



# PERFORM CARE OF THE FEET





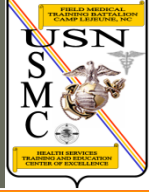
# OVERVIEW



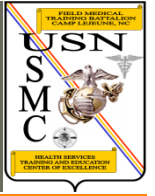
- Anatomy
- Common Types of Foot Disorders
- Preventive Measures



## LEARNING OBJECTIVES



# Please Read Your Terminal and Enabling Learning Objectives





# ANATOMY OF THE FOOT

# ANATOMY OF THE FOOT

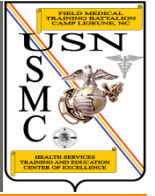
- Forefoot
  - Five phalanges
  - Five metatarsals
- Midfoot
  - Three cuneiform bones
  - Cuboid bone
  - Navicular bone

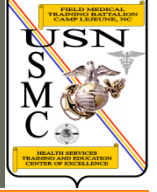


# ANATOMY OF THE FOOT

- Hindfoot
  - Talus bone
  - Calcaneus bone
- Muscles
- Tendons
  - Achilles
- Joints







# COMMON FOOT DISORDERS

# BLISTERS

- Definition
  - Pocket of fluid under the skin
- Causes
  - Improperly conditioned feet
  - Heat/Moisture
  - Improperly fitting boots and or socks
  - Friction/Pressure



# BLISTERS



- Signs and Symptoms
  - Fluid collection under the skin
  - Mild edema and erythema
  - Sloughing of tissue
  - Localized discomfort

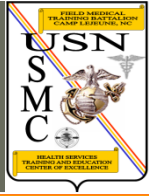
# TREATMENT OF BLISTERS

- Small Blisters
  - Clean area with soap and water
  - Monitor for signs and symptoms of infection
  - Apply protective moleskin if necessary to prevent irritation





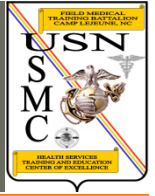
# LARGE (CLOSED) BLISTERS



- If Affecting Individual's Gait:
  - Wash area with Betadine or alcohol
  - Drain near edge of blister
  - Apply gentle pressure to expel any fluid
  - Apply moleskin donut, with Tincture of Benzoin
  - DO NOT apply adhesive directly on blister
  - Use foot powder
  - Monitor for signs and symptoms of infection



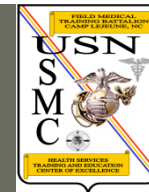
# TREATMENT OF LARGE (OPEN) BLISTERS



- Wash with Betadine or soap/water
- Remove loose skin
- Apply Tincture of Benzoin around site
- Moleskin donut with:
  - Topical antibiotic to wound
  - Place Telfa pad inside moleskin donut
  - 2nd layer of moleskin over entire area
- Monitor for signs of infection



# BLISTER KIT



MOLESKIN →



# HOW TO APPLY MOLESKIN DONUT

- Apply Tincture of Benzoin to skin around blister
- DO NOT put adhesive directly on blister
- Cut hole in moleskin large enough to surround blister and place around blister





# DEMONSTRATION

# ATHLETE'S FOOT (TINEA PEDIS)

- Definition
  - Chronic fungal infection
- Cause
  - Hot humid weather, excessive sweating
  - Contact with contaminated footwear and floors
  - Poor hygiene



# ATHLETE'S FOOT (TINEA PEDIS)



- Signs and Symptoms
  - Skin that is red, flakes, peels, cracks
  - Itching, burning, stinging between toes
  - Sore, purulent, weeping rash

# ATHLETE'S FOOT (TINEA PEDIS)

- Treatment
  - Antifungal powder daily
  - Antifungal ointment at night
  - Treat for 1 week after clearing has occurred
  - Refer to M.O. if unresponsive to treatment



# INGROWN TOE NAIL



- Definition:
  - Nail border or corner presses on surrounding tissue
  - Painful and often results in infection
  - Often affects big toe

# INGROWN TOE NAIL

- Causes
  - Most common are improper trimming of the toenails and poor hygiene
  - Trauma
  - Improperly fitted footwear
  - Abnormal shaped nail plate



