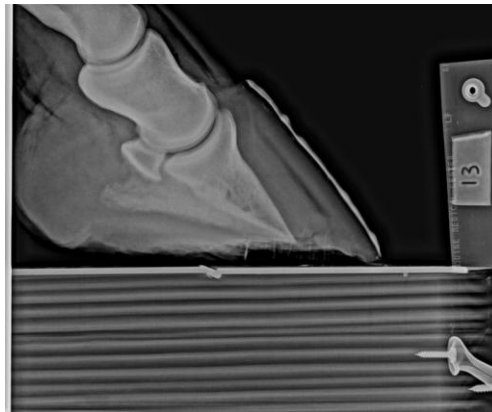


## Introduction to Laminitis and First Aid Protocol

Laminitis is a serious and life threatening condition caused by systemic disease, stress or disease, trauma or imbalance in the horse's feet. It is characterised by pain, lameness, heat in the foot and a raised digital pulse. It can be sudden in onset or gradual and is conventionally described as acute (sudden in onset) or chronic (low-grade signs and long term in duration).

In Laminitis, there is usually a displacement of the internal foot within the hoof capsule. The displacement or movement of the internal foot can be symmetrical or asymmetrical. The pedal bone (3<sup>rd</sup> Phalanx/P3) can move distally (towards the ground) and this is also called 'sinker' or 'founder' and is more common with upright hooves. Rotation can occur around the coffin joint and is more common in horses with a more sloping dorsal hoof wall and under run heels. The most common rotation is called caudal rotation, where the pedal bone moves away from the hoof wall at the toe.

Horses recovering from acute laminitis with resultant changes to the hoof wall growth and angle or horses which exhibit periods of low grade pain or 'footiness' are called chronic laminitis. In AEP, horses with deformed hoof capsules and which exhibit these signs are described to be suffering from Internal Arch Apparatus (IAA) displacement. On x-rays, joint spaces may appear normal but the hoof capsule has become deformed and migrated away from the internal foot. A laminar wedge may be present and the heels may be long, the sole forward of the apex of the frog may appear flat and the collateral grooves may be deep. In a horse with long toe/under-run heels, or in chronic laminitis, the pedal bone may be ground parallel or appear negatively rotated. With ANY laminitis, x-rays are required to ascertain balance, sole depth, ground reaction forces (GRF), sole depth and later; to ascertain bony changes and disease resulting from the laminitis and imbalance.



Severe distal displacement of P3 with imminent penetration of the sole, gas pockets and separation of the hoof wall at the coronet. (Pictures courtesy of the Institute of Applied Equine Podiatry)

The treatment protocol will differ accordingly but with ANY laminitis, it is worth remembering that there will ALWAYS be secondary issues resulting from changes to the conformation of the cartilage and sometimes the bones within the hoof and this should be considered in the prognosis and treatment of the laminitic horse.

In AEP it is believed that the coronet is responsible for suspending the internal arch apparatus (internal foot) within the hoof capsule and a loss of elasticity in the soft tissues of the horse and foot is defined as Equine Digital Elastosis (EDE). It is this loss of elasticity which causes the suspension apparatus to fail in the foot resulting in the signs of laminitis. EDE is believed to result from an unhealthy metabolism from toxins, disease and/or stress and trauma from unhealthy environmental stimulus. It is exacerbated by poor foot health, imbalance and the application of a shoe.

Treatment is aimed at assisting and supporting the suspension apparatus whilst helping to relieve pain and prevent further displacement of the internal foot. By using the theories and understanding of true foot function within the science of Applied Equine Podiatry and methods based on those theories, a more efficacious and realistic diagnosis, treatment and prognosis may be made with assistance from the owners vet and the use of x-rays.

**Please print off this 10 page article about Equine Digital Elastosis/laminitis by Institute of Applied Equine Podiatry founder KC LaPierre found here and give it to your vet and current hoof care provider:**

**[http://www.appliedequinepodiatry.org/Text\\_Files/EDE\\_Paper\\_Sept\\_2010.pdf](http://www.appliedequinepodiatry.org/Text_Files/EDE_Paper_Sept_2010.pdf)**

### **Acute laminitis AEP first aid protocol**

- 1) If you suspect laminitis, call your vet. It is painful, can progress suddenly and become life threatening. Correct early treatment can result in a more positive prognosis. The horse will need appropriate pain relief and x-rays to determine balance issues and displacement, if any. X-rays need to be repeated every 24 hours for a period of 72 hours with acute laminitis.
- 2) Call your DAEP who will liaise with your vet. Traditional farriery practices may involve practices and methods which result in the incorrect loading of structures which can prolong or exacerbate EDE/laminitis and the effects of the condition.
- 3) Immobilise the horse in a confined area to restrict movement. A stable with deep bedding such as shavings or peat is ideal. A safely sectioned area in a sand school can work too.
- 4) Apply 4lb therapeutic Solemate pads to the underside of the horse's feet. Ideally cut the pads to fit inside the golden line and behind the apex (tip) of the frog. Use vet wrap to keep the pads in place.
- 5) Use iced water soaks (preferably to just below the knee) to reduce inflammation and pain in the foot (discuss with your vet first if possible). Clean Trax boots work well.
- 6) Keep the horse as stress free as possible as stress can increase movement and encourage more EDE which will create further internal foot displacement and pain.
- 7) Make a regular note of the horses pulse and level of pain/lameness (see below for details).

