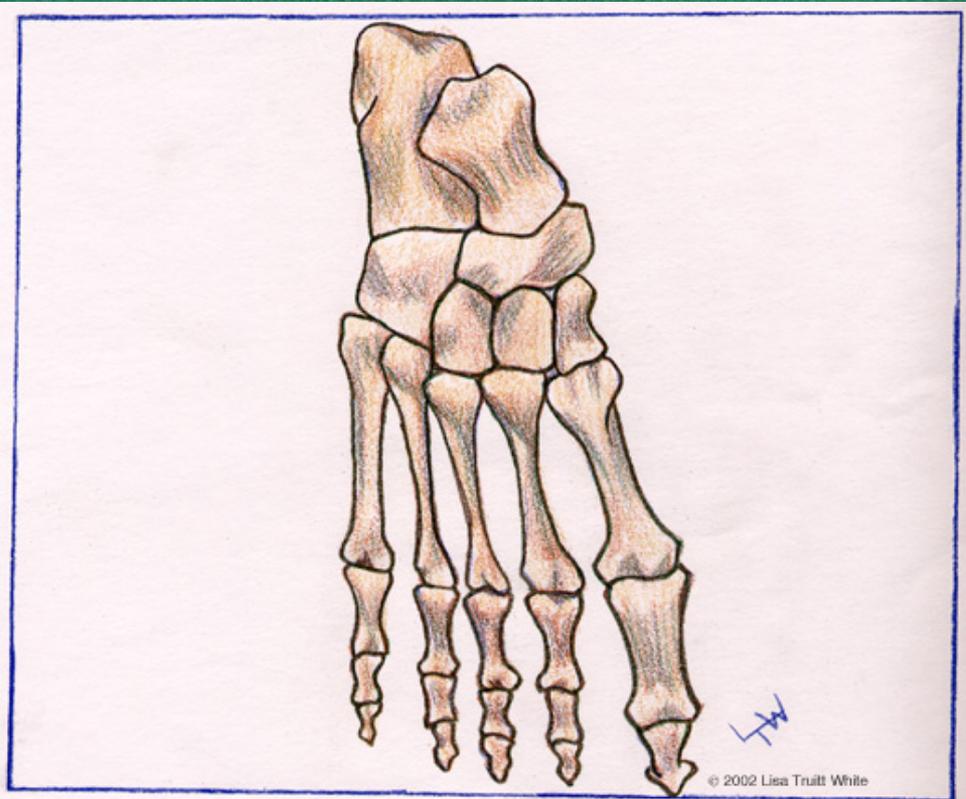
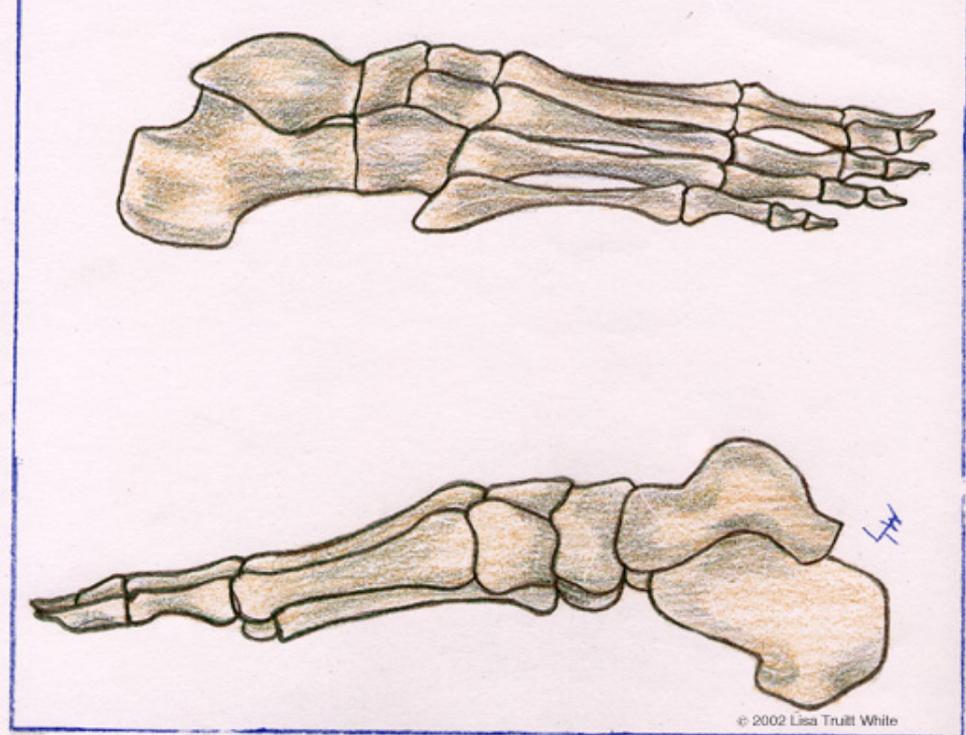
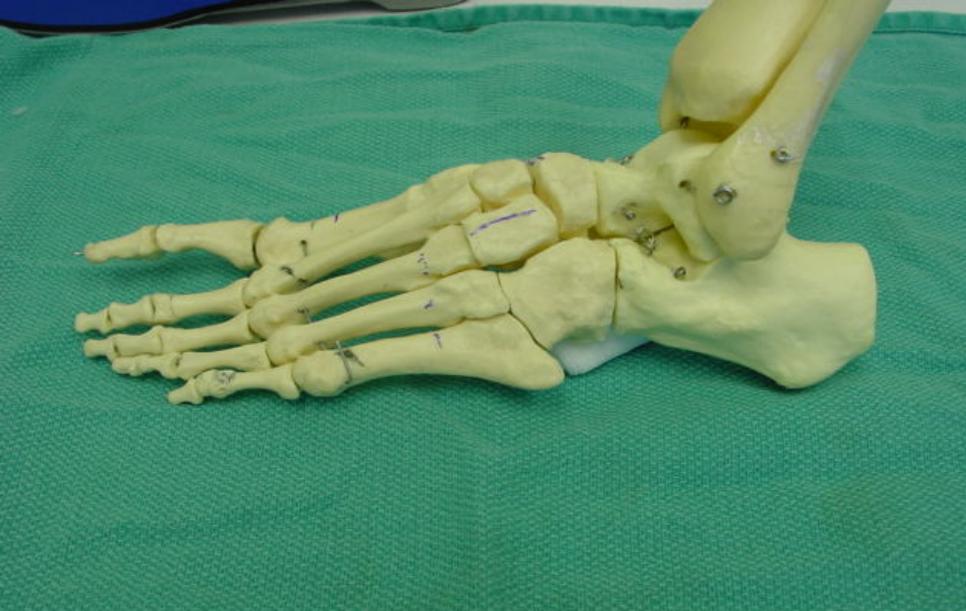


