

Range of Motion Exercises

Range of motion (ROM) exercises are done to preserve flexibility and mobility of the joints on which they are performed. These exercises reduce stiffness and will prevent or at least slow down the freezing of your joints as the disease progresses and you move less often. Range of motion is the term that is used to describe the amount of movement you have at each joint. Every joint in the body has a "normal" range of motion. Joints maintain their normal range of motion by being moved. It is therefore very important to move all your joints every day. Stiff joints can cause pain and can make it hard for you to do your normal daily activities. Each person with ALS needs a program of exercise tailored to his or her individual needs and abilities. With a prescription your doctor can either send you to an outpatient clinic to see a Physical Therapist or have one come to your home to help you design a personalized exercise program. The therapist will see you until you or your caregiver are independent with a home exercise program that you can follow through with daily. It is important to remember that as the disease progresses, the type of ROM exercises you will need will change. It is important to be proactive when this occurs and ask your doctor to write you another prescription to see a therapist so your home exercise program can be modified.

There are different kinds of ROM exercises. There are stretching exercises you can do yourself when you still have the muscle strength to move your joints through their complete ranges. These are called Active ROM exercises. There are Self-ROM exercises which involve using a stronger arm to assist a weaker arm to perform the exercises, eliminating the need for caregiver assistance. Then there are Passive ROM exercises which are done for a weaker PALS by a caregiver. Often a combination of the types of ROM exercises above will be used. For instance if a PALS has strong arms but very weak legs, he would use an active ROM program for the arms independently and a passive ROM program for the legs. Even within a limb the type of exercise used can vary depending on the strength of the different muscle groups. PALS with increased muscle tone (spasticity) will also need to learn techniques to decrease the tone before exercising. What type of ROM exercises are most effective for an individual is best determined by a therapist who can evaluate your own muscle strength and tone.

It is important to realize that these exercises will not strengthen muscles that have been weakened by ALS. Once the supply of motor neurons that control a particular muscle has degenerated, it cannot be regenerated by exercise. It is important that all exercise be

performed in moderation. Fatigue will only increase your weakness and rob you of energy that you need for your daily routines and the activities you enjoy. If you find that your prescribed set of exercises tires you, talk to your therapist. Changes can be made that will eliminate the risk of fatigue. Similarly, none of your exercises should cause you pain. If you do experience pain when exercising, stop that exercise and talk to your therapist. It may be that you are not doing the exercise correctly, or perhaps some modification to your exercise program must be made.

If your joints are very painful and swollen, move them gently through their range of motion. These exercises should be done slowly and steadily. It is important with ROM exercises not to force movements and to stop a movement if it causes you pain. Damage to the joint space can occur if too much force is applied. Joint range of motion is done on one joint at a time. Stabilize with one hand just above the joint and place your other hand below the joint to move the part through its full range of motion. Your physical therapist will tell you how many times to do each one.

General instructions:

- Ideally, these exercises should be done once per day.
- Do each exercise 10 times or move to the point of resistance and hold for 30 seconds.
- Begin exercises slowly, doing each exercise a few times only and gradually build up to more.
- Try to achieve full range of motion by moving until you feel a slight stretch, but don't force a movement.
- Move only to the point of resistance. Do not force the movement.
- Keep limbs supported throughout motion.
- Move slowly, watching the patient's face for response to ROM.

Lower Extremity Passive ROM Exercises

Lower extremity passive exercises are for someone else to stretch your hips, legs, and knees if you are unable to do this yourself. These exercises should be done slowly and gently while you are lying on your back. Each exercise should be done ten times on each leg each day.

Hip and Knee Flexion

Cradle the leg by placing one hand under the bent knee. With the other hand, grasp the heel for stabilization. Lift the knee and bend it toward the chest, with the kneecap pointed toward the ceiling. Do not allow the hip to twist during this movement. The foot should stay in a straight line with the hip and not swing in or out. The leg is then lowered to the starting position.



Hip Rotation

Place one hand on the thigh and other hand just below the knee. Bend the knee halfway to the chest so that there is a 90 degree angle at the hip and knee. Pull the foot toward you and then push it away. Remember, do not go beyond the point of resistance or pain. Lower leg to starting position.

