

Medical Imaging Program  
Clinical Seminar IV  
2022

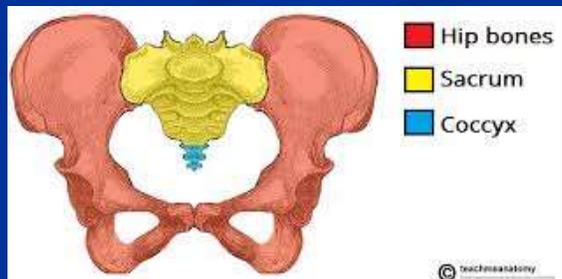
Pelvis, Hip Radiography  
Merrill's Volume I,  
Chapter 7

*Pelvis*, Georgia O'Keefe

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## Pelvis

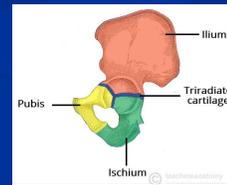
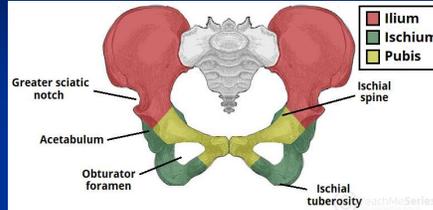
- Serves as a base for trunk of body
- Acts as a girdle to attach legs
- Consists of 4 bones:
  - (2) Hip bones – form the pelvic girdle
  - Sacrum
  - Coccyx



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# Hip Bones

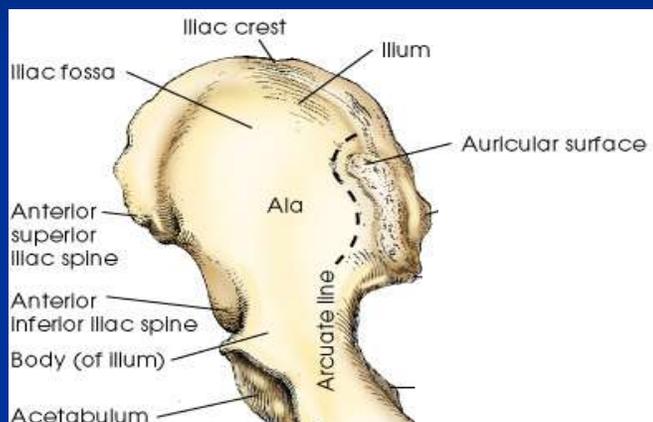
- Also called:
  - Os coxae
  - Innominate bones
- Consists of 3 distinct bones:
  - Ilium
  - Pubis
  - Ischium
- These bones fuse together to form the acetabulum



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# Hip Bones - Ilium

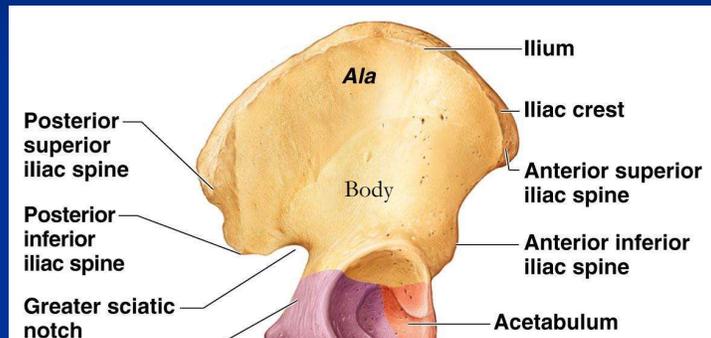
- Consists of a body and ala



AP View (right)

