

ANATOMY CAN CREATE COMPLICATIONS WITH ANESTHETIC



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Why did my eye act funny when the dentist was filling my lower tooth?

One of the major nerves that controls the muscles of the face is, quite matter of factly, the Facial Nerve. It is one of a group of twelve nerves, called the Cranial Nerves, that exits the base of the brain to control

vital functions of the head and neck. What is unique about this particular nerve is that it primarily controls only motor function, with only minimal sensory control.

The facial nerve exits the base of the skull under the ear and then branches into five fingers, like the fingers of your hand. If you were to rest your chin in the palm of your hand, with your fingers spread out and your thumb on the side of your neck, you would have a very clear illustration of what the Facial Nerve looks like. These nerve branches all control how the muscles in each of the areas of where your fingers touch move, but they do not sense much in the way of temperature, pressure, or pain. They all travel through a very large salivary gland, called the parotid gland.

The body of the parotid gland sits just behind the angle of the lower jaw, and it forms a "C" around the jaw bone. Its major

function is to produce saliva for digestion, but it also serves to protect the facial nerve. A gland is much like a sponge, with multiple chambers. The tissues and cells inside the parotid gland are also very fragile.

When a dentist performs a mandibular block procedure, as is common when working on lower teeth, a needle must be passed in close proximity to the parotid gland in order to reach the inferior alveolar nerve that is part of another cranial nerve that enters the inside of the lower jaw. Usually, the needle misses the parotid gland. Since everyone's anatomy is slightly different, sometimes penetrating the parotid gland is unpredictable and unavoidable. Because of the sponge-like nature of the parotid gland, if anesthetic is injected into it, all of the branches of the facial nerve are anesthetized. This is why

the muscles that control the eye and some of the muscles that control facial expression may become temporarily paralyzed after a lower block injection.

Should you experience this temporary Bell's Palsy while at the dentist, rest assured that the dentist has done nothing incorrectly. Normal function will return to the paralyzed muscles once the anesthetic wears off, which may take a few hours. As always, if something occurs during a dental procedure that you do not expect, please discuss the situation with your dentist.

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