



WorldHorseWelfare
the new name for the ILPH

Orthopaedic Emergencies

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Wounds:

- Most common cases in equine practice!
- Poor wound healing is common in equine limb wounds



Wounds: First Aid

- Assess involvement of critical structures
 - Blood vessels
 - Nerves
 - Synovial structures
 - Bones (fractures?)

- Amount of Subcutaneous soft tissue



Wounds – First Aid

- Is the wound clean or contaminated?
- Clean attempt primary closure?
 - Suture
 - Staples
- Contaminated/dirty heal by 2ry intention
 - DO NOT CLOSE!



Wounds

- Decontaminate
 - Physically remove debris
 - Lavage
 - Isotonic fluids (e.g. saline) better than water
 - Large volumes, moderate pressure
 - NO SOAP SOLUTIONS on exposed tissue (hibiscrub, povidine scrub)
 - Debride necrotic tissue



Wounds – Primary closure

- ONLY IF UNCONTAMINATED WOUND
- Clip and clean skin around wound edges



Wounds- primary closure

- Staples
 - Quick
 - Non-reactive (stainless steel)
 - Not for skin under tension



Wounds - suturing

- NOT SUITABLE FOR EQUINE SKIN:



Wounds - suturing

- Prolene (polypropylene) = least reactive
- Nylon, PDS, Vicryl
- If in inaccessible site / economics / nature of horse consider absorbable sutures



Wounds - dressings

- Primary layer:
 - Wicks exudate (fluid/pus) away from wound
 - Cushions/protects wound
 - Promotes moist environment for wound healing



Wounds

- Secondary layer
 - Holds primary layer in place
 - Absorbs excessive exudate
 - Provides pressure (reduces proud flesh)
 - Provides support
 - Reduces movement of Wound edges



Wounds – dressings

- Tertiary layers
 - Secures other components
 - Support and pressure
 - May be water resistant



Wounds – immobilisation: Bandage or cast?



Degloving Wound Good Primary Care – Successful Outcome



Cleaning Wound



Preparation for Surgery



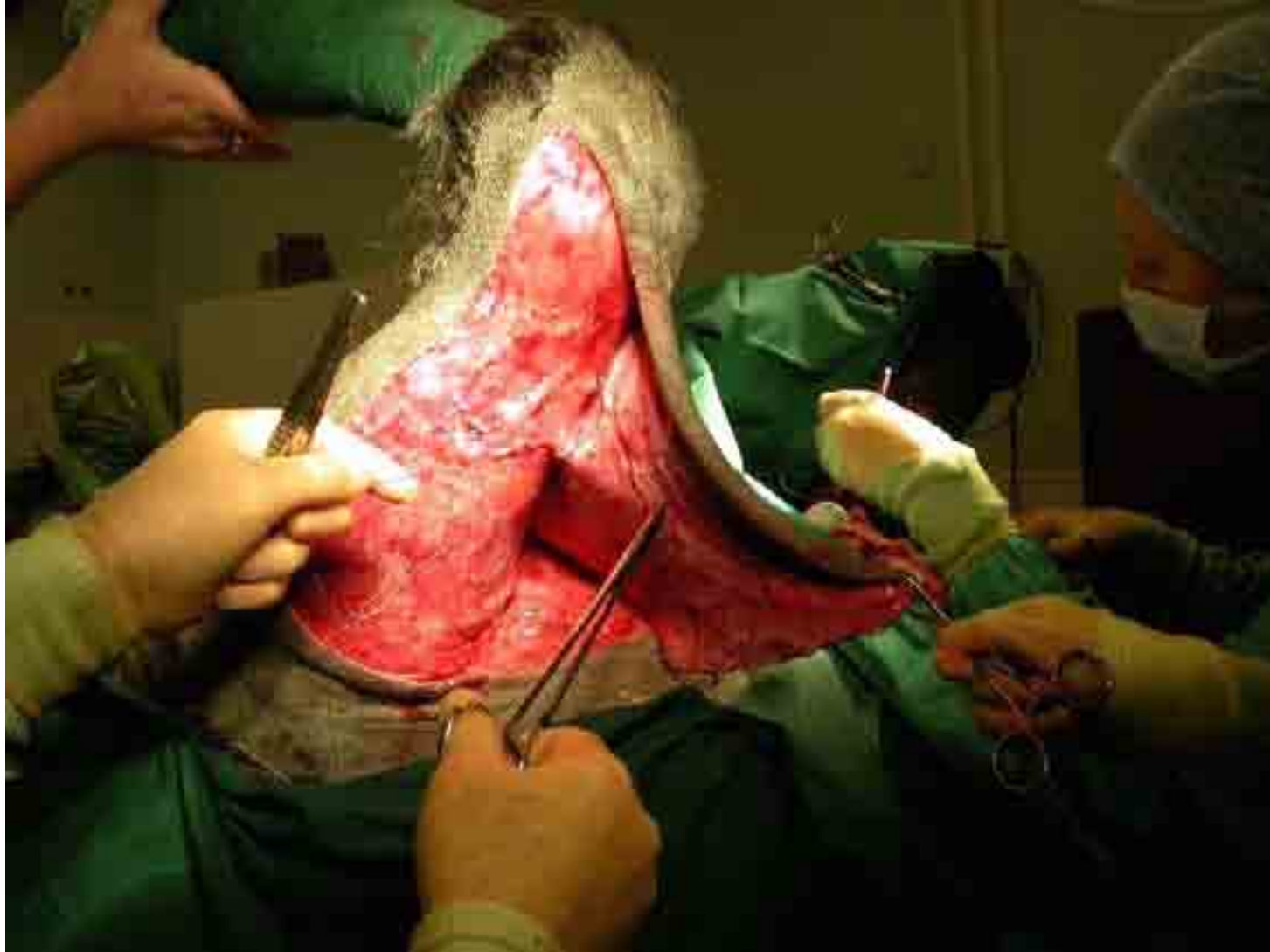
Minimal Trauma to Deeper Tissues and Minimal Contamination



