



MOBILITY





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Nevada Interprofessional Healthy Aging Network (NIHAN) project is federally funded by HRSA Geriatric Workforce Enhancement Program (GWEP) to improve health outcomes for older adults by educating a healthcare workforce that maximizes older adult and family engagement and by promoting Age-Friendly Health Systems and Dementia-Friendly Communities to primary care clinics and their communities.

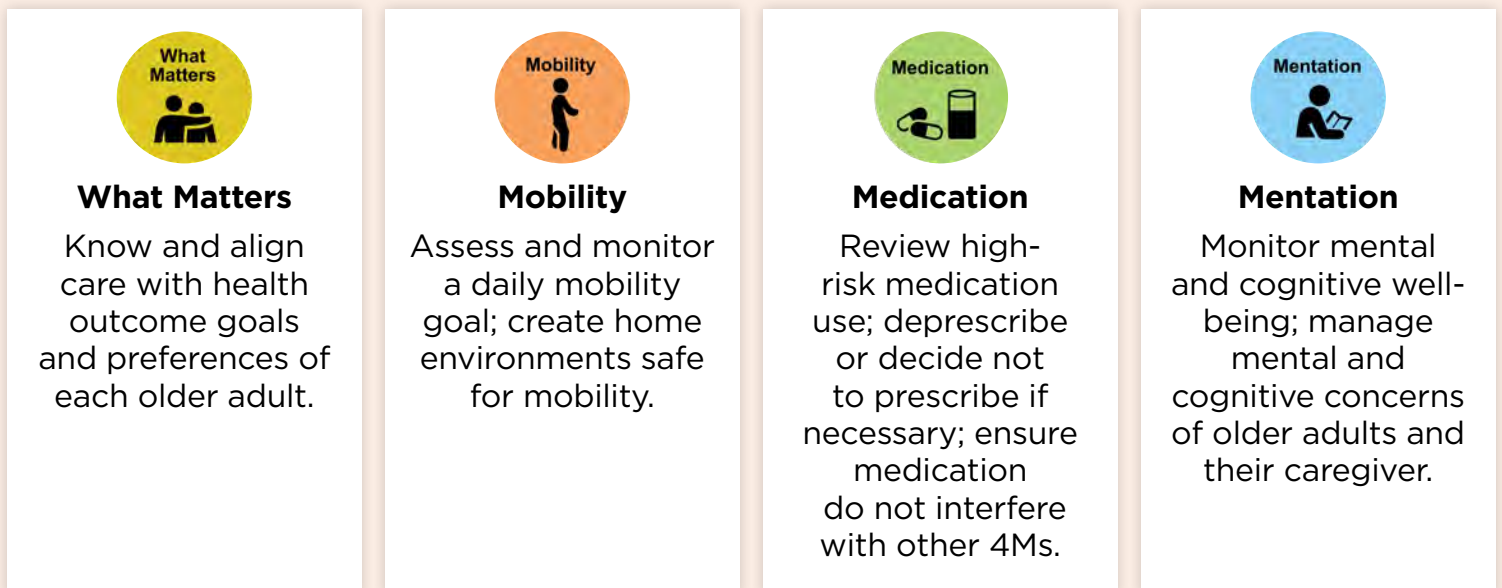
What is the 4Ms of Age-Friendly Care?



- **Age-Friendly Care** is health care that addresses your unique needs and wants.
- It's about **What Matters to You**.
- It can help you enjoy **a better quality of life**.
- It is care that is safe and based on **what research shows are the most important things** to pay attention to as we get older

The 4Ms: What Matters, Medication, Mentation and Mobility.

Element of the 4Ms Framework:



For more information and resources, visit:
<https://www.johnhartford.org/> and <http://www.ihl.org>

NIHAN TIP SHEETS have been *developed by the NIHAN Education Committee* for the topics related to the 4Ms such as home health exercise to improve mobility, medications that often prescribed to geriatric patients with usage and side effects, educational information for brain health, memory loss, Alzheimer's symptoms, advance care planning, COVID-19 vaccines and safety tips, and so on. The NIHAN Tip Sheets provide useful resources and guidance for older adults and their caregivers to help older adults health and well-being.

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MOBILITY

Introduction to Home Exercise

What is Home Exercise?

- It is an individualized exercise for your health in your home.

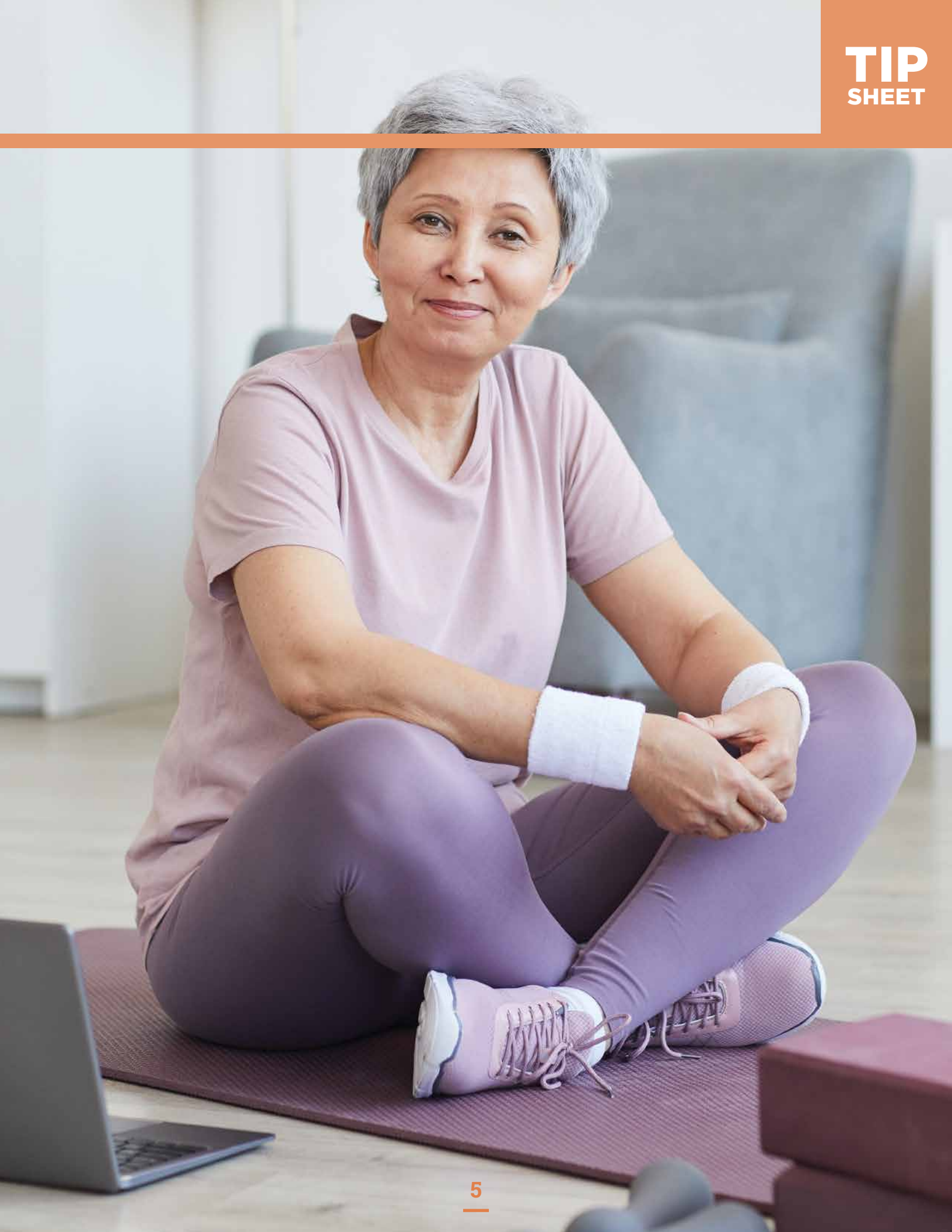
Why do I need it? Exercise is “Medicine”

- You have to do it daily as you don’t want to skip your medicine.