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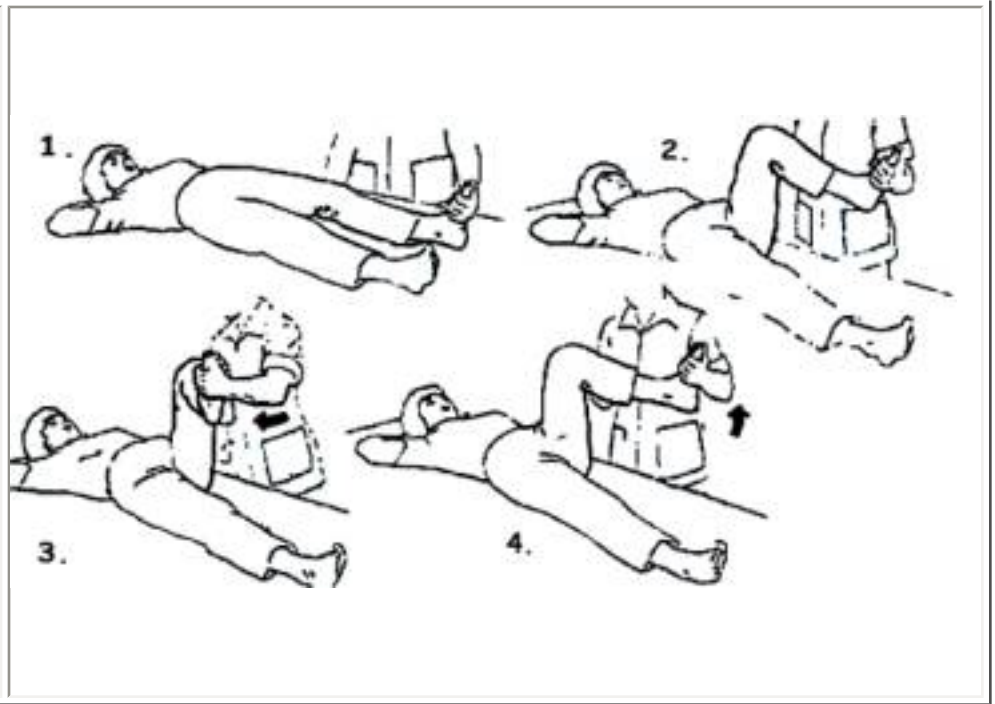


1.Support the leg under the knee and heel.

2.Bend the knee halfway to the chest so that there is a 90 degree angle at the hip and knee.

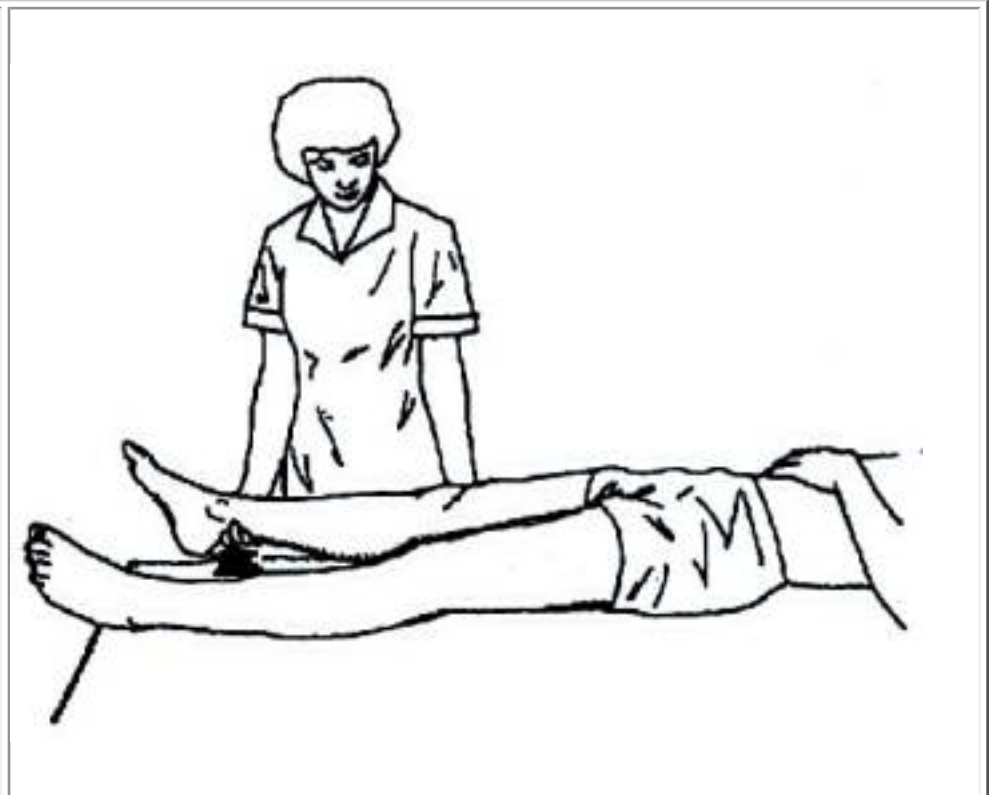
3.Push the foot away from you.

