
At-Home Physical and Occupational Therapy Exercises

For Amyotrophic Lateral Sclerosis

Contents

Introduction	3
Before Starting an Exercise Program	4
Tips to Get Started	5
Balance Exercises	6
Neck Exercises	11
Arm Exercises	12
Leg Exercises	18
Wheelchair Positioning	22

DISCLAIMER: This document is meant to inform and educate the community. The information presented is not intended to replace discussions with your healthcare provider and is not and should not be considered to be medical advice. Please consult with your healthcare team for information specific to you.



Introduction

This resource describes physical therapy (PT) and occupational therapy (OT) exercises for people with amyotrophic lateral sclerosis (ALS). Stretching and range of motion exercises can help you manage your symptoms and improve your overall strength. Strengthening and aerobic activities can be done a few days each week, alternating strength and aerobic days and including rest days.

The goal of exercise is not to strengthen the muscles that ALS weakens but to maintain the range of motion and strength. It is important not to over-exert yourself during your exercise program, as this may limit your energy to complete functional activities. Functional activities, including walking to the bathroom, transfers (e.g., standing from a sitting position and moving from a wheelchair to a bed), cooking, getting dressed, and taking a shower, are

part of your daily exercise regimen. Some people may not tolerate a structured strengthening and aerobic program. In this case, stretching each day will ease muscle pain and slow the decline in your range of motion.

The goal of an exercise program is to maximize muscle function, prevent limitations of range of motion, and increase aerobic capacity and endurance as long as possible. You can add light weights and/or resistive bands with the exercises in this guide to maintain strength. As the disease progresses, you may need to use lighter weights and do fewer repetitions. Be aware that as the changes in your strength and abilities progress, your exercise program will change. Your physical or occupational therapist can help modify your program as needed.

Before Starting an Exercise Program

For a safe, effective exercise program, keep these important points in mind:

- Speak to your healthcare team before you start a new exercise regimen. They can tailor a program for you, including what types of exercises to do and how long you should exercise. They can also monitor your response to exercise.
- Avoid exercise that is aggressive, high impact, or high intensity.
- Select exercises that are safe for your level of functioning.
 - > Avoid exercises that may cause a fall.
 - > Stay at or below a moderate activity exertion level (see the rate of perceived exertion scale below).
- Start slowly and rest as needed.
- Avoid pushing through pain and fatigue.
- Remember to breathe throughout all exercises; do not hold your breath.

After exercise, you should be able to:

- Recover quickly (in 1-2 hours)
- Have enough energy for your daily activities, self-care, work, family, and social activities
- Have enough energy to safely complete daily mobility tasks (e.g., balance, transfers)

Rate of Perceived Exertion (RPE) Scale

10	Maximum effort activity Feels impossible to maintain for more than a very short time. Completely out of breath, unable to talk.
9	Very hard activity Difficult to maintain. Can barely breathe, can speak only a few words.
7-8	Vigorous activity Borderline uncomfortable. Short of breath, can speak a sentence.
4-6	Moderate activity Somewhat comfortable, but noticeably challenging. Breathing heavily, can hold a short conversation.
2-3	Light activity Feels like you can maintain for hours. Easy to breathe and carry on a conversation.
1	Very light activity Hardly any exertion, but more than when resting.

Tips to Get Started

Follow these tips for success:

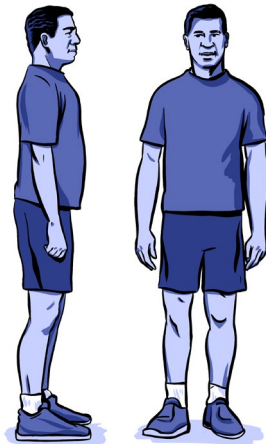
- Listen to your body.
- Don't push yourself too hard.
- Don't exercise if you do not feel well.
- Rest before you become fatigued.
- If you are unable to do functional activities after exercise, you are overdoing it.

