



OSTEOLOGY

OF HIND LIMB

bones (Os coxae)

Ilium

triangular flat bone situated at the craniolateral aspect of the pelvis.

has two surfaces.

gluteal surface

pubic surface



Gluteal surface



Pubic surface

as three angle

ernal angle
ernal angle
tal angle



ernal angle



External angle



Distal angle

as three border

sal border

eral border

dial border



Anterior surface



tuber sacrale

tuber coxae

pubic line

ing

greater ischiatic notch

superior ischiatic spine

Pelvic surface



1. Supra acetabular fossa

2. Psoas tubricale

3. Ilio pectineal eminence

4. Tuber coxae

5. Tuber sacrale

6. Acetabulum

7. Acetabular notch

Ischium

roughly a quadrilateral plate of bone situated behind the pubis and forms the posterior part of the pelvic floor.

has two surfaces.

Dorsal surface

Ventral surface



Dorsal surface



Ventral surface

as four angles.

Antero internal angle

Antero external angle

Postero internal angle

Postero external angle



Antero internal angle



Antero external angle



Postero internal angle



Postero external angle

as four border

anterior border
posterior border
medial border
lateral border

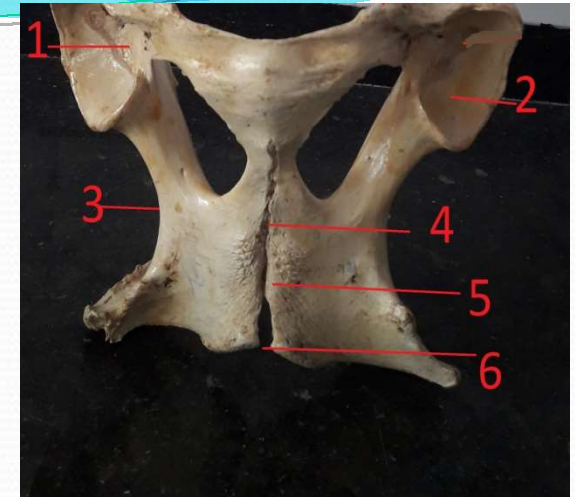


Dorsal surface



1. Ischial tuberosity
2. Lesser ischiatic notch
3. Pelvic symphysis
4. Ischial arch
5. Obturator foramen

Ventral surface



1. Acetabular notch
2. Acetabulum
3. Lesser ischiatic notch
4. Pelvic symphysis
5. Ventral tubercle
6. Ischial arch

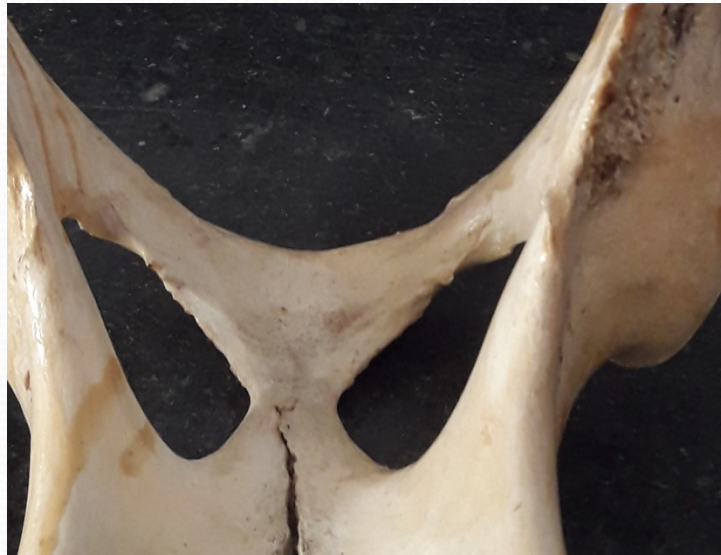
Pubis

small triangular plate of bone situated at the anteromedial aspect of the pelvic

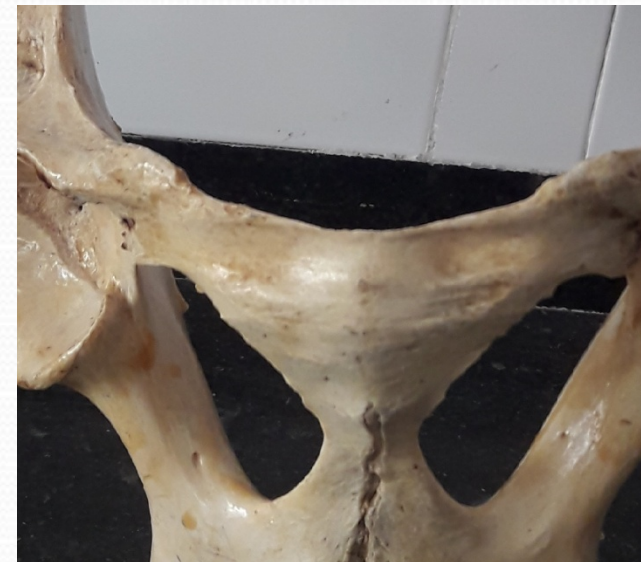
has two surfaces.

dorsal surface

ventral surface



Dorsal surface



Ventral surface

as three angle

Anterio internal angle

Anterio external angle

Posterior angle



Anterio internal angle



Anterio external angle



Posterior angle

has three border

anterior border

lateral border

medial border



Femur

cylindrical and the largest long bone in the skeleton.

directed downward and forward in an oblique manner.

This bone articulates with the hip bone above to form hip joint and with tibia, fibula and patella below to form the stifle joint.

four surfaces.



Anterior surface

Posterior surface



Lateral surface



Medial surface

as two extremity.

