# Treatment and Rehabilitation Plans for Various Musculoskeletal Conditions

Indiana Association of Equine Practitioners
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## Treatment and Rehabilitation of Musculoskeletal Conditions

- "Art of Practice"
- Each injury is its own entity
- Requires individual attention in plan of treatment and rehabilitation

## Treatment and Rehabilitation of Musculoskeletal Conditions

- Improved diagnostic technology
  - Recognize injury as involving multiple tissues within the site
  - Requires need for different treatment plans for these tissues
  - Varied prognosis
- Scientifically group injuries and prognosis

## Treatment and Rehabilitation of Musculoskeletal Conditions

What does it mean to our clients?

- Two outcomes (expectations)
  - Return to athletic activity
  - Did not return to athletic activity
- Generally appreciative of effort, guidance, follow-up

## Treatment and Rehabilitation of Injury

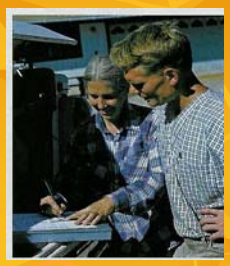
- Requires "team" effort and commitment
- Time away from competition
- Return tissue to functionally "normal"

## Plan for Treatment and Rehabilitation

- Requires diagnosis of problem
- Plan based on:
  - Desires of client
  - Needs of horse
  - Appropriate technology
- Early, aggressive treatment
  - "Shape" healing process

## Plan of Treatment and Rehabilitation - Veterinarian

- Direct appropriate treatment based on:
  - Experience
  - Standard of care
  - Consultation
  - Scientific data
- Manage client expectations
- Deal with third parties – insurance, caregivers



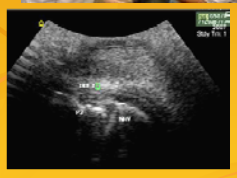
## Plan of Treatment and Rehabilitation - Client

- Expectations
- Financial concerns
- Time concerns
- Knowledge/Involvement
- Third parties – Insurance


## 9yr old, WB Stallion, Jumper

- Lame on/off **right front** for four months- suspected heel bruise
- Blocks consistently to distal digital nerve block (3x), to DIP jt block (1x) with time
- Radiographs- (2x)- NSF
- MRI
  - Deep digital flexor tendon -sagittal tears and core lesions
  - Navicular bursitis
  - Navicular bone osteolytis
  - Mild osteoarthritis of distal interphalangeal coffin joint
- Prognosis – guarded to fair

## Caudal Heel Pain- Treatment



- Platelet Rich Plasma/Bone Marrow Aspirate - Ultrasound guided injection
- Tildren IV and regional perfusion
- Inject navicular bursa
- NSAID's
- Shoeing
- Stall rest
- Legend/Adequan
- Oral joint supplements

## Foot Care

- Rocker motion shoe
- Slight wedged heel, 1-2 degrees
- Ease break over

## Rehabilitation

- Initial 45 days stall rest/hand walk for 10 min., 2 - 3 times daily
- 45 days riding at the walk for 10 - 15 min., 1 - 2 times daily
- 45 days small turn-out/riding at walk
- 45 days Aquaciser 2 times a week/riding at walk/turn-out
- 45 days Aquaciser 3 times a week/riding at walk and trot for 15 - 20 min.
- 45 days Aquaciser 3 times a week/riding at walk and trot for 40 - 45 min.
- 60 days increasing workload

## Follow-up

- Musculoskeletal progress examination every 30 – 60 days
- Foot care consistent
- Behavior management- stallion
- Light jumping 10 months later
- Lame **left front** 2 months later
- **MRI**- DDFT saggital tear lateral lobe just prox to navicular bone, navicular bursitis and tendinitis at insertion to P3
- Back to light work on flat (no lameness) 8 months later
- Retired to breeding


## Case #2 – Problem/Prognosis

Six year old Quarter Horse, Reiner

- Acute injury 2 weeks
- Hind leg fetlock tenosynovitis

Prognosis – good/excellent

## Case #2 – Treatment, Initial

- Inject sheath with Hyaluronic Acid / Steroid / Atropine
- Bandage
- NSAID's
- Rest – hand walk
- Re-evaluate 2 - 3 weeks

## Case #2 – Problem/Prognosis

- Mildly swollen pastern – Lame
- Subchondral osteolysis P-1- traumatic
- Prognosis – fair to good


## Case #2 - Treatment

- IRAP/Calcitonin injection IA pastern, 3X at 2 week intervals
- Possible PRP or Stem cells IA ?
- Tildren ?
- Shoe – half round
- Adequan/Legend
- Rest

## Case #2 - Rehabilitation

- Hand walk/Controlled turn-out for 4 months
- Electromagnetic treatment
- Resume light exercise
- 7 months - competing

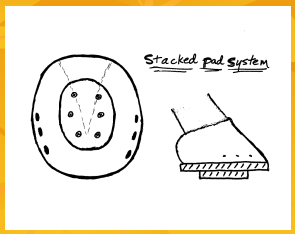
## Case #3 – Problem/Prognosis

- Six year old Thoroughbred/Warmblood cross, Jumper
- Toes in conformation
- On/Off lame for 6 months
- Collateral ligament desmitis of distal interphalangeal coffin joint
- Prognosis - guarded