Start with good posture

Maintaining good posture during exercises and daily tasks will help you engage the correct muscle stabilizers and relieve pain.

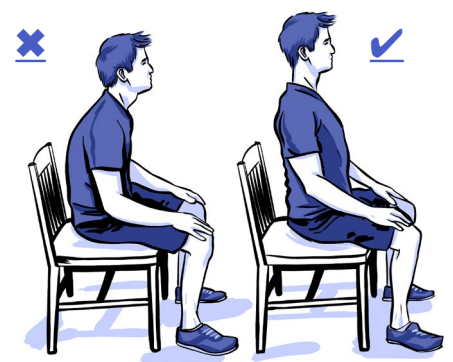
Standing posture

Stand with your heels shoulder width apart, your feet pointing straight ahead, and your weight evenly distributed between your feet. Think of pulling your belly button toward your spine, and keep your shoulders back, down, and even; your head level; your chin tucked; and your eyes facing forward.



Sitting posture

Sit with your feet on the ground; your toes and knees facing forward; your knees in line with your hips; your weight evenly on both thighs; your belly button pulled toward your spine; your shoulders back, down, and even; your head level; your chin tucked; your eyes facing forward; and your forearms and hands supported with elbows at 90 degrees.



Start each exercise with the best possible posture (see above) and then identify the level you can complete without pain or compensations. If you are not sure you are completing the exercises correctly, with good posture, or without compensations, please contact your PT or OT for guidance.

This guide includes different types of movement:

- Range of motion (ROM) is movement of a body part or joint.
- Active range of motion (AROM) means you can complete the movement without assistance.
- Active assist range of motion (AAROM) means you need some assistance to complete the motion.
- Passive range of motion (PROM) means you need someone to help you complete the motion.

If you can complete an exercise with AROM and are looking to increase the difficulty, you can add resistance bands or light weights. If AROM is too difficult you can do AAROM or PROM.

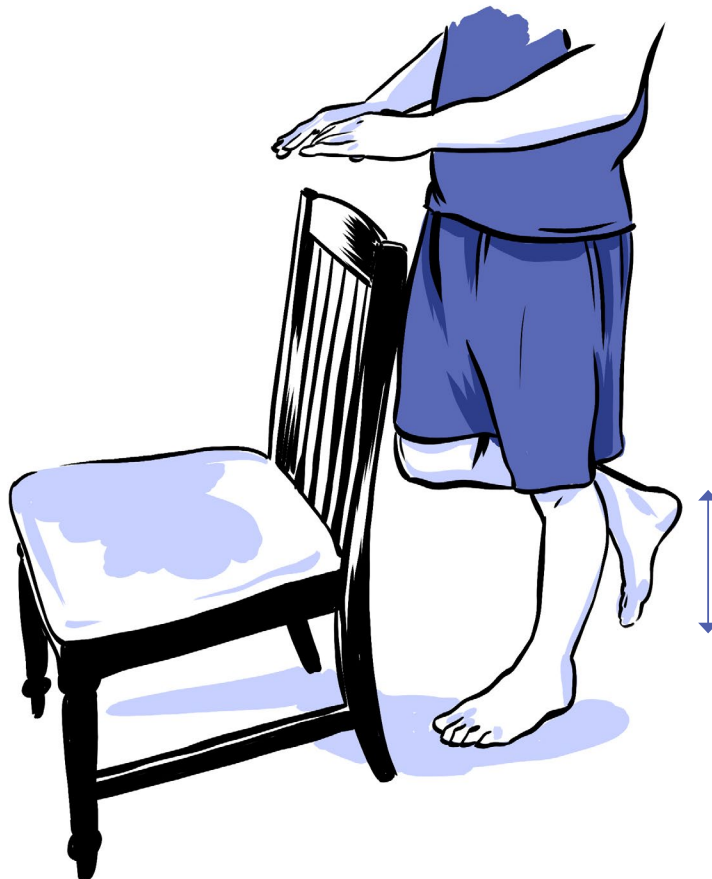
Balance Exercises

For the following exercises you can use a chair or counter for support and progress to less or no support.

