

## MEDIAL COMPARTMENT OF THE THIGH

- 1) Name the adductor compartment muscles of thigh. Give origin , insertion, morphology , relations, nerve supply , actions , openings and structures passing through adductor magnus muscle? (LE)

The adductor compartment muscles of thigh are

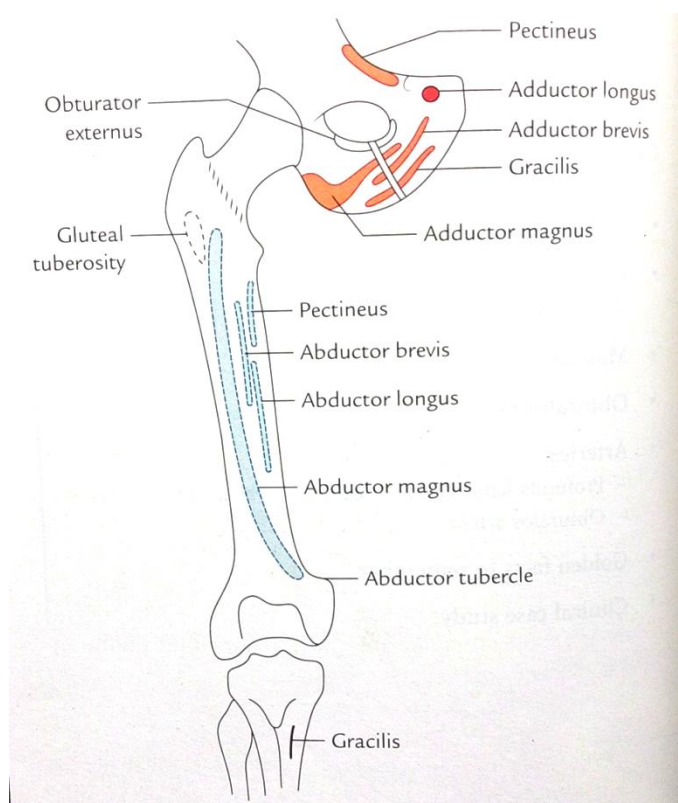
### a) Intrinsic muscles

- 1) Adductor longus
- 2) Adductor brevis
- 3) Adductor magnus
- 4) Gracilis
- 5) Pectineus

### b) Extrinsic muscle

- 1) Obturator externus

Attachments of the muscles of medial compartment of thigh



### 1) Adductor longus

It is a triangular muscle, forms the medial part of the floor of femoral triangle.

#### Origin -

Arises as a flat tendon from the body of pubis in the angle between pubic crest and pubic symphysis

#### Insertion -

Linea aspera in middle 1/3<sup>rd</sup> of shaft of femur

#### Nerve supply

Anterior division of obturator nerve

#### Action

Powerful adductor of thigh at hip joint

### 2) Adductor brevis

#### Origin

- a) Anterior surface of body of pubis
- b) Outer surface of inferior ramus of pubis
- c) Outer surface of ramus of ishium

#### Insertion -

Line extending from lesser trochanter to upper part of Linea aspera .

#### Nerve supply

Anterior / posterior division of obturator nerve

#### Action

Adduction and flexion of thigh .

### 3) Adductor magnus

#### Origin

- a) Inferolateral part of ischial tuberosity
- b) Ramus of ishium
- c) Lower part of inferior ramus of pubis

#### Insertion -

- a) Medial margin of gluteal tuberosity
- b) Linea aspera
- c) Medial supracondylar line
- d) Adductor tubercle

#### Nerve supply

Adductor part by posterior division of obturator nerve.

Hamstring part by tibial part of sciatic nerve

#### Action

Adductor part - adduction of thigh

Hamstring part - extension of hip and flexion of knee

### 4) Gracilis

#### Origin

- a) Lower half of body of pubis
- b) inferior ramus of pubis

c) adjoining part of ramus of ischium

Insertion -

Upper part of medial surface of tibia

Nerve supply

Anterior division of obturator nerve.

Hamstring part by tibial part of sciatic nerve

Action

Flexor and medial rotator of thigh.

## 5) Pectineus

Origin

- a) Pecten pubis
- b) Pectineal surface of superior ramus of pubis.
- c) Fascia covering pectineus

Insertion

Line extending from lesser trochanter to linea aspera.

