

Description and Drawings of  
the Human Leg

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*1909*

Submitted to the Department of Anatomy of the  
University of Kansas in partial fulfillment of the  
requirements for the Degree of Master of Arts

Master Thesis

Bigger, John 1909

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## The Human Leg.

The purpose of this work is to enable one to obtain a more vivid and lasting idea of the relation of the bones, muscles, blood vessels, and nerves of the human leg. To accomplish this we took the right leg of a negro man and made twenty thru cross sections counting those of the foot.

The leg had been pickled in a solution of equal parts of alcohol, glycerin and carbolic acid.

The sections were first marked on the leg, then each section was cut, using a string around the part to cut by. After the sections had been made each one was studied, labled on both sides and mounted permanently in gelatin. The sections were then drawn the natural size from these sections and a reconstruction two thirds normal size was made. From this drawing it was possible to get a clear and lasting picture of the position and relation of the different parts of the leg.

(For position of muscles see drawings).

The muscles of the thigh are divided into four groups. 1. Anterior Femoral Region, 2. Internal femoral region, 3. Gluteal region, 4. Posterior femoral region.

1. Tensor Fasciae Latae has its origin on the anterior superior spine of the ilium and is inserted in the fascia lata about midway of the thigh on the external side. It runs a little backward. Is supplied by the Superior Gluteal nerve and deep Circumflex artery. Its action is a tensor of the fascia.

2. Sartorius originates from the anterior superior spine of the ilium, internal to the tensor fascia latae. Takes a tortional course inward to be inserted in the inner side of the tibia. In its winding it acts as a covering for the upper two thirds of the femoral vessels and nerves. Supplied by the Anterior Crural nerve, and by the Superior Circumflex Iliac artery. Its action is a flexor and crosses the legs.

3. Rectus Femoris has its origin on the anterior inferior spine of the ilium on the brim of the acetabulum covered by upper one third of Sartorius and Tensor Fasciae Latae. It is inserted on the tuberosity of the Tibia. Anterior crural nerve and External Circumflex Artery. Action:- Extends the leg.

2.

4. *Vastus Externus* has its origin on the anterior edge of the great trochanter of the Femur and Linea Aspera, and is inserted in the tuberosity of the Tibia. Nerve:- Anterior Crural. Artery:- External Circumflex. Action:- Extends leg.

5. *Vastus Internus* and *Crureus* have their origin on the inner lip of the Linea Aspera and are inserted on the tuberosity of the Tibia. Nerve:- Anterior Crural. Arteries:- Branches of Superficial Femoral Artery. Action:- Extends the leg.

6. *Subcrureus* originates from anterior inferior part of Femur and inserted in the Synovial Sac behind the patella. Nerve:- Anterior Crural. Artery:- Anastomotica. Action:- Draws up sac.

The 4th, 5th and 6th muscles form the *Quadriceps Extensor*. Their common tendon forms the sheath for the patella.

Second Division.

7. *Gracilis* has its origin on the rami of the pubis and ischium and is inserted on upper and inner part of the tibia. Nerve:- Obturator. Artery:- Obturator. Action:- Flexes and abducts leg.

### 3.

8. Pectineus has its origin on the ilio pectineal line of the pubis and is inserted on the femur below the lesser trochanter, passing beneath femoral vessel.

9. The Adductor Brevis has its origin on the ramus of the pubis and inserts into upper part of linea aspera of the femur. Nerve:- Obturator. Artery:-Obturator. Action:- Adducts and flexes thigh.

10. Adductor Longus has its origin on front of pubis external to and above gracilis. Nerve and blood supply, and action is the same as Adductor Brevis.

11. Adductor Magnus originates on the rami of pubis and ischium and inserts on the linea aspera of the femur. Obturator and the Great Sciatic nerve, and the Obturator artery furnish nerve and blood supply. Action:- Adducts thigh and rotates it outward.

#### Third Division, (Gluteal Region).

12. Gluteus Maximus has its origin on the Superior Curved Iliac line and crest, and Sacrum and Coccyx and inserts in fascia and femur below Great Trochanter.

Nerves:- Superior Gluteal and Sacral Plexus.