How do I prepare for it?

- Ask your primary care doctor about home exercise programs.
- Ask what you should be cautious for your safety during home exercise.
- Ask for a referral to a physiatrist or therapist if needed.
- Go over the home exercise program and details with your physical therapist.
- Ask for written instruction if not given, and try to do it at home with your family or friends if possible.
- Choose safe environments, for example, you can start walking indoor hallways in good light, evenly paved walking trail.





MOBILITY

Introduction to Home Exercise

WALKING EXERCISE

- Walk inside your house frequently, at least 3-4 times a day and increase walking distance gradually (by 10%) over 4-5 days until you reach the following goal.
- Start a 5-minute walk each time. If you walk longer than 5 minute, increase 10 minute, 15 minute every week or so. Slow and steady pace is usually recommended.
- If you feel comfortable walking indoors, try walking outdoors wearing comfortable walking shoes initially with your family or friend.
- Your goal will be daily walking for about 30 minutes with exercise intensity of feeling “somewhat hard”.

STRETCH EXERCISE

- Move your upper body and stretch your arms and leg either in sitting or lying positions.
- After stretching exercise, do strengthening exercise (lifting a kettlebell, free weight, or using resistive bands).

STRENGTH EXERCISE

- Repeat 5-10 exercises each time, 2-3 times a day, 2-3 times per week.
- NIHAN Mobility Tip Sheets shows strength exercises for low back, shoulder, knee.





Before Home Exercises of Low Back

Should I first talk to my healthcare provider before doing lower back exercises?

Talk to your healthcare provider especially if you have any concerns or if you think it may be important to take specific precautions.

Can I do lower back exercises even if I have persistent pain?

In general, you can start lower back exercises even if you have persistent pain. In fact, exercise can decrease lower back pain and improve movement and walking.

When should I take my pain medication if I am doing lower back exercises?

If you normally take pain medications, take them about 30 minutes before you exercise. As exercise helps you feel better, you may be able to decrease the pain medications.

If I wear a corset or a brace, should I wear it when I do lower back exercises?

You can wear your corset or brace initially.





LET'S BEGIN

What lower back exercises should I start with?

Start with range of motion exercises and some strengthening exercises with minimal movement.

What are some specific range of motion exercises I can do?

Start with **trunk rotations**. While on your back and with your feet on the ground and your legs bent, rotate (twist) the knees down to the floor. You can start with these rotations in either direction. To help with range of motion of your back, you can also stretch your **hamstrings and quadriceps**. One way to stretch the quadriceps is to lie down on your side and bend the knee of the top leg. You can **stretch your hamstring by sitting in a chair**, propping one leg onto another chair, and gradually trying to straighten the knee. **(See page 11)**

What are some specific strengthening exercises with minimal movement that I can try?

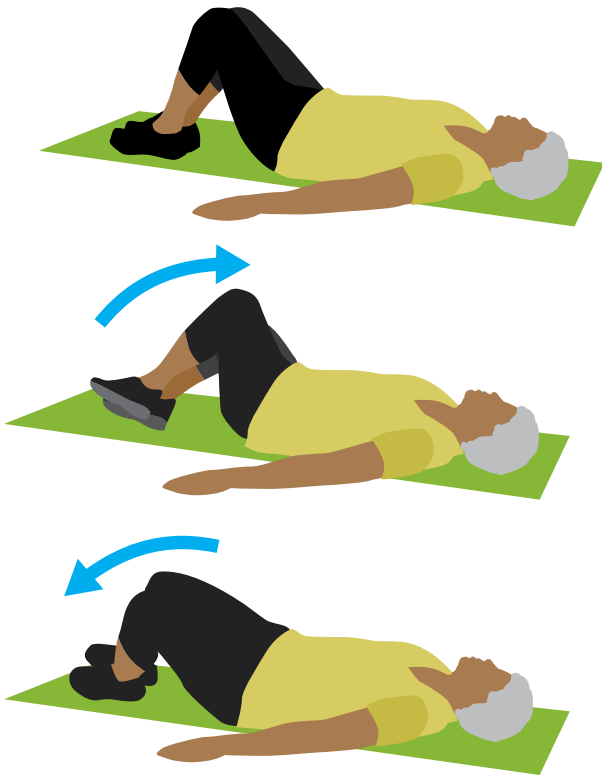
You can try to do **supine pelvic tilts**: lie down flat on your back and arch your lower back as you tilt your pelvis and then release. You can also do a **gluteal squeeze while sitting down**.

How many times should I do these exercises?

Repeat each exercise a few times in each session. Aim for a few sessions every day.

Should I do these lower back exercises the same every time?

As you stretch your hamstrings and quadriceps, you can also increase the repetition of supine pelvic tilts and gluteal squeezes as you feel more comfortable, gradually increase the range of your stretches.



TRUNK ROTATION



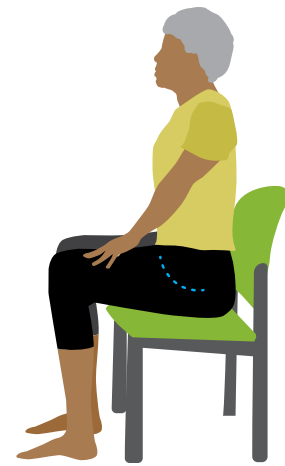
SIDELYING QUAD(RICEPS) STRETCHING



SUPINE PELVIC TILT



**SEATED CHAIR
HAMSTRING STRETCHING**



**SIT AND SQUEEZE, PELVIC
FLOOR EXERCISE**

WHAT'S NEXT?

What exercises should I do next?

Next, try some exercises to build strength. First, try **straight leg raises**. Lie down on your back, stomach, or side and try to raise up one leg at a time and then set it down.

If I become comfortable with straight leg raises, what should I try then?

For these next exercises, make sure your therapist and caregiver are around as you learn them and get comfortable.

You can try an **abdominal curl**. While on your back and with your feet on the ground and your legs bent move your head and neck toward your abdomen. Be sure to support your head with your hands.

Finally, and be especially cautious with these, you can try the **bridge and the plank** and exercise using a medicine ball. You can try to sit on a medicine ball initially and twist your torso once you feel steady on a medicine ball.

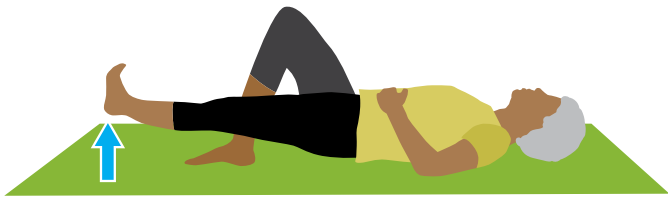
To do the **bridge exercise**, lie down on your back and with your feet on the ground and your legs bent, lift your lower back up while your shoulders and head remain on the ground. Then gently release.

To do a **plank**, lie down on your stomach and try to lift your body up so that it is supported by your forearms and your curled toes. If you can, hold this position.

