

# ANIMAL REHAB EDUCATION IN NORTH AMERICA

July 27, 2018

**The Animal Rehab Division of the CPA (Canada) - <https://physiotherapy.ca/sub-sub-division-page>**

## **Diploma in CANINE Rehabilitation**

### **Curricula Includes instruction in:**

- Appreciation of key differences between human and canine patients
- Understanding of veterinary anatomical terminology
- Comprehension of anatomy of the forelimb from a functional perspective
- Comprehension of anatomy of the hind limb from a functional perspective
- Comprehension of anatomy of the spine from a functional perspective
- Knowledge of common canine orthopaedic and neurologic conditions and typical veterinary treatments for each
- Ability to describe normal gait patterns in dogs
- Appreciation for canine behaviour as it relates to a therapeutic setting
- Comprehension of and the ability to resource information on occupational health considerations for working with animals
- Comprehension of and ability to resource information on common small animal medications
- Appreciation of legal and political issues pertaining to the practice of animal rehabilitation
- Describe clinically relevant anatomical differences between human and canine patients.
- Identify key neuromusculoskeletal structures: bones, muscles, nerves, ligaments, tendons and cartilages.
- Demonstrate the ability to palpate important musculoskeletal structures on live canine subjects.
- Recognize normal and abnormal gait patterns within and between breed and canine body types.
- Perform a rudimentary neuromusculoskeletal physical examination on a dog (inclusive of extremities and the axial skeleton)
- Specific to common canine pathologies and conditions, identify treatment goals and physiotherapy techniques and/or tools to address the treatment goals
- Joint by joint extremity evaluations & spinal assessments
- Manual therapy (extremities and axial skeleton)
- Deductive reasoning for neurologic lesions
- Neurological rehabilitation & sensory integration
- Modalities update (ultrasound, laser, neuromuscular electrical stimulation, TENS, microcurrent, transcranial electrical stimulation, shockwave, PEMF)
- Therapeutic exercise
- Orthopedic and Neurologic surgery descriptions from a functional perspective
- Canine conformation—Form to function

- Sporting dog considerations
- Marketing and business planning
- Veterinary clinic observation
- Animal husbandry and handling skills
- Animal safety knowledge

### **Diploma in EQUINE Rehabilitation**

#### **Curricula Includes instruction in:**

- Appreciation of key differences between human and equine patients
- Understanding of veterinary anatomical terminology
- Comprehension of anatomy of the forelimb from a functional perspective
- Comprehension of anatomy of the hindlimb from a functional perspective
- Comprehension of anatomy of the spine from a functional perspective
- Knowledge of common equine orthopaedic and neurologic conditions and typical veterinary treatments for each
- Ability to describe normal gait patterns in horses
- Appreciation for equine behaviour as it relates to a therapeutic setting
- Understanding of and ability to resource information on occupational health considerations for working with animals
- Understanding of and ability to resource information on common small animal medications
- Appreciation of legal and political issues pertaining to the practice of animal rehabilitation
- Describe clinically relevant anatomical differences between human and equine patients.
- Identify key neuromusculoskeletal structures: bones, muscles, nerves, ligaments, tendons and cartilages.
- Demonstrate the ability to palpate important musculoskeletal structures on live equine subjects.
- Recognize normal and abnormal gait patterns within and between breed and equine body types.
- Perform a rudimentary neuromusculoskeletal physical examination on a horse (inclusive of the extremities and axial skeleton)
- Specific to common equine pathologies and conditions, identify treatment goals and physiotherapy techniques and/or tools to address the treatment goals.
- Joint by joint extremity evaluations & spinal assessments
- Manual therapy (extremities and axial skeleton)
- Deductive reasoning for neurologic lesions
- Neurological rehabilitation & sensory integration
- Modalities update (ultrasound, laser, neuromuscular electrical stimulation, TENS, microcurrent, transcranial electrical stimulation, shockwave, PEMF)
- Therapeutic exercise
- Orthopedic and Neurologic surgery descriptions
- Equine conformation—Form to function
- Sporting horse considerations
- Marketing and business planning
- Veterinary clinic observation

