any required fees.
- Activity: This is the time spent walking! Divide into smaller groups to match the paces of participants. If you have planned a long outdoor hike, take time to drink water, take a rest, and make sure the group stays together.
- Wrap-up: This can be a small meeting or light refreshments. It is a great time for announcements, discussion topics, or guest speakers.

Safety Awareness

- Advise club members to consult their health care provider before starting a physical activity program such as a walking club.
- Remind and encourage walkers to go at their own pace.
- Be prepared in the event of an emergency (have a first aid kit, a plan for managing an emergency, and access to a phone).
- If you are walking outdoors, know your route, and have access to first aid help.
- Ensure that walkers are wearing suitable shoes and clothing.
- Ensure that walkers have enough food and water for long outdoor hikes.
- Make sure the route is safe and hazard-free.
- Check with your legion or seniors' centre regarding liability insurance requirements.

Motivation and Spirit

Take time to think about how to motivate people in your legion or seniors' centre to join a walking club. Here are some ideas to keep your members interested and their spirits high.

- Name your club.
- Personally deliver an invitation to 15 or 20 of your members asking them to come on a walk.
- Have refreshments afterwards.

- Walk for a cause. Have a membership fee and donate to an agreed-on charity.
- Celebrate birthdays and special occasions.
- Change your route or meet up with another walking club several times throughout the year.
- Design your own walking club logo for a T-shirt or sweatshirt.
- Remember that members may rely on the walk to get out of the house.
- Welcome everyone at each walk, and remind them of the next walking date/time/place.
- Share jokes, recipes, books, and stories.
- Keep track of how far your club has walked. Total up the minutes or distances. Track it on a calendar.
- Talk about your goals in the group and why walking is important to you.
- Have guest speakers come in to talk about walking tips and safe routes, fitness, health, falls prevention, history, or other topics of interest to your group.

Starting a Mall Walking Club

1. Contact the mall administration office. Find out who you need to talk to and what you need to do to start a walking club. You may need a sponsor from the mall or help from the municipality or a public health nurse.
2. You need to have volunteers for the club to take on leadership roles in the group. This could include administrative and treasurer duties. Map out the routes that you walk inside the mall for safety purposes. Make sure to include safe and easy access to entrances and exits.
3. Members of your walking club will need to sign a waiver with the mall for liability issues. This means that the mall is not responsible if members are injured during their walk.

The mall may provide a room or space so that walking club members can socialize and have refreshments after the walk.

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Preventing Falls Through Physical Activity: A Guide for People Working with Older Adults

This guide for activity leaders offers practical information on falls and physical activity as well as exercises and fun ideas for helping older adults work on their balance and strength. Use this guide in your work with older adults in your community to help them stay independent and lower their risk of falling.

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Research and education for the promotion of physical activity

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