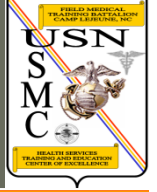
# INGROWN TOENAIL



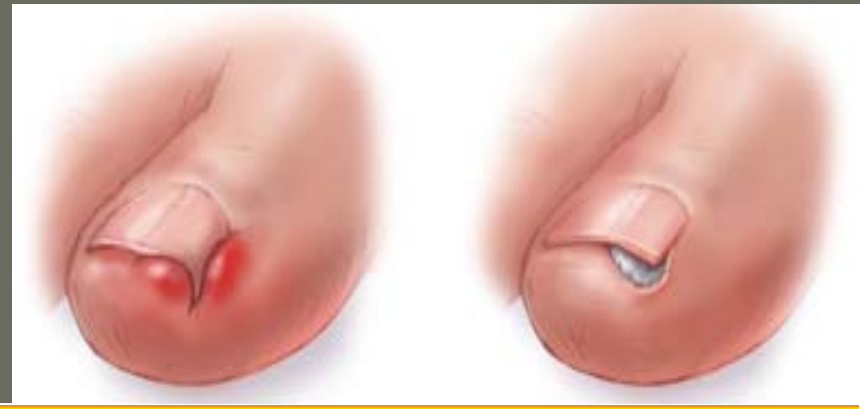
- Signs and Symptoms
  - Pain (along margin of toenail)
  - Localized edema
  - Infection
    - Drainage of pus or blood



# INGROWN TOENAIL

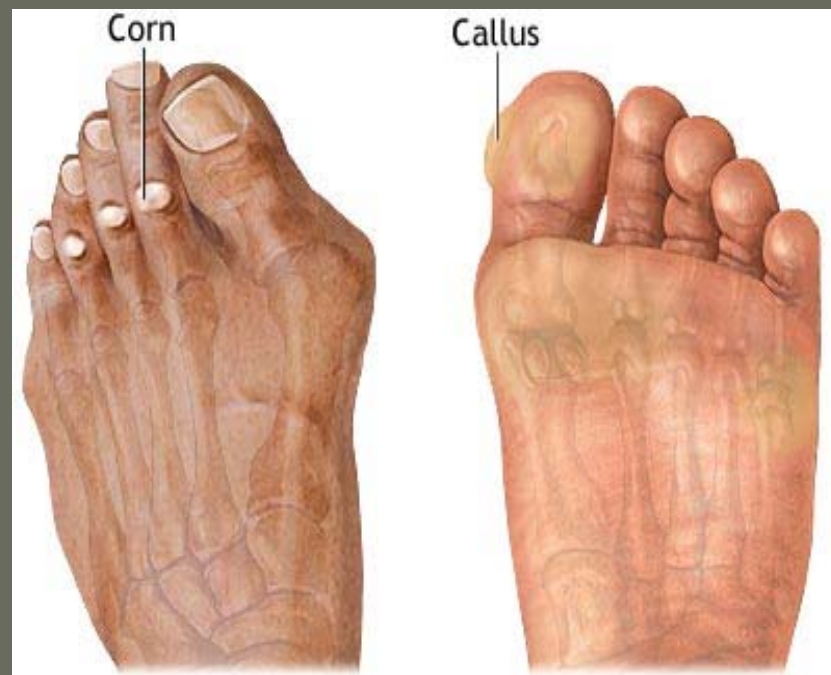


- Treatment
  - Trim the corner to relieve pressure
  - Elevate end of nail
  - Surgically correct by partial or complete removal of nail (Under supervision of M.O.)
  - Consider antibiotics



# CORNS AND CALLUSES

- Callus
  - Thickening of the outer layer of skin in response to pressure or friction
- Corn
  - Similar to a callus, involves a discrete pressure spot typically over a bone



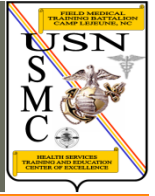
# CORNS AND CALLUSES

- Causes
  - Tight fitting shoes
  - Deformed toes
  - Prolonged walking down slopes





# CORNS AND CALLUSES

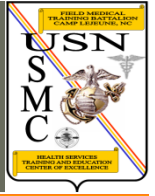


- Signs and Symptoms
  - Thickened, dry skin over prominent bones (corn)
  - Large patches of thick dry skin on friction areas (calluses)
  - Pain on direct pressure of corns
  - Skin breakdown, possible infection





# CORNS AND CALLUSES



- Treatment
  - Debride excess skin
  - Apply padding
  - Fix cause of corns (Boots)
  - Refer to M.O. if extreme