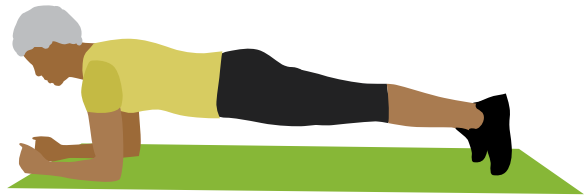
Sciatic nerve gliding exercise can be done with therapist initially. While on you back, hold behind the knee to raise the leg. Slowly straighten the knee and hold for 10 seconds. Gradually increase holding and repetition. **(See page 13).**

How many times should I do these exercises?

Repeat each exercise a few times in each session. Aim for a 2-4 sessions every day.



STRAIGHT LEG RAISE (TO THE FRONT)



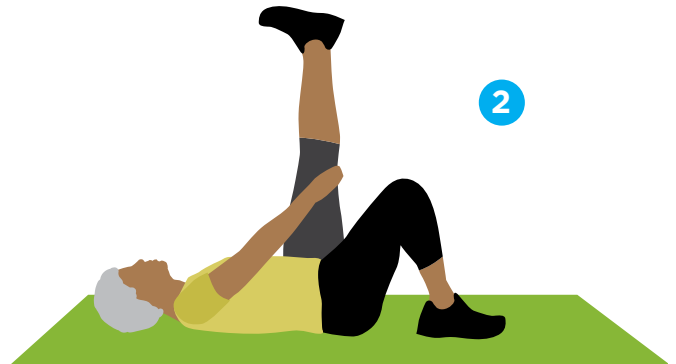
PLANK EXERCISE



STRAIGHT LEG RAISE (TO THE OUTSIDE/SIDE)



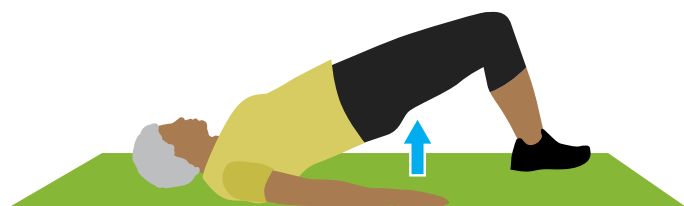
PRONE STRAIGHT LEG RAISE



SCIATIC NERVE GLIDING EXERCISE WITH HAMSTRING STRETCHING



ABDOMINAL (AB) CURL (UP)



BRIDGE EXERCISE



SEATED TWIST ON (MEDICINE) BALL

WRAP-UP

Can I take a break during these exercises?

- It is a good idea to take a break for 1-2 minutes between each exercise. When you are just starting out, this break might be a little longer.

How do I continue to improve over time?

- You can increase the number of times you do each exercise or the resistance you use every 3-4 days.

Will I experience pain while I am doing these lower back exercises?

- Mild discomfort and mild worsening of pain is normal during exercise and may last for 1-2 days.

What should I do after I am done with these exercises?

- You can use a hot pack or a cold pack, as needed, on your back for a few minutes after exercise or even between exercises. Do not lie with the hot pack or cold pack under your back. You can also drink fluids in small amounts (6-oz; 180-ml) and frequently (6 times), especially if it is hot.

Can I do other forms of physical activity in addition to these lower back exercises?

- Yes. You can do other exercises, including walking or other upper body exercises.

CAUTIONS

When should I stop these lower back exercises and call my health care provider?

- Discontinue these exercises and call your health care provider if (1) the pain you feel after exercise doesn't get better after 1-2 days, (2) there is new pain, pain in a different location, or pain that is significantly worse, (3) you experience swelling, (4) you have weakness or difficulty moving your legs, or (4) you fall and get hurt or experience repeated falls.



Before Home Exercises for Fall Prevention

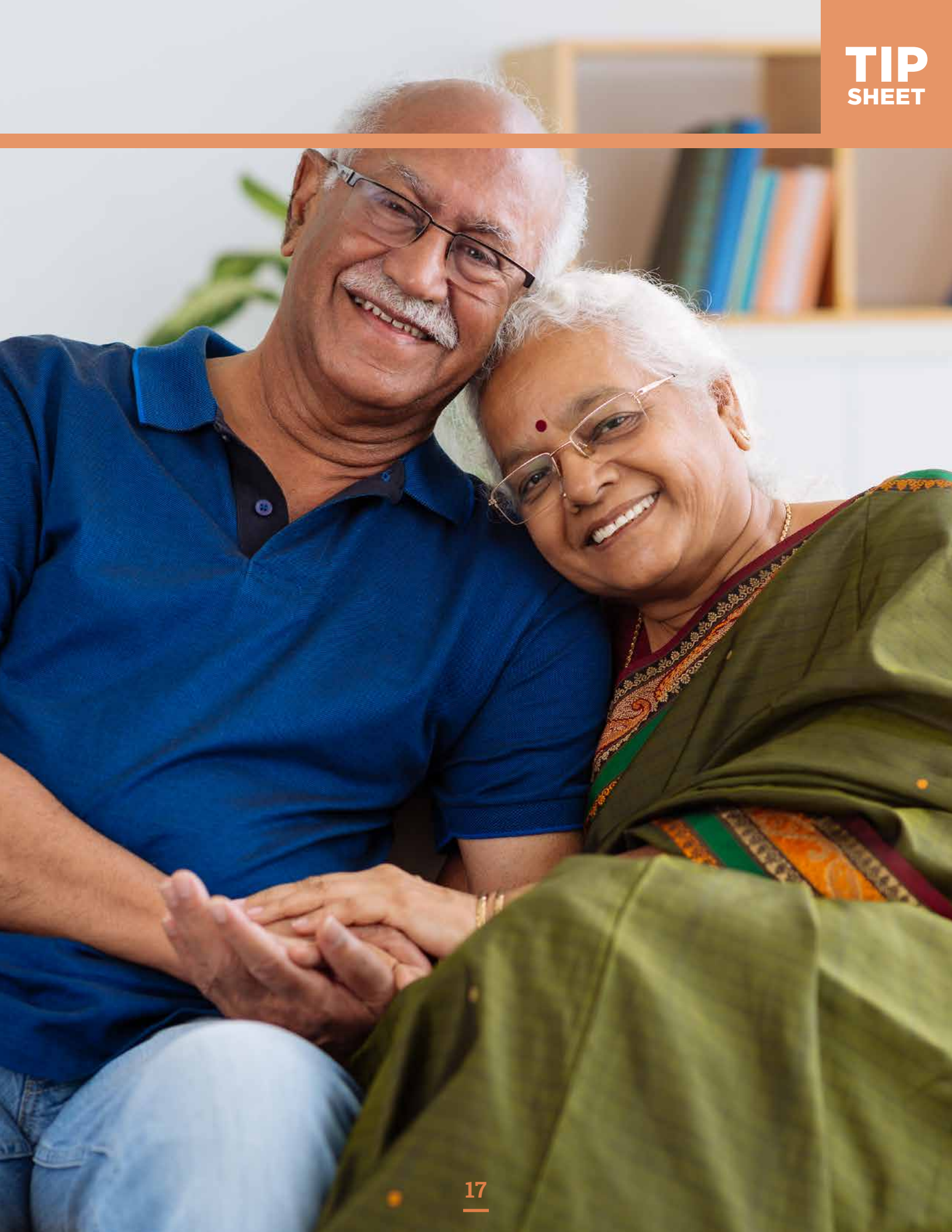
How can I reduce my risk of falling?