Proximal extremity



Head

Tuberosity of the greater tuberosity

Neck

Tuberosity of the lesser tuberosity

Tuberosity of the greater tuberosity

Tuberosity of the lesser tuberosity

Tuberosity of the greater tuberosity

Distal extremity



1. Supracondylar fossa
2. Intercondylar groove
3. Lateral epicondyle
4. Trochlea
5. Medial epicondyle
6. Medial condyle
7. Lateral condyle

TIBIA & FIBULA (OF OX)

TIBIA

a strong and massive long bone extend obliquely downward and backward from the stifle joint to hock joint.

has three surfaces:-

lateral surface

medial surface

posterior surface



Lateral surface



Medial surface



Posterior surface

has three border.

Anterior border

Lateral border

Medial border



Anterior border



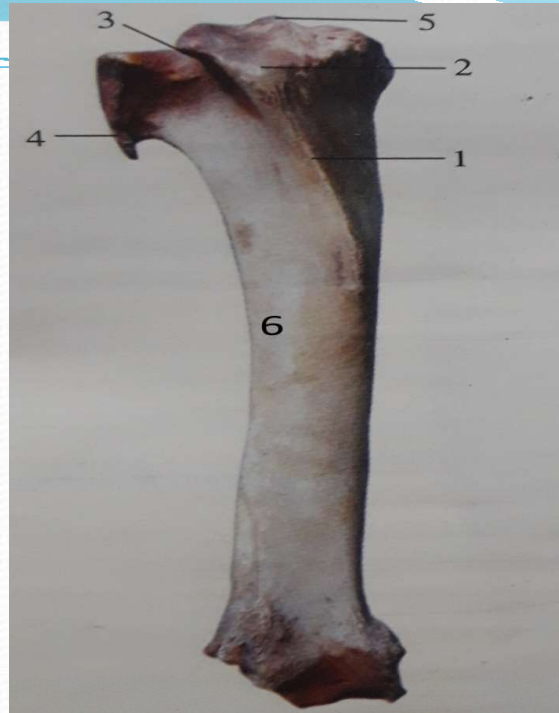
Lateral border



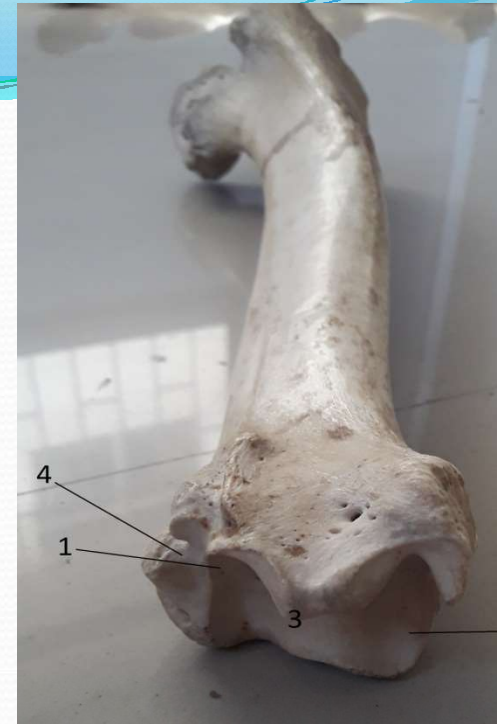
Medial border

has two extremity.

proximal extremity
distal extremity



Proximal extremity



Distal extremity

bial crest
anterior tuberosity
tubercle muscularis
tubercle
line
lateral surface

1. Faset for lateral malleol
2. Fused medial malleol
3. Articular surface
4. Fibular tarsal

Fibula (of ox)

This bone is highly rudimentary in ox .

proximal end end (head) is fused with the lateral condyle of tibia .

body and the distal end remain as a blunt prolongation.



Fibula

Tibia & Fibula (of horse)

musculus is wider.

anterior tuberosity is grooved.

popliteal line is prominent.

lateral malleolus is fused to the tibia.

distal end extends to the distal third of tibia.

distal extremity – the lateral malleolus is fused to the tibia.



Tibia & Fibula (of dog)

anterior crest is very prominent.

articular facet for the fibula is on the postero-lateral aspect of the lateral condyle.

distal extremity present laterally a facet for fibula.

distal end is thick.

nearly as long as tibia.

Tibia & Fibula (of fowl)

tibia fused below with the upper row of tarsal bone and hence called tibio-tarsus.

tibio tarsus is the longest bone in the body.

proximal extremity is large and irregular.

fibula is thin rod shaped bone.

distal end is condyloid.

crest is prominent.

Metatarsal bone (of ox)

The metatarsus has two bones - the large (third and fourth) and the medial (second) metatarsal bone.

Large metatarsal bone

Length of metatarsal bone is more.

It is four sided.

The dorsal longitudinal groove is more deep and wide.

The plantar face presents a shallow groove.

Small metatarsal bone

It presents a small facet on its dorsal face for the large metatarsal the rest of the bone is rough.

The medial small metatarsal is a disc shaped piece of bone situated at the postero-medial aspect of the

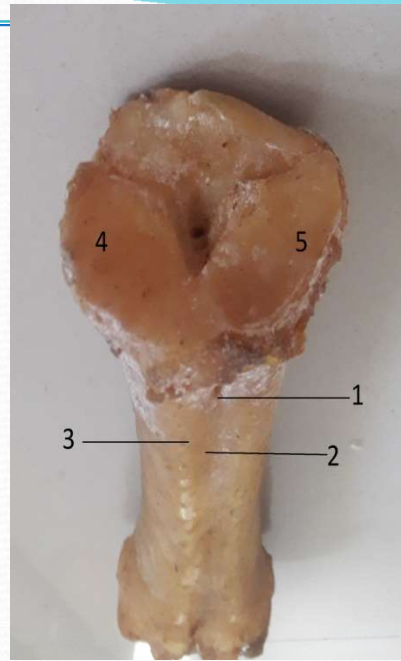
proximal extremity of the large metatarsal bone.



