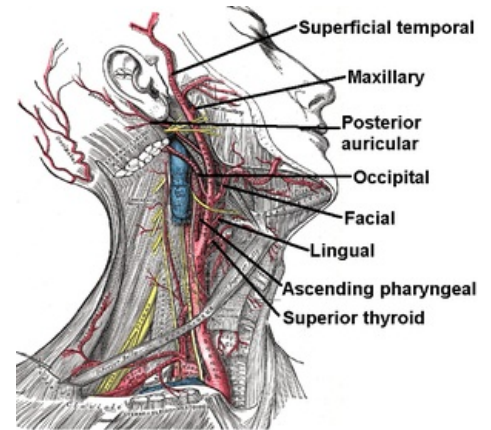


# Arteria carotis externa

**A. carotis externa** is one of the main arterial branches of the body, which, in addition to the brain itself, **supplies the head, most of the organs and muscles of the front of the neck, and also partially the neck muscles**. It arises in the trigonum caroticum as a ventromedial branch of a. carotis communis, which originates from the arch of the aorta on the left, and from the truncus brachiocephalicus on the right. A. carotis externa first runs together with a. carotis interna, v. jugularis interna and n. vagus in the neurovascular bundle of the neck, but it separates behind the angle of the mandible and passes into the prestyloid space. Behind the angulus mandibulae it breaks up into its final branches.

**A. carotis externa** unlike the internal carotid artery, it gives off its branches already in the neck and can be distinguished into typical **ventral, dorsal, medial and terminal branches**.



Branches of the external carotid artery

## Ventral branches

In caudocranial order:

### **a. thyroidea superior**

It is the first of the branches of the external carotid artery and departs immediately after the separation of the common carotid artery into both carotid arteries. After a distance, it descends in an arch to the upper and front edge of the thyroid gland, which it supplies together with the muscles and mucous membrane of the larynx. It is also involved in the nutrition of the infrahyoid muscles.

### **a. lingualis**

It departs cranially from the large corners of the tongue (where it can also be found in the so-called Beclard's angle or Pirogow's triangle) and accompanies the hyoglossus muscle to the tongue. It contributes to the supply of the tongue and the lower part of the oral cavity.

### **a. facialis**

It is the most important artery of the face. After a distance, it goes to the trigonum submandibulare (runs under the stylohyoideus muscle and the posterior belly of the digastricus muscle), where it runs behind the submandibular gland, or taken into it, it runs over the edge of the mandible, ventrally from the attachment of the masseter muscle, here its pulsation is palpable, and then it runs in a strikingly winding course through the face around the corner of the mouth, nose to the corner of the eye. Its **a. palatine ascendens** supplies the palate with palatine tonsil and part of the pharynx, **aa. labiales sup. et inf.** upper and lower lip.

## Dorsal branches

### **a. occipitalis**

It is more caudal of the dorsal branches. During its course behind the posterior belly of the digastric, it gives off branches for the sternocleidomastoid, digastric, and nuchal muscles. It then runs in the sulcus arteriae occipitalis to the os petrosum and further to the calf. It is involved in the supply of the skull caps in the occipital region, the auricle and dura mater in the posterior cranial fossa.

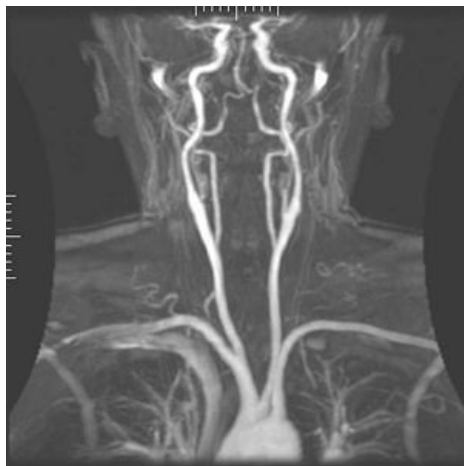
### **a. auricularis posterior**

It supplies the auricle, the adjacent part of the soft skull caps, cellulae mastoideae and part of the glandula parotis.

## Medial branch

### **a. pharyngea ascendens**

It is the only medial branch of the external carotid artery, it departs at its beginning and runs cranially along the pharynx to the base of the skull. From there it continues to the dura mater in the back of the cranial fossa and to the inner ear.



Magnetic resonance angiography

## Terminal branches

### *a. maxillaris*

It is the largest branch of the external carotid artery and, according to its course, it can be divided into **pars mandibularis** (in the area behind the neck of the mandible in the area of the art. temporomandibularis, or jaw joint), **pars pterygoidea** (between the pterygoideus medialis et lateralis muscles in the fossa infratemporalis) and **pars pterygopalatine** (in the fossa of the same name).

- The branches of the **pars mandibularis** are involved, among other things, in supplying the middle ear and the jaw joint. The most important branches of this section are:
  - **a. meningea media**, which, after passing through the foramen spinosum, runs in the epidural space and supplies the dura mater of the middle cranial fossa.
  - **a. alveolaris inferior** runs in the canalis mandibulae and gives off branches for the teeth of the lower jaw and the skin and muscles of the chin.
- **Pars pterygoidea** supplies the masticatory muscles (aa. temporales profundae, a. masseterica, rr. pterygoidei) and m. buccinator
- **Pars pterygopalatina** participates in the supply of facial structures through:
  - **a. infraorbitalis** for the upper incisors, canines and the area of the face at the foramen infraorbitale (a. infraorbitalis leaves the pterygopalatine fossa through the fissura orbitalis inf.)
  - **a. alveolaris superior posterior** for upper molars and premolars
  - **a. palatina descendens** for the soft and hard palate, which descends in the canalis palatinus maior and divides into a. palatina maior et aa. palatinae minores
  - **a. sphenopalatina** for the mucous membrane of the nasal cavity (passes through the foramen sphenopalatinum)

### *a. temporalis superficialis*

It represents the thinner terminal branch of the external carotid artery, rises in the cranial direction covered by the neck of the mandible and further by the parotid gland. It passes through the arcus zygomaticus in front of the auricle, where its pulse is palpable, and further branches in a fan-like manner in the temporal landscape. It supplies the parotid gland, the anterior part of the auricle, the temporalis muscle, and the soft coverings of the skull in the temporal region and in the regio zygomaticoorbitalis.

## Links

### Related articles

- Aorta
- Arteria carotis interna
- Arteria carotis communis
- Cervical neurovascular bundle

### External links

- HORKÝ, Drahomír – NOVÁKOVÁ, Květoslava. *Morfologie orofaciálního systému pro studenty zubního lékařství* [online] . 2. edition. 2011. Available from <<https://mefanet.upol.cz/clanky.php?aid=58>>. ISBN 978-80-244-2702-7.

### Used literature

- ČIHÁK, Radomír. *Anatomie III.* 2., upr. a dopl edition. Grada Publishing, spol. s. r. o., 2004. 673 pp. ISBN 80-

