

# Examine the Anatomy of the Arteries in the Face.

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## Introduction

The facial arteries are an essential component of the circulatory system, as they are responsible for the delivery of blood to the face as well as the structures that are associated with it. These arteries are in charge of delivering oxygen and nutrients to the skin, muscles, and bones of the face. They are responsible for this. The branching pattern and variations in the facial arteries can differ from person to person. It is essential for medical professionals, particularly surgeons who perform facial plastic and reconstructive surgery, to understand these differences. The goal of this piece is to take a close look at the branching pattern and the variations that occur in facial arteries.

## Anatomy of the Arteries in the Face

The external carotid artery is one of the two primary arteries that supply blood to the head and neck. The facial arteries are a group of vessels that originate from the external carotid artery. The facial arteries supply blood to the face. It is the common carotid artery that gives rise to the external carotid artery, which in turn gives rise to several branches, one of which is the facial artery.

The facial artery takes a path that follows the lower border of the mandible and then divides into a number of branches that travel to all of the different areas of the face to deliver blood. The artery has a winding path and is located superficially to the parotid gland, which is the largest of the salivary glands. The parotid gland is located in the temporal region of the head.

It is possible to divide the facial artery's branches into two primary categories: the angular artery and the superior and inferior labial arteries. The angular artery is the more prominent of the two.

## Angular Artery

The angular artery is the terminal branch of the facial artery and is responsible for supplying blood to the lacrimal sac, the eyelids, and the nose. Additionally, the angular artery is the terminal branch of the temporal artery. The medial portion of the facial artery is where the artery begins its journey, which ultimately leads it to the medial canthus of the eye. Following this, the angular artery splits into two branches: the dorsal nasal artery and the lateral nasal artery. Both of these branches supply blood to the nose.

The nasal tip and the alae of the nose receive blood from the dorsal nasal artery, which is located in the roof of the nose. The skin and mucous membranes on this side of the nose are nourished by the lateral nasal artery, which runs along the lateral aspect of the nose and supplies blood to it.

Both the Superior and Inferior Labial Arteries are Present.

One more group of arteries that branch off of the facial artery can be found in the labial region: the superior and inferior labial arteries. Blood is carried by these arteries to the upper and lower lips, respectively. Both the superior and the inferior labial arteries run parallel to the medial aspect of the upper and lower lips, respectively. The superior labial artery supplies blood to the upper lip, and the inferior labial artery supplies blood to the

lower lip. Both arteries are in charge of supplying blood to the muscles and skin of the lips in their respective areas.

### **Variations in the Branching Process**

There is a lot of variety in both the number of branches that the facial arteries have and where they are located, despite the fact that the general branching pattern of the facial arteries is fairly consistent. These variations have the potential to be significant and may have consequences for surgical procedures involving the face and neck.

One of the variants that is frequently seen is the presence of a facial artery that originates from the internal carotid artery rather than the external carotid artery. This is one of the variations that can be seen. There is a variation of the stapedia artery that is known as the persistent stapedia artery. It is estimated that 0.5% of the population has this variation. The persistent stapedia artery takes a path through the middle ear and is one of the potential causes of hearing loss as well as other auditory problems.

An additional difference that can be seen is the presence of additional branches of the facial artery. This is one of the variations that can be observed. These additional branches could originate from the main artery itself or from one of the arteries that are already present in the system. One of these branches is known as the submental artery, and it is responsible for delivering blood to the submental region. It originates from the facial artery's mandibular branch.

Variations of the facial arteries can also include shifts in the anatomical position of the artery as it travels through the face. During surgical procedures, it may be more difficult to locate and manipulate the facial artery in some patients because it is sometimes situated at a deeper level than is typically the case. In some instances, the course of the facial artery may be more superficial, making it more prone to damage as a result of accidental trauma.

### **Implications for Surgical Procedures**

Variations in the branching pattern and course of the facial arteries can have significant implications for the procedures that are performed during facial reconstructive surgery. For the purpose of providing a source of blood supply for tissue flaps utilised in reconstructive surgery, for instance, plastic and reconstructive surgeons frequently make use of the facial artery. In order to ensure that the reconstructed tissue receives an adequate blood supply during these procedures, it is essential to have a solid understanding of the location of the facial artery as well as its branching pattern.

In addition, having knowledge of the variations of the facial arteries can assist in reducing the risk of complications occurring during surgical procedures. For example, if a surgeon is not aware of a variation in the location of the facial artery, they run the risk of accidentally causing damage to the artery, which could result in bleeding or other complications. Before carrying out any kind of surgical procedure that involves the face, it is crucial for surgeons to have a complete comprehension of the facial artery's anatomy, as well as its variations and the potential complications that may arise from those variations.

When it comes to the treatment of vascular abnormalities, having knowledge of the variations of the facial arteries is also extremely important. Vascular anomalies are abnormalities in the blood vessels, and they can occur anywhere on the body, including the face. The face is just one of the many parts of the body that can be affected. The treatment for these abnormalities typically involves surgical procedures, each of which calls for an in-depth knowledge of the anatomy and variations of the facial artery.

## Conclusion

Blood is supplied to the face and its associated structures by the circulatory system, which is supported by the facial arteries, which are an essential component of the system. Because the pattern of the artery's branching and its variations can differ from person to person, it is essential for medical professionals, particularly surgeons who perform facial plastic and reconstructive surgery, to have a solid understanding of these differences.

Variations in the location of the facial artery as well as the branching pattern of the facial artery can have significant implications for surgical procedures such as the reconstruction of tissue flaps and the treatment of vascular anomalies. Before carrying out any surgical procedures involving the face, it is essential for medical professionals to have a complete comprehension of the facial artery's anatomy, as well as its variations and the potential complications that may arise as a result of those complications.

In general, a comprehensive knowledge of the facial artery's anatomy as well as its variations is essential for the performance of safe and effective surgical procedures. This knowledge can also assist in the prevention of complications and the improvement of patient outcomes.

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