Heel pain
causes and treatments

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Heel Pain: Causes and treatments
Causes

- Plantar Fasciitis
- Calcaneal Bursitis
- Entrapment of Baxter’s nerve
- Heel Spur Syndrome
- Achilles Tendinitis
- Stress Fracture
- Arthritis
- Tumor
Plantar Fasciitis

- **Proximal**
  - Pain first thing in the morning and after periods of rest
  - May have a stabbing or shooting pain in the heel

- **Distal**
  - Pain is usually throughout the day and along the arch towards the big toe
  - Increased with activity and poor shoe gear
  - Both may have a spur on x-ray this does not cause the pain
Plantar Fasciitis

• Causes
  – Poor shoe gear
  – Injury to the plantar fascia
  – Starting a new exercise program
  – Poor flexibility
  – Walking barefoot
  – Weight gain
  – Stair claiming, toe running, and running on hills
Treatments

- Strapping
  - This is applies to the foot to see if an orthotic will help
- Injections
  - You can have three injections in a three month period
- Night splint
- Stretching before getting out of bed and after periods of rest
- Physical therapy
- Shoe modification
Calcaneal Bursitis

- Inflammation of the bursa below the heel bone
  - Can occur with plantar fasciitis or as an independent problem
  - Pain is directly below the heel
  - Pain is usually worse toward the end of the day and after periods of rest
  - It is a stabbing pain

- Treatments
  - Strapping and orthotics
  - Physical therapy
  - Injections
  - Stretching and icing
  - Shoe modification
Entrapment of Baxter’s Nerve

- Compression of the nerve that innervates the heel
- Causes numbness and pain along the whole heel
- Pain and numbness increased as the day progresses
- Does not improve once plantar fasciitis resolves
- Causes
  - Poor shoe gear and walking barefoot
  - Depression of the arch with age
  - Trauma
  - Enlarged abductor hallucis muscle belly
Entrapment of Baxter’s Nerve

• Treatment
  – Injections
  – Physical therapy
  – Orthotic or shoe modification
  – Surgery to release the nerve
Heel Spur Syndrome

- Pain in the back of the heel
- Worse first thing in the morning and after periods of rest
- Very painful walking up and down stairs
- There is a bump in the back of the heel
- Lack of flexibility, tightness of the Achilles
- There is a bone spur on x-ray
- More painful with shoe gear
Heel Spur Syndrome

• Treatments
  – Physical therapy works 95% of the time
  – Heel lifts
  – Backless shoes
  – Stretching and icing
  – Night splint or walking cast
  – Surgery to remove the spur and debride the Achilles
Achilles Tendinitis

• Distal
  – Located at the insertion of the Achilles i.e. back of the heel
  – Pain worse first thing in the morning and after periods of rest
  – Starting a new exercise program
  – Pain with walking up and down stairs
  – Swelling in the back of the heel
  – May or may not have a spur associated with it
  – Does not cause rupture of the Achilles tendon
Achilles Tendinitis

• Proximal
  – Pain and swelling above the insertion of the Achilles
  – May have a lump around the Achilles
  – Is a inflammation of the tendon sheath
  – May have tears within the Achilles
  – Can cause the Achilles to rupture
  – Usually seen in athletes or people who start a new exercise program
  – There is no spur seen on x-ray
Achilles Tendinitis

• Treatments
  – Distal
    • Physical therapy
    • Night splint
    • Walking cast
    • Stretching and icing
    • NSAIDS
  – Proximal
    • Physical therapy
    • NSAIDS
    • Walking cast
    • surgery
Stress Fractures

- Can occur in any age group
- May be related to poor bone stock or aggressive exercise
- Pain and swelling along the whole heel
- No pain associated with the plantar fascia or Achilles tendon
- X-ray is negative but is seen on MRI or CT scan
- Pain is not improved with physical therapy or other conservative treatments
- Swelling may not improve over night
Stress Fracture

• **Treatment**
  - Non-weight bearing cast or walking cast
  - Limit all physical activity for six weeks
  - Check bone density and calcium levels
  - If no improvement in six weeks repeat MRI or CT scan
Arthritis

• The pain is localized just below the ankle
• There is no pain along the arch of Achilles tendon
• Pain is worse in the evening while sleeping or walking on uneven surfaces
• Usually history of trauma or history of arthritis
• Can be seen with pronation or posterior tibial tendinitis
• Not improved with physical therapy
• Sero-negative arthritis
Arthritis

• Treatment
  – Immobilization with brace or orthotic
  – NSAIDS
  – Injection therapy
  – Water therapy
  – Surgery
Tumor

- Very rare; most are benign
- May cause no pain
- Usually pain is worse in the evening
- May not be relieved by NSAIDS
- Seen on x-ray, MRI or CT scan may be needed for further diagnosis or surgical planning
- May cause a fracture to occur
Tumor

• Treatment
  – If not painful and benign it does not need to be treated
  – If painful then surgery may be needed
  – Malignant lesions need surgery, chemotherapy, or radiation
  – Amputation may be needed
Conclusion

• There are many causes of heel pain
• The proper diagnosis is needed for treatment
• The plantar spur does not cause pain and does not need to be removed
• Conservative treatment usually resolves the syndrome
• Proper shoe gear is very important, no flip flops or barefoot
• Surgery is a last resort after all conservative treatment is exhausted
• Heel pain is a chronic condition and may come and go depending on shoe gear and activity
THANK YOU