

BEEF CATTLE LAMENESS

IDENTIFYING CATTLE LAMENESS PROBLEMS

- 90% of lameness is due to problems in the foot
- Two most common problems, footrot and toe abscess, require different treatments
- Watch animal in motion to pinpoint lameness location
- Pick up foot, wash and examine to determine cause of lameness



FOOTROT - infection of skin between the toes



Diagnosis

- Symptomatic swelling
- Foot slough
- Hindering at heel(s) between toes



Treatment

- Wash with soap
- Repair with shoe
- Apply only meds to individual abscessed foot



Prevention

- Wet groundwater
- Improve sanitary conditions



Diagnosis

- Walk to project footing
- Extremely painful
- May result in loss of shoe
- No swelling, normal skin



Treatment

- Top hoof with abscess gas
- Soak joints and DO NOT CLEAN
- GOODBYE TO CAUSE-RELATED
- Select long duration antibiotics
- House to healthy environment
- Why treat? It's not to stop



Prevention

- Dry lot for cattle
- Avoid mud
- Provide preventative footing in drylot and working areas

SWOLLEN SEPTIC JOINT



Diagnosis

- Swelling of interdigital or coronary joint
- Painful to walk
- No lameness in foot but severe lameness in whole limb

Prevention

- Avoid wet environments
- Minimize stressors

Prevention

- Avoid wet environments
- Minimize stressors
- Avoid wet environments
- Minimize stressors

INJURED FOOT



Diagnosis

- Visible interdigital injury

Treatment

- Wash with soap
- Repair with shoe
- Apply only meds to individual abscessed foot

UPPER LEG



Diagnosis

- Swelling around in weather
- May be severely painful
- Swelling, etc.
- Pull out foot causes lameness

Treatment

- Clean and debride

Prevention

- Avoid wet environments
- Avoid wet environments

LAMINITIS



Diagnosis

- Swelling around in weather
- May be severely painful
- Swelling, etc.
- Pull out foot causes lameness

Treatment

- Clean and debride

Prevention

- Avoid wet environments
- Avoid wet environments

HAIRY REEL WARTS



Diagnosis

- Swelling around in weather
- May be severely painful
- Swelling, etc.
- Pull out foot causes lameness

Treatment

- Clean and debride

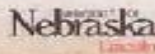
Prevention

- Avoid wet environments
- Avoid wet environments

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IDENTIFYING LAMENESS PROBLEMS



- Watch Animal in Motion to Help Pinpoint Location of Lameness
- Have to Pick up The Foot, Wash It And Examine To Determine Cause of Lameness



90% OF LAMENESS IS DUE TO PROBLEMS IN THE FOOT

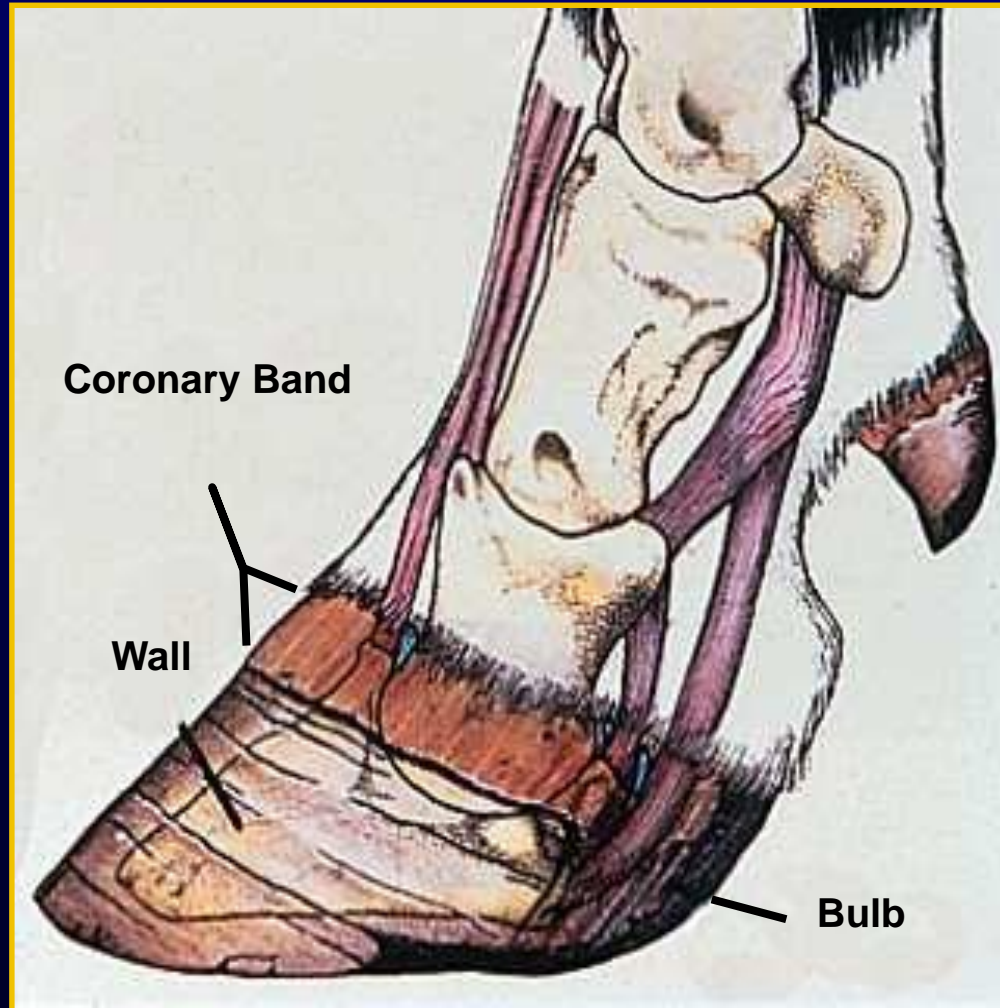
■ Two Most Common Problems Require Different Treatment