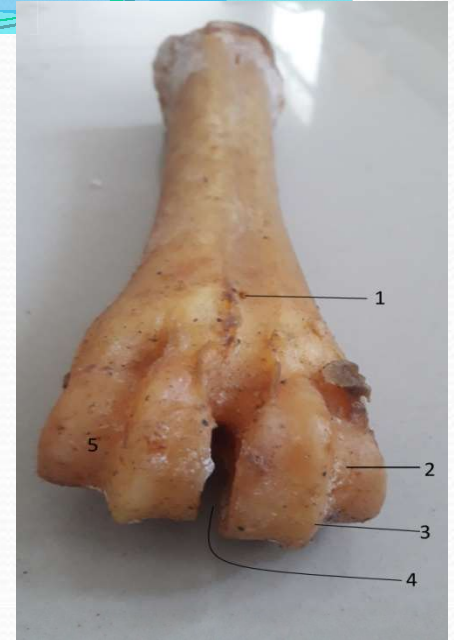
as two extremity

Proximal extremity

Distal extremity



Proximal extremity



Distal extremity

1. Distal foramen
2. Medial condyle
3. Ridge
4. Intercondyloid cleft

imal foramen

ve

rior surface

t for central and

used tarsal

t for 2nd & 3rd

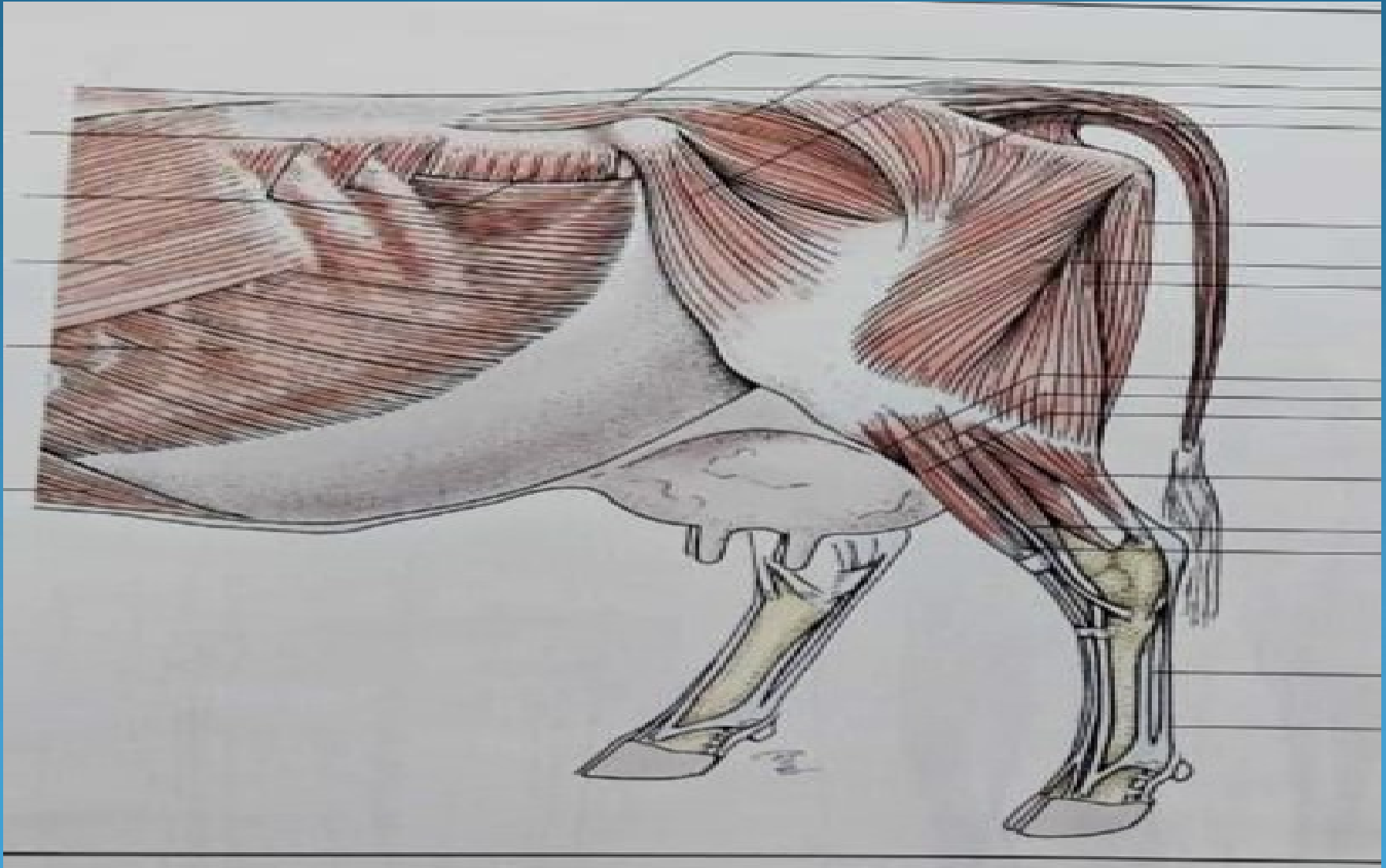
l tarsal



MYOLOGY

OF HIND LIMB

ANATOMY OF HIND LIMB OF OX



Muscles of lateral aspect

Tensor fascia lata

Triangular muscle

Situated cranial aspect of hip.

