

The internal carotid artery arises as the medial branch of the **common carotid artery** at the level of the lower border of the third cervical vertebra and upper border of the thyroid cartilage, where the artery displays a sinus; the carotid sinus. The artery is enclosed within the carotid sheath together with the internal jugular vein, which is situated laterally, and the vagus nerve (X cranial nerve), which is situated postero-laterally. From its origin, the internal carotid ascends anterior to the transverse processes of the third to first cervical vertebrae and runs through the inferior opening of the carotid canal in the petrous temporal bone. Initially postero-lateral to the external carotid artery, the internal carotid artery becomes deeper as it passes medial to the posterior belly of the digastric muscle. The internal carotid artery lies anterior to longus capitis, with the superior cervical sympathetic ganglion lying between; the superior laryngeal nerve crosses posteriorly. The artery is located lateral to the pharynx, separated by the pharyngeal veins from the ascending pharyngeal artery and superior laryngeal nerve. Inferior to the digastric muscle, the internal carotid artery is crossed by the hypoglossal nerve (XII cranial nerve) and the superior root of the ansa cervicalis. At the level of digastric, it is crossed by stylohyoid and by the occipital and posterior auricular arteries. Superior to the digastric it is separated from the external carotid artery by the styloid process, styloglossus, stylopharyngeus, glossopharyngeal nerve (IX cranial nerve) and the pharyngeal branch of the vagus nerve (X cranial nerve).

### **Supply**

This internal carotid artery supplies the cerebral hemispheres, eyes, and forehead and to a lesser extent the nose and its course is commonly divided into cervical, petrous, cavernous and cerebral parts.