- Footrot
- Toe abscesses

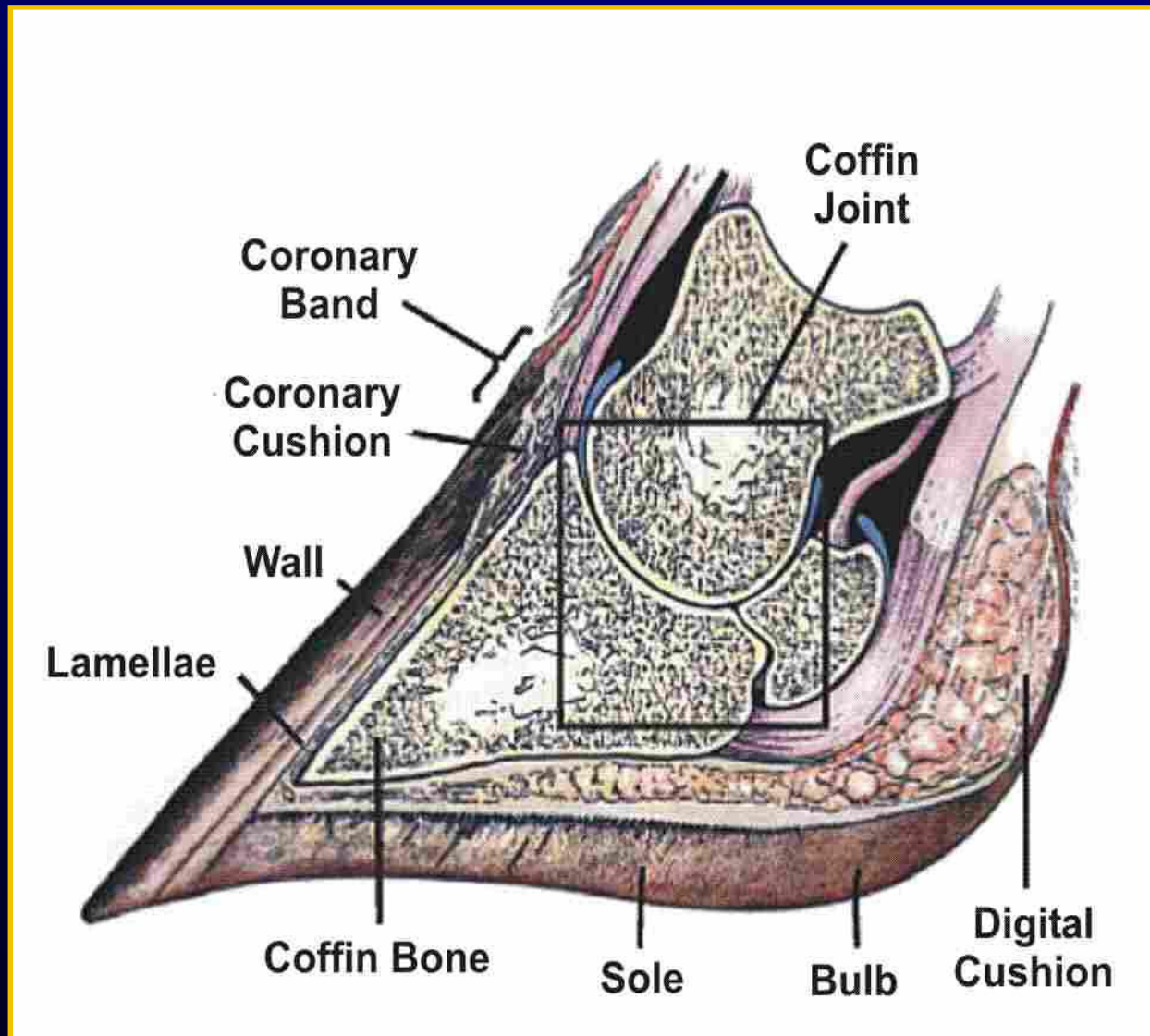


ANATOMY OF THE FOOT

CLAW BONES AND TENDONS



CROSS SECTION OF CLAW



FOOTROT

INFECTION OF SKIN BETWEEN THE TOES



Dee Griffin, DVM
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FOOTROT

DIAGNOSIS

- Symmetrical Swelling
- Foul Smell
- Broken Skin (ulcers) Between Toes



FOOTROT

- **Bacteria
Causing
Disease
Lives in
Soil or
Internally
in Animal**



FOOTROT TREATMENT



- Wash Until Clean
- Topical Antiseptic
- Responds Well To Antibiotics

FOOTROT PREVENTION

- Pen Maintenance

- Proper Nutrition Improves Skin Integrity

TOE ABSCESS

TOE ABRASSION WITH SUBSEQUENT INFECTION IN THE CLAW



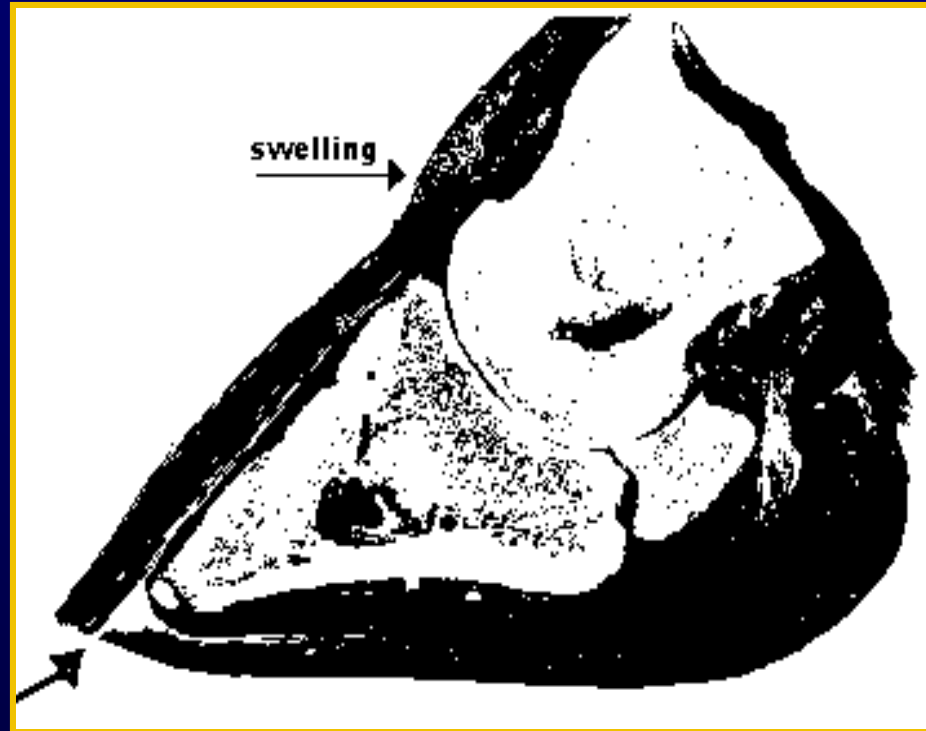
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TOE ABSCESS