Origin- tuber coxae

Insertion- fascia lata and lateral ligament of patella

Superficial gluteus

Absent in ox but present in horse and dog.

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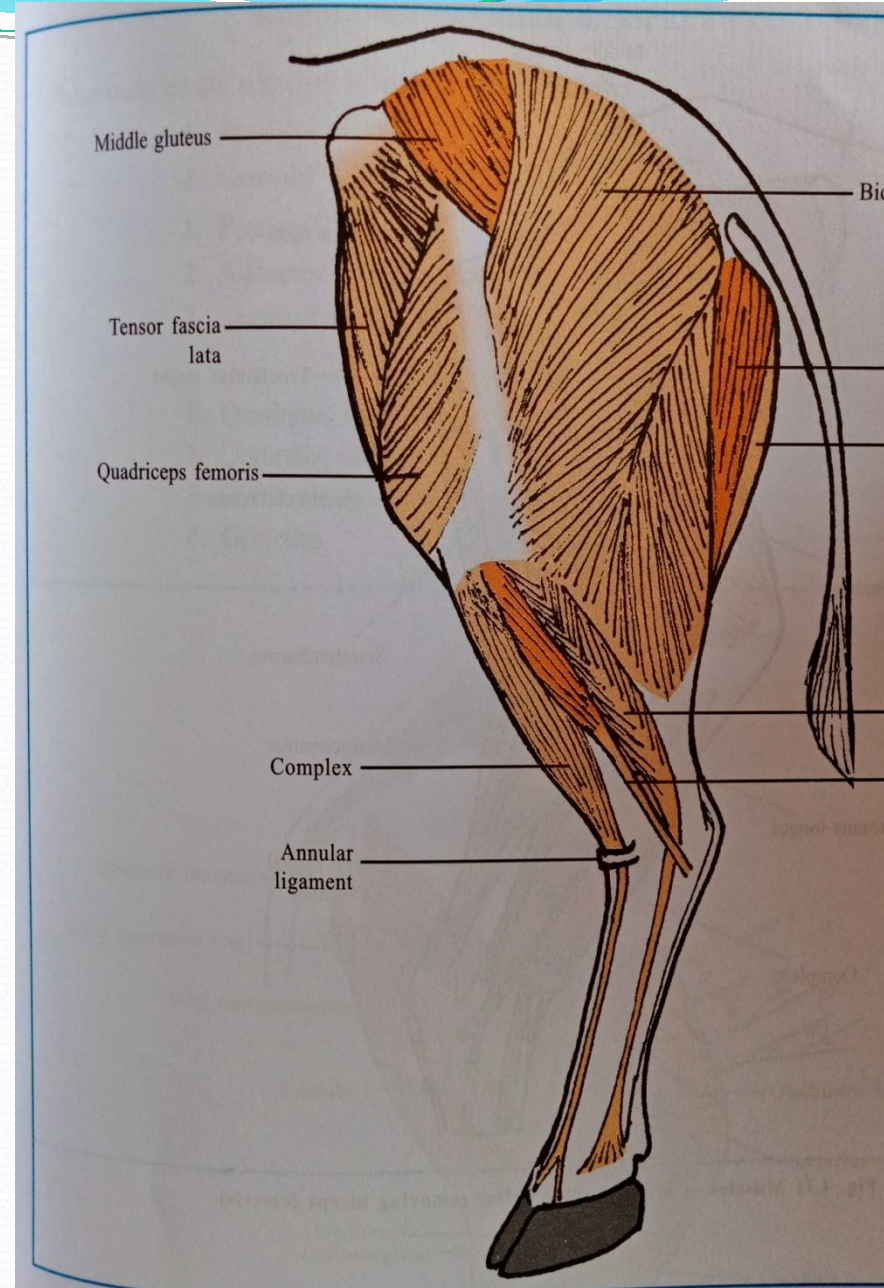
Origin- tuber coxae and
lateral fascia.

Insertion- Third trochanter of

Dog

Sacrum and
Sacro tuber ligament

Proximal aspect
Of femur.



Middle gluteus

any muscle

covers an extensive part of gluteal surface of ilium.

partially covered by biceps femoris muscle.

helps to abduct the limb and to extend the

Origin- tuber coxae, tuber several, gluteal surface of sacrosciatic ligament.

Insertion- cranial part- below trochanter major of femur.

Deep gluteus

covered by middle gluteus.

