FourLegRehabInc
CANINE REHAB EDUCATIONAL RESOURCES

Physical Therapy / Rehabilitation Goals (in general)

INCREASE… MAINTAIN… or PREVENT REGRESSION OF…

1. Strength
2. Range of Motion
3. Extensibility
4. Coordination
5. Endurance
6. Balance
7. Function
    a. Power
    b. Agility
    c. Kinesthetic awareness
    d. Endurance (muscular & cardiovascular)
    e. Speed
    f. Activity specificity
    g. Skill level required for activity
    h. Psychological preparedness
    i. Activities of daily living

DECREASE… MAINTAIN… or PREVENT WORSENING OF…

1. Pain
2. Muscle spasm
3. Abnormal muscle tone
4. Edema
5. Postural deviations
6. Gait deviations
7. Contractures / Deformities
8. Abnormal sensory feedback

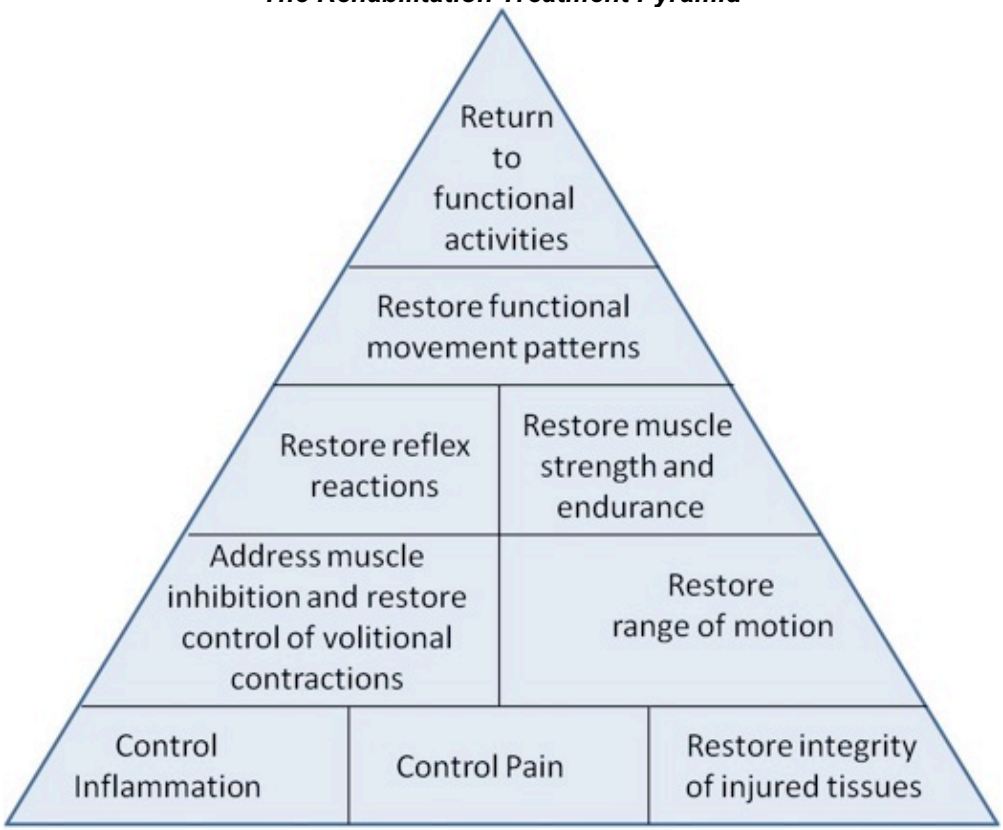
NOTE:
Whenever I teach on treatment planning, I usually have the following goals set for participants to keep in mind

- Home & Lifestyle Management
- Supplements?
- Education
- Manage inflammation and/or pain
- Support?
- ROM
- Muscle Flexibility
- Strengthening
- Proprioception
- Return to activity advice

Rehabilitation Principles

Rehabilitation following injury or surgery follows some general principles and steps. The 'rehab treatment pyramid' displays quite nicely the many facets to consider regarding full rehabilitation, starting at the base, where inflammation and pain are controlled, as well as treatments targeted to tissue healing. As healing takes place, the goals of rehab also change, and incorporate the 'higher' levels of the pyramid.

The Rehabilitation Treatment Pyramid



Rehabilitation pyramid (from Hertel, Deneger: A rehabilitation paradigm for restoring neuromuscular control following injury. Athl Ther Today, 3: 12 – 16; 1998)

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CONSIDERATIONS for Designing a Rehab Program

1. ACUITY:
   - Acute injury / Incident = Pain management / Healing / Education
   - Chronic condition = Pain management / Education / Function / Mobility
   - Mid-range = Assessment of current status, strengths and weaknesses guides treatment.