4.Pull the foot toward you.

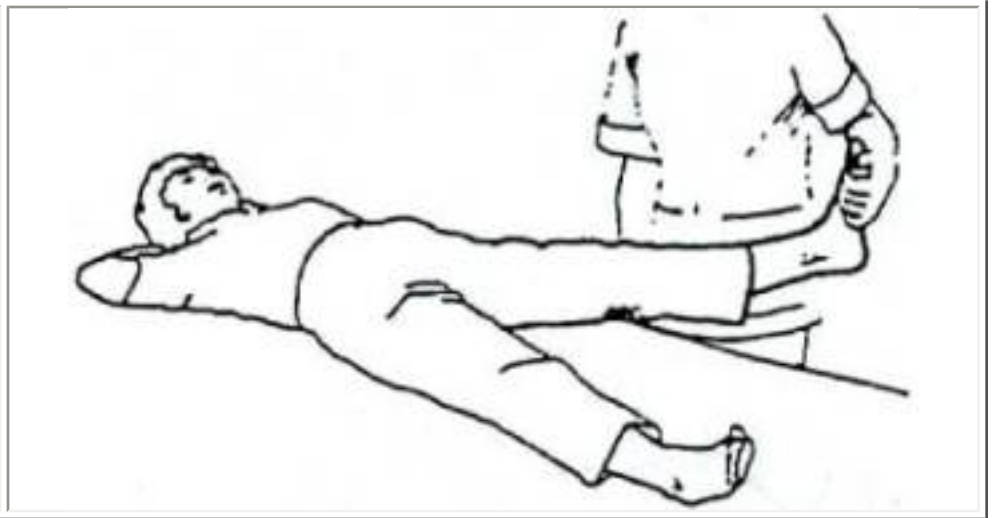


Hip Abduction

Cradle the leg by placing your hand under the knee and holding it. Place the other hand under the heel to stabilize the hip joint. Keeping the knee straight, move the leg along the surface of the bed, toward you and away from the other leg, to approximately 45 degrees. Then bring the leg back to the other leg.

