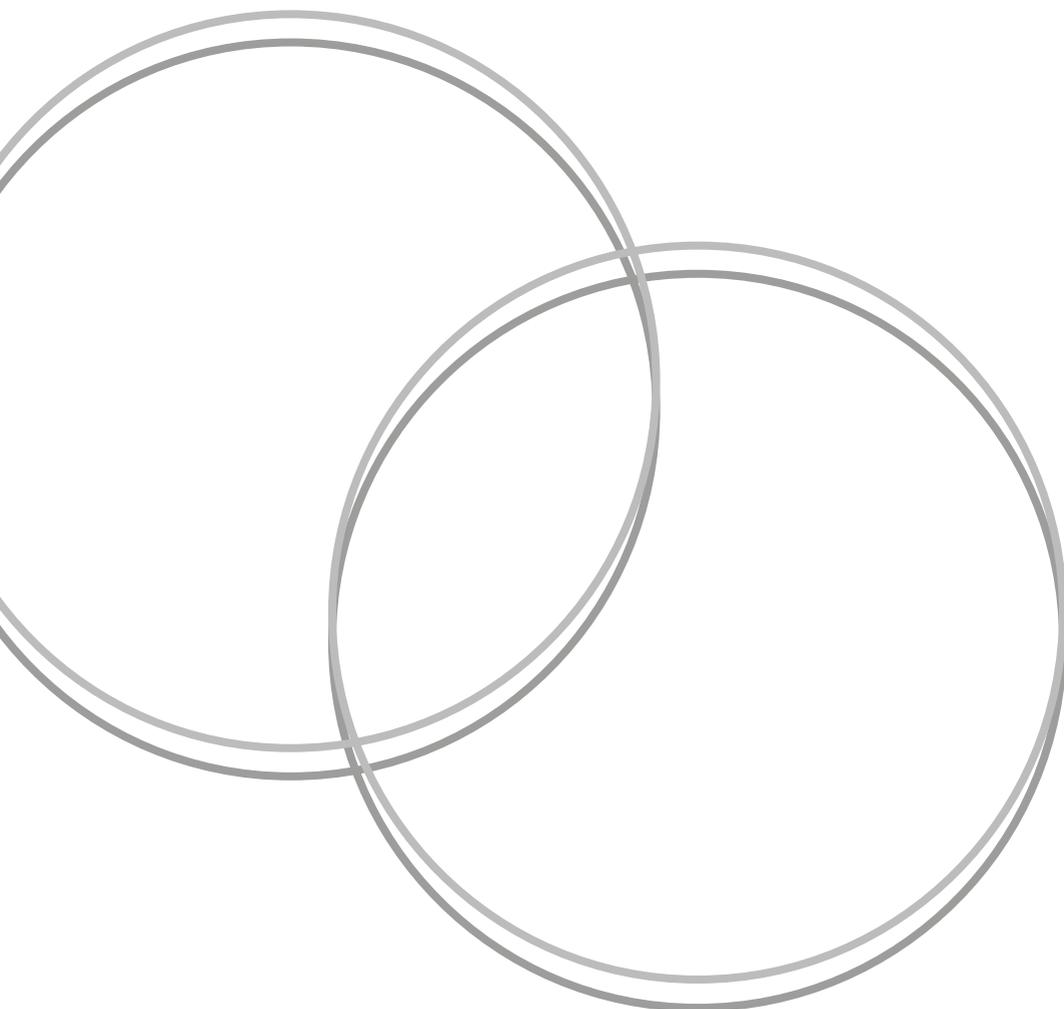


# Kahook Dual Blade (KDB) Glaucoma Operation

**Information for patients**





This leaflet gives you information that will help you decide whether to have KDB glaucoma surgery. You might want to discuss it with a relative or carer. Before you have the operation, you will be asked to sign a consent form and so it is important that you understand the information in this leaflet before you decide to have surgery.

## **Introduction**

Glaucoma is usually treated with medication in the form of eye drops to lower the pressure in the eye. The KDB operation may be a good option for you if:

- medication is not effective in lowering your eye pressure
- medication is causing you side effects
- it will help the medication you take to lower your eye pressure

The KDB surgery can be done on its own or it can be done at the same time as cataract surgery. Having the KDB surgery at the same time as cataract surgery is helpful if your cataract is affecting your eyesight.

