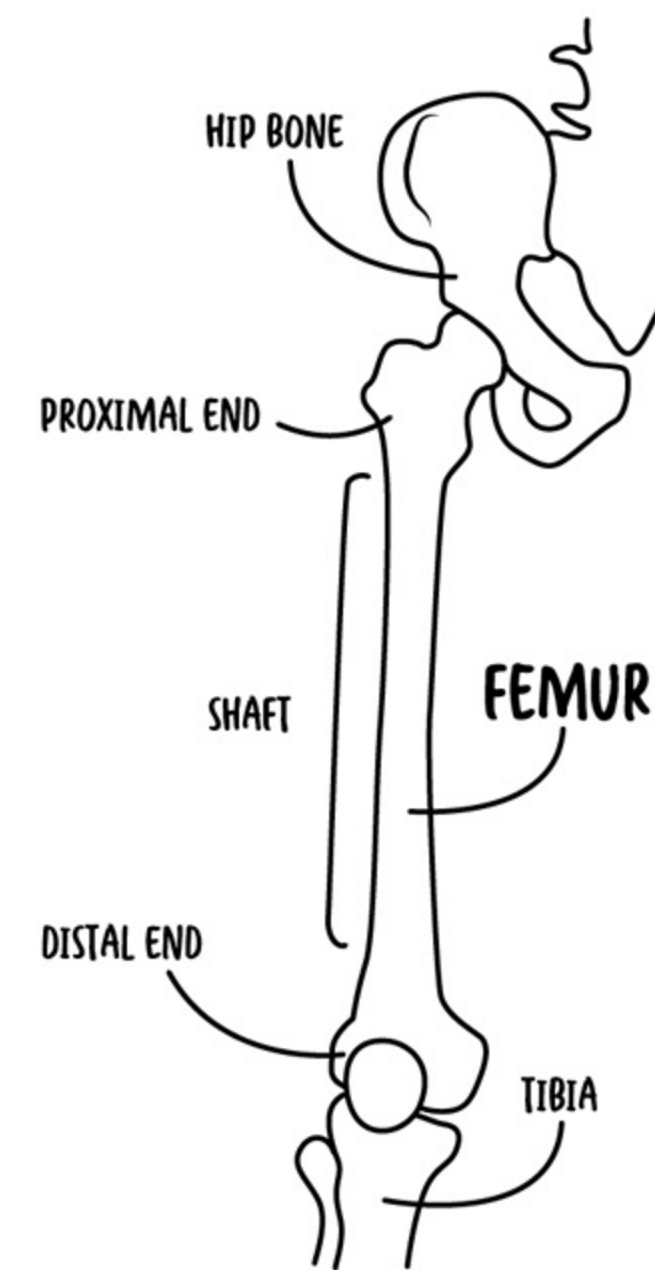


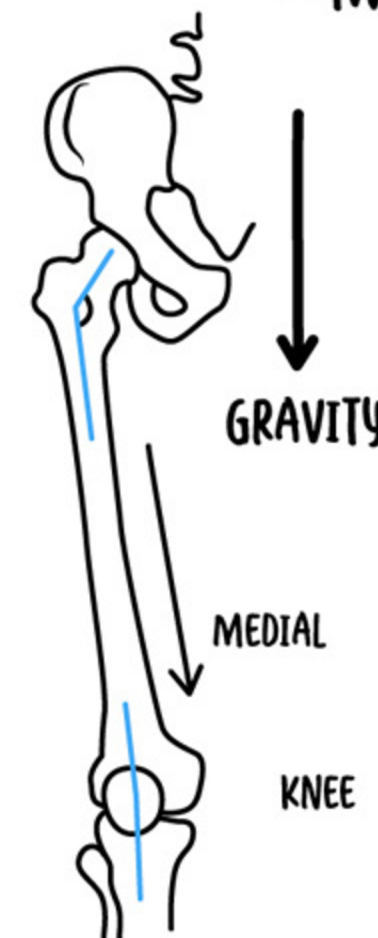
FEMUR ANATOMY

- LONGEST AND HEAVIEST BONE
- TRANSMITS BODY WEIGHT FROM THE HIP BONE TO THE TIBIA (WHEN STANDING)
- ITS LENGTH IS APPROXIMATELY A QUARTER OF THE PERSON'S HEIGHT