# **Common Foot & Ankle Problems**

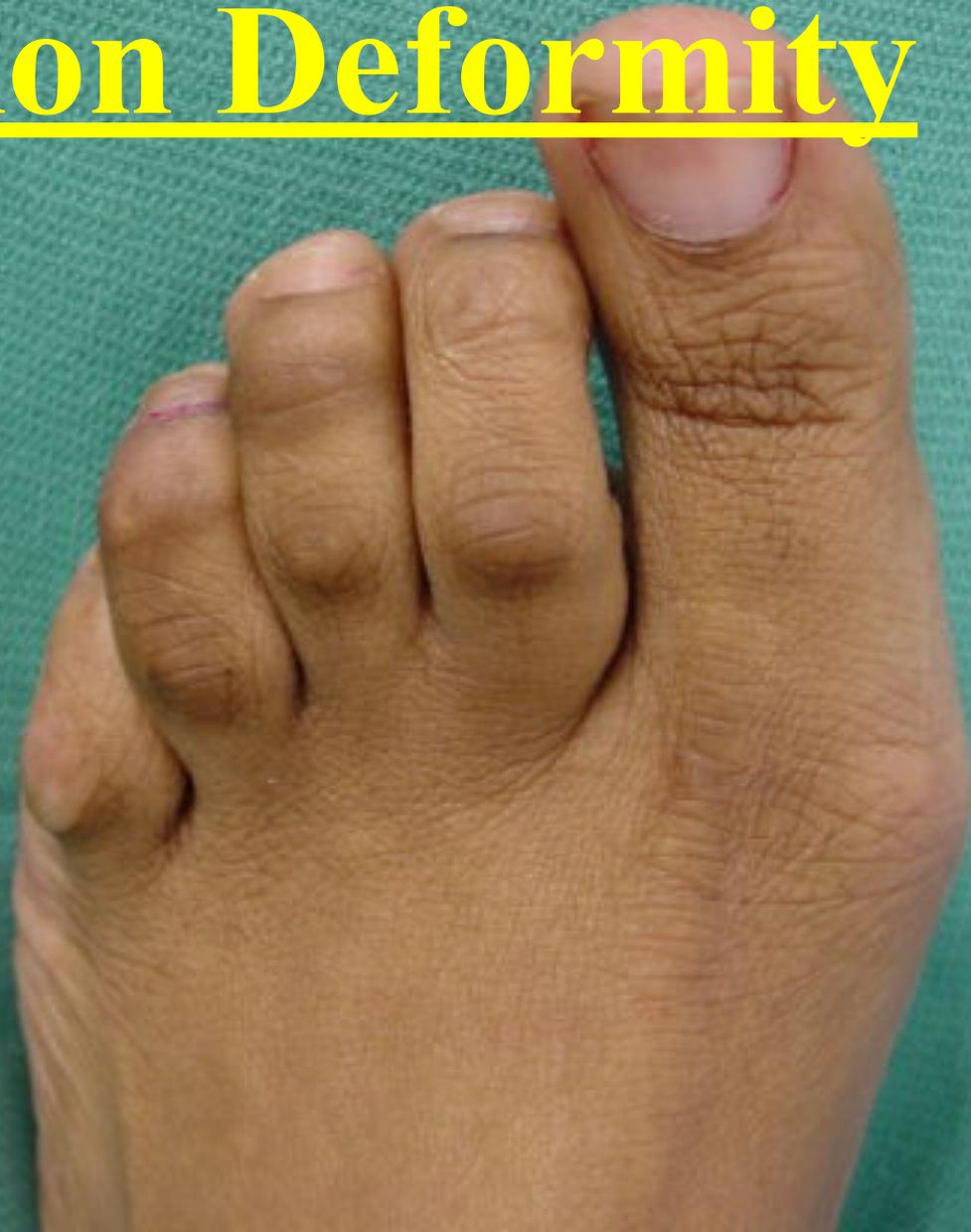
**Created by Dr. Willard J. Niemi, FACFAS  
Dr. John LoPiccolo, AACFAS**



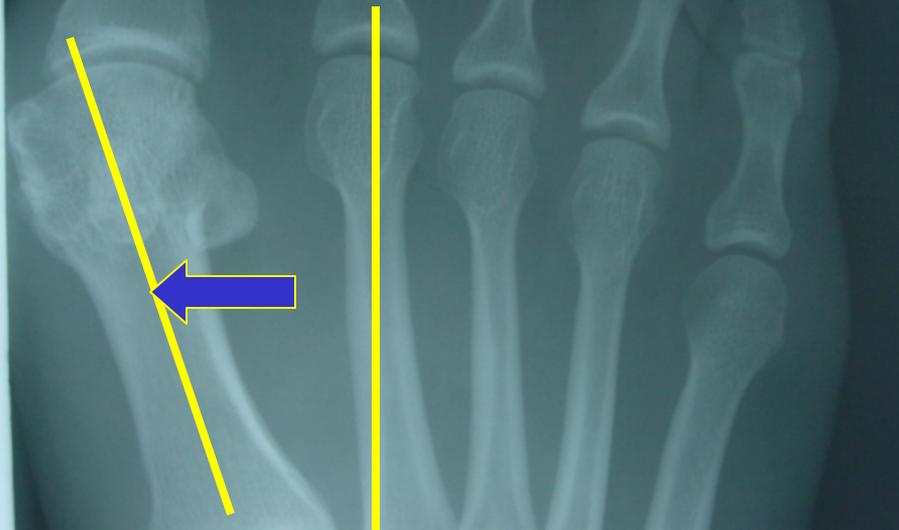
# Hallux Valgus / Bunion Deformity

- A structural (bony) deformity where the metatarsal bones spread apart causing a prominent bone to protrude on the inside of the foot.
- A progressive deformity.
- May be treated conservatively, but usually requires surgical correction if pain persists.

