

# Minimally Invasive Glaucoma Surgery

(MIGS)



GIG  
CYMRU  
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Bwrdd Iechyd Prifysgol  
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Cardiff and Vale  
University Health Board



# What is MIGS?

Minimally Invasive Glaucoma Surgery (MIGS) is an operation which aims to lower the eye pressure in a less invasive manner, often involving a microstent or a microcatheter to increase drainage of the existing drainage channels in the eye. These operations typically have a shorter surgical and recovery time as well as a lower risk profile.

## How does it work?

Glaucoma is most commonly associated with a build-up of fluid pressure inside the eye. This build-up of fluid pressure is caused by partial blockage of the natural drainage channel inside the eye. This pressure can damage the optic nerve which carries images from the eye to the brain affecting your vision.

In MIGS, the drainage channels are operated on using microscopic cuts to the eye to access and alter the efficiency of the eyes natural drainage channels.

At the Cardiff Eye Unit, we use a variety of different approaches to achieve MIGS depending on the type of glaucoma and the patient profile. These approaches include flushing the drainage channels using thick gels (OMNI), stents (Hydrus) or simply opening up the drainage channel (OMNI Trabeculotomy). Your surgeon will discuss with you the exact procedure we recommend for your type of glaucoma.

## **If I need a stent inserted, what type of stent is used?**

We use specialised microscopic stents (Hydrus) which are made of a synthetic and biocompatible material and can only be seen inside the eye under very high magnification.

It will not be rejected by the body and will not disappear or disintegrate with time. It will not set off airport scanners and is safe if you need to have an MRI or CT scan. Stents sit within the drainage channels simply keeping them open.

# What are the benefits?

MIGS will lower your eye pressure and prevent further damage to the optic nerve caused by eye pressure (intraocular pressure). Compared to trabeculectomy, MIGS has the advantage that the procedure is shorter, less invasive, and requires fewer post-operative visits. In addition, contact lens wearers are often still able to continue contact lens wear afterwards compared to a trabeculectomy whereby contact lens wear is contraindicated. It is important to remember that MIGS will not cure your glaucoma, reverse any damage already caused by glaucoma, or bring back any lost vision.

# Are there any alternatives?

The closest alternatives to MIGS will be a traditional trabeculectomy or Glaucoma Drainage Device (Baerveldt, Ahmed or Paul Glaucoma Implant) which are usually reserved for severe forms of glaucoma. These operations have a longer operating and recovery time.

# What does the operation involve?

The operation is usually performed under a local anaesthetic, meaning that you are awake but your eye is numb so you will not feel anything. Your eye will be numbed with eye drops and then a blunt cannula will introduce the anaesthetic around your eye from the area around your bottom lower lid. The injection may cause a brief pressure sensation.

The local anaesthetic takes several hours to wear off and may affect your vision during this time.

The operation is often added on to the end of a cataract operation whereby you will be asked to turn your head to one side whilst the surgeon makes some adjustments to the microscope to view the drainage channels of your eye.

The stent is then inserted inside your eye which can take around 5 to 10 minutes. The entire surgery is likely to take no more than 20 – 30 minutes.

# How soon will I recover?

After surgery, your eye may be slightly blood shot and swollen for a few days. The eye is normally patched the first night after surgery and the patch removed the following day. It is important to continue any eye drops for the un-operated eye unless advised otherwise.

You will usually be discharged home from hospital the same day after surgery. It is usually necessary for the operated eye to be examined again several days after surgery.

The following day, the postoperative eye drops are usually started after removal of the eye patch. This includes new anti-inflammatory and antibiotic eye drops to prevent inflammation and infection in the operated eye.

Your vision will be blurry for 1 – 2 weeks as there is bruising inside your eye. You may read and watch television; these activities will not harm your eye.

The stent will begin to work straight away to lower your eye pressure but please take the advice of the surgeon as to whether you stop your glaucoma drops in the operated eye or not. Any drops you use in your other eye must be continued as normal.

While you should usually be able to go outside, walking and shopping etc., straight after surgery, you should avoid strenuous activity for the first month including swimming, tennis, jogging and contact sports.

Do not rub / bump / press the eye, and do not use any non-prescribed products in the eye.

Please wear an eye shield or your own glasses if in dusty environments. It is safe to fly after surgery, however you will need to be seen a number of times by your surgeon in the first two months.

If in doubt please ask your doctor or nurse in clinic.



It takes 1 month for the eye to feel completely normal in most cases, and sometimes longer in more complicated cases. At that point, the patient will usually have a refraction (spectacle) test as often the spectacle prescription will be different than before surgery.

## When can I go back to work?

The duration of time off work will depend on a number of factors such as the nature of your employment, the state of the vision in the other eye and the pressure in the operated eye. Most people take 1 – 2 weeks off work after surgery, however the length of time will depend on the nature of your work.

Typically, someone working in an office environment would require 1 week off if the postoperative course is smooth. Someone whose occupation involves heavy manual work or work in a dusty environment may require 2 weeks or up to 1 month (e.g. builders, working in dusty environments etc.).

# What are the risks?

Serious complications are rare. You will most likely have a small amount of bleeding inside your eye. If this happens, your vision will be blurred for one to two weeks or occasionally longer. Like all glaucoma surgery, the eye pressure lowering effect of MIGS may wear off with time.

This is most often due to scarring closing down the drainage channels. If this happens, you will need to restart your glaucoma medications or have further procedures to control your eye pressure, which would usually be to insert a larger implant (Baerveldt, Ahmed or Paul Glaucoma implant).

The risk of very low pressure after surgery is much less than after trabeculectomy and persistent very low pressure is rare.



## Contact Details

For any problems postoperatively please call

Eye Casualty: 029 2184 3191

09:00 – 17:00 Monday to Friday

### Out of hours:

Please call UHW switch board on  
029 2074 7747 and ask for on-call  
ophthalmology doctor.