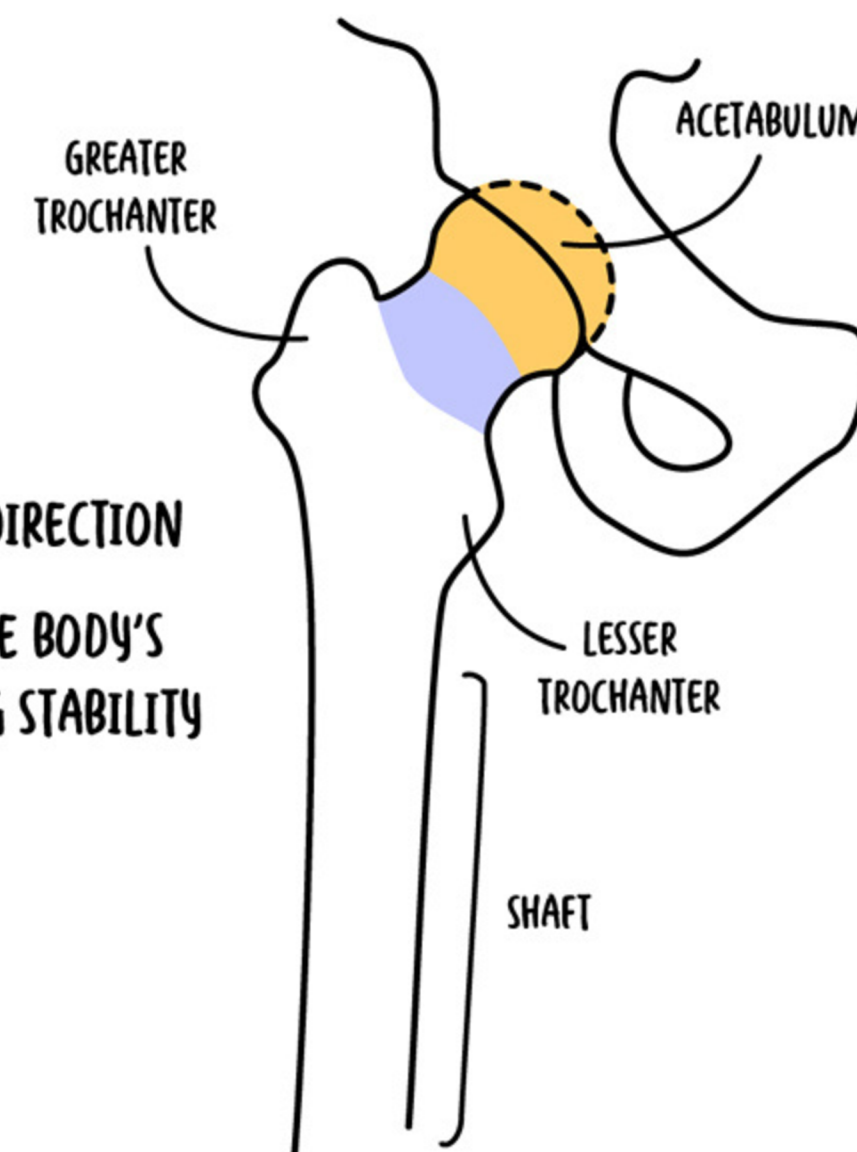


PROXIMAL END OF FEMUR

- CONSISTS OF
- HEAD
 - NECK
 - TWO TROCHANTERS (GREATER AND LESSER)



- SHAFT**
- DESCENDS IN A SLIGHT MEDIAL DIRECTION
 - BRINGS THE KNEES CLOSER TO THE BODY'S CENTRE OF GRAVITY, INCREASING STABILITY

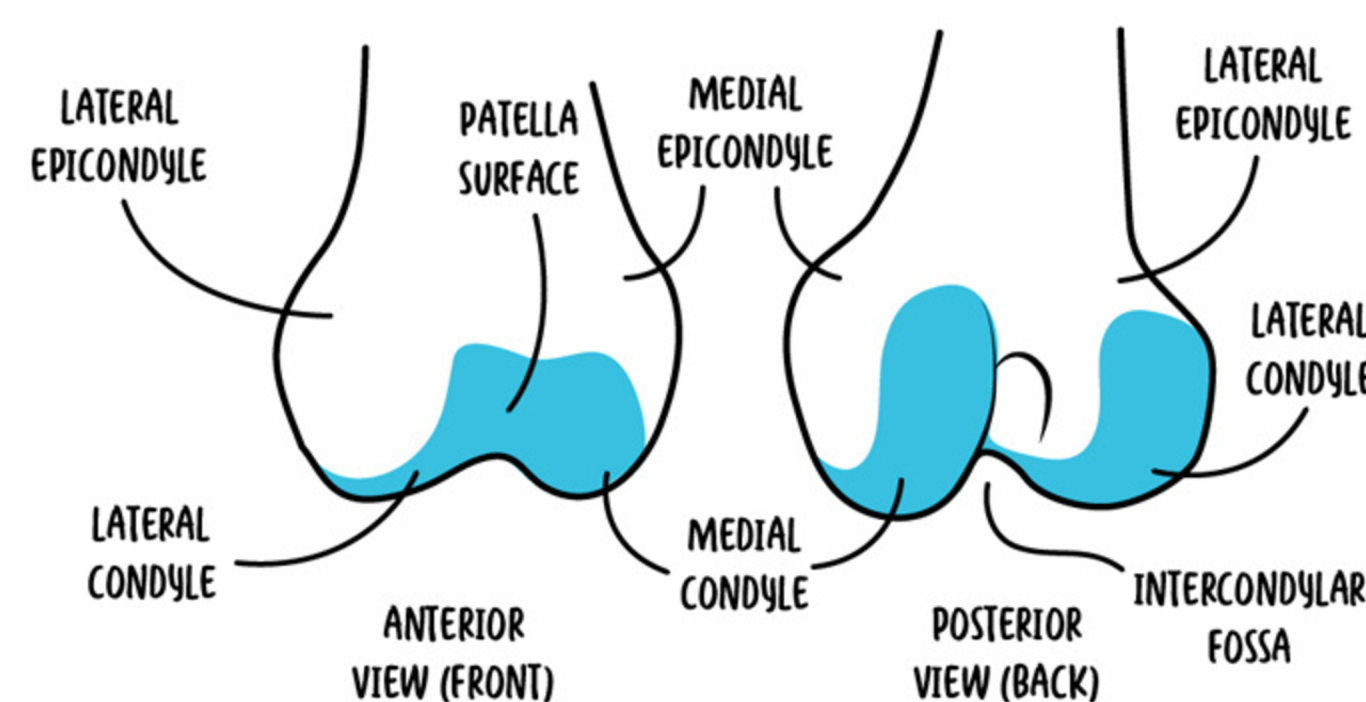
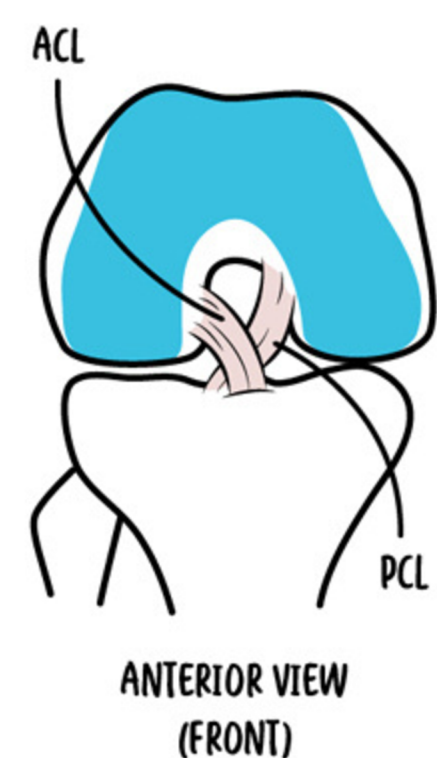


DISTAL END OF FEMUR

CONDYLES ARE SEPARATED BY AN **INTERCONDYLAR FOSSA**, BUT MERGE ANTERIORLY, FORMING THE **PATELLAR (TROCHLEAR) SURFACE**

THE **INTERCONDYLAR FOSSA** CONTAINS:

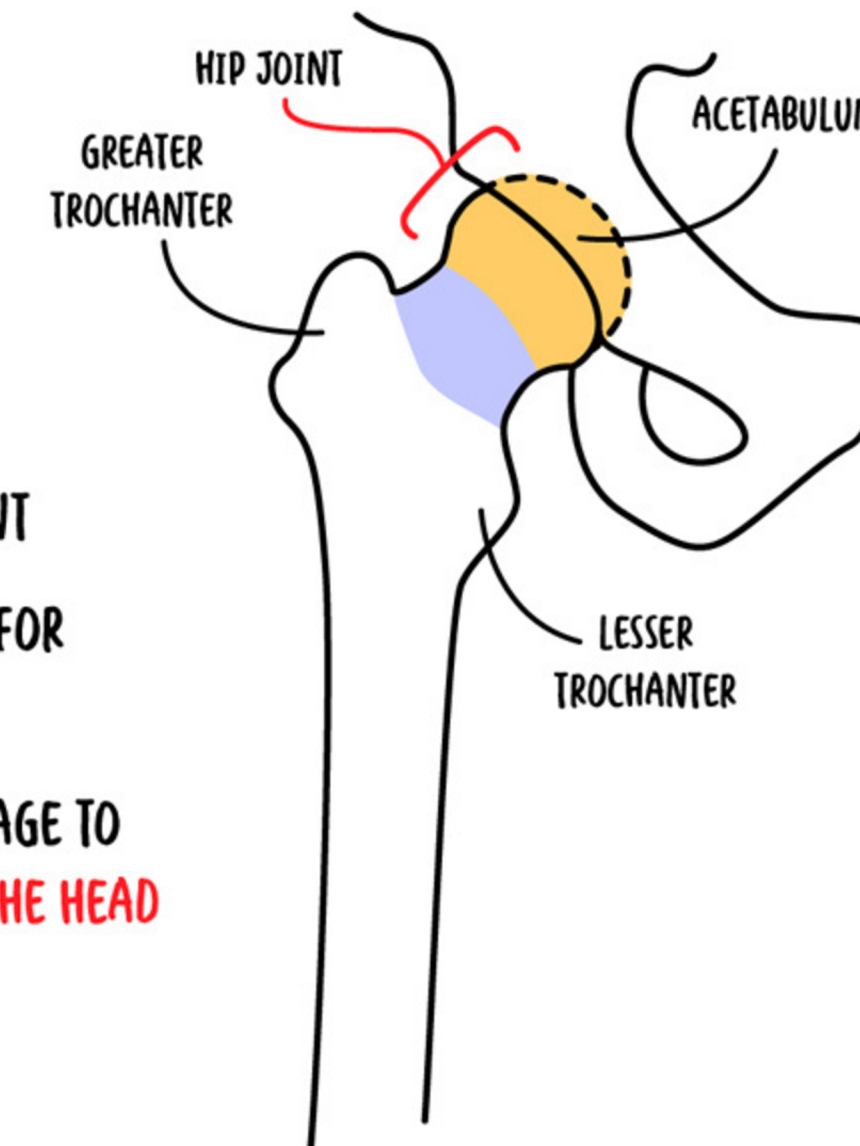
- THE ANTERIOR CRUCIATE LIGAMENT (ACL)
- POSTERIOR CRUCIATE LIGAMENT (PCL)



PROXIMAL END OF FEMUR

- CONSISTS OF
- HEAD
 - NECK
 - TWO TROCHANTERS (GREATER AND LESSER)

- HEAD**
- ARTICULATES WITH THE ACETABULUM -> FORM THE HIP JOINT
 - COVERED WITH **ARTICULAR CARTILAGE**, EXCEPT FOR THE FOVEA FOR THE LIGAMENT OF THE HEAD
 - IN EARLY LIFE, THE LIGAMENT GIVES PASSAGE TO AN **ARTERY SUPPLYING THE EPIPHYSIS OF THE HEAD**

