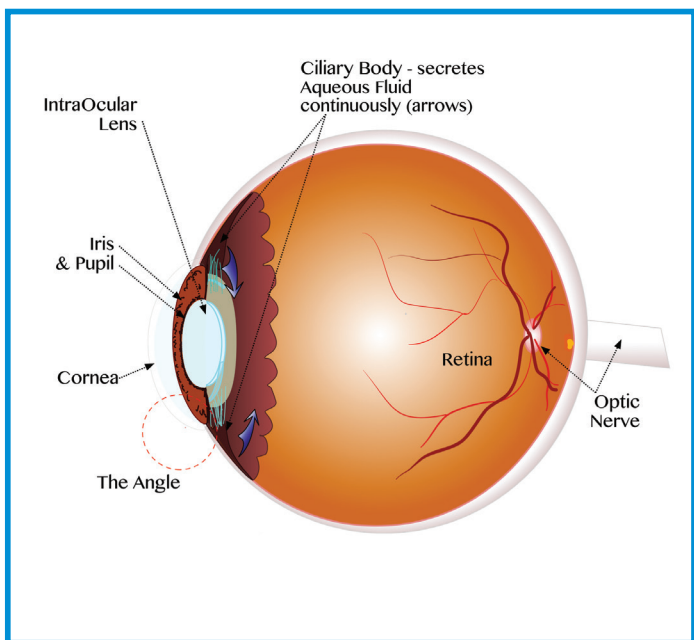




SIMPLY speaking

Minimally Invasive Glaucoma Surgery



Goal of Glaucoma Treatment

The ultimate objective in glaucoma treatment (see "Glaucoma" flyer) is to prevent further damage to the optic nerve and deterioration of the visual field by lowering eye (intra-ocular) pressure.

Medical Treatment

For patients with the open-angle type of glaucoma (see "Open Angle Glaucoma" flyer), medications in the form of eye drops can cause enough eye pressure drop to reach the target pressure. However, medications have local side-effects and other repercussions.

Common side effects are redness, pigmentation and puffiness of the eyelids, and dryness or irritation especially with prolonged use. Some drops can also cause effects on the body (systemic side effects) but they are uncommon.

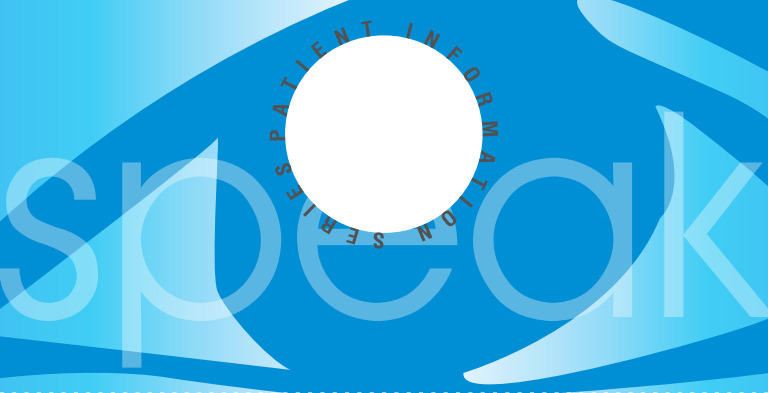
The other problem with drops is the requirement for the patient or relative to adhere to the dosing regimen (the daily dropping of once, twice or thrice a day). This becomes more difficult as the number of eye medications increases. In the majority of cases more than one or two medicines are needed to reach desired pressure levels.

Skipping the drops can cause temporary spikes in eye pressure which can also cause optic nerve damage. Bringing and putting the drops during the day as the patient goes about with his/her daily activities can be a hassle.

Surgical Treatment

To reduce the eye pressure in glaucoma, a new pathway for the fluid inside the eye to drain out of the eye is formed. In the traditional glaucoma surgery (trabeculectomy or filtering procedure), a window is created by cutting out a portion of the drainage tissue with a sharp instrument and then the site is partially covered to prevent direct communication of the internal eye with the outside (see "Glaucoma Surgery" brochure). The procedure requires anesthesia to be injected around the eye, and may take somewhere around 20-45 minutes. The eye is usually patched for a day and followed up frequently for the first few weeks to check for leakage and over filtration, for poor filtration and signs of the drainage closing, or for other complications. Vision may be blurred and fluctuate during the immediate postoperative period.





continued from front...

The Middle Road

In an effort to reduce or avoid the problems associated with chronic medical therapy and with traditional filtering surgery, a more functional approach to glaucoma has been developed targeting the internal microstructure of the eye that is assumed to be dysfunctional, the trabecular meshwork, in open angle glaucoma (see Open Angle Glaucoma flyer).

The fluid has to pass through the meshwork to enter Schlem's canal (see Figure), which eventually directs the fluid to the veins on the surface of the eye (episcleral veins). In open angle glaucoma, the resistance of the meshwork to the passage of fluid causes the accumulation of the fluid in the eye and the rise in eye pressure.

There are many developments in the surgical solutions to open angle glaucoma but have a common aim: to bypass the trabecular meshwork. The other aim of these type of surgeries is to eliminate having to cut the tissues of the eye, diminishing pain and the need for anesthesia, reducing the surgical time, and, hastening visual recovery. Hence, the term applied to these procedures is Minimally Invasive Glaucoma Surgery (MIGS). In effect, MIGS presents the middle of two extremes: medications on one side and filtering surgeries on the other.

MIGS

The MIGS procedures are similar; they involve the implantation of a stent (or tube) through the meshwork into the Schlem's canal or somewhere in the angle. The implants bypass the resistant meshwork and provide direct access to the rest of the natural drainage structures of the eye. These stents have undergone design changes over the past 10 years, and have reached a stage of development where they have been proven to be safe and to be effective.

The stents are minute (about the size of a comma on this paper) and require precise handling under an operating microscope.

The stents are injected through a stab incision on the opposite side of the cornea (see Figure), maneuvered under direct visualization by the surgeon to the angle, implanted and released in the area where it is supposed to stay permanently. MIGS can be performed together with cataract surgery through the same incision or done as a separate procedure after cataract surgery.

Complications

Unlike traditional glaucoma operations, complications with MIGS are infrequent and mild. The worse thing that can happen is that it does not work as effectively as expected. There are some patients who may necessitate additional implants over time. Having had MIGS does not preclude doing glaucoma filtering procedures if necessary.

The risk of infection is almost nil. There are a few eyes that might bleed minimally during implantation but this quickly stops and resolves in a few days.

The choice of implant will depend on your doctor's familiarity and experience with the device and the clinical features of your eye and disease.

Selective Laser Trabeculoplasty (SLT)

SLT is another middle of the road solution for patients who are not adequately controlled with several medications but do not want to undergo surgery. In SLT, low power laser energy is directed to the angle, stimulating the renewal of some of the cells in the meshwork. In about 70-80% of eyes with high eye pressure, SLT can reduce the pressure in an amount equivalent to that of one medication. The effect is not permanent and might require repetition after 1-2 years or more.

More Information

A myriad of Internet sites will discuss MIGS and glaucoma; some will even show animation or surgical videos.

We caution you against interpreting medical information without guidance by an ophthalmologist. Your eye surgeon can give you a more detailed explanation of MIGS, discuss if it is suitable for you, and offer other options like SLT.

Consultation Hours: 8:00am - 6:00pm, Monday - Saturday

G/F Belson House, 271 EDSA (near Connecticut St.), Mandaluyong City

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For more information about our facilities: <http://www.galileoeyecenter.com>

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