Management of Retinal Detachment

The bases of the recommendations:

The recommendations in this section were made as a result of a project carried out with the support NHS local Research and Development Funding. Wendy Gratton, research nurse in Liverpool spent one year on the project ‘Model of Care for Retinal Detachment’. The aim of the project was:

1. To observe and report on best practice in the management of patients with retinal detachments undertaken by selected units in UK.
2. To develop pathways of care that might enhance the service delivery to patients.

Scope of the project:

Included discussions on informed consent, urgency of treatment, referral logistics, the provision of continuous urgent referral service, on-call arrangements, data-base for audit, extended-role of vitreoretinal (VR) nurses, Consultants job-plan, booking & listing and research.

Methodology

The information was gathered by

1. Questionnaire survey of all BEAVRS members
2. Hospital Visits to observe best practice
3. Structured interviews
4. Web-based discussion forum
5. The main recommendations were circulated at BEAVRS meeting 2003 and the feedback were incorporated in this final version.

Hospitals visited

1. The centres visited included small district general hospitals, regional university units and large national institutions; they were chosen to give good geographic spread and diversity of practice to reflect the national picture.

2. Hospitals visited: The Tennent Institute, Glasgow; Birmingham and Midland Eye Centre, Birmingham; Stanley Hospital, St Asaph; Royal Victoria Hospital, Newcastle; York Hospital Trust, York; Royal Oldham Hospital, Oldham; St Paul’s Eye Unit, Liverpool; Manchester Royal Eye Infirmary, Manchester; St Thomas’ Hospital, London; Moorfields Eye Hospital.

National Consent Information Sheet

The Consent form for Retinal Detachment was developed in Liverpool. It was intended to serve as template for all hospitals. The Consent form has been scrutinized by 1) patients group; 2) lay focus group; 3) the quality department of the Royal Liverpool University Hospital Trust and 4) the Plain English Society which gave it the **Crystal Mark** for clarity.
Main recommendations

1. Strategic appointment of Consultants: Build up larger units in order to increase the capacity to provide a continuous urgent referral service and cover for neighbouring single-handed units. The critical number of Consultants may be 5 or more supported by dedicated “VR nurses” and a number of trainees. The best example is provided by Moorfields’ Eye Hospital, which provides a 24/7 VR cover and support to units some distance away from London.

2. There is a need to recognise that some but by no means all cases of retinal detachments require urgent surgery. Whilst retinal detachments are not emergencies most acute retinal detachments do not benefit from delay in surgery (exception of perhaps combined choroidal and retinal detachments or fresh severe trauma). A sensible aim is to perform all VR surgeries inside normal working hours and to have available throughout the week regular VR lists to service these urgent cases\textsuperscript{1-4}. There has been relevant and informative studies carried out by Mark Benson (Birmingham) on macular-on detachment, Nick Price (Wolverhampton) on the timing of surgery and outcome, Steve Charles (Manchester) in delay in diagnoses.

3. It is becoming acknowledged that the delivery of VR surgery is no longer the responsibility of ‘general’ (non-VR) ophthalmologists. All VR surgeons should therefore recognise their obligation to serve their patients. It is the requirement of acute Trusts to ensure that, for patients referred to them, adequate and timely vitreoretinal
arrangements are in place to manage them. There are good examples in the North East of England of cooperation between consultants working in different Trusts providing cross cover for their patients during annual and study leave.

4. There is a need for support from managers and ‘general’ colleagues including (non-VR) ophthalmologists and anaesthetic consultants. This support should be tangible in that a) recognition and appropriate remuneration should be given to VR on-call rota, b) many retinal detachments are urgent though not emergencies requiring flexible provision of surgical facility including theatre time and anaesthetic cover c) in some circumstances the treatment of retinal detachments may justifiably take precedence over routine booked admissions and surgery for cold cases d) that provision should be made for more theatre time ‘within hours’ if there is regularly out-of-hours surgery.

5. The employment of “VR nurses” to undertake extended role in preoperative assessment, to give information (as part of consent process), to organise listing procedures (beds & theatre time), to reinforce posturing, to engage in multi-disciplinary audit and to act as research co-ordinators.

6. There are good examples of electronic databases being implemented at St Thomas’ and Moorfields Eye Hospitals

7. To use a partial booking system to provide maximum flexibility: This should apply both to the VR clinics and surgical lists. Partial booking is needed to cater for the peaks and troughs in the demand for VR services. Cancellations of surgery and clinic appointments should not
compromise clinical care of individual patients (being put at back of queue). Any booking system will only work if there is adequate capacity. If the service provision is inadequate, the VR surgeons can find themselves rationing treatment and being arbiters of priorities. VR surgeons especially those working single-handedly should ensure that any shortage in capacity is communicated to managers, clinical directors and general ophthalmic colleagues.

