

INFORMATION FOR PATIENTS

Pattern Scanning Laser (PASCAL) treatment

For eye problems related to the back of the eye (retinal problems)

The aim of this leaflet is to inform you about Pattern Scanning laser (PASCAL) treatment.

A PASCAL laser is used to perform retinal photocoagulation for vascular and structural abnormalities of the retina.

What eye conditions can be treated by a PASCAL laser?

Three common conditions treated by a PASCAL laser are diabetic retinopathy and maculopathy, retinal vein occlusion and retinal tears. The retina is a delicate tissue lining the inside of the eye and the macula is a small area at the centre of the retina. The macula is responsible for detailed vision such as reading, writing and colour vision.

What are the symptoms?

- **Diabetic retinopathy**

In diabetic retinopathy, the blood vessels of the retina may become blocked or leak blood or fluid.

Complications from this can result in serious loss of eyesight. As long as the macula is not affected, there are no symptoms. Also, new vessels may develop on the retina and these can bleed into the eye and affect vision.

It is therefore important to attend an optometrist for annual retinal screening, so any problems can be detected and treated early.

- **Retinal vein occlusion**

Retinal vein occlusion occurs when there is a blockage in a retinal vein.

The retina requires a constant blood supply. A blockage in a vein can affect eyesight.

The used blood is unable to drain away from the retina properly, causing swelling and bleeding. This causes damage to the retina.

The extent of this painless sight loss depends on where the blockage takes place.

- **Retinal tears**

In retinal tears, a part of retina is torn for various reasons and sometimes serious loss of vision can occur.

PASCAL laser treatment helps to reduce the amount of visual loss in all the above conditions. It is carried out in the eye outpatient clinic at King's Mill Hospital.

What do I need to know before treatment?

You will need to bring your glasses (if you have them) to the clinic for your vision test.

Please do not drive to hospital; this is because drops may be used to dilate the pupil and this blurs your vision for a few hours. There are no other special instructions before your treatment.

Once the treatment has been explained to you and any questions you have are answered, you will be asked to sign a consent form. The consent form is important as you will be undertaking a treatment procedure during your outpatient appointment.

How does PASCAL laser treatment work?

During the treatment, a laser beam is focused on the back of the eye. This beam of light is absorbed by the retina. It is used to seal leaking retinal blood vessels in diabetic retinopathy and retinal vein occlusions, and to seal retinal tears.

Will the treatment be painful?

Occasional discomfort may be felt but treatment is usually pain-free. Sometimes a local anaesthetic injection around the eye may be required.

Will eye drops be needed?

Eye drops will need to be put in by the nurse into one or both eyes 30 minutes before your laser treatment. One set of eye drops is used to enlarge the pupil and another to numb the front surface of the eye.

What happens during the treatment?

You will be asked to sit in front of the laser machine and to place your chin and forehead on to the rests.

The doctor will place a small contact lens on the front surface of the eye. This allows the doctor to view the eye and to direct the laser beam into the eye. This also prevents you from blinking during the treatment.

How long will the treatment take?

Although your appointment may take one to three hours, the laser treatment itself will only take about 10 to 20 minutes.

How long will the effect of the eye drops last?

The eye drops may blur your vision and make your eye/eyes sensitive to sunlight for four to six hours. If you normally drive, you must not drive to the hospital for this treatment. It would be helpful if someone can come with you to help you home. Normal activities can be resumed after four to six hours.

What happens after treatment?

Immediately after the laser treatment, the contact lens is removed and you are allowed to go home. Painkillers are not usually required.

A follow up eye outpatient appointment will be arranged for a few weeks/months time.

Laser treatment is aimed at saving vision. Sometimes the treatment needs to be repeated on follow-up appointments.

Are there any side-effects from the treatment?

Blurred vision. Sight may stay fuzzy for a few hours immediately following the procedure due to eye-dilating drops and bright flashes.

Discomfort or mild pain. A dull ache, gritty feeling, or mild headache can happen after the numbing drops wear off.

Flashing lights and glare. You may notice lingering flashes or increased sensitivity to bright lights on the day of treatment.

Temporary pressure rise. Eye pressure can occasionally spike slightly for one to two days after the procedure.

Reduced peripheral vision. Extensive treatments (like pan-retinal photo-coagulation) can create small blind spots or narrow your side vision, which may require reporting to driving authorities.

Macular oedema. Fluid accumulation or swelling in the central retina can sometimes occur or worsen, impacting central visual acuity.

Altered night or colour vision. Some patients report reduced dark adaptation, trouble seeing in dim light, or slight changes in how they perceive colours.

Bleeding or scarring. Rare risks include small retinal hemorrhages or localized fibrosis (scarring).

Our contact details

If you require any further information please contact the Eye Clinic on telephone 01623 622515, extension 6654, Monday to Friday between 8.30am and 5.30pm.

Other useful contacts:

- Royal College of Ophthalmologists
17 Cornwall Terrace
London
NW1 4QW
Telephone: 020 7935 0702
Website: www.rcophth.ac.uk
- Royal National Institute of Blind People
105 Judd Street
London
WC1H 9NE
Telephone: 0845 766 9999
Website: www.rnib.org.uk

Further sources of information

NHS Choices: www.nhs.uk/conditions
Our website: www.sfh-tr.nhs.uk

Patient Experience Team (PET)

PET is available to help with any of your compliments, concerns or complaints, and will ensure a prompt and efficient service.

King's Mill Hospital: 01623 672222
Newark Hospital: 01636 685692
Email: sfh-tr.PET@nhs.net

If you would like this information in an alternative format, for example large print or easy read, or if you need help with communicating with us, for example because you use British Sign Language, please let us know.

You can call the Patient Experience Team on 01623 672222 or email sfh-tr.PET@nhs.net.

This document is intended for information purposes only and should not replace advice that your relevant health professional would give you.

External websites may be referred to in specific cases. Any external websites are provided for your information and convenience. We cannot accept responsibility for the information found on them.

If you require a full list of references for this leaflet, please email sfh-tr.patientinformation@nhs.net

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