Blood Supply Retained on Caudal Aspect of Limb



Suturing Skin to Subcutaneous Tissues with absorbable Sutures



Wound fully sutured A few Penrose Drains Inserted to Drain Exudate

Almost perfect healing by primary intention occurred within 2 months



Non-Responsive Wound undergoing a Mesh Skin Graft



Skin Graft



Mesh Graft will allow exudate to drain
A non-stick dressing and pressure bandage are now required





Wounds involving synovial structures

- Initially general wound principles
 - clip hair
 - clean

- Determine which synovial structures may be involved
 - Anatomy
 - Probe
 - Sterile gloved finger





Wounds involving synovial structures

- If possible collect synovial fluid sample
 - Distant from wound
 - Aseptic conditions
 - Nucleated cell count
 - Total protein
 - Colour and consistency
- If sample not obtained distend joint to determine if communicates
 - Sterile saline





Wounds involving synovial structures

- If communicates joint will require lavage
- Gold standard = arthroscopic lavage
- Can do needle lavage
 - Best under GA but can do standing
 - Large bore needles
 - Pressure bag
 - At least 5L/joint
- Debride wound as normal
 - Primary closure if possible



Fractures Emergency Steps

- Calm the patient
- Cursory examination to determine if repair is possible
- Application of splint, bandage or cast
- Transport to equine hospital



Objectives of first aid

- **Decrease anxiety (horse and owner)**
- **Prevent soft tissue trauma; protect vascular supply protect nerves**
- **KEEP THE SKIN INTACT**
- **If skin not intact, prevent further contamination**
- **Prevent fragment eburnation; facilitate repair**

**INTACT SKIN DOUBLES THE
PROGNOSIS AND HALVES
THE COST OF FRACTURE
REPAIR**



Assess degree of damage

- **Prognosis; severe loss of soft tissue or bone?**
- **Options**
- **Cost**
- **Risks**





Good Coaptation

- **Calms the horse**
- **Prevents further injury to bone or soft tissue**
- **Allows transportation**



First Aid

- **Apply splint**
- **If in doubt, splint**
- **Splint first, ask questions later**
- **Splint first, radiograph later**



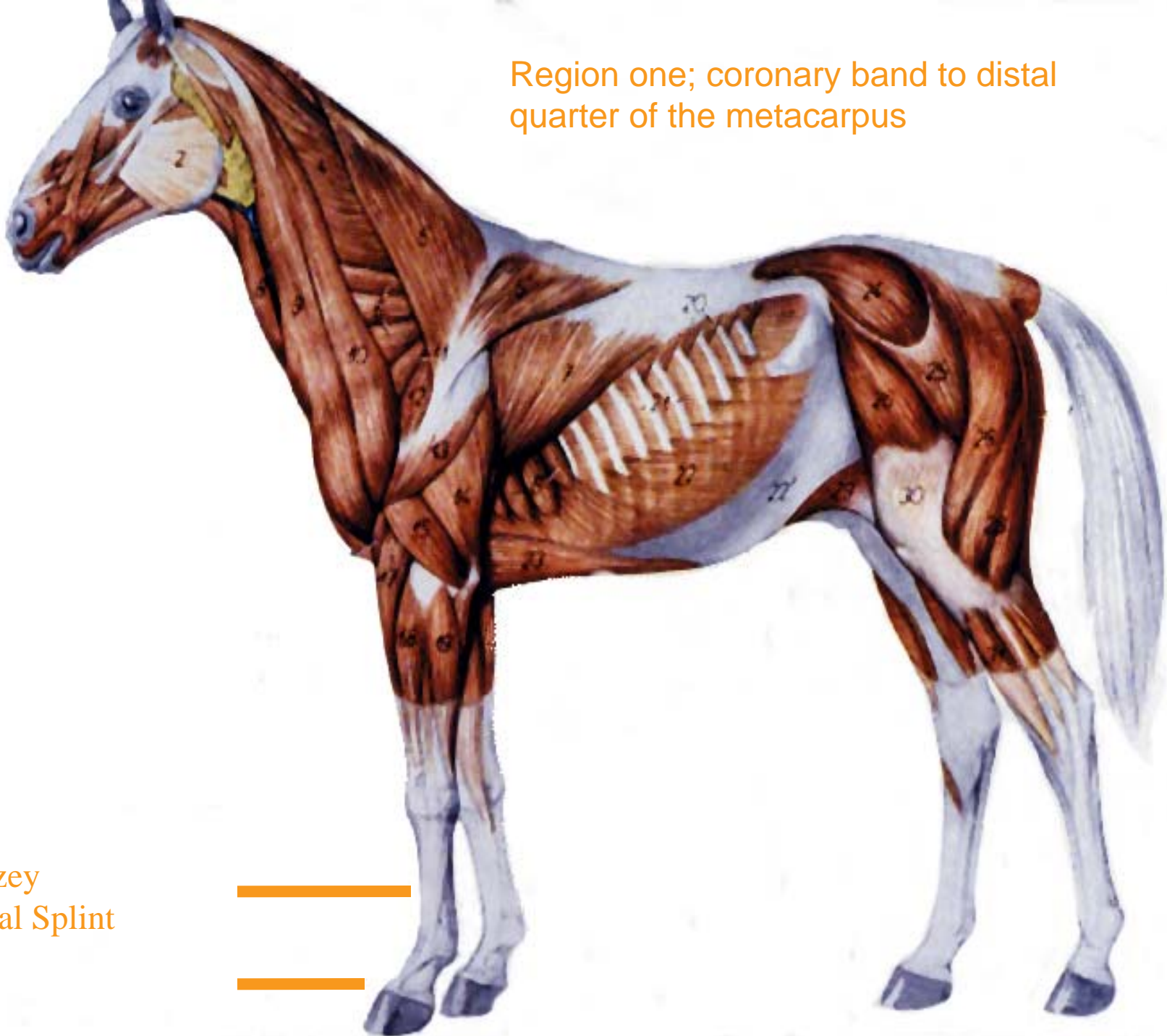
Sedation

- **Enough, but not too much (really helpful....)**
 - Avoid ataxia
 - Start with low dose
- **Caution with acepromazine especially with major injuries**

