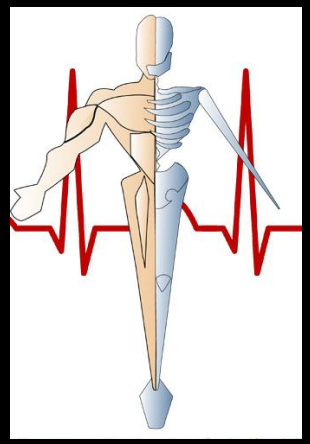
Three Phase CEUs &
SCS Continuing Education Presents:

Anatomy and Radiography of the Ankle, Foot, and Toes ©

Mastery Test

by

Shane Smith PTA, RT(R), MBA



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Forward:

The premise behind the creation of this tutorial is to provide imaging professionals with access to high quality yet affordable continuing education credits (CEUs).

Our Courses qualify as Category A (technical) points for the following: all ARRT recognized imaging modalities, ARRT-CQR, FDOH –Bureau of Radiation Control, NMTCB, and RCIS.

According to the ARRT, a current license as a general radiographer with the FDOH is required to qualify to complete this course.

This rule does not apply to either the NMTCB or RCIS credentials.

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Course Abstract & Objectives:

Course Abstract:

The objective of this course is to provide the learner with a computer-based tutorial that will provide them with the means to learn the radiographic anatomy and pathology of the skeletal system. This 60-question mastery test will be employed to ensure that competency of the material has been achieved.

Please scroll down to proceed.

Mastery Test Instructions:

Please place an “X” over the correct response on your answer sheet. If you are unable to print the answer sheet, writing your answers down on a blank sheet a paper is acceptable.

After you complete your answer sheet, snap a picture of it with your cell phone and text it to Shane Smith at (727) 515-9532 or email it to ceuarmy@yahoo.com. Please be sure to include your email and FDOH license number.

We will return your certificate of completion to you via email after we receive your payment and answer sheet. A score of 75% or higher is required to successfully pass this course.

Thank you for your support and please reach out via text message if you encounter any issues.

Please scroll down to proceed.

Question #1:

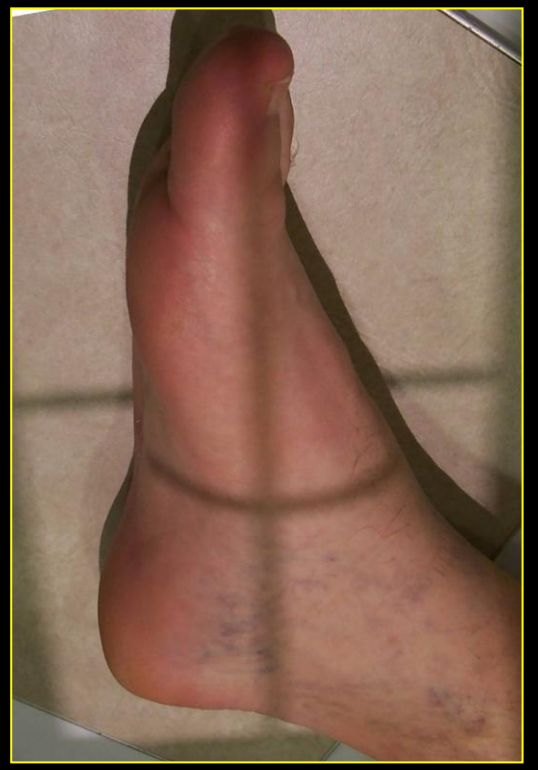
1. The centering point for a lateral foot is not:

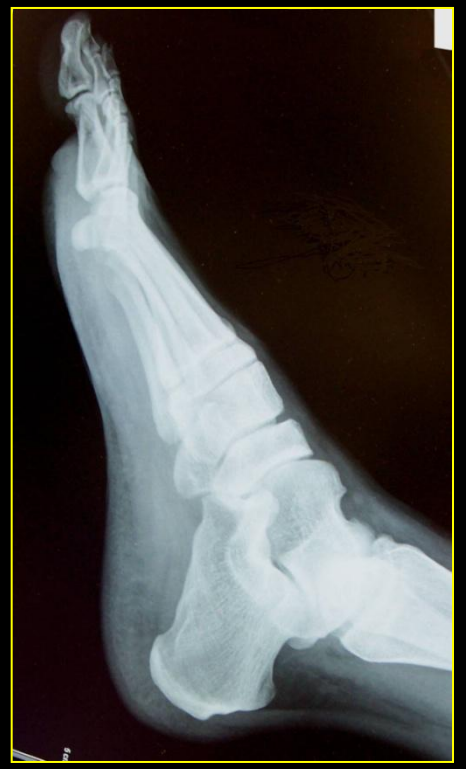
a) cuboid
b) talus
c) medial cuneiform
d) none of the above

Question #1: Review

Positioning: Lateral Foot

- Place foot onto the cassette for a mediolateral projection (recommended).
- Center to the medial cuneiform (base of the 3rd metatarsal).
- Include the entire foot and 1 inch of distal tibia and fibula.





Question #2:

2. Pes planus is also known as “high arch.”

a) true
b) false

Question #2: Review

Pes planus is also known as "flat foot"; partial or complete loss of arch.

RX: weight loss, rest, NSAIDs, orthotics and/or shoe modification, surgery.

Question #3:

3. The MCL or deltoid ligament helps limit what on the ankle?

a) valgus stresses
b) varus stresses
c) compression forces
d) b and c

Question #3: Review

The MCL (medial collateral ligaments) is made up of the three fan-shaped ligaments attached to the distal tibia, also known as the deltoid ligament. This group of ligaments limits valgus stresses on the ankle. This is a fairly strong group and not commonly torn

Question #4:

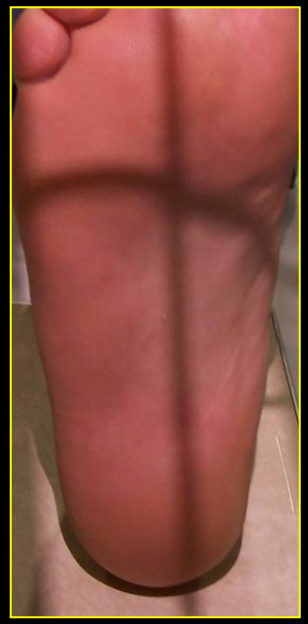
4. When obtaining an axial calcaneous x-ray, the cross hairs will be visualized:

a) on the top of the foot
b) on the bottom of the foot
c) on the posterior aspect of the heel
d) all of the above are correct

Question #4: Review

Axial calcaneous

- Place ankle onto the cassette with the heel close to the bottom edge.
- Dorsiflex until plantar (bottom) surface of the foot is **perpendicular** to the cassette. (assistance may be necessary to achieve this).
- Angle tube **40° cephalad** (cross-hairs seen on the bottom of the foot).
- Center to the **base of the 3rd metatarsal**.
- Include entire calcaneus to the talocalcaneal joint.

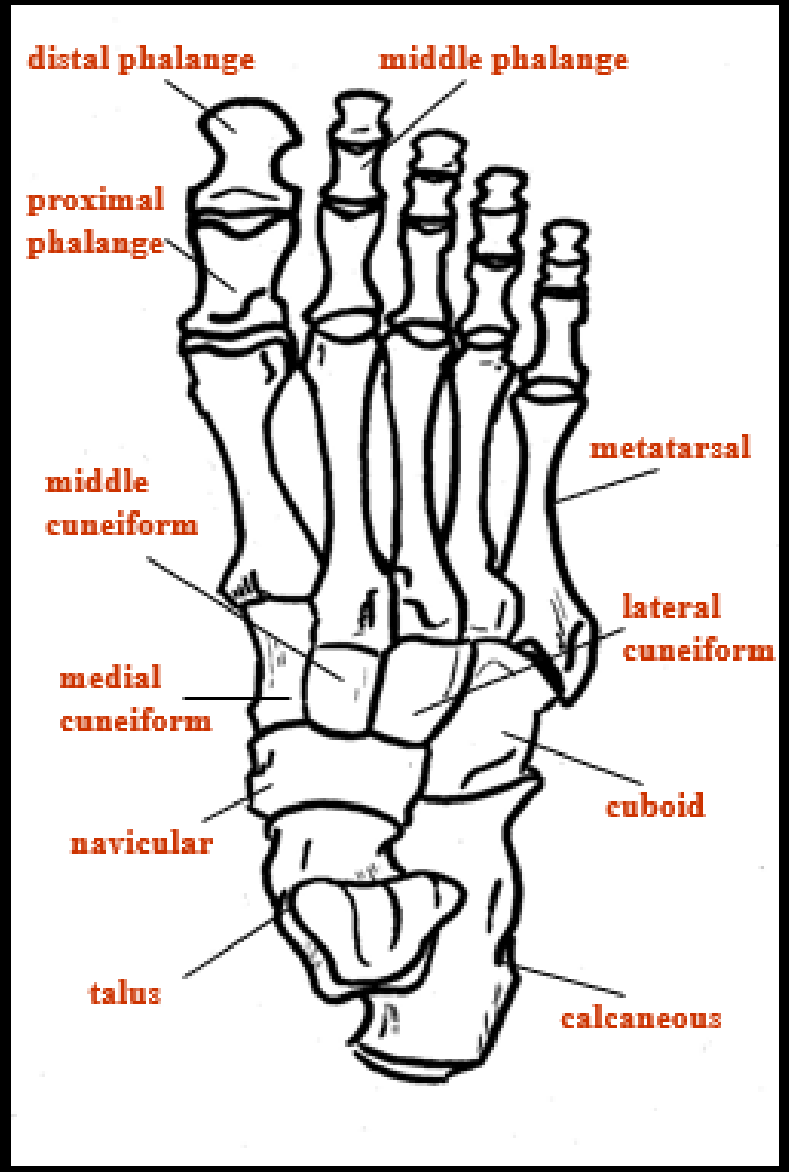


Question #5:

5. The cuboid articulates with which of the following:

a) lateral cuneiform
b) medial cuneiform
c) 5th Metatarsal
d) a and c

Question #5: Review



Question #6:

6. The most commonly torn lateral collateral ligament is:

a) anterior talofibular ligament
b) posterior talofibular ligament
c) calcaneofibular ligament
d) bifurcate ligament

Question #6: Review

The LCL (lateral collateral ligaments) is made up of the anterior talofibular ligament, the posterior talofibular ligament and the calcaneofibular ligament. This group of ligaments limits varus stresses on the ankle. The weakest and most commonly torn of this group is the anterior talofibular ligament.

