

## Ringbone

Ringbone is a vague term for any new bone formation between the coronary band and the fetlock. In severe and long standing cases, this bony proliferation may extend completely around the affected joint, hence the name 'ringbone'.

Ringbone is categorized according to its location.

High ringbone occurs around the proximal interphalangeal joint ( between the long pastern and short pastern bones ).

Low ringbone is new bone formation that occurs around the distal interphalangeal joint (between the short pastern and pedal bones). Severe low ringbone produces the highly visible condition known as buttress foot.

Ringbone can be either articular (involving the joint) or non-articular (not involving the joint). Articular ringbone is most likely to be implicated with lameness.

In layman's terms it is basically a result of either damage to the cartilage covered joint surfaces or trauma to the ligaments that surround the lower leg joints. (i.e. tendons or ligaments that have been partially torn from the bone surface.)

### The underlying causes of ringbone are

1. Concussion arising from ground impact that pounds and ultimately erodes cartilage on the joint surfaces, predisposing joints to osteoarthritis.
2. Hoof deformity (mostly long toes and or low heels) which results in a delayed breakover and places major stress to the soft tissue around the joints of the lower leg.
3. Poor medial/lateral balance which means one side of a foot contacts the ground significantly earlier than the other side, causing a "snapping" action through the joints; often a result of misguided 'cosmetic' balancing, especially with pigeon toes.
4. Direct trauma to bone surfaces.

### Treatment

Ringbone is a progressive and degenerative disease. It is permanent damage and thus carries a poor prognosis. If it is not addressed, it may progress all the way to complete joint fusion. Ringbone is much better if it is prevented from occurring in the first place, because there is probably no cure. Once it's there, it's there!

Treatment is based on managing the existing damage and preventing it from getting worse.

Corrective shoeing is not a viable long term option, simply because the concussion that is generated by shoes will continue to reek havoc in the lower joints that are already damaged.

### Barefoot rehab is a good option for managing horses that are suffering from ringbone, and works in the following ways:

#### Reduction of concussion

A healthy functional barefoot absorbs nearly all of the concussion generated by impact with the ground. The frog is on the ground and can play its role as the primary weight bearing structure on landing.

#### Maintenance of correct medial lateral balance

In nearly all instances, medial lateral balance can be correctly determined by trimming feet level with functional sole plane, which is a uniform covering of the pedal bone and is highly representative of medial/lateral skeletal alignment in the lower leg. Once established, this balance can be maintained by regular trimming. (However some horses may have a conformation that is so skewed that there may need to be some farriery interference beyond the level of the sole plane, but this is a rare occurrence).

#### Maintenance of correct breakover

A barefoot horse can be trimmed regularly (even once a week if necessary) so the toe is never allowed to grow out of balance and breakover can be maintained where it is physiologically correct.

#### Hoof capsule flexibility

One vital property of horse's feet is the ability to distort over rough ground, particularly in the back half of the foot. They must be able to flex. (Shoes are rigid and do not allow any flexing in the hoof capsule).

#### Allows the use of hoof boots with concussion pads

If the feet do not have full function, especially in regards to the ability to absorb concussion, hoof boots with shock eliminating pads can be put on whenever the horse is ridden.