DIAGNOSIS

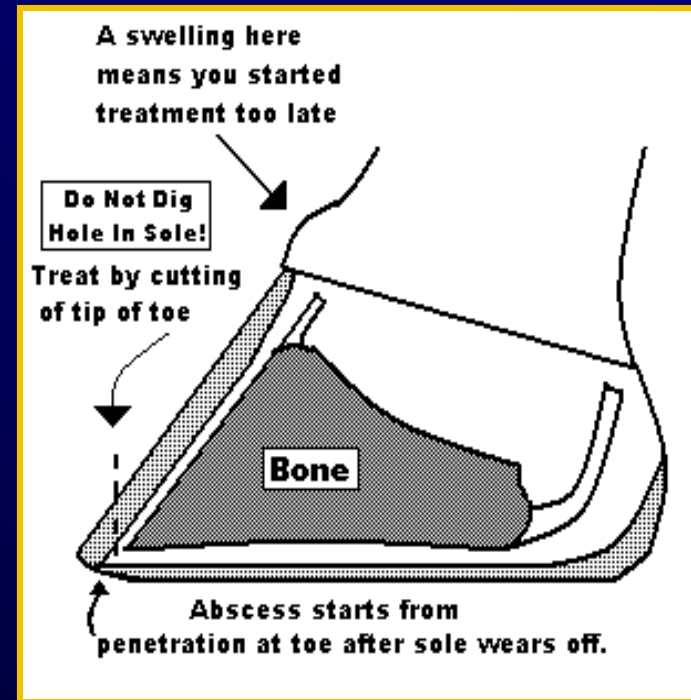
- Walk To Protect Toe(s)
- Extremely Painful
- Worn Sole And Tip Of Toe
- No Swelling; Normal Skin



TOE ABSCESS

TREATMENT

- Tip Toe To Drain Abscess And Relieve Pressure
- DO NOT TRIM ENOUGH TO CAUSE BLEEDING



TOE ABSCESS

TREATMENT

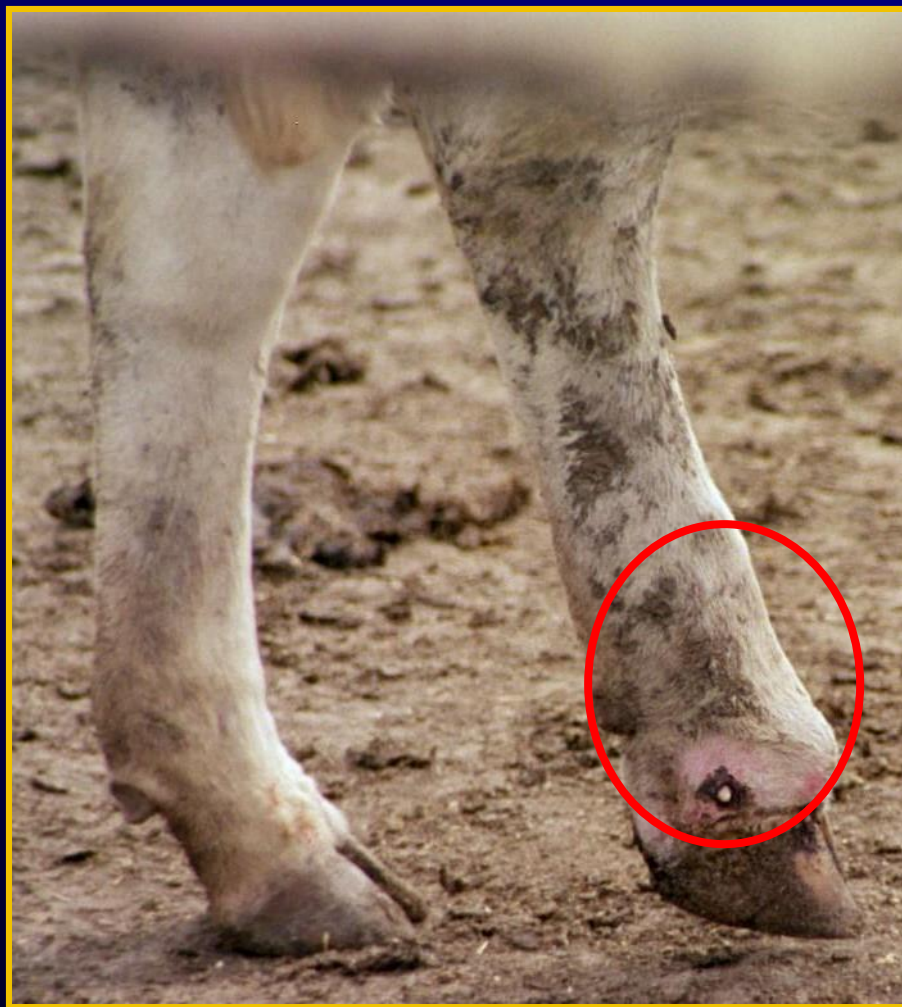
- Tip Toe To Drain Abscess And Relieve Pressure
- DO NOT TRIM ENOUGH TO CAUSE BLEEDING
- Select Long Duration Antibiotics
- House In Clean/Dry Environment
- May Require Extended Therapy