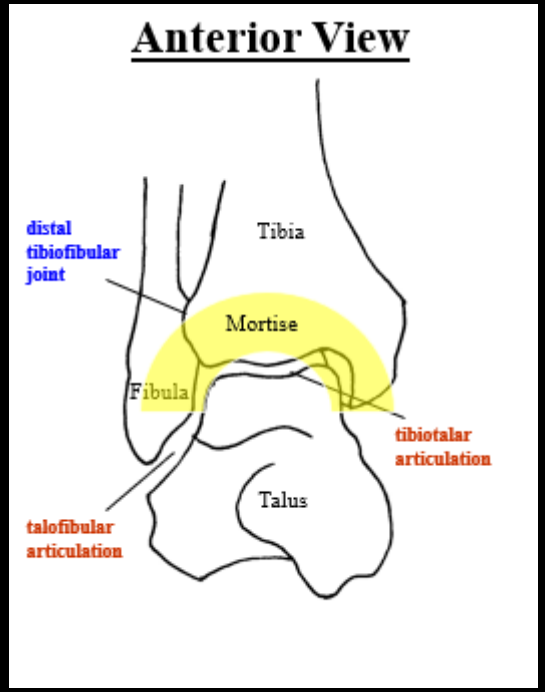
Question #7:

7. The mortise is made up of the tibia, the fibula and the talus.

a) true
b) false

Question #7: Review

The “mortise” is the concaved surface formed by the tibia and fibula. The mortise is adjustable and is controlled by the proximal and distal tibiofibular joints. The talus articulates with this surface and allows dorsiflexion and plantarflexion.



Question #8:

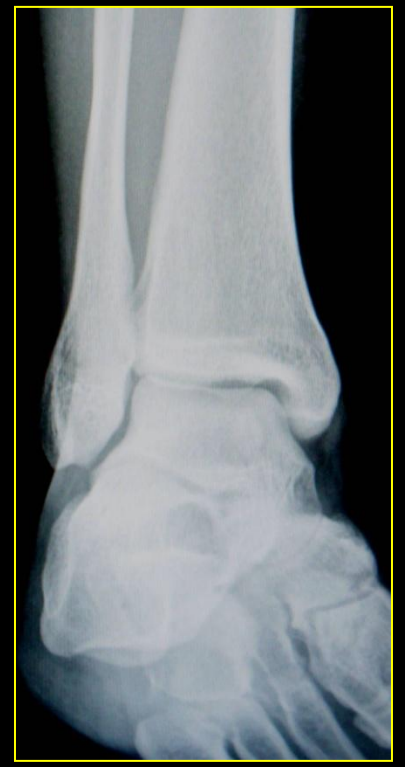
8. The mortise can be visualized without bony obstruction when the lower leg is rotated:

a) 30°- 40° medially
b) 30°- 40° laterally
c) 15°- 20° medially
d) 15°- 20° laterally

Question #8: Review

AP mortise

- Place ankle onto the cassette at **15°- 20°** of medial rotation.
- Center between the **malleoli**.
- Include the distal third of the tibia/fibula and proximal half of the metatarsals.



Question #9:

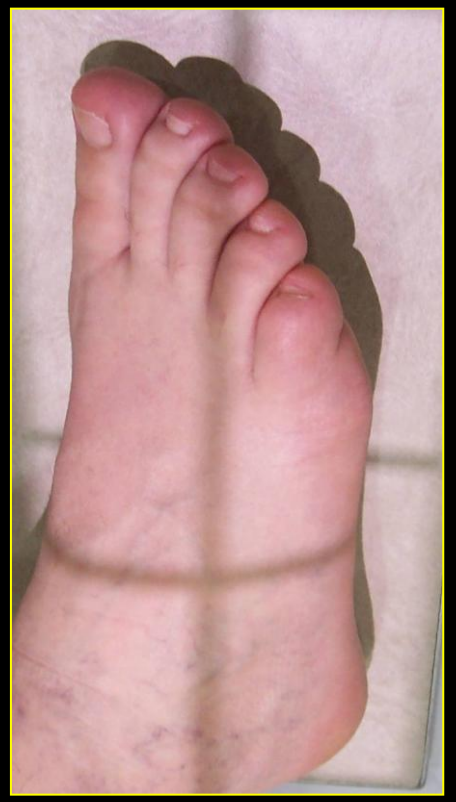
9. The recommended angle for an oblique view of the foot is:

a) 20°
b) 25°
c) 35°
d) 45°

Question #9: Review

Oblique foot

- Place foot onto the cassette at a **30°-45°** angle medially. (45° is recommended)
- Center to the base of the **3rd** metatarsal.
- Include the entire foot and talus.



Question #10:

10. Plantar fascitis results in:

a) heel pain
b) gout
c) hammer toe
d) dislocation of navicular

Question #10: Review

Plantar fascitis is inflammation to the plantar fascia resulting in heel pain. This is due to prolonged non-weight bearing (sitting) in some cases and prolonged weight bearing (standing) in others.

RX: stretching exercises, ice, rest, NSAIDs, orthotics and/or shoe modification.

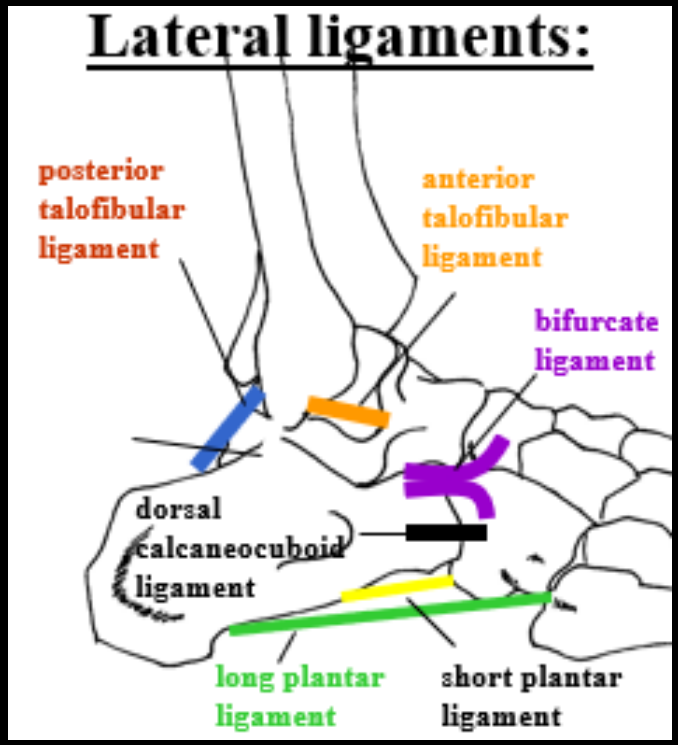
Question #11:

11. The plantar calcaneocuboid ligament is located:

a) top of foot and medial
b) top of foot and lateral
c) bottom of foot and medial
d) bottom of foot and lateral

Question #11: Review

The **dorsal calcaneocuboid ligament** is found lateral and distal to the bifurcate ligament and also attaches from the calcaneous to the cuboid.



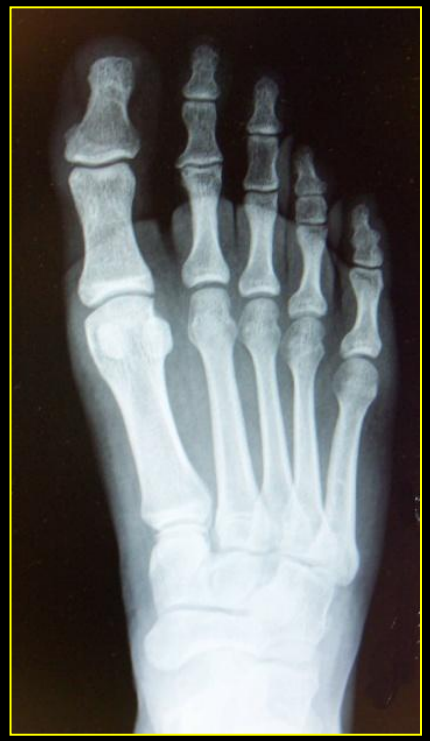
Question #12:

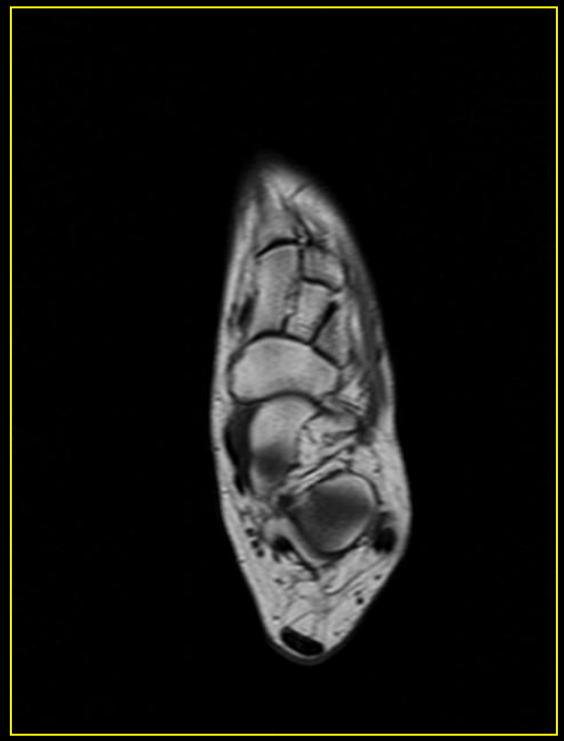
12. In MRI, the axial view of the foot is comparable to what view in x-ray?

a) lateral
b) AP
c) oblique
d) none of the above

Question #12: Review

The axial view of the foot in MRI is comparable to the AP view of the foot in x-ray. The image to the right is one slice of an axial sequence.





Question #13:

13. On a T1 weighted image, fat is bright.

a) true
b) false

Question #13: Review

One advantage to MRI is the ability to utilize the variety of tissues in the body to produce contrast. The tissues of the body are divided into three characteristics: **T1**, **PD** and **T2.** Images produced in MRI are often described as being T1, PD or T2 "weighted."

T1: on a T1 weighted image, **fat** is **bright,** and **water** is **dark.**

PD: on a proton density image, **water** is **bright,** and **fat** is **dark,** but the contrast between the two is less define.

T2: on a T2 weighted image, **water** is **bright,** and **fat** is **dark,** but the contrast is greater.