Arteries:-- Sciatic and Gluteal arteries. Action:-- To extend, abduct and rotate thigh outward.

13. Gluteus Medius comes from the Ilium between middle and Superior Curved line and Fasciæ Latae, inserting on the oblique line of Great Trochanter.

Nerve, Superior Gluteal. Artery:- Deep branch of Gluteal. Action:- Rotates, abducts and advances thigh.

14. Gluteus Minimus originates on Ilium between middle and Internal curved lines and inserts in anterior surface of the Great Trochanter. Nerve:- Gluteal Superior. Artery:- Deep branch of Gluteal. Action:- Rotates abducts and draws thigh forward.

15. Piriformis originates on front of sacrum on parts between second, third and fourth transverse foramen, passes thru Great Sciatic Foramen and ligament to be inserted on upper border and inner part of the Great Trochanter. Nerve:- Sacral. Artery:- Sciatic. Action:- External rotator of the thigh. (Receives some branches of the Internal Pudic Artery).

16. Quadratus Femoris originates on the tuberosity of the ischium and is inserted in the quadrate line of the femur. Nerve:- Sacral and Tibial. Artery:- Branch of Sciatic and first perforating artery. Action: External rotator of the thigh.



17. The Obturator Externus has its origin on the obturator foramen and membrane and is inserted in the great trochanter. Nerve:- Sacral. Arteries, Sciatic and Internal Circumflex. Action, External rotator of thigh.

18. The Obturator Internus has its origin on the obturator foramen and membrane and is inserted in the great trochanter. Nerve:- Sacral. Artery:- Sciatic. Action:- Rotates thigh externally.

19. The Gemellus (superior) has its origin on the ischial spine and is inserted on the great trochanter of the Femur Innervated by the Sacral and supplied by the Sciatic artery. Action:- External rotator of the thigh.

#### 4. Posterior Femoral Region.

21. The Biceps originates, first head from Ischial tuberosity, second head from the Linea Aspera and Superior Condylloid ridge of the femur and is inserted on the head of the fibula. Innervated by the Great Sciatic and supplied by the Internal Circumflex and perforating arteries. It flexes the leg and rotates it outward.

22. Semimembranosus has its origin on the tuberosity of the Ischium and insertion on the inner tuberosity of the tibia. Innervated by the Great Sciatic and supplied by the Sciatic and Profunda Arteries. Flexes and

rotates the leg inward.

23. The Semitendinosus has its origin on the tuberosity of the ischium and is inserted on the upper and inner surface of the tibia. Innervated by the Great Sciatic and supplied by the Sciatic and Profunda arteries. Its action is to flex the leg on the thigh.

#### 5. Muscles of Leg.

##### Anterior Tibia-Fibular Region.

24. The Tibialis Anticus has its origin on the outer tuberosity and upper part of the shaft of the tibia and is inserted in the internal cuneiform and first metatarsal. Innervated by the Anterior tibial nerve and supplied by the Anterior Tibial Artery. It flexes the tarsus and elevates inner border of foot.

25. Extensor longus Hallucis has its origin in the middle of the Fibula and is inserted on the base of the last phalanx of the great toe. Innervated by the Anterior tibial nerve and supplied by the Anterior Tibial Artery. It extends the toe.

26. Extensor longus Digitorum has its origin on the outer tuberosity of the tibia and shaft of the Fibula and is inserted on the second and third phalanges of the toes. It is innervated by the Anterior Tibial Nerve and

supplied by the Anterior Tibial Artery. It extends the toes.

27. The Peroneus Tertius has its origin on the lower fourth of the fibula and is inserted on the fifth metatarsal bone. Supplied by the Anterior Tibial Artery and nerve. It flexes the tarsus. This muscle is a separated portion of the Extensor Longus Digitorum.

#### 6. Posterior Tibial Region. (Superficial Layer).

28. Gastrocnemius (two heads) has its origin on the condyle of the femur and is inserted on the Os Calcis by the Tendo Achilles. Innervated by the Internal Popliteal nerve and supplied by Popliteal Artery. It extends the foot.

29. Soleus has its origin on the shaft of the fibula and oblique line of the Tibia. It is inserted on the Os Calcis by the Tendo Achilles. Supplied by the Internal Popliteal Nerve and by the Posterior Tibial Artery. It extends the foot.