DL



Region one; coronary band to distal quarter of the metacarpus

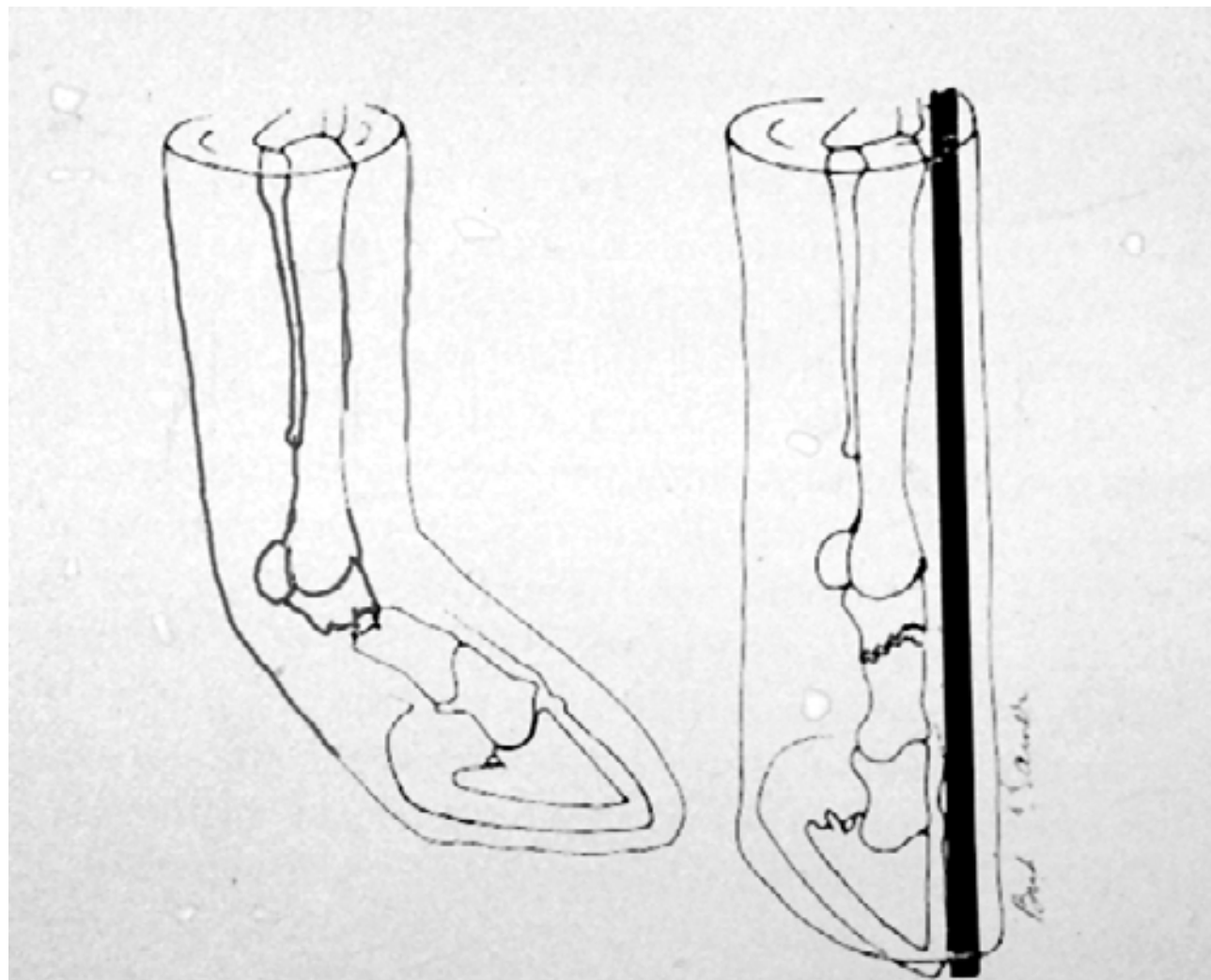


RJD
Kimzey
Dorsal Splint
Cast





Dorsal Splint





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Dorsal Splint





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Dorsal Splint





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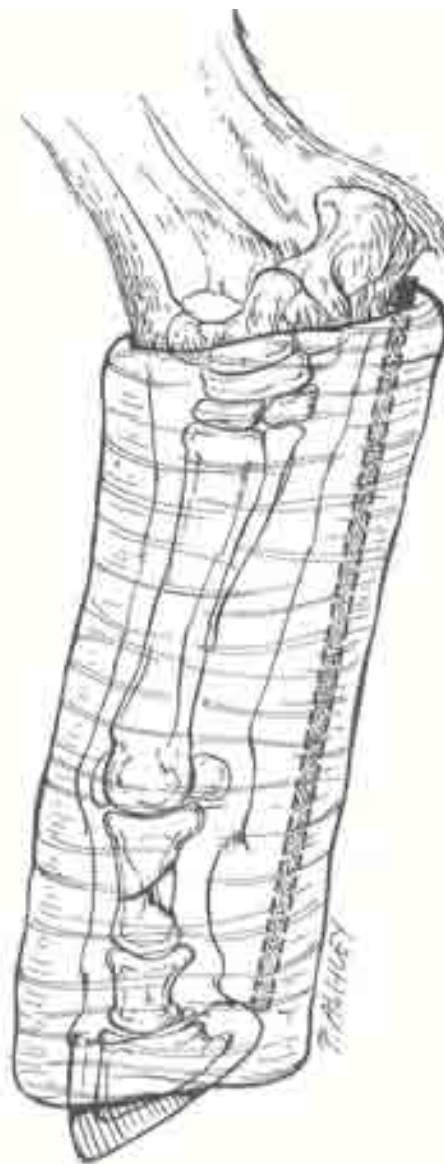
Kimzey “LifeSaver” Splint