TOE ABSCESS PREVENTION

- Quiet/Calm Cattle Handling
- Provide Nonabrasive Footing In Alleys and Working Areas

SWOLLEN SEPTIC JOINT INFECTION IN THE JOINT



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SWOLLEN SEPTIC JOINT

DIAGNOSIS



- Swelling At Coronary Band Or Over Other Joint Areas
- Primary Causes are Injury & Infection ... including sequel to toe abscess and septicemic sequel

SWOLLEN SEPTIC JOINT TREATMENT



- NO EFFECTIVE TREATMENT
- Management; Humane Care

SWOLLEN SEPTIC JOINT

PREVENTION

- **Quiet/Calm Cattle Handling**
- **Inspect And Maintain Facilities To Minimize Injury**
- **Septic Joints Secondary To Systemic Infection Are Difficult To Prevent**

INJURED FOOT

DAMAGE TO HOOF WALL OR SKIN AROUND FOOT

- Diagnosis
- Visual evidence of injury



INJURED FOOT

TREATMENT



- Antibiotic For Secondary Infection
- Bandage As Necessary

INJURED FOOT TREATMENT

- Quiet/calm cattle handling
- Routine facility inspection and maintenance

UPPER LEG

BRUISES, ABRASIONS, FRACTURES, SPRAINS AND STRAINS

- **Diagnosis**
- **Observe Animal In Motion**
- **May Be Visually Obvious (Swelling, Etc.)**
- **Rule Out Foot Causes For Lameness**



UPPER LEG

TREATMENT/PREVENTION

- **Physical Exam and Tx as appropriate**
- **Quiet/Calm Cattle Handling**
- **Routine Facility Inspection and Maintenance**



LAMINITIS

DIGESTIVE UPSET THAT BREAKS DOWN FOOT



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LAMENESS: CAUSES AND SEQUENCE OF EVENTS