# BUNIONS

- Definition
  - A bone deformity that causes the tip of toe to turn towards the other toes
- Causes
  - Causes bulge to form at the 1<sup>st</sup> metatarsal head
  - May be hereditary
  - Poorly fitted/excessively worn shoes



# BUNIONS

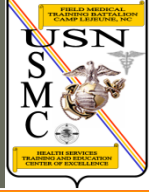
- Signs and Symptoms



- Thickened lump at base of big toe
- Erythema
- Pain near first metatarsal head
- Joint stiffness



# BUNIONS



- Treatment
  - Comfortable, properly fitted shoes
  - Toe pad or corrective sock
  - NSAIDS
  - Orthotics
  - Surgery for severe cases

# PLANTAR FASCIITIS



- Definition:
  - Inflammation of the connective tissue (fascia) on the sole of the foot
  - AKA heel spurs/ heel bursitis



# PLANTAR FASCIITIS

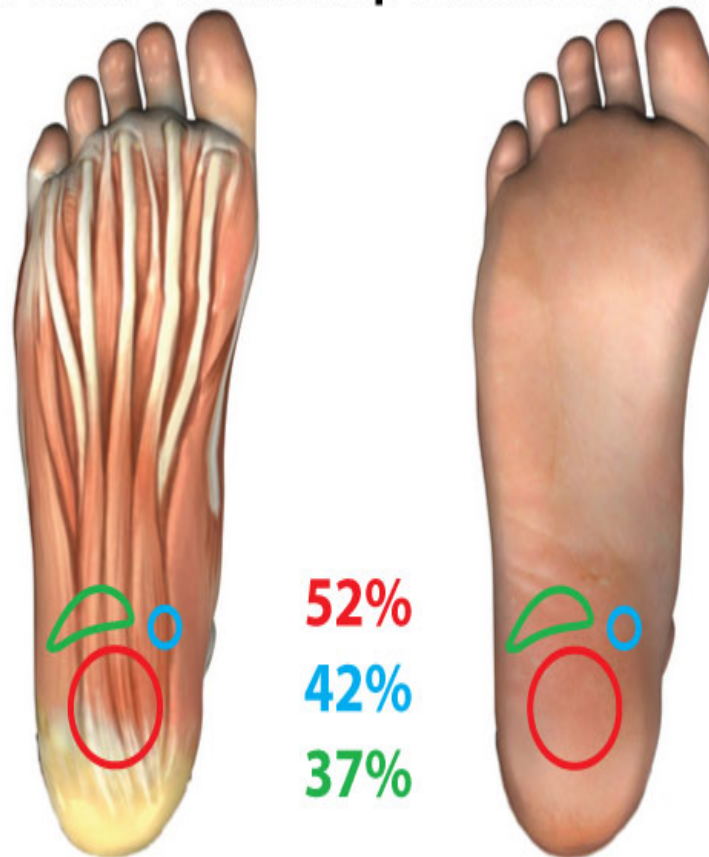


- Cause
  - Overuse or sudden increase in training volume/intensity
  - Abnormal joint mechanics
  - Tightness of Achilles tendon
  - Shoes with poor cushioning
  - Abnormal foot anatomy
  - Obesity, excess weight
  - Improper shoes
  - Bio-mechanical problems (mal-alignment of the heel)

# PLANTAR FASCIITIS

- Signs and Symptoms
  - Tenderness along medial fascia
  - Constant pain (worse in morning and after physical activity)
  - Tearing/pulling sensation
  - Altered gait

