

# **Falls: Prevention & Intervention**

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# Check Your Risk for Falling

Circle "Yes" or "No" for each statement below

Why it matters

Circle "Yes" or "No" for each statement below		Why it matters	
Yes (2)	No (0)	I have fallen in the past year.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.

**Total**

Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor.

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 self-stick strips on the floor of the tub or shower.

Do you need some support when you get in and out of the tub, or up from the toilet?

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



	<b>Strengthening</b>	<b>Balance retraining</b>	<b>Walking</b>
<b>Activities</b>	5 leg muscle strengthening exercises, with up to 4 levels of difficulty*	12 balance retraining exercises, with up to 4 levels of difficulty*	Advice about walking
<b>Assessment</b>	The amount of weight in ankle cuff should allow 8–10 repetitions before fatigue	Set each exercise at a level that the person can safely perform unsupervised	Discuss present walking activities
<b>Intensity</b>	Moderate	Moderate	Usual pace with usual walking aid
<b>Progressions*</b>	Increase to 2 sets of repetitions. Increase the weight of the ankle cuff	From supported exercise to unsupported exercise	
<b>Frequency</b>	At least 3 times a week, with rest day between	At least 3 times a week	At least 2 times a week
<b>Duration</b>	Approximately 30 minutes to do the flexibility, strength and balance exercises; exercises can be divided up over the day		30 minutes; can be broken down to three 10-minute walks throughout the day

\*The exercises at each level of difficulty are shown in Table 4



TABLE 4 LEVELS AND NUMBER OF REPETITIONS FOR THE STRENGTHENING AND BALANCE RETRAINING EXERCISES

**Strengthening exercises**

		ALL 4 LEVELS	
1	Knee extensor (front knee strength)	Ankle cuff weights are used to provide resistance to the muscles and 10 repetitions of each exercise are carried out	
2	Knee flexor (back knee strength)		
3	Hip abductor (side hip strength)		
		LEVEL C	LEVEL D
4	Ankle plantarflexors (calf raises)	10 repetitions, hold support, repeat	10 repetitions, no support, repeat
5	Ankle dorsiflexors (toe raises)	10 repetitions, hold support, repeat	10 repetitions, no support, repeat

**Balance retraining exercises**

	LEVEL A	LEVEL B	LEVEL C	LEVEL D
1	Knee bends 10 repetitions Hold support	i) 10 repetitions, no support or ii) 10 repetitions, hold support, repeat	10 repetitions No support, repeat	3 x 10 repetitions No support
2	Backwards walking	10 steps, 4 times Hold support		10 steps, 4 times No support
3	Walking and turning around	Walk and turn around (make figure of 8) twice Use walking aid	Walk and turn around (make figure of 8) twice No support	
4	Sideways walking	10 steps, 4 times Use walking aid	10 steps, 4 times No support	
5	Tandem stance (heel toe stand)	10 seconds Hold support	10 seconds No support	
6	Tandem walk (heel toe walk)		Walk 10 steps Hold support, repeat	Walk 10 steps No support, repeat
7	One leg stand	10 seconds, hold support	10 seconds, no hold	30 seconds, no hold
8	Heel walking		10 steps, 4 times Hold support	10 steps, 4 times No support
9	Toe walk		10 steps, 4 times Hold support	10 steps, 4 times No support
10	Heel toe walking backwards			Walk 10 steps No support, repeat
11	Sit to stand	5 stands, 2 hands for support	i) 5 stands, one hand or ii) 10 stands, 2 hands for support	i) 10 stands, no support or ii) 10 stands, 1 hand for support, repeat
12	Stair walking	As instructed	As instructed	As instructed, repeat

## Head movements

- Stand up tall and look ahead
- Slowly turn your head as far as you can to the right
- Slowly turn your head as far as you can to the left
- Repeat five times to each side



## Neck movements

- ▶ Stand up tall and look ahead
- ▶ Place one hand on your chin
- ▶ Guide your head straight back
- ▶ Repeat five times



## Back extension

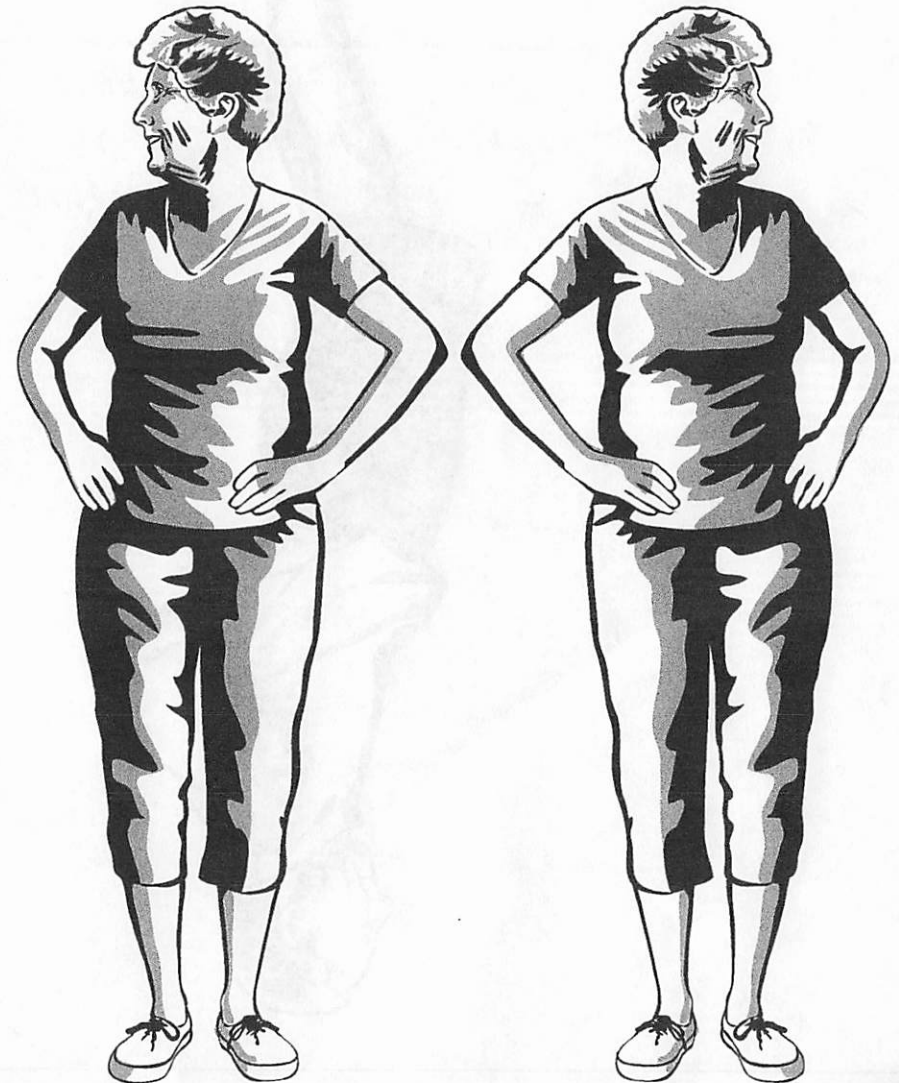
- Stand up tall with the feet shoulder-width apart
- Place the hands on the small of the back
- Gently arch back
- Repeat five times





