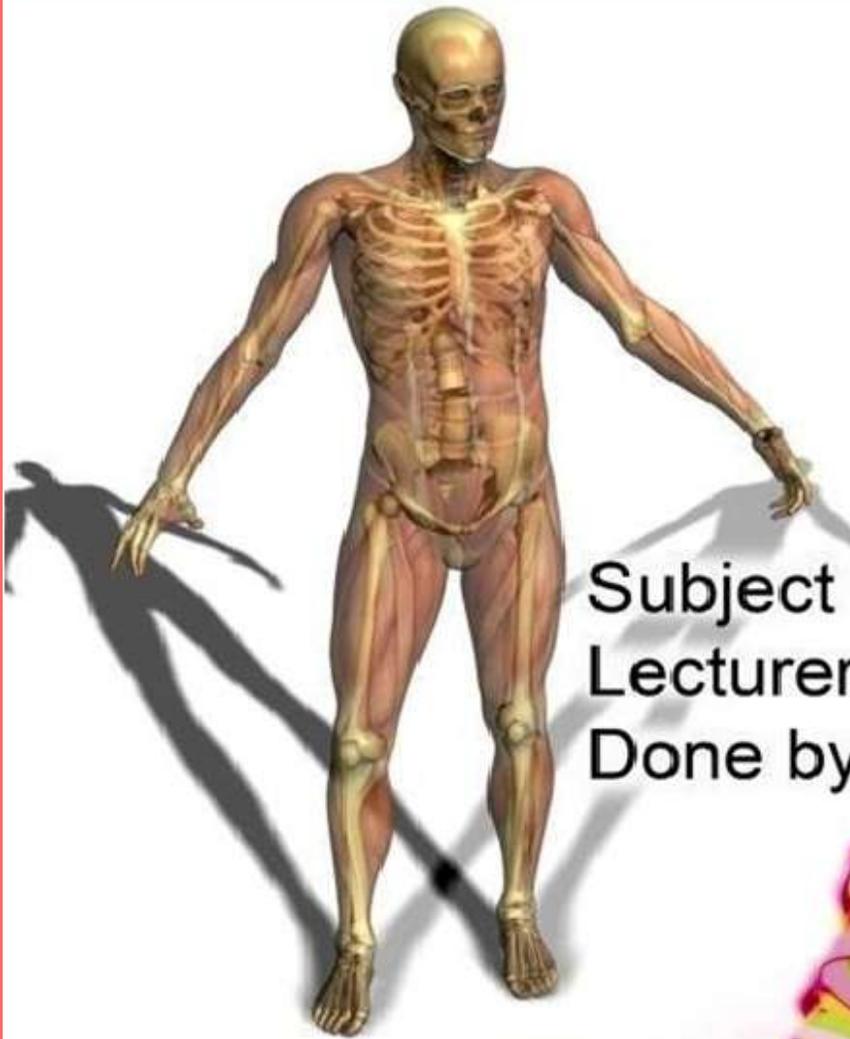




# ANATOMY



**Subject** : *Introduction to Anatomy*  
**Lecturer** : *DR.Maher Hadidi*  
**Done by** : *Hadeel Ali AlZoubi*

lecture # : 20

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## Anatomy Sheet # 20

### Popliteal Fossa

It is diamond-shaped area located behind the knee joint; it is a passageway (tunnel) for vessels and nerves passing from Thigh to the Leg.

-It has 4 borders:

- Superior medial by two muscles: *Semimembranosus* and *Semitendinosus*.\*7
- Superior lateral by *Biceps femoris*(has two heads: short and long).\*2
- Inferior medial by medial head of *Gastrocnemius*.\*10
- Inferior lateral by lateral head of *Gastrocnemius*.\*10

-Its Roof has many structures:

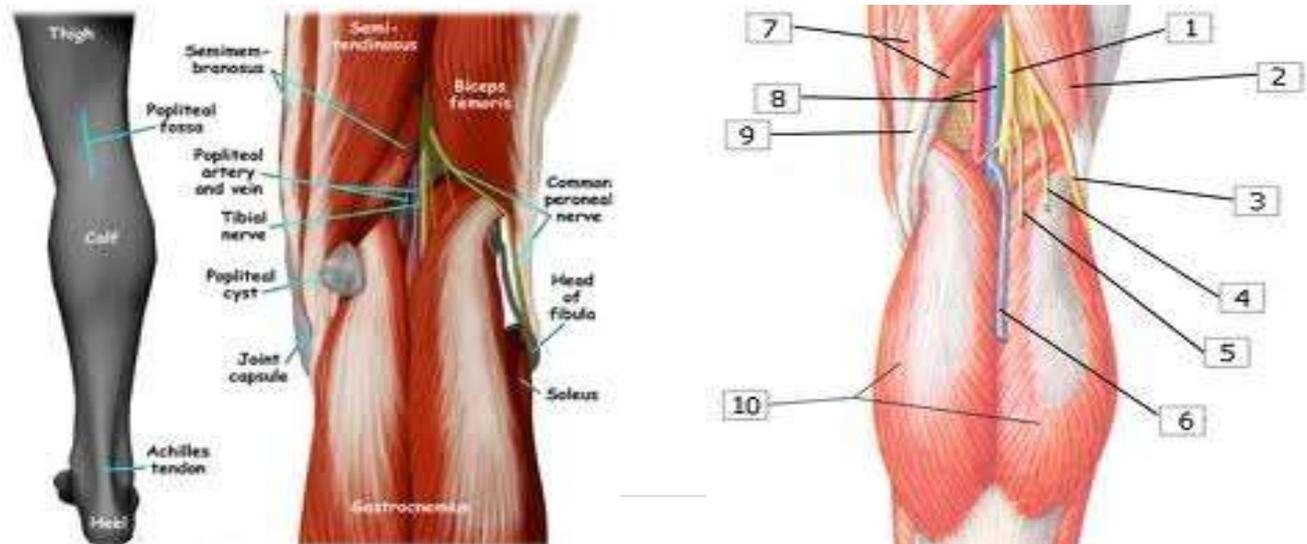
- Skin.
- Superficial Fascia, within it: Small Saphenous vein and Posterior Cutaneous Nerve of Thigh.
- Deep Fascia.

-Floor:

- Popliteal surface of femur.
- Fibrous capsule of the knee joint.
- Popliteus muscle.

-Contents:

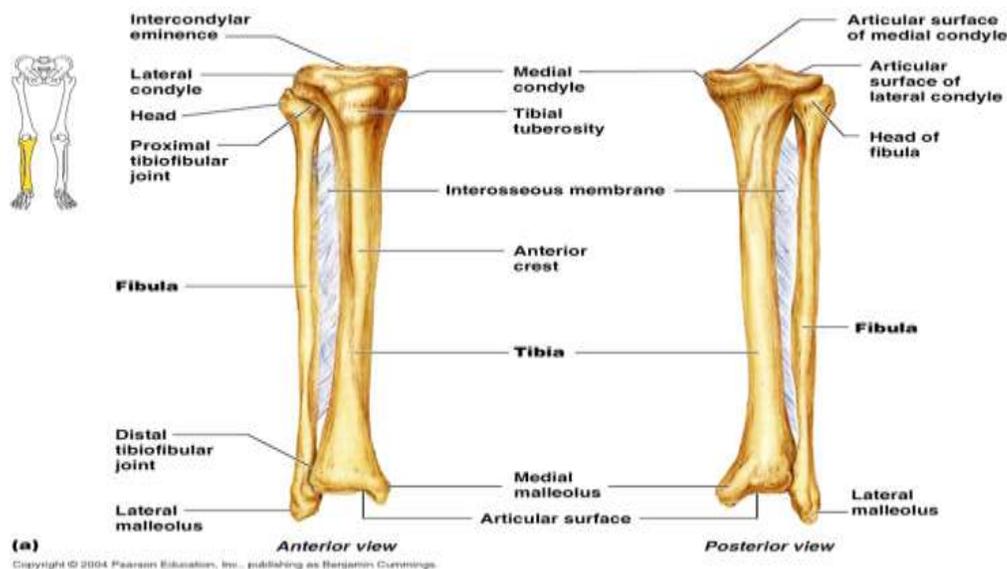
- *Sciatic* Nerve and its branches : medial one called *Tibial* Nerve and lateral one called *Common Fibular* Nerve (Common *Peroneal* Nerve), It is **SUPERFICIAL**.\*1
- Popliteal Vein and its tributaries: it drains into Femoral vein.\*8<sub>blue</sub>
- Popliteal Artery and branches: it's not easy to feel the pulsation of it because it's **DEEP**.\*8<sub>red</sub>
- Small Saphenous Vein: it drains into the Popliteal vein.\*6
- Popliteal Fats.



## Anatomy Sheet # 20

### Leg Bones

The Leg is a part of the lower limb extending from the knee to the ankle, its skeleton formed by two bones: lateral one called *Fibula* and medial one called *Tibia*.