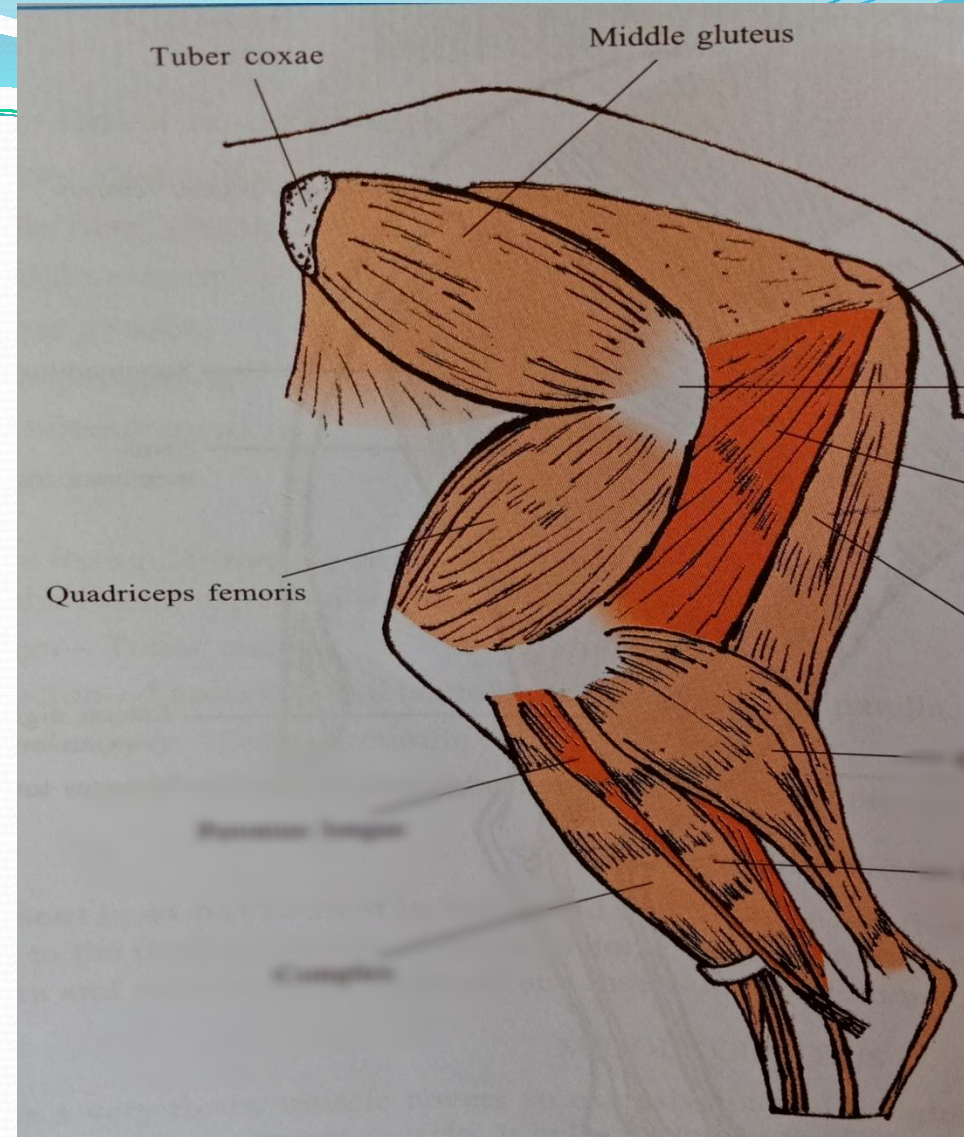
thin and quadrilateral shape.

directed caudoventrally.

helps to abduct the limb.

Origin- tuber coxae, gluteal surface of ilium, ischiatic spine and sacrosciatic ligament.

Insertion- tubercle below trochanter major



Muscles of hip and thigh (after removing biceps femoris).

Biceps femoris

Extensive and flat muscle
covers most of the lateral aspect of hip and thigh.
extends the hip and abducts the limb.

Origin- spine of the sacrum, sacrospinous ligament and ischial tuberosity.

Insertion- cranial part- patella

Distal part- tibial crest and lateral patellar ligament

Proximal part- fascia lata and tuber calcis

Semitendinosus

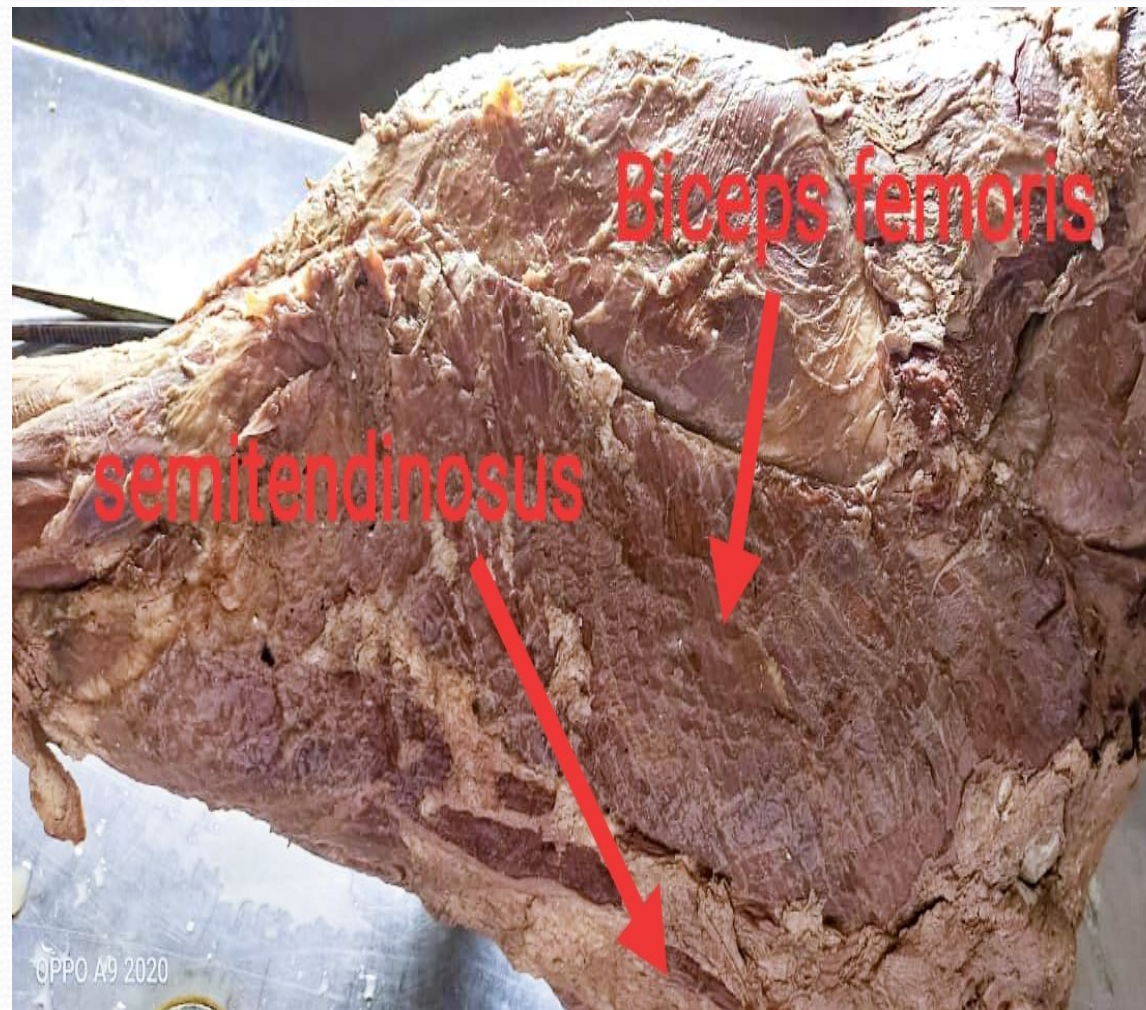
Long muscle (tendon like)

