

UNDERWATER TREADMILL

What is it? It's like a regular walking treadmill put inside a fish tank! We walk the dog inside, close and latch the door and then pump water in up to the desired level – usually about elbow or shoulder high. When we start up the treadmill, the dog will naturally start walking. The tank can also be used for swimming small dogs.

Why is it helpful? The water supports the dog's weight, taking stress off his joints. Walking in water is good exercise without damage to injured or healing tissue. The water is also warm. Like a warm bath or a hot tub it relaxes muscles, increases blood flow to muscles and tissues and reduces pain.

What types of cases can benefit? For spinal patients the treadmill can be the difference between walking again or not being able to walk. Carefully placing the feet as the treadmill moves, while the weight of the body is supported by the water, can teach and stimulate dogs to walk. For post-operative orthopedic patients the treadmill provides a way to maintain muscle strength and cardiovascular health while they are unable to walk far on dry ground. Dogs who are able to use a treadmill recover much more quickly after surgery. The treadmill is also great exercise for arthritic pets, especially those that are overweight. Weight loss and conditioning are other uses of the treadmill.

When would you not want to use the underwater treadmill? This type of exercise may not be appropriate for dogs with some types of heart and lung diseases, with infections, open/draining surgical wounds or incisions, or with infectious skin conditions.

How long does it take? Initial sessions may consist of only a few minutes of treadmill walking. It also takes a few minutes at the beginning and end to fill and drain the tank, and to dry the dog off. Massage, range of motion stretching or gentle walking may be done first as warm-up exercises, and a little cool-down walking is helpful afterwards as well for dogs that are ambulatory.

The less physically fit the pet or the more severe the injury or surgery the dog is recovering from the shorter the session will be. Many owners are surprised at how short the sessions can be, but if you've ever tried to walk through thigh-deep water or heavy snow you can understand that it's a lot of work to overcome the resistance of the water. Session length is usually increased by about 10% per week. Fit pets or those using the treadmill for strength and conditioning may walk for 30 minutes or more, but most pets cannot tolerate a very long session at first.

How fast does it go? The speed of the treadmill should be slow enough for the patient to walk calmly and in a coordinated fashion, without becoming anxious or overtired.

How often should it be done? Although daily sessions would be ideal in many cases, most pet owners try for two to three sessions per week. Less than that is of limited benefit. Most dogs need 6 or more sessions to make significant progress, so most clients purchase a six or ten pack of sessions.

My dog is afraid of water. Can he still use the treadmill? Most dogs handle it well. They don't have to actually immerse themselves in water or swim, and the water level rises slowly enough that they generally aren't frightened by it. The first session for an apprehensive dog may be dedicated more toward getting the pet accustomed to the experience than actual rehabilitation. Treats, toys and praise from the owner usually go a long way toward making it a pleasant experience. Some dogs love the treadmill and others just tolerate it. Very few cannot use it at all. Even some cats will learn to use it! If you are concerned about it, purchase one session to start with. If things go well you can then invest in a package of sessions.

THERAPEUTIC ULTRASOUND

What is it? Therapeutic Ultrasound provides sound waves that penetrate into tissue such as muscles or ligaments. Ultrasonic jelly is used to transmit the waves of sound from the ultrasonic head through the skin and below. The head contains a crystal that vibrates, producing the ultrasonic wave. The wave heats the tissue. Warmth relaxes muscles, improves circulation and reduces pain, just as a hot bath does for us. Warmth from a bath or a heating pad only penetrates a cm or so into the body. The ultrasound provides a way to warm tissues several cm under the skin.

Why is it helpful? The most basic of physical therapy tools are heat and cold. Ultrasound provides a way to get heat into tissue. It increases blood flow, which in turn improves tissue nutrition and healing. It stops the cycle of pain leading to muscle tension leading to more pain, by relaxing and soothing tense muscles. Ultrasonic waves cause tissues to vibrate, which gives it a “micromassage” effect, which is useful to tissue healing. Ultrasound has been a mainstay of both human and animal rehabilitation for years because of its documented beneficial effects.

What types of cases can benefit? Its most common uses are for muscle pain and spasms, or tendon and ligament healing. It feels very soothing to the patient.

How long does it take? For useful effect, tissues temperature must be raised for at least five minutes. Most session will be 10-30 minutes depending on the size of the pet or area needing to be treated. If ultrasound is needed it usually will require several sessions, anywhere from daily to twice a week. For acute injuries treatments are generally done three times a week for 1-2 weeks. For chronic conditions sessions tend to be longer, are done 1-2 times per week, and may be continued for several weeks.

What else do I need to know? We will need to shave the hair at the site we are treating, so your pet will have one or more bald spots for a while. Ultrasound can occasionally cause burns if used incorrectly. Care must be taken when using ultrasound over joints or bone plates. It should not be used over areas with tumors, infection or blood clots, or near the heart, eyes or a pregnant uterus. It should also not be used over the growth plates of growing bones.

ELECTRICAL STIMULATION

What is it? Electrical stimulation, or E-stim, uses an electrical pulse to trigger a muscle contraction. It is used to exercise muscles when the pet cannot use a limb or limbs because of surgery, fracture, or nerve or spinal cord damage. E-stim not only helps the muscles to stay strong but it also reduces pain by activating the body's own pain control systems.

Sticky pads are placed onto trigger points for the muscle we want to stimulate. A signal is sent to the electrode in the pad, causing the muscle to contract and then relax again. The sensation is odd but not painful. E-stim can be provided here at Best Friends or with a portable unit that can be used at home or in the patient's cage or run.