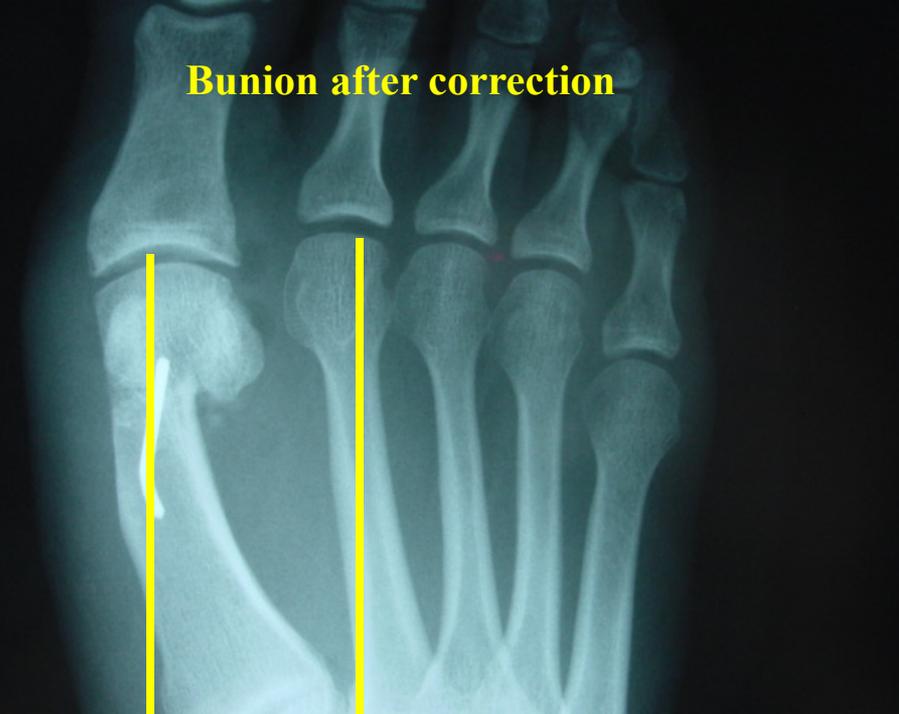
# Hallux Valgus / Bunion Deformity



**Bunion prior to correction**



**Bunion after correction**



# Hallux Valgus / Bunion Deformity

# Severe Hallux Valgus / Bunion Deformity



# Severe Hallux Valgus / Bunion Deformity

Dislocated  
sesamoid  
bone



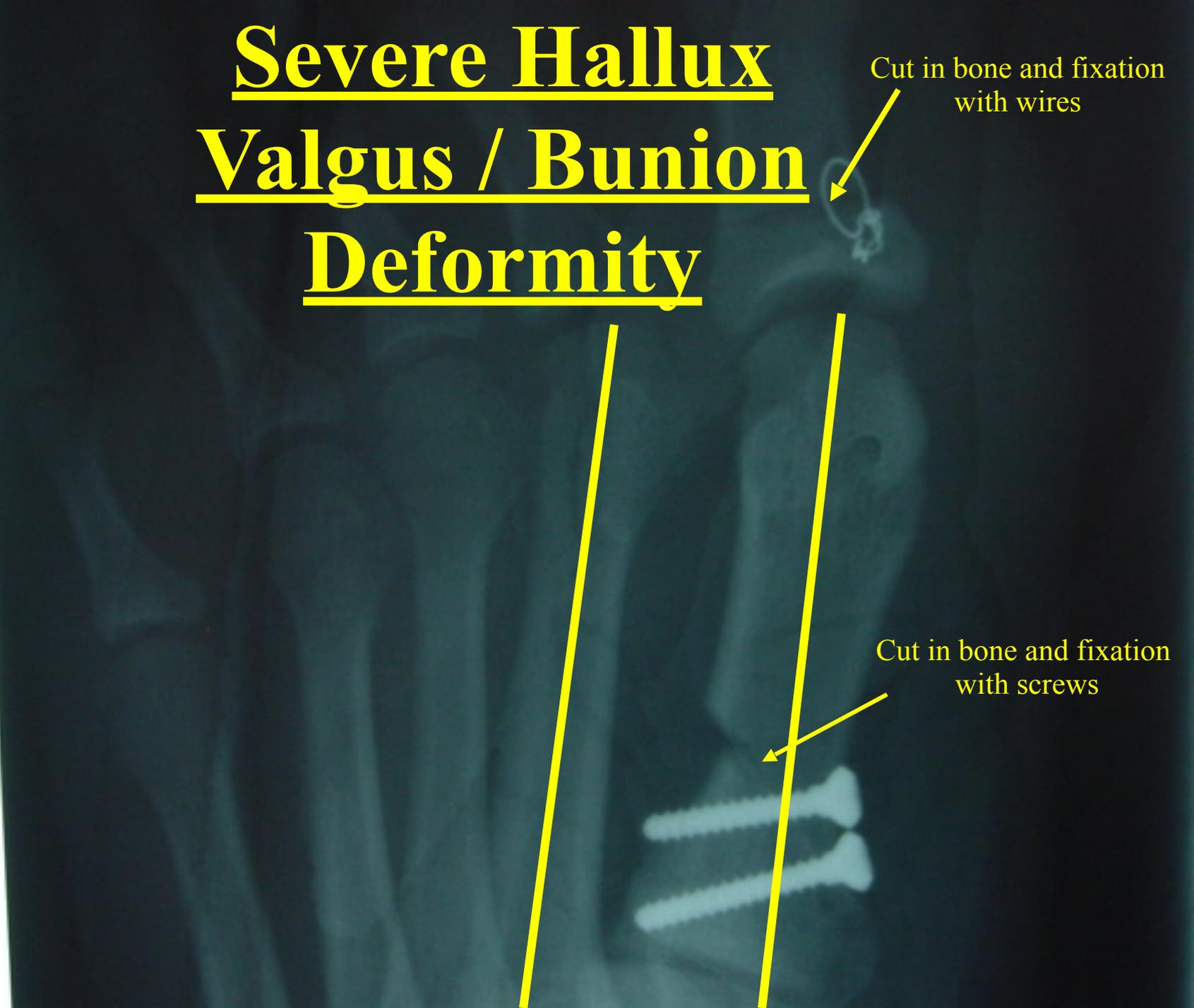
Bones drifting apart



**Severe Hallux**  
**Valgus / Bunion**  
**Deformity**

Cut in bone and fixation  
with wires

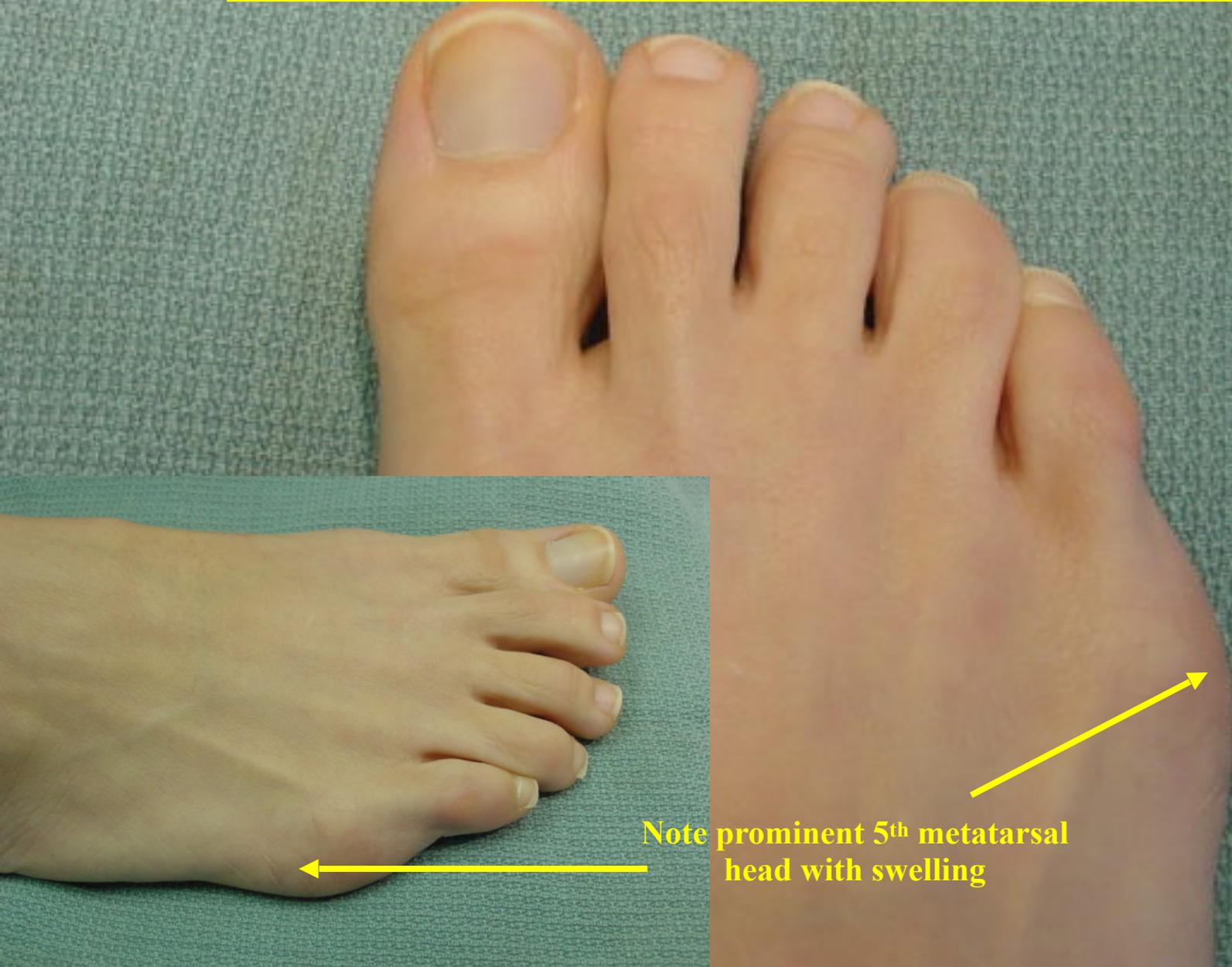
Cut in bone and fixation  
with screws



# Tailor's Bunion / Bunionette

- Bony deformity which is located on the outside part of the foot.
- The bump, bunionette or Tailor's Bunion, can become very painful due to shoe irritation.
- Tailor's bunions may be treated conservatively. Surgical correction may be necessary.

# Tailor's Bunion / Bunionette



Note prominent 5<sup>th</sup> metatarsal head with swelling

# Tailor's Bunion / Bunionette

Prior to Correction



**Note Bowing of the Metatarsal**

After Correction



**Note Straight Metatarsal**

# Hammertoe Deformity

- Contracted or abnormal position of the toes, which may be flexible or rigid in nature.
- Usually caused by weakened muscles of the foot.
- May cause pain due to irritation from other toes. The pain may be exasperated by tight fitting shoes.
- Hammertoes are often accompanied by a corn or callous.



