

Subject: Human Anatomy II

Instructor: Dr. Arooba.

Section: B

June 22nd, 2020.

Name: Mohammad Rauf

Id No: 16877

B.S Radiology

Section: B

Second semester

1. What are the major features of intracranial fossae of the skull?

The floor of the cranial cavity consists of three different depressions. They are anterior cranial fossa, middle cranial fossa and posterior cranial fossa. Each fossa occupies a different part of the skull. The superior and the most shallow is the anterior cranial fossa which lies commandingly over the nasal and orbital cavities. The fossa accommodates the anteroinferior portions of the frontal lobes of the brain.

There are three bones in the anterior cranial fossa i.e the frontal bone, ethmoid bone, and sphenoid bone.

Anteriorly and laterally it is bounded by the internal surface of the frontal bone.

Posteriorly and laterally it is bounded by the lesser wings of the sphenoid bone.

The floor consists of the frontal bone, ethmoid bone and the anterior aspects of the body and slighter wings of the sphenoid bone.

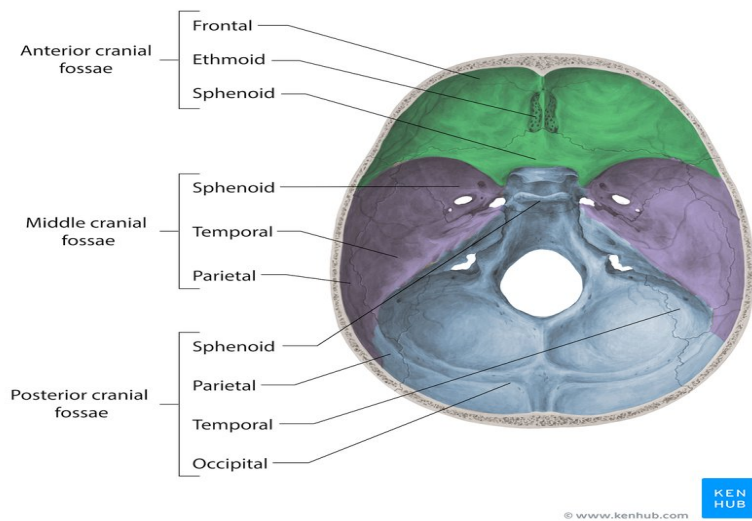
There are many skinny markers present in the anterior cranial fossa. The frontal is marked in the midline by a body ridge, known as the frontal crest.

The crista galli is located in the midline of the ethmoid bone. On each side of the crista gallis is the cribriform plate which supports the olfactory bulb and has numerous foramina that transmit vessels and nerves.

The anterior aspect of the sphenoid bone lies within the anterior cranial fossa.

The ethmoid bone in particular contains the main foramina of the anterior cranial fossa.

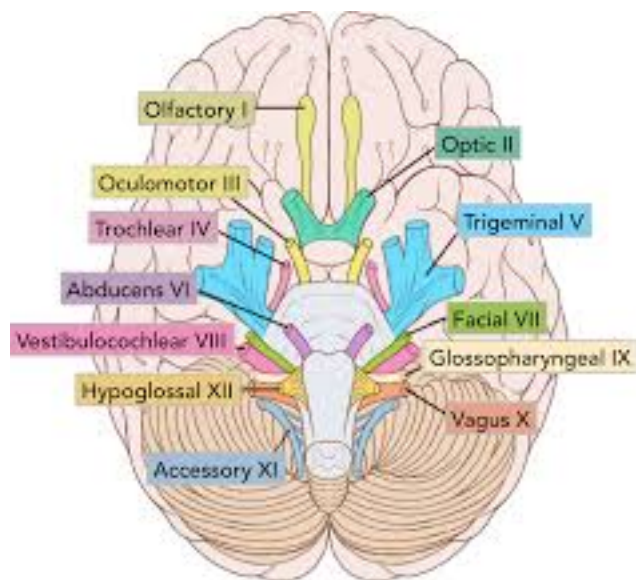
The cribriform plate is a sheet of bone seen either side of the crista galli which comprises frequent small foramina.



2. Write note on the cranial nerves.

The cranial nerves consist of a set of 12 paired nerves arising directly from the brain. The olfactory and optic nerves arise from the cerebrum. The other ten arise from the brain stem. The names of the cranial nerves are according to their function and they are also numerically identified in Roman numerals.

There are total 12 cranial nerves. The olfactory nerve and optic nerve originate from the cerebrum.



Cranial nerves III-XII arise from the brain stem. They either arise from a specific part of the brain stem or a junction between two parts.

- Midbrain: the trochlear nerve comes from the posterior side of the midbrain and has the longest intracranial length of all the cranial nerves.
- Midbrain-pontine junction: oculomotor
- Pon: trigeminal
- Pons-medulla junction: abducens, facial, vestibulocochlear
- Medulla oblongata: posterior to the olive: glossopharyngeal, vagus, accessory.
Anterior to the olive: hypoglossal

The cranial nerves are numbered by their location on the brain stem and the order of their exit from the cranium.

3. Write note on the salient features of norma frontalis and norma occipitalis of skull.

The skull shows a rather oval shape when observed from the front which is restricted by the frontal bone from above, by the mandible from below, and by the zygomatic bones and the mandibular rami laterally. The upper part which is formed from the frontal squama is convex and smooth. Above the frontal distinctions stand out more or less prominently and beneath these are superciliary arches, joined to one another in the middle by the glabella. A trace of the frontal suture sometimes persists on and above the glabella, beneath is the frontonasal suture and its midpoint is called nasion.

