

DAY 1 SKILLS FOR THE VETERINARY PHYSIOTHERAPIST

PROFESSIONAL SKILLS

Practice management

1. Practitioners need to show ability to manage and implement the following appropriately:
 - a. Financial management
 - b. Marketing
 - c. Operation management
 - d. Strategic planning
 - e. Financial planning
 - f. Leadership assessment and development
 - g. Negotiation skills
 - h. Career opportunities and diversity
 - i. Group skills and cultural diversity
 - j. Veterinary Law and Ethics
 - k. Human animal bond
 - l. Stress management
 - m. Conflict management

Communication

1. Communicate effectively with people verbally:
 - a. Owners
 - b. Animal health team colleagues
 - c. Inter-professional colleagues
 - d. General public
2. Communicate in written reports to:
 - a. Owners
 - b. Animal health team colleagues
 - c. Inter-professional colleagues
 - d. General public
3. Prepare and maintain clear and accurate records for different purposes:
 - a. Patient records and reports
 - b. Referral letters
 - c. Insurance reports (only if required from the referring veterinarian)
 - d. Academic and scientific articles
 - e. Accounts
4. Adapt language forms and styles to the audience and the context
5. Actively listen to people, taking account of non-verbal cues-this is a learned skill that is generally not assessed at university level.
6. Take account of any communication differences that people might have:
 - a. Disabilities
 - b. Sensory Impairment
 - c. English as a second language
 - d. Different Cultures
 - e. Different Religions

7. Convey appropriate sympathy and empathy in verbal and non-verbal communications with people
8. Contribute to the facilitation of clearer communication between people
9. Have an understanding on how to handle conflict situations through negotiation
10. Communicate Health and Safety risks to people, verbally and by displaying notices
11. Record, store and retrieve information using appropriate information technology systems
12. Provide information in a manner and at a pace that enables clients to make informed decisions
13. Obtain written and verbal informed consent

Legal, Ethical and Moral Practice

- a. Comply with the legal requirements of practicing as a Veterinary Physiotherapy Practitioner in terms of the various acts and laws that govern animal use and practise:
 - Veterinary and para-veterinary professions Act
 - Animal protection Act
 - Animal diseases Act
 - Animal performance Act
 - Animal welfare Act
 - Medicine control Act
 - Occupational, health and safety Act
- b. Conduct that is professional both in communication and appearance
- c. Maintain high standards and act ethically and according to acceptable moral guidelines at all times
- d. Ensure that your conduct is aligned with professional, moral and ethically accepted standards
- e. Inform people where necessary, that action is outside your legitimate competency boundaries
- f. Recognise and work within personal limitations
 - Seek advice, assistance and support when necessary
 - Have an understanding for balancing personal and professional life
 - Understand and use time management principles
 - Understand the personal and emotional factors on your professional practice
 - Recognise and work within economic limitations/restraints

Continued Professional Development

1. Demonstrate a commitment to maintaining your professional competence in response to the developing scientific field and professional demands.
 - a. Have the basic understanding of self-audit activities using peers and other people
 - b. Be able to identify your limitations in competence and take appropriate action to remedy such incompetence, maintain and update knowledge and skills
 - c. Gather and maintain evidence of professional development as part of lifelong independent learning
 - d. Record continued professional development.

- e. Share knowledge willingly with colleagues to enhance the growth of the profession

Professional Practice

1. Management of Veterinary Environment
 - a. Be familiar with and work within Health and Safety requirements and local risk factors
 - b. Contribute to maintenance of workplace hygiene
2. Undertake appropriate infection-control procedures
3. Have an understanding of occupational safety to the extent given by health and safety requirements of Department of Labour
4. Understand how to deal with and work with people's disabilities and special requirements
5. Use and maintain protective clothing and equipment
6. Utilise knowledge of Zoonoses
7. Be aware of own Body Mechanics and know how to work ergonomically
8. Work collaboratively with others to promote a problem-solving approach to issues within the veterinary environment. Including the ability to:
 - Recognize their own shortcomings, limitations and appropriately refer patients
 - Ensure relevant information is available to colleagues unless specifically prohibited to do so by the patient's owner
 - Maintain client/patient confidentiality
 - Report back to referring veterinarian and other colleagues