2. PROGNOSIS: Good / Declining / Unknown / Maintenance
   - Treatment geared to healing / improving
   - Function and Quality of Life
   - Pain Management
   - Maintenance

3. AGE / CONDITION of the Dog
   - Puppy
   - Young / Middle Aged
   - Senior

4. GOAL OF THE OWNER (Is it realistic? Is it simple? Is it high?)
   - Job of the dog
   - Severity of Injury (affecting timeline / management / prognosis)
   - Age of the dog
   - Prognosis

5. FOCUS of Treatment / GOALS of Treatment (Professionally derived)
   - Increase…
   - Decrease…
   - Healing? Strengthening? Preventing? Maintaining? Building?
   - Check Up / Tune Up
   - Wellness / General Health / Feel Good / Outing
   - Education
   - Root of the Problem versus Results of the Problem (i.e. the Neuro dog…)

6. BEST USE OF YOUR TIME IN CLINIC (What can only you do?)
   - Assessment / Reassessment
   - Treatments such as manual therapies or modalities or client education
   - Exercise?
   - Hydrotherapy
   - Therapist Exercise demo to create HEP
   - Therapist-Led Exercise

7. TRAINING & TRAINABILITY of the DOG
8. HEALTH, ABILITY, KNOWLEDGE, SKILLS, AVAILABILITY of the OWNER
9. YOUR ABILITY to TEACH THE OWNER HOME EXERCISES

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Your Rehab Toolbox for Treatment Planning

TOOLS	RATIONALE / EFFECT
Manual Therapies	
Mobilizations: light, gentle, slow **Mobilizations: more vigorous**	* Pain relief & vascularisation * Increasing joint mobility, joint nutrition & vascularisation
Traction	Vascularisation to the joints, the disc, as well as the spinal cord and nerve roots. Useful for spinal pain and disc problems (degeneration or herniation).
Massage: light, gentle, relaxing - **Massage: targeted, deeper -**	Relaxation, pain relief, reduce blood pressure, & anxiety Mobilization of tissue, vascularisation, release of myofascial trigger points
Stretching – specific muscles	Lengthen muscles, stimulation of muscle regeneration (if not too aggressive), facilitates reorganization of muscle fibres or scar tissue after injury / damage
Range of Motion	If gentle – can have a pain relieving and vascular effect If more aggressive – can aid joint mobility, joint nutrition & vascularisation
Modalities	
Laser	Cartilage regeneration, soft tissue regeneration, pain relief, vascularisation, reduce inflammation, nerve regeneration, spinal cord regeneration, angiogenesis, wound healing, & fracture healing
Ultrasound	Soft tissue healing, fracture healing, cartilage regeneration, vascularisation, reduce inflammation (certain setting), or heating effect (with certain settings)
Electrical Muscle Stimulation	Stimulation of a muscle contraction – reduction / reversal of muscle atrophy, muscle & tendon healing, vascularisation of underlying tissues, fracture healing, reduction of swelling, pain relief, and motor relearning.
TENS or Microcurrent	Pain relief or anxiety
Pulsed Electromagnetic Field	Soft tissue healing, bone healing, cartilage healing, and some potential neurological healing benefits
Shockwave	Stimulates healing of bone, cartilage, muscle / tendon, pain relief, vascularization
Acupuncture	Pain relief, vascularisation, autonomic nervous system effects
Ice	Reduction of inflammation, pain relief, & reduction of swelling
Heat	Increase circulation, relax tissues, pain relief

Exercise Therapies		
	Underwater Treadmill Therapy	Exercise in a more buoyant, controlled, & supported environment that can progress to a more vigorous workout using the water as resistance.
	Weight shifting exercises	To introduce / initiate weight bearing (which can help to facilitate muscle use and light loading of bones & joints).
	Static balancing exercises	To enhance stability, balance, body awareness & postural control
	Targeted strengthening	To specifically strengthen a particular muscle or muscle group
	Dynamic balancing	To further improve stability, balance, body awareness & postural control by adding an element of instability to the exercise.
	Endurance	From both a muscular (slow twitch muscle fibres) as well as a cardiovascular perspective
	Return to sport retraining	To relearn sport-specific skills that require greater levels of precision, coordination, strength & automation of movement patterns.
Advisement		
	Home activity level	Home environment management
	Seek further diagnostics, advise return to rDVM, discuss surgical options, discuss need for medications	
	Obesity management strategies	Sport conditioning strategies
	Pain management strategies	Geriatric management strategies