Laser Trabeculoplasty for Glaucoma

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Surgery Overview

Laser trabeculoplasty uses a very focused beam of light to treat the drainage angle of the eye. This surgery makes it easier for fluid to flow out of the front part of the eye, decreasing pressure in the eye.

There are two types of laser trabeculoplasty:

- Argon laser trabeculoplasty (ALT).
- Selective laser trabeculoplasty (SLT).

SLT uses a lower-power laser than ALT does.

For laser trabeculoplasty:

- The doctor will put drops in your eye to numb the eye.
- A special microscope (slit lamp) and lens (goniolens) are used to guide the laser beam to the canals (trabecular meshwork) where fluid drains from the eye.
- The doctor makes small burns in the trabecular meshwork.
- At the end of the surgery, the doctor will put drops in your eye to prevent eye pressure from rising right away.

Some people feel some pressure in the eye during the surgery.

What To Expect After Surgery

Laser trabeculoplasty can be done without the person being admitted to the hospital. The person may need to be checked by the doctor within 2 hours of the surgery. The person will also need to see the doctor for a follow-up exam as recommended.
**Why It Is Done**

Laser trabeculoplasty may be helpful in treating people whose glaucoma continues to get worse in spite of medicine treatment. It may also be helpful in treating older adults who have glaucoma and are not able to use medicines to treat it.

This laser procedure is usually done before other surgical procedures are tried.

**How Well It Works**

Argon laser trabeculoplasty lowers the pressure in the eye about 75% of the time in people who haven't had surgery on that eye before.\(^1\) Research comparing ALT and the newer SLT has shown that SLT lowers pressure in the eye about the same or slightly better than ALT.\(^2\) People usually need to continue taking medicine after laser surgery to keep down the pressure in their eyes.

Control over the pressure inside the eye may decrease as time passes. Argon laser trabeculoplasty is often not effective when repeated. But experts believe that SLT may be repeated because it uses a lower level of laser and causes less scarring than ALT. SLT may be used if ALT fails to lower eye pressure. The results of repeated laser surgeries are less predictable than the results of the first surgery.

**Risks**

Complications of laser trabeculoplasty are rare. The most common complication of laser surgery for glaucoma is an increase in the pressure in the eyes. The pressure may be normal immediately after laser surgery and rise sharply within 1 to 4 hours after laser surgery. To prevent this problem, the doctor may put medicine in your eyes (such as apraclonidine or brimonidine) before or after laser surgery, especially in people with high intraocular pressure before laser surgery.

Other complications of laser surgery may include:

- A brief period of inflammation of the colored part of the eye (iris).
- Cloudiness of the clear covering (cornea) over the iris. This usually does not last long.
- Blockage of the drainage angle when the cornea and the iris stick together.
- Pain.
- Decreased vision.
Decreased vision is usually a temporary problem unless there is a significant rise in the pressure inside the eye. Very high pressures inside the eye can lead to permanent vision loss.

What To Think About

Laser trabeculoplasty is less effective in people who have inflammatory glaucoma, a type of glaucoma caused by an existing inflammation. Laser trabeculoplasty is not done for patients who have closed-angle glaucoma.

The drop in pressure in the eye after laser surgery may not be enough to prevent loss of eyesight in people with very high pressure who have already lost some of their vision.

If damage to the optic nerve continues after laser trabeculoplasty, other surgery may be needed.

Complete the surgery information form (PDF) to help you prepare for this surgery.

References

Citations


Other Works Consulted


Credits

By Healthwise Staff
Primary Medical Reviewer  Adam Husney, MD - Family Medicine
E. Gregory Thompson, MD - Internal Medicine
Specialist Medical Reviewer  Christopher J. Rudnisky, MD, MPH, FRCSC - Ophthalmology
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