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Dog Tips

This Could Dramatically Improve Your Injured Dog's Life

It could be ideal for getting a handle on obesity, increasing strength and range of motion, reducing pain from arthritis and hip dysplasia, boosting recovery from injury and surgery, and more. Is your dog a candidate?

Reviewed by Dr. Becker

STORY AT-A-GLANCE

- The popularity of physical therapy for dogs has been steadily growing since its introduction in the U.S. in the 1990s
- The goals of physical rehab for dogs: regain functional ability, optimize movement of all body parts and improve quality of life
- There are many different forms of canine physical therapy, including aquatic therapy, which can be used in a wide range of treatment protocols
- Canine rehabilitation has evolved from primarily post-operative cases to include a wide range of disabling conditions that affect performance and agility dogs, as well as family pets
- Schedule with a canine rehabilitation specialist to determine what your pet needs to help improve their condition

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Canine physical therapy became commonplace in Europe in the 1980s and interest here in the U.S. started to grow in the 1990s. Here's a short list of the benefits of canine physical therapy:

- Increased rate of recovery from injury and surgery
- Increased strength and range of motion
- Improved functional abilities
- Performance enhancement of athletic dogs
- Weight loss assistance
- Pain reduction

The Goal of Rehabilitation

The goal of physical rehab for dogs is three-fold: 1) to regain functional ability, 2) to optimize movement of all body parts and 3) to improve quality of life. If you have a dog that has had surgery, for example, the role of rehabilitation and in particular water therapy can prove invaluable.

Your pet's muscles will begin to atrophy within just a day or two after an injury or surgery. If rehab isn't started as soon as possible, the area of the wound or injury will show increased swelling due to lack of movement.

There can also be loss of muscle control, decreased stability in joints and increased stiffness of tendons and muscles.

Weight-bearing activities that would normally arrest and reverse these conditions often can't be allowed for weeks postoperatively. But your dog can begin physical therapy as soon as his incisions have healed.

Underwater treadmills are an excellent way to make use of your injured pet's natural functional activities like walking, trotting and running. An underwater treadmill takes advantage of your dog's natural gait patterns which helps improve his range of motion after an injury or surgery.

At the same time, the water provides gentle resistance, which helps build and maintain his muscle strength.

Types of Canine Rehabilitation Therapy

- **Manual therapies** include exercise, joint mobilization, therapeutic stretches and massage, and are typically performed by certified rehabilitation practitioners highly skilled in these techniques. Some facilities may also offer chiropractic treatments.
- **Strength, coordination, flexibility and balance therapies** use tools like rocker and wobble boards, physioballs, therapy bands and Cavaletti poles. "Unbalancing" exercises like walking on irregular surfaces help your dog learn where her feet are in space and how to keep from falling over with changes in body position.
- **Aquatic therapy** involves underwater treadmills and swimming. The buoyancy of water takes pressure off your dog's injured or painful joints. Water therapy also improves cardiovascular health, muscle strength and range of motion. Swimming uses natural canine motions to improve mobility.
- **Cryotherapy** is the use of cold packs to reduce pain and inflammation, and decrease both surface and deep tissue bleeding.
- **Heat therapy** uses heat packs or warm, moist towels, to decrease pain and inflammation, and speed healing.
- **Extracorporeal shockwave therapy (ESWT)** is a therapeutic ultrasound device that transmits high-energy sound waves through your dog's skin. This causes soft tissues to vibrate and generate heat, increasing blood flow, oxygen and nutrients to internal injuries and wounds.

  ESWT can break down scar tissue, and reduce swelling, inflammation and muscle spasms. It has been used successfully to improve conditions including fractures, tendon and ligament injuries, hip dysplasia and osteoarthritis.
- **Low-level laser therapy (cold laser therapy)** is used to improve wound healing, reduce post-trauma swelling and facilitate long-lasting pain relief by stimulating the release of your dog's own pain killing chemicals like endorphins.
- **Neuromuscular electrical stimulation (NMES)** is low-volt electrical stimulation of motor nerves to cause muscle contractions. Contraction/relaxation of your dog's muscles can help to improve musculoskeletal and vascular conditions.
- **Acoustic compression therapy** uses sound waves to provide deep-tissue massage in muscles, tendons and joints. It offers increased circulation and pain relief.

- **Transcutaneous electrical nerve stimulation (TENS)** involves a battery-powered device that sends a low electrical current to the body, which disrupts pain perception pathways, helping to relieve pain. TENS is also sometimes used to stimulate acupuncture points.