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## Hip Bones - Ilium

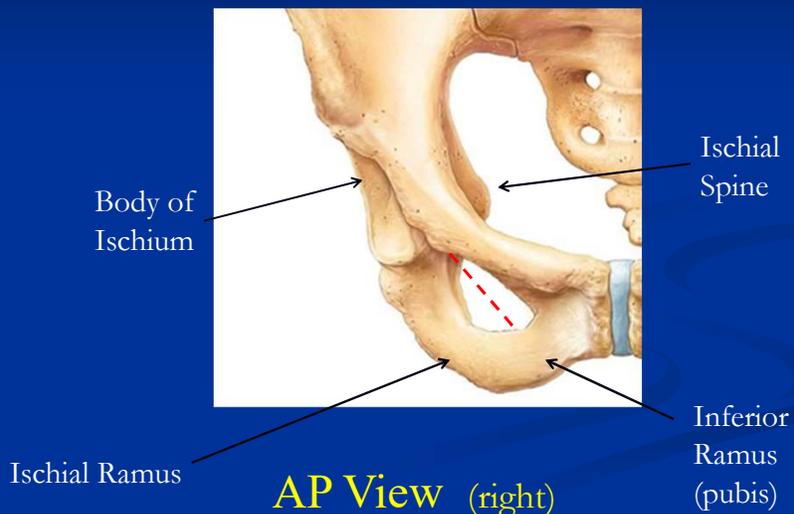


Lateral View  
(right)

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## Hip Bones - Ischium

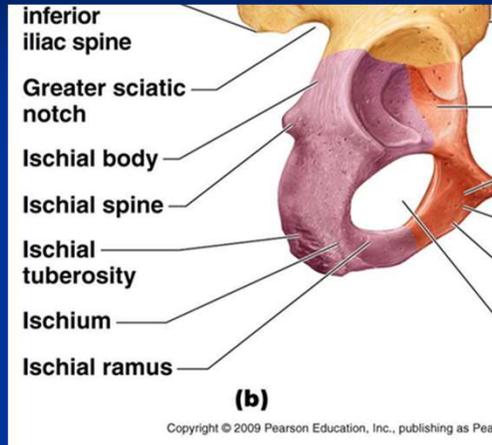
- Consists of a body and ischial ramus



AP View (right)

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## Hip Bones - Ischium

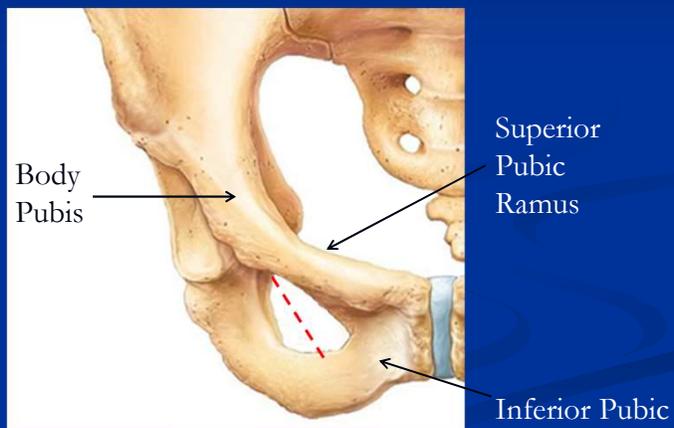


Lateral View  
(right)

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## Hip Bones - Pubis

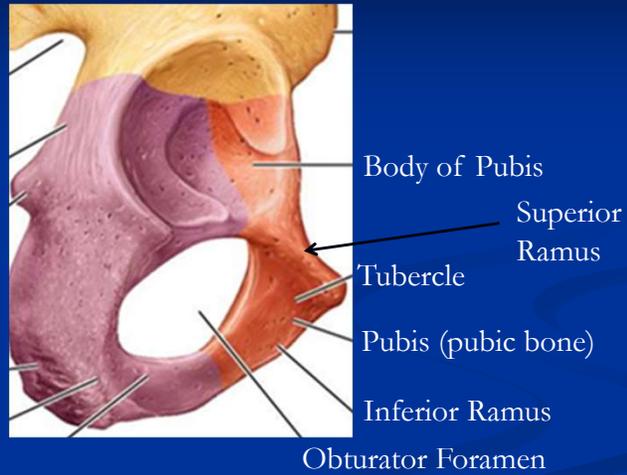
- Consists of the body, superior ramus and inferior ramus



AP View (right)

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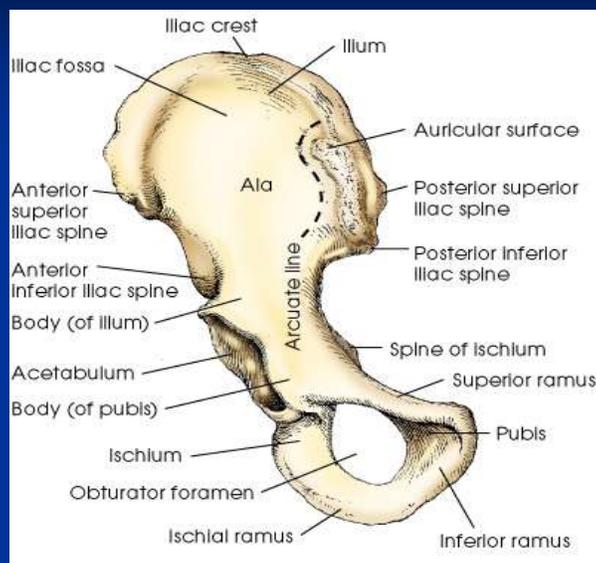
## Hip Bones - Pubis