Evaluation of Animals and their Care

1. Handling and restraint
 - a. Assess animal behaviour and environmental factors when approaching and handling animals
 - b. Ensure appropriate hygiene procedures are followed before and after handling animal(s)
 - c. Restrain, move and lift animal(s) using approved manual handling and lifting techniques
 - d. Select and wear protective clothing to protect oneself and others from injury
 - e. Restrain animals for a range of situations balancing safety of self and others with the welfare of animal(s)
 - f. Educate assistants in the techniques for safe handling and restraint of animals
 - g. Lead and move animals - using the appropriate equipment
 - h. Safely use a range of restraining devices such as muzzles, halters, gloves, etc
 - i. Take account of species and environmental factors when handling neonates

Gathering Information

1. Determine referring veterinarian and reason for consultation
2. Determine reason/s for the consultation
3. Establish rapport with client and animal taking account of the particular communication needs
4. Structure the consultation into a logical sequence
5. Gather relevant information on animals
6. Gather relevant information on husbandry practices
7. Use appropriate questions and focus on history-taking and obtain full and accurate information
8. Use a range of sources of information to obtain a full and accurate case history
9. Summarise the consultation ensuring that the client understands the conclusions you have reached and the next action to be taken
10. Summarise and record relevant case details and history for storage and retrieval by others
11. Demonstrate and apply skills that enable the Practitioner to proficiently undertake the functions expected including:
 - a. literacy and numeracy,
 - b. relevant computer skills and utilisation of modern information technology,
 - c. critical and analytical thought,
 - d. clinical reasoning,
 - e. problem-solving,
 - f. finding, utilising and managing information,
 - g. well-developed observational skills,
 - h. adaptation to change, and
 - i. making valid judgments and deductions on the basis of available evidence and information.

ANATOMY

Basic anatomy knowledge

1. Students must have a basic knowledge of anatomy but are not expected to have an expanded or in-depth knowledge of all systems (e.g. gastrointestinal, urogenital and respiratory systems)

Advanced anatomy knowledge

2. Students are expected to have an advanced and working knowledge of the systems directly involved in their core curriculum.
 1. Osteology (advanced knowledge)
 - identify each bone in the skeletal system
 - identify the different sections of a long bone
 - describe every bony prominence, fossa, foramina and other bony landmarks
 - recognise the difference between a mature and immature bone
 - identify and indicate by palpation every palpable bony prominence in the live animal

2. Myology (advanced knowledge)
 - know and identify every muscle in the body (except all muscles of the head and reproductive system)
 - origin, implantation and nerve supply of every muscle in the body
 - classify the function/effect of every muscle
 - identify every muscle on a dissection, indicate it on a skeleton and identify its location on a live animal
 - all synovial structures and their significance
 - muscle types in the body
3. Gastrointestinal system
 - basic knowledge of the anatomy and able to identify the different organs
4. Respiratory system
 - basic knowledge and able to identify the relevant organs
5. Cardiovascular and respiratory systems
 - basic knowledge of the anatomy of the heart, major arteries and veins and lymphatic system
6. Urinary system
 - basic knowledge of the anatomy and able to identify the different organs
7. Neurology
 - basic knowledge of anatomy of the central nervous system
 - advanced knowledge of the peripheral nervous system
 - basic knowledge of the autonomic nervous systems
8. Integument
 - basic knowledge of the anatomy of the integument of mammals and hoof of the horse

CONFORMATION

Advanced knowledge of general conformation of canine and equine, including hoof conformation in the horse

1. Advanced knowledge and be able to extrapolate/project the effect of less than ideal conformation and the pathologic impact on the musculoskeletal system