Question #14:

14. The ankle joint is also known as:

a) the talocrural joint
b) a synovial hinge joint
c) a and b
d) none of the above

Question #14: Review

Joint Classification:

Joint	Bones involved	Type
➢talocrural (ankle)	talus, tibia and fibula	synovial; hinge
➢proximal tibiofibular	proximal tibia and fibula	synovial
➢distal tibiofibular	distal tibia and fibula	syndesmosis
➢subtalar	talus and calcaneus	uniaxial
➢transverse tarsal	talus, navicular, calcaneus and cuboid	compound
➢tarsometatarsal	metatarsals, cuneiforms and cuboid	synovial
➢metatarsophalangeal	metacarpal and proximal phalanx	condyloid; synovial
➢interphalangeal	adjacent phalanges	synovial; hinge

Question #15:

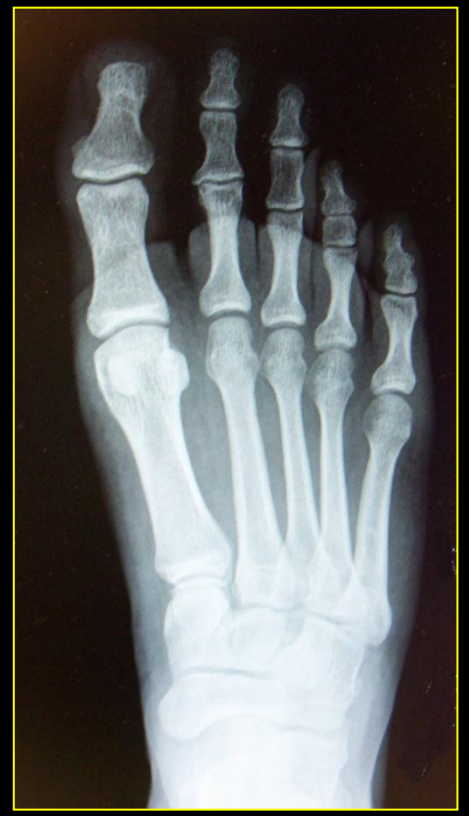
15. Which of these bones should be visualized on an AP foot x-ray?

a) metatarsals
b) cuboid
c) navicular
d) all of the above

Question #15: Review

AP foot

- Place foot flat onto the cassette.
- Angle tube **10°** toward the heel (calcaneous).
- Center to the base of the **3rd** metatarsal.
- Include toes, metatarsals, navicular, cuneiforms and cuboid.



Question #16:

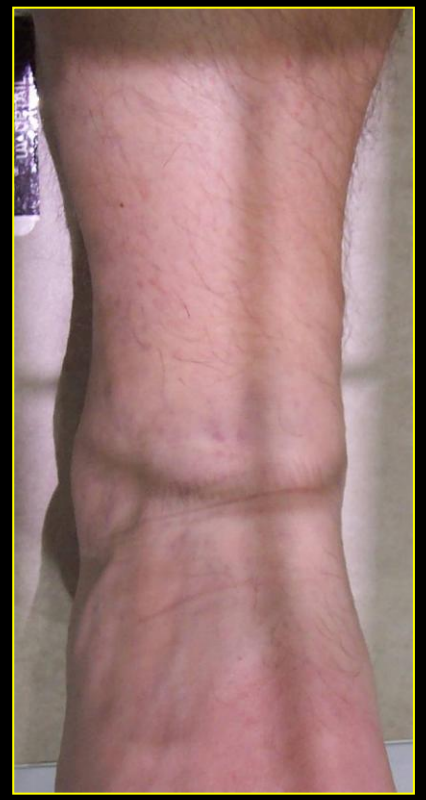
16. On a true AP view of the ankle, the intermalleolar line will be parallel.

a) true
b) false

Question #16: Review

AP ankle

- Place ankle onto the cassette. (the intermalleolar line will not be parallel in a true AP projection).
- Center between the **malleoli**.
- Include the distal third of the tibia/fibula and proximal half of the metatarsals.



Question #17:

17. The transverse tarsal joint allows compensation between the _____ and the _____ on uneven surfaces.

a) fore foot and mid foot
b) mid foot and hind foot
c) fore foot and hind foot
d) metatarsals and phalanges

Question #17: Review

Transverse tarsal joint is known as the **midtarsal** joint. It is a compound joint which allows compensation between the hind foot and fore foot on uneven terrain. It is made up of four bones (talus, calcaneous, cuboid and navicular) and two joints (talonavicular and calcaneocuboid).

Question #18:

18. Plantar fascitis could be a result of prolonged:

a) sitting
b) standing
c) neither
d) both

Question #18: Review

Plantar Fascitis: inflammation to the plantar fascia resulting in heel pain due to prolonged non-weight bearing (sitting) in some cases and prolonged weight bearing (standing) in others.

Question #19:

19. Which of the following is TRUE regarding the tarsometatarsal joint:

a) 4^{th} and 5^{th} metatarsals articulate with the navicular
b) 1^{st} metatarsal articulates with the medial cuneiform
c) 2^{nd} metatarsal articulates with the cuboid
d) none of the above is true

Question #19: Review

Tarsometatarsal joint:

Plane synovial joint formed by articulations with:
1st metatarsal and medial cuneiform
2nd metatarsal and middle cuneiform
3rd metatarsal and lateral cuneiform
4th and 5th metatarsals and cuboid

Question #20:

20. Radiographs of the foot and ankle are best obtained at a source image distance of 40 inches.

a) true
b) false

Question #20: Review

Technical Guidelines:

- ✓ Radiography of the foot and ankle is done at a **40-inch SID** (source image distance).
- ✓ Keep the body part as close to the cassette as possible in order to reduce **OID** (object image distance).
- ✓ Radiographs of the ankle and foot are of better diagnostic quality when an **extremity cassette** is utilized. **CR** (computerized radiography) does not use conventional cassettes or film. Instead, a digitized plate is utilized which can be programmed to act like an extremity cassette. The difference is, however, that it is advised to only put one image per cassette. Multiple images on one cassette do not always appear properly and are difficult to "window" correctly.
- ✓ Although x-ray machines vary, the general **kVp** ranges for radiography of the ankle and foot is between **50-65 kVp**.
- ✓ Adjustments in **kVp** and **MAs** should be considered in cases involving splints, casts, wraps, swelling, braces, etc.

Question #21:

21. A hinge joint allows flexion and extension.

a) true
b) false

Question #21: Review

- **synovial joint**: diarthrotic; allows one or more types of free movement; contain articular cartilage, synovial fluid, synovial membrane and a fibrous capsule.
- **inversion**: combination of supination, adduction and plantar flexion..
- **eversion**: combination of pronation, abduction and dorsiflexion.
- **compound joint:** made up of two or more bones and/or joints.
- **uniaxial joint**: 1 degree of freedom.
- **hinge joint**: monaxial; flexion/extension.
- **syndesmosis**: fibrous connection between a concave and convex surface.
- **condyloid joint:** allows all forms of angular movement except axial rotation.

Question #22:

22. An ankle sprain includes injury to one or more muscles.

a) true
b) false

Question #22: Review

Ankle Sprain: an injury involving one or more ligaments in the ankle.
Severity is dependent upon number of ligaments involved, stretched vs torn and to the degree the ligament is torn.
RX: rest/immobilization, ice, NSAIDs, compression wrap, elevation, surgery.

Question #23:

23. Which of these is NOT part of the LCL:

a) anterior talofibular ligament
b) posterior talofibular ligament
c) calcaneofibular ligament
d) anterior tibiofibular ligament

Question #23: Review

The **LCL (lateral collateral ligaments)** is made up of the:

- **anterior talofibular ligament**
- **posterior talofibular ligament**
- **calcaneofibular ligament**

Question #24:

24. The LCL helps limit what on the ankle?

a) valgus stress
b) compression forces
c) varus stress
d) both a and b

Question #24: Review

The **LCL** (**lateral collateral ligaments**) is made up of the **anterior talofibular ligament**, the **posterior talofibular ligament** and the **calcaneofibular ligament**. This group of ligaments limits varus stresses on the ankle. The weakest and most commonly torn of this group is the anterior talofibular ligament.

Question #25:

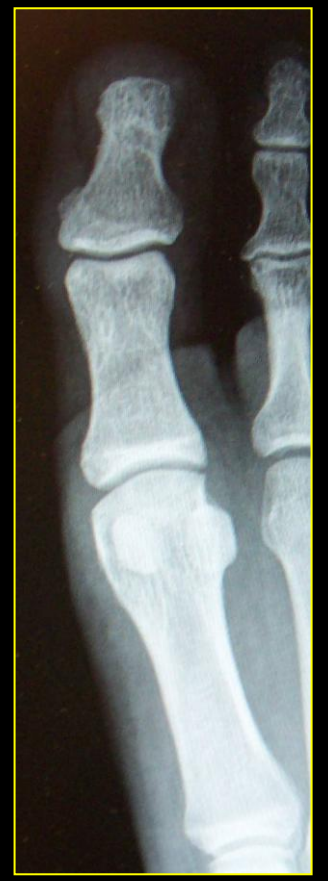
25. It is necessary to visualize the entire metatarsal for a correct AP x-ray of the toe.

a) true
b) false

Question #25: Review

AP toe

- Place foot flat onto the cassette.
- Angle tube **10°-15°** toward the heel.
- Center to the appropriate **MP joint**.
- Include the entire toe and ½ of the metatarsal.



Question #26:

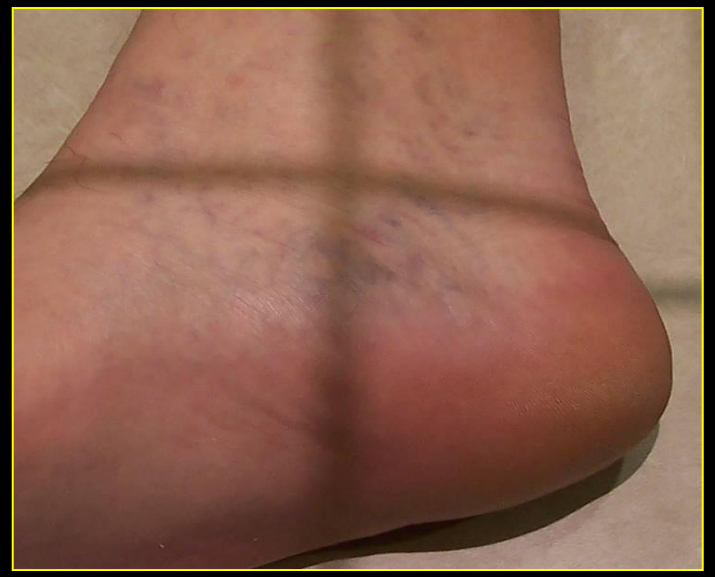
26. The correct centering point for a lateral view of the calcaneous is:

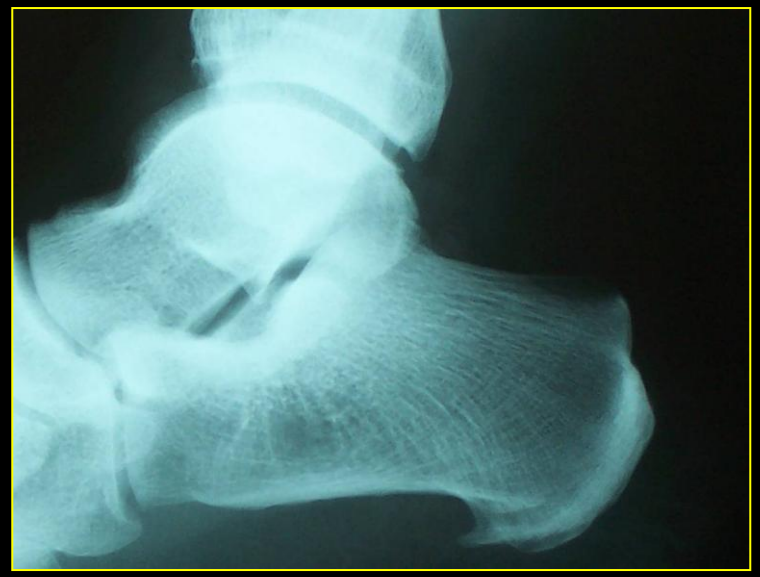
a) 1 ½ inches above the medial malleolus
b) 1 ½ inches below the medial malleolus
c) 1 ½ inches below the lateral malleolus
d) none of the above

Question #26: Review

Lateral calcaneus

- Place ankle onto the cassette for a mediolateral projection.
- Center to 1½ inches below the **medial malleolus**.
- Include the calcaneus and talus.