extends from ischium to tibia along the
medial aspect of hip and thigh.

Origin- Ischial tuberosity

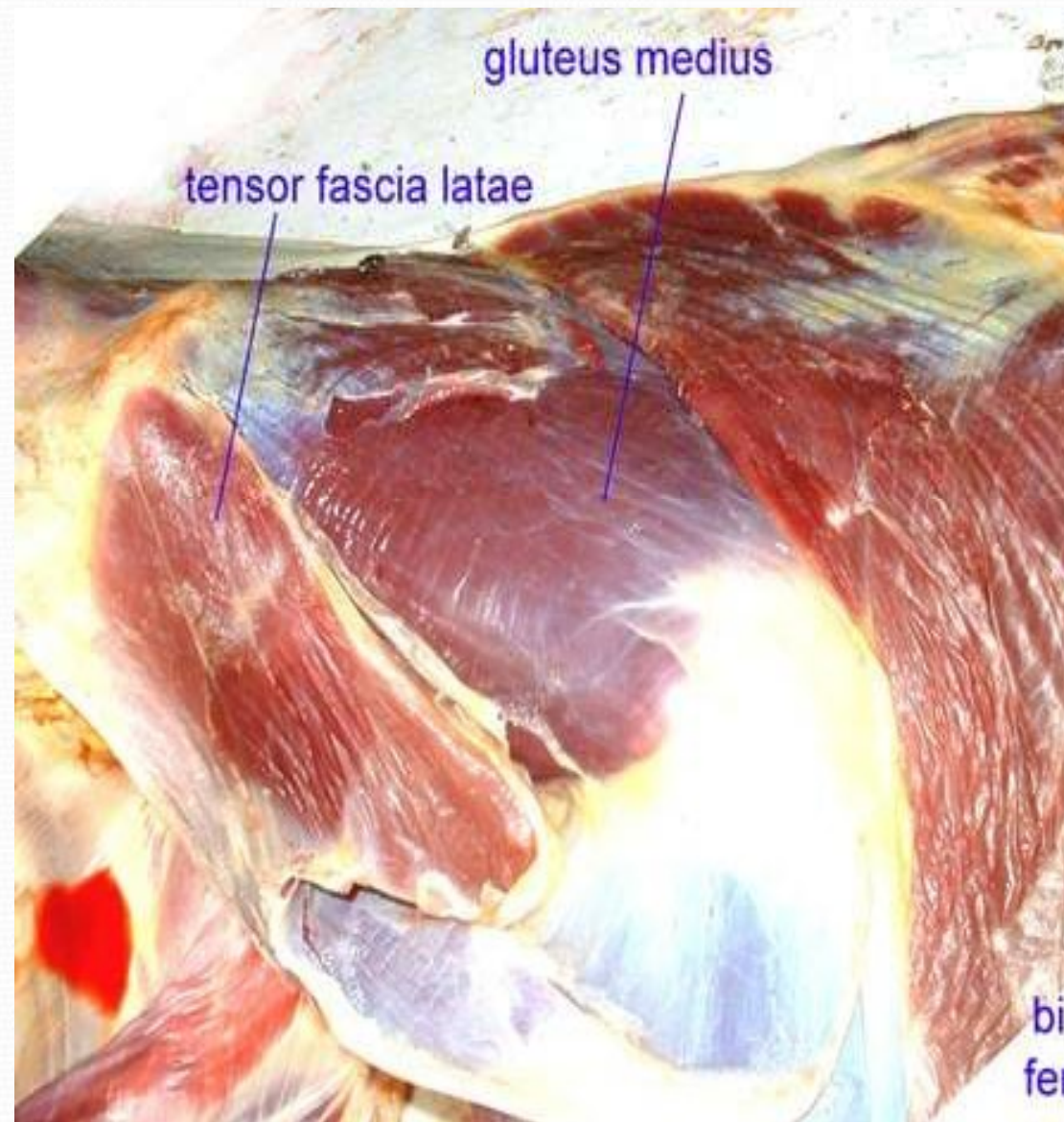
Insertion- Anterior border of tibia,

tuber calcis and fascia lata.





- 1.
- 2.
- 3.
- 4.
7. Semimembranosus
8. Semitendinosus



bi
fe

Muscles of the medial aspect

Sartorius

muscle
helps to abduct the limb.

Origin- shaft of ilium, psoas minor and iliac fascia

Insertion- medial patellar ligament, medial aspect of distal end of tibia and fascia lata.