■ Nutritional Mgnt

■ Nutritionist

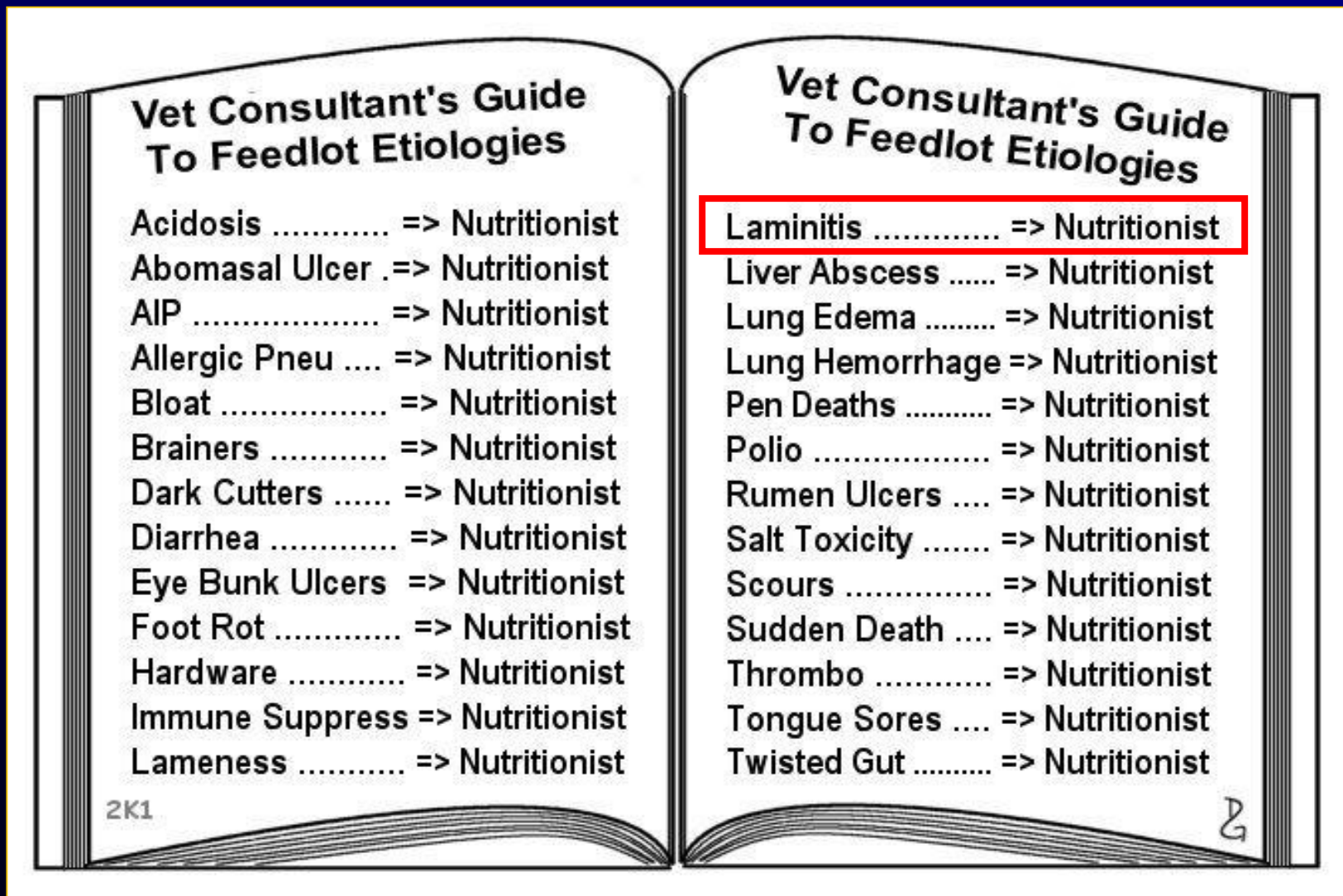


"My gawd, Herb, just because you have four stomachs doesn't mean you have to stuff each & every one of them!"



Nutritionist

Vets have a symbiotic relationship with Nuts



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LAMENESS: CAUSES AND SEQUENCE OF EVENTS

Nutrition

- Excessive Grain
- Finely Chopped Forage
- Improper Feeding Management
- Incorrect Ratio of Concentrate to Forage

Molds/Mycotoxins

Genetics

- ## Metabolic Disorders
- Acidosis