Question #27:

27. Which joint is also known as the midtarsal joint?

a) Tarsometatarsal joint
b) Transverse tarsal joint
c) Subtalar joint
d) Talocrural joint

Question #27: Review

Transverse tarsal joint is known as the **midtarsal** joint. It is a compound joint which allows compensation between the hind foot and fore foot on uneven terrain. It is made up of four bones (talus, calcaneous, cuboid and navicular) and two joints (talonavicular and calcaneocuboid).

Question #28:

28. Progressive inflammation of the Achilles tendon leading to degeneration is known as Achilles tendonosis.

a) true
b) false

Question #28: Review

Achilles Tendonosis: progression of the inflammation of the Achilles tendon to degeneration of the tendon.

RX: rest/immobilization, ice, ultrasound, NSAIDs, massage, stretching, exercise, surgery.

Question #29:

29. The closed packed position of the subtalar joint is pronation.

a) true
b) false

Question #29: Review

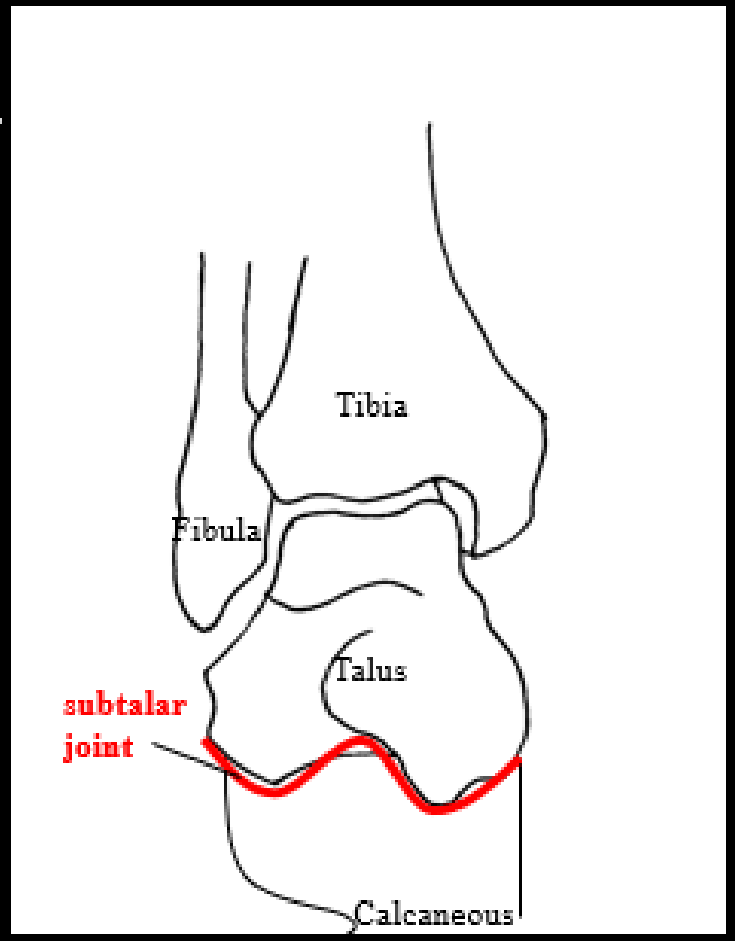
Subtalar joint:

Also known as the **talocalcaneal** joint. It is a triplanar, uniaxial joint which allows 1° of freedom: **supination** (closed packed position) and **pronation** (open).

Supination is accompanied by calcaneal inversion (**calcaneovarus**) and pronation is accompanied by calcaneal eversion (**calcaneovalgus**).

Total subtalar joint motion is approximately:

- **inversion: 20°**
- **eversion: 10°**



Question #30:

30. A lateral x-ray of the 2nd toe is best obtained from what projection?

a) lateromedial
b) mediolateral
c) neither is acceptable
d) both are acceptable

Question #30: Review

Lateral toe

- Place foot onto the cassette for a lateromedial projection of the **1st**, **2nd**, and **3rd** toes and a mediolateral projection of the **4th** and **5th** toes.
- Center to the **IP joint** for the **1st** toe and the appropriate **PIP joint** for the other toes.
- Include the entire toe (phalanges).

Question #31:

31. Which of these is NOT part of the tarsometatarsal joint:

a) navicular
b) cuboid
c) cuneiforms
d) metatarsals

Question #32: Review

Joint Classification:

Joint	Bones involved	Type
➢talocrural (ankle)	talus, tibia and fibula	synovial; hinge
➢proximal tibiofibular	proximal tibia and fibula	synovial
➢distal tibiofibular	distal tibia and fibula	syndesmosis
➢subtalar	talus and calcaneus	uniaxial
➢transverse tarsal	talus, navicular, calcaneus and cuboid	compound
➢tarsometatarsal	metatarsals, cuneiforms and cuboid	synovial
➢metatarsophalangeal	metacarpal and proximal phalanx	condyloid; synovial
➢interphalangeal	adjacent phalanges	synovial; hinge

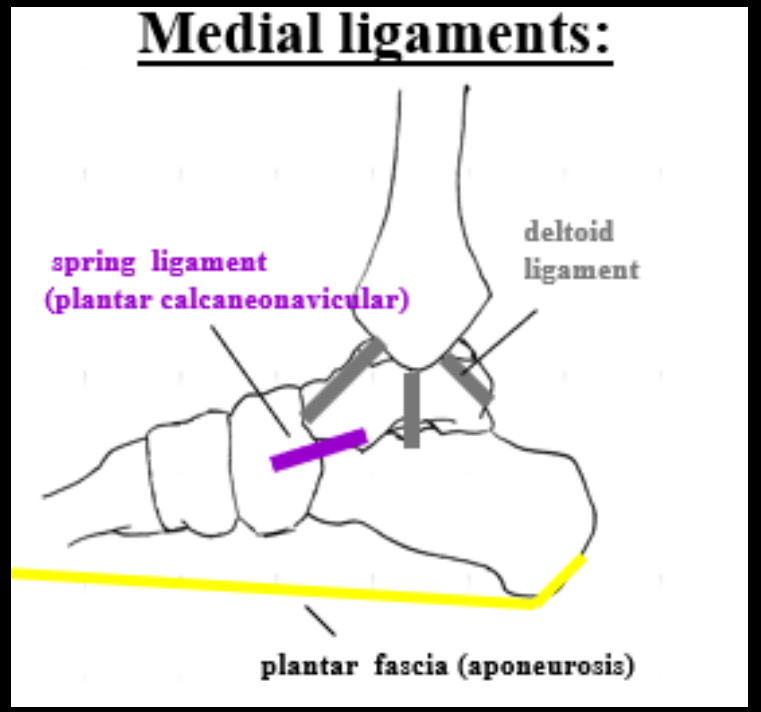
Question #32:

32. The plantar aponeurosis serves what function:

a) prevent valgus stress
b) protects extensor muscles
c) helps maintain arch
d) all of the above

Question #32: Review

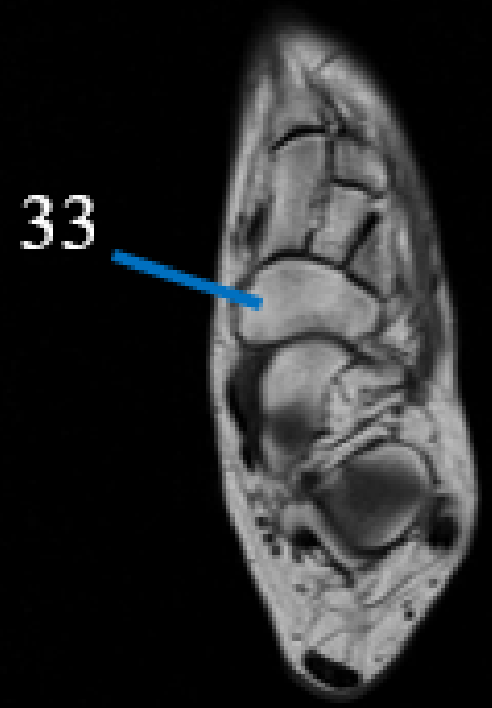
The **plantar fascia** (**aponeurosis**) is a sheet of connective tissue that runs from the calcaneous to the proximal phalanges.



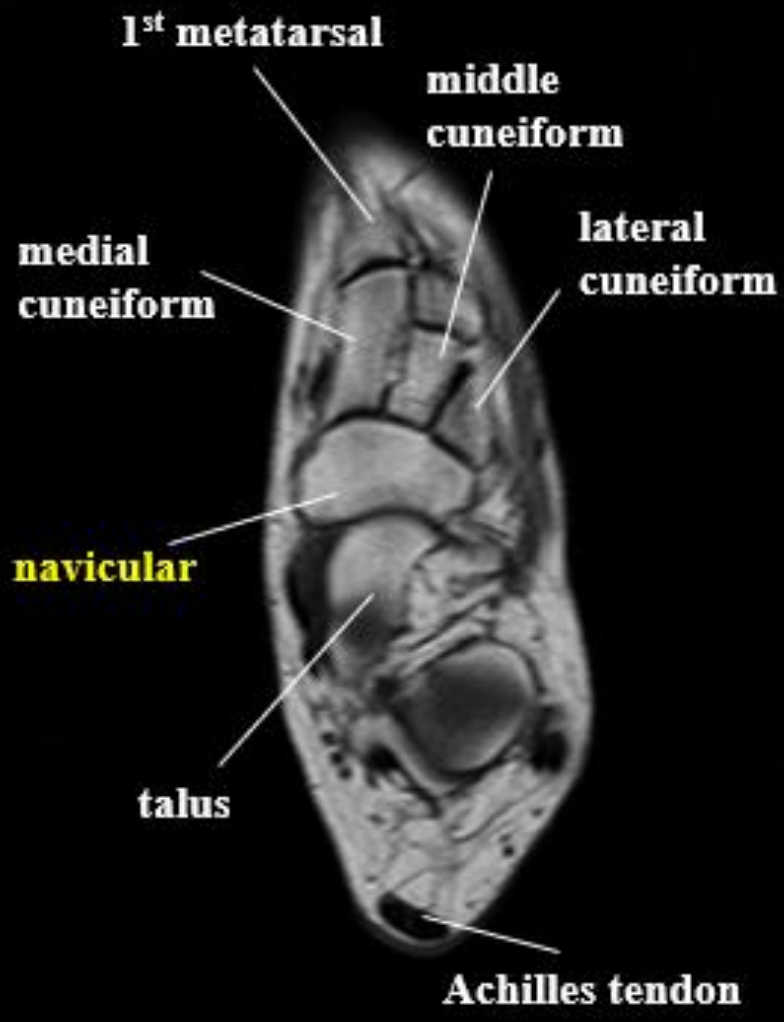
Question #33:

33. The bone identified in the image to the right is the:

a) cuboid
b) medial cuneiform
c) navicular
d) talus



Question #33: Review



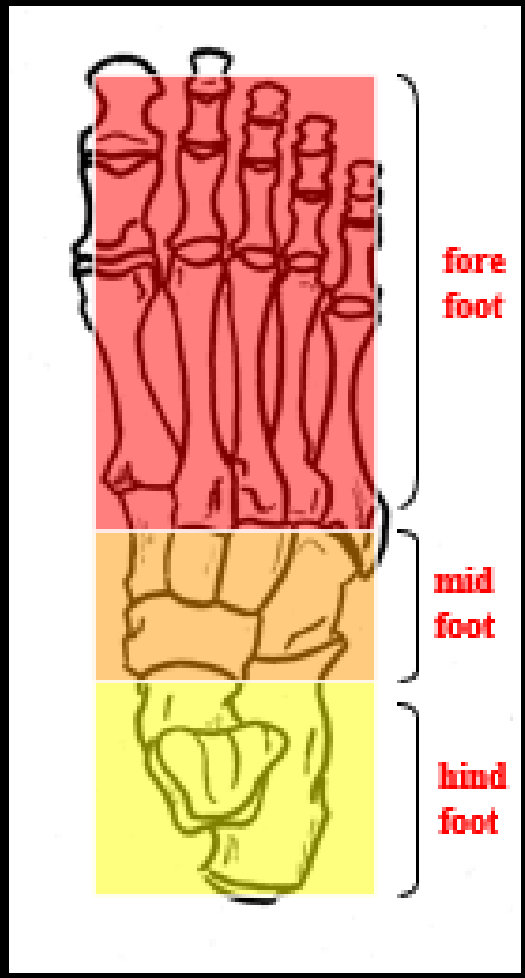
Question #34:

34. The fore foot is considered all the bones distal to the:

a) subtalar joint
b) talocrural joint
c) metatarsal phalangeal joint
d) tarsometatarsal joint

Question #34: Review

The foot is divided into 3 categories; the fore foot (metatarsals and phalanges), mid foot (cuboid, navicular and 3 cuneiforms), and hind foot (talus and calcaneous).



Question #35:

35. A common cause for chronic instability of the ankle is:

a) repeat occurrences of Achilles tendonitis
b) trauma to the cuneiforms and cuboid
c) repeated injury to the LCL
d) repeated injury to the plantar fascia

Question #35: Review

Chronic Instability usually caused by a lateral ankle sprain that has not healed properly and/or repeated ankle sprains resulting in laxity in the LCL.
-RX: strengthening exercises, bracing, NSAIDs.

Question #36:

36. The degree of dorsiflexion allowed at the talocrural joint is approximately:

a) 20 °
b) 10 °
c) 35 °
d) 45 °

Question #36: Review

Talocrural joint:

Most congruent joint in the body. It allows 1° of freedom **dorsiflexion** and **plantar flexion**.

Question #37:

37. Eversion of the calcaneous at the subtalar joint is also known as:

a) calcaneovalgus
b) calcaneovarus
c) eversion of the calcaneous can not take place at the subtalar joint
d) none of the above

Question #37: Review

Subtalar joint:
Also known as the **talocalcaneal** joint. It is a triplanar, uniaxial joint which allows 1° of freedom: **supination** (closed packed position) and **pronation** (open).

Supination is accompanied by calcaneal inversion (**calcaneovarus**) and pronation is accompanied by calcaneal eversion (**calcaneovalgus**).

Question #38:

38. Osteoarthritis can be caused by jamming your toe.

a) true
b) false

Question #38: Review

-Osteoarthritis :

-breakdown and loss of cartilage in one or more joints.

-could be caused by flatfoot, jamming toe(s), fracture, severe sprain.

-RX: strengthening exercises, rest, NSAIDs, orthotics
and/or shoe modification, bracing, steroid injections, surgery.

Question #39:

39. The _____ tightens during extension at the metatarsophalangeal joint.

a) lumbricales
b) extensor retinaculum
c) plantar fascia
d) mortise

Question #39: Review

The Arch:

The arch, also referred to as a twisted osteoligamentous plate, is formed by the configuration of bones and ligaments in the foot. The arch plays a role in both mobility and stability.

In mobility, the arch acts as a shock absorber and allows the foot to adapt to changes in terrain.

In stability, it allows for weight distribution through the foot during weight bearing and converts foot to a rigid lever when pushing off during gait. The **plantar fascia** tightens during extension at the metatarsophalangeal joint. This tightening results in a shortening of the plantar fascia that keeps the midfoot and hind foot locked in a supinated position as the heel lifts off the ground. This is known as the **windlass mechanism**.

Question #40:

40. Pes cavus is characterized by excessive:

a) extension
b) pronation
c) abduction
d) supination

Question #40: Review

Pes cavus:
-excessively supinated foot as a result of a high arch
-loss of shock absorption ability or adaptation to uneven terrain.
-RX: questionable results with conservative intervention.

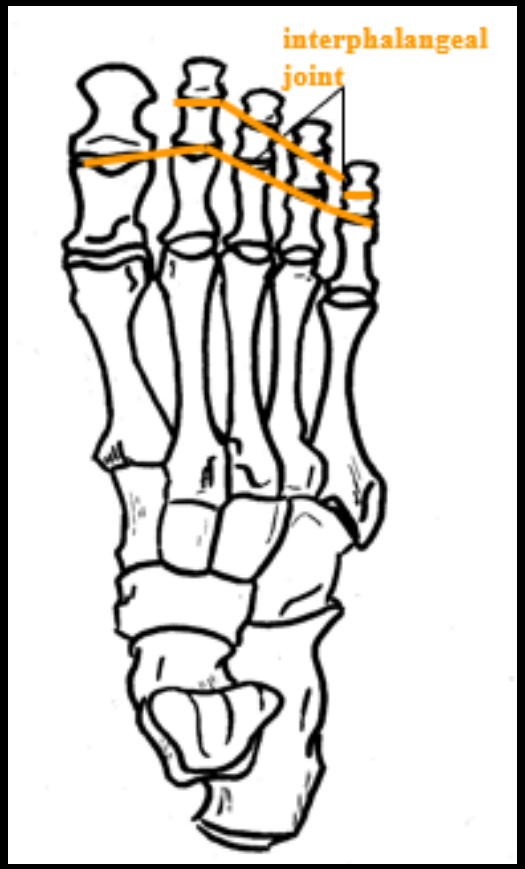
Question #41:

41. The Interphalangeal (IP) joint has how many degrees of freedom?

a) 2°
b) 1°
c) 3°
d) 0°

Question #41: Review

Interphalangeal joint:
IP joints are synovial hinge joints with 1° of freedom: flexion/extension.



Question #42:

42. The “ball of the foot” can be found at what joint:

a) transverse tarsal
b) subtalar
c) interphalangeal
d) metatarsophalangeal

Question #42: Review

Metatarsophalangeal joint also known as the "**ball of the foot**." It is a condyloid synovial joint with 2° of freedom: flexion/extension and abduction/adduction.

Question #43:

43. The subtalar joint is:

a) biplanar
b) triplanar
c) fixed
d) none of the above

Question #43: Review

The subtalar joint, also known as the **talocalcaneal** joint, is a triplanar, uniaxial joint which allows 1° of freedom: **supination** (closed packed position) and **pronation** (open).

Question #44:

44. In MRI, the magnetic field has the greatest effect on:

a) oxygen
b) nitrogen
c) hydrogen
d) potassium

Question #44: Review

The magnetic field primarily affects tissues with an adequate amount of **hydrogen**. A high concentration of hydrogen will produce a strong signal and a bright area on the image while a low concentration will produce little or no signal. No signal will produce a black area with the signals in between producing gray areas, or **contrast.**

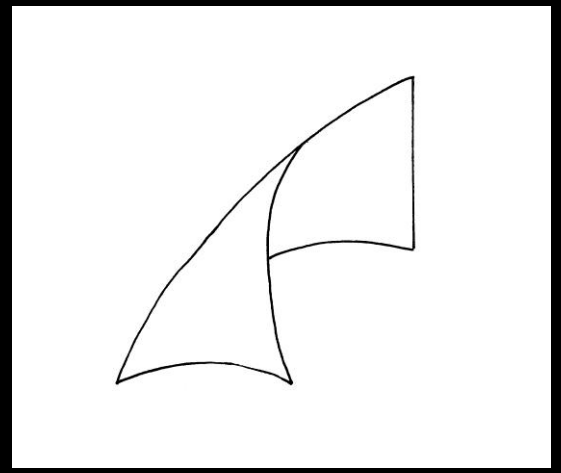
Question #45:

45. The osteoligamentous plate is a vascular network found within the foot.

a) true
b) false

Question #45: Review

The arch, also referred to as a twisted osteoligamentous plate, is formed by the configuration of bones and ligaments in the foot. The arch plays a role in both mobility and stability.



Question #46:

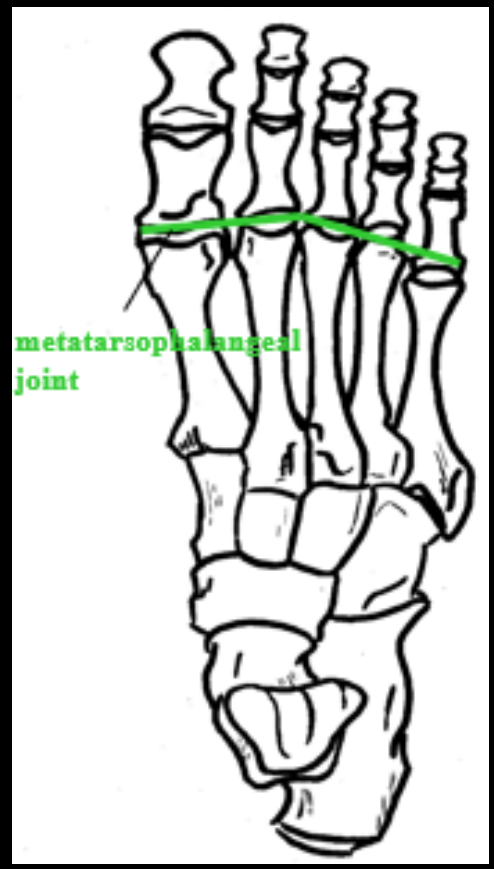
46. Flexion of the great toe at the metatarsophalangeal joint is approximately 0°– 45°.

a) true
b) false

Question #46: Review

Total MTP joint motion is approximately:

- **great toe flexion: 0°-45°**
- **toe flexion: 0°-40°**
- **great toe and toe extension: 0°-80°**



Question #47:

47. The function of the tarsometatarsal joint is to:

a) provide a place for the plantar fascia to attach.
b) maintain the structure of the ball of the foot.
c) continue the compensating movement of the transverse tarsal joint.
d) both b and c are correct

Question #47: Review

Tarsometatarsal joint:
Plane synovial joint formed by articulations with:
1st metatarsal and medial cuneiform
2nd metatarsal and middle cuneiform
3rd metatarsal and lateral cuneiform
4th and 5th metatarsals and cuboid

Continues the compensating movement available at the transverse tarsal joint once the maximum range of motion of that joint has been reached.