30. The Plantaris originates on the outer bifurcation of the linea aspera and posterior ligament of the knee. It is inserted on the Os Calcis and Tendo Achilles. Innervated by Internal Popliteal nerve and Popliteal artery. It extends the foot.

## Deep Layer.

31. Popliteus muscle originates from the internal condyle of the femur and is inserted on the shaft of the Tibia above the oblique line. Innervated by the Internal popliteal nerve and supplied by the Popliteal artery. It flexes the leg.

32. The Flexor Longus Hallicis (Pollicis) has its origin on the lower two thirds of the shaft of the fibula and is inserted on the base of the last phalanx of the great toe.

33. Flexor Longus Digitorum has its origin on the shaft of the tibia and is inserted on the last phalanges of the toes. Posterior Tibial Nerve and artery. It flexes the phalanges and extends the toes.

34. The Tibialis Posticus originates on the shaft of the Tibia and Fibula and inserts on the tuberosity of the scaphoid and the Internal Cuneiform. Posterior Tibial Nerve and Artery.

## 7. Fibular Group.

35. Peroneus Brevis originates on the middle third of the shaft of fibula externally and is inserted on the base of the fifth metatarsal. Musculo Cutaneous nerve and

Posterior Tibial artery. Its action being to extend the foot.

36. The Peroneus Longus originates from head and shaft of the fibula and is inserted on the first metatarsal of the great toe. Nerve:- Musculo Cutaneous. Artery:- Posterior Tibial. It extends and everts the foot.

8. Dorsal region,  
(Muscles of the foot.)

37. Extensor brevis Digitorum originates on the Os Calcis externally and is inserted on the first phalanx of the great toe and tendons of the Extensor Longus Digitorum. Anterior Tibial Nerve and branch of the Dorsalis Pedis Artery. It extends toes.

9. Plantar region,  
(First Layer).

38. Abductor Hallucis originates on the tarsal ends of the three middle metatarsal bones and is inserted in the base of the first phalanx of the great toe. Nerve:- External Plantar. Artery:- Plantar, Internal. It flexes great toe.

39. Flexor brevis Digitorum. Origin on the inner tuberosity of Os Calcis and plantar fascia. It is inserted in the second phalanx of lesser toes. Internal Plantar nerve and artery.

40. Abductor Minimi Digiti has its origin on the outer tuberosity of the Os Calcis and plantar fascia and is inserted on the first phalanx of the little toe. The External Plantar nerve and artery furnish blood and nerve supply. It abducts the little toe.

#### Second Layer.

41. The Flexor Accessorius (two heads) originates on the inner and outer surface of the Os Calcis and is inserted on the tendon of the flexor longus digitorum. The External Plantar nerve and artery supply it. It is an accessory flexor of the toes.

42. Lumbricalis (four) originate on the tendons of Flexor Longus Digitorum and insert on the second phalanges of the lesser toes. Supplied by the External Plantar nerve and artery. They are accessory flexors.

#### Third Layer.

43. Flexor brevis hallucis originates on the cuboid and external cuneiform bones and inserts on the first phalanx of the great toe. Supplied by the Internal Plantar nerve and artery. It flexes the great toe.

44. *Transversus Pedis* originates on the head of the fifth metatarsal and inserts on the first phalanx of the great toe. Supplied by the Internal Plantar nerve and artery. It abducts the great toe.

45. *Abductor Hallucis* originates on the inner tuberosity of the Os calcis and inserts on the first phalanx of the great toe. Supplied by Internal Plantar Nerve and Artery. It abducts the great toe.

46. *Flexor brevis Minimi Digiti* has its origin on the base of the fifth metatarsal and is inserted in the base of the first phalanx of the little toe. External Plantar nerve and artery furnishes blood and nerve supply. It flexes the little toe.

#### Fourth Layer.

47. The *Dorsal Interossei* originate on the sides of the metatarsals and insert in the base of the first phalanx of the corresponding toe. Supplied by the External Plantar nerve and Dorsal Interosseous arteries. They abduct the toes.