When noticed from behind the cranium presents a more or less circular framework. In the middle line is the posterior part of the sagittal suture connecting the parietal bones, extending downwards and lateralward from the hinder end of the sagittal suture is the deeply serrated lambdoidal suture joining the parietals to the occipital and continues below with the parietomastoid and occipitomastoid sutures. It frequently contains one or more sutural bones near the middle of the occipital squama is the external occipital protuberance or inion, and extending lateralward from it either side is the superior and nuchal line, and above this the faintly marked highest nuchal line. The part of the squama above the inion and the highest line is named the planum occipital, and covered by the occipitalis muscle. The part below is termed the planum nuchale and is divided by the medium nuchal line which runs downward and forward from the inion to the foramen magnum. This ridge gives attachment to the ligamentum nuchae. In or near the occipitomastoid suture is the mastoid foramen for the passage of the mastoid emissary vein.

4. What do you know about the muscles of hip and knee?

Those muscles which cause movement of the hip are called the muscles of the hip joint. 17 muscles have been defined so far. But there may be some additional muscles. These are sometimes divided into four groups according to their orientation around the hip joint.

1. The gluteal group
2. The lateral rotator group
3. The adductor group
4. The iliopsoas group

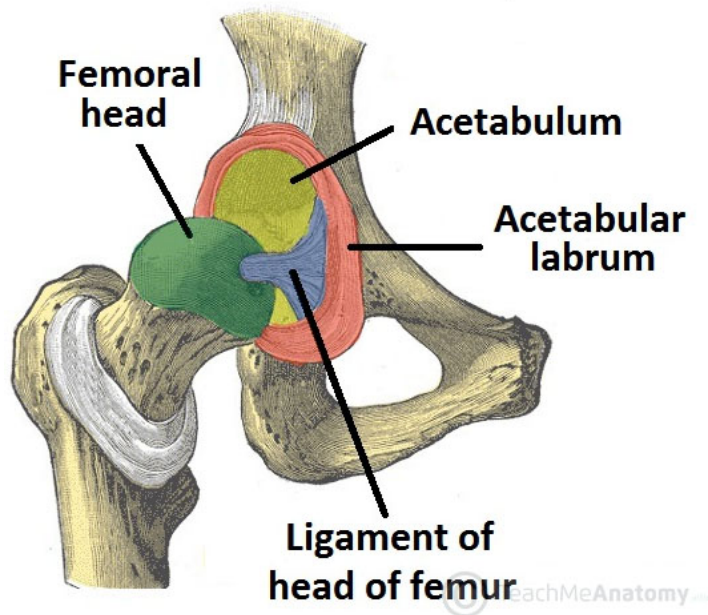
The gluteal muscles consists of gluteas maximus, gluteas medius, gluteas minimus and tensor fasciae latae.

The adductor group consists of the gracillis, the pectineus, the adductor magnus, the adductor longus and the adductor brevis. These all originate on the pubis and insert on the medial, posterior surface of the femur.

The iliopsoas group consists of the iliacus and psoas major. The psoas major is a big muscle which runs from the bodies and disc of the L1 to L5 vertebrae, joins via its tendon with the iliacus.

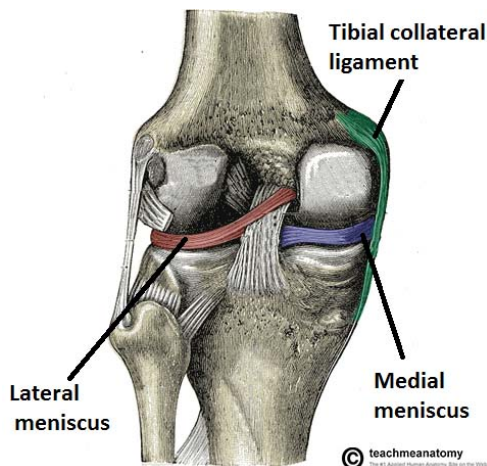
The lateral rotator group consists of the externus and internus obturators, the piriformis, the superior and inferior gemelli and the quadratus femoris.

The knee joins the thigh with the leg and consists of two joints; in which one is in between the femur and tibia and one is between the femur and patella. It is the largest joint in the whole human body. The knee is a changed hinge joint, which authorizes flexion and extension as well as slight internal and external rotation. The knee is vulnerable to injury and to the development of oseoarthritis.



The knee joint is composed of three functional compartments: the patellofemoral articulation and the patellar groove and the medial and lateral tibiofemoral articulations.

The knee plays a vital role in movement in carrying the body weight in horizontal and vertical directions.



5. Write a comprehensive note on the femoral triangle.

It is an anatomical region of the upper third of the thigh. It is bounded superiorly by the inguinal ligament, medially by the medial border of the adductor longus muscle, laterally by the medial border of the Sartorius muscle.

The top of the triangle is continuous with the adductor canal.

The femoral triangle is important because a number of vital structures pass through it.

The following structures are contained within the femoral triangle.

- Lateral cutaneous nerve of thigh
- Femoral nerve
- Nerve to pectineus

Femoral triangle provides easy access to a major artery, coronary angioplasty and peripheral angioplasty. By applying pressure to points in the femoral triangle, heavy bleeding in the leg can be stopped.