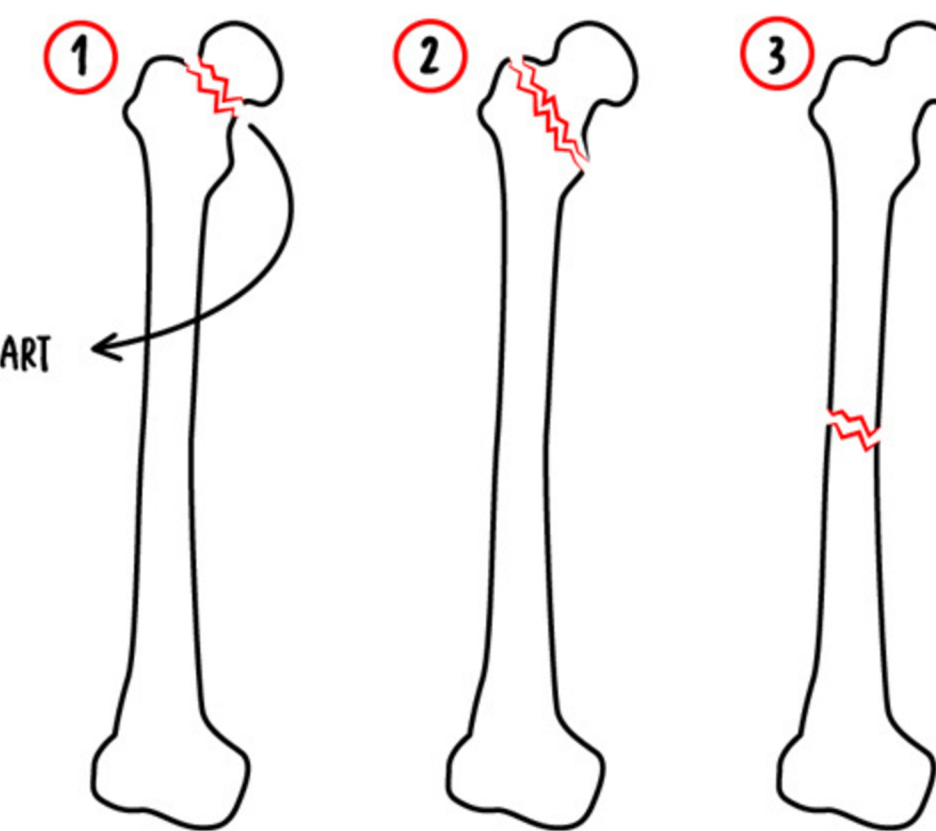


CLINICAL ANATOMY - FRACTURE OF THE FEMUR - FEMUR IS COMMONLY FRACTURED

THE MOST COMMON FRACTURES

1. NECK OF FEMUR FRACTURE
2. INTERTROCHANTERIC FRACTURE
3. SHAFT FRACTURES

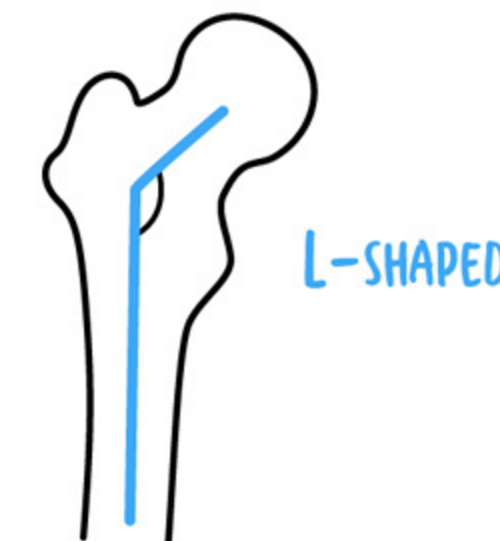
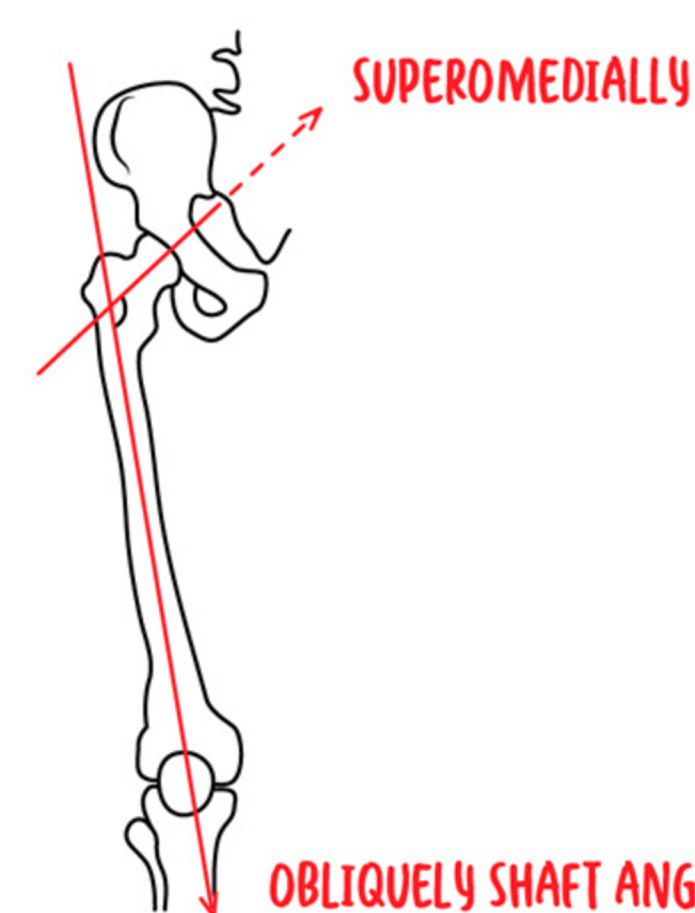
- NARROWEST AND WEAKEST PART



MOST COMMON CAUSE OF FRACTURES IS TRAUMA
MAJOR RISK FACTORS IS OSTEOPOROSIS

PROXIMAL FEMUR

- "BENT" (L-SHAPED) SO THAT THE HEAD AND NECK PROJECTS SUPEROMEDIALY AT AN ANGLE TO THAT OF THE OBLIQUELY ORIENTED SHAFT



Armando H. Faigl

PROXIMAL END OF FEMUR

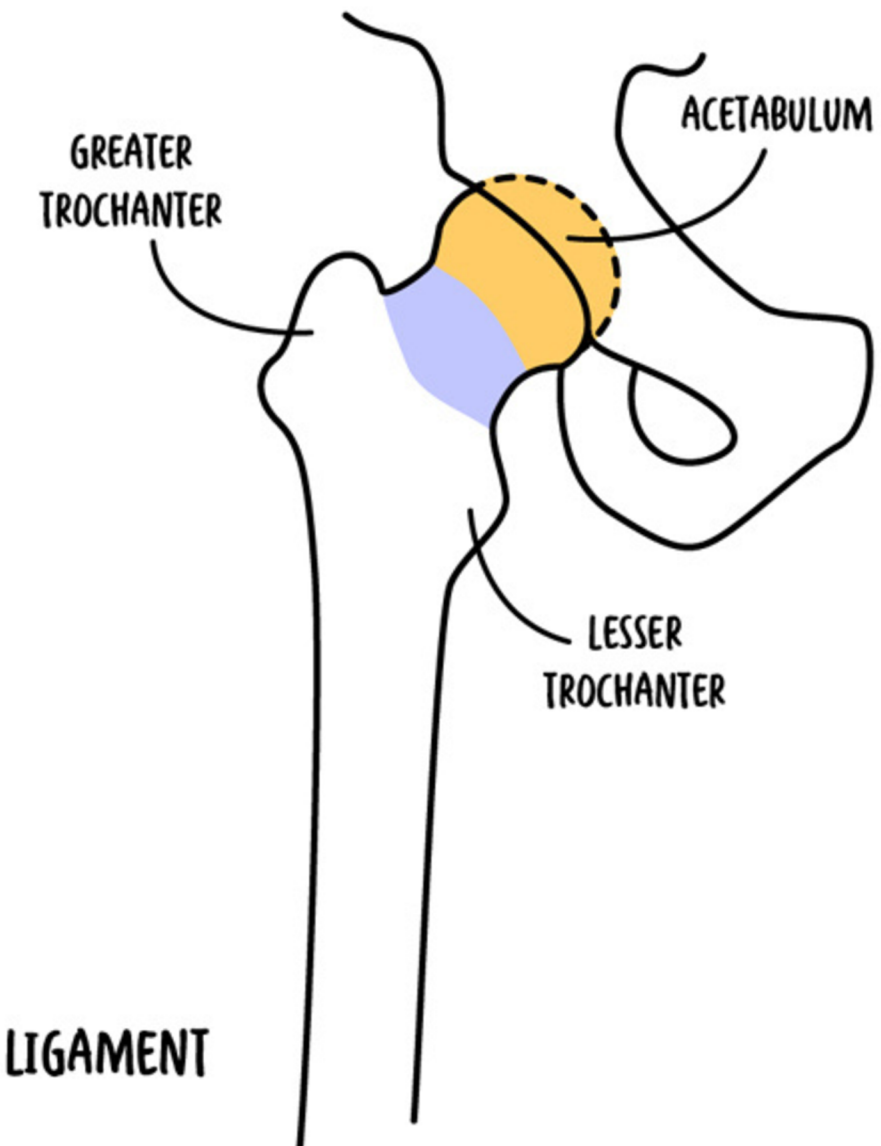
- CONSISTS OF
- HEAD
 - NECK
 - TWO TROCHANTERS (GREATER AND LESSER)