48. *Plantaris Interossei* have their origin on shaft of third, fourth and fifth metatarsals and insert on base of the first phalanges of the same. Supplied by External Plantar nerve and artery. They abduct toes.

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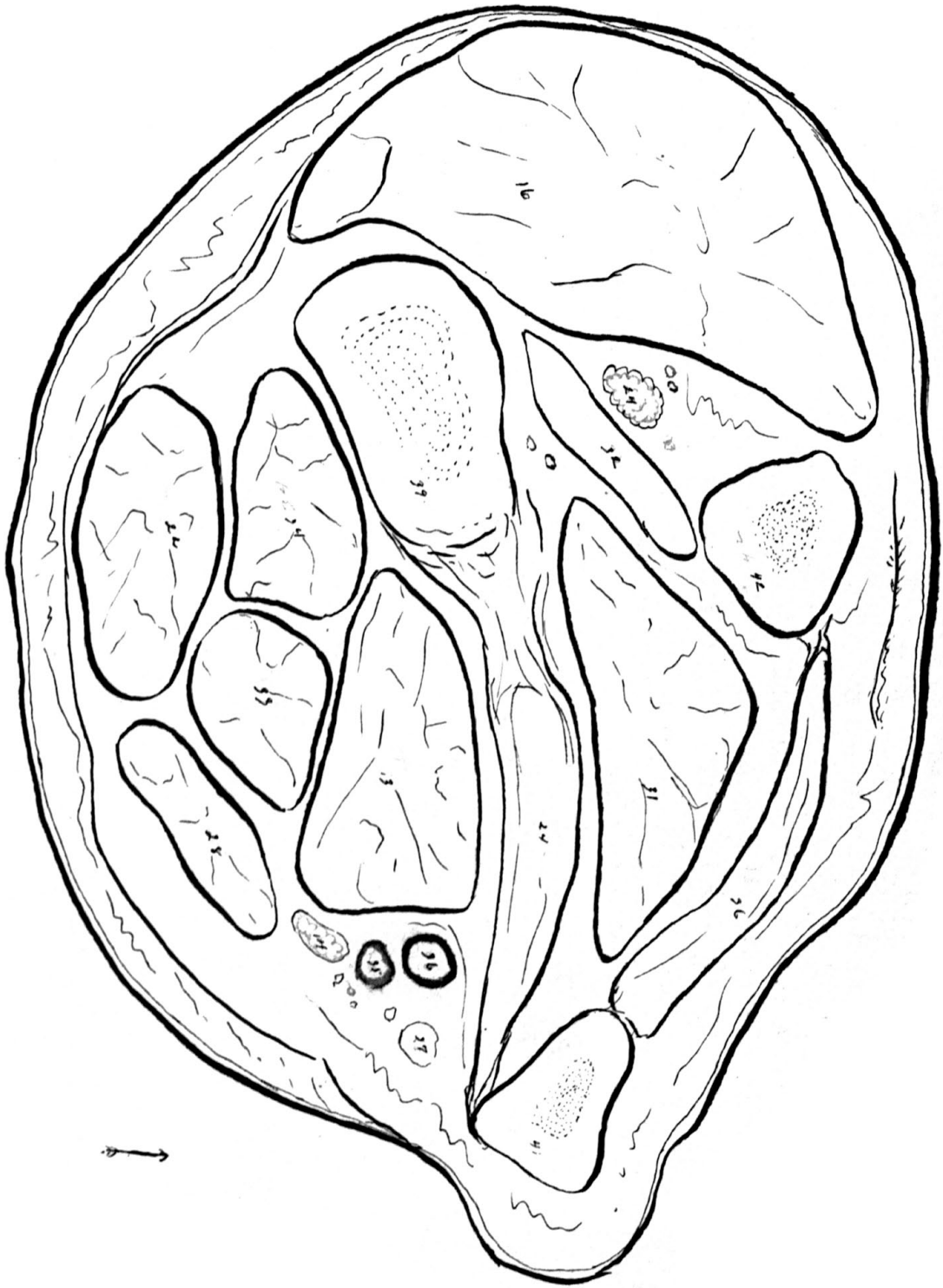
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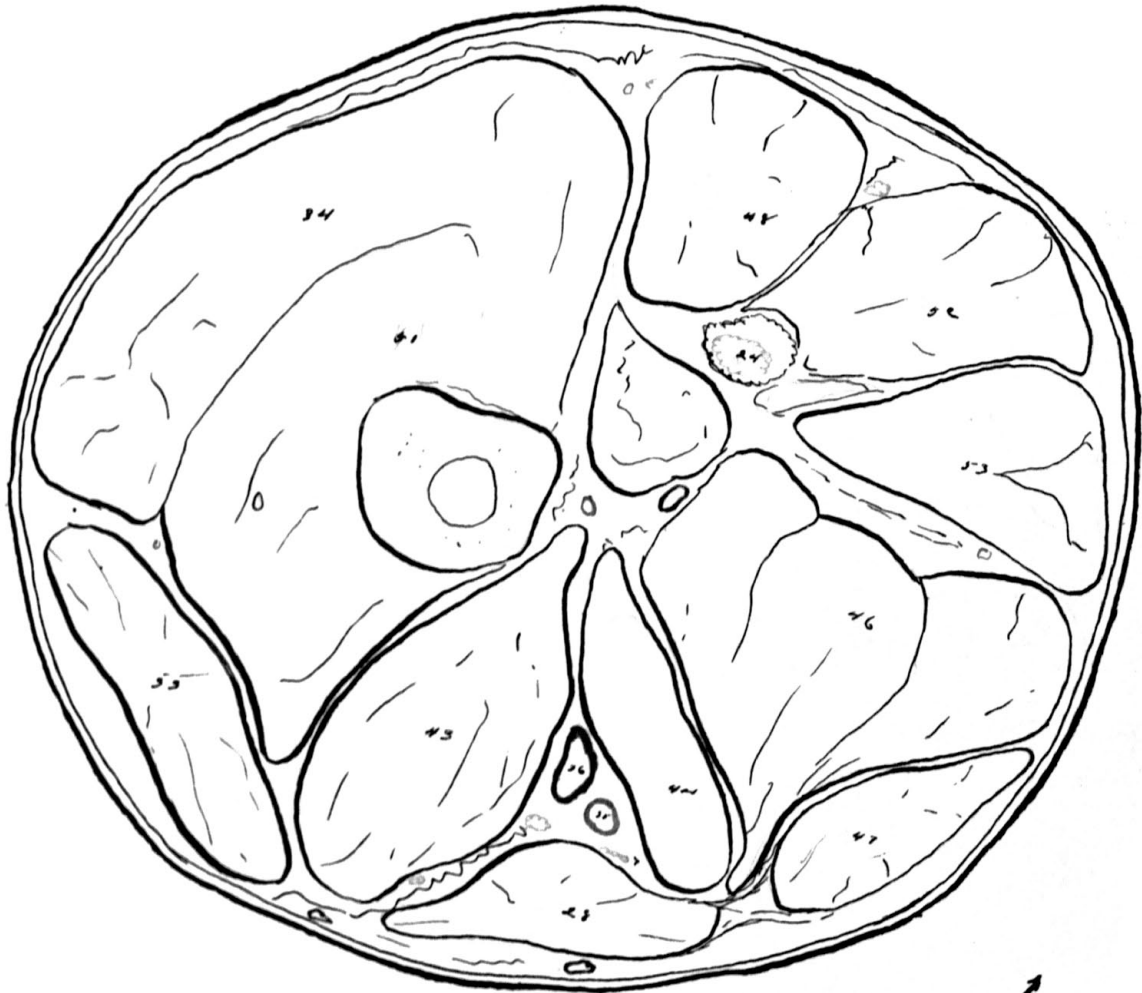