# Hammer toe Deformity





Toe prior to surgery



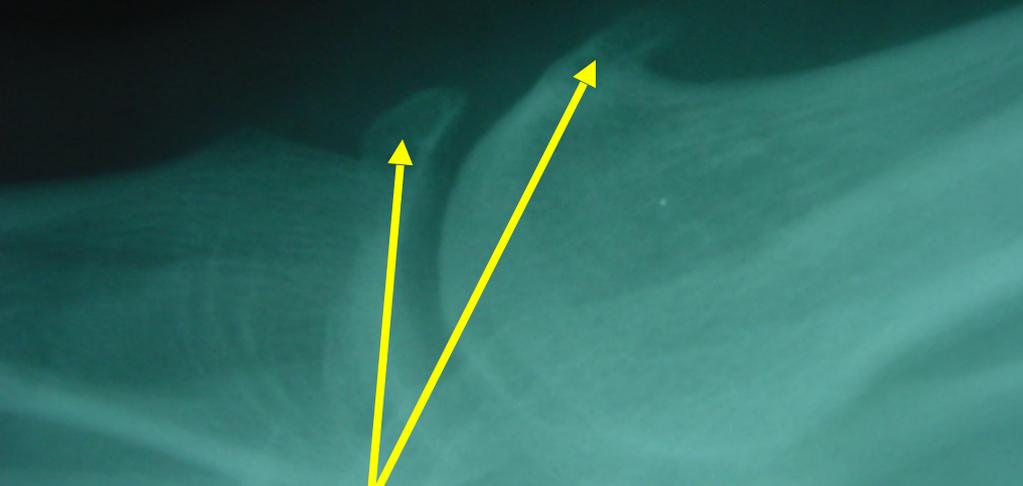
Toe after surgery

# Hammer toe Deformity

# Hallux Rigidus

- Osteoarthritis of the big toe joint usually associated with pain and restricted motion.
- May be caused by injury or repetitive joint damage due to a biomechanical / structural problem of the foot.
- Chronic wear and tear causes a wearing out of the cartilage at the joint and bone spurs to form.

# Hallux Rigidus of the Big Toe Joint



**Note bone spur formation**



# Hallux Rigidus of the Big Toe Joint



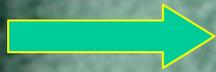
**Note joint space narrowing and bone spur formation at the joint margins**

# Rheumatoid Arthritis

- An inherited arthritis which affects joints in the feet and hands.
- The joint destruction and deformities are progressive in nature.
- May predispose patients to bunion and hammertoe formation.

# Rheumatoid Arthritis

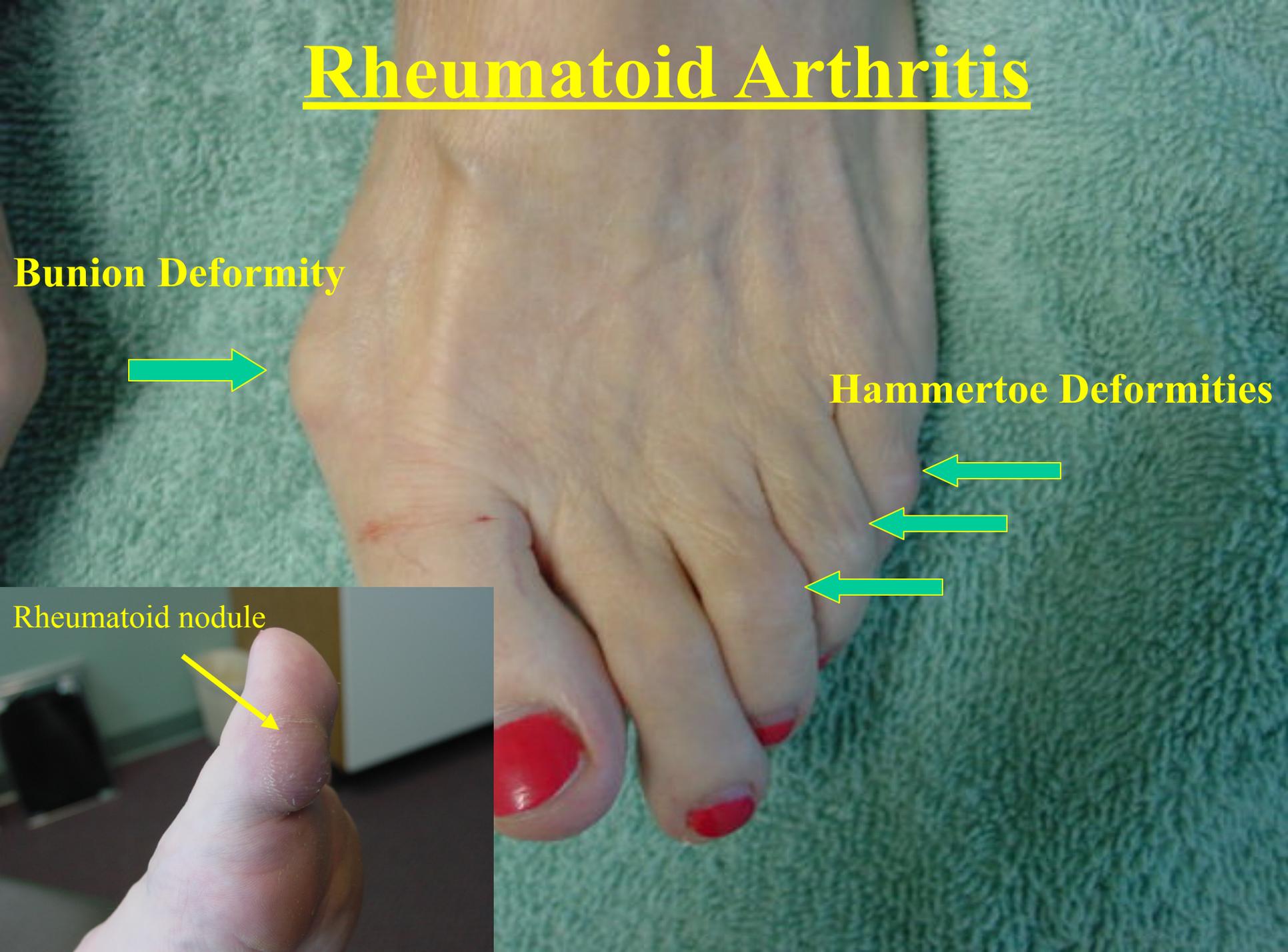
**Bunion Deformity**



**Hammertoe Deformities**



**Rheumatoid nodule**



# Plantar Wart

- Human papilloma virus infection in the feet.
- Warts are obtained by barefoot exposure to the virus.
- Warts are often spread in showers, gyms, or other areas where barefoot walking is common.
- May be treated with any number of methods but recurrence ranges between 18-22%.



# Callous / Corn

- Thickened area of skin caused by chronic rubbing or irritation of a bony prominence by the ground or shoe gear.
- Very high areas of pressure within a callous can develop a painful central core.
- Lesions reoccur because the cause of the lesion is often from bone.



**Callous / Corn**



# Athletes Foot

- A fungal infection typically caused by fungus found in soil (Dermatophyte).
- Picked up by contact with the fungus usually walking barefoot (Gym, hotel, pool, etc.).
- May occur anywhere on the foot and may burn and/or itch.
- The affected areas of skin will often peel or may have small blisters.