Single leg stance

1. Stand with your feet slightly apart.
2. Carefully lift one leg while balancing with the other leg steady on the ground. Hold this position as long as you can.
3. Repeat on the other side.

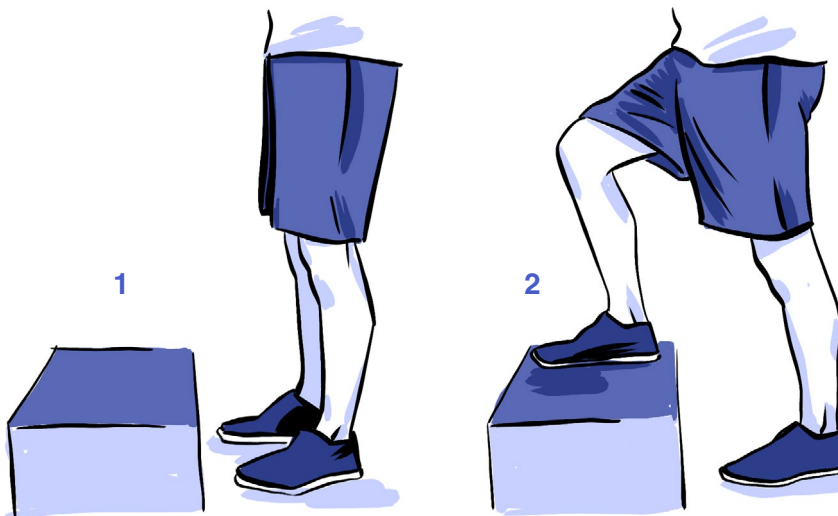
Progression: Lift your leg without holding onto a chair or counter for support and hold this position for 1 minute.



Foot taps

1. Stand in front of a stair or box roughly 6 inches high with your feet slightly apart.
2. Lift one foot off the ground to tap the stair or box.
3. Return to standing on both feet.
4. Switch feet and continue the foot taps on the other side.

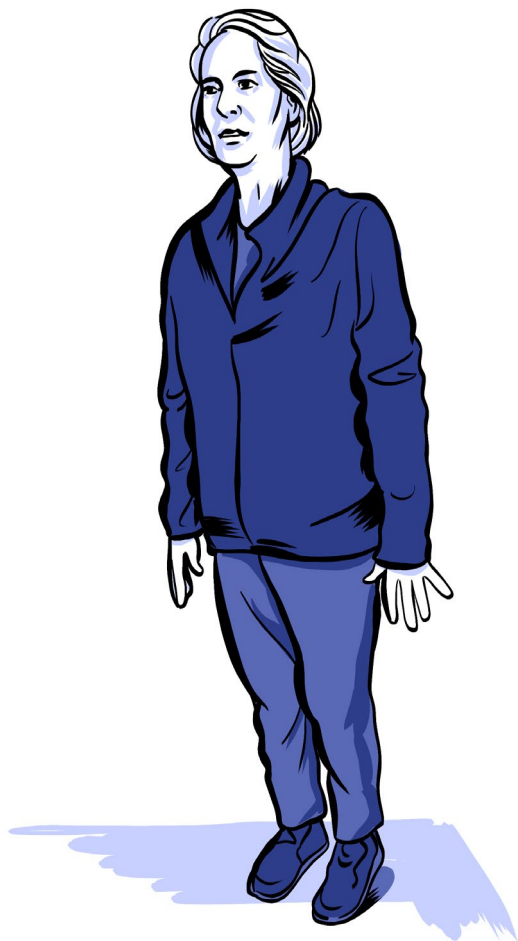
Progression: Continue the foot tap exercise without holding onto a chair or counter for support.