- ## Weakened Claws (Hooves)
- Breakdown in Supportive Tissue
 - Poor Quality Horn Formation

- ## Environment/ Management
- Stress
 - Trauma
 - Exercise
 - Trimming

Increased Lactic Acid Production

Lowered pH

Death of Gram Negative Bacteria

Endotoxin Release

Pro-inflammatory Mediators

Vaso-Constriction/Dilation

LAMENESS

Adapted from Hoof Care for Dairy Cattle, 1992. J.E. Nocek

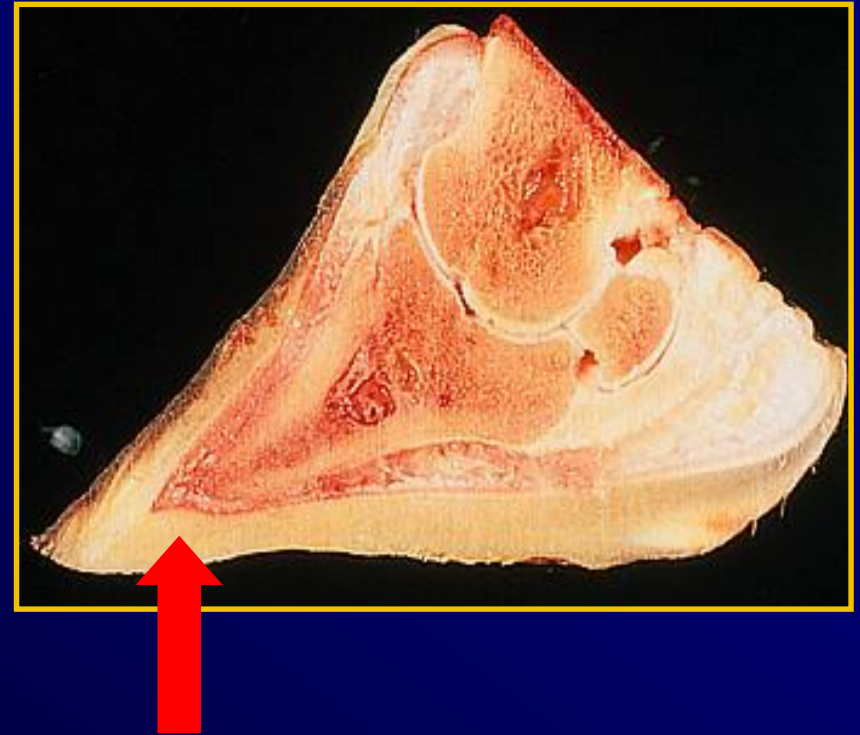
LAMINITIS DIAGNOSIS



- Walk Softly With Very Short Steps
- Affects Both Sides
- Tend To Stand With Feet Forward

