

Peer Reviewed

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Physical Rehabilitation & Senior Pets

Senior pets are not unlike senior citizens. They need frequent checkups, typically receive multiple medications, and have “senior moments.” Like people, pets tend to lose muscle and balance with age. This age-related muscle and proprioceptive loss can lead to inactivity and weight gain, increased stress on joints from diminished stability of surrounding musculature, and injuries from tripping and falling.

Senior pets can benefit from massage to relieve aches, shorter and more frequent walks for cardiovascular health, and strengthening, stretching, and balance/proprioception exercises to encourage strength and stability.

Three types of exercises may benefit older pets:

- Passive range-of-motion (PROM) exercises
- General exercises for maintaining balance and proprioception
- Targeted exercises aimed at strengthening gluteal and hamstring muscles (the muscles needed to maintain standing)

While the exercises described here are useful for most senior pets, they are not unique and can be used for injured as well as athletic dogs. Many other exercises are also appropriate for seniors. While physical rehabilitation techniques are generally used for dogs, cats can benefit from these exercises as well.

PASSIVE RANGE-OF-MOTION EXERCISES

PROM exercises are used to improve range of motion when exercise is restricted as well as to maintain range of motion in dogs with ample abilities. These exercises also promote healthy joints and proprioception.

PROM = passive range-of-motion

PROM exercises are generally performed with the pet in lateral recumbency. It is important that the limb is maintained in a position parallel to the body wall so that inadvertent torque on the joints is avoided. Care must also be taken not to hyperextend the carpus or tarsus, as this can lead to permanent damage. Each position is held for about 10 seconds.

COOKIE REACH EXERCISES

Cookie reaches are great exercises for keeping older dogs flexible and have the added bonus of challenging balance and stability. Starting from a standing position, the dog must reach for a cookie in various directions without taking any steps. The dog is rewarded with a treat when the desired position is achieved but may also be “baited” while learning the exercise. Each session should include 2 or 3 repetitions.

A patient with poor balance may need some assistance, although this should be kept to a minimum. Stronger dogs may be further challenged by holding the position for 10 to 30 seconds.

CONTINUES

WHAT YOU WILL NEED

- A soft place for the dog to lie down
- A firm, nonslip surface
- A leash
- Cavaletti poles (2 × 2 × 3 or 2 × 4 × 3 feet)
- Elevated surface (eg, chair) about dog’s elbow height
- Small, nutritious treats and/or peanut butter on a spoon

PASSIVE RANGE-OF-MOTION EXERCISES

FORELIMB FLEXION EXERCISE 1



Grasp the dog's forelimb with one hand below the elbow and the other below the carpus. Bring the dog's elbow toward the body to flex the shoulder and follow suit with the distal joints until all are in a flexed position.

SHOULDER & ELBOW EXTENSION EXERCISE 2



Your lower hand may be moved to the shoulder joint if the dog's size allows (but should always remain above the level of the carpus) as your upper hand pushes gently on the dog's elbow to achieve full extension. Ideally the dog's forearm will be at a level between its eyes and nose if the dog's back is straight and the head is at a 90° angle. If you meet resistance, gently massage the triceps and deltoid muscles to facilitate the stretch.

SHOULDER FLEXION, ELBOW EXTENSION EXERCISE 3



Without changing hand position, use the hand just above the carpus to guide the limb back until the toe touches the stifle (with the limb in normal standing position) or until resistance is met. If full stretch cannot be achieved, massage the biceps brachii and muscles around the scapula to facilitate further motion.

SHOULDER ABDUCTION EXERCISE 4



With the dog's shoulder and elbow relaxed, place 1 hand at the medial humerus and the other hand at the lateral shoulder. Gently abduct the elbow to stretch the pectoral muscles.

HINDLIMB FLEXION EXERCISE 5



Grasp the limb with 1 hand below the stifle and the other below the hock. Bring the stifle to the body wall, the hock to the ischium, and then the metatarsals toward the tibia for full flexion.

HIP FLEXION, STIFLE EXTENSION EXERCISE 6



Move your lower hand to the hock (resting fingers at the malleoli) and your upper hand just anterior to the stifle. Move the dog's limb forward slowly until the toes reach the elbow (with the limb in normal standing position) or resistance is met. Massage the hamstring muscles if necessary to facilitate this stretch.

HIP & STIFLE EXTENSION EXERCISE 7



Without changing hand position or the dog's back position, use the hand at the stifle to guide the limb back until slight resistance is met. Massage the quadriceps muscle group if needed to facilitate further motion.

HIP ABDUCTION EXERCISE 8



With the hip and stifle relaxed and 1 arm placed along the medial femur and tibia, gently abduct the stifle to stretch the pectineal muscle. This muscle is frequently tight in dogs with hip problems.