- First, talk to your health care provider. Ask your provider to evaluate your risk for falling and to discuss what can be done to try to prevent falls.
- As part of this conversation, be sure to talk about the brittle bone condition known as osteoporosis. Also talk about getting your vision checked and whether there are any medications that are good options or adaptive equipment that might be appropriate.

Is there anything else I can do to reduce my risk of falls?

- Exercise can effectively reduce falls among older adults.





LET'S BEGIN

**I'm new to exercise.
Where do I begin?**

- First, prepare for your exercise session: wear comfortable walking shoes, make sure the room you are exercising in has plenty of bright light, clear any paths you will be walking or exercising on, and get some water so that you can drink a sip between different exercises and after you finish.

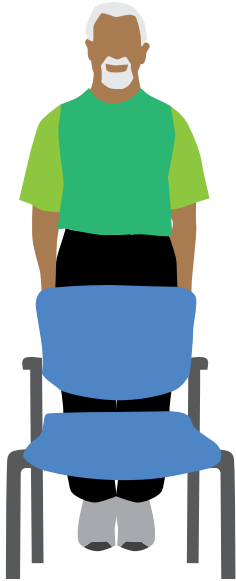
What exercise should I do to start?

- First, just walk on flat, even surfaces inside your house

Are there other exercises I can try as I begin?

- Another good option is to do a **chair rise exercise**. Find a high chair. Sit in it and then try to stand up by balancing and using the strength in the core of your body. You can also try to **stand up straight with your feet together**.
- Next, try to **stand in a semi-tandem stance** with the interior of one foot touching the big toe of the other. Have a chair or your walker nearby for support. You can also try a **mini lunge forward with or without your walker**. (See page 19).

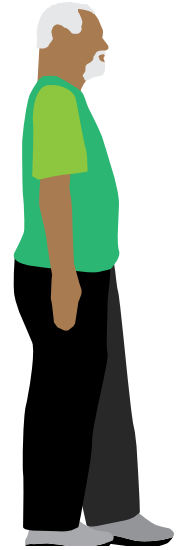




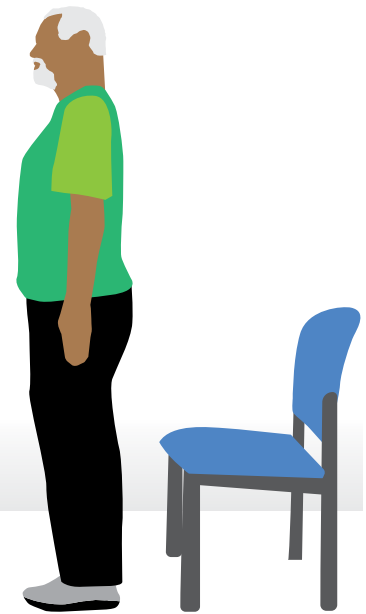
STAND WITH FEET TOGETHER



MINI LUNGE FORWARD WITH WALKER



SEMI-TANDEM STANCE



CHAIR RISE EXERCISE

WHAT'S NEXT?

What exercises should I try next?

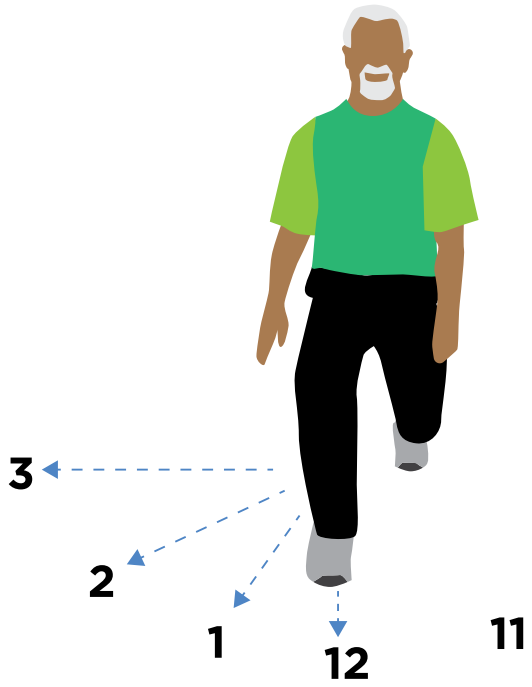
You can do the next set of exercises with your therapist, especially if you do not feel comfortable.

First, try to walk at a brisk pace outside. Once this feels comfortable, walk at a brisk pace while doing other tasks, such as mental math or having a conversation with someone. You can also try other exercises in addition to walking.

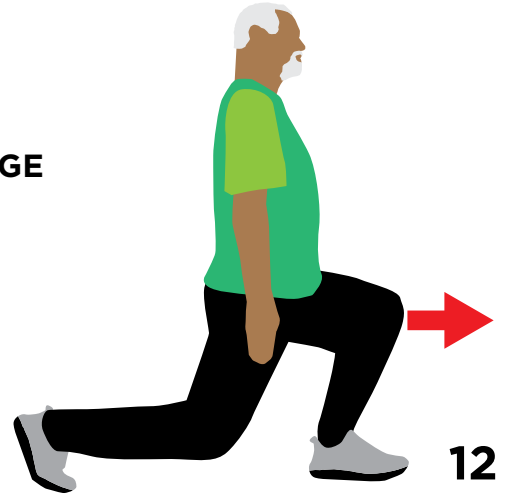
For example you can do a **clock lunge**, moving to the 10, 11, 1 and 2 o'clock positions. You can stand with your feet in a semi-tandem position, with the interior of one foot touching the big toe of the other, and then advance to full tandem position, where the big toe of one foot touches the heel of the other.

You can also try a **single-leg stance**, first indoors then outside. To do this, stand on one leg with your arms on your hips. **(See page 21).**





CLOCK LUNGE



SINGLE LEG STANCE

Before Home Exercises for the Knees

Is there anything I should do before I start exercising at home for my knee osteoarthritis?

■ Yes -- Talk with your healthcare provider, especially if you have specific concerns or think you might need to take extra precautions.

Can I do knee osteoarthritis exercises even if I am in pain?

■ In general, you can start to exercise even if you have persistent pain. For most people, exercise decreases knee pain and improves movement and walking.

When should I take my pain medication if I am doing knee osteoarthritis exercises?

■ If you normally take pain medications, take them about 30 minutes before you exercise. As exercise helps you feel better, you may be able to decrease the pain medications.

What else can I do to improve this type of exercise?

■ If you are overweight or obese, try to lose weight. Losing weight is an effective way to decrease knee pain and to improve knee function.





LET'S BEGIN

What exercises should I start with?

- Start with **knee stretching exercises** focused on two leg muscles: the quadriceps (that is, your anterior thigh) and the hamstrings

How do I stretch the quadriceps?

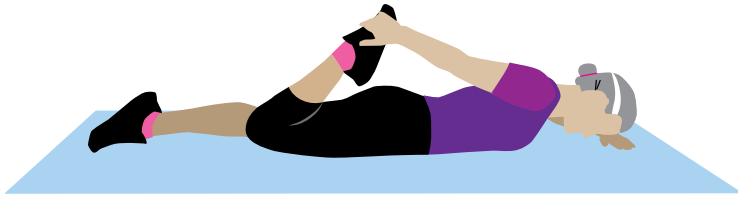
- There are multiple ways to stretch the quadriceps. You can lie down on your stomach, called **prone quad stretching** or on your side, called **side-lying quad stretching**.
- For prone quadriceps stretching, lie down on your stomach, and bend your knee back as far as you can. Then, Push the hip down gently to stretch.
- You can use a long towel or rope to assist you.