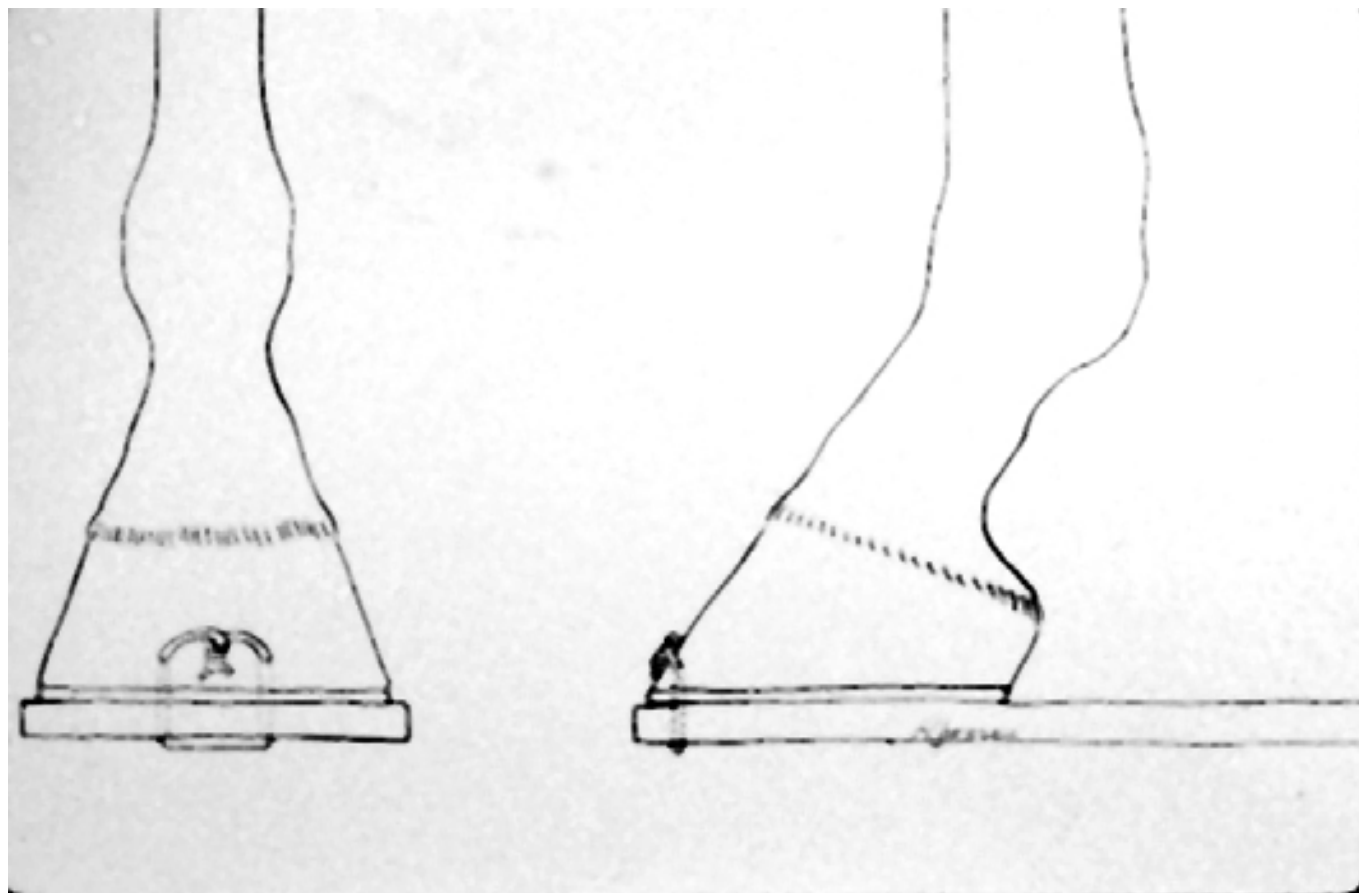


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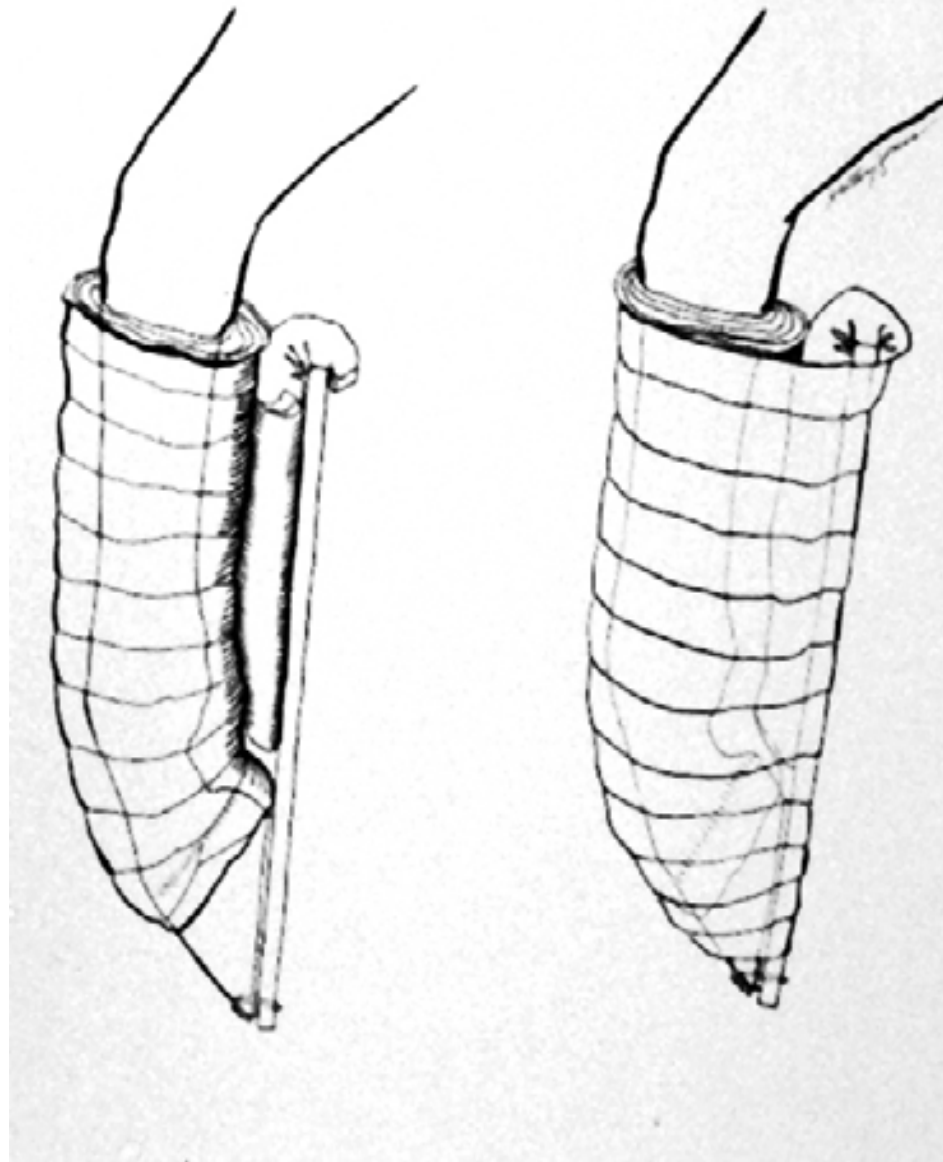