- Animal husbandry and handling skills
- Animal safety knowledge

## **The Canine Rehab Institute (USA) – [www.caninerehabinstitute.com](http://www.caninerehabinstitute.com)**

### **Curricula Includes instruction in:**

- Comparative (human and canine) anatomy and biomechanics
- Canine neuro/musculoskeletal structures including bones, muscles, nerves, ligaments, tendons and cartilage; also, the origin, insertion, innervation, and action of each
- The fundamental physiology, kinesiology, and biomechanics of joint, muscle and muscle action as they relate to common canine injuries
- Traditional physical therapy terminology and techniques including manual therapy, therapeutic exercise and aquatic therapy; also, physical modalities utilizing LASER, ultrasound, thermal agents and electrotherapy
- Integrative therapies including acupuncture, chiropractic, magnetic therapy and homeopathy
- Diagnosis, treatment planning, and outcome measurement in canine rehabilitation
- Infectious diseases and zoonoses in canine rehabilitation
- The business of canine rehabilitation
- Evaluation of the canine patient
- Spinal and extremity joint kinematics and biomechanics
- Manual therapy
- Therapeutic modalities including LASER, ultrasound and electrotherapy
- Therapeutic exercises for strength, weight-bearing, range of motion, stretching and proprioception
- Setting goals, developing treatment plans, and measuring outcomes
- Legal and ethical issues
- Canine sporting events: the organizations that oversee them and the breeds that participate
- Anatomical structures and locomotion as they relate to canine performance
- Gait assessment and retraining
- Lameness evaluation
- Canine sports injuries: causes, prevention and targeted rehabilitation
- Conditioning for the canine athlete
- Erogenic drugs (ethical and unethical)
- Nutrition and supplements for the canine athlete
- Canine sports psychology and how it can affect rehabilitation

## **The Animal Rehab Institute (equine program) (USA):**

<http://animalrehabinstitute.com/>

### **Curricula contains instruction in:**

- Anatomy, Biomechanics, Form & Function
- Palpation and Assessment of Equine Musculoskeletal system
- Core Concept of Physiology, Neurology, and Normal vs. Abnormal Gait
- Introduction to Equine Physical Rehabilitation – Principals and Theory
- Range of Motion Assessment

- Soft Tissue Assessment
- Introduction to Therapeutic Exercise
- Common Injuries, Prevention and Treatment Options
- Introduction to Retraining Proprioception and Neuromotor Control
- Therapeutic Modalities
  - Ice/heat, compression garments
  - Magnetic / Electromagnetic
  - Laser/LED
  - Therapeutic Ultrasound
  - Electro Therapy (ESTIM, FES, NMES, TENS)
- Objective Outcomes and Measures
- Rehabilitation Team Communication
- Starting an Equine Rehabilitation Business
- Advanced Gait Analysis & Lameness Evaluation
- Latest Orthopedic Veterinary Medicine Techniques
- Basic Neuromuscular Physiology/Anatomy
- Common Equine Neurologic Conditions
- Common Equine Muscle Disorders (myopathies)
- Neurologic Examination/Practical
- Using Video for Gait Assessment
- Current Research in Equine Rehabilitation
- Structure, Function & Kinesiology
- Conditioning of the Elite Equine Athlete
- Strength Training
- Demonstrate the ability to perform a static and dynamic functional assessment of the equine patient from a functional sports specific biomechanics perspective; conformation, posture and locomotion evaluation with and without the rider.
- Describe and demonstrate the safe utilization of various forms of electro-modalities: Transcutaneous Electrical Nerve Stimulation (TENS) and neurotrophic muscle stimulation (Estim) in the assessment and treatment of the equine. Incorporation of electro-modalities including LASER, Low Frequency Ultrasound and various forms of Magnetic Field Therapies (Q-Magnets).
- Evaluation of spinal and peripheral joint range of motion and functional mobility, dynamic stability and postural control.
- Manual Therapies: Demonstration-discussion or evaluation and treatment technique of the peripheral joint complexes of the throacic and pelvic limbs. Functional Provocation Testing.
  - Intervertebral-segmental and coupled motion passive and active assessment (mobilization with movement); palpation, ROM, joint end feel, quality of motion, accessory glides, and provocation tests.
- Evaluation of the cranio-cervical region including TMJ and hyoid complexes; thoracolumbar including the costovertebral/costotransverse and sternal joint complexes; and the lumbopelvic region including the sacroiliac complex and caudal vertebrae.
- Myofascial assessment-treatment; palpation, tissue irritability, ligament integrity testing, neuromechanical flexibility, sensitivity, positional tests-releases and dynamic stability-stretching of individual myofascial complexes (musculotendinous)groups.
- Evaluation of the neuromuscular system: adverse neural tension (nerve length tension tests), neuromechanical sensitivity.

