**First-Aid Treatment of the Fracture Treatment**

**Overview:**

 Immediate fracture support has to do with relieving pain, minimizing bony and soft tissue tissue damage while stabilizing the limb as well as preventing further contamination if the fracture is open. Chemical restraint can be used but in small doses since compromised horses are prone to ataxia and collapse. Systemic analgesics such as NSAIDs can be given as well as antibiotics if an open fracture is present. The horse’s tetanus status should be checked. First-Aid treatment is best achieved with the use of bandages andFo splints. A splint should immobilize the joints proximal and distal to the fracture while being quick and easy to apply. The length of the splint depends on the size of the animal as well as the location of the fracture. Padding should be applied to booth the proximal and distal ends of the splint before application to lessen pressure in those areas.

**Forelimbs:**

1. Fractures of the distal metacarpus and the proximal and middle phalanges
* Transverse or oblique fracture- the dorsal cortices of the third metacarpus and phalanges are aligned to minimize a fulcrum effect on the fracture when loading. To apply the bandage an assistant will hold the limb off the ground at the point of the forearm so that the distal limb is in a vertical direction. 1-2 bandage layers are then applied to the distal portion of the limb and then the splint is applied dorsally. 1-2 more layers of bandaging are applied to further stabilize the limb and keep the splint in place. Heavy taping is applied from the tow to the carpus again to prevent the splint loosening. A heel wedge is in some cases a useful addition.
* Sagittal plane fracture- 2 splints on the lateral and medial aspects of the distal limb are applied over a half-limb Robert Jones bandage. This is done with the limb weight-bearing.
1. Fractures from the mid-metacarpus to the distal radius
* A full Robert Jones bandage should be applied from the toe to the elbow while the horse is in a normal standing position. After this splints are taped tightly to the lateral and caudal aspects of the bandaging. The proximal end of the splint has to be padded to prevent rubbing and further injury being caused to the animal.
1. Fractures of the mid and proximal radius
* With this fracture minimizing abduction of the limb is necessary due to the lateral musculature of the forearm. A Robert Jones bandage should be applied from ground to elbow. A splint is then tightly applied on the lateral aspect extending from the foot to the mid-scapula level. Again, the proximal end of the splint must be padded to prevent further injury to the animal.
1. Fractures of the ulna, humerus and scapula
* This type of fracture cannot be splinted and supported because the location disables the triceps muscle which in turn affects the ambulation of the horse. A splint should be applied caudally to fix the carpus in extension and this would allow the horse to move more easily. A Robert Jones bandage is applied from the foot to the elbow and the splint is taped caudally from the fetlock to the elbow.

**Hindlimbs:**

Splinting is less well tolerated on the hind limb and more bandaging may be necessary after ambulation due to the loosening of the splint.

1. Fractures of the distal metacarpus and below
* Same as the forelimb but the splint is placed on the plantar aspect. An assistant should hold the limb above the hock so that the distal limb is vertical for application.
1. Fractures of the mid and proximal metatarsus
* A Robert Jones bandage should be applied from the toe up to and include the calcaneus, with the limb weight bearing. Splints are then tightly applied caudally and laterally to the level of the calcaneus.
1. Fractures of the tibia and tarsus
* This splint has to counteract the medial force of the lateral musculature of the tibia and the destabilizing effect of stifle flexion by the reciprocal apparatus. So, to achieve this a full Robert Jones bandage is applied from the toe to the proximal tibia. A splint is then applied to the lateral aspect of the limb and should extend to the tuber coxae. A rod shaped in a loop proximally can be used as a splint but this is rarely available so a long, thin wooden splint can be used in place of it.
1. Fractures of the stifle, femur and pelvis
* These fractures are not responsive to external coaptation and should be cross-tied if possible to prevent or minimize further damage.