**Ideally have your vet and DAEP meet with you at your horse's location for an integrated team approach. Don't forget to reschedule additional appointments and x-rays!**

### **Pulse**

It is useful to know your horses resting digital pulse (taken on the inside of the pastern with a light finger touch). It is graded 0 to 3;

- |     |                                                                                                                                                                                                          |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0/3 | Normal resting pulse with no lameness or abnormal heat. Thin skinned horses have a more obvious or easily located pulse than cold blooded or native horse. Get to know your horses normal resting pulse! |
| 1/3 | Slightly strong or pulsing, may be heat in the foot and/or accompanied by change of gait. Be on guard and make your vet aware.                                                                           |
| 2/3 | Stronger pulse, probably but not always with heat and a change of gait or lameness. Be very guarded or if accompanied by lameness/pain. Call the vet for assistance.                                     |
| 3/3 | Strong, pounding pulse accompanied by heat and pain/lameness. Call the vet immediately!                                                                                                                  |

**As a guide, a horse with an abnormal resting pulse should be rested and only turned out or exercised after a period of 72 hours following the return of a normal resting pulse and ask your vet for confirmation.**

### **Pain grading – laminitis**

Laminitis lameness and associated pain is graded on the Obel scale with 1 being mild and 4 being severe:

- |     |                                                                                                                                             |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1/4 | Shifting of feet and lameness in the trot. Horse willing to move about in walk. May or may not have a raised pulse and mild heat (1 or 2/3) |
| 2/4 | Stilted gait but still willing to walk. More reluctant to turn and avoid hard and uneven ground. May be heat with raised pulse around 2/3.  |

- 3/4 Resists having a foot lifted and is very reluctant to move around. May adopt classic laminitic stance with hind feet under the body and fore feet out front with weight placed on the heels. Most likely heat and raised pulse; often 3/3.
- 4/4 Horse refuses to move and may be laid out with obvious inflammation, heat and pounding digital pulse.



Laminitic stance typical of a grade 3/4 laminitic pony. Most owners recognise laminitis at a grade 3/4 but by this time the disease has progressed and with more serious repercussions!  
(Picture courtesy of the Royal Veterinary College)

### **Be prepared!**

All horse owners should have the following items in their first aid kit to help with laminitis and related problems such as abscesses and infections:

- 1) Hoof soaking boots such as Clean Trax soaking boots ([www.aepsupplies.co.uk](http://www.aepsupplies.co.uk))
- 2) 4lb Solemate Therapeutic pads for immediate first aid use ([www.holisticequine.co.uk](http://www.holisticequine.co.uk) or above)
- 3) Vet wraps for applying Solemate pads and poultices.
- 4) Clean Trax for hoof infection treatments ([www.holisticequine.co.uk](http://www.holisticequine.co.uk) or above)
- 5) Silvetrasol for regular hoof infection control and flushing ([www.holisticequine.co.uk](http://www.holisticequine.co.uk) or above)
- 6) Animalintex poultices (full size) and duct tape/gamgee for abscesses.

### **Other considerations**

AEP is holistic in its approach and we encourage you to discuss with your vet appropriate diet, homeopathic rehydration and management practices. The Institute of Applied Equine Podiatry has developed a range of products which rehydrate and encourage detoxification using specific homeopathic remedies combined with Horse Quencher. These are called HYDROPATHICS and are available in the UK from [www.aepsupplies.co.uk](http://www.aepsupplies.co.uk) and come in an acute or chronic laminitic form for the horse with EDE or laminitis.

Holistic Equine recommends you feed the laminitic horse organic hay (which has been soaked for around 20 minutes in clean, fresh water) and also Thunderbrook horse feed and supplements. These are free from harmful ingredients, are low starch, will provide support for gut and vitamins and minerals for metabolic health, hoof wall growth support bone health and promote soft tissue repair. Unlike a lot of feeds and supplements which claim to be suitable for the metabolically sensitive horse but are not; these products actually ARE! Thunderbrook also provide a range of complementary herbal supplements including Activated Charcoal, Metaboost, Gut Balancer Laminitis, Gut-balancer Cushings and Gut-Restore which you may be interested in using too. Contact Dr Deborah Carley from Thunderbrook for free advice ([www.thunderbrook.co.uk](http://www.thunderbrook.co.uk)). We do not recommend grazing any horse with raised pulses and a holistic management programme to prevent or control laminitis should be discussed with your DAEP and vet. If you are in doubt as to the health or welfare of your horse, always call your vet and remember; the information here DOES NOT replace the advice given to you by your vet.

Becky Smith BSc (Hons) EBW RM DAEP (MIAEP) of Holistic Equine.



Left: Pony with severe IAA displacement as a result of laminitis/EDE before (left) and after (right) 1<sup>st</sup> AEP trim with Holistic Equine. This pony was previously regularly trimmed by a farrier. The 2<sup>nd</sup> trim resulted in a near normal looking hoof and the pony was pasture sound straight after the first trim and with a much healthier gait.