What types of case may benefit from E-stim? E-stim is often used for muscle strengthening and to prevent muscle atrophy after injury to a bone or the spinal cord. It accelerates healing after bone fractures and reduces pain from both orthopedic and neurological injuries.

When would we not want to use E-stim? E-stim should not be used on anesthetized areas of skin, over tumors or a site of infection, or if there is acute inflammation present.

How long does it take? Treatments are usually shorter but more frequent for acute conditions, for example five sessions of 5 minutes each done every day for five days. Chronic conditions are usually treated with higher intensity, longer duration, such as 15-20 minutes, and at less frequent intervals. A dog with wobbler's syndrome, wherein the spinal cord is being pinched as it goes through the neck vertebrae, may receive 12-18 sessions lasting 15-20 minutes each at 2-3 times per week.

THERAPEUTIC EXERCISES

What is it? Therapeutic exercises are exercises you teach your dog to do, or that he knows already, that will help strengthen specific muscles, tendons or ligaments. Walking, running and swimming are therapeutic exercises but so, too, are simple maneuvers such as standing up or stretching to grasp a treat or toy.

Just as people often do particular exercises for rehabilitation we have ways to help dogs do this as well. For example, to strengthen a weak back leg we may have the dog sit while leaning up against a wall, so the wall can support his bad side, and then have him stand, and sit, and stand again, for however many repetitions are appropriate. A dog who is not using a back leg well may be asked to take steps while you support his upper body – doggy dancing. A dog who needs shoulder work may be asked to run through a fabric tunnel, where he has to crouch down on his front legs.

Exercise routines vary greatly with the pet and the situation. The program for an overweight, out-of-condition arthritis patient will be very different from that of an athletic dog recovering from an injury. For a spinal patient, simply standing upright may be hard work. Many spinal patients are treated several times daily and stay in the hospital at first before going home with their owners, who can then work with them at home or bring them back for regular treatment and reevaluation.

For owners with their own disabilities or who are unable to do the recommended exercises with their pets we can sometimes arrange for someone to come to your house to assist in the exercise program. Dogs are often more motivated to succeed if their owner is present, however.

How in the world do I get my dog to do this? The same way you would teach any other command – show him what to do and reward with treats and praise. Dogs usually love the extra attention they get for doing these crazy antics. We will work with you to show you how to go about any exercise we recommend.

Types of exercises:

Sit to stand

Doggy dancing, wheel barrowing

Walking over Cavaletti poles

Pole weaving

Tug games

Playing ball

Uphill and downhill walking, straight or at an angle

Stair climbing

RANGE OF MOTION

What is it? Range of motion means moving a joint through its entire range, from all the way flexed to all the way extended. Measuring range of motion helps us to tell how much joint mobility is present. We usually measure each joint with the first rehab evaluation, and then selected joints thereafter as treatment progresses. We also may recommend joint range of motion exercises, moving the dog's joint(s) through that range repeatedly, to maintain flexibility. The inside of the joint actually receives a great deal of its nourishment through motion of the joint fluid. Flexing and extending a joint helps maintain the nutrition and health of the joint tissues. It also relieves pain.

When is it used? Range of motion should be done after any surgery involving a joint. Like stretching, it is also a good thing to do before exercising, to reduce pain and risk of injury. In human rehabilitation, return to full range of motion is one of the milestones you have to reach before being let out of the hospital or rehab facility.

Does it hurt? We try to never cause pets pain during rehab. Pain causes stiffness when we want relaxation. It endangers us, and you, because the pet will try to protect itself from the pain. It also is counterproductive to healing. Range of motion is only done to the point of discomfort, not beyond it.

How do I do it? Lay your pet on its side on a comfortable bed or blanket with the leg you are treating up. Support the limb you are exercising below and above the affected joint, at a natural angle. Gently flex the limb as far as possible and hold it there a few seconds. Then slowly extend the leg all the way out. Repeat this slow flexion and extension 10-15 times.

THERABALLS, PHYSIOROLLS AND BALANCING BOARDS

What are they? These tools are used to help a dog with a spinal injury to regain balance and strengthen the trunk muscles. Stretching may also be a benefit of using a theraball or physioroll. They may also be used to teach a dog to use a limb he has been unwilling to bear weight on, as they encourage weight bearing. Gentle rocking while on the ball or board stimulates the dog to shift its weight and compensate for motion. Many dogs seem to really like it and get very relaxed.

On the theraball or physioroll the pet's weight is supported. On the balance board the dog is standing on its own.

How long does it take? These pieces of equipment are usually only used a few minutes at a time. Pets with spinal injuries can tire very quickly. We may do these exercises multiple times a day with spinal patients, however.

MAKING YOUR HOUSE MORE FRIENDLY

Making some simple changes in your house can make all the difference to a handicapped or injured pet. Just like people, dogs can get depressed by the inability to do things they used to do. Exercise, sunshine and fresh air are beneficial to animals as well, so getting a disabled dog outside and moving around more is a great goal. With most conditions requiring physical therapy or rehabilitation finding ways to keep moving, and avoiding long periods spent sitting or laying down, minimizes muscle atrophy, weight gain, depression and pain.

Ramps: for stairs, furniture or getting into or out of a vehicle

Rugs, rubber mats or dog booties: for traction and prevention of slips and falls

Adjusting the height of food and water bowls: for neck and shoulder injuries or pain

Slings and towels: to support the weight of the pet without injuring the owner's back

Thick dry bedding or padding: to prevent pressure sores and skin problems

Proper lighting: for dogs who cannot see well to navigate

Carts, splints, neck braces and casts: to support weight, decrease pain and enable movement

Pain medication & management: pets who are not painful maintain better mobility and recover more quickly