8. No recommendation is made regarding Consultant job-plans. There are good examples of job plans that combine VR with general ophthalmology that provide flexible and excellent service. Equally the service needs are met by full time dedicated VR timetables.

9. Robust arrangements for vitreoretinal cover including recognition in consultant job planning need to be made by employing NHS Trust organisation and NHS commissioners.
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References


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Patient information

Retinal detachment surgery

Your eye specialist has advised you to have retinal detachment surgery. This leaflet gives you information that will help you decide what to do. You might want to discuss the information with a relative or carer. Before you have the operation, we will ask you to sign a consent form, so it is important that you understand the information in this leaflet before you agree to go ahead with surgery. If you have any questions, you may want to write them down so you will remember to ask one of the hospital staff.

What is retinal detachment?

Your eye doctor has diagnosed a retinal detachment in your eye. Without treatment, this condition usually leads to blindness in the affected eye. The retina is a thin layer of nerve cells that lines the inside of the eye. It is sensitive to light (like the film in a camera) and you need it to be able to see properly. Your retina is detached because it has one or more holes in it and so is allowing fluid to pass underneath it. This fluid causes the retina to become separated from the supporting and nourishing tissues underneath it. Small blood vessels may also be bleeding into the vitreous (the jelly substance in the centre of the eye), which may cause further clouding of your vision.

Retinal detachments happen naturally. It is unlikely that it would be caused by anything that you have done. Anyone can develop a retinal detachment at any time, but certain people are at higher risk than others. These include people who are shortsighted, those who have had cataract surgery in the past, and those who have recently suffered a severe direct blow to the eye. Some types of retinal detachments can run in families, but these are rare.
Treatment of retinal detachment

The treatment involves surgery. During the operation, your eye doctor will seal the retinal holes and reattach your retina. An experienced eye surgeon will carry out the operation and may supervise a trainee doctor who may perform part or all of the operation.

The anaesthetic

If you have a local anaesthetic, you will be awake during the operation. You will not be able to see what is happening, but you may be aware of a bright light. Before the operation, we will give you eye drops to enlarge your pupil (the pupil is the black circle, at the front of your eye). After this, we will give you an anaesthetic to numb your eye. This involves injecting local anaesthetic solution into the area around your eye.

During the operation we will ask you to lie as flat as possible and keep your head still.

The operation normally takes about an hour, but may sometimes take a little longer. A nurse will hold your hand the whole time to comfort you.

If you are having a general anaesthetic, we will ask you not to eat or drink for several hours before we take you to the operating theatre. Before the operation the anaesthetist will speak to you and examine you on the ward. Before the operation, we will give you eye drops to enlarge your pupil. When you arrive in the operating theatre’s anaesthetic room, the anaesthetist will give you an injection in your hand or arm. You will then stay asleep for the whole operation. The anaesthetist will monitor your heart rate, breathing, blood oxygen and blood pressure while you are under the anaesthetic. You may feel tired and sleepy for about six to 12 hours after the operation.

The surgery

There are many types of surgery. We can seal retinal holes by applying ‘splints’ on the wall of the eye. These splints are made of sponge or solid silicone material. We put them under the skin of the eye and they usually stay there permanently. Other people will not usually notice them.

In some cases, the jelly-like substance called the vitreous is responsible for the retina becoming detached. As part of your surgery, we remove this jelly during an operation called vitrectomy. During this operation, we make tiny cuts in the eye and remove the vitreous. We then put a gas or silicone oil bubble in the eye. This acts as a ‘splint’ to hold the retina in position to help it to heal. If we used a gas bubble, your normal body fluids will replace it naturally over time. If we use silicone oil, we may need to remove this during another small operation several months after your first operation.

We usually put small stitches in the eye. At the end of the operation, we may put a pad or shield over your eye to protect it.
After the operation

If you have discomfort, we suggest that you take a pain reliever such as Paracetamol every four to six hours (but not aspirin as this can cause bleeding). It is normal to feel itching, sticky eyelids and mild discomfort for a while after retinal detachment surgery. It is common for some fluid to leak from your eye. Occasionally, the area surrounding the eyes can become slightly bruised. Any discomfort should ease after one or two days. In most cases, your eye will take about two to six weeks to heal. You will see your doctor in the clinic within a few days of your operation. Try to rest while your eye is healing.