How do I stretch the hamstrings?

- There are a couple of different ways. You can either **sit or lie down to stretch your hamstrings**. Try to gradually straighten the knee in either position. **(See page 25).**

How many times should I do these exercises?

- Repeat each exercise a few times in each session. Aim for a few stretching sessions every day.



PRONE QUAD(RICEPS) STRETCHING



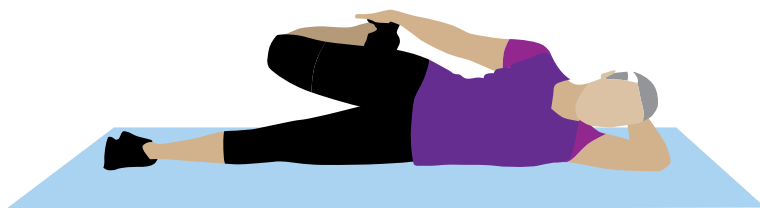
DOORWAY HAMSTRING STRETCH



**PRONE QUAD(RICEPS) STRETCHING
WITH STRAP**



SEATED CHAIR HAMSTRING STRETCH



SIDE-LYING QUAD(RICEPS) STRETCHING

WHAT'S NEXT?

What exercises should I do next?

Next, exercises to build strength. There are several exercises. You can do **straight leg raises**, moving your leg up and down. You can also **exercise your quadriceps by pushing a towel under your knee**. You can **sit down to do knee extensions**, extending and relaxing your knee.

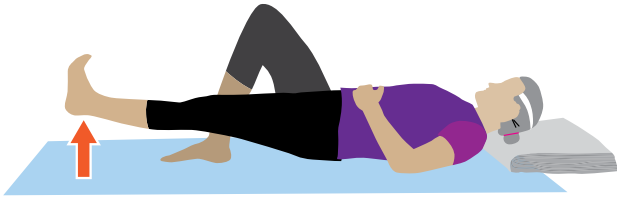
Another option is to do **partial or half squats**, with your back up against a wall.

Avoid deep squats initially and have a caregiver next to you as you do them. With approval from your healthcare provider, you may be able to do some of these exercises with **weights or resistance bands**. **(See page 27).**

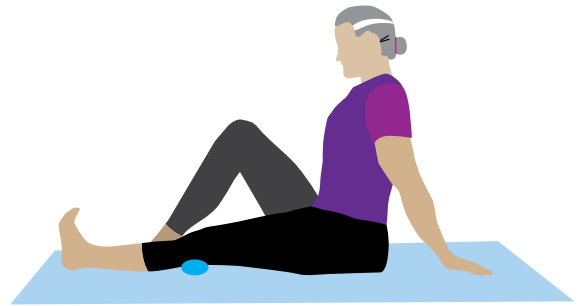
How many of these strength-building exercises should I do?

Repeat each exercise a few times per session and aim for 2-4 sessions per day.





STRAIGHT LEG RAISE



QUAD(RICEPS) SET/TOWEL UNDER THE KNEE



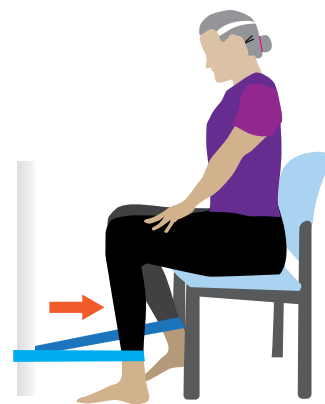
KNEE EXTENSIONS



PARTIAL OR HALF SQUATS AGAINST A WALL



SEATED KNEE EXTENSION WITH RESISTIVE BAND/TUBE



SEATED KNEE FLEXION WITH RESISTIVE BAND/TUBE

WRAP-UP

Can I take a break during these exercises?

It is a good idea to take a break for 1-2 minutes between each exercise. When you are just starting out, this break might be a little longer.

How do I continue to improve over time?

Start these exercises at the easy levels. Gradually increase repetition or resistance every 3-4 days.

Will I experience pain while I am doing these knee exercises?

Mild discomfort and mild worsening of pain is normal during exercise and may last for 1-2 days.

When should I do these knee exercises if I do other forms of physical activity?

You can do other exercise, such as walking or upper body strengthening, before or after you do knee specific exercises.

What should I do after I am done with these exercises?

You use a hot pack or a cold pack, as needed, for a few minutes. You can also drink fluids in small amounts (6-oz; 180-ml) and frequently (6 times), especially if it is hot.



CAUTIONS

When should I stop these knee exercises and call my health care provider?

- Discontinue these exercises and call your health care provider if (1) the pain you feel after exercise doesn't get better after 1-2 days, (2) there is new pain or pain in a new location, (3) there is significant swelling, (4) you have weakness or difficulty moving your legs, or
- (4) you fall and get hurt or fall multiple times.

Before Home Exercises for Shoulders

Can I do shoulder exercises if I have shoulder pain?

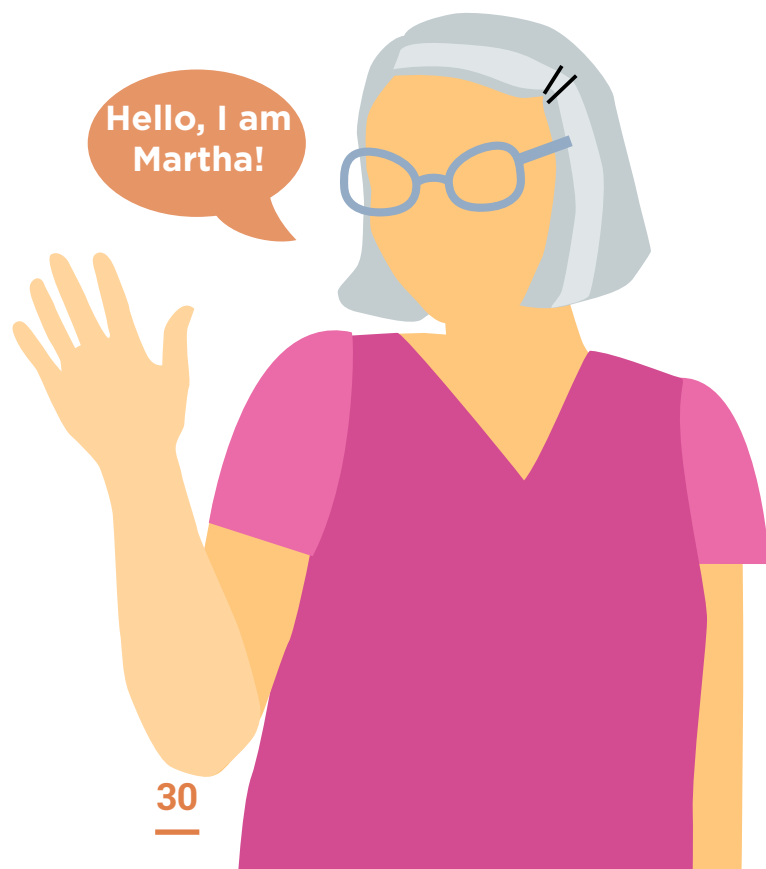
Generally, you can start exercising even if you have significant pain. In fact, exercise decreases shoulder pain and improves movement and function.

Should I first talk to my healthcare provider before doing shoulder exercises?