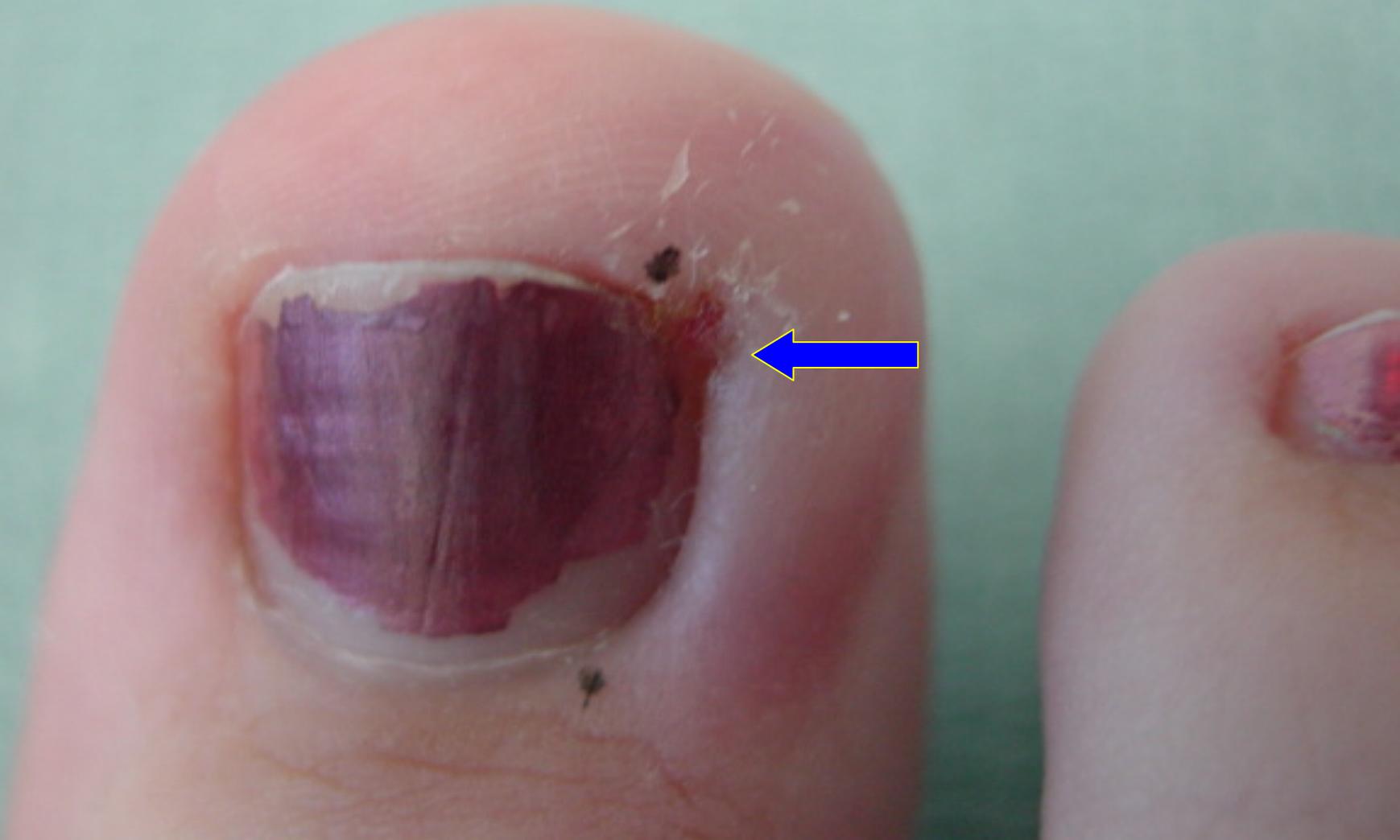
# Athletes Foot



# Ingrown Nails

- Toenail which grows into the skin. Most often caused by a wide toenail and an external pressure.
- The nail may cause pain or infection due the pressure of the nail border.
- May be treated with removal and/or antibiotics. May be permanently corrected with retaining a normal nail appearance.

# Ingrown Nails



**Ingrown Nails  
(Immediately after removal)**



**Ingrown Nails  
(1 year after removal)**



# Ingrown Nails

# Fungal Toenail

- A thickened nail caused by a fungus.
- Initially caused by an injury to the nail which allows the organism to enter the nail.
- Progressive in nature and slow growing.
- May spread to other nails or other people in close contact. Organism may also spread from nail to the skin (athletes foot).
- May be treated if pain or concerns arise.

# Fungal Toenail



Fungal Infection which caused ingrown nail

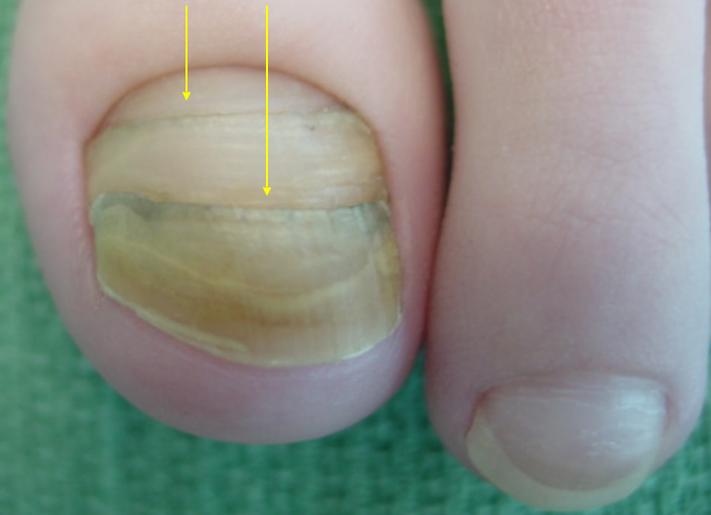


Thickened curled nails caused by fungus

# Nail Injury

- Chronic injury (i.e. athletic activities) causes injury to the nail root and results in nail horizontal layers.
- Isolated injury may also cause bleeding under the nail, leaving a dark spot which persists until the nail grows out.

Lines of injury



# Nail Injury

Dried blood under the nail plate from injury.



# Eczema

- A skin inflammatory condition usually associated with redness, itching, skin cracking or small blisters.
- May be chronic in nature and may worsen with changes of season.
- Treatment varies dependant on severity.

# Eczema



# Gout

- A build up in the blood and tissue of uric acid. Uric acid arises naturally in the body and from the breakdown of certain foods; red meats, seafood, and some nuts.
- Attack may be triggered by dehydration.
- Most commonly attacks the foot in the big toe joint. Symptoms include severe pain and swelling.
- Treatments vary.

# Gout

Redness and swelling of the big toe joint



# High Arched Feet / Pes Cavus

- Condition which may arise naturally or come from certain neurological disorders (Polio, MS or CP).
- May cause pain in the Achilles Tendon, arch or ball of the foot.
- Individuals are predisposed to contracted toes, arthritis or chronic ankle sprains.
- Treatments range from conservative to surgery.

# Pes Cavus / High Arch Feet



# Pes Cavus / High Arch Feet



# Flat Feet

- A structural problem of low arches
- May be congenital or acquired.
- Pain may occur in the feet, ankles, knees or back. Individuals may be predisposed to bunions or arthritis.
- Can be corrected with shoe style changes, custom shoe inserts and surgery.