Lateral View (right)

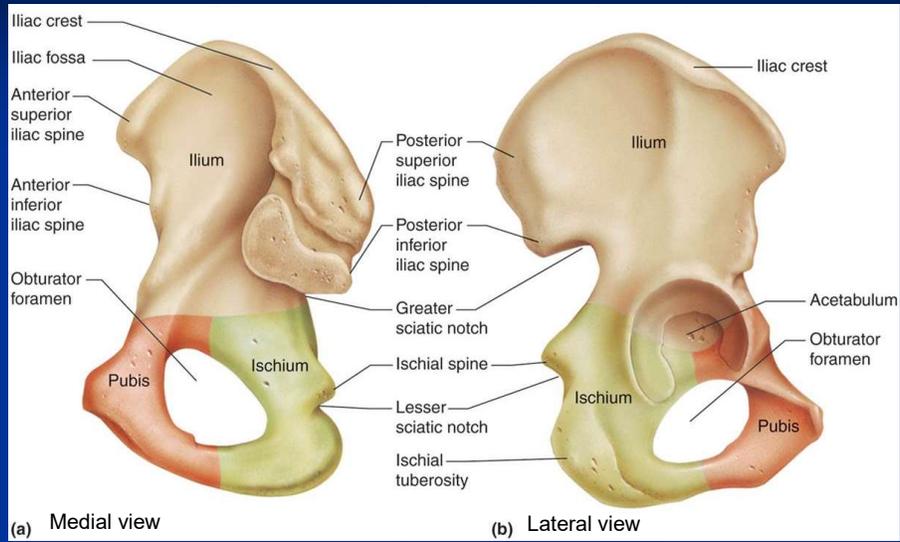
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## AP Hip (right)



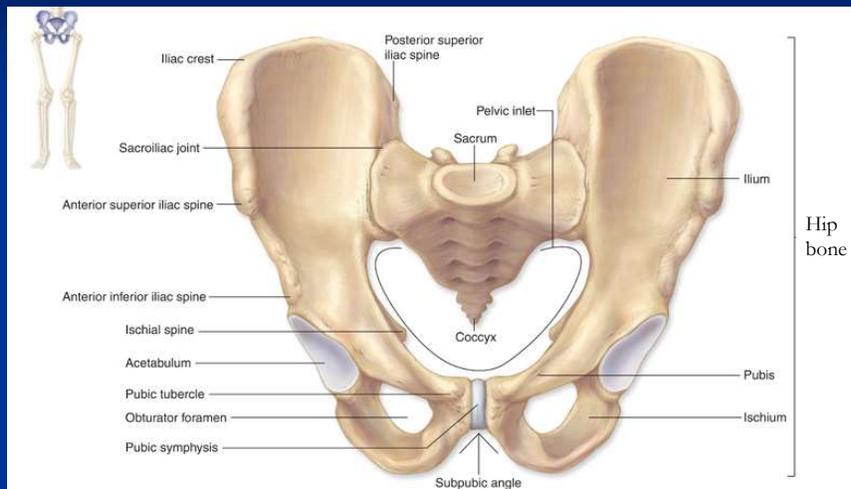
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## Lateral Hip (right)



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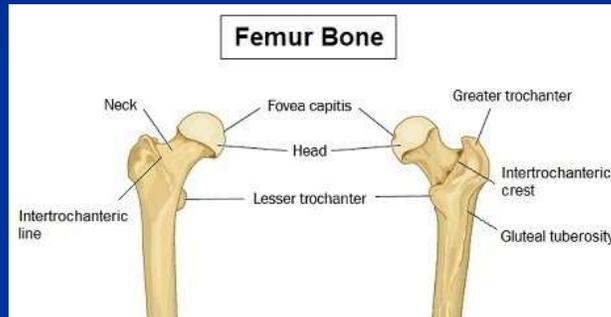
## Anterior Pelvis



