

How Microsurgery can Repair Damaged Facial Nerves

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Reconstructive and plastic surgeon, Dr Frank Graewe explains how facial nerve injuries cause paralysis of the facial muscles which are responsible for facial expression.

It usually leads to facial asymmetry, severe cosmetic problems as well as functional problems such as dryness of the eyes, drooling, problems with eating, tinnitus (ringing or buzzing in the ears) or other

hearing problems, and pain or muscle twitching. In some cases it can spontaneously resolve or can be treated successfully without surgery. However, in most cases symptoms can be improved with surgery.

Facial nerve injuries can be caused by trauma or tumors, however in rare cases facial nerve problems are congenital, meaning that patients were born with them. Frequently it can occur at a later age without any known cause, for example Bell's Palsy.

Dr Frank Graewe says it is possible to repair a facial nerve injury if the injured nerve ends are intact and can be surgically connected or grafted. "Direct nerve repair usually has to be done within 12 months after the injury before permanent nerve degeneration takes place. Microsurgical techniques are used to do nerve repair or nerve grafting and in some cases a microsurgical tissue transfer can be done. This is when a functional muscle is transplanted to replace muscle function in an area which had facial nerve palsy." Graewe says an example of when this transfer is done is in cases of Moebius syndrome, a congenital facial nerve atresia, where a free gracilis muscle transfer is done to make it possible for patients to smile. Functional muscle transfer can take place anytime after the injury, because it does not depend on the facial nerve function.

The gracilis muscle, which is taken from the thigh, is the best muscle for the purpose of facial nerve surgery as it is thin and not bulky, has a good motor nerve and blood supply and can be adjusted to the required length. Dr Graewe explains that the patient will not have any functional or cosmetic loss except for a scar on the thigh after the muscle has been removed.

The facial nerve divides into five different branches in the face and the areas involved in surgical repair will depend on where and how it was affected by injury. By transferring a thin muscle with nerves and blood supply and connecting the nerve and blood supply to corresponding nerves and blood vessels in that area, patients can be helped to regain movement and functionality. In most cases this type of surgery is done in the lower face to create a smile.

The success of facial nerve surgery depends on the meticulous surgical technique of the surgeon, including the microsurgery and careful patient selection. Prevention of possible complications is important. There are risks and possible complications that are involved with this procedure which the surgeon will discuss with patients before operating.

Although there is rarely a complete recovery, most facial nerve repair procedures give patients significant improvement in their appearance and functionality.

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