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THE PRACTICAL MANAGEMENT OF EQUINE WOUNDS

Tim Greet
Rossdales Equine Hospital, Exning, Newmarket, UK

Assessment of wounds
Site of wound....
distal or proximal limb, abdomen, chest, head or neck
Hoof capsule
Synovial involvement
Skin or other tissue loss
Bone injury

Wounds of proximal limb
Good muscular underlay
Suturing often unnecessary
Synovial structures well protected
Stifle (patellar injuries)
Shoulder (supraglenoid and lateral/deltoid tuberosities)

Wounds of the more proximal limb complicated by fracture

Patellar fracture
Typically medial pole
Arthroscopy/arthrotomy

Limb wounds in awkward places
“Point” of hock
Palmar carpus
Usually regions of maximal flexion
Not easy to immobilise
Full limb cast may be necessary
Robert Jones bandage may be preferable

Distal limb wounds
No muscular tissue
Exuberant granulation response
Restricting movement may be important
Suturing sometimes unhelpful
Hygiene may be difficult
Many vulnerable synovial structures (little soft tissue cover)

Wounds in the pastern and the bulbs of the heels
Are any synovial structures involved?
(PIP, DIP, digital sheath, navicular bursa)
Is the coronary band injured?
Is there any point in suturing the wound?
“Foot” or “half limb” cast?

Wounds of the torso (chest and abdomen)
Chest wounds...assess thoracic visceral involvement
Abdominal wounds..... assess abdominal visceral involvement
Uncomplicated wounds usually heal well by second intention as thick underlying muscle layer and good blood supply
Subcutaneous emphysema may result from suction effect of flap
These are wounds where other life threatening problems should be attended to first

Wounds to thorax
Assess respiratory status FIRST
Dyspnoea?
Epistaxis?
Pneumothorax, rib fracture, pulmonary involvement
Foreign material
Uncomplicated wounds heal well

Abdominal wounds
Other signs that might indicate more severe problem
eg colic or evisceration !!
Skin and muscle only?
Peritoneal cavity involved?
Viscera?
Foreign material (wood)

Wounds to axilla and groin
Often considered devastating by owners!
Axillary injuries heal well by second intention in the absence of neural injury
Inguinal injuries heal well by second intention unless abdominal wall or major vascular damage
Foreign material?
Most are left to heal by second intention

Wounds to the head
Injury to lips, nares and eyelids (require careful anatomical reconstruction)
Neural damage?
Ocular injury?
Parotid duct involved?
Respiratory tract open?
Dental involvement?
Injury to bone (sequestra? suture periostitis? sinusitis?)

Injury to eyes
Very painful
Require urgent therapy
Corneal injury may need conjunctival flap (s p catheter?)
Rupture probably needs enucleation
Emotive to client

Lips and nostrils
Accurate anatomical repair required for function
Layered closure
Good blood supply
Food and saliva contamination

Oral injuries
Cheeks
Tongue
Palate
Teeth
Mandible
or maxilla

**Injury to parotid duct**
Saliva when eats
Inhibits healing
Many heal spontaneously
Surgery??

**Injuries involving the paranasal sinuses**
Respiratory obstruction
Haemorrhage
Secondary sinusitis
Sequestration

**Injuries to hoof capsule**
Special considerations
Synovial involvement (joint, bursa or sheath)
Support or protect hoof with surgical shoe (underlying laminar status?)
Repair hoof …polyurethane?
Foot cast may be valuable in some cases

**Assessing penetrating solar injuries**
Is the nail or FB still there?
Synovial involvement (DIP, bursa, digital sheath)
Synovicentesis
Contrast navicular bursography
Inject fluid under pressure (leak from wound)

**Wounds involving bone injury**
Multiple radiographic views to assess extent of injury to bone
Consider carefully before repairing wound under GA
If fragmented may be better to manage as an open wound
with a view to delayed sequestrectomy
Is structural repair of bone required?

**Wounds involving synovial structures**
Synovicentesis to assess extent of inflammation and infection
Radiography / ultrasound to evaluate injury completely (eg tendon injury?)
Lavage a matter of EMERGENCY (endoscopic debridement)
Local and parenteral antibiotics
Continuous monitoring if synovial sepsis
In addition to lavage antibiotic administration both local, parenteral and possibly depot should be carried out

Bandages or Casts
Supporting distal limb wounds in particular
Cast very effective for hoof capsule,
bulbs of heels and wounds in regions of high motion
(full, half or foot…GA?)
Splints and robert jones bandage
Absorbent dressings (eg nappies, incontinence pads)

**Wound management 1**
Assessment (including wound chronicity)
Scrupulous wound hygiene
Debridement and removal of devitalised tissue
Consideration of future devitalisation (blood supply to narrow triangular flaps?)

**Wound management 2**

Primary repair is the “gold standard”
However secondary intention healing is often as good and in some situations preferable
Following preparation of wound repair in anatomical layers as accurately as possible
Alternatively partial repair can be combined with some areas being left to heal by second intention

**Wound repair**

Where possible simple interrupted patterns in skin (or staples) are best
Tension can be taken up by alternating with vertical mattress sutures (may incorporate quills or other devices)
Deeper tissues repaired using polyglactin, polydioxanone in continuous pattern
Anatomical layers used where possible

**The use of drains?**

I am not very enthusiastic!
Drainage holes often as good
Suction drains require much management
Penrose drains used in dead space are the ones I tend to use
Remember infection can enter via drains!

**Delayed primary closure**

In the acute situation can leave wound open but ~10 days can re-evaluate with a view to delayed primary closure
Particularly useful where much swelling, uncertain of viability of tissues or where other matters are more important in first instance eg synovial sepsis

**Control of exuberant granulation tissue**

Radical debridement of devitalised tissue
Wound hygiene
Immobilisation (cast?)
If use chemicals remember that they will damage vulnerable new epithelial cells
Re-debride if exuberant
Skin Grafting Techniques
Seldom used in our hospital
Mostly “pinch” grafts which are very forgiving
Need to prepare site carefully to ensure healthy bed
Need not use too many grafts (inductive effect on other epithelial cells)
Immobilise in cast if possible

**Conclusions**

“Golden period” is best
Careful appraisal of patient
Wound may not be most urgent issue
Synovial sepsis !!
Mother nature will heal most wounds if we allow her!
Common sense should be your guiding star