Balance Exercises

Narrow stance reach

1. Stand with your feet slightly apart and your arms at your sides.
2. Lift both arms out in front of you at shoulder height.
3. Keeping your arms at shoulder height, reach forward while keeping your weight balanced through your heels and toes.
4. Return to the neutral starting position and repeat.



Ankle sways

1. Start by standing in a corner with your feet slightly apart and your weight balanced through your heels and toes.
2. Begin to sway forward and backward using ankle movement.
3. Sway from side to side using ankle movements.

Progression: Complete this exercise with your eyes closed.

Balance Exercises

Two-way hip kick

1. Stand with your feet slightly apart.
2. Shift your weight to one leg and kick the other leg to the side then to the back.
3. Repeat on the other side.



Standing marches

1. Stand with your feet slightly apart.
2. Begin to march in place.

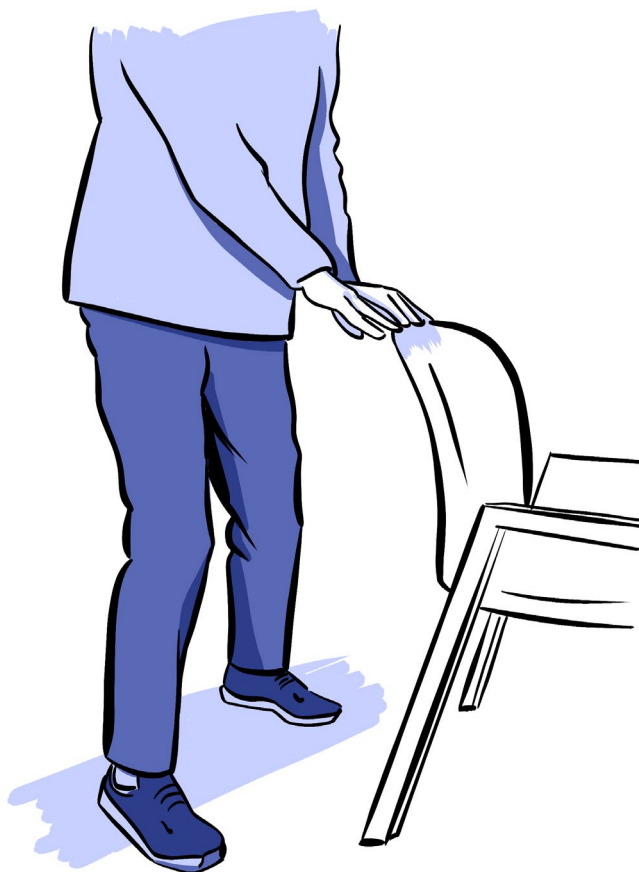
Progression: March without holding onto a chair or counter for support and bring your knees higher.

Balance Exercises

Lateral stepping

1. Stand with your feet slightly apart.
2. Step one leg to the side then bring it back to the center.
3. Repeat to the other side.

Progression: Complete this exercise without holding onto a chair or counter for support.



Sit-to-stand

1. Sit in a chair.
2. Carefully stand up, using your legs and arms as needed.

Progression: Stand without using your arms for assistance.



Balance Exercises

Heel raises

1. Stand with your feet slightly apart while holding onto a chair or counter for support.
2. Lift your heels off the ground to stand on your toes.