Board Splint

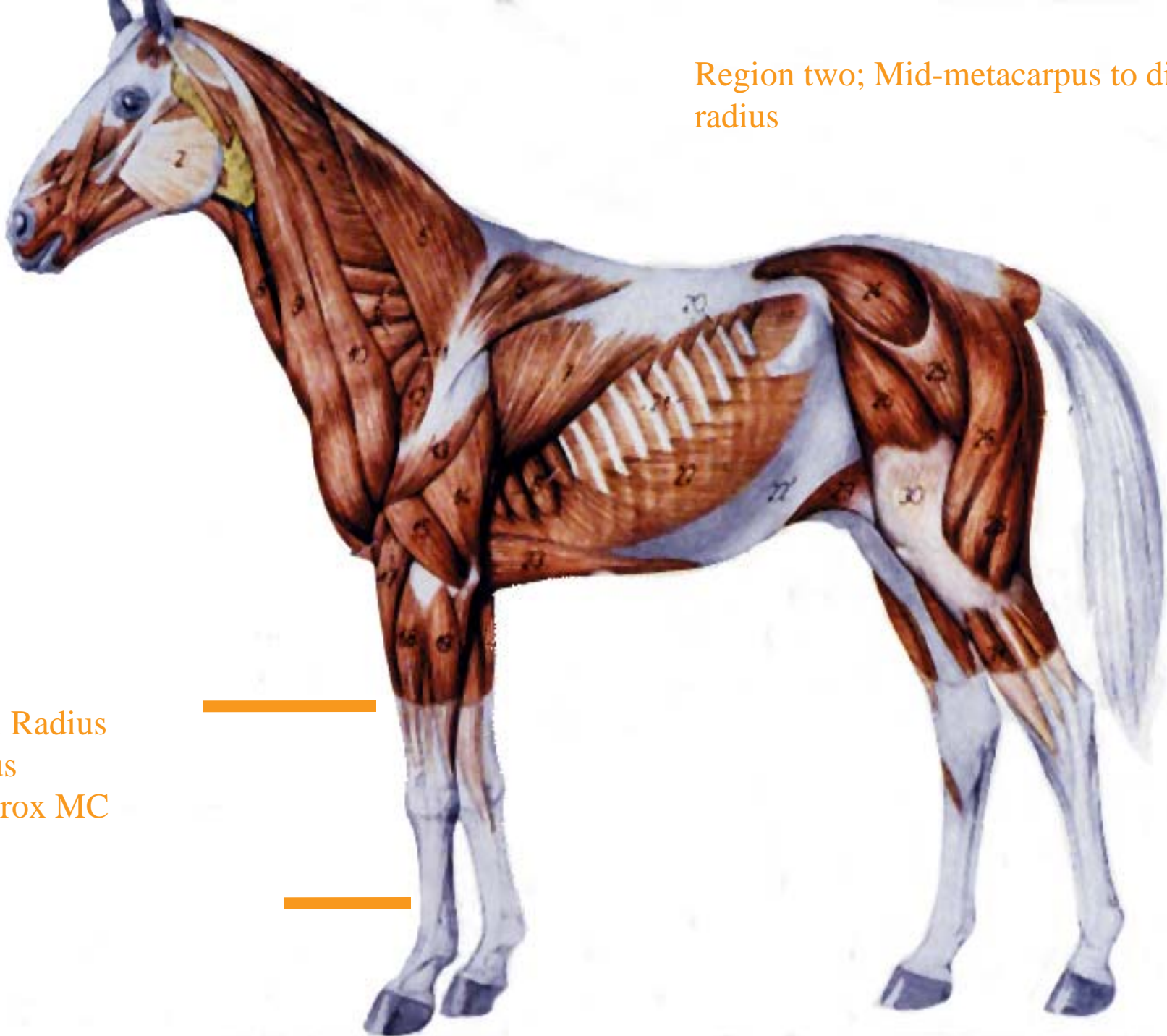


Board Splint



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Region two; Mid-metacarpus to distal radius



Distal Radius
Carpus
mid/prox MC

Roll Cotton



Layers!