Talk to your healthcare provider especially if you have any questions or if you think it may be important to take specific precautions. Usually, shoulder exercises are safe, especially if you first warm up your body. You can warm up your body by walking or moving your legs.

When should I take my pain medication if I am doing shoulder exercises?

If you normally take pain medications, take them about 30 minutes before you exercise. As exercise helps you feel better, you may be able to decrease the pain medications.





LET'S BEGIN

What shoulder exercises should I start with?

Start with gentle range of motion exercises. You can do many of these while sitting on a chair or a bed.

Are there specific range of motion exercises I should do?

Yes – there are several types. You can do what is called a “**shoulder roll**,” rotating your shoulder clockwise and counterclockwise while sitting down. You can also do a **shoulder raise** with your hands clasped together.

Another exercise, called “**wall climbing**,” involves placing the tips of your fingers on a wall and gently moving them up the wall. While sitting, you can also do a **sidearm rotations**: with your hands clasped together and in front of you, turn your arms from the middle to the left, then back to the middle, and then to the right.

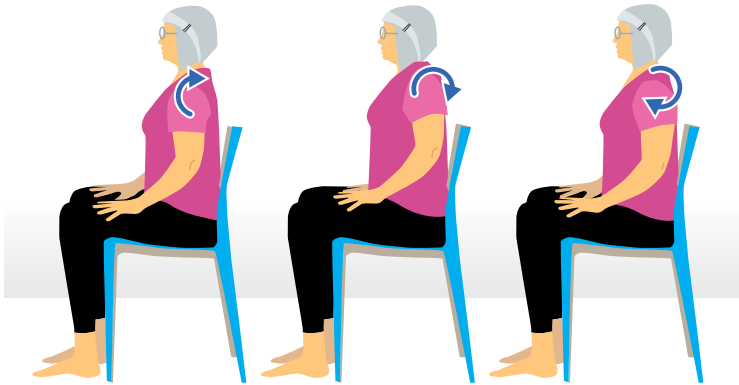
Finally, you can do a **chest stretch**. To do this, sit down, place your hands on the bed or chair behind you and gently stretch your chest out and back. **(See page 33)**

How many times should I repeat these exercises?

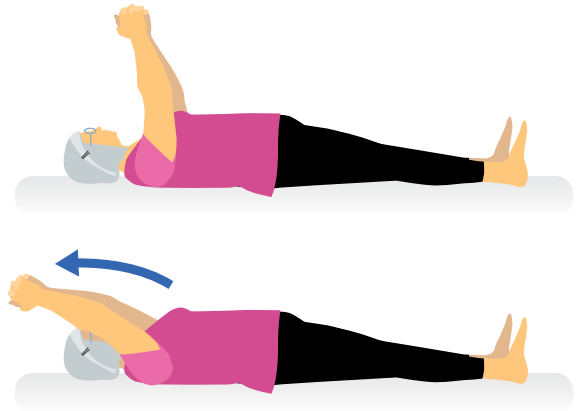
Repeat each exercise a few times per session. And aim to do a few sessions every day.

Should I do these shoulder exercises the same every time?

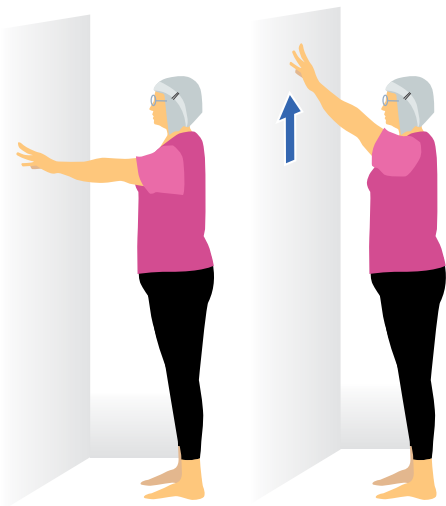
As you do the shoulder raises with hands clasped, wall climbing, sidearm rotations, and chest stretches, gradually increase the range of your stretches.



SHOULDER ROLL (ROTATION)



SHOULDER RAISE WITH HANDS CLASPED



(FINGER) WALL CLIMBING



SIDEARM ROTATION



CHEST STRETCH

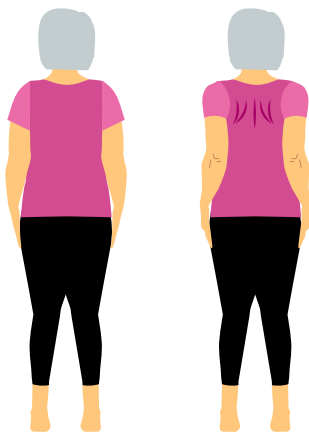
WHAT'S NEXT?

What Exercise Should I do Next ?

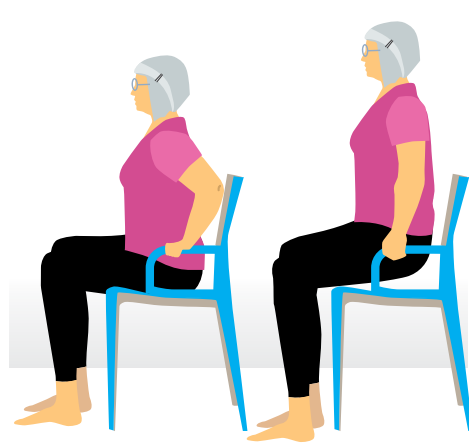
- Next, try some exercises to build strength. There are several strengthening exercises you can do.
- Try a **shoulder squeeze**, moving the muscles in your upper back toward your spine and then relaxing.
- You can also try a **chair press up**: sit in a chair with your feet on the ground and push against the arm while your hands holding the arm rests of a chair. After this feels comfortable, do the same thing but try to lift your body out the chair slightly this time as you push down.
- You can also do a **wall push-up**: put your hands against a wall and extend your arms. Then bend your elbows and allow your body to move closer to the wall. Next, extend your arms again.
- There are some additional strength-building exercises you can do after you consult with your healthcare provider.

How many of these exercises should I do?

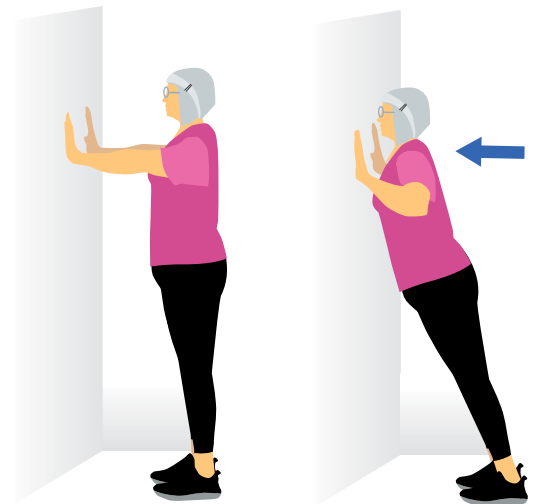
- Repeat each exercise a few times per session.
- Aim for a few sessions a day.