LAMINITIS AND THE SUSPENSION SYSTEM

- Laminitis Disrupts the Attachment of the P3 Bone to the Wall
- P3 Bone is Free to Rotate, Sink
- Pressure Through the Sole = Ulcers





Slide courtesy J.K. Shearer, U of Florida

LAMINITIS

TREATMENT/PREVENTION TREATMENT/PREVENTION

- **Generally No Effective Treatment**
- **Consistent Bunk Management**
- **Adequate Step-up Rations**

HAIRY HEEL WARTS

HIGHLY INFECTIOUS DISEASE CAUSING
RAW AREA TO DEVELOP AROUND THE HEELS



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Summary Thoughts

- **Veterinarian designed treatment management protocol**
- **Protocols MUST avoid FDA unapproved product use (ex: Cu naphthenate not approved for use on food animals)**
 - Salvaged lame animals are residue testing targets ... flunixin & phenylbutazone
- **Animals That Do Not Respond To Therapy Should Be Examined By A Veterinarian**
- **An Explosive Outbreak Of Lameness Should Immediately Be Examined By A Veterinarian**

- Chart Designed To Diagnose Common Causes Of Lameness

- Beef Lameness poster is a chute side reference

- Poster is available in both English and Spanish

- Poster is laminated for placement directly in working areas

BEEF CATTLE LAMENESS

IDENTIFYING CATTLE LAMENESS PROBLEMS

- 90% of lameness is due to problems in the foot
- Two most common problems, footrot and toe abscess, require different treatments
- Watch animal in motion to pinpoint lameness location
- Pick up foot, wash and examine to determine cause of lameness



FOOTROT • Infection of skin between the toes



- | | | |
|---|--|--|
| Diagnosis
<ul style="list-style-type: none"> • Symmetrical swelling • Foul smell • Disks as it penetrates between toes | Treatment
<ul style="list-style-type: none"> • Wash until clean • Topical antibiotic • Penicillin may be combined with streptomycin for footrot | Prevention
<ul style="list-style-type: none"> • Wet pastures • Improve animal's skin with proper nutrition |
|---|--|--|

TOE ABSCESS • Toe abrasion, subsequent infection in sole



- | | | |
|---|--|--|
| Diagnosis
<ul style="list-style-type: none"> • Walk to protect itself • Extremely painful • No scale or tip of toe • No swelling, no odor, skin | Treatment
<ul style="list-style-type: none"> • Tip toe in direction of abscess • Wipe pus out DAILY WITH ANTISEPTIC OR ANTIBIOTIC • Select long duration penicillins • Place in clean dry environment • May be vaccinated to help | Prevention
<ul style="list-style-type: none"> • Avoid rough cattle handling • Provide maintenance footing in clean dry working areas |
|---|--|--|

SWOLLEN SEPTIC JOINT



- Diagnosis**
- Swelling at coronary band or coronary skin level
 - Redness on skin level
 - No lameness or lameness after rest or before walk
- Treatment**
- No effect on treatment
 - May require drainage
- Prevention**
- Avoid contact with rough surfaces, or skin area injury
 - Avoid contact with rough surfaces, or skin area injury

INJURED FOOT



- Diagnosis**
- Visible mechanical injury
- Treatment**
- Antiseptic for secondary infection
 - Antibiotic treatment
- Prevention**
- Good shoe care handling
 - Avoid rough surfaces and rough terrain

UPPER LEG



- Diagnosis**
- Obvious wound or vector
 - May be scratch wound
 - Swelling on leg
 - Hair on foot grows to abscess
- Treatment**
- Good shoe care handling
 - Avoid rough surfaces and rough terrain

LAMINITIS



- Diagnosis**
- Warm, red, and painful legs
 - Affected hooves
 - Hot or cold feet
- Treatment**
- Generally self-resolving
- Prevention**
- Good shoe care handling
 - Avoid rough surfaces

HAIRY REEL WARTS

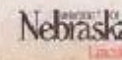


- Diagnosis**
- Proliferation of hair
 - May be painful or itchy
 - Often on lower leg
 - May be found in other areas
- Treatment**
- Remove hair by pulling or cutting
 - Avoid rough surfaces and rough terrain
 - No treatment
 - Vaccinate