## **What is the KDB Operation?**

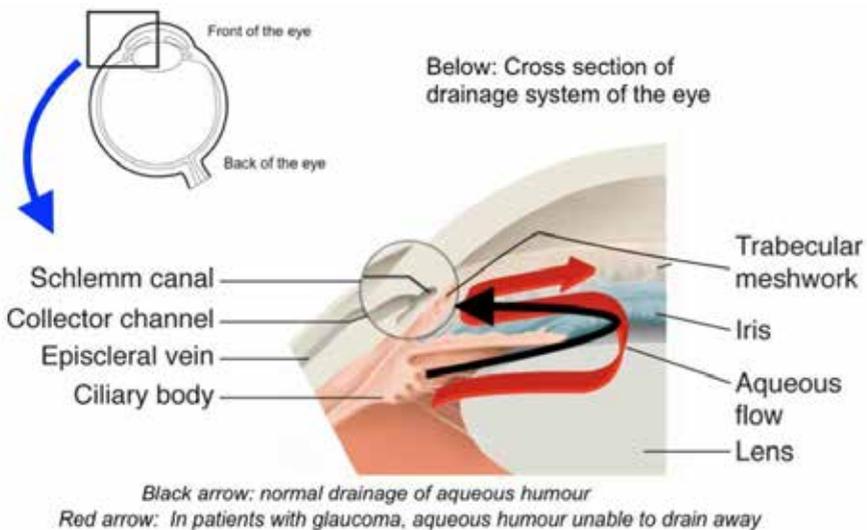
A healthy eye produces fluid which is filtered through the eye's drainage system (figure 1 – black arrow). This drainage system helps to drain the fluids out of the eye. When an eye is affected by glaucoma or raised eye pressure, this drainage system does not work properly. This means the fluid will build up in the front section of the eye causing raised eye pressure (figure 1 – red arrow).

The KDB operation works by the inner wall of drainage system being removed to allow direct drainage of fluid. This is performed using a special device called the KDB.

The operation is usually combined with cataract surgery but can be done on its own. When done at the same time as cataract surgery, the cataract is removed, then an artificial lens is implanted and then the KDB operation is performed.

The operation is usually done under local anaesthetic where anaesthetic medication is administered around the eye to numb the eye and stop you from moving your eye during the operation. This may cause mild discomfort or a pressure sensation when it is delivered, however, this sensation will quickly disappear. If you are very nervous, our anaesthetist can also give you medication through the vein to make you 'sleepy' but you will still be aware of your surroundings. Occasionally we perform the operation under general anaesthetic where you are asleep during the surgery. This option might be considered if you have very high eye pressure, are extremely anxious or have a complex eye structure.

**Figure 1: The drainage angle of the eye**



## **What are the benefits of the KDB operation?**

The KDB operation is a minimally invasive operation with minimal tissue handling and no stitches. The benefits of this include a shorter operation and faster recovery. The KDB operation also has a very good record of safety.

When combined with cataract surgery, the operation allows us to both remove your cataract and to lower your eye pressure at the same time. The time it takes you to recover will be slightly longer than undergoing cataract surgery alone. It is also possible that you will be able to reduce the number of glaucoma medications you are using after the KDB operation. Published data have shown good efficacy of this operation of up to 18 months but more studies are required to establish the longer term impact of this operation.

## What are the risks of the KDB operation?

The KDB operation has the following risks (in addition to those of cataract surgery if this is at the same time):

- **Bleeding** (into the front chamber of the eye) – This occurs in less than 4% of eyes (4 in every 100 eyes) within the first week following surgery. This usually has no long lasting effects on your vision but can cause temporary blurred vision or raised eye pressure. If bleeding does occur, it normally gets better in less than 1 week. If you are on any blood thinning medications, you might have a slightly higher risk of bleeding. Therefore, *please inform your eye doctor prior to surgery if you are taking ANY blood thinning medication (such as aspirin, warfarin, apixaban, rivaroxaban etc)*
- **Increased eye pressure** – This has been reported to occur in about 4% to 7% (4 to 7 in every 100 eyes) and usually occurs within the first 2 weeks after surgery. This is more likely to occur in patients who develop bleeding after the surgery
- **Iris damage** (damage to the coloured part of the eye) – This is very rarely reported

## **After the Operation (Post-operation)**

After the operation, these instructions should be followed:

- Stop all glaucoma eye drops in the operated eye ONLY (continue your drops in the non-operated eye as normal)
- Wear the plastic shield provided at night for 7 nights
- Do not rub or apply pressure to your eye
- Avoid strenuous activity – sports, heavy lifting etc for 2 weeks.