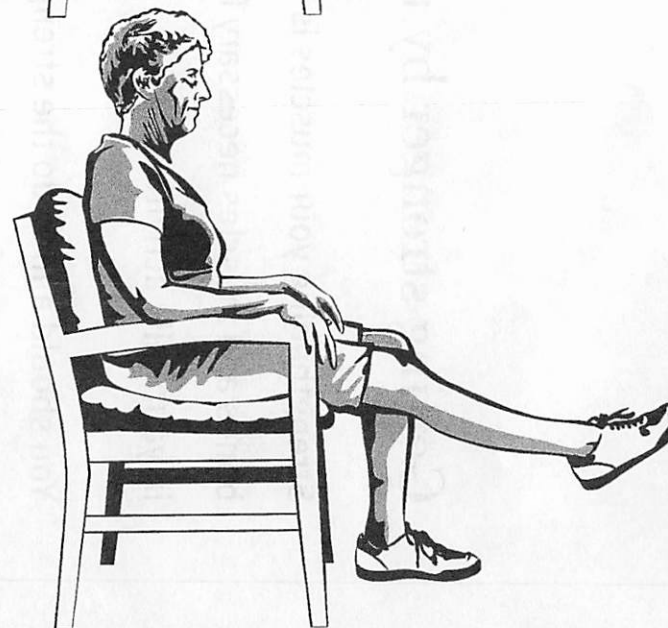
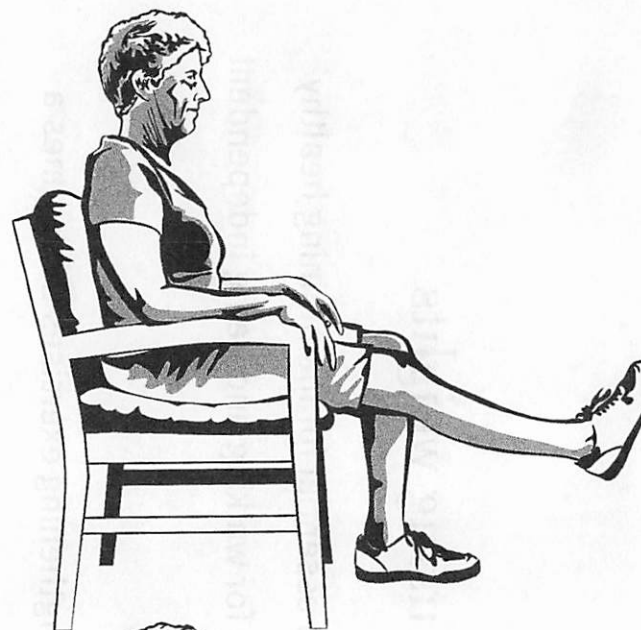
## Trunk movements

- ▶ Stand up tall and place your hands on your hips
- ▶ Do not move your hips
- ▶ Turn as far as you can to the right, comfortably
- ▶ Turn as far as you can to the left, comfortably
- ▶ Repeat five times to each side



## Ankle movements

- Either stand or sit
- Point the foot down then pull the foot back towards you
- Repeat 10 times for each foot



## Getting stronger by using weights

Strengthening your muscles is essential for maintaining healthy bones and muscles necessary for walking and being independent in your daily activities.

You should aim to do the strengthening exercises three times a week with a rest day between.

Lift the weight slowly through the entire range of movement.

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Never hold your breath while lifting. Inhale before lifting, exhale while lifting and inhale again while lowering the weight.

You may feel a bit stiff after you first start to exercise. This is quite normal. It is because you are using muscles which may not be used to the exercise. It is important that you keep exercising. The stiffness will leave as your body becomes more familiar with the exercise.

## Front knee strengthening exercise

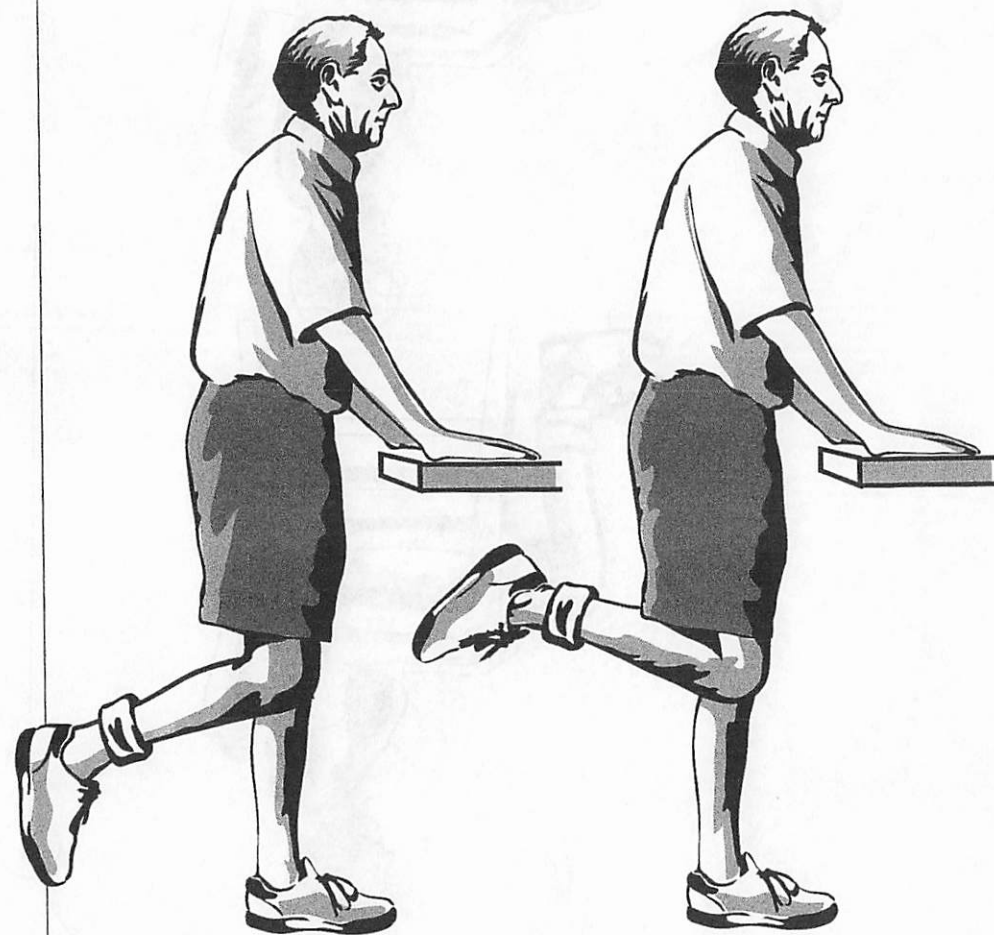
- ▶ You could do this exercise while you are watching TV
- ▶ Strap the weight on to your ankle
- ▶ Sit on a chair with your back well supported
- ▶ Straighten the leg out
- ▶ Lower the leg
- ▶ Repeat  times
- ▶ Strap the weight on to the other ankle
- ▶ Repeat this exercise  times





## Back knee strengthening exercise

- ▶ Strap the weight on to your ankle
- ▶ Stand up tall facing the bench with both hands on the bench
- ▶ Bend the knee, bringing the foot towards your bottom
- ▶ Return to the starting position
- ▶ Repeat  times
- ▶ Strap the weight on to the other ankle
- ▶ Repeat this exercise  times