CONSULT YOUR VETERINARIAN TO DEVELOP SPECIFIC LAMENESS PROGRAMS



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Robert F. Swartz, VMD

Slides not used =>

LAMENESS: IMPACT FROM HEAT STRESS

Cows Panting For Heat Dissipation

Respiratory Alkalosis (CO_2)
↑ Urinary Bicarbonate
↑ Saliva Loss Due to Drooling
↓ Rumen pH

Metabolic Acidosis

Vaso-Constriction/Dilation

Weakened Claws (Hooves)
• Breakdown in Supportive Connective Tissue
• Poor Quality Horn Formation



Wet Environment
• Cow Cooling System
• Manure Accumulation
• Muddy Areas

LAMENESS

Softening of Claws Resulting in Excessive Wear

Adapted from J.K. Shearer, University of Florida

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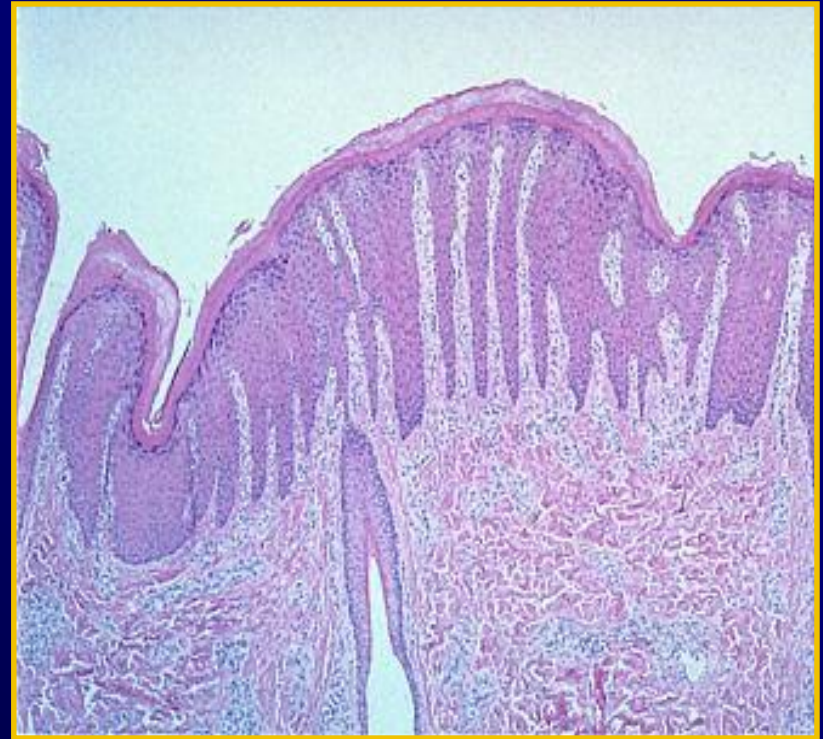
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LAMINITIS DIAGNOSIS



- Walk Softly With Very Short Steps
- Affects Both Sides
- Tend To Stand With Feet Forward

NORMAL SKIN



Dr. Deryck Read, UC-Davis

**Cross-section Of Normal Skin Examined Under The Microscope
(Magnification 40X)**

Note: Smoothness of the Outer Surface

SKIN WITH A HAIRY HEEL WART LESION



Dr. Deryck Read, UC-Davis

Cross-section Of Skin From A Lesion In The Early Stage Examined Under The Microscope (Magnification 40X)

Note: Roughness of the Outer Surface

LOCATION OF BACTERIA IN A LESION



Dr. Deryck Read, UC-Davis

**A Cross-section Skin From A Lesion In The Early Stage
Examined Under The Microscope (Magnification 200X)
Dark Stain Area Denotes Location of Bacteria**

HAIRY HEEL WARTS

DIAGNOSIS



- Reluctance to Walk

HAIRY HEEL WARTS

DIAGNOSIS



- Reluctance to Walk
- Raw, Bright Red Lesion in Heel Area



HAIRY HEEL WARTS

DIAGNOSIS



- Reluctance to Walk
- Raw, Bright Red Lesion in Heel Area
- Lesions May Have Hair-like Growths
- Primarily Found in Dairy Beef

HAIRY HEEL WARTS

TREATMENT



- **Topical Antibiotics With Loose Bandaging**
- **Daily Treatment With Antibiotic Sprays**
- **Medicated Footbaths**
- **Antibiotics**



HAIRY HEEL WARTS

PREVENTION

- **Closely Inspect Cattle At Arrival to the Feedyard**
- **Treat Immediately if Disease is Present**
- **Pen Maintenance**

BEEF CATTLE LAMENESS

- Chart Designed To Diagnose Common Causes Of Lameness