

# Hoof Wall Cracks

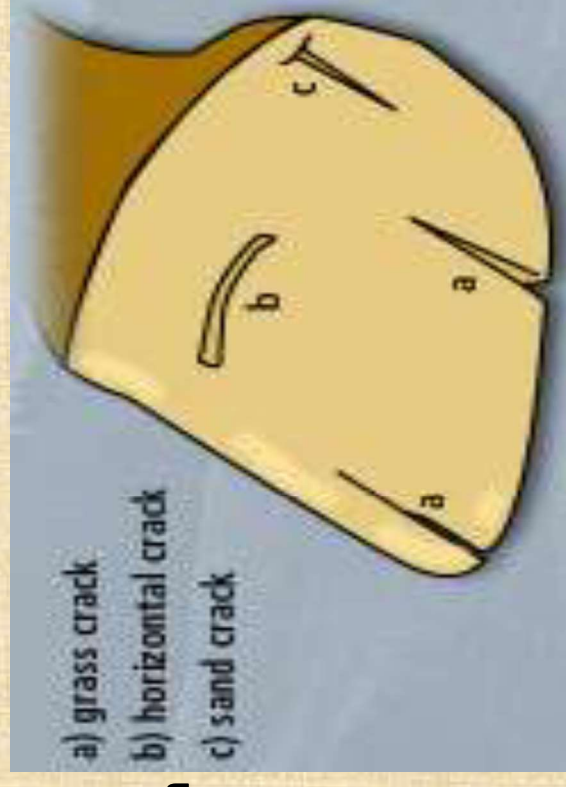
## INTRODUCTION

- Many factors can result in hoof wall damage: poor hoof quality, overgrowth, poor foot/limb balance, poor nailing and shoe fit, trauma, disease and environmental conditions
- Hoof cracks are referred to by their type, location and depth
- Cracks are either **complete** (extend the entire length of the hoof wall) or **incomplete** (extend part-way up or down the hoof wall)

# Hoof Wall Cracks

## TYPES OF HOOF CRACKS

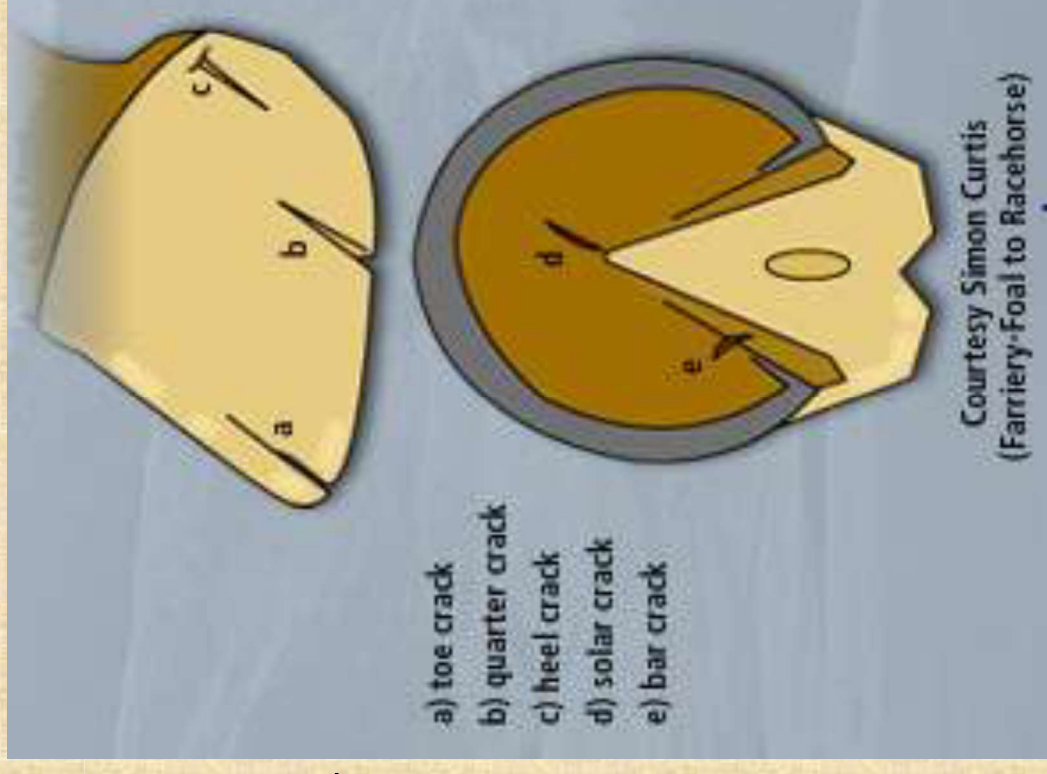
- Grass Cracks
  - ❑ Vertical cracks originating at the ground surface of the hoof
  - ❑ May extend partially or completely up the hoof wall (to the coronary band)
  - ❑ Considered a split in the hoof wall
- Sand Cracks
  - ❑ Vertical cracks originating at the coronary band
  - ❑ May extend partially or completely down the hoof wall (to the ground surface)
  - ❑ Considered a fracture of the hoof wall
- Horizontal Cracks
  - ❑ Run parallel to the coronary band