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## Proximal Femur

- Consists of a head, neck and two processes



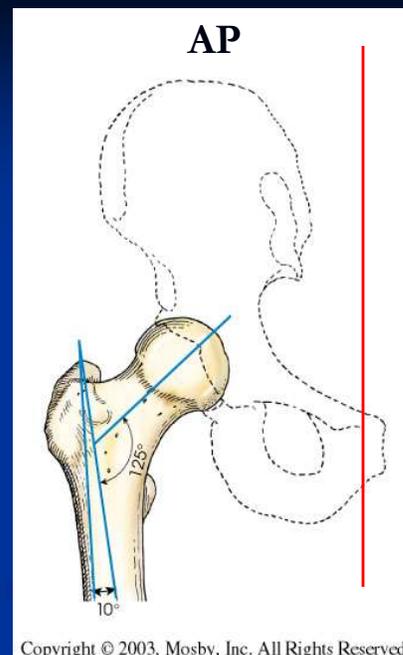
Anterior  
(right)

Posterior  
(right)

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## Hip joint

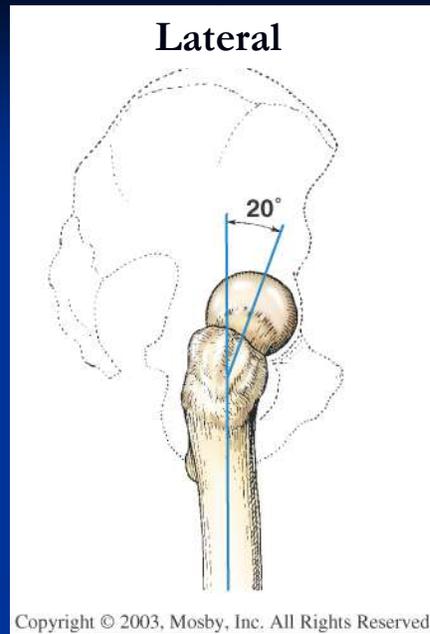
- Longitudinal plane of femur is angled about  $10^\circ$  from vertical
- Neck is at  $45^\circ$  angle from midline of body
- Neck projects superiorly at an angle of  $120-130^\circ$  from the long axis of the femoral shaft



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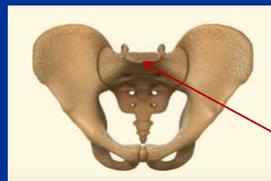
- The neck also projects anteriorly from femur at about a 15 - 20° angle (within acetabulum)



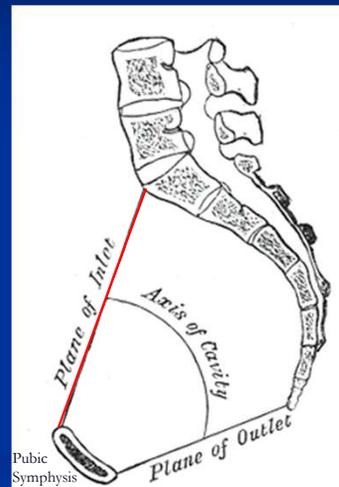
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## Pelvic Inlet (Brim)

- Also known as the superior aperture
- Extends from sacral promontory to top margin pubic symphysis