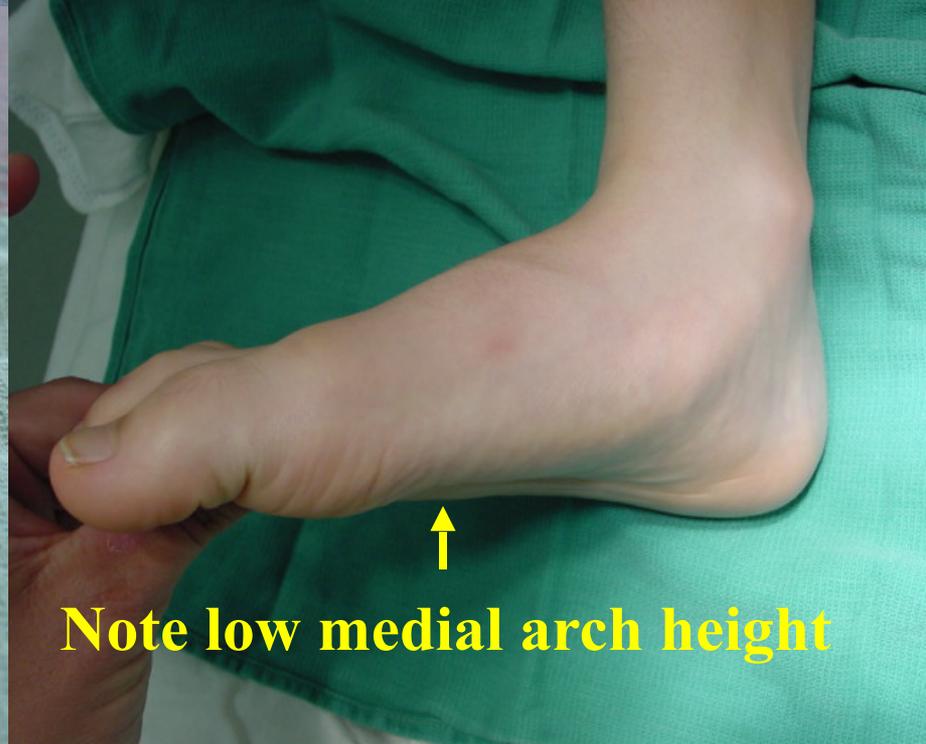


**Note low medial arch height**

**Pes  
Planus /  
Flat Feet**



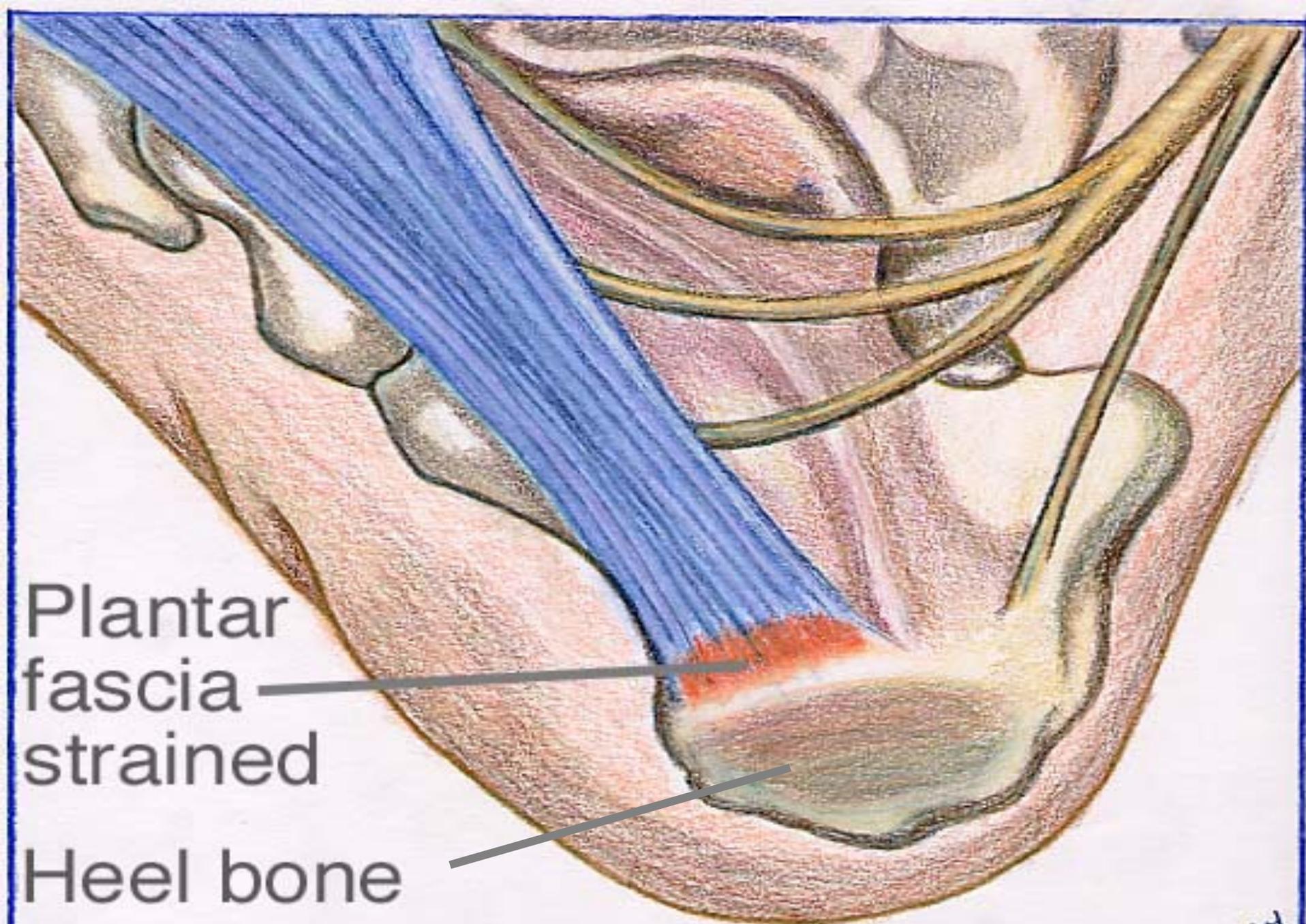
**Note collapse of entire foot inward**



**Note low medial arch height**

# Plantar Fasciitis / Heel Spur Syndrome

- Inflammation and partial tearing of a ligament band which attaches from the heel to the ball of the foot.
- Usually a result of poor arch support and overuse.
- May be accompanied by a calcified spur on the heel.
- Usually resolves with conservative treatments.



Plantar  
fascia  
strained

Heel bone

# Ankle Sprain

- Tear or stretching of the ligaments of the ankle. Usually the ligaments on the outside of the ankle are involved.
- Caused by and twisting injury of the foot / ankle .
- Instability of the ankle can develop due to the ligament injury.
- Most often treated conservatively. Surgical repair can be performed to treat chronic ankle sprains.

# Ankle Sprain

(Swelling in area of ligament injury)

