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Canalplasty, Meatoplasty

What are canalplasty and meatoplasty?

Surgical alteration of the bony ear canal is called *canalplasty*. The ear meatus is the soft tissue and cartilage supported opening to the ear and surgery to alter it is called *meatoplasty*. These two procedures are often done together since they join each other for the purpose of allowing sound to reach the eardrum membrane.

Purpose of Surgery:

Canalplasty can become necessary when the ear canal becomes infected frequently because of an anatomic problem in the ear such as ear canal cholesteatoma (accumulation of debris in a bone pocket), exostoses/osteomas (bony growths from cold water swimming or in reaction to infection, for limited types of tumors, for fitting of some specialized forms of hearing aids, or for other anatomic reasons. A canal reconstruction/canalplasty may be done to repair fractures or ear canal problems after prior mastoid surgery.

Meatoplasty is commonly in association with canalplasty, but may be accomplished separately. A tight ear meatus or a meatus that does not line up well with the ear canal can cause recurring infection, irritation, or soreness. Debris may accumulate and increase infection risk. Several methods of meatoplasty exist applicable to different kinds of meatal problems.

Alternatives to canalplasty and meatoplasty:

Most problems with the ear meatus and ear canal can be managed with conservative methods including topical solutions, ear drops, eye drops for use in the ear, application of creams and use of irrigation solutions. Surgery is not generally recommended unless at least some of these have been tried. If wearing a hearing aid is an issue, going without a hearing aid may be an option to surgery. For individuals with good residual hearing in at least one ear, using a Bone Anchored Hearing Aid may be an option. For ear canal cholesteatoma, some may choose frequent office observation and cleaning of the debris instead of surgery. Some recurring infections eventually do settle down with trial of a variety of treating methods. Ask the doctor about alternatives for other problems.

General Considerations:

The surgery is normally performed as an outpatient, usually under general anesthesia. Local anesthesia may be possible if you wish. Depending on health status, some laboratory testing may be necessary. Laboratory testing is usually completed within a week prior to surgery. Prior to surgery, both the surgeon and the anesthesiologist review your medical history and pertinent medical examinations. Usually, a hearing test (audiogram) is completed shortly before surgery.

Before Surgery:

Avoid aspirin, **Advil, Motrin, Aleve, Celebrex, Vioxx**, or similar non-steroidal anti-inflammatory medication for at least five days before surgery. Ask the doctor if any other medications will need to be changed before 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 and other **arthritis medications may cause bleeding.**

After surgery, a dressing wrapped around the head may be removed on the second post operative day. A cotton plug in the ear opening will be found when the dressing is removed. Please **leave the cotton plug in place** and put **eardrops** on it, **four drops, three times a day** unless instructed otherwise. Expect to use ear drops for at least several weeks.

Water in the operated ear is to be strictly avoided. Use petroleum jelly (Vaseline) coated cotton to plug the ear for bathing until the doctor tells you the ear is ready for water exposure.

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.

You may wash the incision with soap and water and coat it with antibiotic ointment.

Resuming normal activities:

Infrequently, some patients are **dizzy** and some have **headaches** for a while after surgery. **Tiredness** commonly follows surgery. Resume **driving** and **return to work** when dizziness and/or lightheadedness have 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 canalplasty and meatoplasty:

Numbness of the back and top of the ear commonly resolves within two to six months after surgery. **Swelling** of the soft tissue of the lateral scalp and face may spread to cause a temporary **black eye** in a rare patient. The swelling typically resolves in a few days to a week or so. Because of swelling and surgical changes, a pre-existing hearing aid may not fit after surgery. Generally, re-casing the hearing aid or getting a new ear mold will solve the problem. Wait at least two to four months after ear surgery to get a new hearing aid or **ear mold fitting**. **Infection** after surgery may occur in 1-3% percent of operative ears. Things that make infection more likely are getting water in the ear, nose blowing, and getting a cold or flu. If you think you have an infection, call the doctor right away. Rarely, infection may spread into the cartilage of the ear and result in loss of major portions of the ear cartilage and outer ear deformity and shrinkage. Hypertrophic scarring and other healing problems can occur making additional surgery advisable. After ear surgery, **taste** for sweet, sour, salt, and bitter flavors may be abnormal on the same side of the tongue as the surgery. The taste nerve runs at the junction of the middle ear with the outer ear canal may be involved in the disease

process. In the vast majority of patients, the taste complaints resolve or become tolerable. Ability to smell is not affected by ear surgery.

Mild **dizziness** is common after surgery and usually improves within a few days to a few weeks. Persistent dizziness that is bothersome is rare. **ringing** in the ear is sometimes a noticeable nuisance after surgery. Further **hearing impairment** in the operated ear may occur and the ear may not benefit from a hearing aid. A rare side effect of ear surgery is deafness in the operated ear. The **Eustachian tube** function is independent of outer ear canal issues.

Weakness or **paralysis** of the nerve that makes the face to smile is a rare side effect of ear surgery. A delayed-onset facial paralysis can develop after leaving the hospital. The face recovers to normal or nearly normal in almost all cases, but, in some, facial movement may be permanently impaired. In rare cases, facial paralysis may require additional surgery. In the event of facial nerve weakness or paralysis, **special eye precautions** will be necessary.

Other rare problems after ear surgery include excessive bleeding, blood collection under the skin that may require more surgery, spinal fluid leakage, meningitis, or other serious problem.

General medical conditions that affect the heart, circulation, breathing, and urination can all be aggravated by surgery of any kind. Men 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 Ear to be operated	R	L	Doctor: Loren J Bartels MD FACS	Date of Surgery
Witness		Guardian printed name		Translator
				Language