# Hoof Wall Cracks

## LOCATIONS OF HOOF CRACKS

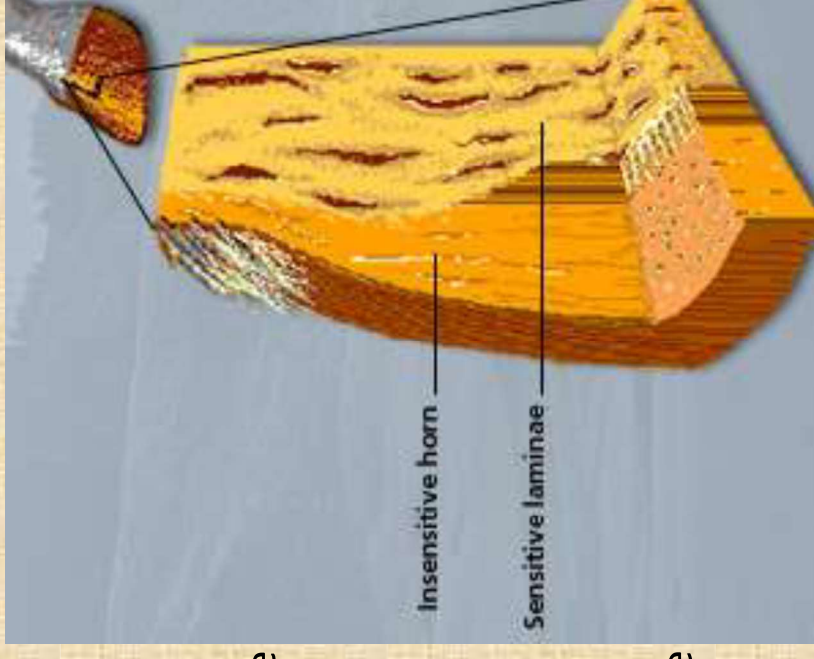
- **Wall Cracks**
  - ❑ Cracks which appear in the wall of the hoof, such as toe cracks, quarter cracks or heel cracks
- **Solar Cracks**
  - ❑ Cracks which appear in the sole of the hoof, such as sole cracks or bar cracks
  - ❑ Sole cracks are often superficial and usually radiate out from the apex of the frog, however they can also be deep and occasionally infected
  - ❑ Bar cracks are often deep



# Hoof Wall Cracks

## DEPTHS OF HOOF CRACKS

- **Superficial**
  - ❑ Penetrate only the outer insensitive horn of the foot
  - ❑ If neglected they can become deep cracks
- **Deep Cracks**
  - ❑ Penetrate the sensitive laminae of the foot
  - ❑ Often bleed during exercise and may become infected



# Hoof Wall Cracks

## CAUSE:

### GRASS CRACKS

- In general, hoof wall cracks, including grass cracks, are caused by:
  - ❑ Poor hoof quality: hooves of a brittle or 'shelly' consistency which are easily split
  - ❑ Environmental conditions: hooves are weakened in either extreme wet or dry conditions
  - ❑ Incorrect nailing: hooves can be split by the use of over-large nails and nailing too superficially ('fine') into the hoof wall

# Hoof Wall Cracks

## CAUSE:

### SAND CRACKS

- Caused by uneven stress to the hoof capsule, arising from a foot-limb imbalance.
- Sand cracks can occur following a traumatic injury or after excessive and repeated concussive stress
- Additional causative factors include poor hoof quality, environmental conditions, type of exercise surface and speed at exercise
- Although coronary band treads were often considered to be a cause of sand cracks in working horses of the past, direct trauma to the coronary band is unlikely to cause sand cracks in modern athletic horses.