CONTINUES

STEP-BY-STEP PHYSICAL REHABILITATION & SENIOR PETS

BALANCE & PROPRIOCEPTION EXERCISES

COOKIE REACH EXERCISE 9 – SPINAL EXTENSION

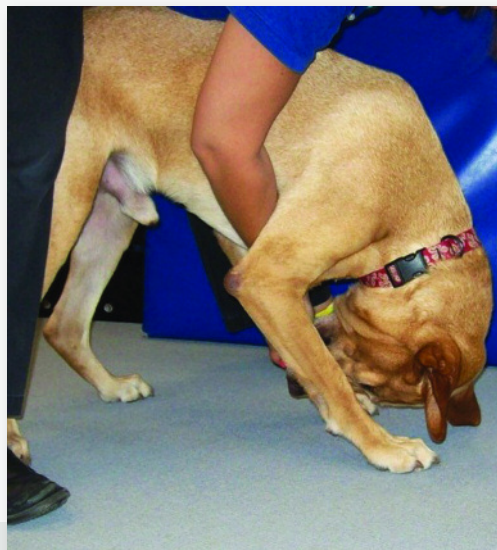


Elevate the dog's front legs to chair height or higher for a medium-sized dog while evaluating for concavity along the thoracolumbar spine. Slowly present a treat to the dog above the nose while asking the dog to look straight up.

AUTHOR INSIGHT

Note that the dog's head is straight up and not cocked or turned. To prevent discomfort, weaker pets or pets with back or neck injuries may need to stay lower with the nose just above eye level.

COOKIE REACH EXERCISE 10 – SPINAL DORSIFLEXION



While the dog is standing on all fours, use another cookie to lure its head to the chest and then between the front feet. You will need to reach your hand quickly behind the dog's front feet. When done correctly, the top of the dog's head should be parallel to the floor and the dog should be flexing its lower thoracic spine.

FOR RELATED...

Rehabilitation tips, see **Forelimb Lameness in the Active Dog** by Dr. Debbie Gross Sanders in the April 2009 issue found at cliniciansbrief.com/journal

COOKIE REACH EXERCISE 11 – LATERAL SPINAL FLEXION



While standing by the dog's side or flank, place a treat near the dog's nose and bring it back to the dog's opposite shoulder. Slowly bring the treat back to the point of the dog's hip (greater trochanter), keeping the cookie in contact with the dog's body to open each vertebral facet. The dog may need to adjust its thoracic limbs as you move the cookie.

AUTHOR INSIGHT

Ideally, your hand should be touching the dog's body from shoulder to hip, but you may initially need to keep the stretch slightly wide for dogs with limited flexibility. If the dog is unsteady, it sometimes helps to use your legs as a wall to prevent it from walking backward.

COOKIE REACH EXERCISE 12 – LATERAL SPINAL FLEXION WITH ROTATION



For dogs that are a bit stronger, modify lateral spinal flexion to the shoulder by making a slight movement dorsally once the shoulder is reached. This adds some cervical and upper thoracic rotation. Also, when reaching back to the hip, lower the treat to the rear toes for thoracolumbar rotation.

CONTINUES

BALANCE & PROPRIOCEPTION *continued*

CAVALETTI POLES EXERCISE 13



This proprioceptive exercise can be modified in many ways. The basic exercise involves walking the dog at a brisk pace over poles on the ground. The dog should place only 1 front and 1 rear foot between each pole. Pole height can vary from 1 to 6 inches, depending on the size of the dog and its ability to lift its feet. Comfortable spacing is usually as far apart as the dog is tall at the withers, but place poles at a shorter distance initially for senior dogs that have a shorter stride. One time through and back constitutes 1 repetition. Start with 2 or 3 repetitions per session.

AUTHOR
INSIGHT

For weak or unsteady dogs, initially remove every other pole.

BACKWARD WALKING EXERCISE 14



Place a treat in front of the dog's nose and then move the treat toward the dog's chest (to maintain a downward focus and prevent the dog from sitting). As the dog steps backward with a back foot, praise and give the treat. Then make the dog take 2 or 3 steps before providing a reward. Work up to having the dog step backward 10 to 15 feet. If needed, use a leash under the dog's belly and tug gently up and back if the dog tends to want to sit. Perform 2 or 3 repetitions per session.

AUTHOR
INSIGHT

To help keep the dog straight or if the dog is trained to heel, this exercise may be performed with the dog standing against a wall. Also, straight tug-of-war may be substituted for this exercise as long as the dog can use its rear limbs independently (except in dogs with back or neck injuries).

TARGETED STRENGTHENING EXERCISE

SIDE STEPPING EXERCISE 15



Side stepping strengthens the gluteal and lateral thigh muscles. Stand facing the dog's side and place 1 hand on the collar and 1 at the opposite hip. Step into the dog until it steps to the side. The dog should move directly laterally with no forward motion. Start with 3 to 5 steps, working up to 10 to 15 steps in each direction. Perform 2 to 3 sets per session.

AUTHOR INSIGHT

Be sure to take even-sized steps with your left and right feet so as not to torque your pelvis while guiding the pet during this exercise. This exercise can be incorporated into walks and other daily routines.

See Aids & Resources, back page, for references & suggested reading.

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