- “Basic” Functional neuromechanical and gross motor assessment of the cervicothoracic, thoracolumbar and pelvic complexes.
- Evaluation of the peripheral circulatory system including the lymphatic system; detection of inflammation, edema, haematoma’s and effusions etc.
- Demonstrate clinical reasoning skills, utilizing knowledge of anatomy, biomechanics and pathophysiology. Incorporation of the “Team” approach: Veterinary, Physiotherapist, Farrier, Saddle-fitter, instruction-trainer, grooms, rider/owner.
- Demonstrate the ability to develop problem solving skills; a hierarchical problem list, functional prognosis, treatment strategies and goal setting, short and long term treatment – management plan.
- Describe and demonstrate basic spinal and peripheral joint manual therapy (mobilization) techniques, using applied principles and theories from; Physiotherapy (Maitland, Mulligan, McKenzie, Muscle Energy, Chiropractic/ Physiotherapy adjustments and osteopathic techniques).
- Demonstrate myofascial and neuromechanical mobilization and manipulation techniques applied from Physiotherapy and osteopathy principles.
- Describe fundamental neurological deficiency evaluation and rehabilitation.
- Create a sport specific therapeutic exercise programs for:
  - Static Dynamic Stability: coordinated motor control-function
  - Functional Sport Specific Dynamic Stability: coordinated sensory-motor control function
  - Dynamic flexibility; myofascial and joint systems
  - Proprioceptive/Neuromotor Control and Facilitation Techniques (sensory integration); tactile, proprioceptive and mechanoreceptive activity, including assessment and treatment strategies (Balancing-postural dynamic stability devices, taping, tactile stimulation devices including the Equiband System.
  - Strength; coordinated motor function
- Describe and demonstrate comprehensive assessment routines for both the neurological and orthopedic equine patient.
- Describe and implement a neurological treatment plan utilizing sensory integration, neural-dural mobilization, proprioceptive functional retraining and other modified and adapted ‘human’ neurological rehabilitation techniques.
- Clinical Reasoning Strategies: Ability to identify and formulate *functional* differential “diagnostic” assessment-treatment-management plan (sport specific) in conjunction with the patho-anatomical diagnostics (referring Veterinarian) prognostic and treatment goals. Demonstrate theory and execute various treatment skills for a wide variety of common neuromusculoskeletal problems in the equine patient.
- Identify and utilize functional and objective assessment-outcome measures.

## **The University of Tennessee / Northeast Seminars (canine program) (USA):**

<https://www.utvetce.com/ccrp-details>

### **Curricula contains instruction in:**

- Responses of Musculoskeletal Tissues to Disuse & Remobilization
- Canine Osteology, Arthrology, Myology and Neuroanatomy
- Common Neurologic Conditions
- Common Ailments in the Hind limb & Forelimb

- Canine Behavior & Handling
- Canine Examination – Orthopaedic & Neurologic
- The Team Approach / Getting Started
- Physical modalities such as superficial heating and cooling agents, therapeutic ultrasound, extracorporeal shockwave treatment, laser therapy, and electrical stimulation
- Exercise prescription, exercise physiology, conditioning, risk assessment & outcome assessment for therapeutic exercise
- Joint biomechanics & joint and soft tissue manual therapies
- Outcome measures
- Therapeutic adjunctives / advancement – i.e. Stem cell & PRP
- Aquatic therapy
- Ambulation assistive devices
- Designing and implementing a comprehensive rehabilitation program (Orthopaedic & Neurologic)
- Documentation; standardization of forms and communication between the veterinary and physical therapy professions
- ELECTIVES
  - Canine Sports Medicine
  - Companion Animal Pain Management
  - The Head to Tail Series-The Business of Canine Rehabilitation
  - The Head to Tail Series-Canine Common Conditions
  - Osteoarthritis Management
  - Manual Therapy I & II (I-Online and II-Live Lab: See Schedule for dates & locations of live course offerings)