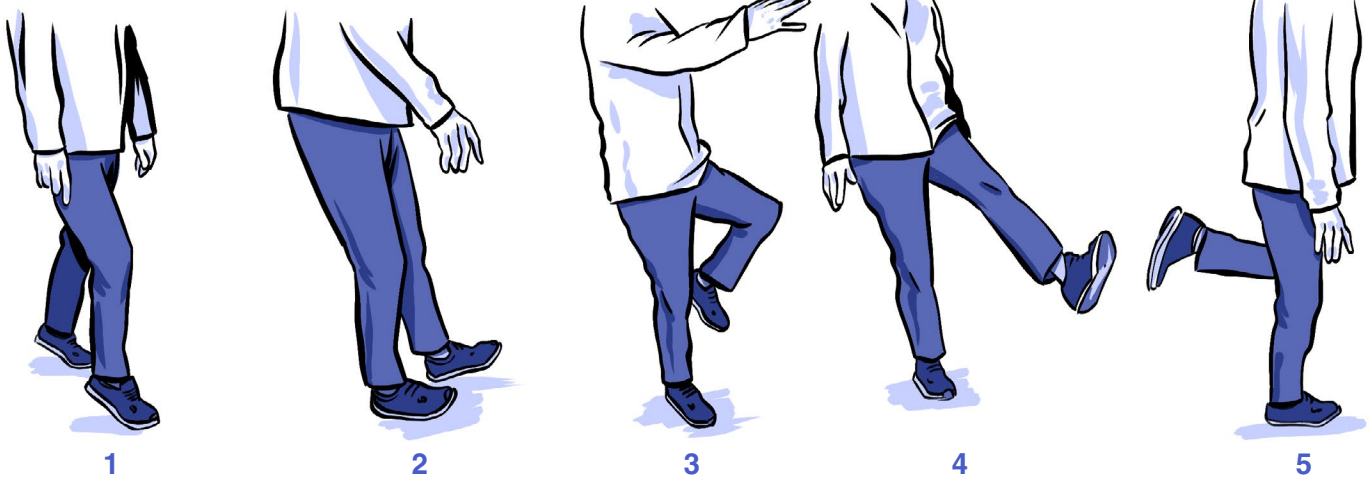
Progression: Complete this exercise without holding onto a chair or counter, or raise onto the toes of one leg at a time.



Dynamic walking

Walk six to 12 feet with good balance as you complete the following exercises:

1. Walk on your tippy toes.
2. Walk on your heels.
3. Walk while marching.
4. Walk while completing straight leg march.
5. Walk while completing butt kicks.



Neck Exercises



Side bend

1. Bend your ear to your shoulder while keeping your nose forward and your shoulders rolled down and back. Hold until you feel a stretch through your neck.
2. Repeat on the other side.

Rotation

1. Rotate your chin to one side while keeping your eyes level and your shoulders rolled down and back. Hold until you feel a stretch through your neck.
2. Repeat on the other side.



Cervical nod

1. Rotate your chin to one side while keeping your eyes level and your shoulders rolled down and back.
2. Tuck your chin toward your armpit. Hold to feel a stretch through your neck.
3. Repeat on the other side.

Arm Exercises

Scapular

Active movement:

1. Roll your shoulder blades down and back while keeping your eyes level and your chin tucked. Hold this position to feel a stretch through your neck.

Progression: Hold a weight or resistance band while completing this exercise.

Passive movement:

1. While seated in a chair or wheelchair, have a caregiver press on the front of your shoulders with their whole hands, pushing your shoulders down and back. Hold this position. You should feel a stretch in the front of your chest.



Active movement



Passive movement

Arm Exercises

Shoulder flexion

Active movement:

1. Sit with your hands by your sides, your elbows straight, and your thumbs facing up.
2. Raise your arms over your head. Go as far as you can without pain and keeping good posture. (Do not arch your back or raise your shoulders.)

Progression: Hold weights or a resistance band while completing this exercise.



Active movement

Active assisted movement:

1. Stand or sit beside a table with a straight edge. Place your hand on the table with your elbow straight, keeping your arm in line with your shoulder.
2. Lean forward and slide your arm on the table, stretching as far as you can without pain.

Tip: Place a towel or cloth under your hand to assist with the sliding motion.



Active assisted movement

Passive movement:

1. While lying on your back, have a caregiver hold under your elbow and wrist, keeping the elbow straight and thumb up.
2. The caregiver will lift your arm up over your head, keeping the arm in line with the shoulder.