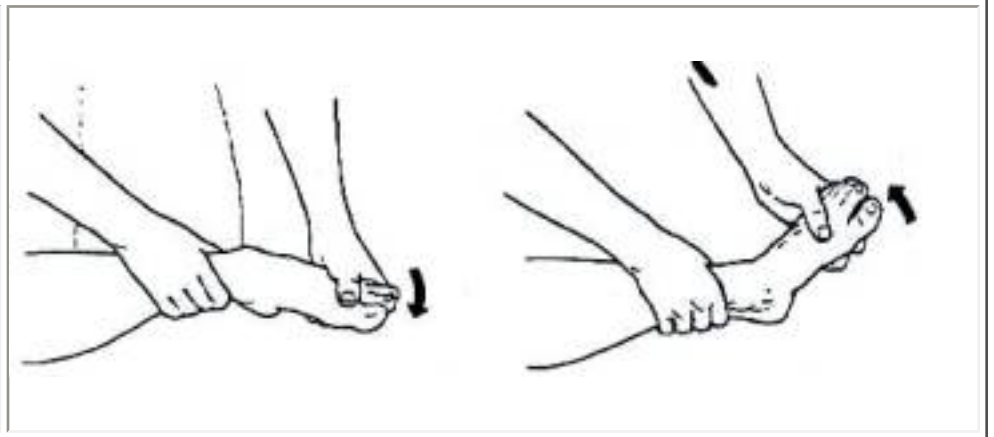


Hip Abduction **(another look)**



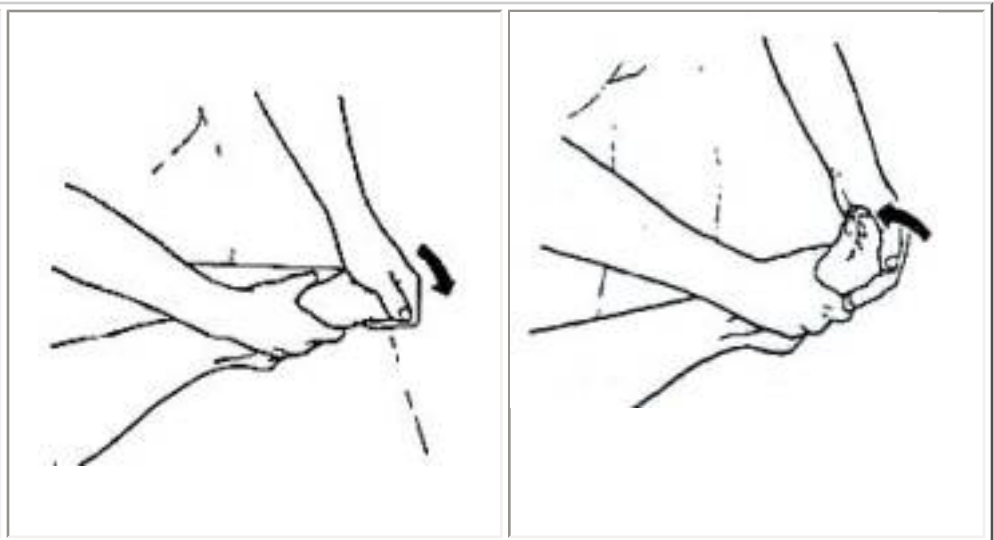
Ankle Rotation

With the knee straight and one hand holding the ankle steady, place the other hand around the foot and turn foot inward, then outward.



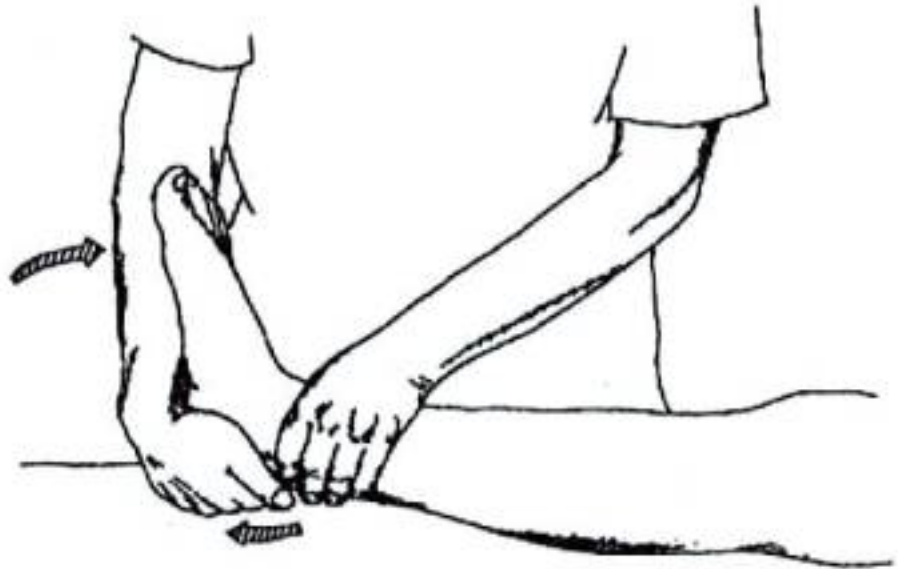
Toe Flexion and Extension

With one hand, stabilize the foot just below the toes. With the other hand, gently move each or all of the toes forward and backward.