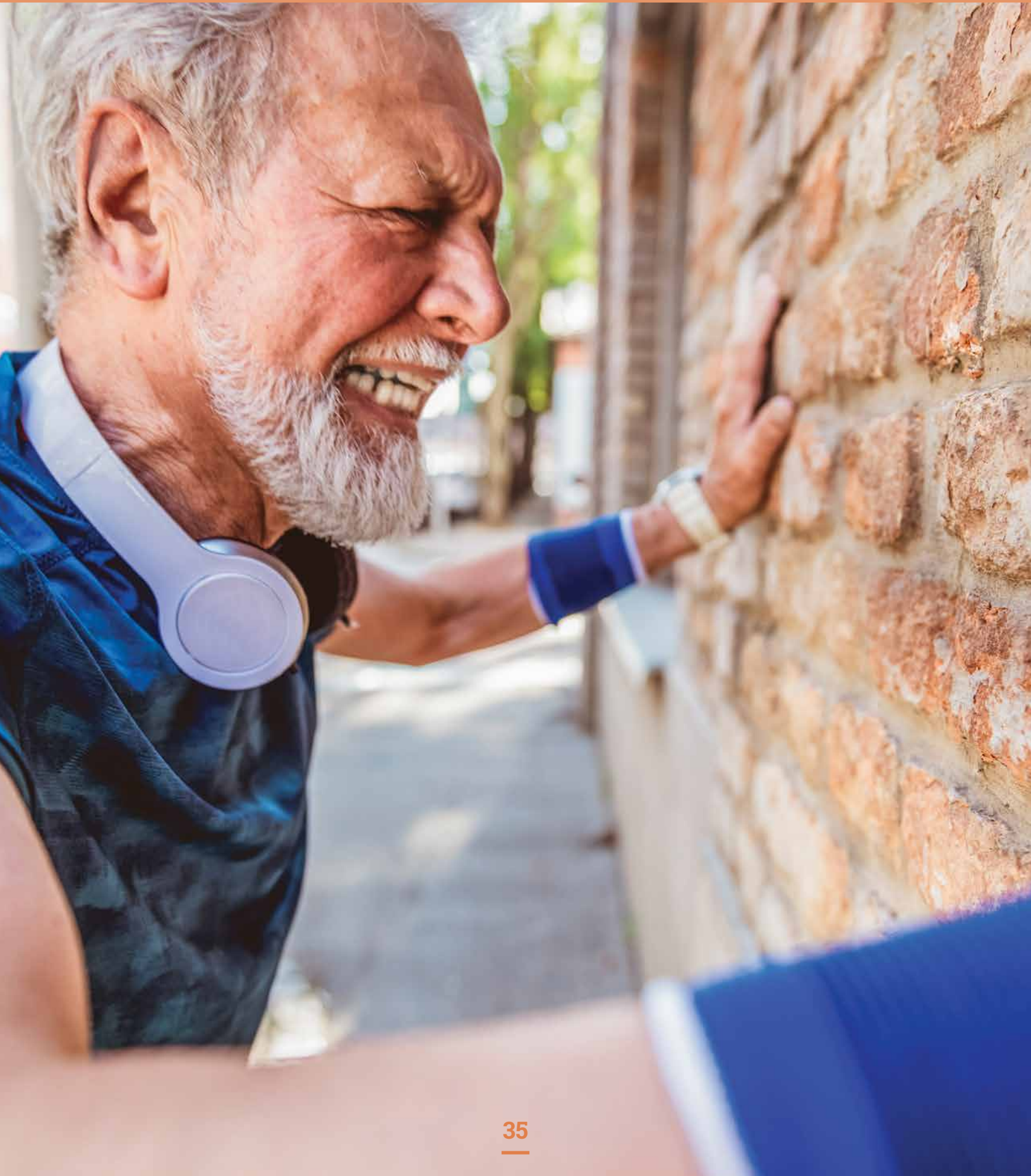
**SHOULDER
OR SCAPULAR
SQUEEZE**



CHAIR PRESS UP/PUSHING



WALL PUSH UP



WHAT'S NEXT?

What Exercise Should I do Next ?

You can do strength exercises with weights, especially the **bicep curl**. To do this, sit up straight in a chair with your feet on the ground. Hold a weight in your hand and bend your elbow to move the weight closer to your head and then back down.

You can also try a **chair push-up**. Place your hands on opposite sides of a chair seat and plant your feet on the ground so that there is a straight line from the top of your head to your heels. Bend your elbows and allow your body to move closer to the seat of the chair, then extend your arms.

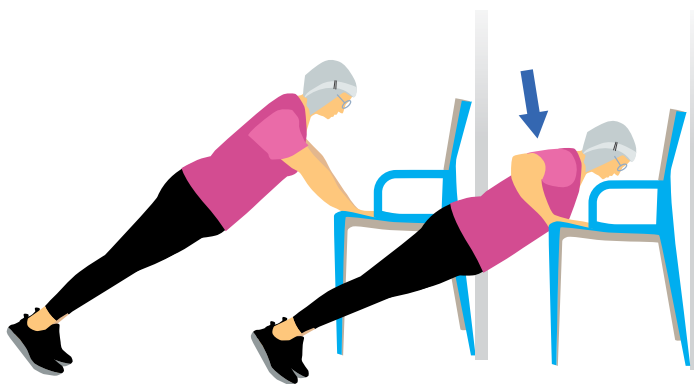
Finally, you can try **external rotations with a rubber band**: sit in a chair and hold the two ends of the band in each hand. Try to extend the length of the band and then let it retract.

How many of these exercises should I do?

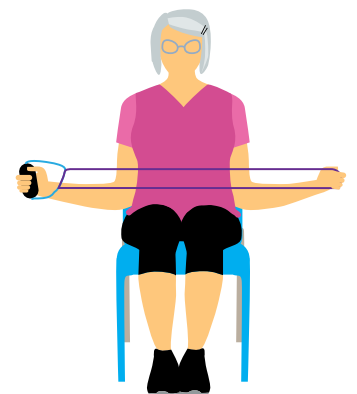
Repeat each exercise a few times per session. Aim for a few sessions a day.



BICEPS CURL WITH WEIGHT



CHAIR PUSH UP



SHOULDER EXTERNAL ROTATION WITH RUBBER BAND



WRAP-UP

Can I take a break during these exercises?

- It is a good idea to take a break for 1-2 minutes between each exercise. When you are just starting out, this break might be a little longer.

How do I continue to improve over time?

- Start these exercises at the easy levels. Gradually increase repetition or resistance every 3-4 days.

Will I experience pain while I am doing these shoulder exercises?

- Mild discomfort and mild worsening of pain is normal during exercise and may last for 1-2 days.

When should I do these shoulder exercises if I do other forms of physical activity?

- You can do other exercise, such as walking, before you do shoulder-specific exercises.

What should I do after I am done with these exercises?

- You use a hot pack or a cold pack, as needed, for a few minutes. You can also drink fluids in small amounts (6-oz; 180-ml) and frequently (6 times), especially if it is hot.



CAUTIONS

When should I stop these shoulder exercises and call my health care provider?

- Discontinue these exercises and call your health care provider if (1) the pain you feel after exercise doesn't get better after 1-2 days, (2) there is new pain or pain in a different location, such as chest pain, (3) you experience swelling, (4) you have weakness or difficulty moving your arms, or (4) you fall and get hurt.

Why Cane or Walker?

Do I need a cane or walker?

- A walker or cane can help improve your walking and help you stay safe. A walker or cane may help you if you have an unsteady gait, difficulty walking, pain, or weakness in your legs.

Where do I get a cane or walker ?

- Your doctor, usually, primary care, can prescribe a cane or walker for you. In addition to getting a cane or walker, it is important to learn how to use it properly.

Who Will help Me?

Who will help me to have a cane or a walker?

- Your primary doctor or physical therapist can help you to choose a cane or a walker. Your hand strength, heart or breathing conditions, other medical conditions and your home environment are also important. A cane or a walker is called durable medical equipment that is partially covered by Medicare. Medicare usually allows a few durable medical equipment within five years.
- When a cane or a walker is broken or has to be changed, case manager or social worker along with primary doctor has to help repair or changing processes.