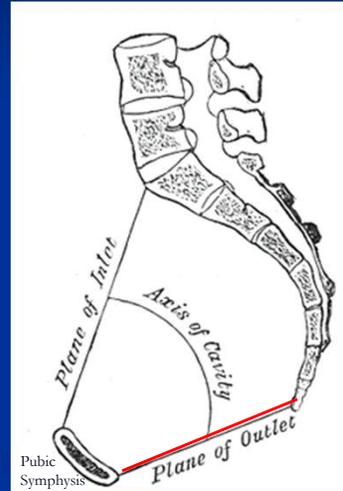
Sacral promontory



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# Pelvic Outlet

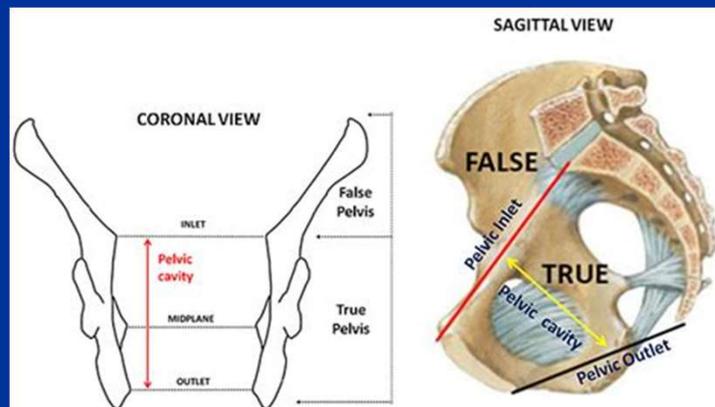
- Also known as inferior aperture
- Measured from the tip of coccyx to the inferior margin of the pubic symphysis



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The pelvis is divided into two portions (Brim of the pelvis is the boundary)

- Region above = false or greater pelvis
- Region below = true or lesser pelvis



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## Pelvis Articulations

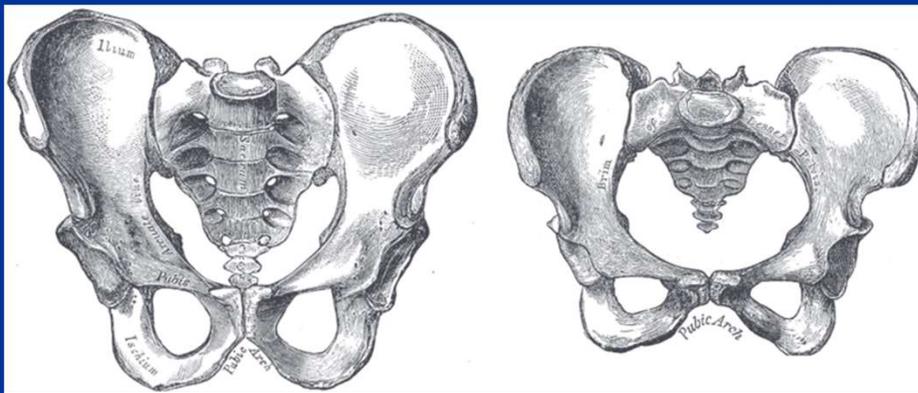
JOINT	CLASSIFICATION	MOVEMENT TYPE	MOBILITY TYPE
Sacroiliac joint	Synovial	Gliding	Amphiarthrodial
Symphysis pubis	Cartilaginous		Amphiarthrodial
Hip joint	Synovial	Ball-and-socket	Diarthrodial

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## Pelvis Male vs. Female

Male

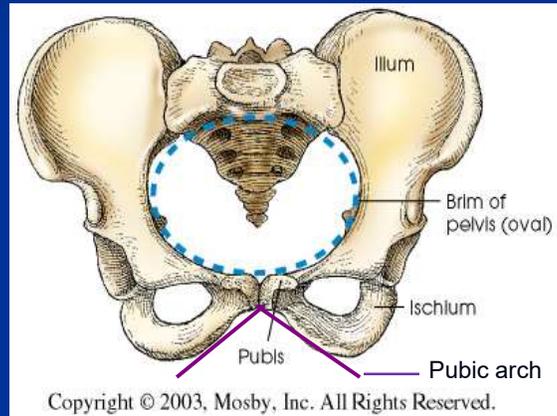
Female



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## Female Pelvis

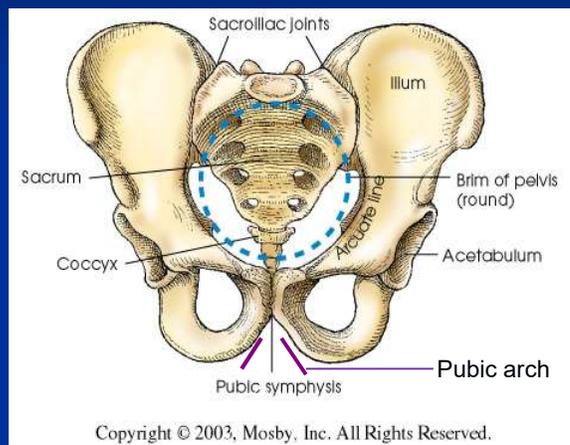
1. Shape – Wide
2. Inlet – Oval
3. Sacrum – Wider and curves more sharply posteriorly
4. Pubic arch - obtuse



