

The Successful Treatment of Distal Phalanx Fractures

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Fractures of the Distal Phalanx (DP) are not a rare event, although many farriers and vets may complete their career without ever encountering one. Traditional treatments for DP fractures have not progressed much. Treatments range from stall rest, plaster casts or bar shoes. Most treatment regimes encompass a mixture of these. Simple fractures, (i.e. wing fractures). Most of these will get better irrespective of the treatment. It is a popular treatment to surgically stabilise complicated fractures using screws. Equine Digit Support System (EDSS) DP fracture plate system will compliment this surgery. However, due to the high risk nature and cost of surgery, also the skill required to perform the repair procedure, the *EDSS DP fracture plate system has been shown to have many advantages over surgery.*

Trimming for Distal Phalanx Fractures

Start the trimming process by lowering the excess hoof wall at the heels, to an equal height from the *functional sole* or sole plane. This should be approximately 1/8" (3mm) on the front feet and 1/4" (6mm) on the hind feet. A rim of hoof wall must be maintained above the sole to avoid any pressure from the pad / shoe combination. It is imperative to keep the hoof wall at the same height either side of the toe. Failure to trim the foot correctly will destabilise the DP and may affect the healing process.

Once the trimming process has been completed, place the pad against the foot and check to see that there is no pressure on the frog and sole.

If pressure is evident, it will be necessary to rebuild the hoof wall, on its ground surface, to eliminate any pressure points.

Shoe / pad fitting

Use an appropriate size *Equine Digit Support System* shoe. Fit the shoe so the inner curved border, at the toe, is over the tip of the frog.

Take an EDSS DP fracture plate, (pedal bone fracture plate), and fit the pad to the shoe. Drill and countersink the pad at the toe, to line up with the pre drilled and tapped hole in the toe of the shoe. Take one of the screws, provided in the EDSS DP fracture kit, and attach the pad and shoe together at the toe. Trim the excess pad away from the shoe/pad combination, I have found good quality hoof cutters are great for this process. Although it is possible to nail through these pads I advise pre drilling the nail holes, using a 3mm drill, prior to nailing on the shoe.

Mix a small amount of EDSS impression material and it into the rear most portion of the foot approximately 13mm wide Tape on an EDSS impression plate and allow time for the impression material to set up. Once the impression material has set up, remove the impression plate and trim the impression material back so it is only in the rear 1/2" (13mm) of the frog and sole. The role of the impression material is only to seal the shoe / pad combination. I pack the rest of the sole with "*Magic Cushion*" medicated hoof packing. The analgesic qualities of this product seem to rapidly decrease the pain in the affected foot. Nail the shoe and pad onto the foot and clench up in the normal manor. I advise shoeing the contra lateral limb in an identical fashion as the affected limb. This is to assist the healing process and ensure the soundness of the equine patient in the long term.

Set up

Following completion of the shoeing process, it is necessary, if possible, to set the horse up to land *slightly heel first*. This is achieved by walking the horse in a straight line towards you, on a flat strip of land. Just prior to landing, you should see the toe of the foot, flip up slightly. If this does not happen, remove the protective screws from the shoes.

Take a pack of EDSS rails and remove the lowest rails. Screw the selected rails onto the shoes and walk the horse again. If the horse is still not landing toe first, remove the rails from the shoes and select a higher size. Screw the higher rails onto the shoes and walk the horse again.

Continue this process again until the horse becomes heel first landing. Although it is desirable to have all horses achieving a slight heel first landing, this may not be possible for all horses. As a rule of thumb I select a rail height that gives the horse the *greatest comfort whilst walking and turning*.

Re-shoeing periods

I re-shoe all cases at six to eight week intervals, depending on hoof growth. All these horses need regular monitoring and may need alterations to the rail heights during the shoeing period. The shoe/rail design makes it possible to alter or replace the rails without the need to remove the shoes. After each reset, it is necessary to go through the set up process again to ascertain the correct rail height.

Once there is no hoof tester pain in the foot I change the protocol for the *EDSS Impression Material*. I put a full pack of impression material into the feet to provide a greater support platform for the horse. I monitor the horse for a few days following this change to check for increased lameness or discomfort.

Prognosis for P3 Fractures

The shoe/pad combination protects the fracture site and removes any upward force from the ground that may displace the fracture or disrupt the healing process.

The rails reduce or eliminate the static loading on the Deep Digital Flexor Tendon, assisting the stabilising process of the fracture site. This is particularly important in sagittal fracture cases.

As with all farriery, success is only possible if there is attention to fine detail in the trimming, shoeing and set up processes.

I have information on 33 horses that have had DP fractures. All types of fractures have been treated using this shoeing protocol. Only one horse, with multiple problems that was shod following surgery to repair the fracture, has not returned to pre fracture soundness.

Many owners have reported their horses have achieved increased soundness following the treatment than prior to the treatment. I have contributed this to the placement of all these horses into a Natural Balance shoeing program, post fracture.

For further information on Distal Phalanx Fractures and the Equine Digit Support System

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