## Case #3 - Treatment

- Platelet Rich Plasma injection
- Shockwave – 3 times two weeks apart then once a month for 4 months
- Stall rest for 60 days
- Hand walk 5 minutes, 3-4 X daily

## Case #3 - Shoeing




- Stacked pad system – 5 months
- NBS – Lateral Relief shoe
- Ease break over

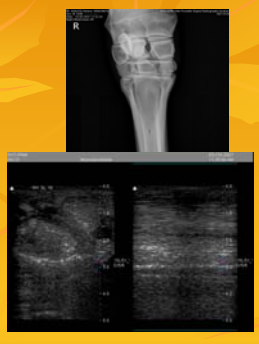
## Case #3 - Rehabilitation

- No Lunging
- Post 1st 60 days:
  - Ride at walk 5-10 min. twice daily for 90 days, then
  - Ride at walk 15-20 min. and trot 5 min. for 90 days, then
  - Ride at walk 30 min. and trot 15-20 min. for 30 days, then
- Slowly increase flatwork over 60 days, then start small fences

## Case # 4 – Problem

- 12 yr old, Driving, Gelding
- Hind leg proximal suspensory ligament enlargement with fiber pattern disruption
- Proximal plantar MT3 periosteal proliferation
- Plantar 3rd tarsal bone osteolysis

## Case #4 –Prognosis



- If respond to rest and local injections within 6-8 weeks – Good to Excellent
- If still lame at 2 months- Poor to Guarded
- Conformation?

## Case # 4 - Treatment

- Surgery-
  - PRP/BMA injection into proximal suspensory lig
  - Plantar retinacular release
  - Lateral plantar neurectomy
- Tildren IV
- NSAIDs
- Shock Wave 60 days post Sx- monthly for 6X
- Shoeing

## Case #4 - Rehabilitation

- Stall rest 60 days with minimal walking, then
- 60 days hand walk 3X /day for 10-15 min, then
- 60 days Eurociser 3X /day for 20-25 min, then
- 60 days pulling walk, Eurociser and TO?, then
- 60 days pulling walk /jog, then increase load over another 60 days


## Case #4 - Rehabilitation

- Follow up with 45-60 day re-evaluations- most emphasis on clinical picture
- Rely on feedback from owner / trainer
- Possible tarsal joint injections
- Tildren IV possible at 6 months

**Case #5-**
**8 yr old TB Mare**
**Polo**

## Complaint/History

- Right front leg acute lameness (4/5) the day following a competition with no apparent swelling present, one month ago
- Horse was very sensitive to flexion of right front fetlock
- No significant findings on radiographs of right front fetlock
- Horse treated with intra-articular injection of right front fetlock, pastern and digital interphalangeal joints over 2 weeks and given 2 weeks rest – minimal improvement

## Clinical Examination

Dynamic Exam Results:

- Trot – lame right front (3/5)
- Right front lower leg flexion test – positive (3+/5)

## Diagnostic Approach

Results of distal digital nerve analgesia:

- Improved lameness in straight line 90%
- Right front lower leg flexion test – slight positive (1+/5)

## Diagnostic Approach

Results of proximal digital nerve analgesia:

- No lameness right front
- Right front lower leg flexion test – negative

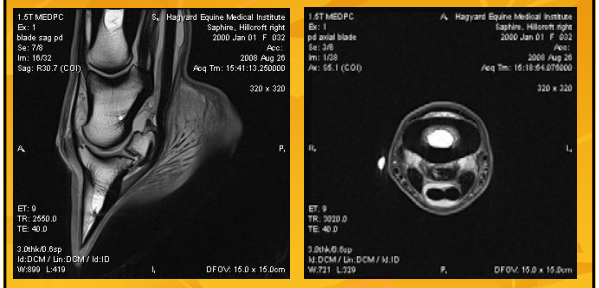
## Diagnostic Approach

Radiographs

## Radiographs - Results

- No significant findings
- Owners elected MRI

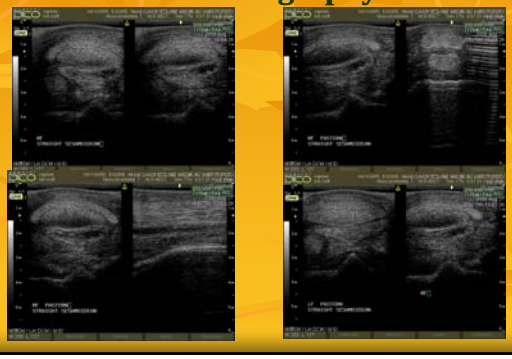
## Diagnostic Approach - MRI



## MRI - Results

- Tear of straight distal sesamoidean ligament – proximal lateral aspect beginning near the pastern joint and extending proximally in excess of 2 cm at the level of mid-diaphysis of P1 and out of the area included in the field of view