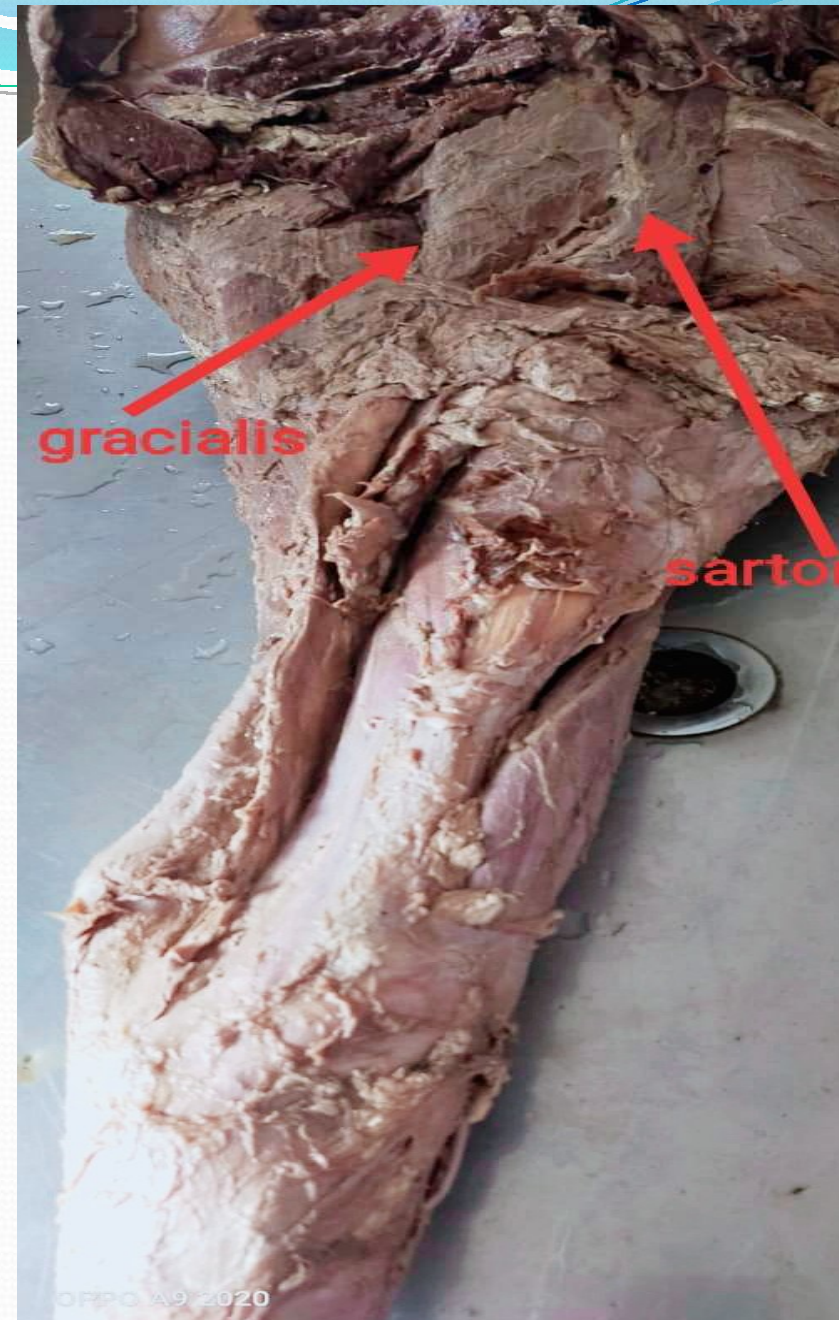
Gracialis

is an extensive muscle
located behind the sartorius.

Insertion is almost similar to the sartorius.

Origin- pelvic symphysis and prepubic tendon.

Insertion- medial patellar ligament, medial surface of the proximal end and fascia lata.



semimembranosus

wide and flat muscle.

located at caudal aspect of the medial region of hip

is thin above and thick and fleshy below.

assists in adduction of the limb.

origin- ischial symphysis, ventral surface of ischium and ischial tuberosity.

insertion- area above the supracondyloid crest and medial tuberosity of femur.

semitendinosus

in bundle form.

Situated mostly at the posterior aspect of ischium and femur.

origin- ventral surface of ischium.

insertion- trochanter minor and posterior surface of femur close to the trochanter minor.



Gemellus

thin and roughly triangular muscle
originated at the ventro- lateral aspect of ischium

Origin- ventral surface and lateral border of ischium and
anterior part of sacrosciatic ligament

Insertion- trochanteric fossa.

