



Facial Nerve Surgery: Decompression, Grafting, Tumor, Infection

What is Facial Nerve Surgery?

The facial nerve makes facial muscles work, closes the eyes, operates smiling, frowning, and affects speech. It gets to the face from the brainstem by running through the skull base around the inner ear where the facial nerve fits in a tight bony canal. The facial nerve goes through the saliva gland on the side of the face, the parotid gland where it nerve splits generally into five branches that go to various parts of the face. Other functions of the facial nerve include production of saliva, tears, eye moisture, nasal moisture, and taste functions. When the facial nerve becomes diseased by viral infection, injured by trauma, inflamed by bacterial infection, invaded by fungal infection, thinned by cysts, or damaged by tumor, facial nerve surgery is often appropriate. For some, the nerve needs only to have its constrictive bony covering removed (decompression). Depending on what other problems have arisen, the hearing and balance organs may be affected. The ear canal, parotid gland, and other areas can be affected, too. **Nerve Grafts:** when a portion of the facial nerve needs to be repaired, a graft from the side of the neck or from the foot may be used. The nerve graft donor area typically has tolerable numbness that decreases some with time. In some patients, a graft may be attached to the tongue nerve. In doing so, the tongue on that side may not manipulate food as well. Speech may be a bit slurred as a side effect.

Purpose of Surgery:

Facial nerve surgery seeks to remove disease and/or improve facial nerve function. At times, the removal of disease results in the facial nerve functioning less well, long term, than before disease management. A major challenge in facial nerve surgery is to choose when the disease process or deficit present or likely to occur justifies an operation on the facial nerve. When decompression is done for acute Bell's palsy or for recurrent Bell's palsy, the goal is long term better facial nerve function than is otherwise likely. For cholesteatoma, tumor, infection or other process, the goal is primarily ear and life threatening disease removal with best possible facial nerve functional status.

Alternatives to Facial Nerve Surgery:

If the problem is Bell's palsy or recurrent Bell's palsy, an option is to tolerate whatever Bell's palsy allows. For most first-time Bell's palsy patients, adequate facial nerve recovery happens with minimal to no observable facial deformity. When electrical studies and/or duration of severe facial paralysis suggest that markedly impaired facial nerve recovery or recurrent facial palsy are major issues, surgery on the facial nerve is justifiable. However, the facial nerve virtually always recovers to some degree from these problems. Choosing to tolerate and accept facial weakness instead of having surgery is an option. For bacterial or fungal infection, antibiotics, or antifungal agents may be helpful, but may not entirely resolve the problem. For some tumors, radiation is an alternative to surgery. Ask the doctor. For tumor involving the facial nerve, waiting until facial nerve weakness or paralysis is quite marked is an option, but is a choice that may limit the degree of facial nerve recovery. The longer one waits to reconstruct the facial nerve, the greater the possibility of a deficit that cannot be corrected.

General Considerations:

Facial nerve surgery is typically accomplished by a mastoid surgery or middle fossa (above the ear), or facial-parotid gland surgery or a combination of these option. A craniotomy through the ear/mastoid bone may also be recommended. **Middle fossa decompression:** an incision in front of the ear is followed by removal of a window of bone in the skull above the outer ear. Through the skull window, the surgeon drills down between the hearing and balance organs to the facial nerve pathway through the bone and removes the bony covering for the nerve. When the nerve has been released from constricting bone, the bone window is reattached to the skull and the muscle and skin layers are closed. **Mastoid decompression:** an incision behind the ear allows removal of bone until the facial nerve is outlined from the middle ear to the bottom of the skull base. The overlying tissues are then sewn closed. **Parotid gland surgery** for the facial nerve may remove a part of this gland. For **tumor or infection**, ask the surgeon to explain all areas that need to be operated upon. If the nerve is to be decompressed, no additional grafting materials are generally needed. In the case of tumor or infection or trauma, the surgeon may need to replace a part of the facial nerve with a graft from the lateral neck or from the lateral aspect of the ankle. The area from which the nerve graft is obtained will have a focal area of numbness that typically decreases with time. **Reconstruction** of the surgical pathway may require a fat graft from the abdomen, a bone graft, or other measure. Feel free to ask the surgeon to demonstrate the surgery pathway on a plastic skull.

Before Surgery:

Avoid use of Advil, Motrin, Aleve, Celebrex, Vioxx, or similar non-steroidal anti-inflammatory medication for a minimum of five days and preferably two weeks before surgery. Ask the doctor if any other medications will need to be changed ahead of surgery.

After surgery, restrictions include:

Do not use aspirin, Advil, Motrin, Aleve, Celebrex, Vioxx, or similar non-steroidal anti-inflammatory medication for two weeks after surgery. These medications may cause **bleeding**. **No nose blowing** for a minimum of two (2) weeks. Open mouth to sneeze for two (2) weeks. Do not stop a sneeze by squeezing your nose. Wash the incision with soap and water and coat it with **antibiotic ointment**. Use **petroleum jelly (Vaseline) coated cotton** to plug the ear to prevent water from getting into the ear until told otherwise. Expect to see the surgeon at two weeks after surgery. Plan for a progressive increase of walking with head swinging side to side and up and down. Tossing a ball hand to hand and other activities will encourage a broad range of balance function recovery. Recovery rates parallel activity. Poor activity levels delay recovery.