### Tibia

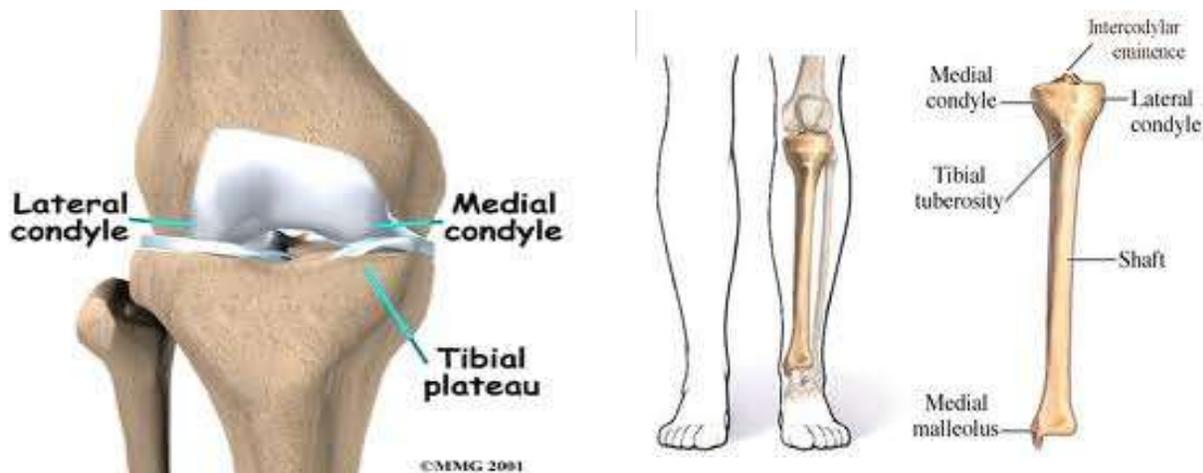
- Medial.
- Long bone.
- Only weight bearing bone in the leg.
- Divided into three parts: proximal end, distal end and shaft.

### Tibia's Proximal End

*Anterior view:*

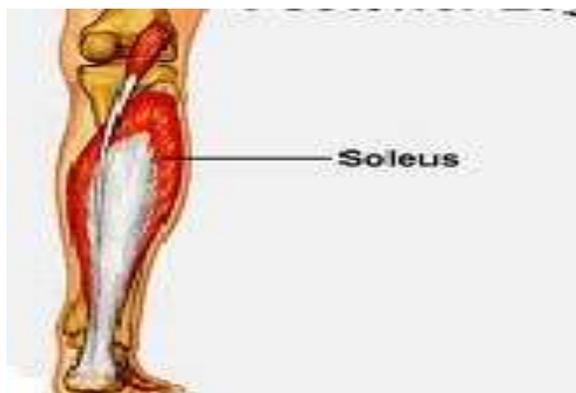
1. *Medial condyle*.
2. *Lateral condyle*. \*Tibia doesn't have Epicondyles.
3. The superior surface of tibia's proximal end which articulates with the two condyles of femur is shallow and is called Tibial Plateau and it's covered by two cartilages called semilunar cartilages الغضاريف الهلالية: medial one covering the superior surface of medial condyle and lateral one covering the superior surface of lateral condyle.
4. *Tibial Tuberosity*: the site of insertion of tendon of *Quadriceps femoris* (Patellar tendon).
5. *SGS* is a muscle attachment area: *Sartorius*, *Gracilis* and *Semitendinosus*.

## Anatomy Sheet # 20



### **Posterior View:**

There's an oblique line called **Soleal Line**, which is the site of the attachment of **Soleus** muscle, that pumps the blood from below to up (**soleus pump**); because of that we recommend the patient to keep moving his leg in the way shown in the picture below in order to avoid having a clot in the leg.

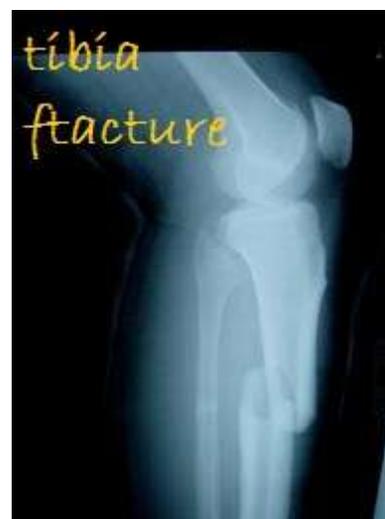


### **Shaft of the Tibia**

Triangular in cross section; has 3 borders (anterior, medial and lateral) and 3 surfaces (medial, lateral and posterior), anterior border and medial surface are subcutaneous and poor in blood supply so that any fracture there takes long time to heal.

### **Distal End**

It has a finger like process called **medial malleolus** and inferior articular surface which transmits the weight from tibia into a bone in the foot called **Talus**.