- NECK**
- CONNECTS THE HEAD OF THE FEMUR WITH THE SHAFT
 - COMMON SITE FOR FRACTURES



THE INTERTROCHANTERIC LINE

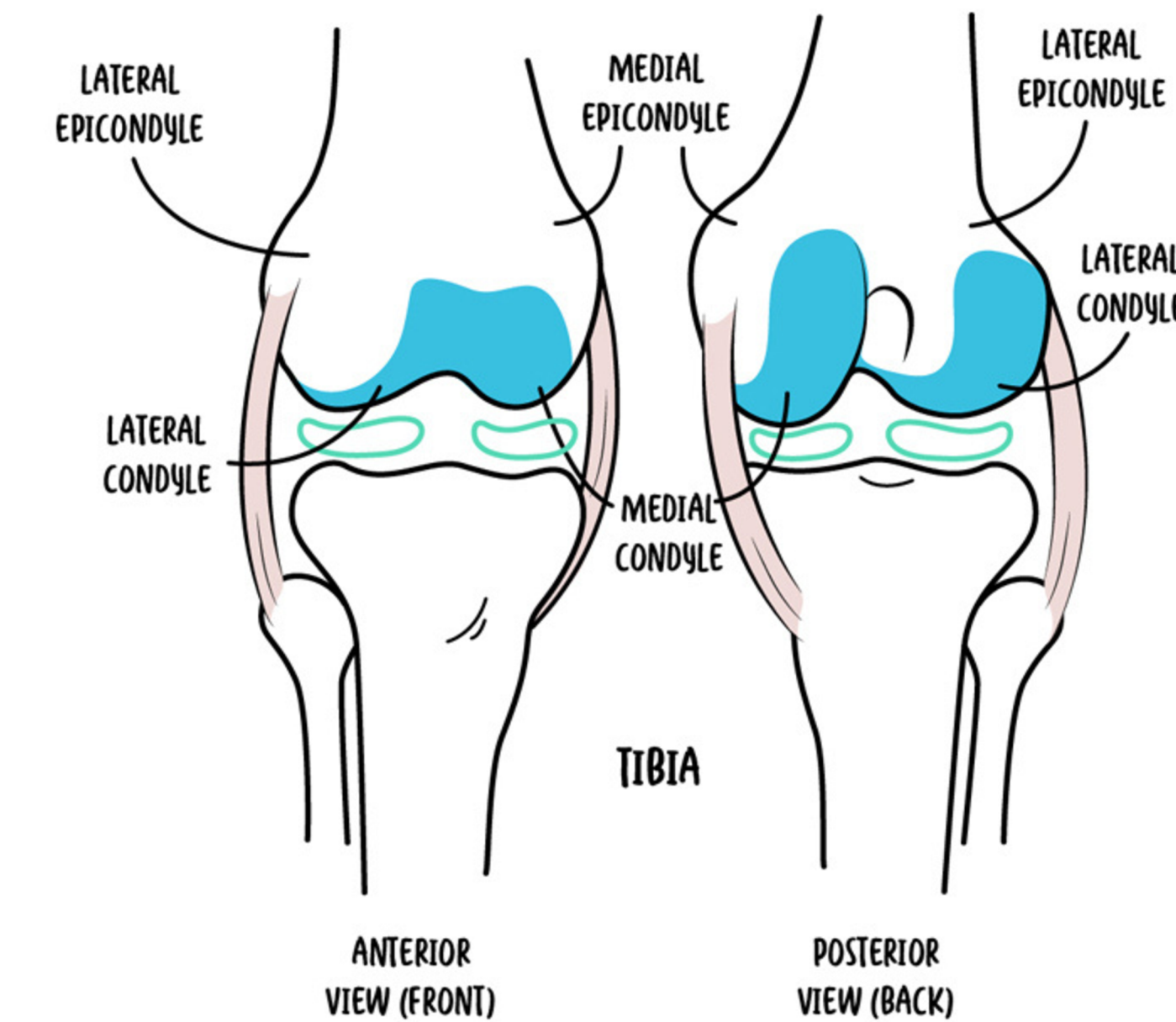
- IS THE SITE WHERE THE NECK AND SHAFT JOIN
- ROUGHENED RIDGE
- FORMED BY THE ATTACHMENT OF ILIOFEMORAL LIGAMENT