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## Male Pelvis

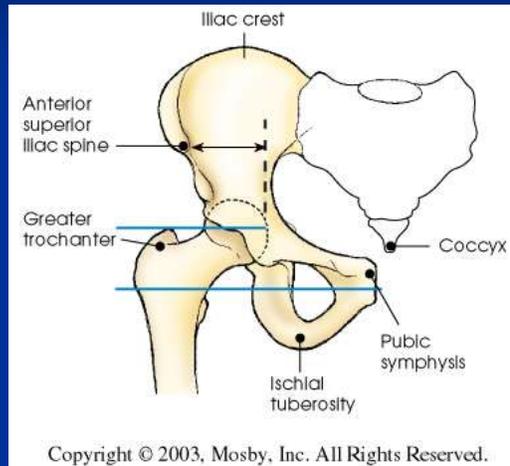
1. Shape – Narrow
2. Inlet – Round
3. Pubic arch - acute



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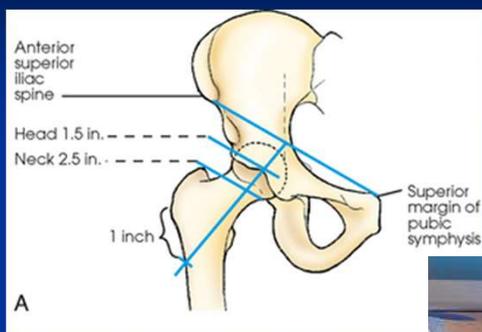
## Anatomic Landmarks

- Iliac crest
- ASIS
- Pubic symphysis
- Greater trochanter
- Ischial tuberosity
- Tip of coccyx

