

The **articular branches to the knee-joint** are three in number. One, a long slender filament, is derived from the nerve to the Vastus lateralis; it penetrates the capsule of the joint on its anterior aspect. Another, derived from the nerve to the Vastus medialis, can usually be traced downward on the surface of this muscle to near the joint; it then penetrates the muscular fibers, and accompanies the articular branch of the highest genicular artery, pierces the medial side of the articular capsule, and supplies the synovial membrane. The third branch is derived from the nerve to the Vastus intermedius.

The Sacral and Coccygeal Nerves (Nn. Sacrales et Coccygeus).

The **anterior divisions of the sacral and coccygeal nerves** (*rami anteriores*) form the sacral and pudendal plexuses. The anterior divisions of the upper four sacral nerves enter the pelvis through the anterior sacral foramina, that of the fifth between the sacrum and coccyx, while that of the coccygeal nerve curves forward below the rudimentary transverse process of the first piece of the coccyx. The first and second sacral nerves are large; the third, fourth, and fifth diminish progressively from above downward. Each receives a gray ramus communicans from the corresponding ganglion of the sympathetic trunk, while from the third and frequently from the second and the fourth sacral nerves, a white ramus communicans is given to the pelvic plexuses of the sympathetic.

The Sacral Plexus (*plexus sacralis*) (Fig. 828).—The sacral plexus is formed by the lumbosacral trunk, the anterior division of the first, and portions of the anterior divisions of the second and third sacral nerves.

The lumbosacral trunk comprises the whole of the anterior division of the fifth and a part of that of the fourth lumbar nerve; it appears at the medial margin of the Psoas major and runs downward over the pelvic brim to join the first sacral nerve. The anterior division of the third sacral nerve divides into an upper and a lower branch, the former entering the sacral and the latter the pudendal plexus.

The nerves forming the sacral plexus converge toward the lower part of the greater sciatic foramen, and unite to form a flattened band, from the anterior and posterior surfaces of which several branches arise. The band itself is continued as the **sciatic nerve**, which splits on the back of the thigh into the **tibial** and **common peroneal nerves**; these two nerves sometimes arise separately from the plexus, and in all cases their independence can be shown by dissection.

Relations.—The sacral plexus lies on the back of the pelvis between the Piriformis and the pelvic fascia (Fig. 829); in front of it are the hypogastric vessels, the ureter and the sigmoid colon. The superior gluteal vessels run between the lumbosacral trunk and the first sacral nerve, and the inferior gluteal vessels between the second and third sacral nerves.

All the nerves entering the plexus, with the exception of the third sacral, split into ventral and dorsal divisions, and the nerves arising from these are as follows:

| | Ventral divisions. | Dorsal divisions. |
|--|---------------------------|--------------------|
| Nerve to Quadratus femoris and Gemellus inferior | } 4, 5 L, 1 S. | |
| Nerve to Obturator internus and Gemellus superior | | |
| Nerve to Piriformis | | (1) 2 S. |
| Superior gluteal | | 4, 5 L, 1 S. |
| Inferior gluteal | | 5 L, 1, 2 S. |
| Posterior femoral cutaneous | 2, 3 S | 1, 2 S. |
| Sciatic { | Tibial | 4, 5 L, 1, 2, 3 S. |
| | Common peroneal | 4, 5 L, 1, 2 S. |

The **Nerve to the Quadratus Femoris and Gemellus Inferior** arises from the ventral divisions of the fourth and fifth lumbar and first sacral nerves: it leaves the pelvis