In addition to offering some or all of the above therapies, many rehab facilities also use thermography to reveal areas of the body with inflammation and, therefore, pain, as well as diagnose orthopedic and other health issues, or to monitor progress during therapy sessions.

Five Conditions for Which Rehab Therapy Is Especially Useful

1. **Post-operative cranial crucial ligament (CCL) rupture surgery —** Problems with the CCL are very common in dogs, especially large breeds.

   When a dog undergoes surgery to repair a CCL rupture, initial therapy typically involves pain management, massage, passive range-of-motion exercises and icing the surgical area.

   As tissues heal, weight-shifting exercises and walking on an underwater treadmill are often recommended. As the dog gains strength and improved mobility, leash walking in hilly areas is a good next step, with progression to jogging or trotting.

2. **Postoperative femoral head and neck ostectomy —** This is a surgical procedure that removes the head and neck from the femur (thigh bone), and is used only as a last resort to alleviate pain.

   It is most often performed to treat aseptic femoral head and neck necrosis, also called Legg-Calvé-Perthes disease, coxofemoral luxation (dislocation of the hip joint resulting in displacement of the head of the femur), femoral head and neck fracture, hip dysplasia or arthritis of the hip.

   Initial therapy, beyond pain management, typically involves massage and passive range-of-motion exercises. Once the surgical incision has healed, an underwater treadmill can be used to encourage weight bearing and return to a normal gait. Once the dog is able to walk using all four legs, additional weight-bearing activities can be added using tools like a balance board or exercise ball.

3. **Spinal cord diseases —** These include intervertebral disk disease, fibrocartilaginous embolism, degenerative myelopathy, spinal trauma and inflammatory central nervous system (CNS) disease. Therapy goals for dogs with spinal cord disease involve pain control, maintaining joint flexibility, preventing muscle atrophy and restoring coordination and proprioception (awareness of body position and movement).

   The types of therapy used depend on the dog's symptoms and their severity, and can include massage, passive range-of-motion exercises, targeted movements using an exercise ball and water therapy. Water therapy is extremely beneficial for dogs with paralysis, as the buoyancy created by water encourages movement. Once a dog can walk independently, additional exercises with tools like Cavaletti rails can improve overall coordination.

4. **Osteoarthritis —** Dogs with arthritis can benefit from a number of different physical therapies. Pain management is important to prevent a vicious cycle of pain, which causes inactivity, which causes muscle atrophy, which causes weight gain, which results in even more pain.

   Gentle water therapy on an underwater treadmill or in a pool can build muscle strength and endurance with

minimum stress to painful joints. When the dog is improved enough, targeted weight-bearing exercises will also help strengthen joints.

5. **Obesity —** There's an epidemic of overweight pets in the U.S., and obesity is one of the most common canine medical disorders. Health problems resulting from obesity include joint and musculoskeletal problems, exercise and heat intolerance and lung and heart disease.

   Exercise is an important component in achieving weight loss, while at the same time building muscle mass and improving a dog's strength and overall condition. Exercise therapy for obesity should be customized for the individual patient.

Is My Dog a Candidate for Physical Therapy?

The need for rehabilitation for canine companions has evolved from primarily post-operative cases to include a wide range of disabling conditions seen in working and performance dogs, agility dogs and family pets. Some of these conditions and the benefits physical rehab can offer include:

- **Muscle injuries —** Speed healing, restore normal function and decrease inflammation
- **Hip dysplasia —** Build supporting muscle mass, increase mobility and comfort
- **Back injuries —** Prevent reinjury and manage pain
- **Amputation —** Help with adaptation, build supporting muscles and manage pain
- **Joint dislocation —** Strengthen supporting muscles and ligaments and prevent reinjury
- **Fractures —** Speed recovery and prevent muscle contracture
- **Tendon injuries —** Increase range of motion and strength, decrease inflammation and scar tissue
- **Neuromuscular disease —** Strengthening, adaptation and pain management

Canine rehabilitation specialists typically work with your veterinarian to customize a program to fit your dog's specific therapy needs. A course of rehabilitation can be as short as two visits or as long as three weekly visits for three months or more.

Formal rehabilitation therapy sessions are typically accompanied by individually designed home care plans that provide valuable specific guidance to pet owners in helping their dog recover mobility and a good quality of life.

There are also mobility devices like slings, harnesses and wheels that can be tremendously helpful for both dogs and their humans. Rehabilitation therapy should be a standard feature of the complete care plan for injured, disabled or otherwise debilitated dogs.

Sources and References

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