# **Anatomy Sheet # 20**

## ***Fibula***

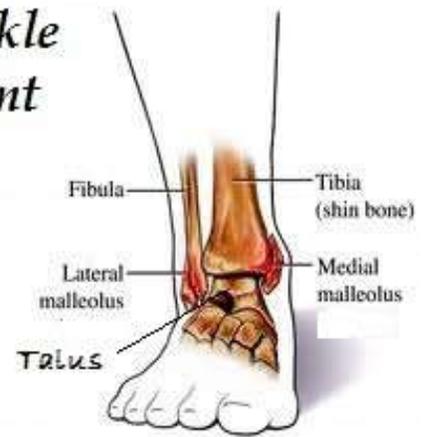
- Lateral.
- Cylindrical.
- Only for muscle attachment, non weight bearing bone.
- Dividing into 3 parts: Proximal end (has a head articulates with lateral condyle of tibia and constricted neck), shaft and distal end (***lateral malleolus***).

## ***Ankle Joint***

U-shaped joint, from medial malleolus, inferior articular surface of tibia and lateral malleolus to articulate with Talus.

Ankle Joint transmits the weight and movement from vertical to horizontal.

## ***Ankle Joint***

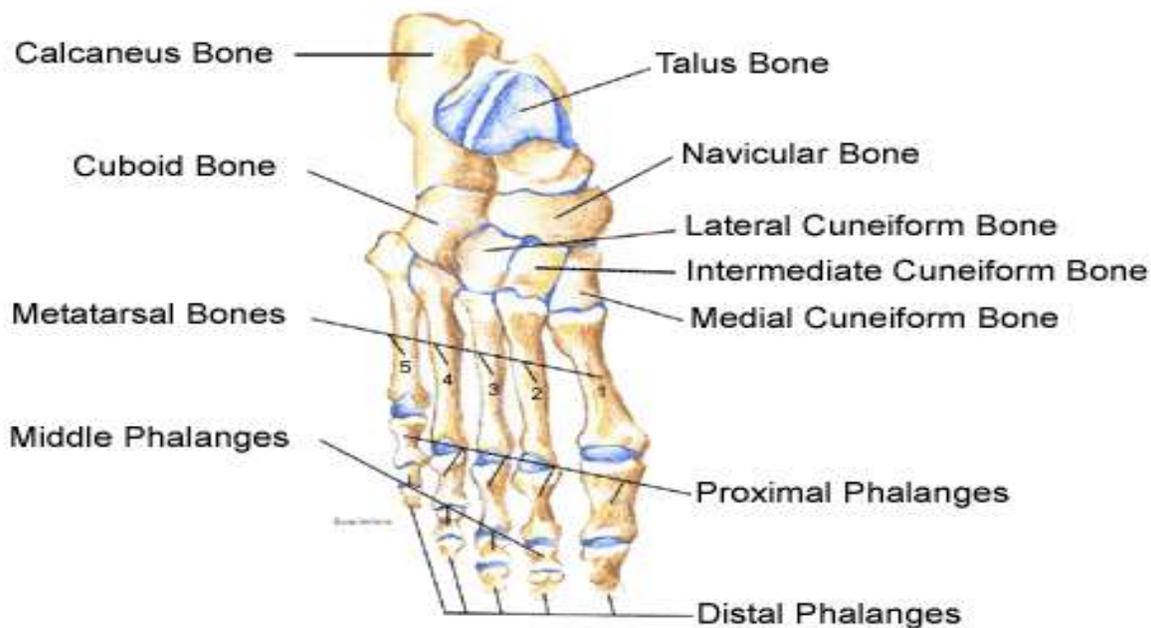


## ***Bones of the Foot***

- 7 Tarsal bones.
- 5 Metatarsal bones.
- 14 Phalanges.

## Anatomy Sheet # 20

### Top View of Foot Bones



#### **Tarsals**

- **Talus**: the bone that receives the whole body weight from tibia and distributes it evenly; posterior and anterior. It is the key stone of the foot; if this bone is fractured, flat foot results (the normal arch of the foot becomes flattened) and the nerves are compressed there. (In such a condition you can't enter military service or become a pilot)
- **Calcaneus** (heel bone) : transmits the weight to the ground.
- **Navicular** bone العظم الزورقي : it receives the weight anteriorly from Talus.
- **Cuboid** : lateral bone.
- **3 Cuneiforms**: medial, intermediate and lateral (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>).

#### **Metatarsals**

They are 5 in number, numbered from medial to lateral (1-5).

#### **Phalanges**

5 Proximal, 4 Middle and 5 Distal, the big toe has only proximal and distal phalanx.

## Anatomy Sheet # 20

The Deep Fascia of the  sends three septa to divide the leg into 3 compartments:

- Anterior compartment: dorsiflexion of the ankle joint.
- Posterior compartment: plantar flexion.
- Lateral compartment: inversion .