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PVC Pipe Splint

6" Thick
walled





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NON-elastic tape for Splints

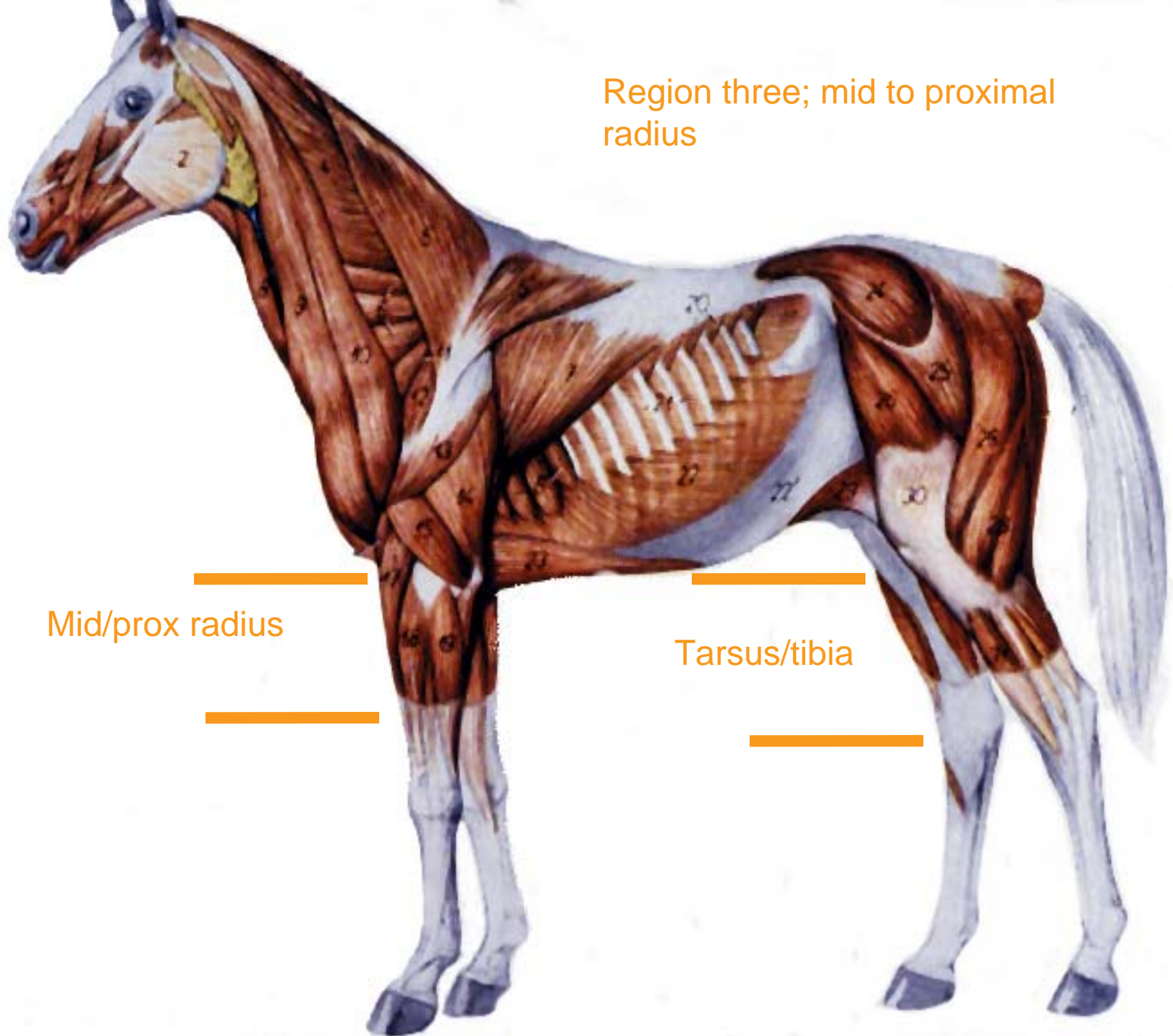




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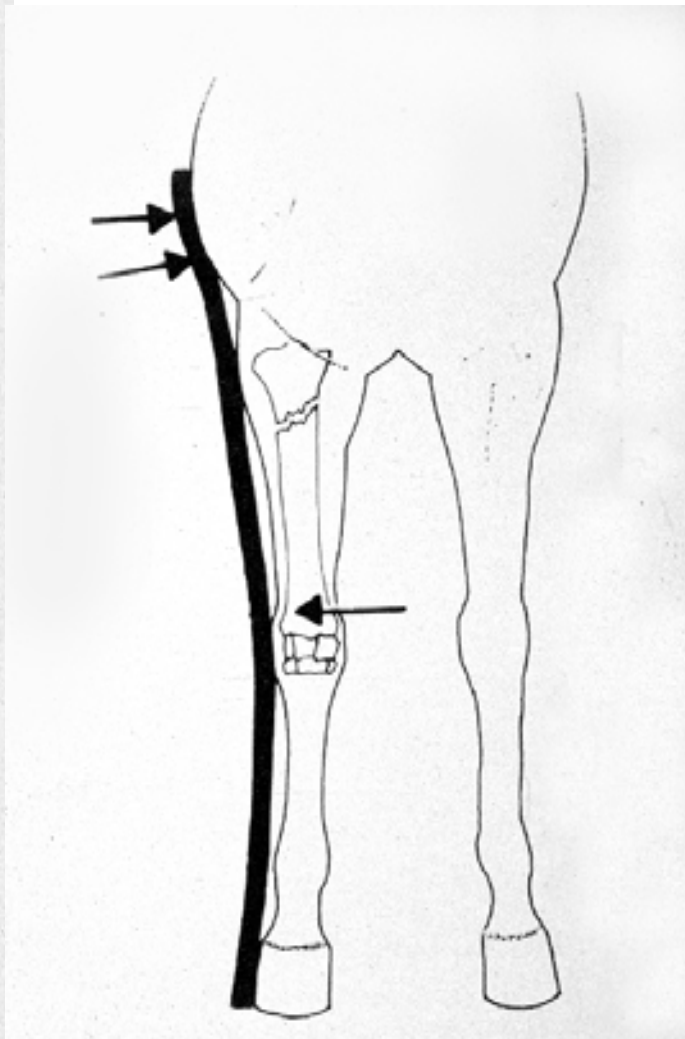