DISTAL END OF FEMUR

MEDIAL AND LATERAL EPICONDYLES

- PROVIDE PROXIMAL ATTACHMENT FOR THE MEDIAL AND LATERAL **COLLATERAL LIGAMENTS** OF THE KNEE JOINT

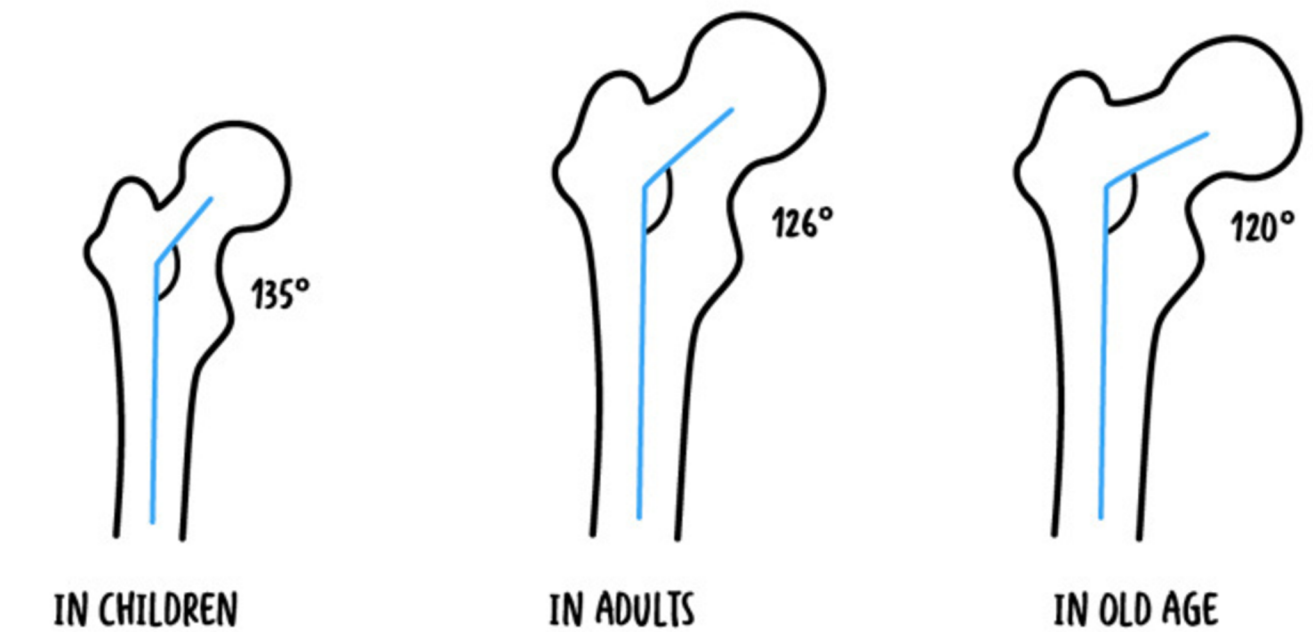


MEDIAL AND LATERAL CONDYLES

- ARTICULATE WITH **MENISCI** AND TIBIAL CONDYLES TO FORM THE KNEE JOINT

PROXIMAL FEMUR

- "BENT" (L-SHAPED) SO THAT THE HEAD AND NECK PROJECTS AT AN ANGLE TO THAT OF THE SHAFT



ANGLE OF INCLINATION

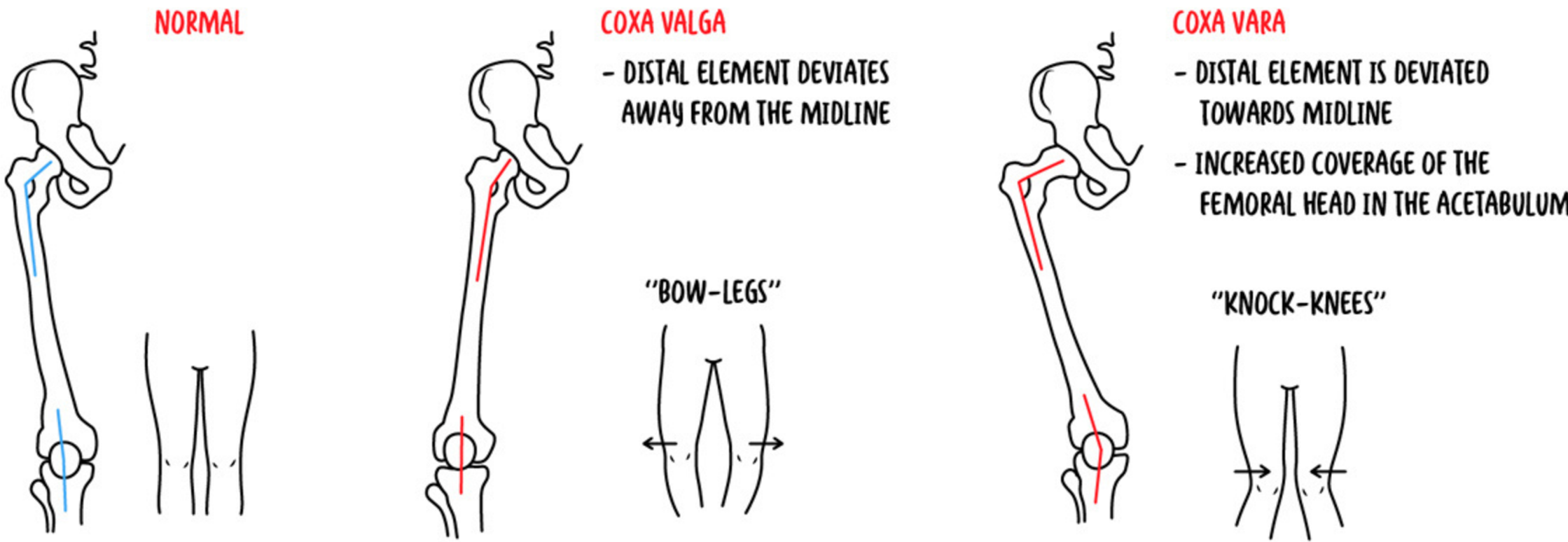
- GREATEST AT BIRTH
- ADULT ANGLE IS 115-140°
- LESS IN FEMALES (INCREASED WIDTH BETWEEN THE ACETABULUM AND THE GREATER OBLIQUITY)
- ALLOWS GREATER MOBILITY OF THE FEMUR AT THE HIP JOINT

CLINICAL ANATOMY – COXA VARA AND COXA VALGA

THE ANGLE OF INCLINATION

- BETWEEN THE LONG AXIS OF THE FEMORAL NECK AND THE FEMORAL SHAFT
VARIES WITH AGE, SEX, AND DEVELOPMENT OF THE FEMUR

DECREASED – COXA VARA
INCREASED – COXA VALGA



BLOOD SUPPLY OF NECK AND HEAD OF FEMUR

MAJORITY COMES FROM THE **CIRCUMFLEX BRANCHES** OF THE PROFUNDA FEMORIS
-> FORM A RING AROUND THE NECK OF THE FEMUR

FOVEAL ARTERY

- OCCURS IN THE PEDIATRIC POPULATION
- REPLACED BY THE LIGAMENTUM TERES (CONNECTING THE HEAD OF THE FEMUR TO THE ACETABULUM)