Heel-Cord Stretching

Cups or cradle the heel with your hand and place your forearm against the ball of the foot. Push the ball of the foot forward, bending the foot toward the knee and stretching the muscles in the back of the leg.



Cup the heel of the foot into the palm of your hand. Gently push the foot down to “point the toes.” Do this with knee bent, then repeat with knee straight.

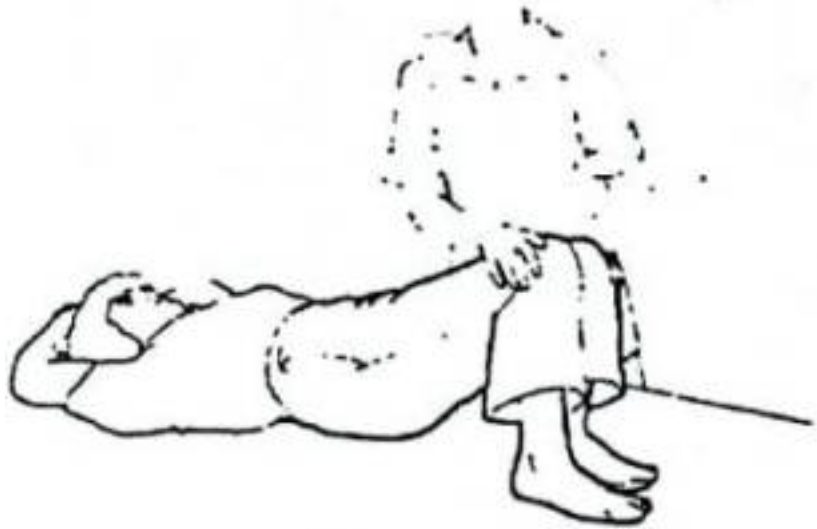


Lumbar Rotation

Bend knees up and keeping them together, lower them to one side as far as they comfortably go. Repeat to the other side.



Lumbar Rotation **(another look)**



Hamstring Stretch

With the knee and heel supported slowly raise the leg up, keeping the knee straight. Return to starting position.



Upper Extremity Passive ROM Exercises

Upper extremity, passive ROM exercises teach someone else how to stretch your arms if you are unable to move your arms by yourself. These exercises should be done slowly and gently, and can be done with the person sitting in a chair or lying down. Do each exercise ten times.

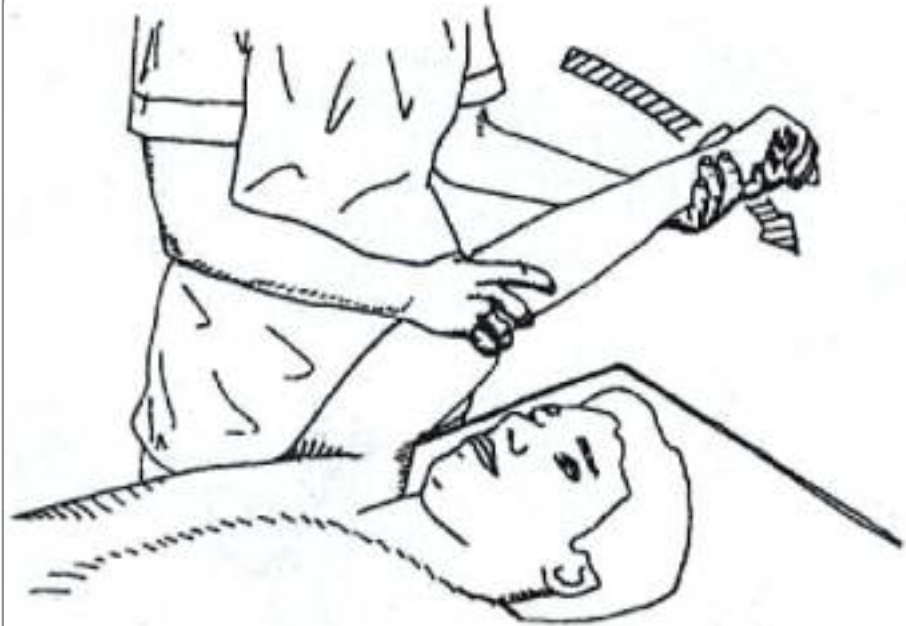
Elbow Flexion and Extension

Hold the upper arm with one hand and forearm with the other hand. Bend the arm at the elbow so that the hand touches the shoulder. Then straighten the arm all the way out.