Passive movement

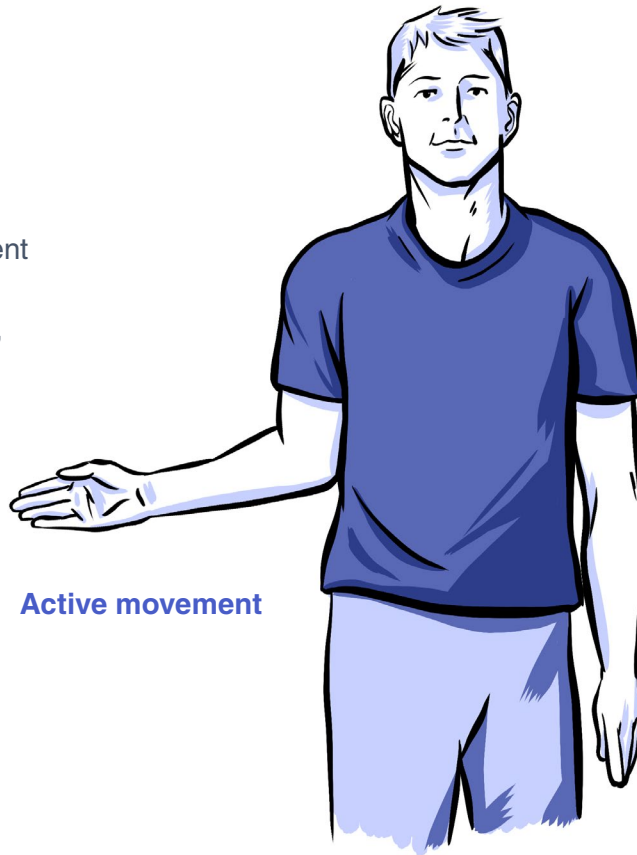
Arm Exercises

External rotation

Active movement:

1. Start with one arm at your side, elbow bent at a 90-degree angle.
2. Rotate the arm outward and then inward, keeping the elbow at your side.
3. Repeat on the other side.

Progression: Hold a weight or resistance band while completing the exercise.



Active movement

Active assisted movement

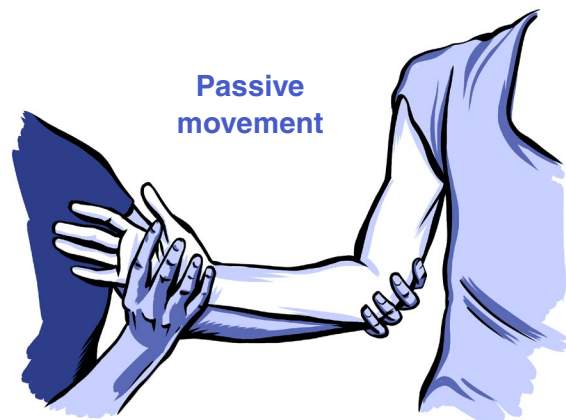


Active assisted movement:

1. While lying on your back, lift your arms above your head and place your hands behind your head.
2. Allow your elbows to rest toward the surface.

Passive movement:

1. Have a caregiver stand at your side, holding your elbow and wrist, with your elbow bent at a 90-degree angle.
2. The caregiver will rotate the hand toward the body and then away from the body.
3. Repeat on the other side.



Passive movement

Arm Exercises

Elbow exercise

Active movement:

1. Start with your hands by your sides, your elbows straight, and your palms facing forward.
2. Bend your elbows to raise your hands to your shoulders.
3. Straighten your elbows, returning your hands down to your sides.

Progression: Hold weights or a resistance band while completing the exercise.

Passive movement:

1. Have a caregiver stand at your side, holding your elbow and wrist, with your elbow straight.
2. The caregiver will lift the wrist to the shoulder and return it down.
3. Repeat on the other side.