HOOF IMBALANCES AND FARRIERY

1. Recognise/identify major imbalances in the hoof and know how they can affect the biomechanics of the upper limb and body
2. Refer the owner for appropriate care to a veterinarian and/or farrier

BASIC AND PERFORMANCE NUTRITION

1. Basic/working knowledge of the composition of rations
2. Classify body condition scoring
3. Recognise major nutritional disturbances and how they may affect the performance of the animal
4. Recognise limitations and refer owners to a nutritionist

DENTISTRY

1. Basic knowledge of the intra-oral cavity and dental composition
2. Recognise major dental pathologies and how it may affect the performance of the animal
3. Refer owners to veterinary dentists, veterinarians or qualified dental technicians

TACK

Practitioners must have a thorough theoretical and practical knowledge of all tack used in all disciplines of patients

1. Practitioners must recognise the importance of correctly fitted tack and the consequences of ill-fitting tack
2. Practitioners should refer clients to the appropriate team member to rectify the ill-fitting tack

EMERGENCY CARE

1. Basic knowledge of life-threatening situations, such as arterial bleeding, and be able to perform a life-saving procedure
2. Ophthalmic emergencies
3. Respiratory emergencies
4. Colic in horses
5. Gastric volvulus dogs
6. Wounds that threaten the long-term function e.g. wounds in the vicinity of synovial structures
7. Application of a compressive bandage in case of an emergency
8. Know limitations and refer owners to the attending veterinarian
9. Know and be able to perform basic CPR on any patient

VETERINARY TERMINOLOGY

Familiar with all relevant veterinary terminology

EQUINE PATHOLOGICAL CONDITIONS

Basic knowledge of equine pathological conditions relevant to the veterinary physiotherapy plan

CANINE/FELINE PATHOLOGICAL CONDITIONS

Basic knowledge of canine/feline pathological conditions relevant to the Veterinary Physiotherapy plan

EQUINE SURGICAL CONDITIONS

Basic knowledge of equine surgical conditions that can benefit by post-operative physical rehabilitation in consultation or referral by the surgeon

CANINE/FELINE SURGICAL CONDITIONS

Basic knowledge of canine/feline surgical conditions that can benefit by post-operative physical rehabilitation in consultation or referral by the surgeon

IMAGING

1. Basic knowledge of the different imaging techniques, their advantages and limitations
 - Radiology
 - Ultrasound
 - MRI
 - CT
 - Scintigraphy
 - Thermography
2. Be familiar with imaging terminology and reports

ANIMAL PHYSIOLOGY

1. Basics of the structure and function of a typical animal cell
2. Basic knowledge of chemical messengers and intercellular communication
3. Basics of the major body fluid compartments in terms of chemical composition and homeostasis
4. Basics of endocrine physiology
5. Advanced knowledge of the function and structure of the central nervous system
6. Advanced knowledge of neurophysiology
7. Advanced knowledge of the physiology of bone and joints
8. Advanced knowledge of the structure of muscle
9. Advanced knowledge of muscle physiology
10. Advanced knowledge of the stages of healing of the neuro musculoskeletal system
11. Knowledge of the cardiovascular and respiratory systems as it relates to Veterinary Physiotherapy
12. Basic knowledge of the blood components and blood forming organs
13. Basics of the cardiovascular and lymphatic systems
14. Basics of the respiratory system relevant to exercise physiology
15. Basics of the gastro-intestinal system relevant to nutrition
16. Basics of the urinary system
17. Basics of thermoregulation

Specific Veterinary Physiotherapy Examinations

1. Subjective assessment

- a. Practitioners must be able to conduct a subjective evaluation in an appropriate and professional manner
- b. The information gained should include:
 - i) Attending members of veterinary team
 - ii) Age, breed, sex, body score, weight, discipline, food, supplements

- iii) Living environment
 - iv) Previous medical condition
 - v) Current medical condition (including mechanics of injury, stages of healing, medication prescribed by veterinarian, diagnostics done by veterinarian, current behaviour of symptoms, behaviour changes in patient)
- c. Practitioners must be able to use their clinical reasoning skills to plan an appropriate and safe objective assessment from the knowledge gained from the subjective evaluation.

