


# \*The Noble Foot\*

## Standing on a Firm Foundation

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 Community Memorial Hospital, Menomonee Falls, WI  
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## Presentation Outcomes

- The participant will be able to:
  - Describe the A&P of the foot & nail
  - Identify health care challenges related to the foot & nails
  - Synthesize the assessment process for foot and nails
  - Create a plan that reflects the appropriate standards for foot & nail care practice




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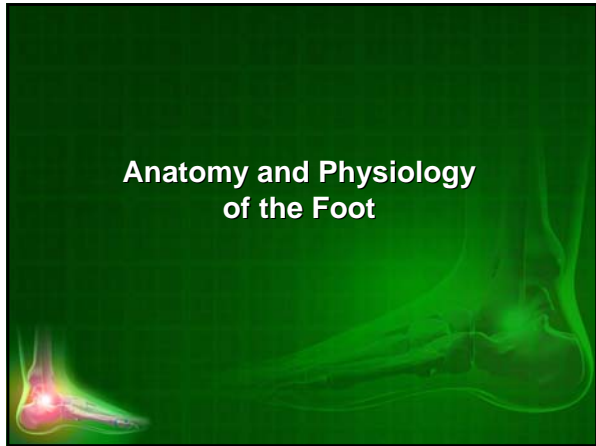
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## Anatomy and Physiology of the Foot

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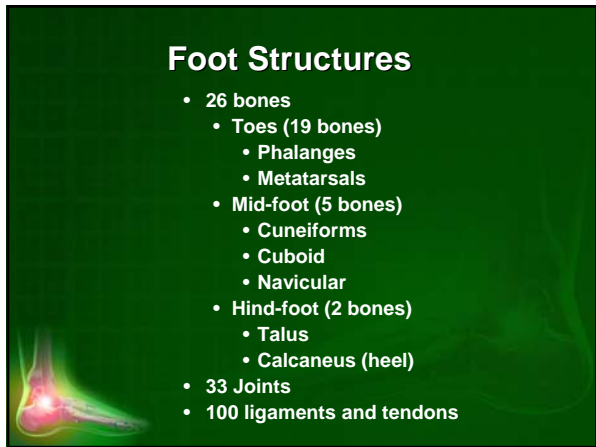
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## Foot Structures

- 26 bones
  - Toes (19 bones)
    - Phalanges
    - Metatarsals
  - Mid-foot (5 bones)
    - Cuneiforms
    - Cuboid
    - Navicular
  - Hind-foot (2 bones)
    - Talus
    - Calcaneus (heel)
- 33 Joints
- 100 ligaments and tendons

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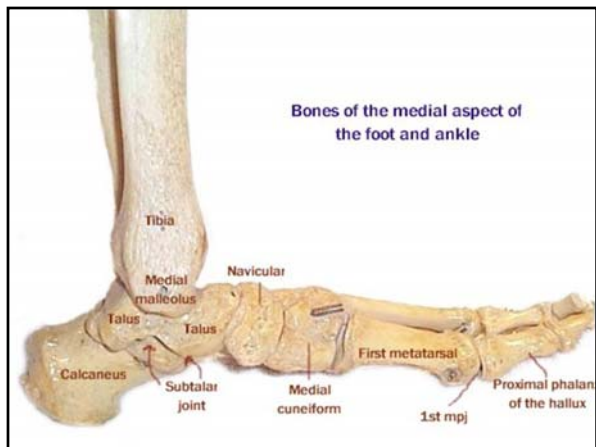
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Bones of the medial aspect of the foot and ankle