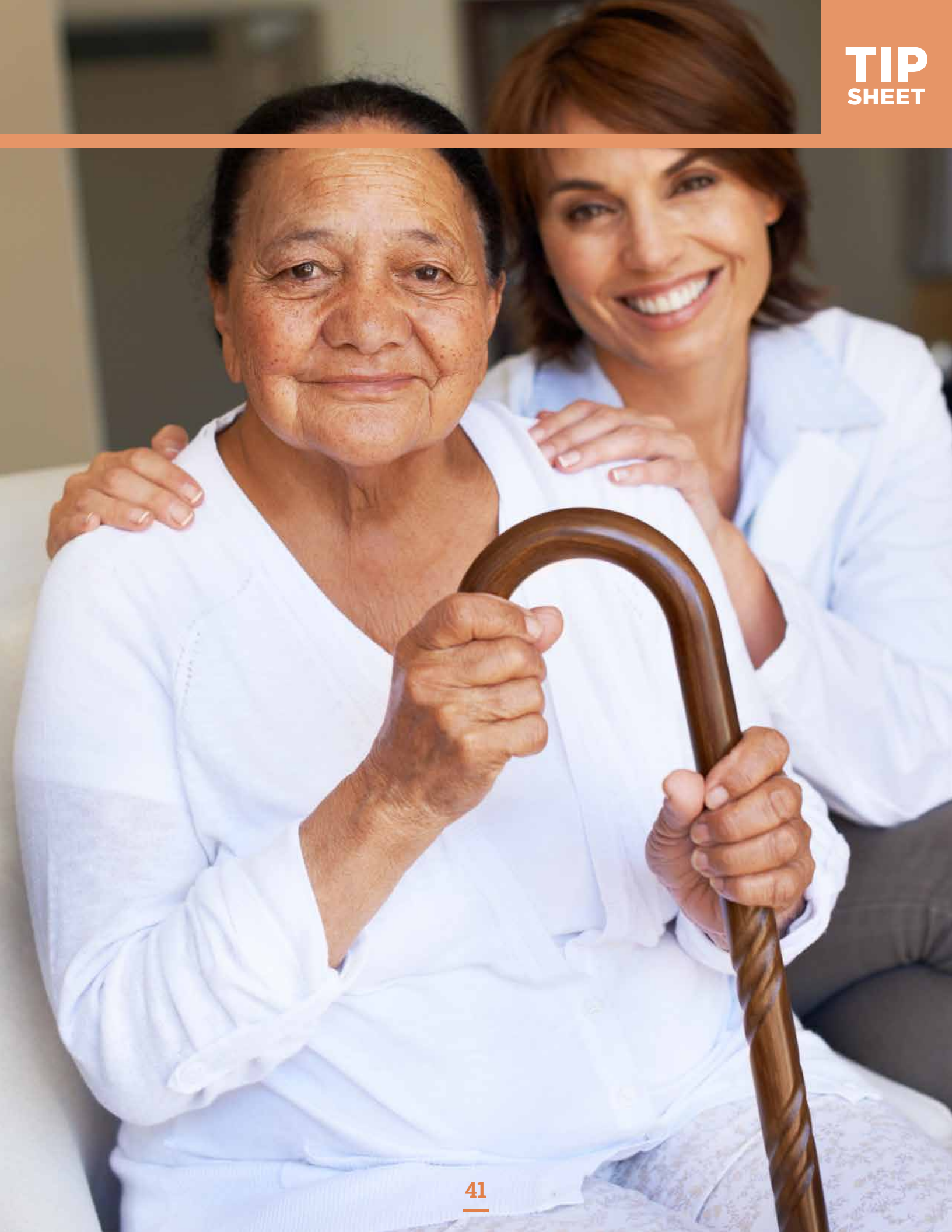
How Do I Learn to Use?

How do I learn to use a cane or a walker?

- You need approximately two sessions of physical therapy to learn appropriate use of a cane or a walker with caregiver. These sessions will help you safely practice while walking or usual daily activities.

Can I use both a cane and a walker?

- You can switch between the cane and walker. For example, it may make sense to use a cane in your house and walker outside.



MOBILITY

Home Exercise with Equipment

When your equipment has not been used recently

Discuss with your doctor first if you haven't used it for a while or your health conditions have changed recently.

What are common cardio exercise equipment?

Cardio exercise equipment helps you to do aerobic endurance exercise using larger muscles in the body (primarily muscles in the thigh, hip, calf, arm muscles).

- Treadmill, stationary bike (with backseat), elliptical machine, step climber, rowing machine, and others.

Other common home exercise equipment includes

- For strengthening exercise: Kettlebells, free weight, rubber bands, cable strength machine
- For balance exercise: Yoga mat, wobble board "BOSU" balls.



WHAT IS THE RIGHT EXERCISE EQUIPMENT FOR ME?

Stationary bike

- Good for anyone.
- Pain in joints is commonly expected.

How to reduce pain in joints

- Before exercise, adjust the height of the chair seat.
- During exercise, decrease resistance of pedaling and finish exercise earlier.
- If pain doesn't go away, talk to your doctor immediately.
- Sweating in the groin area is also common on hot summer days. Take shower and dry the groin area.

Treadmill

- Good for walking and light jogging.
- You should be able to walk comfortably indoors without any assistive device. If not, the treadmill is not a good option.

Other equipment for cardio exercise

- Elliptical can be an alternative if you have worsening joint pain with the treadmill.
- Rowing machines can be another alternative but often restricted for patients with back pain.

TELL ME HOW TO USE HOME EXERCISE EQUIPMENT?

Start slow and increase gradually.

For the treadmill, you can start walking comfortably.

- Grabbing side rails of equipment is not recommended during walking exercise.
- Listening to music or watching TV is possible during exercise. Wired earphones use is not recommended due to concerns of losing balance during exercise.
- If you feel comfortable using the treadmill, then gradually increase the speed.
- Target exercise regimen: initial warm-up for a few minutes, then gradually increase the speed and inclination. If you reach the point of feeling “somewhat hard or hard”, try to stay for 15-20 minutes, then cool down over the next 5-10 minutes.
- Be aware of the safety feature of the treadmill “emergency stop clip.”

For an elliptical and stationary bike, you can warm up for a few minutes without significant resistance and speed, then gradually increase the speed and resistance.

Exercise is “Medicine”. You don’t want to skip your medicine.

The goal is to exercise most days (or 5 or 6 days weekly), 30-60 minutes each day (can be divided initially).

For strengthening exercise, your goal is to do exercise each muscle group 2-3 times a week. You need to discuss more details about what equipment is used and how to use this equipment with your doctor.



WHAT IS THE RIGHT EXERCISE EQUIPMENT FOR ME?

Tell me some precautions

Mild soreness and increasing pain in the muscle and joint over a day or two is not unusual like any other exercise when you started. Tell your doctor if you have:

- New pain (different from your existing pain) or worsening pain for more than 1-2 days, stop using this equipment.
- Any new symptoms or changes in physical function.

You can still walk or stay active even if you stop exercising using equipment.







CREATING AGE-FRIENDLY HEALTH SYSTEM & DEMENTIA-FRIENDLY COMMUNITY IN NEVADA



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This material is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$3.75 million for five years with 0% percentage financed with nongovernmental sources, grant #U1QHP33069. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.