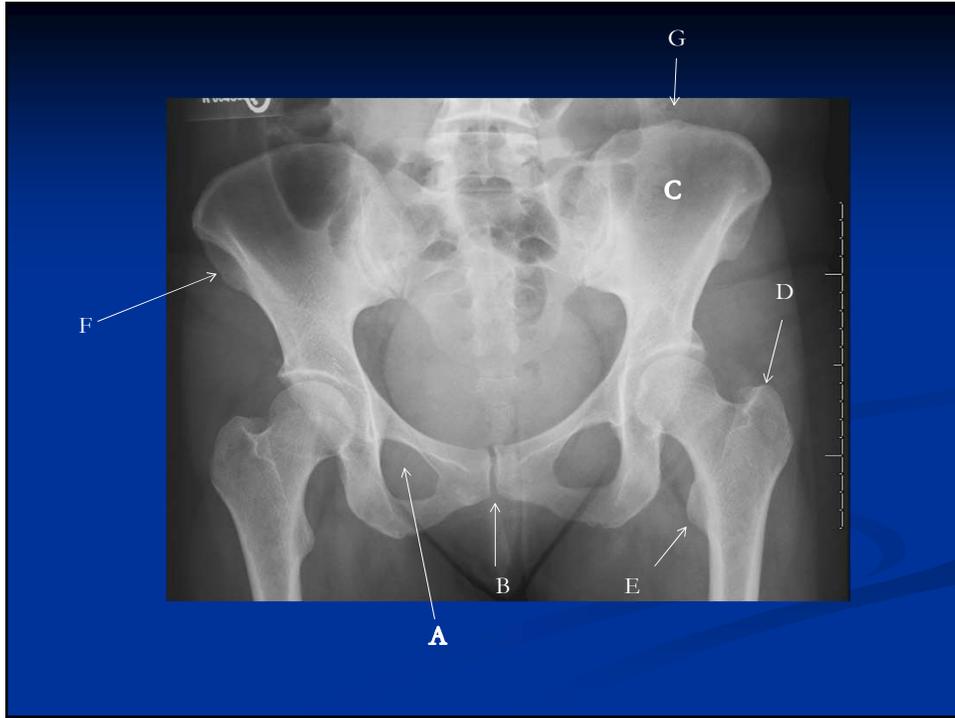


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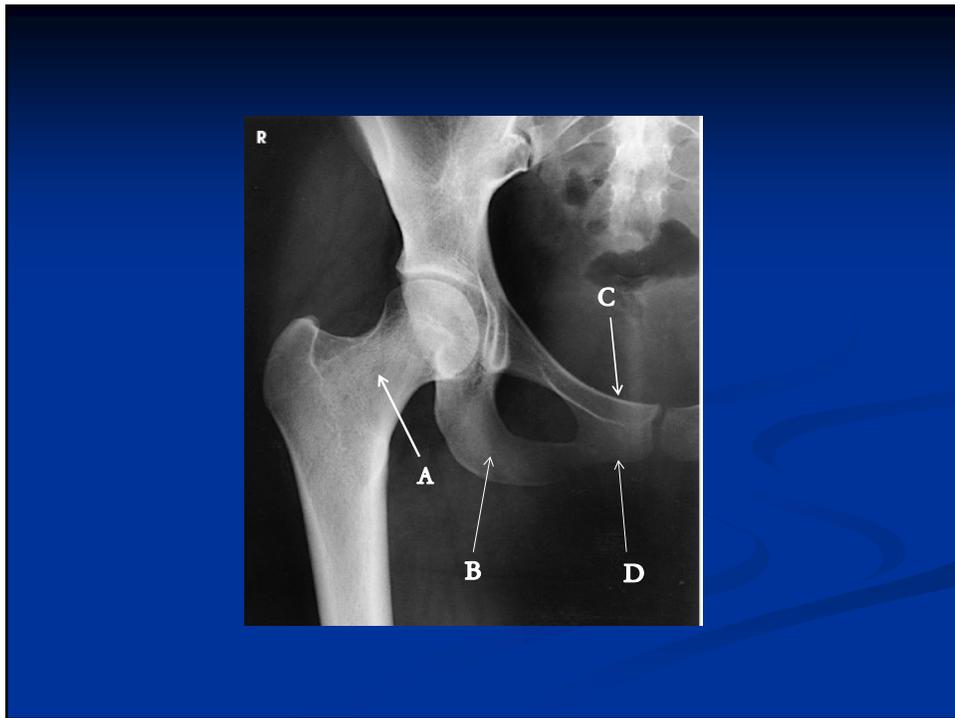
## Finding Landmarks



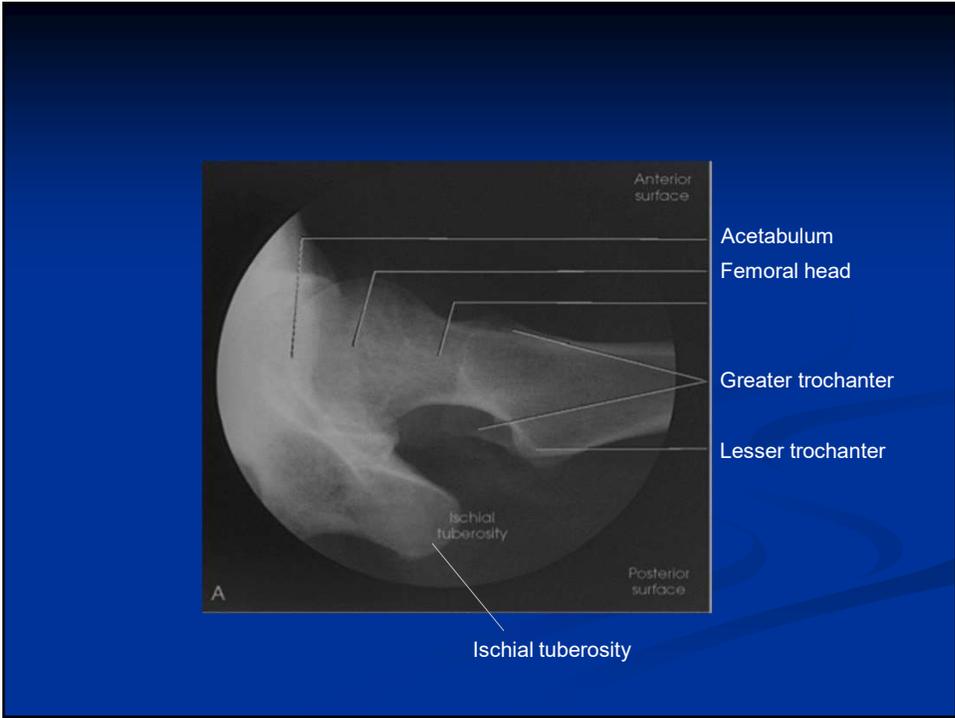
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