The superior gluteal artery is the continuation of the posterior trunk of the internal iliac artery and runs between the lumbosacral trunk and the ventral ramus of S1. It leaves the pelvis via the greater sciatic foramen above piriformis and divides into superficial and deep branches.

The superficial branch enters the deep surface of gluteus maximus, which it supplies, and anastomoses with the inferior gluteal artery. Further, perforating branches supply the skin over the sacrum and anastomose with posterior branches of the lateral sacral arteries.

The deep branch passes between gluteus medius and minimus and divides into superior and inferior branches. The superior branch runs along the superior border of gluteus minimus as far as the anterior superior iliac spine and anastomoses with the deep circumflex iliac and lateral circumflex femoral arteries. The inferior branch crosses gluteus minimus and medius, which it supplies, and anastomoses with the lateral circumflex femoral artery. Moreover, it gives a branch to the intertrochanteric fossa and anastomoses with the inferior gluteal and medial circumflex femoral arteries.