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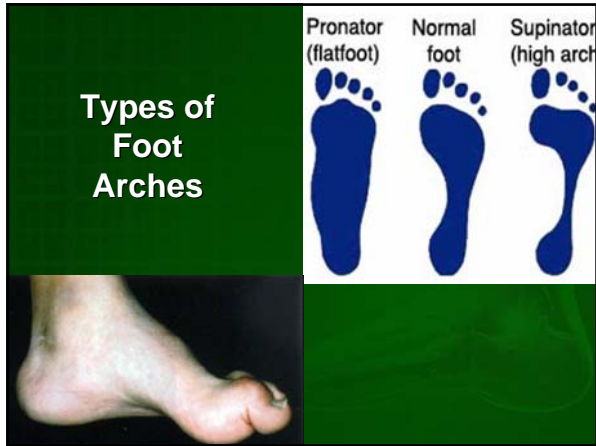
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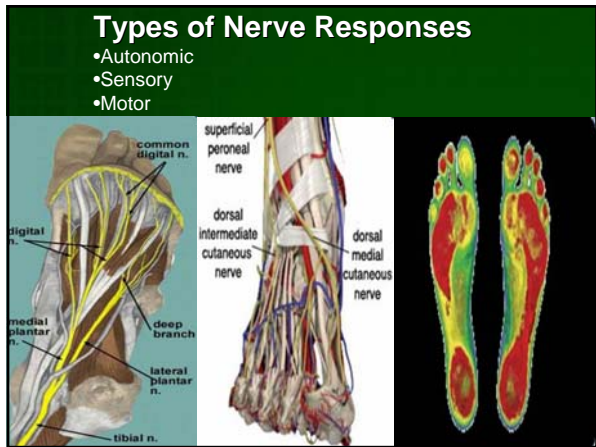
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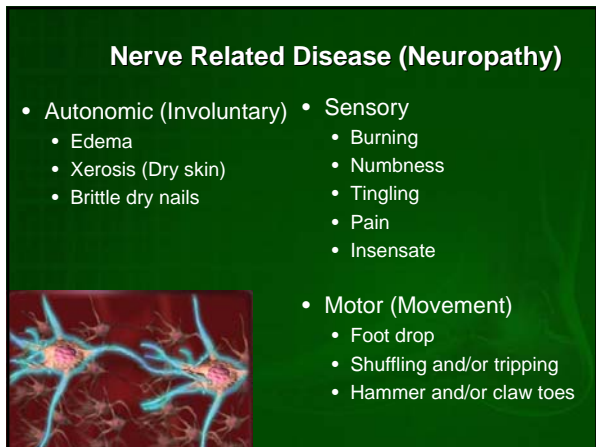
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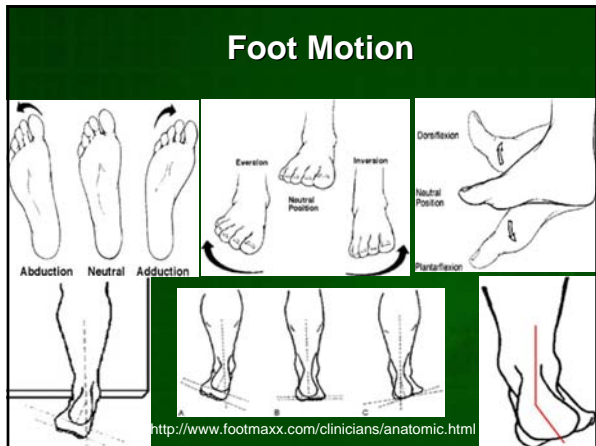
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### Normal Aging of the Foot

- Decrease in circulation with increase in vessel calcification especially due to diabetes and arteriosclerosis
- Reduction in joint movement
- Decrease in skin moisture
- Reduction in fat pad thickness over bony prominences
- Loss of sensory cells
- Changes in foot structures

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### Contributing Factors for Foot Disorders

- Peripheral Vascular Disease
  - Arterial
  - Venous
- Diabetes
- Arthritis
- Osteoporosis/Osteomyelitis
- Fractures/Trauma
- Central Nervous System Dysfunction
- Deformities

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## Symptoms Related to Changes in the Foot's Shape

- Pain when wearing shoes
- Pain when weight bearing such as walking
- Development of corns and callous and ingrown toenails
- Inability to find appropriate fitting shoes
- Increase in aching joints
- Intensify development of bunions, claw and hammer toes
- Enhancing of flat or cavus (high arch) foot formation



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## Common Foot Problems

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## Anatomy of the Nails



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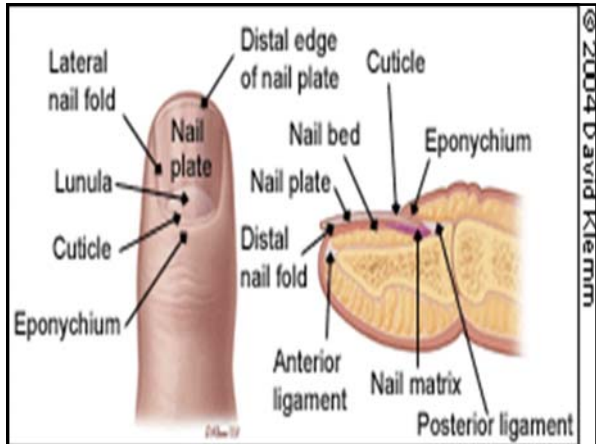
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### Interesting Nail Facts

- Nails grow approximately 0.1 mm per day or 3 mm per month.
- Nails grow faster in daytime and summer.
- Fever and serious illness slow growth rates.
- Pregnancy enhances growth.
- Nails grow more rapidly in men and younger people than
  - in women and the elderly.
- Toenails grow 1/2 to 1/3 the rate of fingernails

Kechijian P. How do nails grow? Nails. May 1993:78-79.

