

# **Regional anesthesia and Lameness**

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We can attempt to localize lameness with:

physical exam • watching horse move • palpation • response to hoof testers • response to flexion tests • the use of anesthetics •

• History is also helpful

• Once localized, the cause of lameness can often be diagnosed using imaging and/or other diagnostic tools

Lameness can be straightforward, simple, and treatable •

HOWEVER - THEY CAN ALSO BE EXTREMELY COMPLEX, SUBTLE, DIFFICULT TO DIAGNOSE, DIFFICULT/IMPOSSIBLE TO CURE, REQUIRE LIFELONG MANAGEMENT, ETC.....

## **Types of Lameness**

• Acute • Chronic • Stable • Degenerative • Pain • Mechanical

**Other confounding factors** • Neurologic disease

• Muscle disorders/weakness • Gait “abnormalities” inherent to the individual horse

## **History**

**Physical exam** • Swellings • Wounds or scars • Heat • Pain when touched, or palpated  
• Degree of weight bearing on the leg •

## **Physical exam**

## **Watching the horse move**

**Response to hoof testers** •Foot is a very common place for lameness to originate from

•Testers can also help localize area of foot •

**Response to flexion tests** •Flexion or extension of joints places stress on joints, and some soft tissues. Helps localize in most cases, but not always SPECIFIC. You can't flex only one joint, but some are easier to isolate than others. Flexion or extension of joints places stress on joints, and some soft tissues

•Distal limb - Coffin joint, pastern joint, and fetlock

•Carpus (knee) • Shoulder/elbow • Hock/stifle flexion • Hock/stifle extension

## **Diagnostic Anesthesia**

•Regional vs. Intra-articular • •Regional desensitizes a particular area • •Intrarticular desensitizes joints

## **Nerve blocks (regional anesthesia)**

An anesthetic - usually carbocaine – is used to desensitize the main nerve or nerves that supply sensation to a certain area of the leg.

**Intraarticular (joint) blocks** •Blocks a particular joint. Does not desensitize area below the joint as in a nerve block. Can diffuse out of the joint some to the structures surrounding the joint. Horse is taken back outside and jogged (or ridden/worked) again. •We look for a significant difference in the lameness • May not improve 100%, may switch legs, may block partially to different areas.

## **After blocks**

**Diagnostic imaging** •Radiographs (x-ray films) • Ultrasound • Bone scan • CT scan • MRI • Nuclear scintigraphy (bone scan)

**Other diagnostics** •Diagnostic surgery (e.g. arthroscopy) •Gait analysis

**Osteoarthritis** •Often referred to as: Arthritis •OA • Osteoarthrosis • Osteoarthropathy

•Degenerative Joint Disease • Synovitis • Capsulitis •

### **Treatment Goals**

Return joint to “normal” as quickly as possible 2. Suppress inflammation 3. Prevent progression of osteoarthritis 4. Promote synthesis 5. Decrease catabolic processes 6. Relieve pain

**Cartilage damage** •Mechanical loss, catabolism •Repair depends on depth, size, and location of defect

**Surgical Treatment of joints** • Goals - Acute disease: •Remove or repair intra-articular fragments •Remove inflammatory mediators via lavage •Remove inflamed synovium •Joint resurfacing. •Very advanced disease, or certain joints: • Arthrodesis

**Medical Treatment** Response will be dependent on 1. Accurate diagnosis 2. Stage of disease 3. Severity of disease 4. Treatments available 5. Time for rehabilitation

**NSAIDs** •Phenylbutazone (Bute) •Flunixin Meglumine (Banamine) •Ketoprofen (Ketofen) •Carprofen (Rimadyl) •Diclofenac (Surpass) •Firocoxib (Equioxx)

**Intra-articular Treatment Options** • Corticosteroids, Hyaluronan, PSGAGs, IRAP/Pro-Stride, stem cells **Contraindications** •Sepsis •Structural damage •Joint instability •Previous ineffectiveness of corticosteroids • Pre-operatively

**Tendon and Ligament injuries** •Acute Chronic •Flexor tendons •Suspensory apparatus, Other tendons and ligaments •Extensor tendons •Collateral ligaments •Patellar ligaments •Cruciate ligaments •Various other structures

**Treatment** •Rest (+/- ice in acute) Antiinflammatories •Controlled exercise • • Injections •PRP •Stem cells •other •Shockwave therapy •Surgical treatment •

**Recurrence** •Recurrence is a big problem. Re-injury •Scar tissue

**Lameness vs. performance problems** •Subtle lameness can cause performance problems in some cases •However, there can be other causes for performance

problems:

**Potential Other causes** • Neurologic •Trauma •Compression of spinal cord in the neck  
•EPM and other infectious diseases **Neurologic vs. lame**

**Performance problems** • Respiratory •Upper respiratory (Usually there is noise)

•Lower respiratory •Heaves •Pleuropneumonia (stressed/traveling - show horses and  
racehorses) • Pneumonia

•Under or Overtraining

“You race like you train” but --- Overtraining can lead to fatigue, poor performance, Rider  
expertise, individual horse demeanor/work ethic, talent

### **Conclusion**

Lameness evaluation, diagnosis, and treatment are an integral part of equine practice. A  
basic hands-on approach is still key. It is helpful to try to narrow the zone of focus. A  
proper diagnosis increases odds of response to treatment.