Forearm exercise

Active movement:

1. Start with your arms at your sides, elbows bent at a 90-degree angle.
2. Rotate your palms to face up and down.

Progression: Hold weights or a resistance band while completing the exercise.

Passive movement:

1. Have a caregiver hold your arm at a 90-degree angle with their hand below your wrist and along the forearm.
2. The caregiver will rotate the forearm so the palm faces up and then down.
3. Repeat on the other side.

Arm Exercises

Wrist exercise

Active movement:

1. Sit with one arm on a flat surface, your hand resting over the edge.
2. Open your fingers and bend at the wrist to lift your hand up and bring it back down to a resting position.
3. Repeat these movements with your fingers closed.
4. Repeat on the other side.

Progression: Hold a weight or resistance band while completing the exercise.

Passive movement:

1. Use one hand to support the palm and fingers of the other hand, or have a caregiver support the hand.
2. Keep your fingers open and bend at the wrist to lift the supported hand, and then bring it back down.
3. Repeat these movements with your fingers closed.
4. Repeat on the other side.



Arm Exercises

Finger exercise

Active movement:

1. Sit with one hand on the edge of a table or on your knee.
2. Lift your fingers as much as you can without hyperextending the fingers.
3. Relax the fingers back to the starting position.

Active assisted movement:

1. Use one hand to support the palm and fingers of the other hand, keeping your fingers open.
2. Use the supporting hand to lift the fingers until they are straight in line with the wrist and palm.



Active movement



Alternative active assisted movement

Alternative active assisted movement:

1. Place your hand on a table.
2. Straighten each finger and thumb by gently pressing the joints down on the table top.

Tip: Active movement exercises with the fingers help reduce swelling in the hand.

Leg Exercises



Knee to chest

Active movement:

1. Lie on your back with one leg straight and one leg bent.
2. Place your hands on your bent knee and gently pull your knee toward your chest.
3. Repeat on the other side.

Passive movement:

1. While lying on your back with one leg straight and one leg bent, have a caregiver hold under the bent knee and ankle.
2. The caregiver will gently press the thigh toward your chest or armpit.
3. Repeat on the other side.

Hip stretch

Active movement:

1. Lie on your back with one leg straight and one leg bent.
2. Hold your bent knee and pull the leg across your body, keeping your back flat.
3. Repeat on the other side.

Passive movement:

1. While lying on your back, have a caregiver place their hands on one hip and the bent knee.
2. The caregiver will gently push the bent knee across the body.
3. Repeat on the other side.



Leg Exercises



Low back rotation

Active movement:

1. Lie on your back with both knees bent and your arms out in a "T" position.
2. Rotate your knees to one side.
3. Bring them back to the center.
4. Repeat on the other side.

Passive movement:

1. While lying on your back with both knees bent, have a caregiver place one hand on the outside of a knee and the other on a shoulder.
2. The caregiver will push or pull your knees to the side while holding your shoulder in place.
3. Repeat on the other side.



Leg Exercises

Knee exercise

Active movement:

1. Sit on a chair with both legs bent.
2. Straighten your knee to kick one leg out, then lower the leg.
3. Repeat on the other side.

Active assisted movement:

1. Sit on a chair with one leg bent and the other leg held straight with the ankle and toes flexed and the heel on the floor.
2. Lean your trunk forward to feel a stretch.
3. Repeat on the other side.



Passive movement

1. Lie on your back with legs straight and toes flexed upward. Use a strap around the bottom of one foot to pull the leg up, or have a caregiver lift one leg up to a stretched position.
2. Repeat on the other side.

Leg Exercises

Ankle exercise

Active movement:

1. Sit on a chair with your legs bent.
2. Lift one foot and rotate the ankle in a circular motion to point the toes up and down.
3. Repeat on the other side.

Active assisted movement:

1. Stand with your hands against a wall. Keep one leg behind with your foot flat on the ground.
2. Lean forward to feel a stretch behind your leg.
3. Repeat on the other side.