## Diagnostic Approach - Ultrasonography



## Ultrasonography - Results

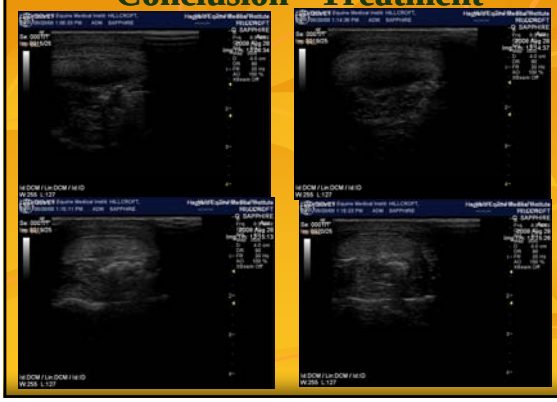
- Confirms injury/tear of straight distal sesamoidean ligament and delineates damage extending proximally to base of lateral sesamoid bone

## Conclusion - Treatment

Surgical treatment/Local treatment

- Ultrasound guided injection of platelet rich plasma (PRP) 60% and bone marrow aspirate (BMA) 40% intralesionally into 5 locations

## Conclusion - Treatment



## Conclusion - Management

Physical Activity:

- 30 days stall rest with hand walk, then
- 60 days small paddock (60'x 60'), then
- 60 days large paddock (120'x 120'), then
- 60 days ponying at walk/trot (starting at 5 minutes and adding 5 min/week), then
- 60 days with added canter

## Conclusion - Management

Shoeing:

- Balanced and regular intervals
- Do not allow excessive heel growth/height
- Do not extend shoe heels caudally – fit shoe tight to heels
- Straight sesamoidean ligament is part of suspensory apparatus

## Conclusion – Follow-up & Treatment

Follow-up:

Clinical and Ultrasonographic examination initially at 30 day, then at 60 day intervals

Treatment:

ECSW – 60 days post surgery start two (2) treatments at 2 week intervals then treat once (1) monthly for 4 treatments

## Prognosis

Poor to Guarded: due to the speeds and forces placed on these lower leg structures during competition especially at higher levels

Good to Excellent: as a pleasure or light riding horse especially in controlled arena conditions

## Case #6- 14 yr G WB Jumper

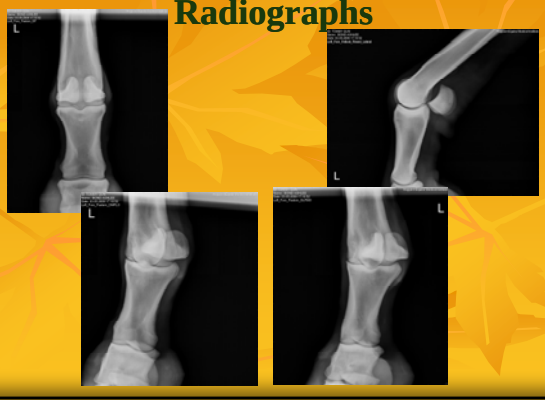
## History

- Acute left front leg lameness in jumper class and rider withdrew
- Was able to walk back to stable but very sore
- Horse put in ice boot immediately

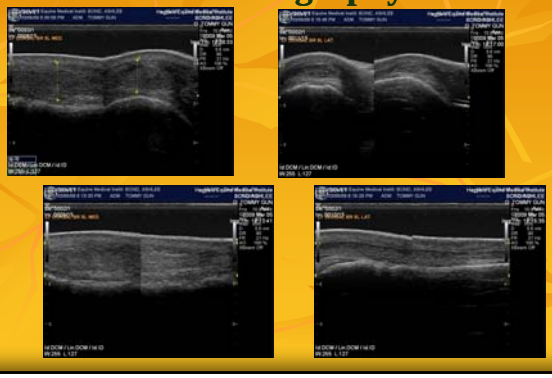
## Clinical examination

- Lame left front leg (4/5) at walk
- Increased soreness to lower leg static flexion
- Reactive to palpation of dorsomedial aspect of pastern and some swelling
- What to do?

## Radiographs



## Ultrasonography



## Conclusion

- Traumatic injury to medial dorsal branch of suspensory ligament in pastern region

## Treatment

- Supportive care
  - Cold therapy/ice machine
  - Poultice bandage
  - Systemic NSAIDs
  - Surpass topically
  - Restricted exercise
  - Shock wave therapy?

## Prognosis and Follow-up

- Prognosis- Good to excellent with adequate rest
- Follow-up-
  - Horse (2+/5) in straight line at trot ~ 3 weeks post
  - 6 weeks post sound in straight line but slight lame (2/5) circle to right
  - Sound at 9 weeks and start light riding

## Summary

- Diagnosis of the clinical condition is essential
- Communication of reasonable prognosis helps to guide treatment and rehabilitation
- Have clear understanding of client's expectations
- Make adjustments in treatment, rehabilitation and prognosis as appropriate

## Rule of Thumb

- General guidelines for tissue recovery:
  - Bone -- 4 months
  - Tendon -- 6 months
  - Ligament -- 8 months

## Questions?

"A nod is as good as a wink to a blind horse"