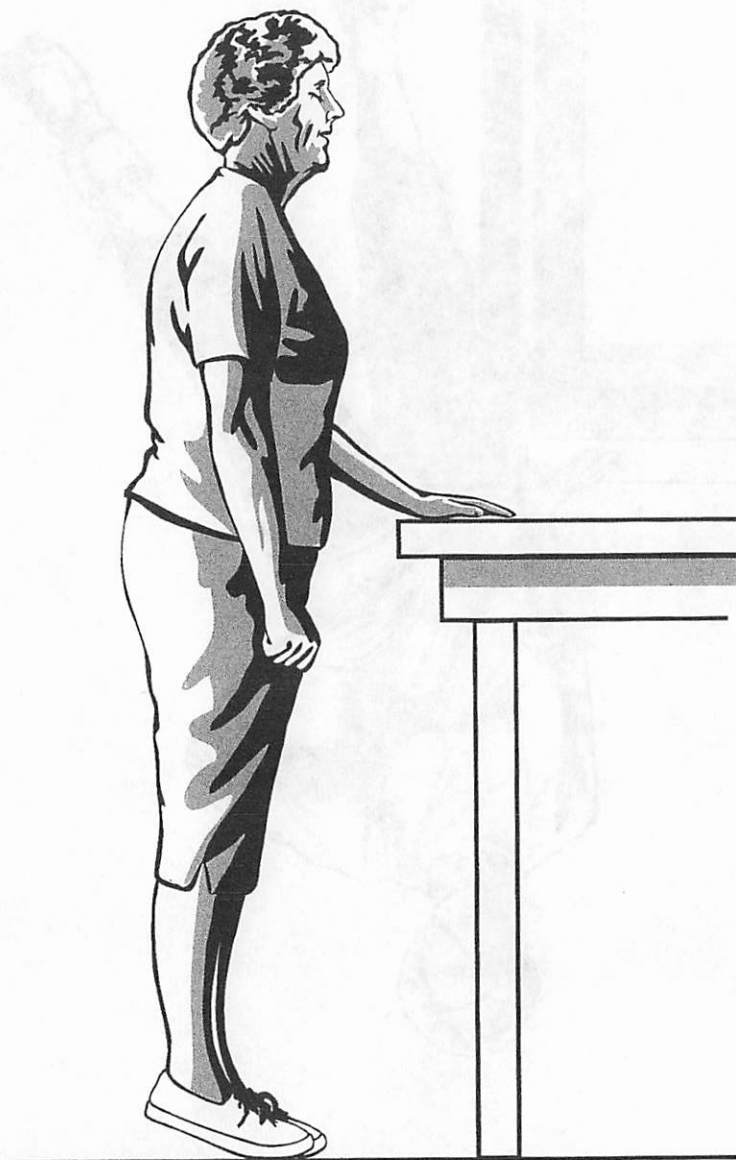
## Side hip strengthening exercise

- Strap the weight on to your ankle
- Stand up tall beside the bench
- Hold on to the bench
- Keep the exercising leg straight and the foot straight forward
- Lift the leg out to the side and return
- Repeat ○ times
- Strap the weight on to the other ankle
- Turn around
- Repeat this exercise ○ times



## Calf raises – hold support

- ▶ Stand up tall facing the bench
- ▶ Hold on and look ahead
- ▶ The feet are shoulder-width apart
- ▶ Come up onto your toes
- ▶ Lower the heels to the ground
- ▶ Repeat this exercise 20 times



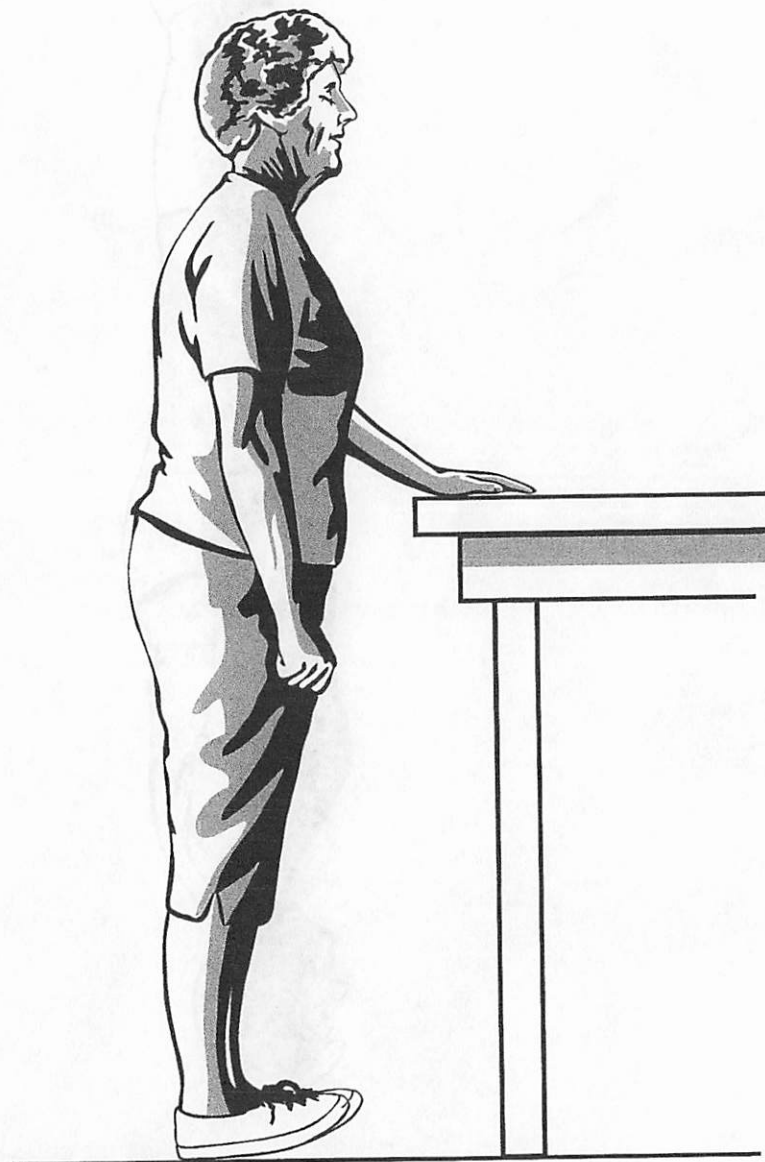
## Calf raises – no support

- Stand up tall and look ahead
- The feet are shoulder-width apart
- Come up onto your toes
- Lower the heels to the ground
- Repeat this exercise 20 times



## Toe raises – hold support

- ▶ Stand up tall beside the bench
- ▶ Hold on and look ahead
- ▶ The feet are shoulder-width apart
- ▶ Come back onto the heels, raising the front foot off the floor
- ▶ Lower the feet to the ground
- ▶ Repeat this exercise 20 times





## Toe raises – no support

- Stand up tall and look ahead
- The feet are shoulder-width apart
- Come back onto the heels, raising the front foot off the floor
- Lower the feet to the ground
- Repeat this exercise 20 times