Tip: Active movement exercises with the ankles and toes help reduce swelling in the foot.



Active assisted movement



Passive movement:

1. Lie on your back with one knee bent and the other leg straight.
2. Use a strap around the bottom of the foot on the straight leg to pull your toes toward the knee, or have a caregiver pull your toes toward the knee to stretch the leg.
3. Repeat on the other side.

Wheelchair Positioning

Proper positioning in a wheelchair can prevent tightness, pain, swelling, and pressure injuries. These positions are a good place for caregivers to assist with exercises.

Seated position:

- Keep your feet flat on the footplates with your thighs evenly supported. Your pelvis should remain at the back of the chair with your trunk supported by the backrest. Your arms are supported by the armrests or troughs, with the palms in a supportive resting position. The elbows remain at 90 degrees, with the shoulders and head supported by the back and headrest.
- Do not allow your knees to spread apart, your feet to rest on the sides of the footplates, or your hips to scoot forward. Do not keep your hands in your lap or let your shoulders and neck round forward.



Wheelchair Positioning

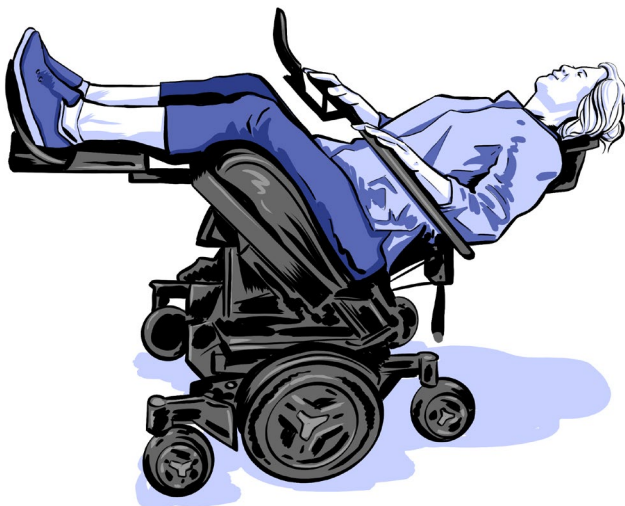
Wheelchair positions:

Use tilt (both backrest and seat move) and recline (only backrest moves) functions on a wheelchair to promote proper head position, shoulder position, weight shifting, and edema management.

- **Tilt:** This position increases head support and improves shoulder and hip positions.



- **Full pressure relief:** Tilt as far as possible and add recline for comfort. This position provides pressure relief and is a position of rest without returning to bed. This is a good position for caregivers to assist with arm and leg exercises.



- **Manage swelling:** Tilt as far as possible and add recline for comfort, elevating the feet above the heart. This position decreases swelling in the feet, ankles, and hands.

Tip: If you have difficulty breathing in these positions, use your breathing machine.

Thank you to our educational resource sponsor.



Mitsubishi Tanabe Pharma
America

This resource was created with the expertise and knowledge of Angela Escalante, Occupational Therapist, and Deborah Taylor, Physical Therapist, at Barrow Neurological Institute.

About Muscular Dystrophy Association

Muscular Dystrophy Association (MDA) is the #1 voluntary health organization in the United States for people living with muscular dystrophy, ALS, and related neuromuscular diseases. For over 70 years, MDA has led the way in accelerating research, advancing care, and advocating for the support of our families. MDA's mission is to empower the people we serve to live longer, more independent lives.

To learn more, please contact the MDA Resource Center at [1-833-ASK-MDA1](tel:1-833-ASK-MDA1) or email ResourceCenter@mdausa.org.

Join the Community

- | | |
|---|---|
|  @MDAorg |  @MDA_Advocacy |
|  @MDAorg |  @MDA_LetsPlay |
|  @MDAorg |  @MDALetsPlay |
|  @MDAorg |  YouTube.com/MDA |
|  @Muscular Dystrophy Association |  Visit MDA.org |