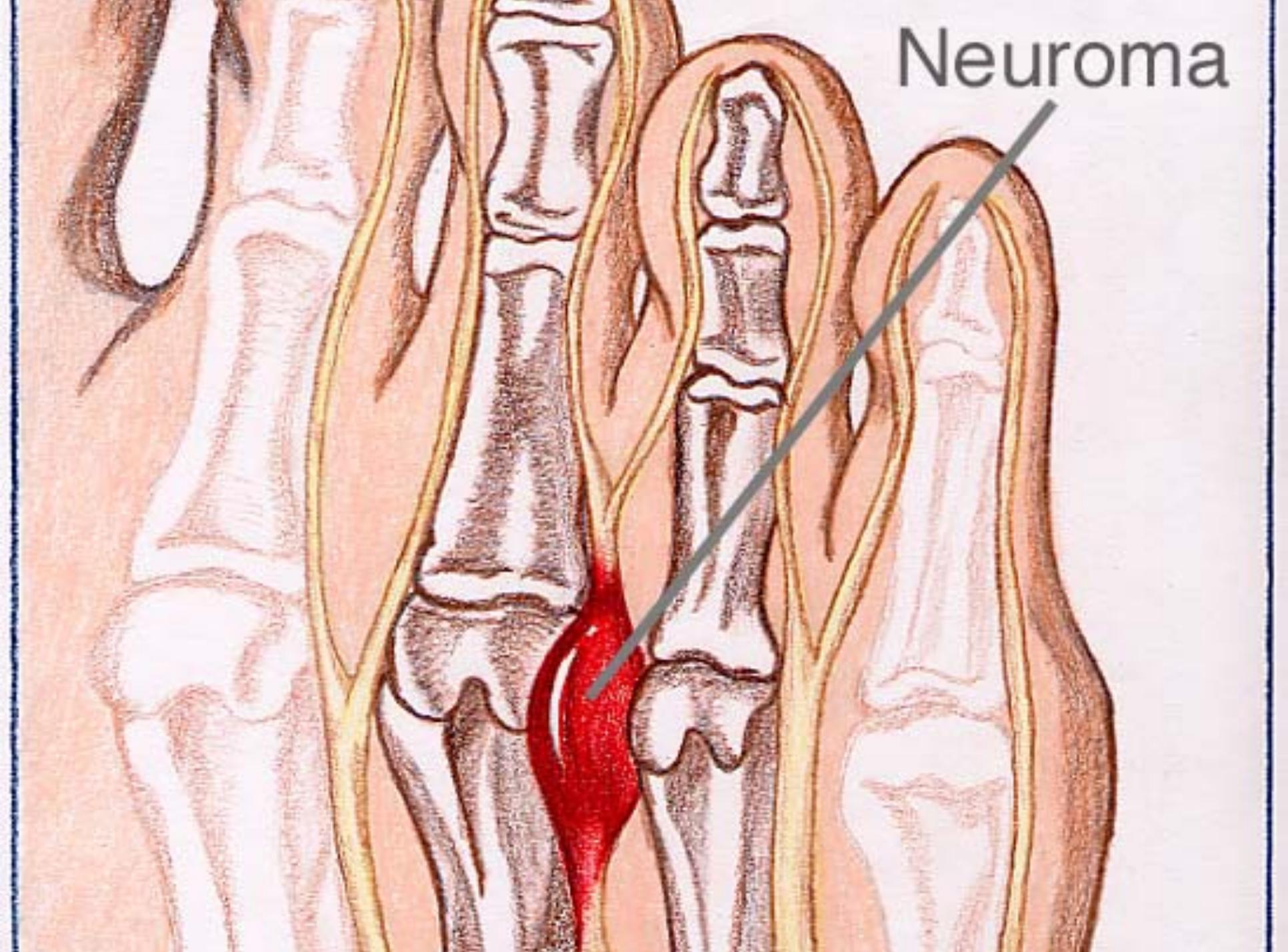


Bruising after ankle sprain

# Morton's Neuroma

- Injured or compressed nerve most often between the 3<sup>rd</sup> and 4<sup>th</sup> toes.
- Burning / pain on the ball of the foot or toes.
- Patients may feel fullness or a mass in the area when they walk.
- Treatments may be conservative or surgical.

Neuroma



# Haglund's Deformity / Retrocalcaneal Exostosis

- Prominent bone on the back of the heel.
- Back of the heel is irritated by shoes and activity, which places pressure on the area.
- Can also be aggravated by a tight Achilles tendon over prominent heel bone.
- Treatments may be conservative or surgical.

# Haglund's Deformity / Retrocalcaneal Exostosis



# Ulcerations

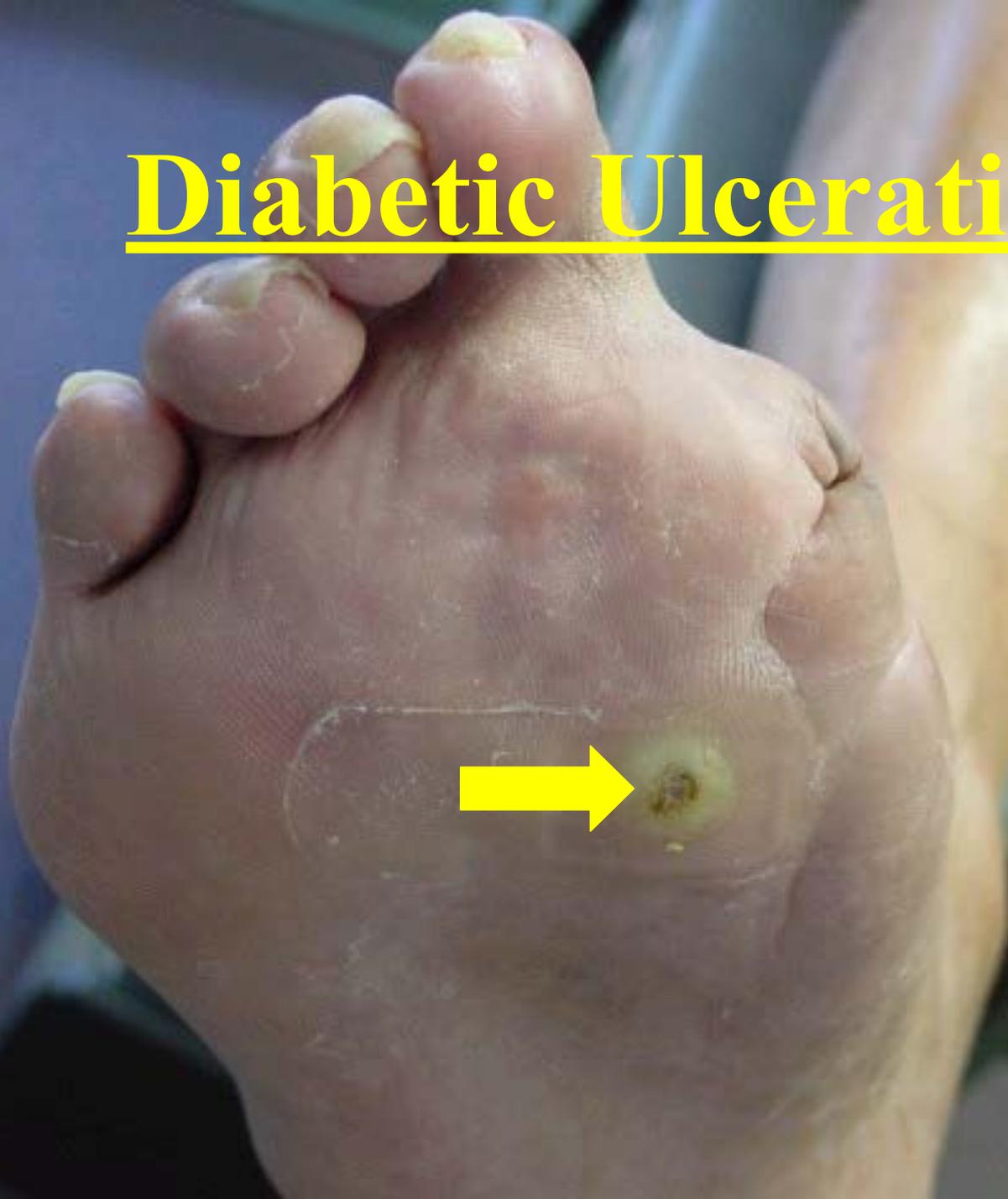
- Erosions of the skin caused by loss of sensation or poor circulation.
- Skin break down occurs which, places patients at risk for local or systemic infection.

# Ischemic Ulceration

(Ulcer due to poor circulation)



# Diabetic Ulceration



# Ganglion Cyst

- Benign soft tissue mass which arises from a weak area in a tendon lining or joint.
- Cyst is often filled with a gelatinous fluid.
- Cyst may change size depending on irritation.