Eye care is especially important for facial nerve problems. If the facial nerve is not working properly, the eye may dry out easily, may not blink to clear dust or sand, and may not reflexly close to protect the eye from damage or foreign objects. Eye ointment or liquid tears may be needed frequently until the eye moisture functions improve and some persons permanently need eye lubrication. A protective eye patch or eye taping may be necessary. If eye irritation arises, let the doctor know promptly. Eye surgery to protect the eye is sometimes necessary. Eye lid surgery with installation of a gold weight to close the eye is sometimes necessary. A stitch to hold the eye closed may be required to protect the eye.

Resuming normal activities:

Scarring, some pain, and wound swelling are expected after surgery. **Dizziness** and **headaches** are common for a while after surgery. **Tiredness** commonly follows major surgery. Resume **driving** and **return to work** when the dizziness and/or lightheadedness has improved sufficiently and if your job activity fits within lifting restrictions, listed below. Dizziness after surgery usually improves more rapidly the more active you are. Avoid ladders, step stools, and unprotected heights until you can move quickly in any direction without dizziness or lightheadedness. The more quickly you work back into normal routines, the more quickly you will feel better and energy will return.

Avoid lifting more than 10 pounds for two weeks after surgery. Then, you may resume normal lifting the activity unless the doctor has indicated a reason to continue to avoid lifting

General Risks of Facial Nerve Surgery:

Numbness in the scalp above and around the ear is common and may improve in a couple of years. **Dizziness** is common after surgery and usually improves within a few weeks. In some, dizziness is a permanent problem, but disability from dizziness is uncommon.

ringing and/or loud noise intolerance in the ear are sometimes a noticeable nuisance after surgery. **Hearing impairment** in the operated ear may happen in some cases even when the surgeon attempts to save hearing. When the ear is already deaf, the inner ear may be sacrificed as part of the surgery. A **hearing aid** may not be an option on the operated side, but sometimes, a hearing aid that routes the hearing to the residual hearing ear may be possible. **Taste** for sweet, sour, salt, and bitter on the side to front of the tongue may be altered by surgery and may not recover back to normal, but symptoms usually settle down within six months. Ability to smell is not affected by ear surgery. **Infection** called meningitis may develop after surgery with a risk of less than 1% of cases. If you think you have an infection, call the doctor right away. **Spinal fluid may leak** through the wound or through the mastoid bone into the nose. If spinal fluid leakage persists, the surgeon may elect to place a spinal fluid drain into the lower back for a few days. If the drain does not solve the problem, more surgery may be necessary stop the spinal fluid leakage. Spinal fluid leakage may predispose to infection and other serious problems. Spinal fluid leakage and meningitis are rare after facial nerve surgery. **Weakness or paralysis** of the nerve that makes the face to smile can be a side effect of ear surgery. The face recovers to at least some degree in almost all cases, but, in some, facial movement may be permanently impaired. In the event of facial nerve weakness or paralysis, **special eye precautions** will be necessary and more surgery to protect the eye may become necessary. **Other rare problems** after facial nerve surgery include numbness to touch or warmth in the face, and blurry vision. Stroke, seizures, excessive bleeding and blood collection inside the head, and death are possible but highly unlikely. Blood transfusions are rarely needed, but would pose transfusion related risks (see blood transfusion informed consent for more details). Anesthesia has its own risks that the anesthesia doctor will discuss with you. **General medical conditions** that affect the heart, circulation, breathing, and urination can all be aggravated by surgery of any kind. Men who have bladders and prostate glands sensitive to certain medications may need bladder catheterization after surgery of any kind.

Patient/Guardian Statement: The patient or patient’s guardian and/or legal representative state by signing below that doctor has discussed the surgery, alternatives, and major risks, that the above information has been communicated to the patient, guardian, and/or legal representative and that an opportunity to ask questions has been given. The consent form should not be signed until the patient, guardian, and/or legal representative have obtained a layman’s understanding of the surgery and have obtained satisfactory answers to all questions. By signing the consent form, the patient, guardian, and/or legal representative indicate a layman’s understanding of the surgery, potential alternatives to surgery, and reasons for surgery and indicate a desire to proceed. If the surgery has been explained in another language, the person who has translated must indicate by cosigning the document that all information from the doctor and from this consent form have been communicated to the patient, guardian, and/or legal representative and that all questions have been answered satisfactorily.

Patient printed name			Patient/guardian signature			Date Signed
Circle Surgery ear	R	L	Doctor: Loren J Bartels MD FACS		Date of Surgery	
Witness		Guardian printed name		Translator	Language	