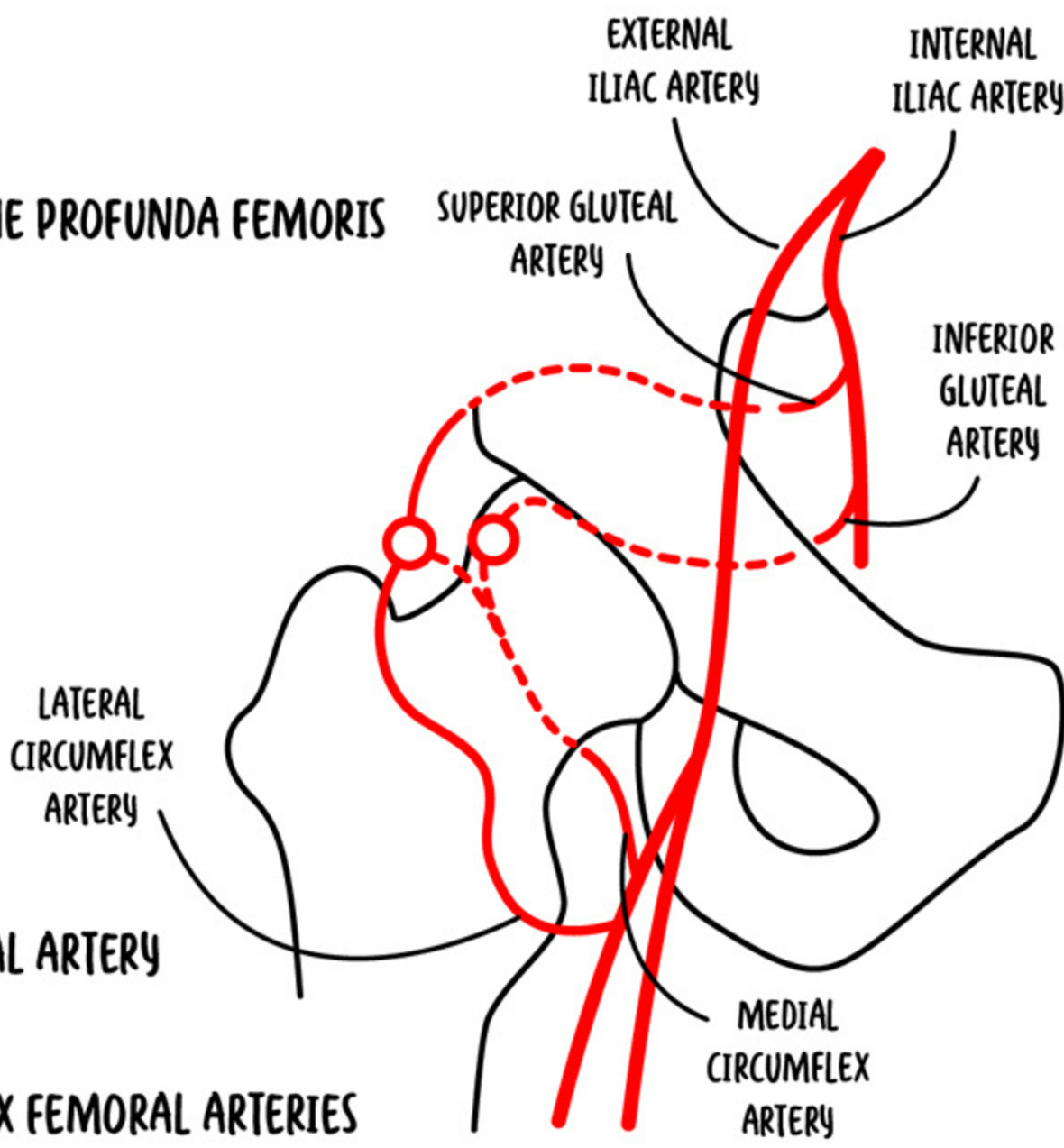
IMPORTANT ANASTOMOSES ○

CRUCIATE ANASTOMOSIS

INFERIOR GLUTEAL ARTERY – MEDIAL CIRCUMFLEX FEMORAL ARTERY

TROCHANTERIC ANASTOMOSIS

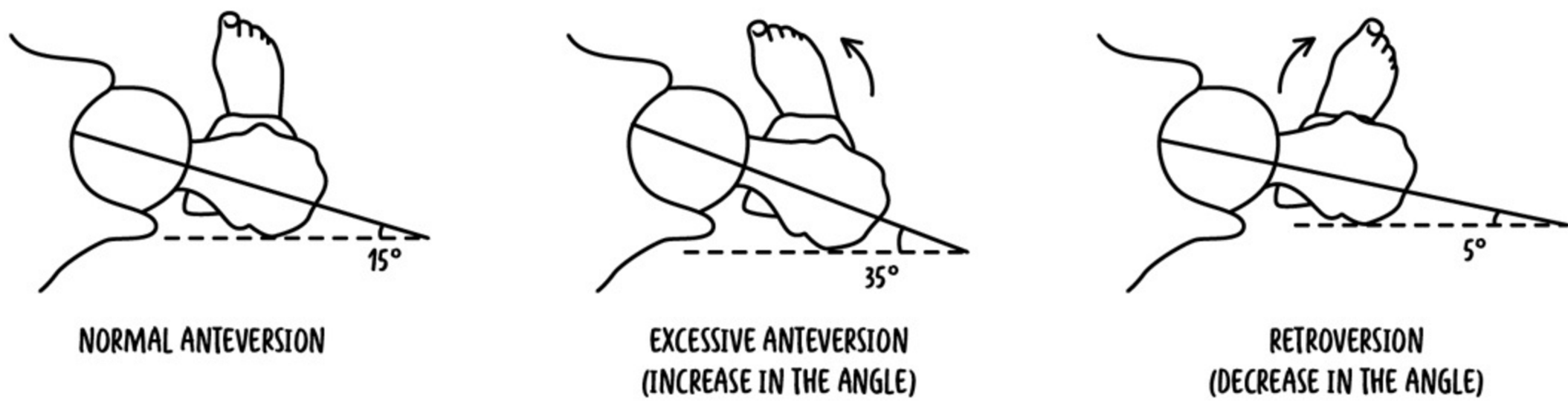
SUPERIOR GLUTEAL ARTERY – MEDIAL/LATERAL CIRCUMFLEX FEMORAL ARTERIES