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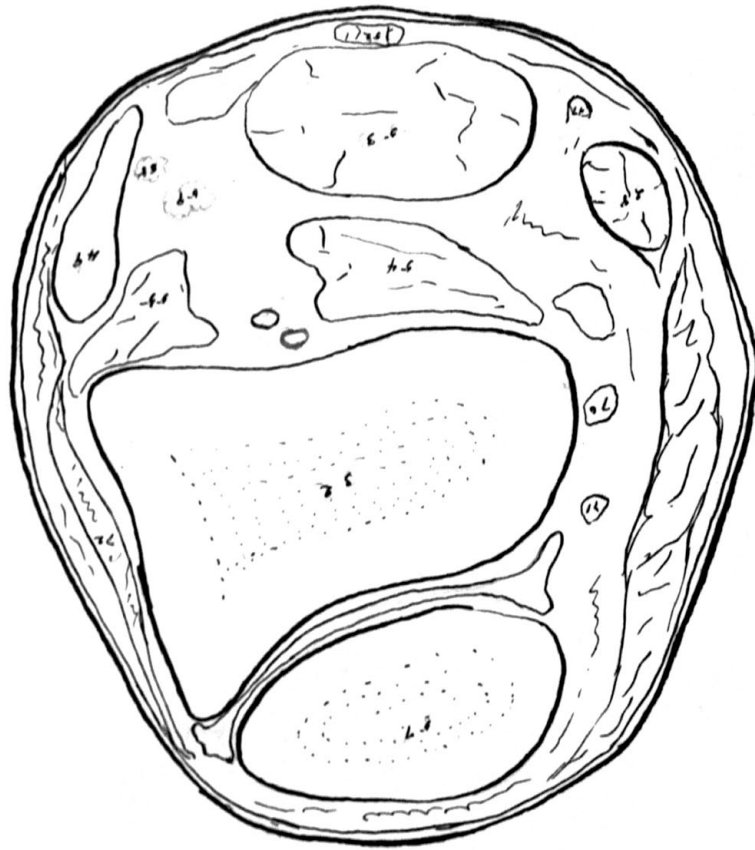