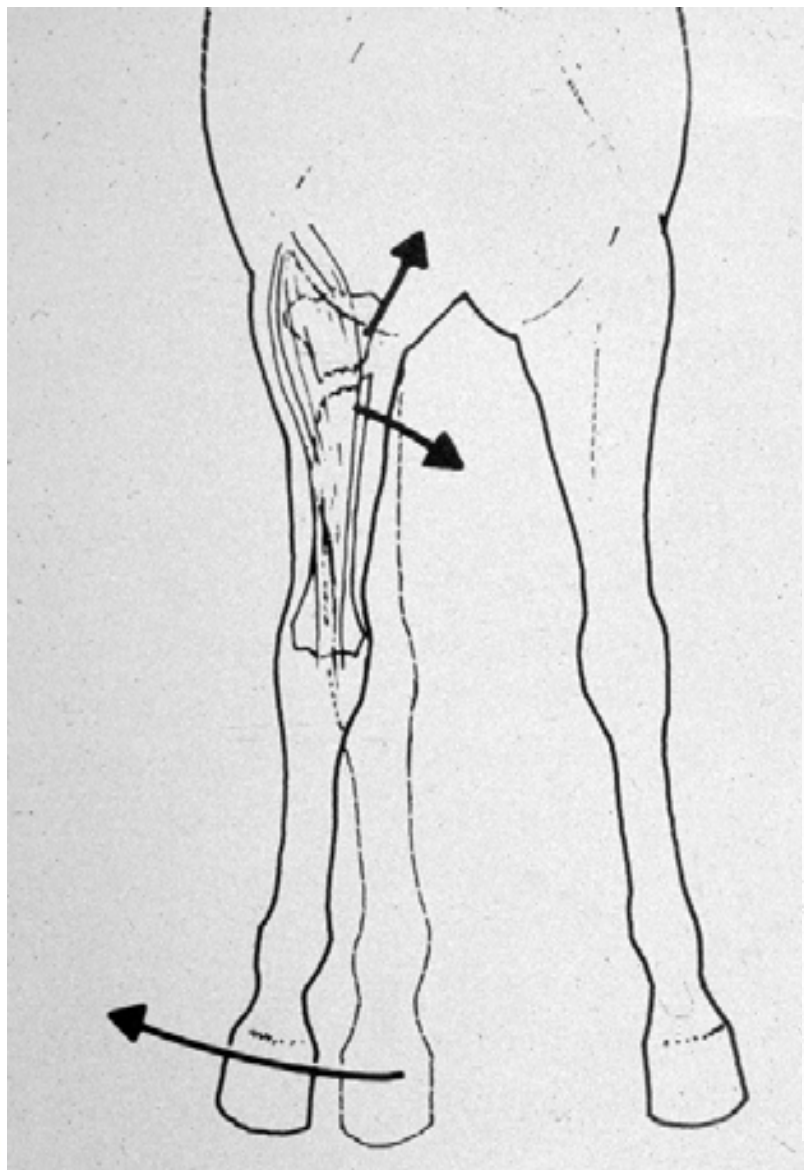


Region three; mid to proximal radius



Mid/prox radius

Tarsus/tibia





fare





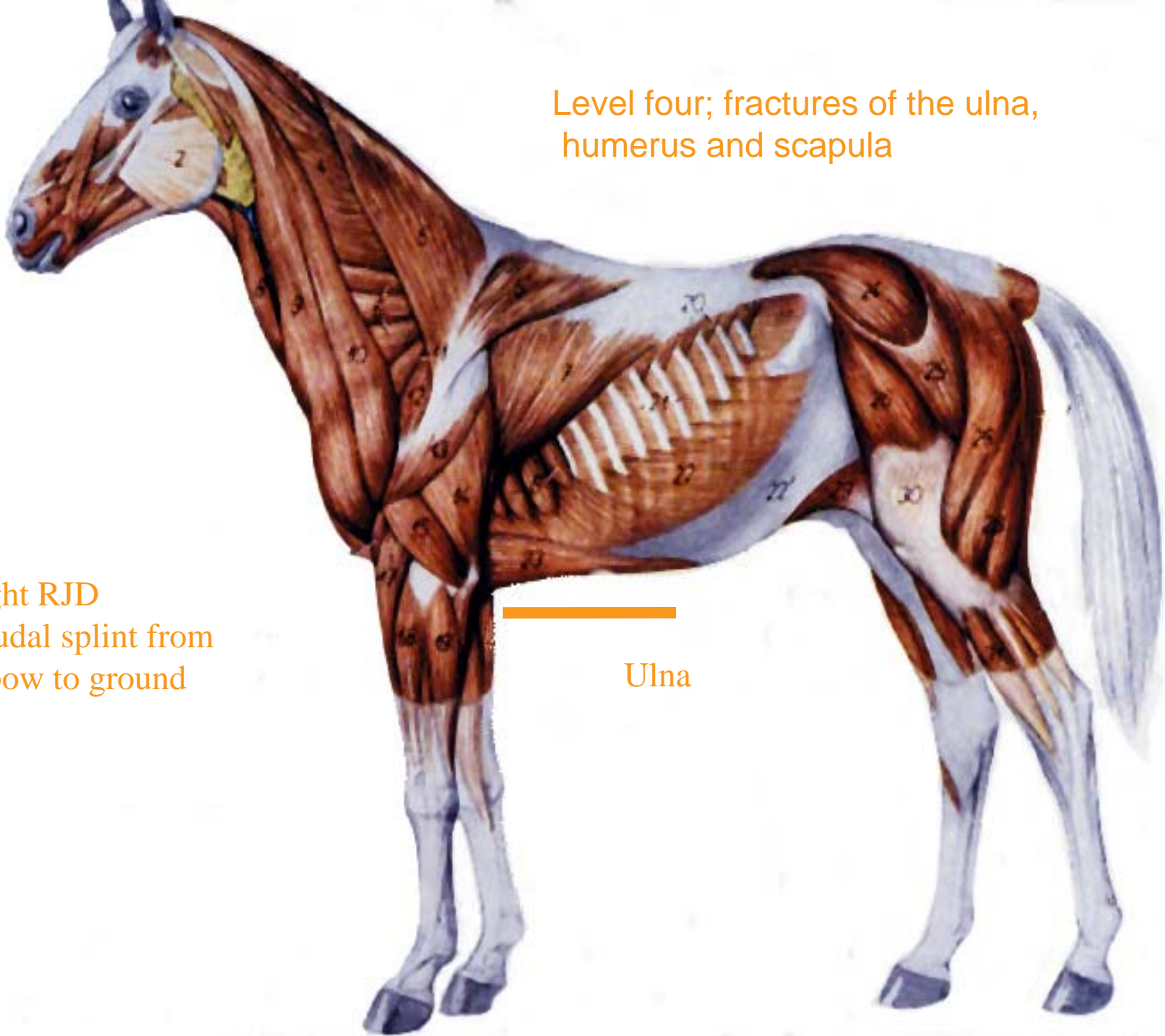
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Level four; fractures of the ulna, humerus and scapula

