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What is Panretinal Photocoagulation Laser?

Panretinal Photocoagulation (PRP) is a type of laser treatment for the eye. It is used in people who have developed new abnormal blood vessels at the back of the eye in the retina or in the drainage system within the eyeball.

Why do I need Panretinal Photocoagulation Laser?

The PRP laser treatment prevents abnormal new vessels on the retina and in the drainage system of the eyeball from growing and encourages existing ones to shrink and scar up. This makes them less likely to bleed into the jelly in the eye ball (vitreous haemorrhage) or to cause a painful type of high pressure within the eye (neovascular glaucoma).

The PRP laser treatment does not improve vision. The aim is to prevent severe visual loss.

Without this treatment there would be a risk of either losing sight in the eye due to a bleed into the jelly of the eye or of the development of a retinal detachment for patients with new blood vessels which have grown in the retina due to either diabetic related problems (proliferative diabetic retinopathy) or a blocked branch vein (branch retinal vein occlusion).

In patients who have developed new blood vessels in the coloured part of the eye (iris) due to a blocked vein in the eye (central retinal vein occlusion) there would be a risk of developing a painful eye due to blockage of the fluid inside the eyeball caused by growth of new blood vessels in the eyeball drainage system.

In this case the aim of the treatment is not to prevent loss of vision as there will already be very poor vision that cannot be improved due to the underlying disease. The aim is to prevent the eye becoming painful through a build-up in fluid in the eye raising the pressure in the eyeball.

Can there be any complications or risks?

There is good scientific evidence that laser treatment will significantly reduce the risk of your vision deteriorating. It also reduces the risk of the eye developing painful high pressure.

- The laser treatment can reduce the peripheral (edge) field of vision. You may not notice the effect of this. However it might mean you will not meet the visual legal requirement for holding a driving licence, particularly if both eyes need treatment. You need to inform the DVLA if you are having this laser treatment in both eyes. Ask the doctor about this if you are a driver.
- Your night vision and contrast sensitivity may be reduced and your colour vision altered in the eye having the treatment.
- Rarely your vision may be worse after the treatment. This can be caused by a build up of fluid at the back of the eye (macular oedema), bleeding within the eye (vitreous haemorrhage) if the abnormal blood vessels don’t regress.
- Rarely, unintended burn to the centre of the retina may cause permanent deterioration of vision.
- Rarely, the pupil may remain dilated for longer duration after PRP laser treatment (sometimes, dilated permanently) which may cause glare, light sensitivity and near vision difficulties.

How do I prepare for the Panretinal Photocoagulation Laser?

We will need to dilate your pupils for the treatment. So please do not drive to the appointment. The dilating drops will blur your vision for up to 6 hours after the treatment.

You can expect to be at the hospital for 2 hours.

Diabetic patients are advised to ensure they have enough food and medication that they may need during the visit.

Please take all your normal medications prior to this treatment.

Please eat and drink as per normal.

How many laser sessions will I need?

This is dependent on the clinical need and Ms Heng will discuss this in detail with you. In general, for a treatment naïve patient (one who has not had treatment before), a full panretina photocoagulation session is performed over 2-3 sessions, 2 weeks apart.

What can I expect during the laser?

A local anaesthetic drop or injection may be used before the laser treatment is given.

A special contact lens will be placed on your eye to allow Ms Heng to focus on the treatment area on the retina and to keep your eyes open.

The treatment usually takes 15 to 30 minutes depending on how much treatment is required in your particular circumstance.

What happens afterwards?

You can go home on the day of the procedure. You may want to take a rest for 30 minutes in our waiting area after the procedure before you leave.

This laser treatment is not a painless procedure. You may notice discomfort or a dull ache in the eye during or after the treatment. This can be helped by taking pain relief such as paracetamol or ibuprofen.

Your vision will be “dazzled” or may seem darker after the treatment. This effect can last for 24 to 48 hours.

We recommend that you avoid driving for 24 hours after the treatment.

Follow up

A follow up appointment will be arranged for either a further session of PRP laser or a check up following the procedure.

For any queries, please contact us @

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