Your vision may be blurry for up to 2-3 weeks following the surgery and this is quite normal particularly when combined with cataract surgery.

For most patients, the eye will appear red/bloodshot for 1-2 weeks following surgery, however this will all settle down.

## Post operation Eyedrops / medication

You will be told to stop administering all of your existing glaucoma drops to the OPERATED eye and you will be given the following medications:

1. **Steroid eyedrop** (Dexamethasone) – to reduce inflammation (swelling) after surgery. This is usually prescribed initially 4 to 6 times per day.
2. **Pilocarpine 2% drops** – to keep the drainage canal open and lower the eye pressure. This is usually prescribed initially 4 times per day. Side effects include: headache and brow ache. If you experience headache, you can take paracetamol regularly until it settles.
3. **Pressure tablets** (Acetazolamide) – this might be prescribed as 1 tablet (250mg) 3 times a day for 3 days after the surgery to prevent sudden rise of eye pressure. Side effects include: tiredness, drowsiness, pins and needles around the mouth, hands and feet and altered appetite/taste. This tablet will also make you produce more urine.

Please note, ***only one drop should be instilled at a time and a minimum of 5 minutes gap should be left between drops.***

Below is the typical schedule of drop reduction following surgery.

<b>Dexamethasone</b>	first 2 weeks 4 to 6 times a day
	3rd week 3 times a day
	4th week 2 times a day
	5th week 1 time a day

<b>Pilocarpine</b>	For first week 4 times a day
	2nd week 3 times a day
	3rd week 2 times a day
	for one week (then stop) 1 time a day

## Follow-up after the operation

On the day of surgery, we will usually see you BEFORE YOU GO HOME to check your eye pressure.

You will then be seen in the outpatient clinic 1 week following surgery and then 6 to 8 weeks following surgery.

If you have had combined cataract surgery and the KDB procedure, you should see your optician at 5-6 weeks after your operation, for a glasses prescription test. Bring the paper copy of your prescription that they give you to your next clinic appointment.

If you do not receive your appointment to be seen as above, it is important to contact your consultant's secretary without delay.

## How to contact the Eye Hospital

Please contact us if you have any questions or concern either before or after your operation.

Tel: **01865 234 567** – select option 1 for patients and then option 2 for Eye Surgery.

***Please note this line directs you to an answer phone service which is checked and responded to by a Nurse Practitioner three times a day, 7 days a week; at 8am, 12pm and 4pm. If you call after 4pm your call will be responded to the following day.***

Email for appointment enquiries: [eye.hospital@ouh.nhs.uk](mailto:eye.hospital@ouh.nhs.uk)

**Call our specialist telephone triage number if you need URGENT help or advice or if you notice:**

- Redness and / or swelling of your eye lids and / or eye ball
- Any loss of sight
- Intense pain

Tel: **01865 234567 option 1** followed by **option 1**

Monday to Friday 8.30am - 4.30pm

Saturday and Sunday 8.30am - 3.30pm (including Bank Holidays)

You will be able to speak to an ophthalmic health professional who will advise you.

If you need advice **out of hours**, please phone **NHS 111** or your out of hours GP practice.

## **Oxford Eye Hospital – Glaucoma Service**

Surgery is performed by the specialist glaucoma team in the department, which includes:

### **Lead Consultants**

- Mr Gurjeet Jutley
- Mr Rajen Tailor

### **Glaucoma Fellows**

### **Specialist Trainees**

## **References**

1. EG Sieck et al. Outcomes of Kahook Dual Blade Goniotomy with and without Phacoemulsification Cataract Extraction. *Ophthalmology Glaucoma* 2018;1:75-81.
2. Dorairraj et al. 12-Month Outcomes of Goniotomy Performed Using the Kahook Dual Blade Combined with Cataract Surgery in Eyes with Medically Treated Glaucoma. *Adv Ther* 2018;35:1460–1469

## Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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Oxford University Hospitals NHS Foundation Trust  
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