Nerve supply

Anterior fibres - femoral nerve

Posterior fibres - anterior division of obturator nerve.

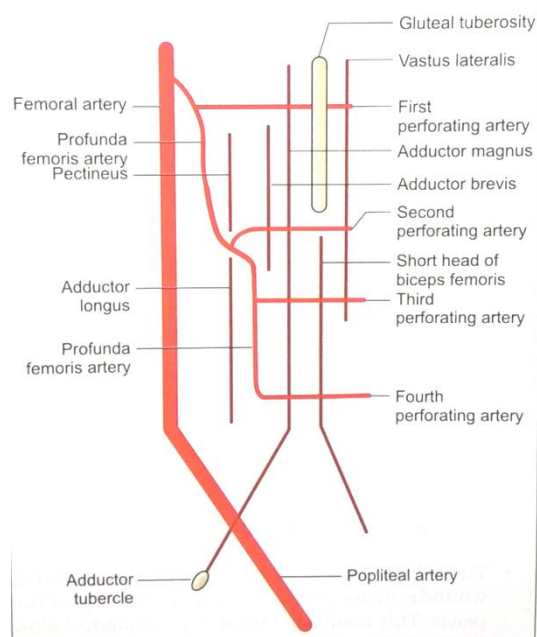
Action

Flexor and adductor of thigh.

### Structures piercing adductor magnus muscle are

- a) 4 perforating branches of profunda femoris artery
- b) Femoral artery -passes through the tendinous opening in adductor magnus ( adductor hiatus).

Fig : showing the **Structures piercing adductor magnus muscle**



## SHORT ESSAYS

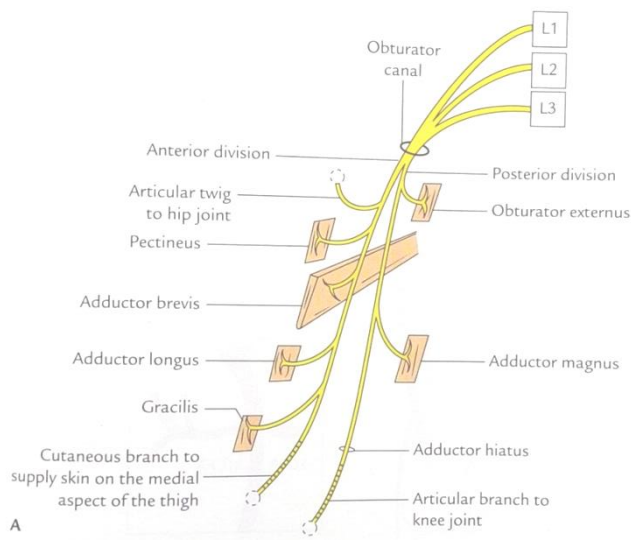
### 2) Obturator nerve - root value , course , branches, applied anatomy?(SE)

Obturator nerve is the chief nerve of the medial compartment of thigh.

It is a branch of lumbar plexus. It is formed by the ventral divisions of anterior primary rami of spinal nerves L2, L3, L4.

The upper part of the nerve lies in the pelvis.

It enters the thigh by passing through obturator canal.



### Course

Within the obturator canal the nerve divides into anterior and posterior divisions. The anterior division passes in front of obturator externus and adductor brevis and behind pectineus and adductor longus.

The posterior division pierces the anterior part of obturator externus and then descends behind adductor brevis and in front of adductor magnus.

### Branches

Anterior division supplies the following muscles-

- Pectineus
- Adductor longus

- c) Gracilis
- d) Adductor brevis

Posterior division supplies the following muscles-

- a) Obturator externus
- b) Adductor magnus
- c) Adductor brevis

#### **Applied anatomy**

- 1) In spastic paraplegia, the spasm of the adductor muscles of the thigh may be relieved by surgical division of the nerve.
- 2) In diseases of hip joint the pain may be referred to the knee joint along the obturator nerve because it supplies both these joints.

#### **3) Adductor magnus muscle?(SE)**

**Ans: -**

Adductor magnus is a large composite muscle consisting of 2 parts - adductor part and hamstring part.