ANGLE OF DECLINATION

- 7° IN MALES
- 12° IN FEMALES

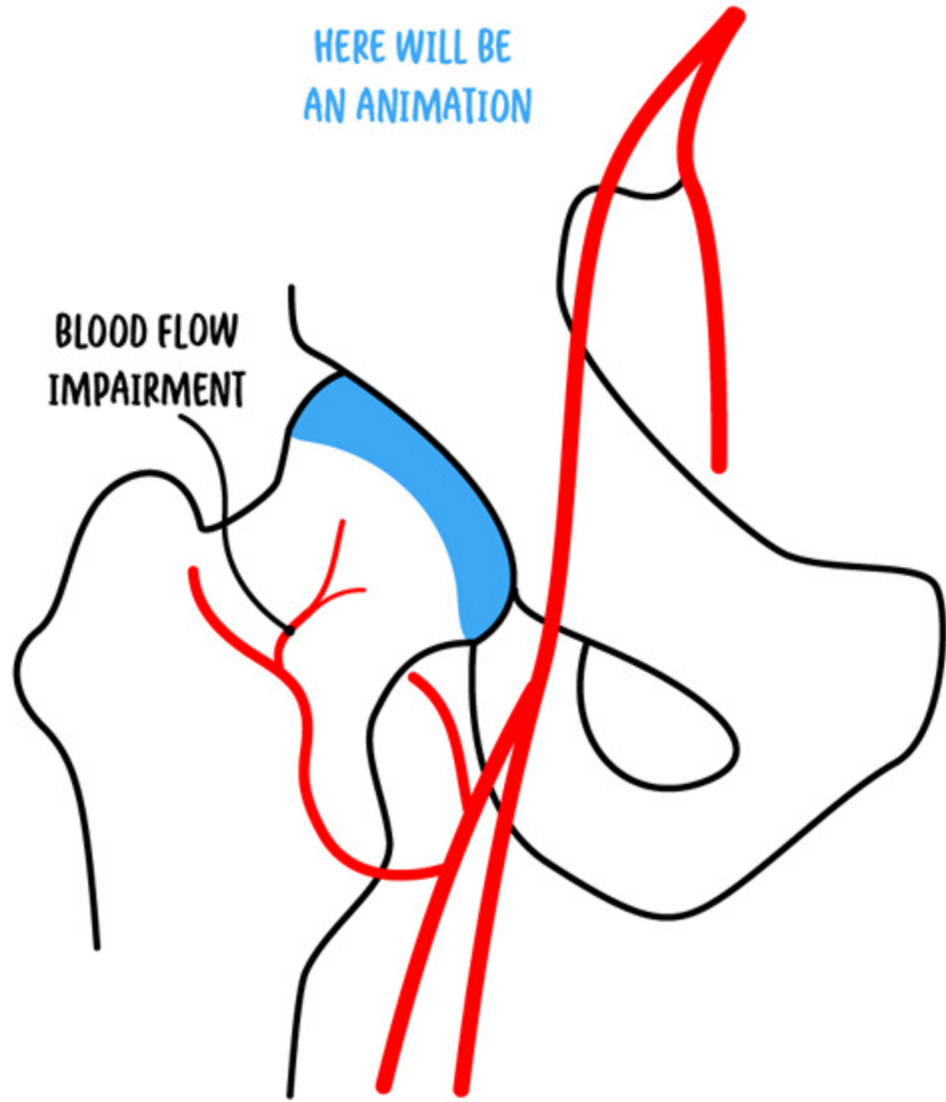
CHANGES THE BIOMECHANICS OF WALKING OR
STANDING AS DEPICTED BY FOOT STANCE



CLINICAL ANATOMY – AVASCULAR NECROSIS OF FEMORAL HEAD

- BONE CELL DEATH
- FOLLOWS AN IMPAIRMENT OF THE BLOOD FLOW
- TRAUMATIC OR NON-TRAUMATIC ORIGIN

! BLOOD VESSELS SUPPLYING THE FEMORAL HEAD
RELY ON SMALL ARTERIES
WITH **LIMITED COLLATERAL BLOOD SUPPLY**

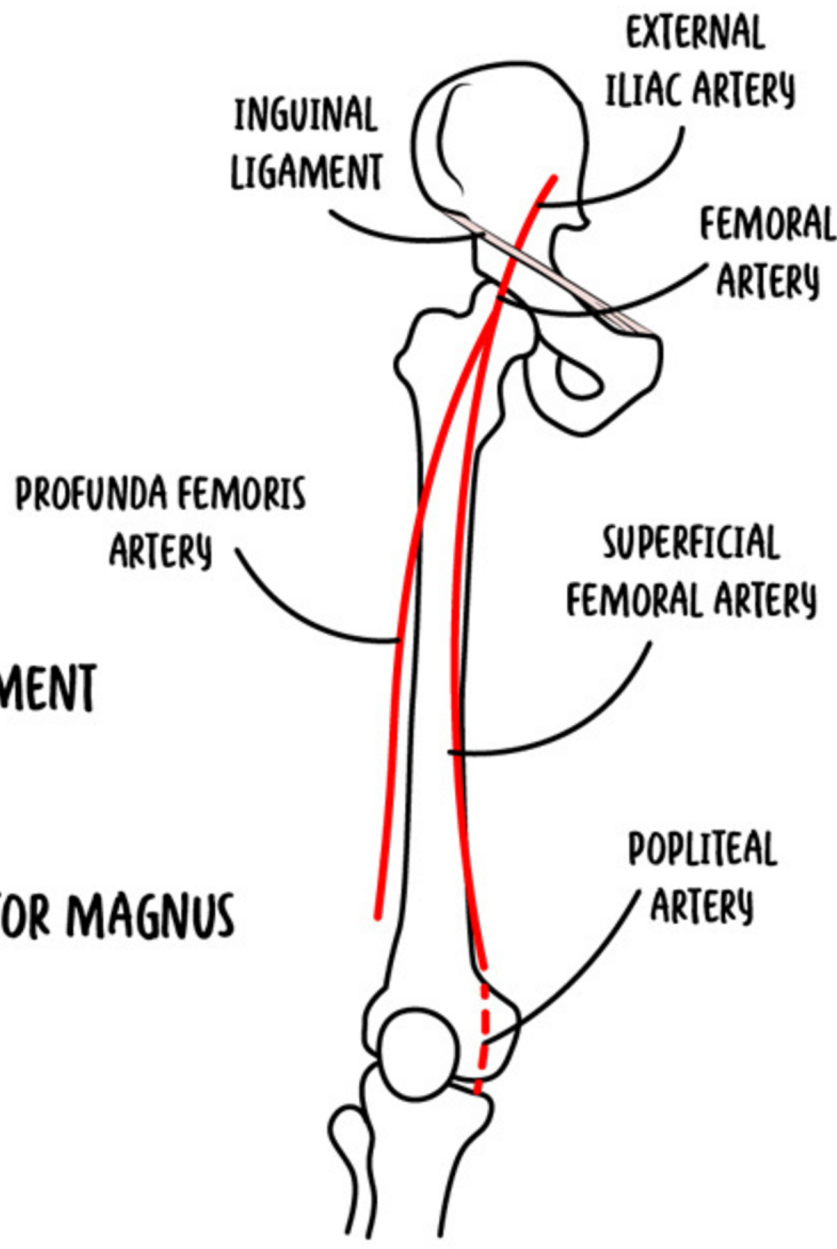


BLOOD SUPPLY

THE FEMORAL ARTERY

- CONTINUATION OF THE **EXTERNAL ILIAC ARTERY**
- CONSTITUTES THE MAJOR BLOOD SUPPLY
- GIVES OFF THE **PROFUNDA FEMORIS BRANCH** BELOW THE INGUINAL LIGAMENT AND BECOMES THE **SUPERFICIAL FEMORAL ARTERY**

↳ PASSES THROUGH THE ADDUCTOR HIATUS IN ADDUCTOR MAGNUS
TO CONTINUE AS THE **POPLITEAL ARTERY**



Armando H. Faigl