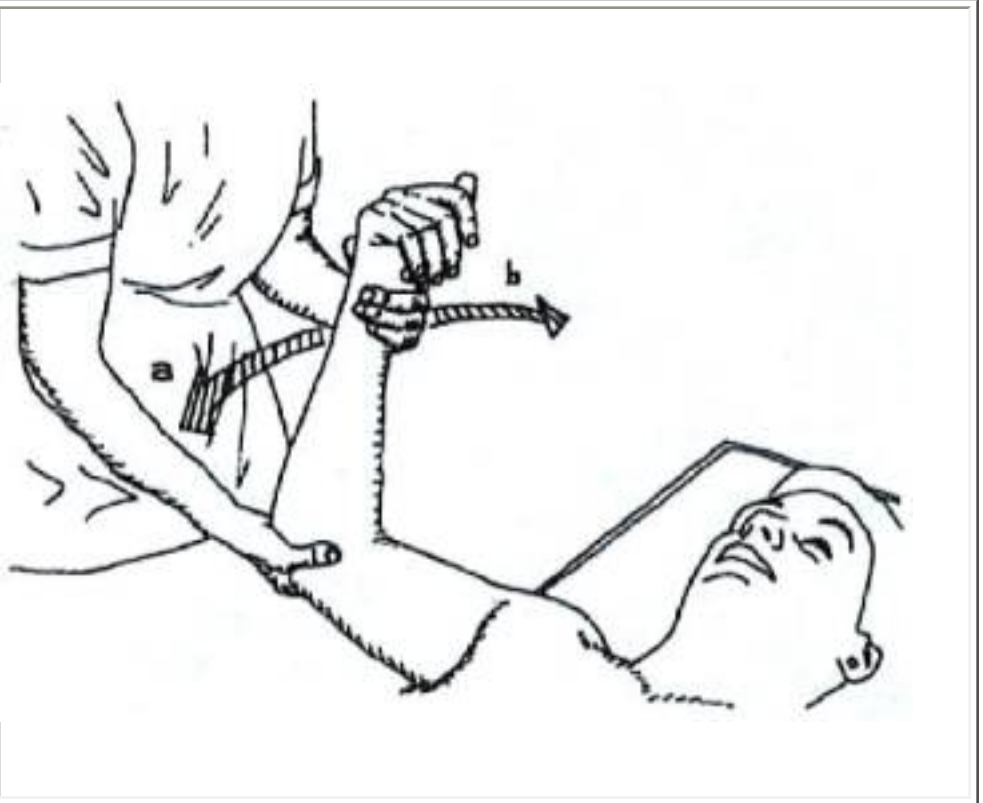
Shoulder Flexion and Extension

Hold the wrist with one hand. With the other hand, grasp the elbow joint to stabilize it. Turn the palm inward, facing the body, and keep the elbow relatively straight. Move the arm from the side of the body over the head.



Shoulder Internal and External Rotation

Place one hand under the elbow. With your other hand, hold the forearm. Bring arm out to the side to shoulder level. Turn arm so that the hand points to the ceiling. Then turn arm back down so that hand points to floor and the upper arm is twisting in the shoulder joint.



Horizontal Shoulder Abduction

Place hands behind or above head. Gently touch elbows to bed and hold as tolerated. Stretch felt in chest.



Pull arm across chest. Stretch is felt in back of arm and shoulder.



Neck Rotation

Turn head slowly to look over left shoulder then turn to look over right shoulder, touching the chin to the shoulder if possible.



Neck Flexion

Tilt head slowly toward left shoulder and then toward the right shoulder, touching the ear to the shoulder if possible.



Finger and Wrist Flexion and Extension

Hold the forearm above the wrist with one hand and grasp the fingers with your other hand. Holding the hand in this way, bend the wrist back, about 90 degrees, while straightening the fingers out. Then bend the wrist the opposite direction,

about 90 degrees, while curling the fingers into a fist.



Thumb Flexion and Extension

Move thumb to little finger. Then bend and straighten the thumb out to the side to stretch the "web space"



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