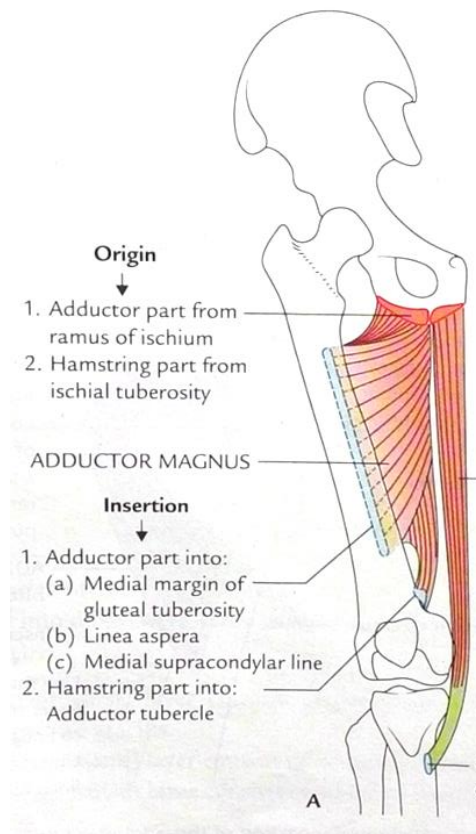
#### **Origin**

- a) Inferolateral part of ischial tuberosity
- b) Ramus of ishium
- c) Lower part of inferior ramus of pubis

#### **Insertion -**

- a) Medial margin of gluteal tuberosity
- b) Linea aspera
- c) Medial supracondylar line
- d) Adductor tubercle

Fig : showing the origin and insertion of adductor magnus .



### **Nerve supply**

Adductor part by posterior division of obturator nerve.

Hamstring part by tibial part of sciatic nerve

### **Action**

Adductor part - adduction of thigh

Hamstring part - extension of hip and flexion of knee

### **Structures piercing adductor magnus muscle are**

- 4 perforating branches of profunda femoris artery
- Femoral artery -passes through the tendinous opening in adductor magnus ( adductor hiatus).

### **OBTURATOR NERVE - ROOT VALUE , MUSCLES SUPPLIED (SA)**

Obturator nerve is a branch of lumbar plexus.

It is formed by the ventral divisions of anterior primary rami of spinal nerves L2, L3 ,L4.

### **Muscles supplied are**

- Pectineus
- Adductor longus
- Gracilis

- d) Adductor brevis
- e) Obturator externus
- f) Adductor magnus
- g) Adductor brevis

#### **ADDUCTOR MUSCLES (SA)**

- a) Adductor longus
- b) Adductor brevis
- c) Adductor magnus
- d) Gracilis
- e) Pectineus

#### **NERVE SUPPLY TO ADDUCTOR MUSCLES? (SA)**

- a) Adductor longus - supplied by anterior division of obturator nerve
- b) Adductor brevis - supplied by anterior /posterior division of obturator nerve
- c) Adductor magnus- adductor part is supplied by posterior division of obturator nerve
  - Hamstring part is supplied by tibial part of sciatic nerve
- d) Gracilis - supplied by anterior division of obturator nerve
- e) Pectineus - anterior fibres are supplied by femoral nerve
  - Posterior fibres are supplied by anterior division of obturator nerve.

#### **PECTINEUS (SA)**

**Ans:-**

Pectineus is a flat quadrilateral muscle.

It forms a part of the floor of femoral triangle.

Origin-

pecten pubis , upper half of pectineal surface of superior ramus of pubis.

Insertion -

Line extending from lesser trochanter to linea aspera

Nerve supply-

Anterior fibres are supplied by femoral nerve

Posterior fibres are supplied by anterior division of obturator nerve.

Action-

Flexor and adductor of thigh

#### **FUNCTIONAL COMPONENT OF ADDUCTOR MAGNUS (SA)**

Adductor magnus is a composite muscle having 2 parts .

- a) Adductor part
- b) Hamstring part

Part	Origin	Insertion	Nerve supply
Adductor part	Ramus of ishium	Gluteal tuberosity, linea aspera, medial supracondylar line	Posterior division of obturator nerve
Hamstring part	Ishial tuberosity	Adductor tubercle	Tibial part of sciatic nerve

### **STRUCTURES SUPPLIED BY ANTERIOR DIVISION OF OBTURATOR NERVE (SA)**

Anterior division of obturator nerve supplies the following muscles-

- a) Pectineus
- b) Adductor longus
- c) Gracilis
- d) Adductor brevis