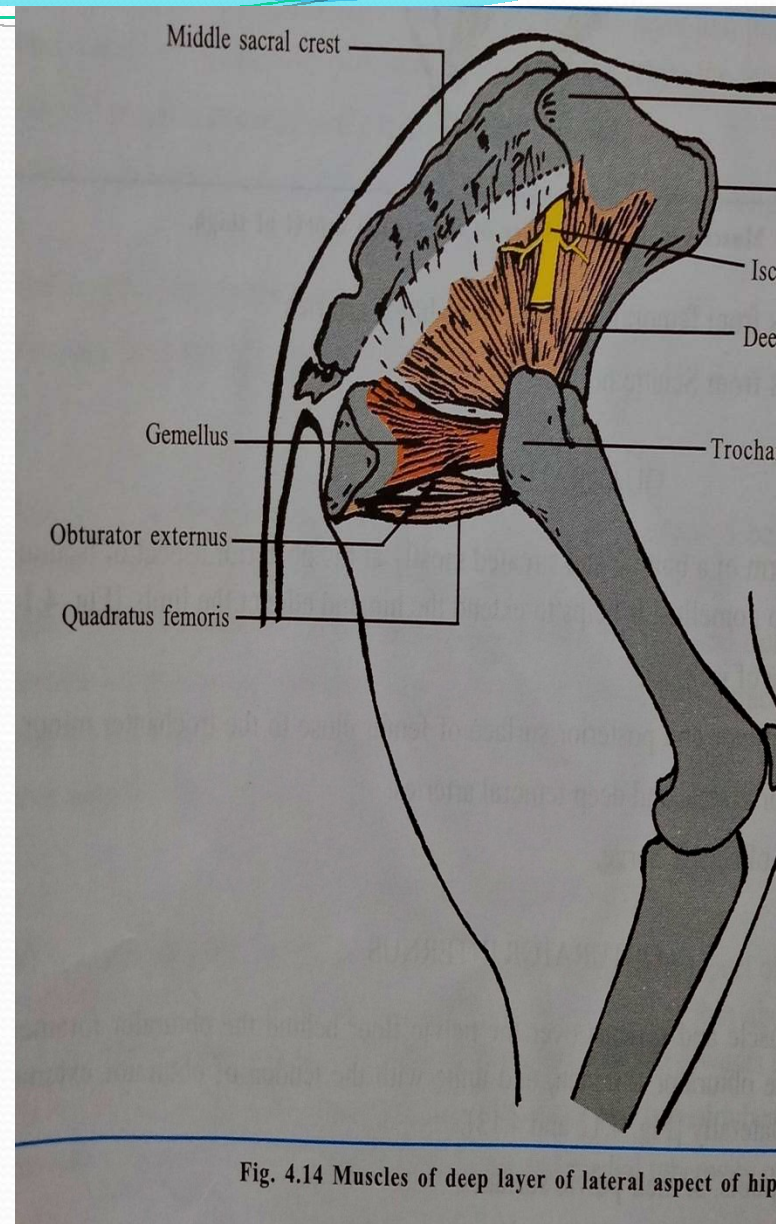


Fig. 4.14 Muscles of deep layer of lateral aspect of hip

Muscles of Anterior aspect

Quadriceps femoris

Anterior, lateral and medial surfaces of femur are covered by this muscle.

The muscle is large and fleshy and consists of four parts-

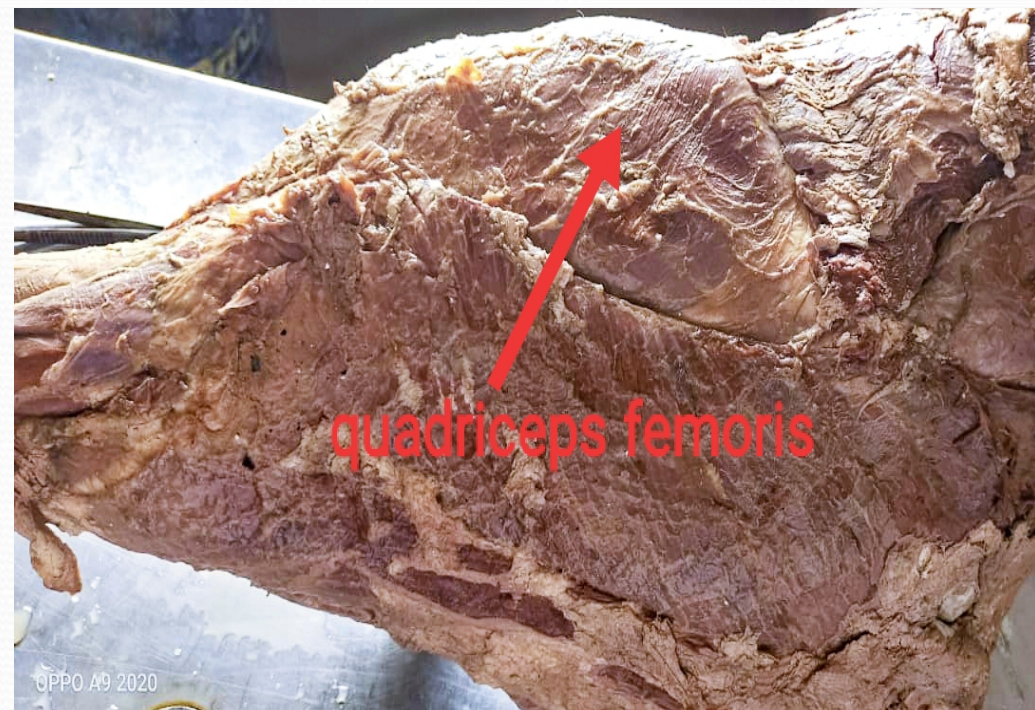
- Vastus lateralis
- Vastus medialis
- Vastus intermedius

The muscle helps to extend the stifle joint.

Origin- the rectus femoris originates from the notch and depression outside the condyloid cavity. The other parts originate from the trochanter major, and anterior surface of proximal end of femur.

Insertion- anterior lateral and medial aspect of the lateral and medial patellar ligament.

Rectus femoris



has four surface.

anterior surface

posterior surface

lateral surface

medial surface



anterior surface



Posterior surface



Lateral surface



Medial surface

metatarsal bone (of horse)

There is one large 3rd and two small 2nd and 4th metatarsal bones in this species.

The large metatarsal resembles the large metacarpal.

The small metatarsal each has two small facets in front for the large metatarsal.

The proximal end is also comparatively.

metatarsal bone (of dog)

Five metatarsals are present.

The first is small and the other four are well developed and resemble the metacarpals.

Their shape and structure are more or less the same as those of metacarpals.

tarsal bone (of fowl)

is a single long bone .

The proximal end is irregular for the fusion with the distal row of tarsal bones.

There are the four digits in the fowl.

The lateral one articulates with the fourth digit.

The distal extremity divides into three processes.