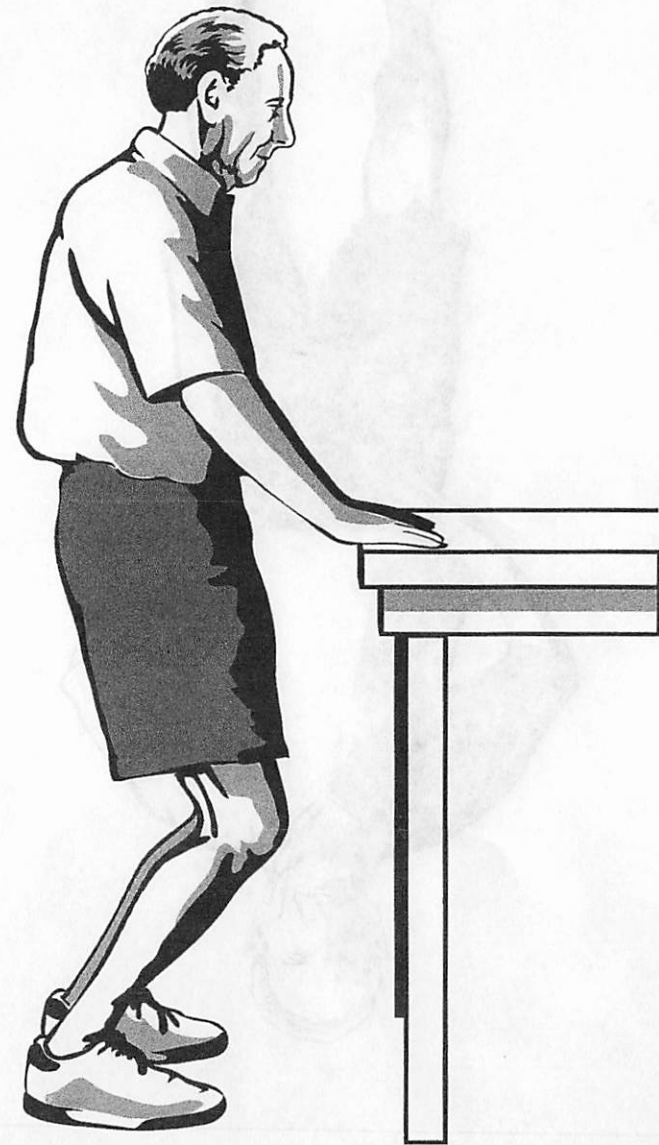
## Balance

Balance is important for everyday activities.

The following quick balance exercises could be done every day.

## Knee bends – hold support

- Stand up tall facing the bench with both hands on the bench
- Place your feet shoulder-width apart
- Squat down half way, bending your knees
- The knees go over the toes
- When you feel your heels start to lift, straighten up
- Repeat  times





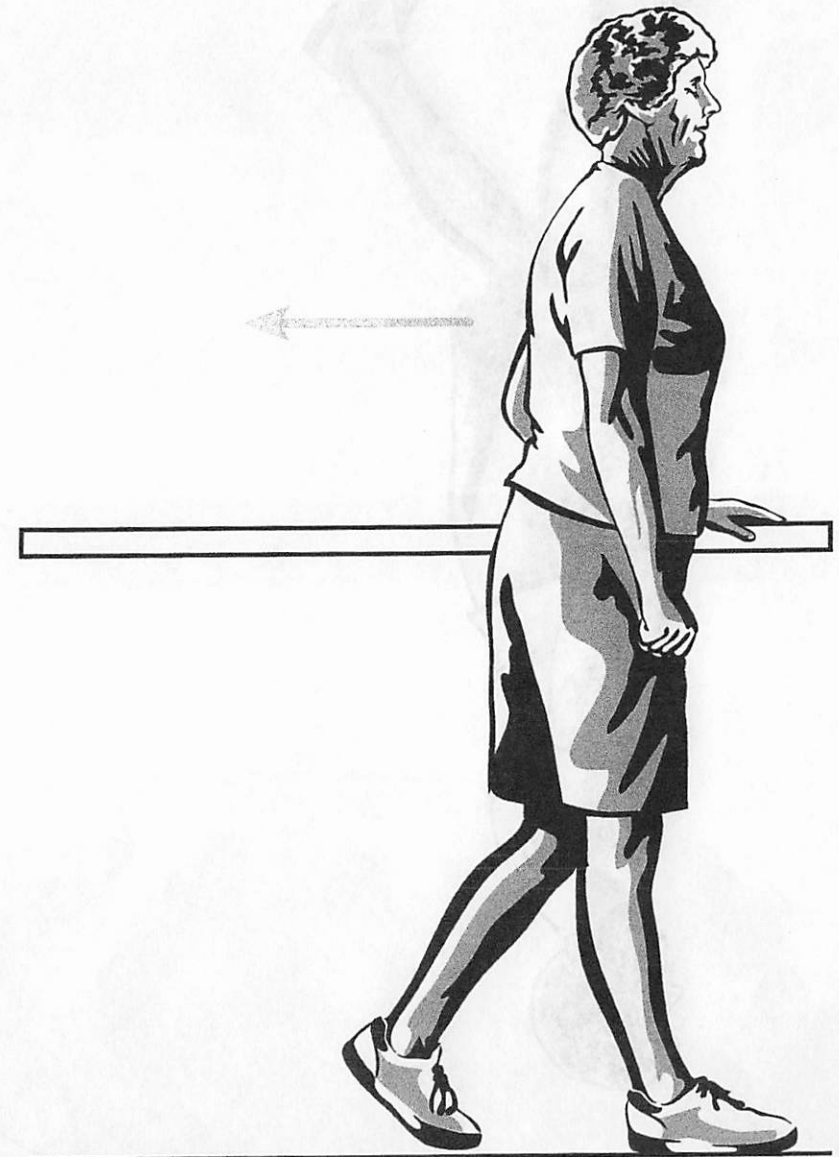
## Knee bends – no support

- ▶ Stand up tall and look ahead
- ▶ Place your feet shoulder-width apart
- ▶ Squat down half way, bending your knees
- ▶ The knees go over the toes
- ▶ When you feel your heels start to lift, straighten up
- ▶ Repeat  times



## Backwards walking – hold support

- Stand up tall and hold on to the bench
- Walk backwards 10 steps
- Turn around and hold on with the other hand
- Walk backwards 10 steps to the beginning
- Repeat this exercise



## Backwards walking – no support

- ▶ Stand up tall and look ahead
- ▶ Walk backwards for 10 steps
- ▶ Turn around
- ▶ Walk backwards 10 steps to the beginning
- ▶ Repeat



## Walking and turning around

- ▶ Walk at your regular pace
- ▶ Turn in a clockwise direction
- ▶ Walk back to your starting position
- ▶ Turn in an anti-clockwise position
- ▶ The exercise is a figure of eight movement
- ▶ Repeat this movement