2. Objective assessment

- a. Practitioners must be able to conduct an objective evaluation safely. They must be able to adjust the evaluation according to their findings and omit inappropriate tests and recognise red flags to re-refer back to the attending veterinarian.
- b. **RED FLAGS** - Red flags are warning signs that suggest that veterinarian referral may be warranted. It is a term describing the ability to identify dangerous or potentially dangerous findings in the history or examination. Practitioners should be aware of these warning signs and know where to send the patients next. Some of the warning signs can be, but is not limited to:
 - i) Unexplained bodyweight loss
 - ii) Loss of appetite or in-appetance
 - iii) Lethargic
 - iv) Signs of illness such as vomiting, increased temperature
 - v) Previous history of tumours
 - vi) Acute, severe pain and swelling
 - vii) Dysfunction of bladder and bowel
 - viii) Undiagnosed neurological signs
 - ix) Suspected zoonoses
- c. **Conformation**
 - i) Be able to recognise and discuss conformational traits in companion animals in depth
 - ii) Recognise and discuss potential dysfunction that can arise from specific conformational traits
 - iii) Recognise and discuss companion animal conformation that will enhance performance in sport specific activities
 - iv) Recognise which conformational faults can be addressed by veterinary physiotherapy intervention
- d. **Gait assessment**
 - i) Practitioners must be able to perform a gait assessment for companion animals including:
 - (1) Walking, trotting in straight lines
 - (2) Walking, trotting in circles
 - (3) Using different terrain/surfaces
 - (4) Special tests – ridden evaluation, rein back, lunging, long lining, slopes, coordination specific exercises, sport specific gait

- ii) During this evaluation Practitioners must be able to recognise and identify
 - (1) Specific limb lameness
 - (2) Grade the lameness
 - (3) Altered gait patterns
 - (4) Gait dysfunction patterns
 - (5) Axial skeleton altered patterns
 - (6) Practitioners **MUST** recognise their limitations in dealing with an obvious lameness and refer the client to other members of the animal health team.
- iii) After the gait assessment the Practitioner should be able to clinically reason and decide on potential areas and structures that could be affected.

e. Joint assessment

- (1) Please also refer to Manual Therapy
 - (2) Practitioners should be able to evaluate each joint for (including the axial Skeleton)
 - (a) Pain
 - (b) Reduced range of motion
 - (c) Quality of movement
 - (d) Swelling/Heat/Thickening
 - (e) End of Range feeling
 - (3) Practitioners will evaluate the joints by using
 - (a) Passive physiological joint movements
 - (b) Passive accessory joint movements
 - (c) Active and active assisted joint movement
 - (4) Practitioners should be able to conduct joint specific tests (including, but not limited to the following:
 - (a) Cranial drawer test
 - (b) Ortolani test
 - (c) Barlow and Barden test
 - (d) MSI test
 - (5) After the assessment Practitioners should be able to clinically explain his/her findings.
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- ii) **Axial skeleton assessment**
 - (1) Practitioner should be able to evaluate the axial skeleton Including the
 - (a) Temporomandibular joint
 - (b) Cervical, Thoracic, Lumbar, Sacrum and Caudal vertebrae
 - (c) Costovertebral joint
 - (d) Costosternal joint
 - (e) Sacroiliac joint
 - (2) Evaluation techniques will include
 - (a) Functional activities
 - (b) Active and active assisted movements
 - (c) Passive physiological movements (where applicable)
 - (d) Passive accessory movements

