Gluteal region

- Cutaneous nerves-
- Upper ant. part from subcostal & iliohypogastric nerves
- Upper post. part from post. pri rami of L1,2,3 & S1,2,3
- Lower ant. Part from post. Div. of lateral cutaneous nerve of thigh
- Lower & post. Part from post. Cut. nerve of thigh & Perforating cut nerves(S2,3)
• Cutaneous arterial supply- branches from sup. & inf. Gluteal arteries
• Cutaneous lymphatic drainage- lateral group of superficial inguinal lymph nodes
• Deep fascia- above & in front of gluteus medius is thick but over gluteus maximus it is thin. The deep fascia splits & encloses gluteus maximus
Muscles of gluteal region

- Latissimus dorsi
- Gluteus medius
- Gluteus minimus
- Gluteus maximus
- Sartorius
- Piriformis
- Rectus abdominis: straight head & reflected head
- Quadratus femoris
- Adductor brevis
- Adductor longus
- Pectineus
- Pyramidalis
- Obturator externus
- Adductor magnus
- Gracilis
- Gastrocnemius (medial head)
- Gastrocnemius (lateral head)
- Capsular ligament of knee
- Postcruciate ligament
- Antcruciate ligament
Muscles of gluteal region
Gluteus maximus

Nerve supply- inferior gluteal nerve

Action- Extension of hip joint, also causes lateral rotation & abduction at this joint

Acting from its insertion- straighten the trunk

Prevents the pelvis from rotating forward on the head of femur

Thru the iliotibial tract steadies the femur on tibia while standing
Structures undercover gluteus maximus

- Muscles: glut. Medius & minimus, rectus femoris, (reflected head), Piriformis, obturator internus with two gemelli, Quadratus femoris, obturator externus, Origin of four hamstring from ischial tuberosity, Insertion of pubic fibers of ad. magnus
• Vessels-Superior, inferior gluteal vessels, internal pudendal, ascending br. Of medial cir. Femoral vessels, trochanteric & cruciate anastomosis
• Nerves-Superior gluteal, inferior gluteal, sciatic, Post. cut. Nerve of thigh, nerve to quadratus femoris, pudendal nerve, nerve to obturator internus & perforating cutaneous nerves
• Bones & joints- ilium, ischial tuberosity, upper end of femur with greater trochanter, sacrum, coccyx, hip joint & sacroiliac joint
• Ligaments- sacrotuberous, sacrospinous & ischiofemoral
• Bursa- trochanteric bursa of glut. maximus, of ischial tuberosity, & bet. glut. max, & vastus lateralis
Sacrospinous and sacrotuberosous ligaments
Gluteus Medius

- Nerve supply: Superior gluteal nerve
- Action: Abduction of thigh
- Anterior fibers of g. medius can act as flexor & medial rotator
- Posterior fibers can act as extensor
Gluteus minimus

- Nerve supply: superior gluteal nerve
- Action: abductor of thigh
- Medius & minimus pull the corresponding side of the pelvis downward by rotating over head of femur. As a result, opposite side of pelvis is raised.
• When the glut. Medius & minimus is paralysed, patient sways on the paralysed side to clear the opposite foot off the ground. This is known as lurching gait. When bilateral the gait is called as waddling gait.

• Trendelenburg test- normally when the body weight is supported on one limb, the glutei of the supported side raise the opposite (unsupported) side of the pelvis. However if abductor mechanism is defective, the unsupported side of the pelvis drops and this is known as positive trendelenburg test. The test is positive in defects of muscle, congenital dislocation of hip & ununited fracture of femur.
piriformis

- Nerve supply: direct branch from L5, S1 & S2
- Action: lateral rotator of femur
Obturator internus

- Nerve supply - nerve to obturator internus
- Action - Lateral rotator of femur
Gemelli

- Nerve supply: superior gemelli by nerve to obturator internus, inferior gemelli by nerve to quadratus femoris

- Action: help in lateral rotation
Quadratus femoris

- Nerve supply: nerve to quadratus femoris
- Action: lateral rotator of thigh
Obturator externus

- Obturator nerve
- Action - Lateral rotator of femur
Arteries

- Inferior gluteal artery - Artery of sciatic nerve
- Anastomotic br.
- Coccygeal artery
- Superior gluteal artery - Superficial branch
- Deep branch
- Internal pudendal artery
- Various anastomosis
Arterial anastomosis in gluteal region

- Cruciate anastomosis - present in the lower part of the gluteal region. Arteries taking part are anastomotic branches of inferior gluteal artery, first perforating artery & transverse branches of lat. & med. Cir. Femoral artery
- Trochanteric artery - seen in relation to greater trochantner. Art. Taking part in anastomosis are descending branches of superior gluteal artery, ascending branch of medial & lateral cir. Femoral arteries
Nerves in gluteal region

- Superior gluteal n. (L4, L5, S1)
- Gluteus medius
- Gluteus minimus
- Tensor fasciae latae
- Gluteus maximus
- Inferior gluteal n. (L5, S1, S2)
- Common peroneal part and tibial part of SCIATIC NERVE
- Nerve to obturator internus (L5, S1, S2)
- Nerve to quadratus femoris (L4, L5, S1)

- Piriformis by direct branches from L5, S1, S2
- Superior gemellus
- Obturator internus
- Inferior gemellus
- Quadratus femoris
• Structures passing thru greater sciatic foramen-
Piriformis fills the foramen
• structures passing above the piriformis are- superior
gluteal nerve and superior gluteal vessels
• Structures passing below the piriformis are-Inferior
gluteal nerve, inferior gluteal vessels, sciatic nerve,
posterior cutaneous nerve of thigh, nerve to quadratus
femoris, pudendal nerve, internal pudendal vessels,
nerve to obturator internus
• Structures passing thru lesser sciatic foramen-
pudendal nerve, Internal pudendal vessels, nerve to
obturator internus, tendon of obturator internus
Applied

• I/m injection is given in superolateral quadrant of gluteal region to avoid injury to nerves