Eye problems are common in people with diabetes and can seriously affect eyesight. The two main types of sight threatening diabetic eye disease are:

1) Proliferative diabetic retinopathy.
2) Diabetic macular oedema (DMO).

This leaflet is about macular oedema and its treatment.

What is Diabetic Macular Oedema (DMO)?

The macula is the central part of the retina responsible for your central or 'sharp' vision. Diabetes can damage blood vessels in the macula which then leak and the surrounding retina can become swollen or ‘waterlogged’ (also called oedema). This results in worsening of eyesight so that there is difficulty in tasks like reading, watching TV, recognising faces or reading bus numbers for example.

How is DMO treated and what treatment options are available?

DMO can be treated in different ways. The most common types of treatment involve laser to the macula or injections of medicine into or around the eye.

Laser treatment has been available for many years but it rarely improves vision and can take a long time for you to notice any effect. You have been given this leaflet because your eye doctor thinks you may benefit from treatment with a medicine called Ranibizumab (also known as Lucentis) which is injected into the cavity of the eye. This is a recently approved treatment which has more potential to stop the disease process and lead to some improvement.
At the Manchester Royal Eye Hospital you may also be offered new treatments as part of a clinical trial. These options will be explained to you by your eye doctor or nurse.

You do not have to receive treatment for your DMO. However, without treatment, your vision could continue to get worse and progress to a point where treatment will no longer help.

**What is Lucentis?**

The retinal damage in diabetes releases a chemical called VEGF (VEGF= vascular endothelial growth factor). VEGF causes leakage of fluid in the retina. Lucentis blocks the action of VEGF and therefore helps to block further leakage.

**Why is Lucentis being recommended for DMO?**

In DMO, Lucentis is given to try and reduce the swelling of the macula. This can stop the eyesight getting worse and in some patients, the eyesight can improve.

**How is the treatment given?**

You will be awake for the procedure. The pupil (black part of your eye) is dilated using eye drops, and anaesthetic drops will be put in to numb the surface of your eye. The skin around your eye and the surface of your eye is washed with an antibacterial solution to reduce the risk of infection. Your face is then covered with a sterile drape.

The drug (Lucentis) is injected into the vitreous humour (the jelly-like substance inside the back of your eye). You might feel slight pressure on the eye when this is done, but you should not experience pain. After the injection into your eye you could have a gritty feeling in your eye, and there might be bleeding over the white of your eye. You should not worry about this, it will resolve with time. You might also see floaters; these will become smaller and disappear over a couple of weeks.

It is likely you will need a number of injections at repeated intervals. Your eye doctor will tell you how often you will receive the injections and over what length of time. Most patients will need to attend for an eye examination every month for at least the first 6 months and might need injections at most of these visits. Further treatment will depend on your response to the treatment.
On average patients require about 7 treatments in their first year and fewer in subsequent years.

**What are the risks of treatment?**

The potential risks are outlined below and will be discussed with you by your eye doctor. Not everyone who takes the drug will experience side effects; however, as with any medicine side effects are possible with Lucentis.

**Risks of intravitreal eye injections**

Serious complications of the intravitreal injection (injection into the vitreous humour) procedure include:

- Bleeding.
- Infection (endophthalmitis).
- Cataract formation.
- Retinal detachment.

Any of these serious complications can lead to severe, permanent loss of vision or blindness. In the clinical trials these complications occurred at a rate of less than 0.1% (1 in 1,000) of injections. The overall risk over the long term course of treatment is estimated at about 1% (1 in 100) or less. The risks will be explained and discussed with you before you agree to treatment.

More common side effects could include:

- Eye pain.
- Conjunctival haemorrhage (bloodshot eye).
- Vitreous floaters.
- Irregularity or swelling of the cornea.
- Inflammation of the eye.
- Visual disturbances such as small specks in the vision.

**Complications of Lucentis in other body parts**

There could be an increased risk of experiencing blood clots (which can cause heart attack or stroke) after intravitreal injection of medicines such as Lucentis. However, a low incidence of these events was seen in the Lucentis clinical trials. Patients with a history of stroke may be at greater risk of another stroke. If you have had a stroke, please discuss this with your eye doctor or nurse.
Coincidental risks

Whenever a medication is used in a large number of patients coincidental problems can occur that could have no relationship to the treatment. For example, patients with high blood pressure or smokers are already at increased risk of heart attacks and strokes. If one of these patients is being treated with Lucentis suffers a heart attack or stroke, it might be caused by the high blood pressure and/or smoking and not necessarily due to Lucentis treatment.

The treatment might not be effective for you. Your condition might not get better or might become worse despite these injections. Any or all of the complications described above can cause decreased vision and/or have a possibility of causing blindness. Additional procedures might be needed to treat these complications. During follow-up visits or phone calls you will be checked for possible side effects and the results will be discussed with you.

Reducing the risk of infection

Antibiotic eye drops will be prescribed following your injection to reduce the risk of infection. If you have an eye infection on the day of your planned treatment, the injection might have to be delayed until the infection has resolved. Please inform your doctor or nurse if you have a red or sticky eye.

Patient responsibilities

If you experience any of the following, please contact the hospital as soon as possible

- Pain.
- Blurred or reduced vision.
- Sensitivity to light.
- Redness of your eye (increasing compared to immediately after your injection).
- Sticky discharge from your eye.

You should avoid rubbing your eyes or swimming for 3 days following each injection to reduce the risk of infection.
Please keep all post injection appointments or scheduled telephone calls so that potential complications can be checked for.

Although the likelihood of serious complications affecting other organs of your body is low, you should immediately contact your GP or attend your local Accident and Emergency Department if you experience:

- Abdominal pain.
- Abnormal bleeding.
- Chest pain.
- Severe headache.
- Slurred speech.
- Sudden limb numbness or weakness.

**What if I change my mind?**

If you have any concerns, please discuss these with the doctor. You can change your mind about your treatment at any time. If you require further advice or do not understand anything contained in this leaflet or are having problems following your injection please contact the Macular Treatment Centre on (0161) 276 3341/5572 Monday-Thursday 9.00 am-5.00 pm, Friday 9.00 am-4.00 pm.

You may also contact the Emergency Eye Centre on (0161) 276 5597 available everyday from 8.00 am-9.00 pm including public holidays. If your problem is urgent and the departments above are closed or you are unable to get an answer, please ring Ward 55 available 24 hours everyday on (0161) 276 5512.

**What if my sight cannot be fully restored?**

Much can be done to help you use your remaining vision. You should ask your eye specialist or optometrist about low vision aids. If your vision is impaired, it is also worth asking your specialist to help you register as 'sight impaired', this will help you receive expert help and some financial concessions.

**Further information and support**

If you would like further information on DMO there are many sources of advice available. Brochures/posters from many relevant patient support groups are available in the clinics in Manchester Royal Eye Hospital. Please ask.
Henshaws Patient Support in the Out-patient Department Manchester Royal Eye Hospital Telephone 0161 276 5515 www.henshaws.org.uk
www.diabeticretinopathy.org.uk
www.ncretinopathy.org.uk
www.diabetes.org.uk
www.nhsdirect.nhs.uk
www.rnib.org.uk