- (3) Practitioners should be able to evaluate each joint for: (including the axial Skeleton)
 - (a) Pain
 - (b) Reduced range of motion
 - (c) Quality of movement
 - (d) Swelling/Heat/Thickening
 - (e) End of Range feeling
- f. **Soft tissue assessment**
 - i) Practitioners should be able to evaluate soft tissue for:
 - (1) Temperature
 - (2) Soft tissue irritability
 - (3) Muscle spasm/hypertonicity/hypotonicity
 - (4) Bony anomalies
 - (5) Soft tissue thickening/tightness/swelling
 - (6) Pain responses
- g. **Neural tissue assessment**
 - i) Practitioners should be able to recognise neurological symptoms and adapt their evaluation which should include (specific to canine/feline and equine as appropriate):
 - (1) Functional test
 - (2) Co-ordination tests
 - (3) Knuckling test
 - (4) Paper- slide test
 - (5) Tail pull test
 - (6) Placing reactions
 - (7) Hopping test
 - ii) Practitioners should be able to conduct and interpret the following neural tissue assessments
 - (1) Spinal reflexes and lower motor reflexes for canine patients
 - (2) Panniculus reflex
 - (3) Perineal reflex
 - (4) Cross extensor reflex & Schiff-Sherrington reflex
 - iii) Practitioner should be able to differentiate between ataxia and weakness
 - iv) Practitioners should recognise atrophy and specific neural outfall
 - v) Practitioners should be able to determine level of neurological impairment (peripheral nerve, spinal cord, brain, upper motor neuron lesion, lower motor neuron lesion)
 - vi) Practitioners should re-refer patient to veterinarian for definitive diagnosis
- h. **Functional assessment**
 - i) Practitioners should include tests to determine patient's ability to do certain functions
 - ii) Practitioners should recognise
 - (1) altered recruitment patterns
 - (2) altered motor control patterns
 - (3) adaptive pattern
 - (4) specific lacking elements of movement which should be re-educated

i. Sport specific assessment

- i) Practitioners should be able to assess each patient within their specific discipline. They should be able to recognise all of the above within each sport specific case.

Reaching functional physical rehabilitation conclusion and formulating Treatment Plan

1. Have a clear, logical and appropriate therapeutic approach to the common clinical signs that occur in Veterinary Physiotherapy Practice
2. Formulate a rational approach to a treatment program taking into account owner preferences and any financial constraints
3. Formulate a treatment plan that takes account of the inter-relationship of animal specific, financial and any other significant factors
4. Report back to referring veterinarian and get appropriate approval if required
5. Make appropriate referrals supported by evidence

Veterinary Physiotherapy Treatments

1. Specific soft tissue mobilisations

- a. Practitioners should be able to demonstrate and apply all soft tissue techniques (massage, myofascial release techniques) to companion animal patients
- b. Practitioners should have a sound knowledge of indications, contra-indications and precautions
- c. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference
- d. Practitioners should be able to discuss the effects of each soft tissue technique including the physiological effects
- e. Practitioners should be able to implement these techniques safely into a rehabilitation and maintenance program.

2. Stretching

- a. Practitioners should be able to demonstrate and effectively apply stretches to all and specific muscle groups.
- b. Practitioners should have a sound knowledge of indications, contra-indications and precautions
- c. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference
- d. Practitioners should be able to discuss the effects including the physiological effects of stretching
- e. Practitioners should be able to implement these techniques safely into a rehabilitation and maintenance program.

3. Manual Therapy

- a. Practitioners should be able to apply all joint mobilisation techniques according to Maitland, Kaltenborn and Mulligan – adapted to the veterinary field
- b. These techniques must be applied to the limb joints as well as the axial skeleton

- c. Practitioners should be able to discuss and select the appropriate mobilisation according to:
 - i) Specific movement (physiological vs accessory)
 - ii) Specific amplitude
 - iii) Specific grade
 - iv) Specific repetition/doses
- d. Practitioners should have a sound knowledge of indications, contra-indications and precautions
- e. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference
- f. Practitioners should be able to discuss the effects including the physiological effects of manual therapy techniques
- g. Practitioners should be able to implement these techniques safely into a rehabilitation and maintenance program