## Sideways walking

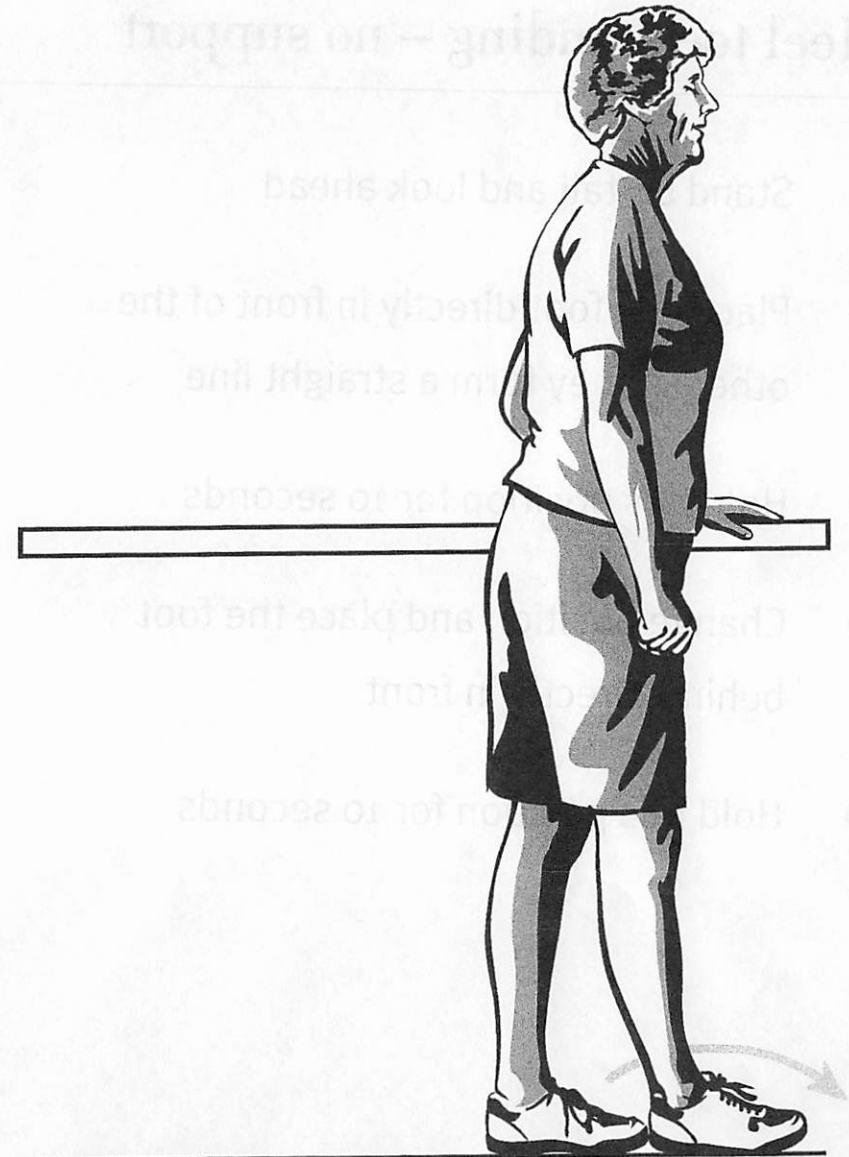
- Stand up tall and place your hands on your hips
- Take 10 side steps to the right
- Take 10 side steps to the left
- Repeat





## Heel toe standing – hold support

- Stand up tall beside the bench
- Hold on to the bench and look ahead
- Place one foot directly in front of the other foot so the feet form a straight line
- Hold this position for 10 seconds
- Change position and place the foot behind directly in front
- Hold this position for 10 seconds



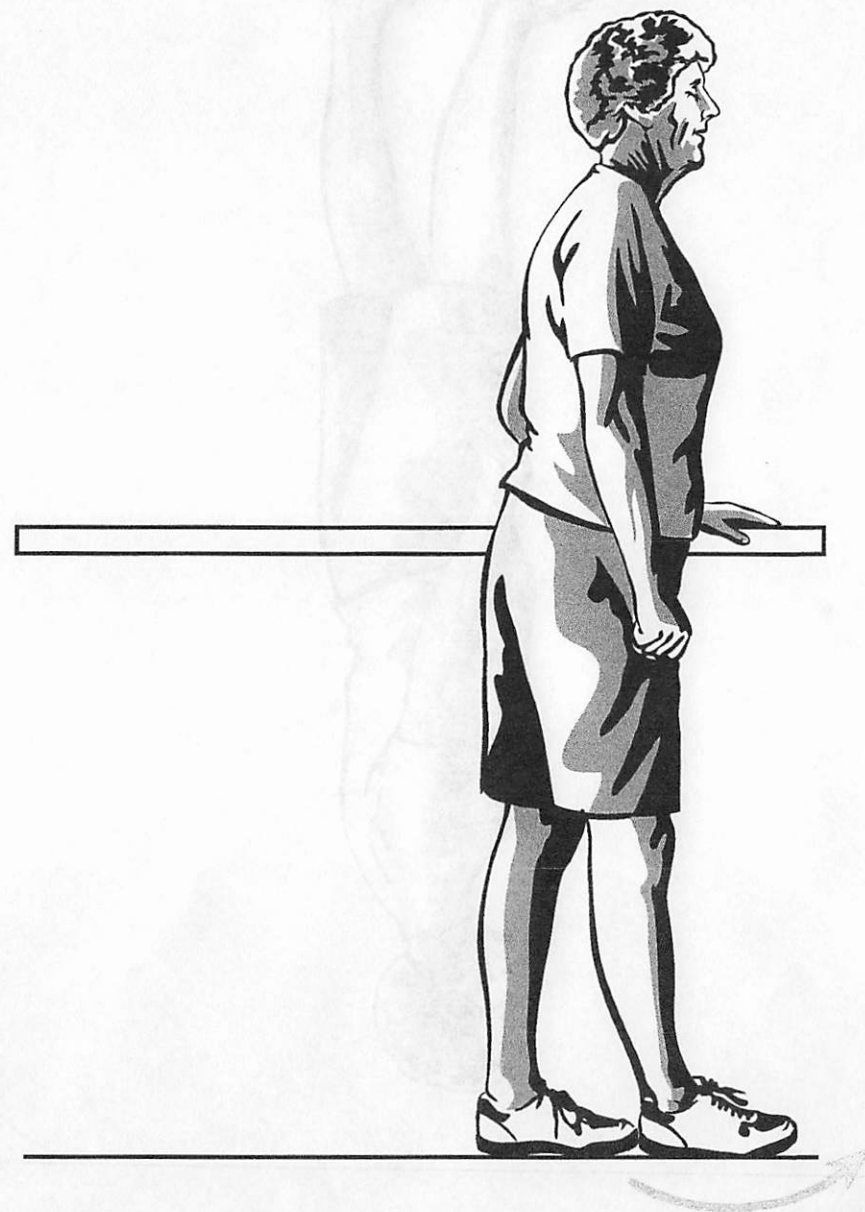
## Heel toe standing – no support

- Stand up tall and look ahead
- Place one foot directly in front of the other so they form a straight line
- Hold this position for 10 seconds
- Change position and place the foot behind directly in front
- Hold this position for 10 seconds



## Heel toe walking – hold support

- ▶ Stand up tall beside the bench
- ▶ Hold on and look ahead
- ▶ Place one foot directly in front of the other so they form a straight line
- ▶ Place the foot behind directly in front
- ▶ Repeat for 10 more steps
- ▶ Turn around
- ▶ Repeat the exercise