### **The University of Tennessee / Northeast Seminars (equine program) (USA):**

<https://www.utvetce.com/equine-rehab-cerp>

- Equine anatomy: Basic anatomical differences between the human and the horse
- Basic equine conformation, gait of the horse, and recognition of lameness
- Equine conditions pertaining to tendons and ligaments, equine bones and joints, and the equine nervous system, muscles, skin and hooves that are amenable to physical therapy.
- Response to injury and healing of neuromusculoskeletal tissues, skin, and neural tissues.
- Equine examination: orthopaedic and neurologic & a ‘team approach’
- Medical or surgical therapy for conditions of equine tendons and ligaments
- Determining conditions are appropriate for physical therapy
- Design and implement a comprehensive rehabilitation program for commonly seen musculoskeletal, integumentary and neurologic conditions in the horse.
- Prescribe and provide rehabilitation programs for the equine patient.
- Training in and selection of physical agent modalities used in equine physical rehabilitation: superficial heating and cooling agents (including cold saltwater hydrotherapy), manual therapies, electrical therapies (for example: electrical stimulation, therapeutic laser), mechanical therapies (for example: therapeutic ultrasound, shock wave therapy, total body vibration)
- Objective outcome measures
- Regulatory issues surrounding the practice of animal rehabilitation
- Design and implement a comprehensive rehabilitation program for commonly occurring musculoskeletal, integumentary and neurologic conditions in the horse

- Correlate the rehabilitation program with the physiologic processes that the patient is undergoing during its rehabilitation
- Time frames for treatment including when to begin treatment, frequency of treatment, and duration of treatment
- Methods of referral and communication between the referring veterinarian and the rehabilitation provider

## **Healing Oasis (Canine & Equine) (USA):**

<https://healingoasis.edu/veterinary-massage-rehabilitation-therapy-program/>  
<https://healingoasis.edu/wp-content/uploads/VMRT-Catalog.pdf>

### **Curricula contains instruction in:**

**Anatomy:** Review the names, location and function of each bone and muscle in the non-human animal body TOTAL: 31HRS

**Neurology:** An essential part of massage is to understand and maintain a functional nervous system. This class will emphasize FUNCTIONAL NEUROLOGY as it applies to VMRT (which will include central and peripheral nervous system).

TOTAL: 12HRS

**Physiology of Inflammation:** This class will help the students understand the importance of the inflammatory process and how, even though it is a natural reaction of the body, can cause damage to the affected areas. TOTAL: 3 HRS

**Rehabilitation Therapy and Massage Hands On:** This class will be the core of the massage and rehabilitation training program. Students will learn the movements, techniques and treatment protocols for relaxation, therapeutic massage and therapeutic rehabilitation techniques (including exercise, electrical stimulation and ultrasound) used in both small and large animals. TOTAL: 60 HRS

**Reiki:** A Japanese technique that focuses the practitioner's energy to balance the patient's energy. Rather than manipulation of the body, it involves specific techniques in the laying of hands TOTAL: 2 HRS

**Shiatsu:** A Japanese technique that is also known as acupressure. This technique utilizes the finger tips to stimulate specific acupuncture points to alleviate neuromuscular problems TOTAL: 2 HRS

**TCM basics:** The basic of traditional Chinese medicine, Tao, Taoism, Yin and Yang, triple warmer and some herbs will be discussed. TOTAL: 2HRS

**Nutrition:** Nutrition plays an essential part in not only the healing but the functional mechanisms of the body. Various nutritional supplements and diets, their pro's and con's and how they work will be discussed in detail. TOTAL: 2HRS

Myology: This class will address all the changes that occur not only at the cellular level during normal function, but will address pathological changes that the practitioner must always keep in mind. TOTAL: 3HRS

Biomechanics: This class will explain all the biomechanical changes that occur when the body performs not only normal functions, but while under stress, or as compensatory changes after a massage. TOTAL: 5HRS

Ethics and Legalities: This class will prepare the students to deal with the every-day legal issues that are faced in conventional or integrative / complementary practice and record maintenance. TOTAL: 3HRS

Tui Na: This ancient Chinese form of massage which utilizes not only hands on but energy work will be studied as it applies to animals. TOTAL: 2HRS

Alternative / Complementary Therapy Modalities: Basic introductory lectures will be given, so that the practitioner will have the basic understanding of the what, when, where and how of some of these health care modalities. TOTAL: 2HRS

Animal Handling: Basic animal handling (restraint) techniques will be reviewed to maximize the safety of both patient and practitioner so that effective massage techniques can be performed TOTAL: 3HRS

Case Management: Ideas and standard operating procedures (through case presentations) will be given, so that case intake will become second nature and proper therapeutic protocols and a realistic prognosis can be achieved and communicated to the owners of our patients. TOTAL: 10HRS