Light RJD
Caudal splint from
Elbow to ground

Ulna



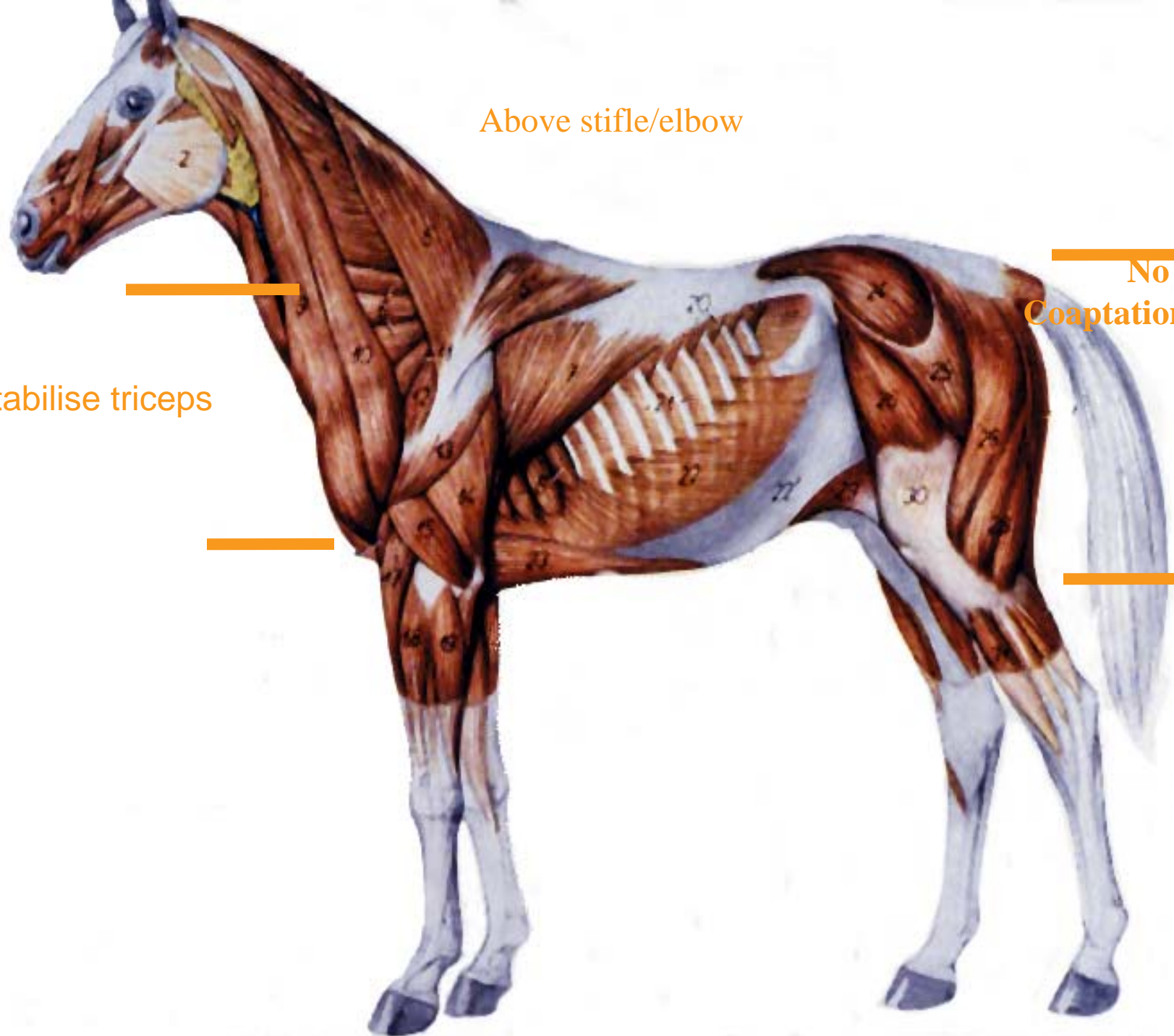


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Above stifle/elbow

No
Coaptation

Stabilise triceps



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Transportation

- **Vehicle**
- **Constraint**
- **Direction**
- **Sedation**
- **Attendant**



Constraint

- **TIGHT! Give them something to lean on**
- **Don't tie head too tightly**
- **Slings are usually difficult to rig in a field situation**



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Rule of thumb

- **Don't Panic!**
- **First Aid if you are not certain of prognosis**
- **Don't treat in knee-jerk fashion**
- **Remember that initial treatment may be the MOST important treatment ESPECIALLY if it is done incorrectly**