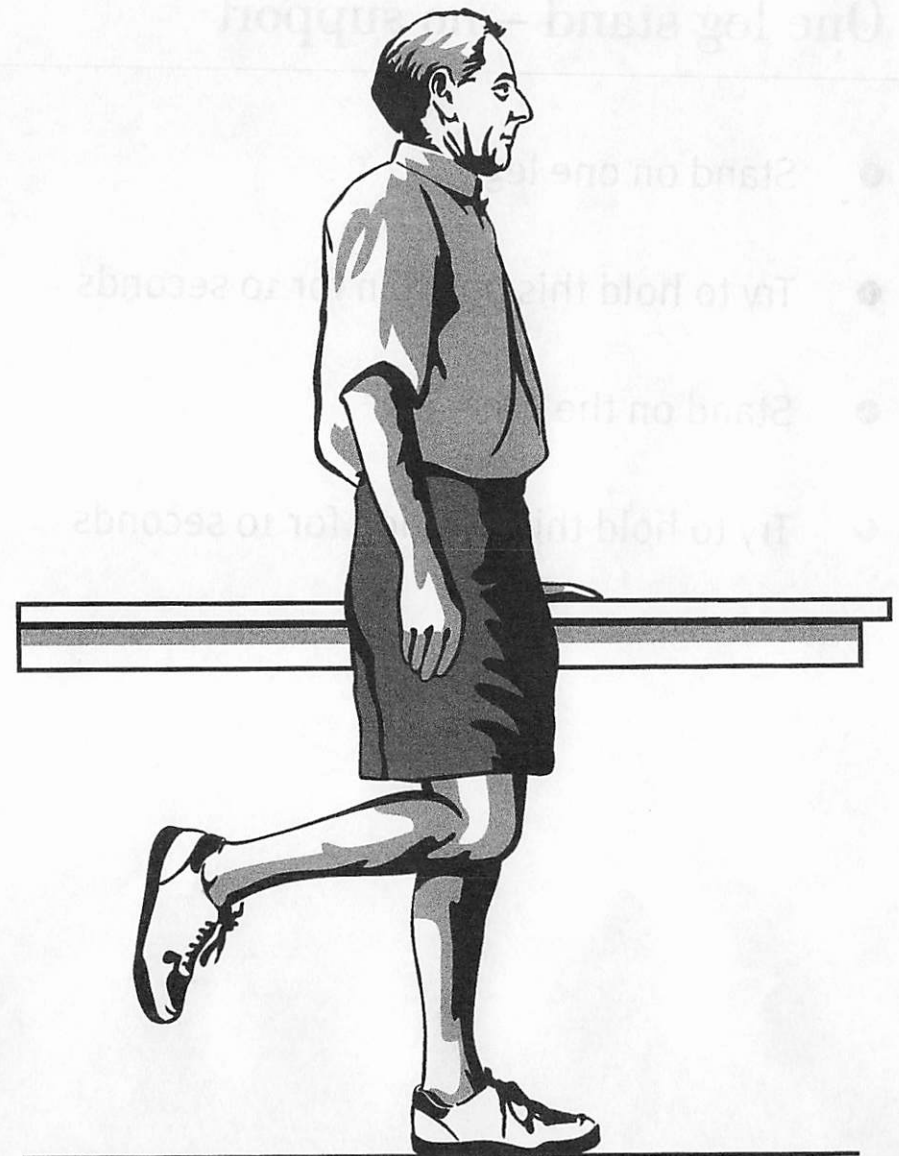
## Heel toe walking – no support

- Stand up tall and look ahead
- Place one foot directly in front of the other so they form a straight line
- Place the foot behind directly in front
- Repeat for 10 more steps
- Turn around
- Repeat the exercise



## One leg stand – hold support

- Stand up tall beside the bench
- Hold on and look ahead
- Stand on one leg
- Try to hold this position for 10 seconds
- Stand on the other leg
- Try to hold this position for 10 seconds



## One leg stand – no support

- Stand on one leg
- Try to hold this position for 10 seconds
- Stand on the other leg
- Try to hold this position for 10 seconds



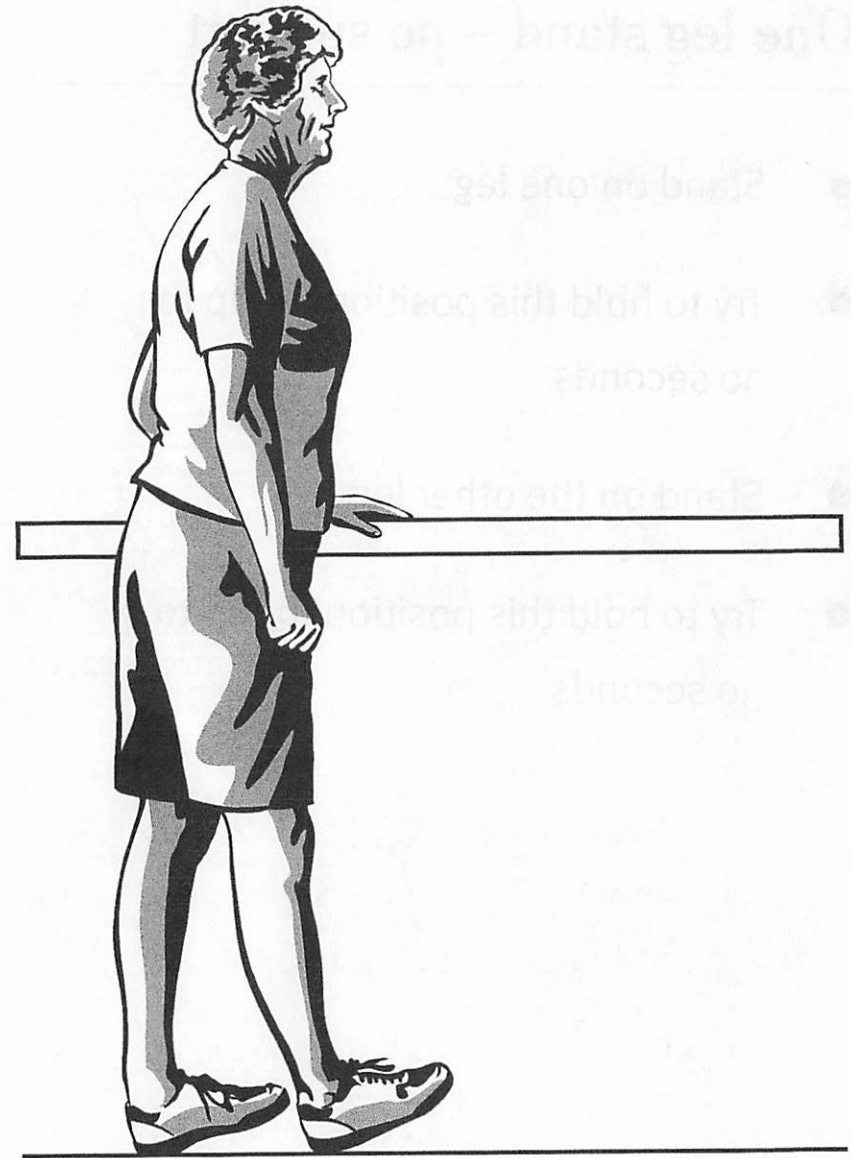
## One leg stand – no support

- ▶ Stand on one leg
- ▶ Try to hold this position for up to 30 seconds
- ▶ Stand on the other leg
- ▶ Try to hold this position for up to 30 seconds