Question #48:

48. Which of these is NOT part of the transverse tarsal joint:

a) navicular
b) talus
c) calcaneous
d) all of the above are part of the transverse tarsal joint

Question #48: Review

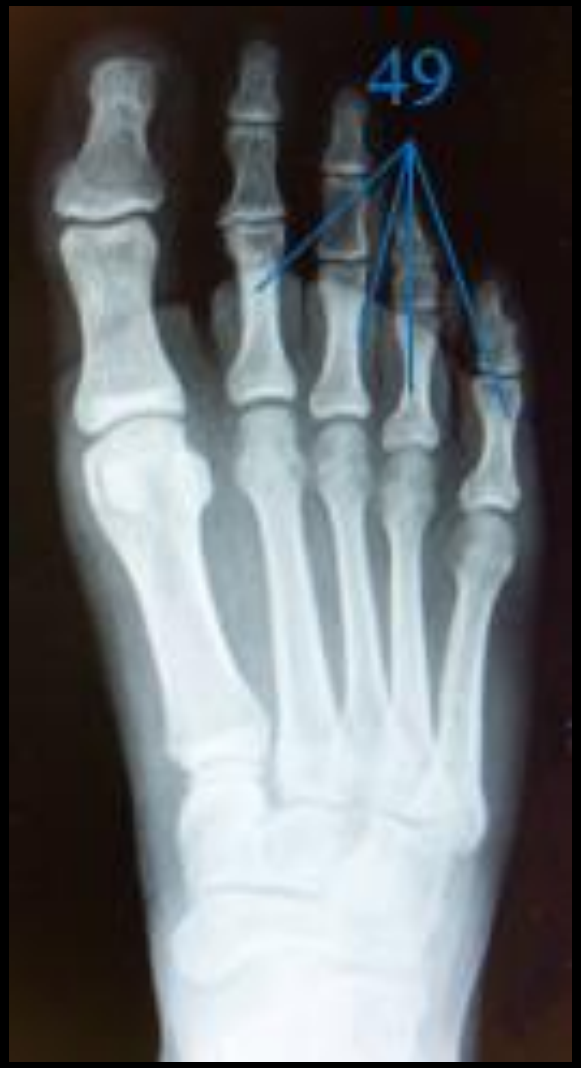
Transverse tarsal joint:

Also known as the **midtarsal** joint. It is a compound joint which allows compensation between the hind foot and fore foot on uneven terrain. It is made up of four bones (talus, calcaneous, cuboid and navicular) and two joints (talonavicular and calcaneocuboid).

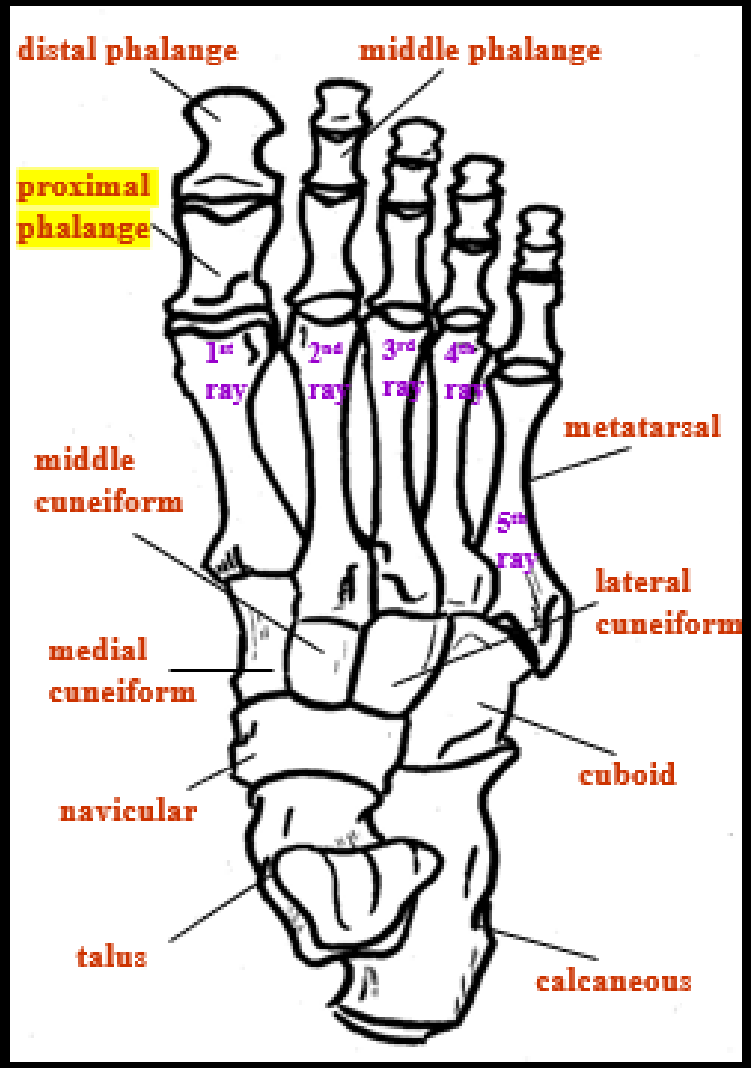
Question #49:

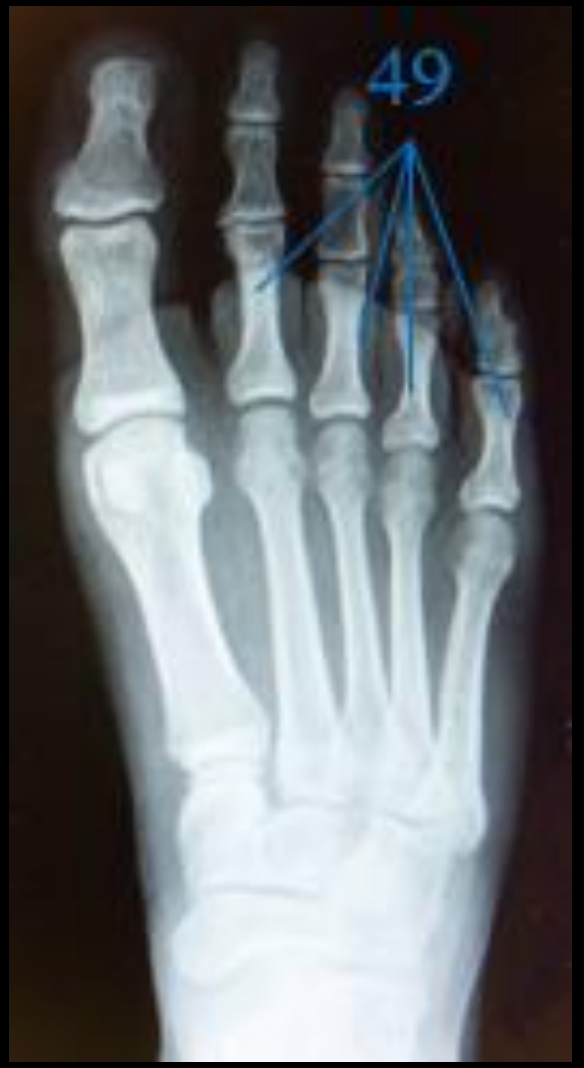
49. The bones identified on the image to the right are:

a) distal phalanges
b) proximal phalanges
c) middle phalanges
d) metatarsals



Question #49: Review





Question #50:

50. Shielding should be utilized during radiography of the foot, ankle, and toes.

a) true
b) false

Question #50: Review

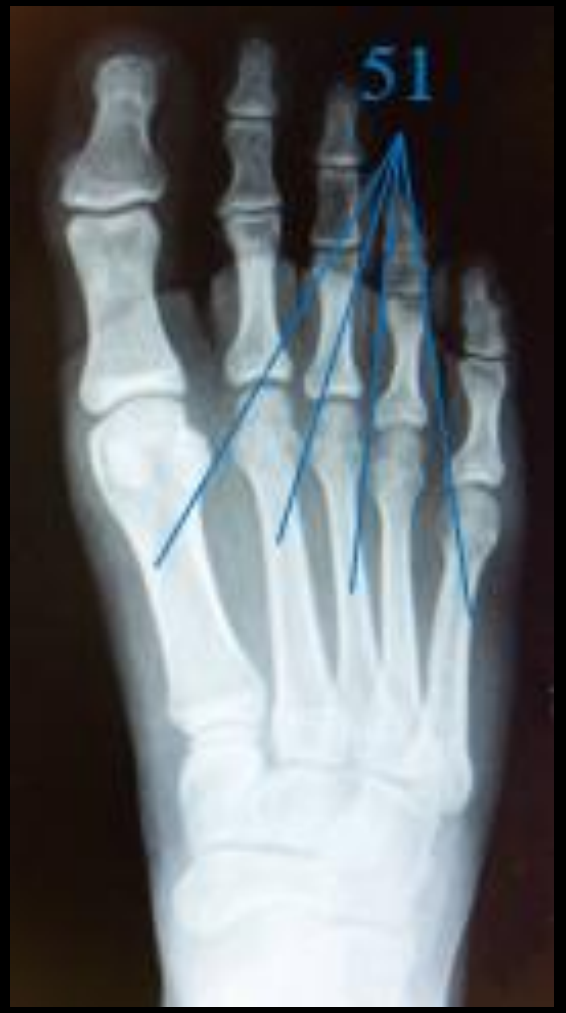
General Guidelines

- ✓ remove any jewelry that will interfere with the anatomy being radiographed.
- ✓ make patient as comfortable as possible; some positions that the patient must conform to and maintain in order for a diagnostic image to be obtained can be difficult due to disease process, trauma, etc. It is important to keep that in mind when positioning patients for an exam.
- ✓ always **shield** when possible; for the purpose of this program, shielding should always be utilized for radiography of the foot and ankle.
- ✓ use **collimation**; at minimum, collimation should not exceed the cassette size.
- ✓ the body part should be **parallel** to the film; the **central ray** (centering) should be **perpendicular** (**90°**) to the body part and the film.
- ✓ Lead markers should be used to identify **RIGHT** or **LEFT.**