We will give you eye drops to reduce any inflammation, to rest the eye and to prevent infection. We will explain how and when you should use them. Please don’t rub your eye.

Certain symptoms could mean that you need prompt treatment. Please contact the hospital immediately if you have any of the following symptoms.

- A lot of pain.
- Loss of vision.
- Increasing redness of the eye.

Posturing

If we put a gas or silicone bubble in the eye, we will usually ask you to keep your head and body in a particular position. This is called ‘posturing’ and aims to provide support to seal the holes in your retina. The bubble floats inside the eye cavity and we will usually ask you to hold your head in a position, so that the bubble lies against the holes. This is an important part of the treatment and the position in which you hold your head will depend on where the holes are in your retina. We will usually ask you to keep your head perfectly still for long periods of time. We may also advise you to sleep in a particular position at night. By following our instructions, you will give your retina the best chance to be successfully treated.

Caution

Your co-operation matters a great deal. If you have a gas bubble in your eye, you must not travel by air as rapid assent to high altitudes might cause dangerous rise in pressure inside your eye. Similarly, should you need general anaesthesia for any other surgical treatment, you should inform the doctors that you have a gas bubble inside your eye. This is because the gas used by the anaesthetists to put you to sleep could also cause a rise in pressure.
The benefits of retinal detachment surgery

The most obvious benefits are preventing you from going blind and helping you to see more clearly. You have already lost some sight because of the detached retina. If the surgery is successful, it will usually bring back some, but not all of your sight.

The risks of retinal detachment surgery

Retinal detachment surgery is not always successful. Every patient is different detached and some retinas are more complicated to treat than others. Some patients may need more than one operation. Your surgeon will talk to you about the chances of success with the operation you are about to have.

Some possible complications

There is a small risk of complications, either during or after the operation.

Complications are not common and in most cases, we can treat them effectively. Very rarely some complications can result in blindness.

Possible complications during the operation

- Bleeding inside the eye.
- The surgery producing more holes in the retina.

Possible complications after the operation

- Bruising of the eye or eyelids.
- High pressure inside the eye.
- Inflammation inside the eye.
- Cataract.
- Double vision.
- Allergy to the medication used.
- Infection in the eye – endophthalmitis. This is very rare but can lead to serious loss of sight.

Further surgery

If the first operation is not successful, you will need to have more operations. Your surgeon will aim to find and seal all the holes in the retina. But even in the best hands, occasionally some retinal holes are missed and this will lead to the retina becoming detached again. When a retina is detached, the eye naturally tries to heal the damage. Instead of being helpful, this healing process leads to scar tissue forming inside the eye and the retina contracting. Your doctor may refer to this as ‘proliferative vitreoretinopathy’ or PVR for short. PVR is associated with poorer vision and may cause the retina to become detached again after successful surgery to reattach it.
Cataracts

Like a camera, the eye has a lens, which focuses light onto the retina. When the lens of the eye becomes cloudy, this is called a cataract. You are more likely to develop a cataract; partly because of the detached retina and partly because of the surgery you received. We can treat cataract by removing the lens and replacing it with a plastic lens.

What vision can I expect after my treatment?

After surgery, it usually takes some weeks for your vision to recover. If we use a bubble, your vision will be very blurred immediately after surgery. This is normal and you should not be alarmed by it. Once the retina is attached, your sight will continue to improve slowly over several months. You may be given sight tests to see if glasses would help you see.

Your final vision will depend on the nature of your original detached retina. If we diagnose and treat it quickly and successfully, most of your vision will be restored. If when we diagnose a detached retina, the eye already has poor vision, we may not be able to restore some of your sight. You may not be able to read using the affected eye. From a distance, you may not recognise faces or be able to read number plates, for example. Your side vision will usually be preserved. This allows you to see people and objects approaching you from the sides. This side vision is very important for day-to-day activities such as going out and climbing stairs.

We hope this information will help you decide whether to go ahead with surgery.

Please use the space below to write down any further questions you want to ask the doctor or nurse when you come to the hospital for your appointment. Don't worry about asking questions. Our staff will be happy to answer them.

The Britain and Eire Vitreoretinal Surgeons have approved this information leaflet.

Some useful contacts (information in red to be inserted for individual hospitals)

Specialist nurse
Hospital admissions office
RNIB Helpline (Royal National Institute for the Blind)
0845 766 9999

This leaflet is available on computer disk, in Braille and on audiotape.