## Heel walking – hold support

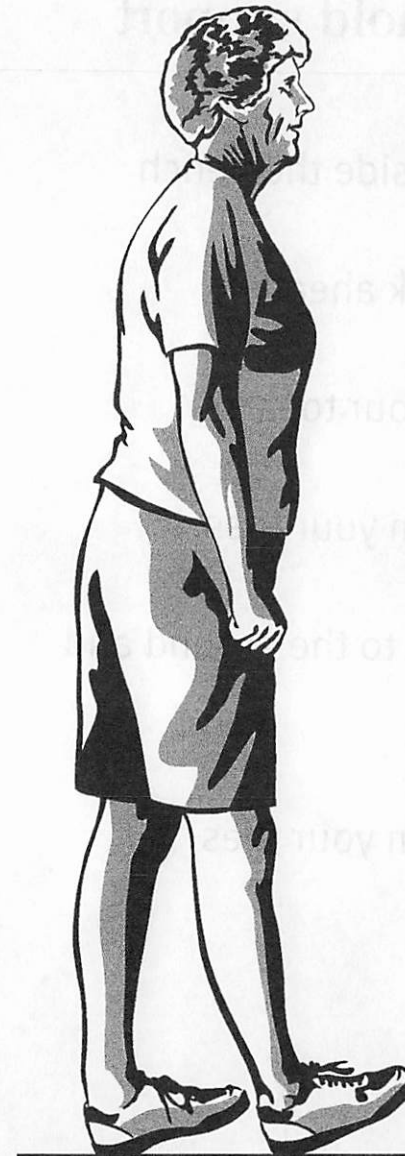
- Stand up tall beside the bench
- Hold on and look ahead
- Come back onto the heels, raising the front foot off the floor
- Walk 10 steps on your heels
- Lower the feet to the ground and turn around
- Walk 10 steps on your heels
- Repeat





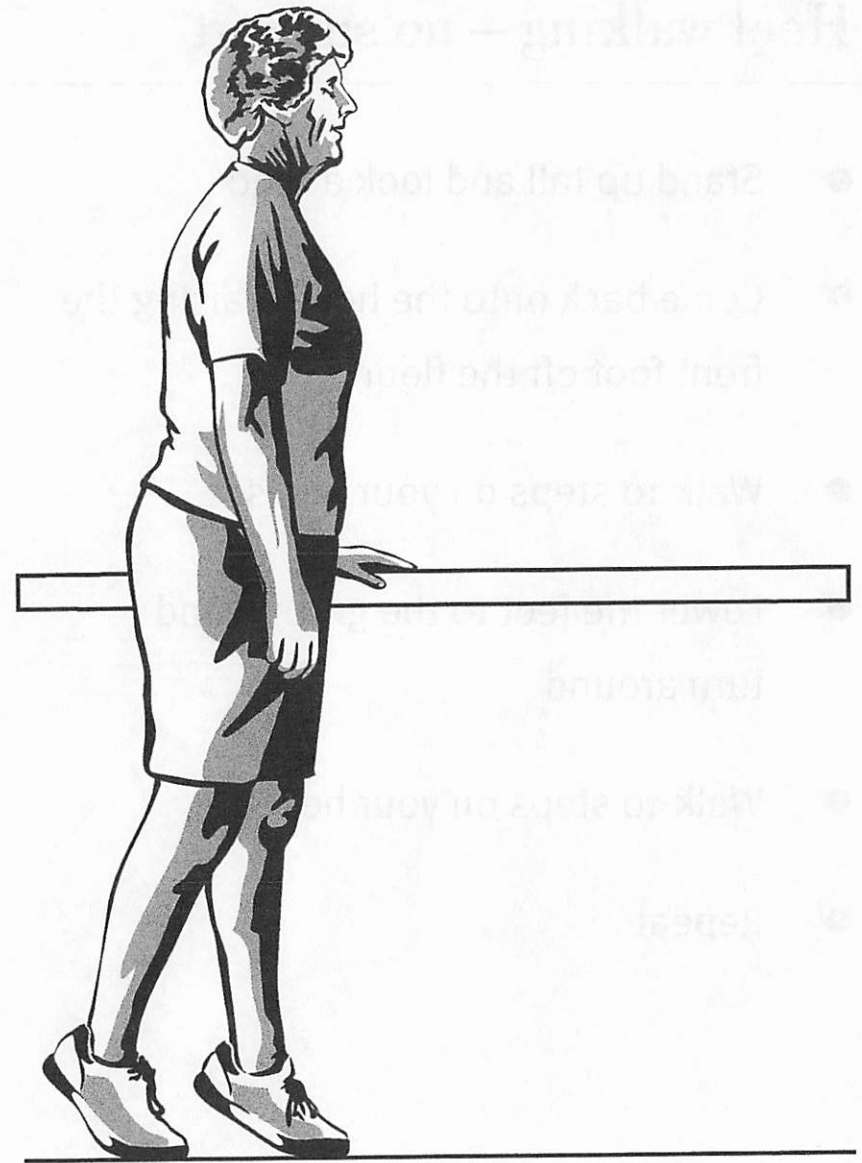
## Heel walking – no support

- Stand up tall and look ahead
- Come back onto the heels, raising the front foot off the floor
- Walk 10 steps on your heels
- Lower the feet to the ground and turn around
- Walk 10 steps on your heels
- Repeat



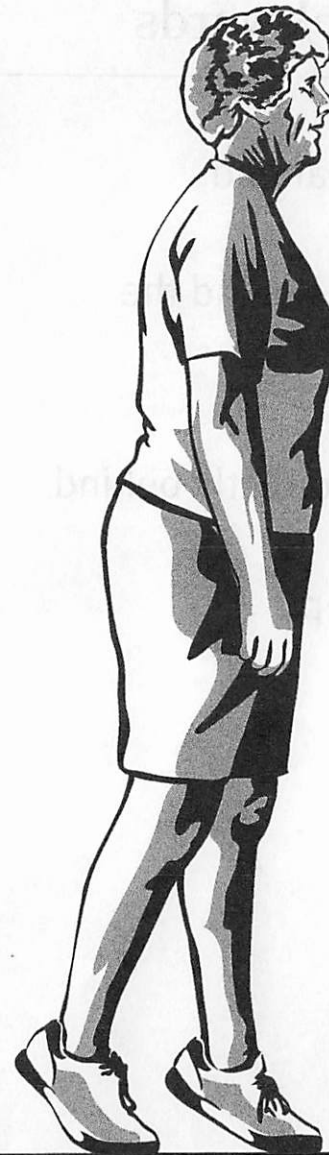
## Toe walking – hold support

- ▶ Stand up tall beside the bench
- ▶ Hold on and look ahead
- ▶ Come up onto your toes
- ▶ Walk 10 steps on your toes
- ▶ Lower the heels to the ground and turn around
- ▶ Walk 10 steps on your toes
- ▶ Repeat