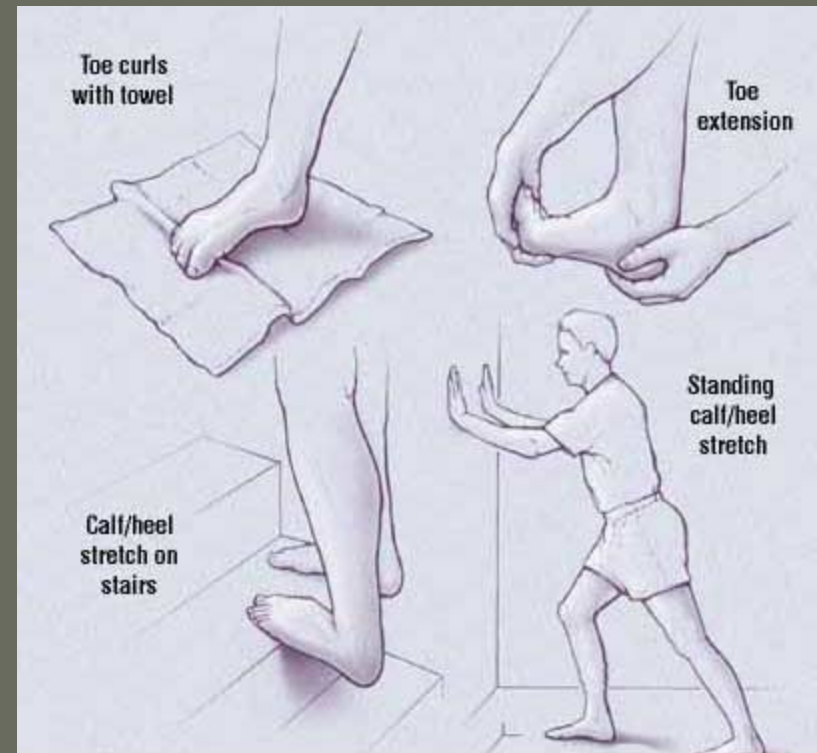
## Plantar Fasciitis: Top 3 Areas of Pain



% of most frequent areas of pain, mapped from 2,666 patients

# PLANTAR FASCIITIS

- Treatment
  - Stretching Exercises
  - RICE
  - NSAIDS
  - Orthotics



# PLANTAR WARTS



- Definition:
  - Wart located on the sole of the foot
  - Can be single lesion or grouped together
  - Most often found on the ball of the foot and heel

# PLANTAR WARTS



- Cause
  - Human Papilloma Virus (HPV)
- Signs and Symptoms
  - Tiny black dots in center
  - Tender to touch

# PLANTAR WARTS

- Treatment
  - Shave down
  - Apply Salicylic Acid
  - Apply dressing to keep paste in place
  - Apply donut for comfort
  - Leave paste for 3 days
  - Repeat tx in 1 week
  - Refer to MO if needed



# TRENCH FOOT/IMMERSION FOOT

- Definition:
  - A non-freezing pedal tissue injury caused by prolong exposure to wet and cold conditions
  - Immersion foot is a more severe variant of trench foot





# IMMERSION FOOT (Trench Foot)



- Cause
  - Prolonged Exposure to water 32°- 50°F (Usually takes an excess of 12 hours)
  - Condition can occur on the hands due to damp or cold gloves
  - Limited movement



# IMMERSION FOOT (Trench Foot)

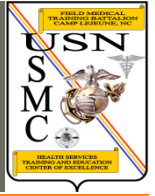
- Signs / Symptoms (EARLY)
  - Initially foot is pale, mottled, numb, pulseless, & immobile
  - After re-warming, severe burning pain and sensation returns



# IMMERSION FOOT (Trench Foot)



- Signs / Symptoms (LATE 2-7 days)
  - Hyperemic Limb (increased amount of blood flow)
  - Numbness
  - Edema
  - Ulceration
  - Gangrene