4. Electrotherapy

- a. Electrotherapy modalities will include, but is not limited to the following:
 - i) TENS – Trans cutaneous electrical nerve stimulation
 - ii) EMS/NMES – Electrical muscle stimulation, Neuro muscular electrical stimulation
 - iii) Faradic
 - iv) Therapeutic Ultrasound
 - v) Therapeutic Laser
 - vi) Light Therapy
 - vii) Pulsed Magnetic Therapy
 - viii) Static Magnetic Therapy
 - ix) Cryotherapy/ Heat
- b. Practitioners should be able to demonstrate and effectively apply all electrotherapy modalities.
- c. Practitioners should have a sound knowledge of indications, contra-indications and precautions.
- d. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference.
- e. Practitioners should be able to discuss the effects including the physiological effects of each modality.
- f. Practitioners should be able to implement these techniques safely into a rehabilitation and maintenance programme.

5. Exercise Rehabilitation

- a. Practitioners should be able to demonstrate and effectively perform specific therapeutic exercises to achieve specific effects.
- b. Practitioners should have a sound knowledge of indications, contra-indications and precautions.
- c. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference.
- d. Practitioners should be able to discuss the effects of each therapeutic exercise.

- e. Practitioners should be able to implement these techniques safely into a rehabilitation and maintenance program.
- f. Some apparatus that can be implemented as part of a therapeutic exercise
 - i) Theraband
 - ii) Weights
 - iii) Kinesio tape
 - iv) Long lining
 - v) Lunging
 - vi) Cavaletti poles
 - vii) Balance/wobble boards
 - viii) Peanut balls
 - ix) Body wraps
 - x) Proprioceptive tools

6. Hydrotherapy

- a. Practitioners should be able to demonstrate and safely implement a hydrotherapy program for the companion animal patient
- b. Practitioners should have a sound knowledge of indications, contraindications and precautions
- c. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference
- d. Practitioners should be able to discuss the effects including the physiological effects of hydrotherapy
- e. Practitioners should be able to implement these techniques safely into a rehabilitation and maintenance program according to the specific diagnosis given by veterinarian.
- f. Practitioners should know when swimming therapy is appropriate
- g. Practitioners should know when underwater treadmill therapy is appropriate
- h. Practitioners should know how to manage water quality in all hydrotherapy settings

7. Respiratory treatments

- a. Practitioners should be able to apply specific basic respiratory techniques to companion animal patients suffering from specific lung pathologies.
- b. Such technique can include:
 - i) Shaking
 - ii) Vibrations
 - iii) Percussions
 - iv) Specific drainage positions
 - v) Nebulising
- c. Practitioners should have a sound knowledge of indications, contraindications and precautions
- d. Practitioners should be able to adapt treatment according to the phase of healing and the patients' tolerance and preference
- e. Practitioners should be able to discuss the effects including the physiological effects of these techniques

8. Orthotics and prosthetics

- a. Practitioners should be able to recognise the need for equipment and orthotics that might assist in the rehabilitation program or improve the quality of life.
- b. Practitioners should understand the basics of orthotics, but specific measurements and manufacturing of these devices will be covered in post graduate work.
- c. Equipment can include but not exclusive to only:
 - i) Walking harnesses
 - ii) Slings
 - iii) Anti-slip boots
 - iv) Joint braces – neoprene and “jointed” braces
 - v) Splints
 - vi) “Wheelchairs”
 - vii) Neck and spinal braces

Case loads

Practitioner must have a thorough theoretical and practical knowledge of each of the following case types. Post-surgical protocols of each case would have been covered, but Practitioners must be able to adapt the protocol to each individual client to gain the appropriate outcomes indicated in each case.

