Introduction to Rehabilitation—Improving Mobility
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Introduction:
Veterinary rehabilitation is a rapidly growing and exciting field. The recognition of how rehabilitation benefits our patients is becoming more widespread and if we think of this specialty as the science of improving mobility, it can be argued that rehabilitation can benefit most every patient. Pet owners are seeking out this benefit on their own and learning the indications for rehabilitation is a win for the patient, the client and the practitioner.

Goals of Rehabilitation:
The goal of rehabilitation is primarily to decrease pain and restore function to injured or maladapted tissues. These goals are as follows:

1. Decrease pain and restore function
2. Improve Range of motion
3. Improve strength and endurance
4. Conditioning and weight loss
5. Improve and prolong quality of life.

These goals are achieved by collaborating with the clients, the primary care veterinarians, and specialty veterinarians to achieve the best outcome for the patient.

The rehabilitation team:
The rehabilitation team can consist of a combination of veterinarian, veterinary technician and/or physical therapist. The veterinarian is the leader of the team and ideally each member of the rehabilitation team has post-graduate training and certification in veterinary rehabilitation. Each practitioner must check with their state practice acts to determine what type of training and licensing is needed to practice on animals. The training can be pursued at one of the various programs:

1. The Healing Oasis – www.thehealingoasis.edu
2. The Canine Rehabilitation Institute – www.caninerehabinstitute.com

Additionally, both veterinarians and veterinary technicians have a pathway to achieve specialist designations.

Types of rehab patients: All patients can potentially benefit from rehabilitation; the scope and intensity of the treatment will differ dramatically depending on your patient. There is something for everyone!
- puppies,
- seniors,
- athletes
- working dogs
- pre-operative, post-operative and non-operative patients
- neurologic patients
- obese patients

The Rehabilitation Exam:
As with all aspects of veterinary medicine the findings of your physical exam and the resulting diagnosis form the basis for your treatment approach and plan. The rehabilitation exam focuses heavily on the musculoskeletal and neurologic systems. Tools used during the rehabilitation exam can be had for a minimal investment:
1. Goniometer
2. Gulick Tape measurer
3. Reflex Hammer
4. Pen Light

Advanced diagnostics that can be utilized:
1. Stance Analyzer
2. Force plate gait analysis
3. Digital Thermal imaging
4. Musculoskeletal Ultrasound

Primary Therapeutic Modalities
The primary modality of therapy for the rehabilitation practitioner is your brain and hands. Advanced modalities are ALWAYS based on acuity and are employed to PREPARE the patient for the primary plan components of manual therapy and therapeutic exercises, NOT to replace the primary components.
1. Pharmacologic Management
   a. Multimodal management of different pharmacological classes to address pain.
2. Nutrition
   a. Assist with weight loss
   b. Supplements
3. Manual therapy
   a. Massage
   b. Advanced manual techniques
   c. Dry needling techniques for trigger points
4. Therapeutic exercises
a. Tailored exercise program for the patient that allow for strength training, weight shifting and proper return to function.

**Advanced Therapeutic Modalities**

1. Therapeutic Laser
   a. Specific light wavelengths that can work on a cellular level to aid in healing and provide analgesia

2. Thermotherapy
   b. Cold packs, hot packs, cold compression
   c. Benefits of heat – Vasodilation, pain relief, warm up tissues prior to stretching
   d. Benefits of cold – Vasoconstriction, pain relief, anti-inflammatory

3. Electrical Stimulation
   a. TENS – mostly for short term pain relief
   b. NMES – creates a muscle contraction to address muscle atrophy

4. Pulse Electromagnetic Field Therapy
   a. Pain relief modality used mostly as an at-home therapy

5. Therapeutic ultrasound
   a. Use of sound waves to heat deeper tissues to allow for manual therapies

6. Hydrotherapy
   a. Underwater treadmill or a therapy pool

7. Extracorporeal Shockwave Therapy
   a. Use of shockwaves to induce biological responses that produce therapeutic effect in clinical application

8. Regenerative medicine
   a. Platelet Rich Plasma
   b. Stem Cells

9. Assistive devices
   a. Carts
   b. Orthotics and Prosthetics

In summary, learning the art and science of veterinary rehabilitation and sports medicine can be a rewarding and beneficial addition to your practice. Pursuing post-graduate training in rehabilitation or building a relationship with a rehabilitation trained veterinarian in your area can be a major benefit to your patients.¹ ⁶
4. LoGiudice RJ. Starting to Practice Rehabilitation Veterinary Medicine - It’s more than an underwater treadmill. Southwest Veterinary Symposium 2018 2018.