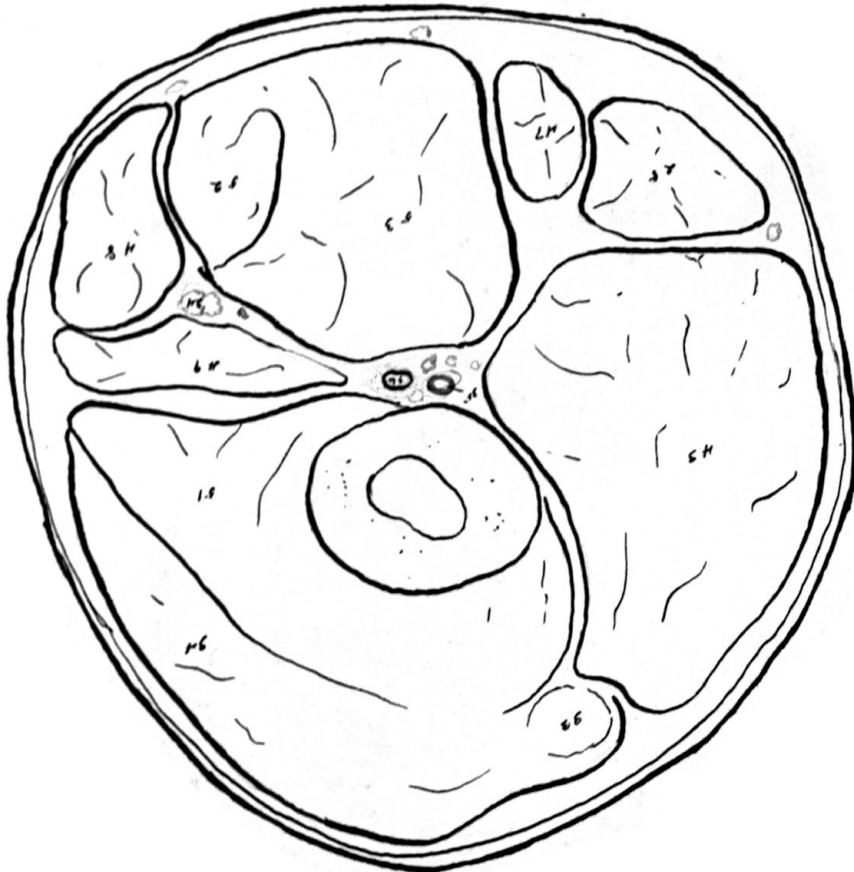
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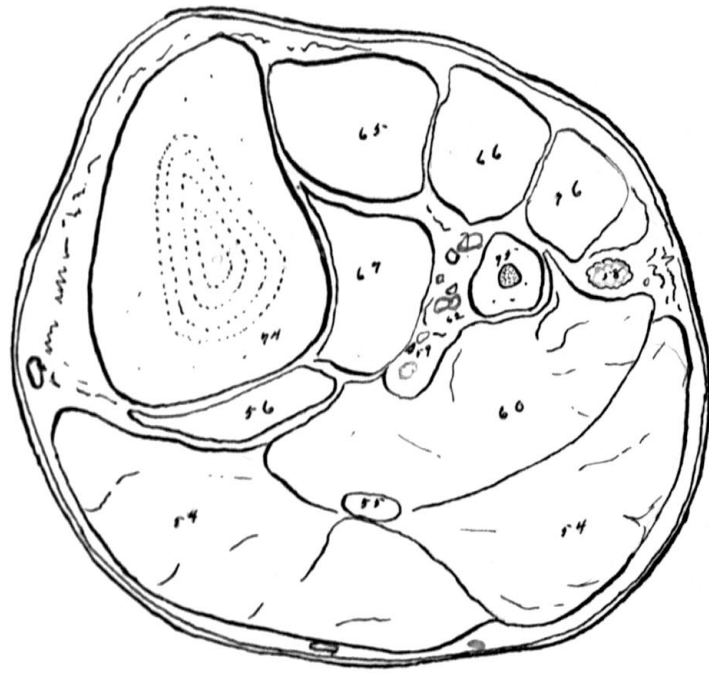
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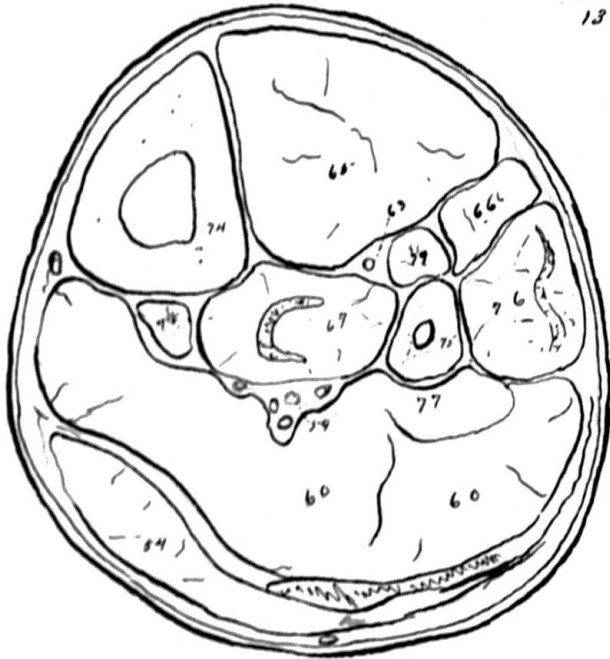
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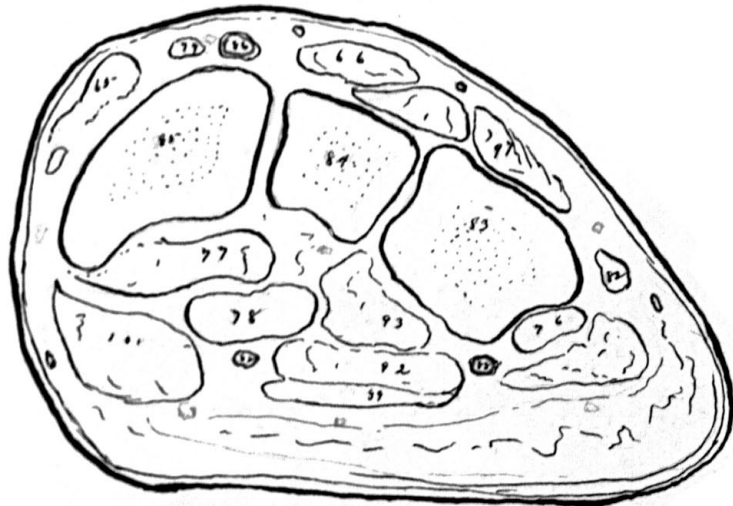
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