1. Orthopaedics

a. Post-surgical cases

- i) Canine (including but not exclusive to) : Cruciate surgery (intra and extra capsular, TPLO- tibial plateau levelling osteotomy, TWO- tibial wedge osteotomy and other surgical procedures), patella luxation surgery, femoral head osteotomy, triple pelvic osteotomy, ulna osteotomy, joint arthroscopies, juvenile pubic symphysiodesis, hemi- laminectomy, other spinal surgeries, fracture repairs, total hip replacements, joint arthrodesis, muscle repair, bite wound repair, abdominal surgery indicated for therapy
 - ii) Equine (including but not exclusive to): fracture repairs, chip removal, soft tissue repair, desmotomy
- b. Practitioners must be able to assess each case, discuss with the veterinarian the protocol, formulate an appropriate treatment plan and implement the plan. Practitioners must re-assess at each treatment and adapt the treatment plan as appropriate.

c. Degenerative joint disease

- i) Practitioners must have a thorough theoretical and practical knowledge of each of the following case types
- ii) Including but not exclusive to: osteoarthritis, hip dysplasia, elbow dysplasia (united anconeal process, medial fragmented coronoid process, subchondral bone cyst, OCD – osteochondrosis dissecans, lesions, joint incongruity), cruciate disease, joint degeneration, spondylosis, facet joint degeneration.
- iii) Practitioners must be able to assess and discuss appropriate management with the attending veterinarian or other applicable animal health team member

- iv) Practitioners must compile a treatment as well as a maintenance programme for each individual client and appropriately adapt it at any time indicated in re-assessment
- d. **Soft tissue injuries (including muscle, ligament, tendon, fascia and nerves)**
- i) Practitioners must have a thorough theoretical and practical knowledge of each of the following case types
 - ii) Including but not exclusive to: muscle strains/tears, ligament tears/sprain, tendon tears/strain, tendonitis, tendosynovitis, desmitis, muscle contractures, neuropraxia, axonotmesis, neurotmesis, peripheral neuropathy, DOMS-delayed onset muscle soreness, Exertional Rhabdomyolysis
 - iii) Practitioners must be able to assess and discuss appropriate management with the attending veterinarian.
 - iv) Practitioners must compile and implement a treatment as well as a maintenance program for each individual client and appropriately adapt it at any time indicated in re-assessment
- e. **Sports injuries**
- i) Practitioners must have a thorough theoretical and practical knowledge of each of canine and equine disciplines and the injuries most commonly associated with them.
 - ii) Practitioners must be able to assess and discuss appropriate management with attending veterinarian.
 - iii) Practitioners should recognise contributing factors in training or execution of discipline which could contribute to re-injury and adapt the training program to avoid this.
 - iv) Practitioners must compile and implement a treatment as well as a maintenance programme for each individual client and appropriately adapt it at any time indicated in re-assessment.
 - v) Practitioners must be able to implement a programme to reduce the risk of injuries for each individual client.
- f. **Geriatric patient**
- i) Practitioners must have a thorough theoretical and practical knowledge of problems and dysfunction that develop with old age, also in conjunction to the discipline of each patient.
 - ii) Practitioners must be able to assess and discuss appropriate management with the attending veterinarian.
 - iii) Practitioners should recognise contributing factors in daily living and current training programme that can aggravate the process of aging and implement changes as to slow the pathology or to maintain a good quality of life.
 - iv) The Practitioners must compile and implement a treatment as well as a maintenance program for each individual client and appropriately adapt it at any time indicated in re-assessment.