# Hoof Wall Cracks

## CAUSE:

### HORIZONTAL CRACKS

- Caused from an injury to the coronary band which results in the temporary cessation of healthy horn growth

# Hoof Wall Cracks

## CAUSE:

### SOLAR CRACKS



- **Sole Cracks**
  - Most commonly seen in horses with chronic laminitis Caused by the direct pressure from a rotating pedal bone
  - and in young horses with upright or 'clubby' feet
  - In a young horse solar cracks are temporary, but in the laminitic foot they can be persistent
- **Bar Cracks**
  - Can be caused by some cases of low grade, chronic laminitis and in horses with a long toe/low heel syndrome



# Hoof Wall Cracks

## DIAGNOSIS

- Hoof wall cracks are visibly obvious, but their significance is determined by the extent of coronary band involvement and whether or not infection is present
- In lame horses, a crack through the coronary band may be painful to palpate and the edges of the crack may move apart when the horse bears weight (signifies instability, pinching and inflammation of the sensitive laminae)
- In lame horses, a crack through the ground surface of the hoof may be associated with a localized area of pain on palpation (signifies infection and abscess formation)
- In chronic cases of hoof wall cracks, radiographic examination may reveal secondary changes to the pedal bone.



# Hoof Wall Cracks

## TREATMENT

- Crack is trimmed out to debride the cavity and hoof wall, exposing the area to air
- If a solar abscess is present, it should be located, trimmed and treated
- Infected crack is flushed with a topical antibiotic
- Proper shoe (i.e. full-bar shoe) is applied to stabilize the foot (nails should not intrude into crack)
- If required, toe or quarter clips are fitted on either side of the crack (clips should not intrude into crack)

# Hoof Wall Cracks

## TREATMENT

- If crack is recent and uncomplicated it is wired or laced together (using horizontal holes drilled through the hoof wall)
- If crack is long-standing and complicated it is filled with an acrylic hoof repair material to hold the edges of the crack
- Bar and sole cracks should not be covered by any repair material
- Hoof hardener can be applied

# Hoof Wall Cracks

## AFTER-CARE

- Stable rest is required until the hoof wall crack is stabilized and healing
- The hoof should be trimmed and the stabilization components (i.e. wires or laces, patch, shoe, clips) reapplied as the hoof grows and the crack changes position
- **Note: The hoof wall grows approximately 0.6 cm every month**

# Hoof Wall Cracks

## PREVENTION

- Maintain regular hoof trimming and shoeing at all times but especially during times of dry weather
- Feed supplements containing biotin and methionine to aid good quality hoof growth, especially for horses with naturally brittle feet

# Bruised Sole

## INTRODUCTION

- Important cause of lameness in shod or unshod horses
- It is an injury which results in hemorrhage into the sensitive tissues of the sole
- Hemorrhage increases pressure in the sensitive tissues of the sole which results in pain
- Hemorrhage also causes discoloration in the typical manner of a bruise



# Bruised Sole

## CAUSE

- A bruised sole is caused by trauma resulting from the following:
  - Treading on a stone or another hard object
  - Poorly fitting shoe
  - Excessive work on hard ground

# Bruised Sole

## DIAGNOSIS

- Horse may become suddenly lame and then appear to recover but will often be lame the next day
- Pain is located when pressure is applied with hoof testers
- Sole paring at the area of pain reveals a visible bruise



# Bruised Sole

## TREATMENT

- Steps in the treatment of a bruised sole include:
  - ❑ Trimming the overlying solar horn may relieve the painful pressure of haemorrhage
  - ❑ Applying an antiseptic spray to help keep the damaged horn clean
  - ❑ Applying a poultice and bandage
  - ❑ Applying a shoe with a pad

# Bruised Sole

## AFTER-CARE

- The poultice should be removed after 24 hours but the protective bandage can be left on for a further 48 hours
- The foot is trimmed and shod when it is no longer painful
- The horse may remain lame until it is reshod

# Bruised Sole

## PREVENTION

- Pick and thoroughly clean out the horse's feet before exercise
- Avoid exercise on stony ground
- Maintain regular hoof trimming and shoeing
- Consider the use of pads to protect the sole if the horse is prone to bruising

# Bruised Sole

## CAUTION

- A foot abscess can cause a similar type of sudden lameness with focal pain
- Abscesses must be found, drained and poulticed without delay