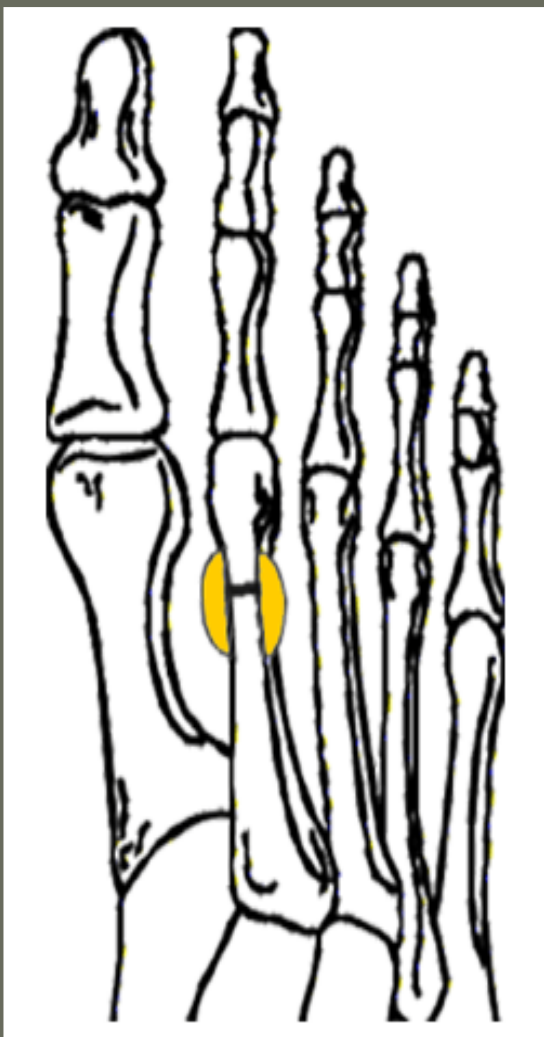


# IMMERSION FOOT (Trench Foot)

- TREATMENT

- Supportive
- Gentle re-warming
- Elevation
- Consider antibiotics
- Avoid wearing boots
- Do not drain blisters
- Refer to M.O.
- TACEVAC severe cases

# METATARSAL STRESS FRACTURE



- Definition:
  - Incomplete break of the metatarsal bones
  - Often seen in week 4 of intensive training programs
  - 2nd or 3rd metatarsal bones are most commonly affected; “March Fracture”

# METATARSAL STRESS FRACTURE



- Causes
  - Repetitive stress
  - Abnormal foot structure (flatfoot)
  - Increased levels of activity
  - Obesity

# METATARSAL STRESS FRACTURE

- Signs and Symptoms
  - Edema in dorsum (top) of foot
  - Tenderness at the top of the foot during and after exercise

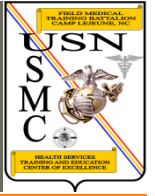




# METATARSAL STRESS FRACTURE



- Treatment
  - Treat as fracture
  - RICE
  - NSAIDS
  - Rest for 2 or 3 weeks until pain is gone
  - Slow return to activity (i.e. low impact exercises)
  - Refer to M.O.





# PREVENTIVE MEASURES FOR FOOT DISORDERS



# PREVENTIVE MEASURES

- Improperly fitting boots and socks are common causes of foot problems.
- Bring orthotic inserts and/or socks with you to correctly fit new boots.





# PREVENTIVE MEASURES



- Toe box should be roomy enough to wiggle toes
- Ball of your foot should rest on widest part of sole
- Forefoot not wider than boot
- ½ inch between end of longest toe and boot





# PREVENTIVE MEASURES



- Proper Fitting Socks
  - No excess material
  - Use ½ size larger socks for outer layer (If using 2 pair)

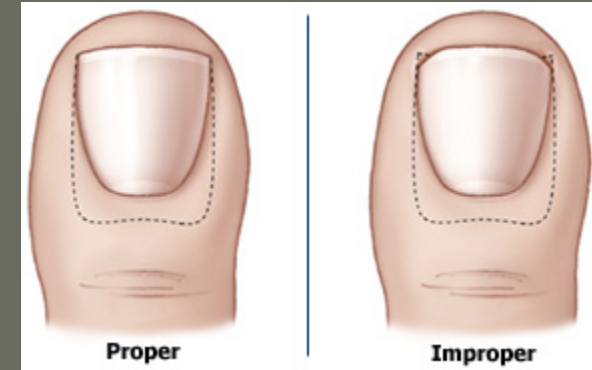
**NOTE:** Using Insoles may help cushion feet as boots begin to wear and stretch.



# PREVENTIVE MEASURES

## Before Marches

- Educate
- Keep feet clean and dry
- Use foot powder
- Properly trim toenails



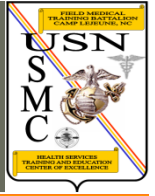
# PREVENTIVE MEASURES

- During marches
  - Elevate feet at rest points
  - Massage the feet
  - Apply foot powder
  - Take care of blisters
  - Loosen laces





# PREVENTIVE MEASURES



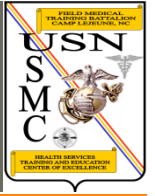
## After Marches

- Early and immediate attention to pain sources
- Wash and dry feet
- Treat foot injuries

# PREVENTIVE MEASURES

- If red, swollen, tender skin develops along the edges of the foot:
  - Aeration
  - Elevation
  - Rest
  - Wider foot wear







# PERFORM CARE OF THE FEET