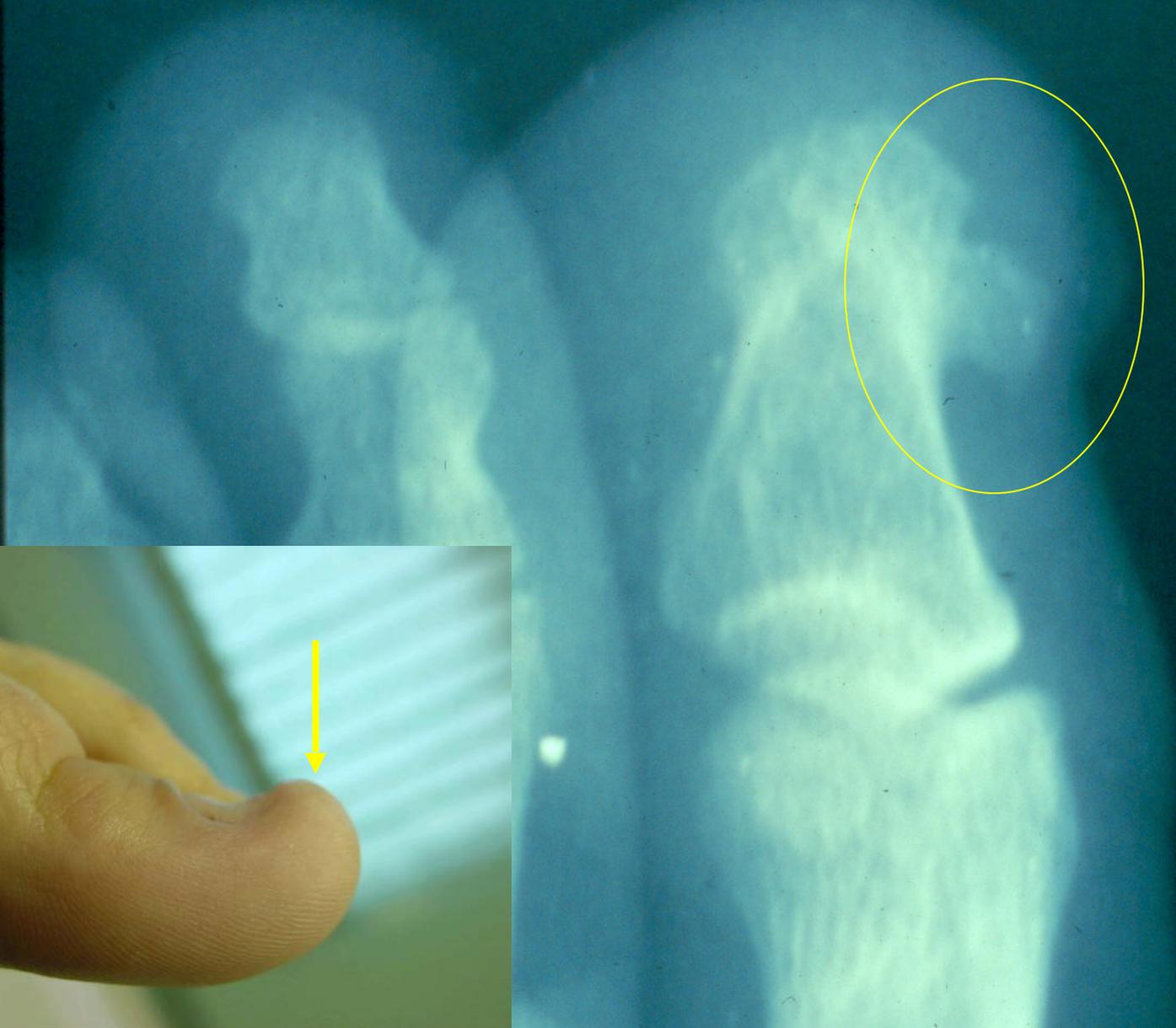
# Ganglion Cyst



# Subungual Exostosis

- Bone and cartilage growth under the great toe nail.
- Pain may arise if pressure is placed over the area.
- May be treated with shoe style changes, nail removal or surgical removal.

# Subungual Exostosis



# Venous Stasis

- Discoloration of skin due to longstanding swelling of legs.
- Persistent swelling can lead to skin breakdown.
- Compression and elevation of the legs are essential to the prevention of complications.

# Venous Stasis



# Heel Fissuring / Cracking

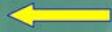
- Thickening of the heel with associated cracking which causes pain.
- Thickening may arise from pressure, a buildup of skin or dermatological condition.
- May be chronic in nature.

# Heel Fissuring with Hyperkeratosis

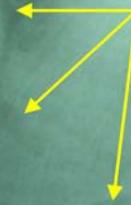


# Fractures

**Fractured Proximal Phalanx (Toe)**



**Fractured Heel Bone (Calcaneus)**



**Navicular Fracture**

**Fracture 5<sup>th</sup> Metatarsal**



# Hyperhidrosis

- Excess perspiration of the foot.
- May be caused by stress or overactive sweat glands.
- Can often predispose patient to fungal infections, bacterial infections or foot odor.
- Can be treated with topical medications.

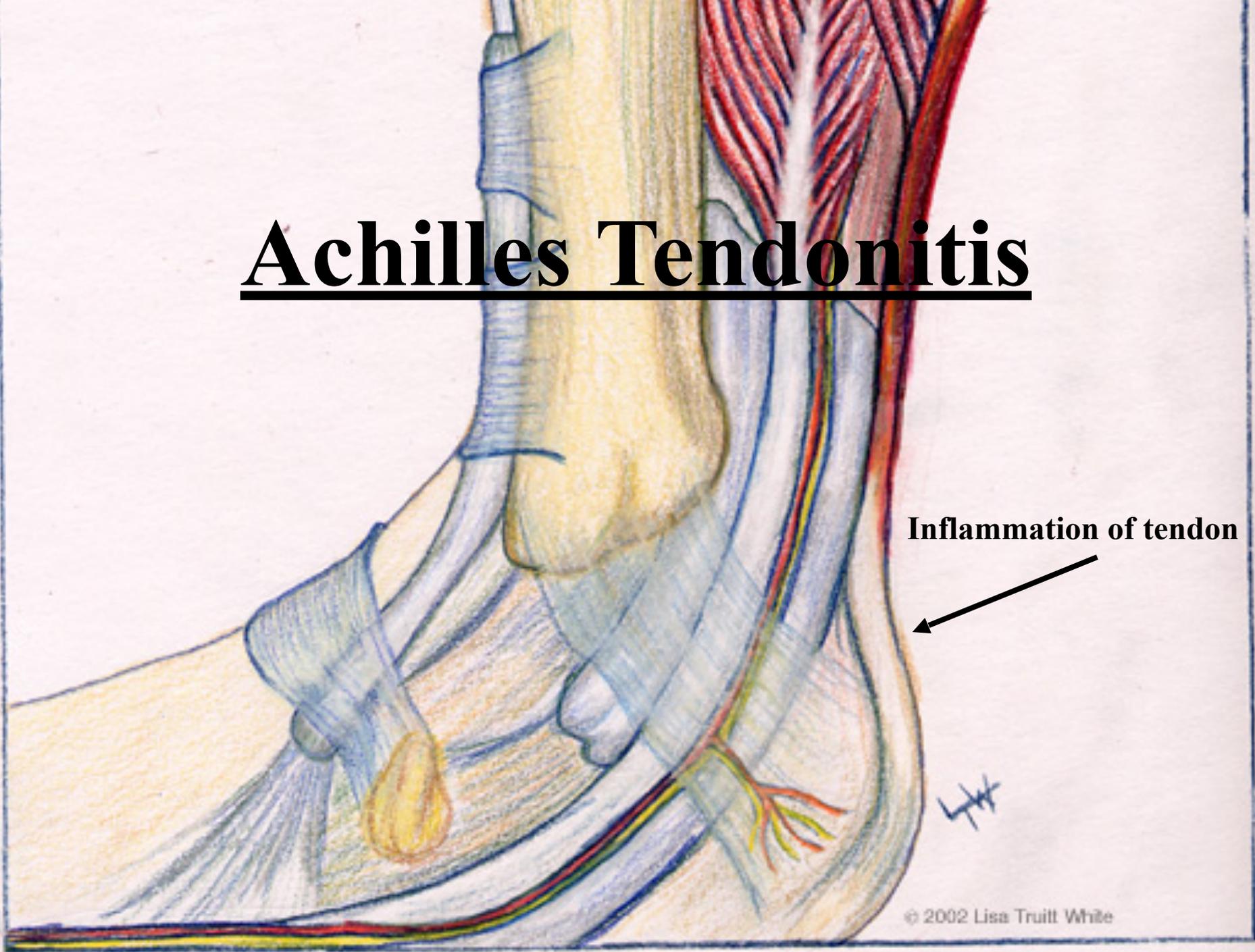
# Hyperhydrosis



# Achilles Tendonitis

- Inflammation of the tendon which may be caused by over use and/or tightness in the tendon.
- Swelling may occur at the back of the heel.
- May predispose patients to rupture of the tendon.
- Usually resolves with conservative treatments.

# Achilles Tendonitis



Inflammation of tendon

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