1. Observe the posterior buttock and thigh region as well as the fiber orientation for the gluteus maximus muscle. Identify the ischial tuberosity as well as the posterior aspect of the sacrum and ilium. Trace the path of the sacrotuberous ligament from the PSIS to the coccyx. Once identified, begin reflecting the origin of the gluteus maximus from the posterior aspect of the sacrum and the sacrotuberous ligament. **Be sure to hold the scalpel blade parallel to the sacrotuberous ligament to prevent cutting it.**

2. As you are reflecting the gluteus maximus, continuously place your hand under the portion of the muscle that has been reflected to locate both the superior and inferior gluteal vessels as they enter the gluteus maximus. In order to completely reflect the gluteus maximus from its origin and allow the vessels to remain intact, cut buttons of gluteus maximus muscle tissue at the sites where the gluteal vessels enter the muscle.

3. Once the gluteus maximus has been reflected carefully pull the muscle laterally to expose the gluteal region. Immediately locate the **piriformis muscle**, which serves as the division between the superior and inferior gluteal arteries, veins and nerves. Beneath the piriformis is the **sciatic nerve**, which exits the pelvic cavity via the **greater sciatic foramen**. The other nerve traveling next to the sciatic is the posterior femoral cutaneous nerve. This nerve will not be intact, however, since the skin has been removed.

4. Identify the following muscles:
   a. **Gluteus Medius**
   b. **Gluteus Minimus**
   c. **Gamelli Superior**
   d. **Obturator Internus tendon**
   e. **Gamelli Inferior**
   f. **Quadratus femoris**

5. Observe the attachment of the gluteus maximus into the iliotibial band.

6. In the region where the obturator internus exits the lesser sciatic foramen, locate the sacrospinus ligament just superior to the tendon. The **internal pedundal artery** and the **pedundal nerve** wrap around the sacrospinus ligament as they exit through the **greater sciatic foramen** and re-enter the pelvic cavity via the **lesser sciatic foramen**.

7. Prior to performing today’s dissection, your group should review the following bony landmarks:
   a. **Greater Sciatic notch**
   b. **Lesser sciatic notch**
   c. **Ischial spine**
   d. **Ischial tuberosity**
   e. **Sacrospinous ligament**
   f. **Sacrospineus ligament**
   g. **Greater trochanter**
h. **Trochanteric fossa**

8. On the innominant or pelvic bone and sacrum, trace the paths of the sacrospinus and sacrotuberous ligaments to understand how the greater and lesser sciatic foramen are formed.

9. Prior to leaving the gluteal region, observe the origin of the three hamstring muscles on the ischial tuberosity:
   a. Semimembranosus
   b. Semitendinosus
   c. Biceps femoris

10. Next, remove the posterior fascia lata by cutting down the midline of the posterior thigh past the posterior aspect of the knee. Be careful not to cut the lesser saphenous vein or the sural nerve, which develop over the posterior aspect of the knee.

11. Trace the path of the three hamstring muscles from their origin to their insertion. Note the short head of the biceps femoris, which originate from the lateral lip of the linea aspera. Also follow the path of the sciatic nerve down the posterior thigh until it splits into the common peroneal and tibial nerves.

12. At this point you should identify the four borders of the popliteal fossa:
   a. Superior-medial – semimembranosus
   b. Superior-lateral – biceps femoris
   c. Inferior-medial – medial head of the gastrocnemius
   d. Inferior-lateral – lateral head of the gastrocnemius

13. Again, take care not to disrupt the lesser saphenous vein, which travels up the lateral side of the lower leg) or the sural nerve. At this point, you should again see the femoral artery and vein passing through the hiatus of the adductor magnus to become the popliteal artery and vein. Notice that the lesser saphenous vein connects to the popliteal vein in a same way as was observed for the greater saphenous vein connecting to the femoral vein at the saphenous opening.

14. Trace the development of the sural nerve. In general, the common peroneal nerve will give off a lateral sural cutaneous branch and the tibial nerve will give off a medial sural cutaneous branch. These two branches will come together and form the sural nerve, which provides cutaneous sensation to the lateral aspect of the lower leg and foot. The most common modification to this “typical” development of the sural nerve is when the lateral and medial sural cutaneous nerves do not unite. Most often in these cases, the lateral sural cutaneous will travel distally down the lateral aspect of the lower leg with the lesser saphenous to become the sural nerve and provide cutaneous sensation to the lateral aspect of the foot.

15. Once the borders of the popliteal fossa, the sural nerve, and lesser saphenous vein have been identified, you should now remove all subcutaneous fat and lymphatic tissues so you can easily identify the popliteal artery and vein. Once the fossa is clean you should identify the artery and vein superiorly and then work inferiorly. The floor of the popliteal fossa is formed by the popliteal surface of the femur, the oblique popliteal ligament, and the popliteus muscle. Note at the inferior border of the popliteus muscle is the origin of the soleus muscle.
16. Returning to the popliteal artery, you should now identify the two superior and the two inferior genicular arteries. The four genicular arteries contribute to the anastomosis of the knee joint. The medial and lateral superior genicular arteries pass just superiorly to the medial and lateral femoral condyles. The medial and lateral inferior genicular arteries are hidden by the medial and lateral heads of the gastrocnemius. In order to expose the two inferior genicular arteries, use the scalpel to further split the medial and lateral muscle bellies of the gastrocnemius. Once split, the heads of the gastrocnemius can be retracted medially and laterally to allow you locate the inferior genicular arteries. Once the four genicular arteries have been located, follow the popliteal artery until it passes through the hiatus formed by the soleus muscle distally into the lower leg.

17. Finally, locate and review the three muscles that form the pes anserinus:
   a. **Sartorius**
   b. **Gracilis**
   c. **Semitendinosus**
You should be able to identify the following structures on a cadaver or a skeleton.

1. Gluteus maximus muscle
2. Ischial tuberosity
3. Posterior aspect of the sacrum and ilium
4. Sacrotuberous ligament
5. Piriformis muscle
6. Superior gluteal artery, vein and nerve
7. Inferior gluteal artery, vein and nerve
8. Sciatic nerve
9. Greater sciatic foramen
10. Gluteus medius
11. Gluteus minimus
12. Gamelli superior
13. Obturator internus tendon
14. Gamelli inferior
15. Quadratus femoris
16. Internal pedundal artery
17. Pedundal nerve
18. Greater sciatic foramen
19. Lesser sciatic foramen.
20. Greater sciatic notch
21. Lesser sciatic notch
22. Ischial spine
23. Ischial tuberosity
24. Sacrotuberous ligament
25. Sacrospinus ligament
26. Greater trochanter
27. Trochanteric fossa
28. Semimembranosus
29. Semitendinosus
30. Biceps femoris
31. Lateral head of the gastrocnemius
32. Medial head of the gastrocnemius
33. Lesser saphenous vein
34. Sural nerve
35. Common peroneal nerve
36. Tibial nerve
37. Popliteal artery and vein
38. Lateral sural cutaneous nerve
39. Medial sural cutaneous nerve
40. Oblique popliteal ligament
41. Popliteus muscle
42. Superior medial and lateral genicular arteries
43. Inferior medial and lateral genicular arteries
44. Hiatus formed by the soleus muscle distally into the lower leg.