## Toe walking – no support

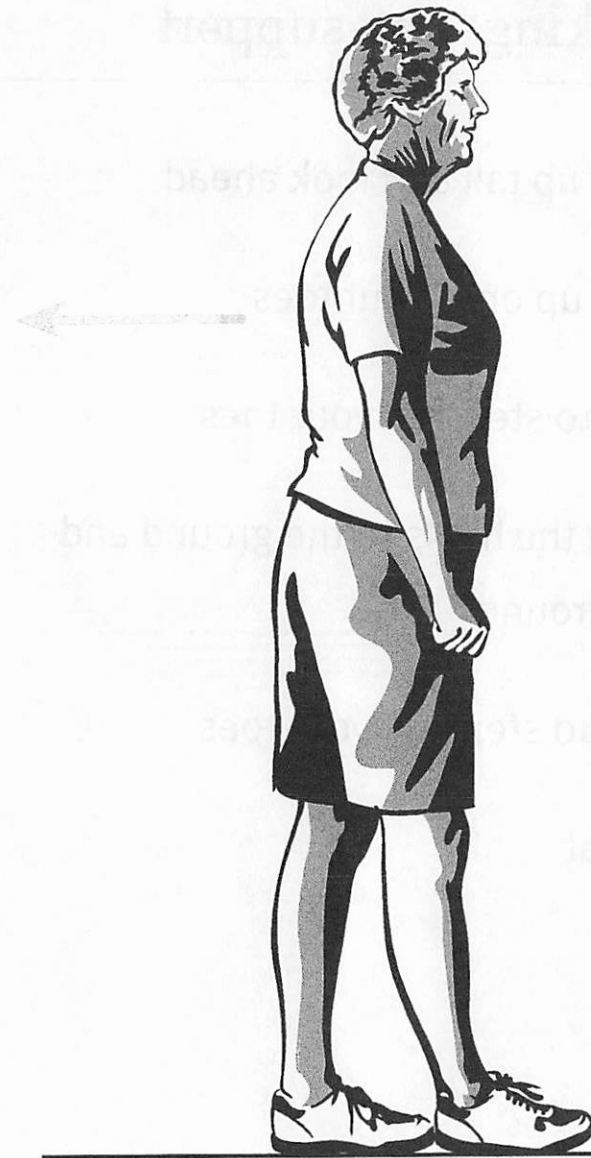
- Stand up tall and look ahead
- Come up onto your toes
- Walk 10 steps on your toes
- Lower the heels to the ground and turn around
- Walk 10 steps on your toes
- Repeat





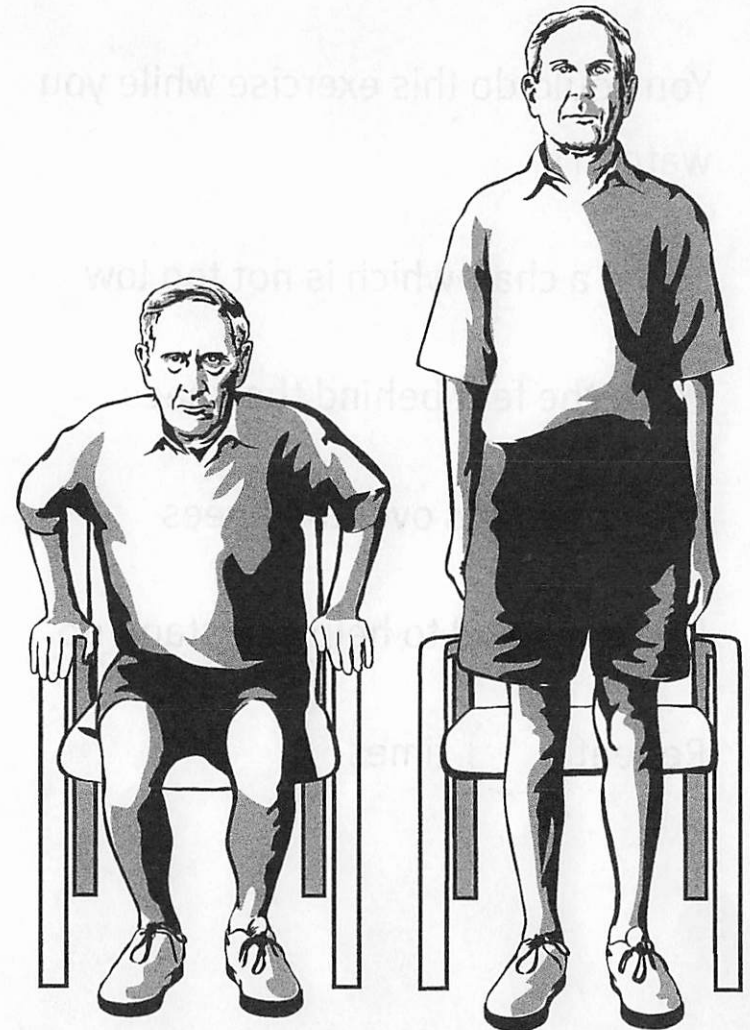
## Heel toe walking backwards

- Stand up tall and look ahead
- Place one foot directly behind the other foot
- Place the foot in front directly behind
- Repeat for 10 more steps
- Turn around
- Repeat the exercise



## Sit to stand – two hands

- You could do this exercise while you watch TV
- Sit on a chair which is not too low
- Place the feet behind the knees
- Lean forwards over your knees
- Push off with both hands to stand up
- Repeat  times



## Sit to stand – one hand

- ▶ You could do this exercise while you watch TV
- ▶ Sit on a chair which is not too low
- ▶ Place the feet behind the knees
- ▶ Lean forwards over the knees
- ▶ Use one hand to help you stand up
- ▶ Repeat ○ times



## Sit to stand – no hands

- ▶ You could do this exercise while you watch TV
- ▶ Sit on a chair which is not too low
- ▶ Place the feet behind the knees
- ▶ Lean forwards over the knees
- ▶ Stand up without using your hands
- ▶ Repeat ○ times



## RECOMMENDED EXERCISE

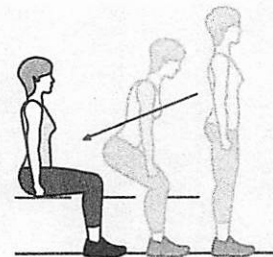
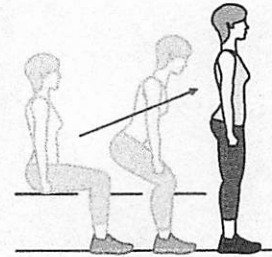
# Chair Rise Exercise

**What it does:** Strengthens the muscles in your thighs and buttocks.

**Goal:** To do this exercise without using your hands as you become stronger.

### How to do it:

1. Sit toward the front of a sturdy chair with your knees bent and feet flat on the floor, shoulder-width apart.
2. Rest your hands lightly on the seat on either side of you, keeping your back and neck straight, and chest slightly forward.
3. Breathe in slowly. Lean forward and feel your weight on the front of your feet.
4. Breathe out, and slowly stand up, using your hands as little as possible.
5. Pause for a full breath in and out.
6. Breathe in as you slowly sit down. Do not let yourself collapse back down into the chair. Rather, control your lowering as much as possible.
7. Breathe out.



Repeat 10-15 times. If this number is too hard for you when you first start practicing this exercise, begin with fewer and work up to this number.

Rest for a minute, then do a final set of 10-15.



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