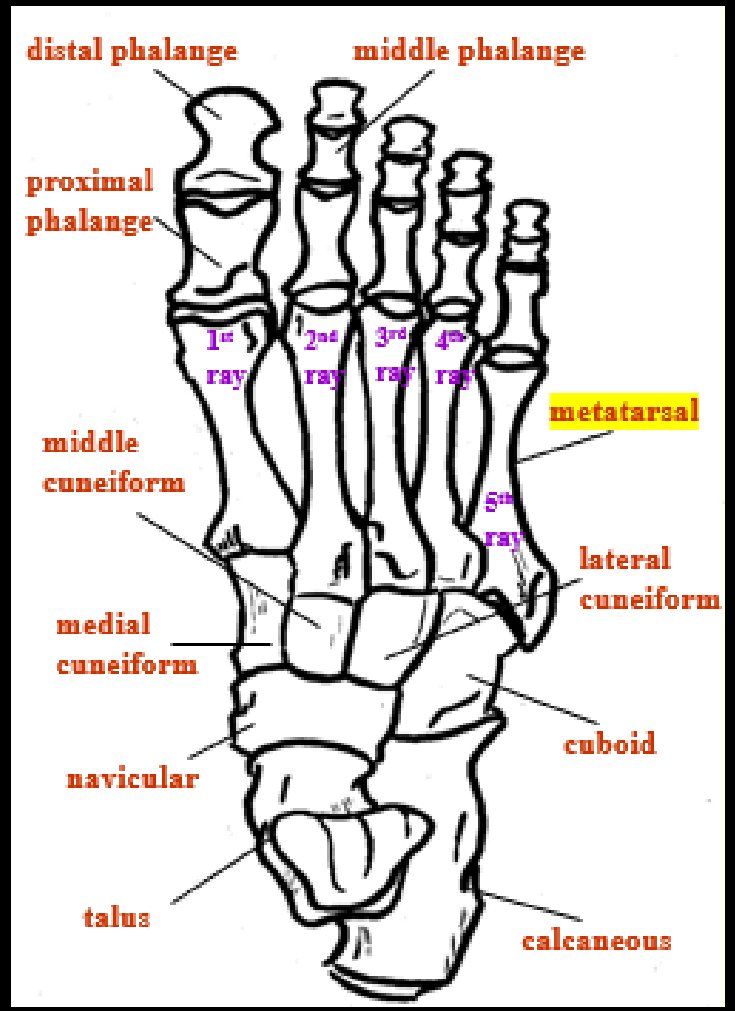
Question #51:

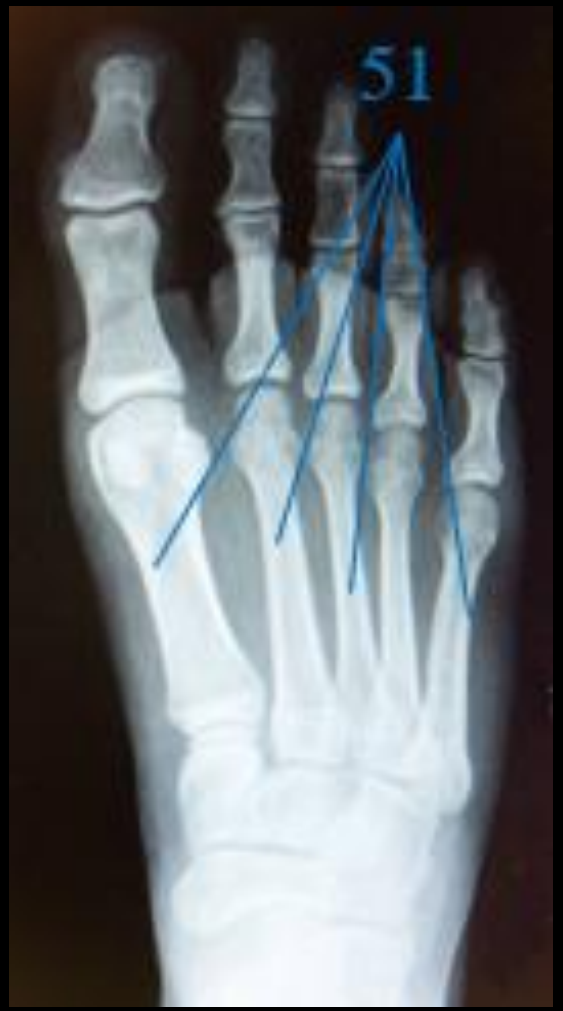
51. The bones identified on the image to the right are:

a) distal phalanges
b) proximal phalanges
c) metacarpals
d) metatarsals



Question #51: Review





Question #52:

52. Shielding should be utilized on females between the ages of 12-50.

a) true
b) false

Question #52: Review

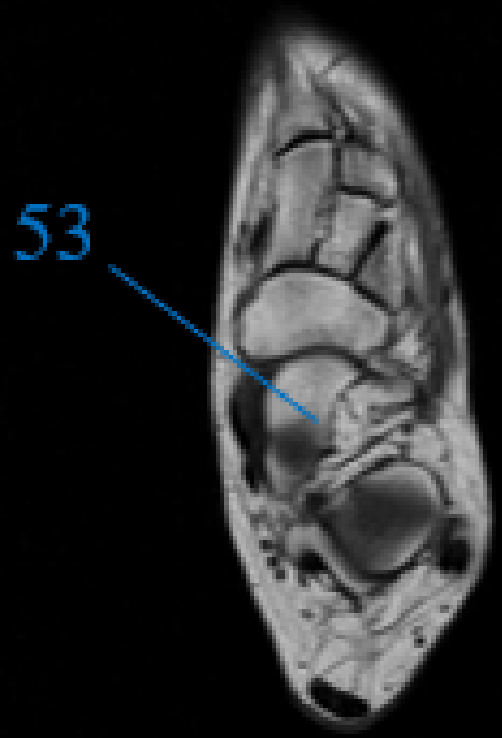
General Guidelines

- ✓ remove any jewelry that will interfere with the anatomy being radiographed.
- ✓ make patient as comfortable as possible; some positions that the patient must conform to and maintain in order for a diagnostic image to be obtained can be difficult due to disease process, trauma, etc. It is important to keep that in mind when positioning patients for an exam.
- ✓ always **shield** when possible; for the purpose of this program, shielding should always be utilized for radiography of the foot and ankle.
- ✓ use **collimation**; at minimum, collimation should not exceed the cassette size.
- ✓ the body part should be **parallel** to the film; the **central ray** (centering) should be **perpendicular** (**90°**) to the body part and the film.
- ✓ Lead markers should be used to identify **RIGHT** or **LEFT.**

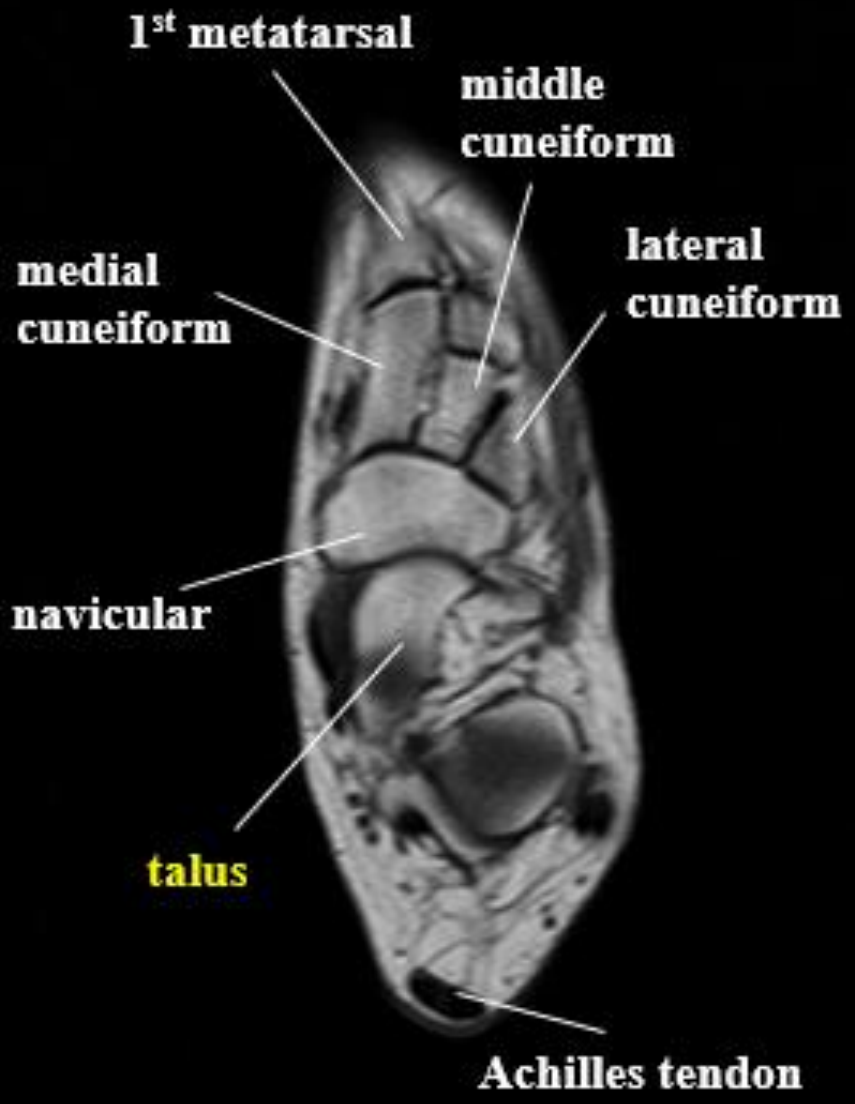
Question #53:

53. The bone identified in the image to the right is the:

a) cuboid
b) medial cuneiform
c) navicular
d) talus



Question #53: Review

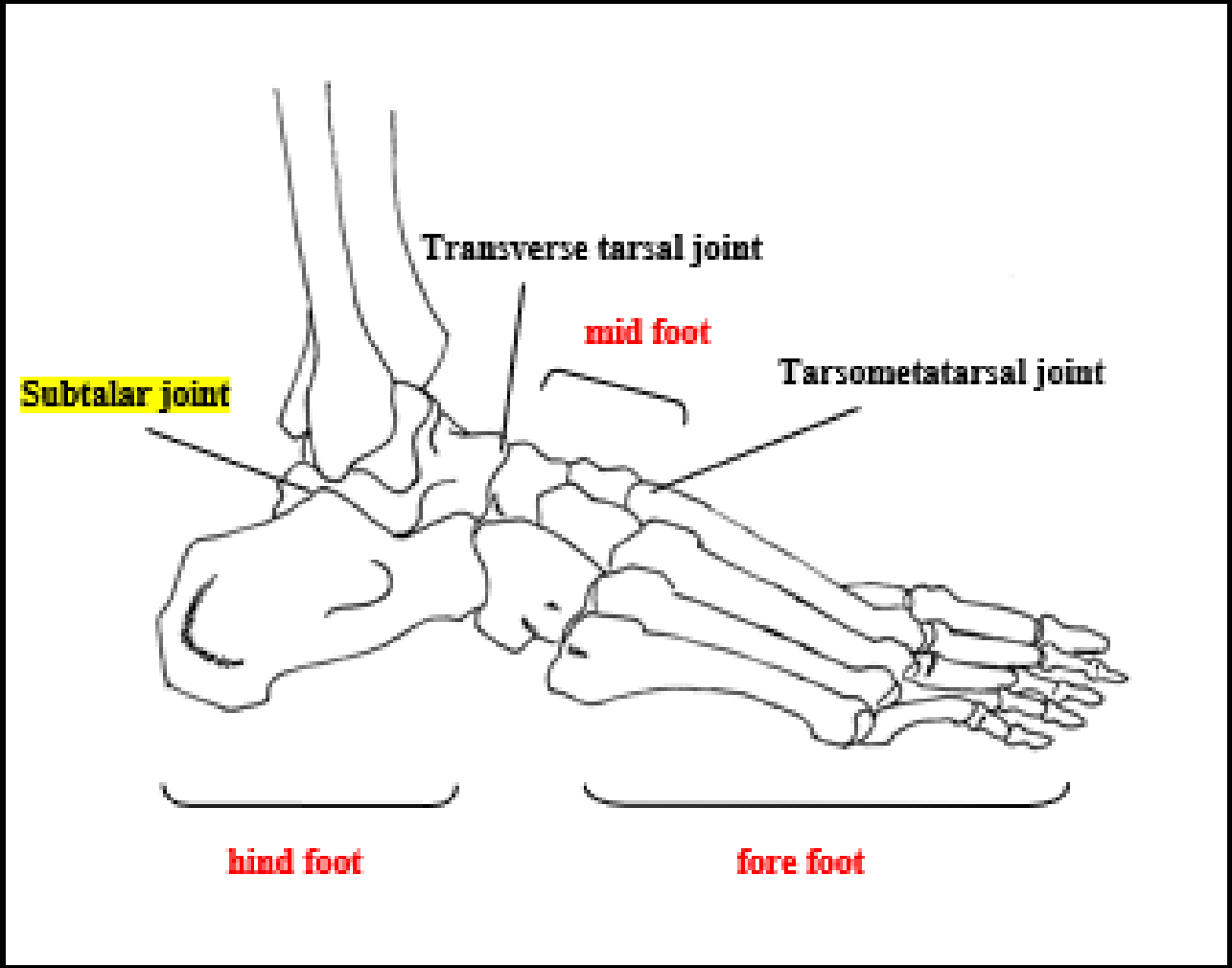


Question #54:

54. The joint not included in the fore foot is the:

a) subtalar joint
b) interphalangeal joints
c) metatarsal phalangeal joint
d) tarsometatarsal joint

Question #54: Review



Question #55:

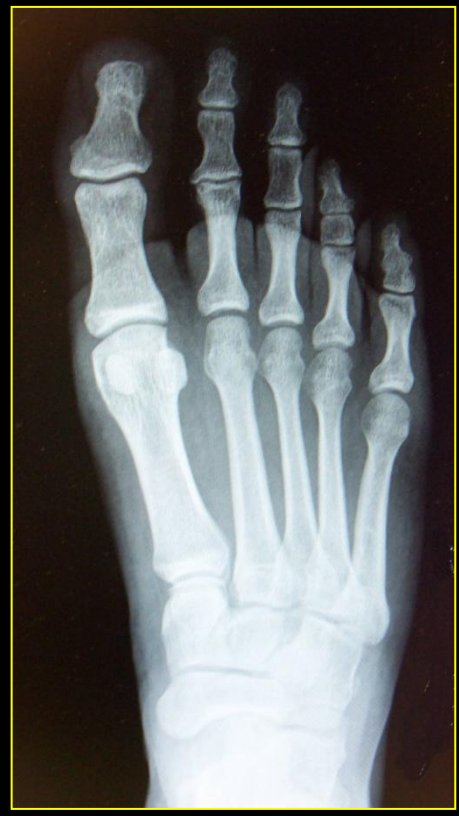
55. Which of these bones will not be visualized on an AP foot x-ray?

a) metatarsals
b) cuboid
c) navicular
d) calcaneous

Question #55: Review

AP foot

- Place foot flat onto the cassette.
- Angle tube **10°** toward the heel (calcaneus).
- Center to the base of the **3rd** metatarsal.
- Include toes, metatarsals, navicular, cuneiforms and cuboid.



Question #56:

56. On a true AP view of the ankle, the intermalleolar line will not be parallel.

a) true
b) false

Question #56: Review

AP ankle

- Place ankle onto the cassette. (the intermalleolar line will not be parallel in a true AP projection).
- Center between the **malleoli**.
- Include the distal third of the tibia/fibula and proximal half of the metatarsals.

Question #57:

57. The centering point for a lateral foot is not:

a) 1 ½ inches distal to the fibula
b) 1 inch distal to the talus
c) the medial cuneiform
d) all of the above are correct

Question #57: Review

Lateral foot

- Place foot onto the cassette for a mediolateral projection (recommended).
- Center to the **medial cuneiform** (base of the 3rd metatarsal).
- Include the entire foot and 1 inch of distal tibia and fibula.

Question #58:

58. Pes planus is also known as “flat foot.”

a) true
b) false

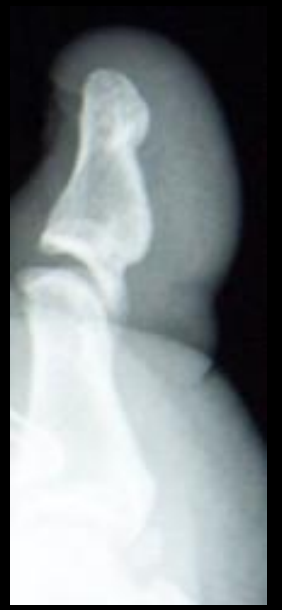
Question #58: Review

Pes planus is also known as “flat foot” partial or complete loss of arch.

RX: weight loss, rest, NSAIDs, orthotics and/or shoe modification, and surgery.

Question #59:

59. This image best demonstrates the:

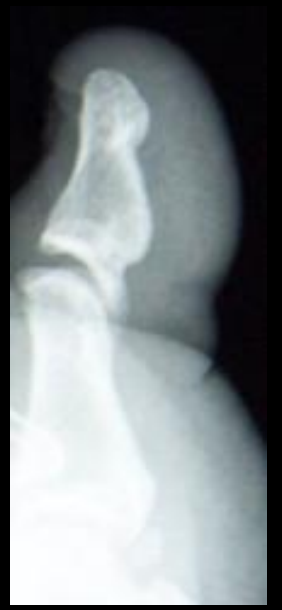


a) metatarsal
b) distal phalanx
c) the medial cuneiform
d) all of the above

Question #59: Review

Lateral toe

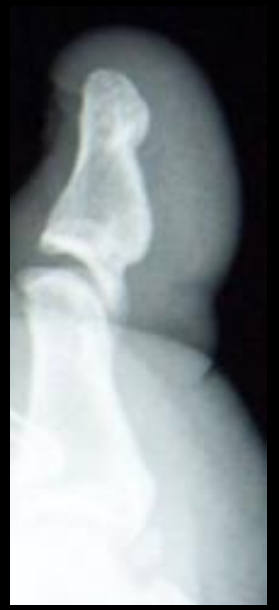
- Place foot onto the cassette for a lateromedial projection of the **1st**, **2nd**, and **3rd** toes and a mediolateral projection of the **4th** and **5th** toes.
- Center to the **IP joint** for the **1st** toe and the appropriate **PIP joint** for the other toes.
- Include the entire toe (phalanges).



Question #60:

60. This image represents a lateromedial projection.

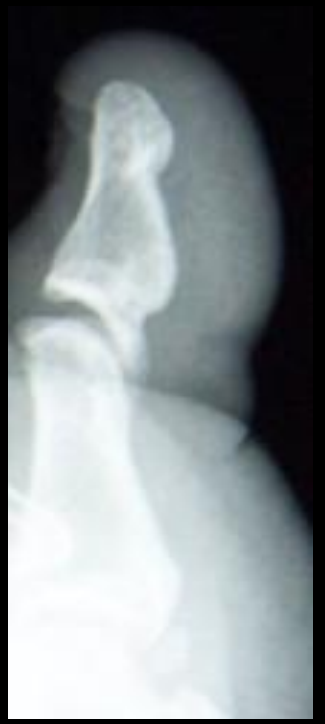
a) true
b) false



Question #60: Review

Lateral toe

- Place foot onto the cassette for a lateromedial projection of the **1st**, **2nd**, and **3rd** toes and a mediolateral projection of the **4th** and **5th** toes.
- Center to the **IP joint** for the **1st** toe and the appropriate **PIP joint** for the other toes.
- Include the entire toe (phalanges).



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About the Author:

Shane began his career in the health field by becoming a certified personal trainer by AFAA (Aerobics and Fitness Association of America) in 1993. Soon after he began taking prerequisite classes at the Community College of Rhode Island for the Physical Therapist Assistant program.

In 1996, Shane was accepted at Newbury College in Brookline, MA to enroll into the Physical Therapist Assistant program. While attending classes at Newbury, he was employed by the college as a tutor for kinesiology. Shane graduated Cum Laude from Newbury College in 1998 with an A.A.S. degree. He was also elected into the Who's Who Amongst Students in American Universities and Colleges for 1997-1998. Shane immediately took his licensing test in Rhode Island and successfully received his license as a Physical Therapist Assistant.

Shane moved to Florida 1999 and began working as a Physical Therapist Assistant in the acute, skilled nursing and outpatient settings. He has done extensive co-treating with Occupational Therapists and Occupational Therapist Assistants on a wide variety of patients with varying health conditions.

In 2001, Shane enrolled into the Radiography program at St. Petersburg College. There he gained a whole new appreciation for anatomy and health/patient care. He graduated top of his class in 2003 with an A.A.S. degree in radiography and earned the Mallinckrodt Award. Shane took the national registry by the ARRT and obtained a General Radiographer's license. He has been working in the field ever since, Shane has also successfully completed two MRI courses offered by St. Petersburg College.

In 2003, his radiographer instructor, John Fleming, inspired him to create a company that offered high quality continuing education units at an affordable price. SCS Continuing Education was born. SCS Continuing Education currently has two continuing education programs approved by the Florida Physical Therapy Association (FPTA), the Mississippi State Board of Physical Therapy (MSBPT) and the Arkansas State Board for Physical Therapy (ARPTB) for Physical Therapists and Physical Therapist Assistants and two continuing education programs approved by the Florida Department of Health (FDOH) Bureau of Radiation Control for Category A credits for radiographers.

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