



OPTIC NERVE DECOMPRESSION

INTRODUCTION

Optic nerve decompression is a surgery that removes a part of the bone that surrounds the nerve of vision (optic nerve). The nerve is connected to the brain. A part of the nerve is in a hard-bony tunnel as it exits the skull. Many diseases can cause swelling and pressure of the optic nerve at this location. This can cause loss of vision or blindness because there is no room for the nerve to expand. The goal of optic nerve decompression is to decrease the pressure on the optic nerve. This procedure is done with small rigid telescopes (See Nasal Endoscopy). This approach allows your surgeon to go through the nose and sinuses to perform this delicate surgery. Incisions on the face or eye are rarely necessary. In the following sections, we will review the reasons for surgery, risks and benefits of endoscopic optic nerve decompression.

INDICATIONS

The reason for optic nerve decompression is typically loss of eyesight due to pressure on the optic nerve. The most common cause is optic nerve injury or swelling from head trauma. However, in these cases, surgery is only indicated if your surgeon believes that relieving the pressure of the optic nerve will help restore or prevent worsening of vision. Surgery may not be offered if the optic nerve is cut, or if it is unsafe.

Other reasons for surgery include thyroid eye disease (i.e. Graves' orbitopathy), high eye pressures from high brain pressure (idiopathic intracranial hypertension), tumors within the eye, and overgrowth of bone (fibro-osseous lesions) that may narrow the optic canal.

PROCEDURE

The surgery is performed under a general anesthetic in the operating room. Going through your nose, your surgeon will first open the sinuses around the eye (See Endoscopic Sinus Surgery). The ethmoid and sphenoid sinuses are opened directly next to the optic nerve and canal. Once complete, a portion of the bone on top of the optic canal is removed. Your surgeon will remove as much bone as can be done safely. Overall, this makes the space of the bony canal larger and reduces the pressure on the optic nerve. Sometimes, the cover over the nerve (optic nerve sheath) is also incised to allow the nerve to further expand.

At the end of surgery, there is usually no packing in the nose. You will likely be kept in the hospital to be watched for a day or more. The surgical team will be monitoring your vision and eye movements.

RISKS

The surgery involves operating both within the eye and in the sinuses. There are risks of this surgery. This includes the following:

- Double vision and loss of vision
- Bleeding from the nose or around the eye
- Injury to the carotid artery
- Infection of the sinuses

- Infection of the eye
- Leakage of brain fluid (See Cerebrospinal Fluid Leak)
- Infection of brain fluid (meningitis)
- Continued pressure of the optic nerve

BENEFITS

By removing a portion of the bony optic canal, the surgery may decrease the pressure along the optic nerve. This may prevent the loss of vision or restore eye sight in certain cases.

SUMMARY

Endoscopic optic nerve decompression is a delicate procedure which may be useful in select cases of swelling or compression of the optic nerve. Speak with your surgeon to see if you are a candidate for this type of surgery.

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