



OSSICULOPLASTY

Your surgeon has recommended a procedure called ossiculoplasty. This procedure represents an attempt to repair the ossicular chain between the eardrum and your inner ear nerve. The ossicular chain consists of three bones: malleus, incus, and stapes. These three bones conduct the vibratory energy from your eardrum to your hearing nerve when sound waves strike your eardrum. The ossicular chain can be affected by a variety of problems including discontinuity due to infection or trauma, or possibly from an erosive process in the middle ear. When the ossicles are no longer joined together, the sound wave cannot be transferred from the eardrum to the inner ear, and hearing is subsequently lost. By restoring the continuity between the eardrum and inner ear through a surgical repair, we can frequently bring the hearing back up to a normal level.

Another reason that the ossicular chain can be compromised is through fixation to the surrounding structures in the middle ear. Sometimes the ossicles become scarred from infection to the surrounding middle ear structures, leading to a dampening of the vibration of the little bones. Sometimes patients are born with the ossicular chain adherent to the surrounding structures in the middle ear and, again, we have to surgically free up the ossicles in order to allow them to move adequately. Lastly, there is a process called otosclerosis that can sometimes cause the stapes bone to fuse to the surrounding middle wall of the middle ear. This particular process will be discussed in a separate handout.

When the ossicular chain is no longer functioning, there are two basic ways to repair the problem. One way is to free up the ossicles if they are attached to the surrounding wall, by removing any scar bands that are tethering them down. This is a rare finding. More frequently we find that we have to rearrange the ossicles either by bridging any defect that might exist from erosion or by actually removing and transferring the middle ossicle into a different position. Sometimes if the middle ossicle is too eroded or if it is too difficult to remove, we will use an artificial prosthesis made of artificial bone instead. If the bones are eroded to the point where there is no way to really connect them, then we use an artificial prosthesis that goes straight from the third bone up to the eardrum. Regardless of the exact configuration that must be used, the object of the surgery remains the same - to reestablish the continuity between the eardrums, the little bones, and the inner ear.

Typically the success of this surgery is in the neighborhood of 85%, although it does vary somewhat depending upon the anatomy of the ear and the amount of damage to the little bones. Your surgeon may be able to give you a better approximate chance of success, given your particular anatomy. The ear will probably remain sore for approximately one week. Activity restrictions with no heavy lifting, straining, or nose blowing will be mandatory for the first three weeks postoperatively. Typically the patient also will exhibit a slow improvement of hearing postoperatively as the fluid and packing present within the middle and external ear slowly dissolve. We generally like to do a hearing test two to three months postoperatively.

The potential risks associated with this surgery include possibly damaging the nerve for taste to the front two-thirds of the tongue on the same side as the surgery. The likelihood of this being a persistent problem is only 3-5%, but it frequently is a temporary problem in the immediate postoperative period for up to a couple of months. Generally patients adjust very well to this and are not incapacitated by this problem. The other possible risks include damage to the eardrum resulting in a hole in the eardrum, which occurs less than 1% of the time. Less likely risks would include postoperative imbalance or damage to the nerve that moves the face on the same side as the procedure. These are very rare events. Any time the ear is operated on; there is the potential that the hearing might become worse although the chances of this are less than 10%.

Your surgeon has evaluated you and at this point feels that an ossiculoplasty is worth consideration. It is important that you consider other options as well, and a hearing aid is always another possible way to amplify the hearing in the affected ear. Sometimes hearing aids are less appealing than others, depending on the patient situation as well as the anatomy of the ear. You and your surgeon can discuss this in more detail.