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### Nail Challenges

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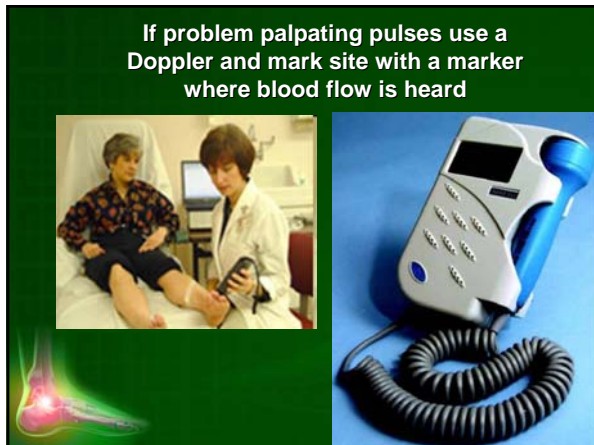
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**Teach Healthy Lifestyles and Self-Care**

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**Safe Nail Care Implements**

**Things to Avoid**

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## Nail Care Indicators

- Consider professional care when an individual has:
  - Poor or no eyesight (glaucoma, macular degeneration)
  - Unable to reach feet (obesity, arthritis )
  - Impaired circulation the “at risk” person (diabetic neuropathy, PVD)
  - Unable to use equipment safely (CVA)
  - Abnormal nails (thick, fungal)
  - No significant person to help with care



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## Nail Care Technique

- The nail should be cut on a marginal curve or follow the natural nail curve/shape NOT straight across
- The nail should not be cut in one piece but in small sections or nips
- After cutting, the nail should then be filed in one direction until smooth
- Then check between toes to remove any nail debris
- Finally, apply a thick lotion/cream to foot to re-moisturize the skin and cuticles but do not apply between the toes.



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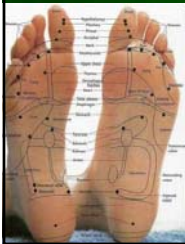
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## Reflexology

is an alternative medicine method involving the practice of massaging or applying pressure to parts of the feet



## Foot Massage

Is used for relaxation and increase localized blood flow



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**-Tissue Injury-**  
**A Physiological Cascade Response**

- Injury of tissue occurs
  - Bruising
  - Break in the skin
- Tissue edema/inflammation
- Impaired circulation (micro-circulation)
  - Impaired tissue perfusion
  - Impaired tissue oxygenation
- Capillary thrombosis
- Tissue ischemia
- Tissue death/necrosis

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## Wound Care Approaches for Limb Saving

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## Team Approach

- Physical Therapy
  - Cryotherapy
  - Heat therapy
  - Hydrotherapy/pulse lavage
  - Ultrasound
  - E-stim
  - Massage
  - Exercises
- Nutrition
  - Protein
  - Calories
  - Vitamins & Minerals
- Pharmacy
  - Antimicrobial
  - Topicals
  - Analgesics
  - Anti-inflammatory
- Podiatry
  - Surgical intervention
  - Orthotic management
  - Casting
- Doctors/Nurse Specialists
  - Wound care
  - Symptom management
  - Education/prevention

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## Goals for Quality for Wound Healing

- Time enhancement
- Moisture management
- Stage/diagnose accurately
- Monitor closely
- Determine cause of chronicity
- Infection control
- Debride appropriately
- Off-load/pressure relief
- Utilize evidence based standard practices
- Provide pain relief
- Apply appropriate dressings/therapies
- Use a collaborative approach
- Adequate nutrition
- Patient "buy-in"
  - Lifestyle changes
  - Education

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# The Most Challenging Foot Disorder

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**Methods of Offloading Pressure**

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**Principles of Orthotic Management**

- Redistribution
- Accommodation
- Stabilization
- Compensation
- Rest
- Immobilization
- Containment

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**Types of Foot Protection**

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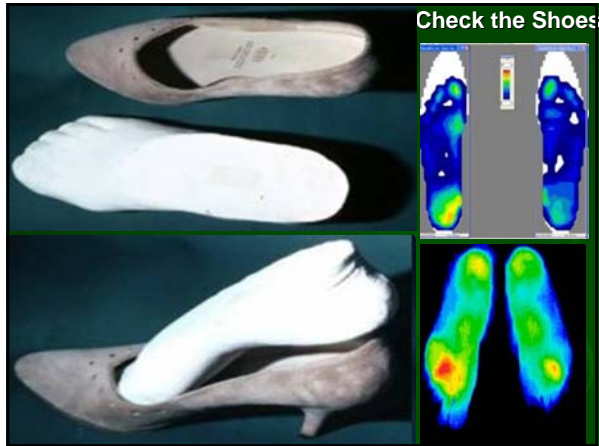
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## Medicare Coverage for Special Footwear

- Usually covered under Medicare Part B
- Need a physician/podiatrist prescription
- If you qualify, entitled to
  - One pair of depth shoes (athletic or walking shoes with a higher toe box)
  - Up to three shoe inserts OR
  - One pair of custom-molded shoes and two additional inserts
- Will need to pay approximately 20% of the total



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Is this an oxymoron?



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On behalf of all the unique and beautiful feet in the world....I thank you!



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## References/Resources

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- <http://professional.diabetes.org/>



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