2. Neurology

- i) Practitioners must have a thorough theoretical and practical knowledge of neurological signs, symptoms and dysfunction.
- ii) Practitioners must be able to assess and discuss appropriate management with the attending veterinarian. Practitioners must be able to adapt evaluation to be safe for the patient and people.
- iii) The Practitioners must compile and implement a treatment as well as a maintenance programme for each individual client and appropriately adapt it at any time indicated in re-assessment.
- iv) Practitioners must recognise the need for other handling equipment needed for the patient and the owner (walking harnesses, anti-slip boots, nappies, slings, "wheelchairs", orthotics)
- v) Practitioners must also be able to advise owners appropriately how to ensure their own safety and health in handling neurologically impaired patients.

b. Canine

i) Specific cases can include but are exclusive to:

- (1) Intervertebral disc disease type I and type II
- (2) Fibrocartilaginous embolism
- (3) Brain injury
- (4) Caudal vertebral malalignment/wobblers
- (5) Vertebral malformations
- (6) Tumors affecting spinal cord or brain
- (7) Neuropraxia, axonotmesis, neurotmesis, peripheral neuropathy
- (8) Upper motor neuron lesion, Lower motor neuron lesion
- (9) Trauma resulting in neurological impairment
- (10) Viral diseases leading to neurological impairment (therapy to focus on regaining function post viral condition)
- (11) Meningitis, myasthenia gravis, encephalitis, degenerative myelopathy, seizures, dementia etc

c. Equine

- (1) Neuropraxia, axonotmesis, neurotmesis, peripheral neuropathy
- (2) Upper motor neuron lesion, Lower motor neuron lesion
- (3) Brain impairment
- (4) Caudal vertebral malalignment
- (5) Viral diseases – (encephalitis, meningitis and others)

3. Cardiorespiratory

- i) Practitioners must have a thorough theoretical and practical knowledge of therapy indicated respiratory signs, symptoms and dysfunction.
- ii) Practitioners must be able to assess and discuss appropriate management with the attending veterinarian. Practitioners must be able to adapt evaluation to be safe for the patient and people.
- iii) Practitioners must compile and implement a treatment as well as a maintenance programme for each individual client and appropriately adapt it at any time indicated in reassessment.

- iv) Cases can include but not exclusively only:
 - (1) Post-surgical respiratory dysfunction
 - (2) Pneumonia
 - (3) Brachycephalic type dog respiratory track dysfunction
 - (4) Upper respiratory tract obstruction
 - (5) Intensive Care Unit patients and ventilated patients

Stable management

1. Practitioners will have an understanding of how stables are safely and professionally managed
2. Practitioners will be able to recognise factors contributing to a horse's dysfunction relating to the stable yard, training arenas, training equipment, food buckets, camps, terrain etc.

Care and Treatment

1. Emergency Care and Treatment
 - a. Provide basic first aid treatment
 - i) For animals in emergency situations
 - ii) For human beings in emergency situations

Husbandry and Welfare

1. Develop collaborative relationships with clients to encourage good husbandry practice
2. Collaborate with client to identify and resolve husbandry issues
3. Ensure clients are aware of the principles of animal welfare and good husbandry practice
 - a. Advise on appropriate environmental and housing conditions
 - b. Recognise behavioural needs of animals and refer.
 - c. Advise on prevention of appropriate physiotherapeutic conditions and promotion of well-being
 - d. Recognise feeding and nutritional needs of animals and refer
 - e. Ensure animal(s) have freedom from distress and pain
 - f. Ensure clients are aware of relevant legislative frameworks
 - g. Support good husbandry practice
 - h. Calculate energy needs and food quantities from basic principles
 - i. Advise on selection of specialist dietary requirements (within limits of education)
 - i) For nutritional deficiencies
 - ii) During particular life-stages
 - iii) For specific orthopaedic conditions
 - j. Perform basic husbandry techniques
 - k) Put on stable rug, horse boots
 - l) Assemble and fit Elizabethan collar

Research, Industry and Science

1. Understand the basic requirements of structured research and the process involved in setup a trial.
2. Be able to read, understand and formulate questions after reading a journal article.

3. Be able to formulate a concept of humane treatment of research animals.

Hygiene

1. Basic understanding of aseptic techniques
2. Implement personal hygiene and clinic hygiene protocols
3. Understand the basic risks and prevention of contagious or infections conditions.

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[VC/EDUC/DAY 1 SKILLS_VET PHYSIO_v1]