

Patient information factsheet

Post-enucleation socket syndrome (PESS)

We have given you this factsheet because you have a condition called post-enucleation socket syndrome (PESS). It explains what PESS is, what causes it and how it can be treated. We hope it will help to answer any questions you may have. If you have any further questions, please contact a member of our team using the details at the end of this factsheet.

What is post-enucleation socket syndrome (PESS)?

Post-enucleation socket syndrome (PESS) is a condition that sometimes develops after eye removal surgery (enucleation or evisceration). The term PESS covers a combination of features that result from a loss of tissue surrounding and within the eye socket after eye removal surgery.

Not everyone who has eye removal surgery will develop PESS, and when the condition develops it also varies from person to person.

What causes PESS?

PESS happens when tissue in the eye socket contracts or becomes scarred. If the socket scars, it may become too small for the artificial eye. If the socket is too big, then the artificial eye can move around in the socket.

What are the signs and symptoms?

Signs of PESS include:

- a sunken appearance of the artificial eye (known as enophthalmos)
- a hollowing of the upper eyelid (known as an upper eyelid sulcus deformity)

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- a droopy or retracted upper eyelid (known as ptosis or eyelid retraction)
- a loose lower eyelid
- a backward tilt of the artificial eye (known as an ocular prosthesis)
- shortening of upper and lower soft tissue (fornices)

If you have PESS, you may also have:

- recurrent infections in the affected eye socket
- generalised infections in your body
- discharge from the affected eye socket
- concerns about how your artificial eye looks
- problems with ocular prosthetic eye shell wear (a thin, artificial eye)

How is it diagnosed?

You may be diagnosed with PESS if you have had eye removal surgery and go on to experience one or more of the symptoms listed above. An examination in your doctor's clinic will confirm whether you have PESS. In some cases, you may also need a radiological examination, such as an x-ray.

How is it treated?

PESS can be treated with a surgical procedure called secondary orbital implant surgery. You may be offered secondary orbital implant surgery if:

- your socket has been primarily implanted (you had an implant placed when your eye was removed)
- your initial implant is no longer adequate

We offer a dermis fat graft as secondary orbital implant surgery for PESS. This is where dermis fat is taken from your stomach or buttock and placed into the eye socket. This procedure is usually performed under general anaesthetic (medications given to make you fall asleep), so you will not feel any pain during the surgery.

Please be aware that secondary orbital implant surgery may have to be carried out in stages. This means you may have a period (approximately two to three months on average, and longer in some cases) where you will not be able to wear your artificial eye, so it is very important that you take this into consideration before agreeing to this surgery.

What happens before secondary orbital implant surgery

Clinic appointment

Before your surgery, we will ask you to come into hospital for a clinic appointment. During this appointment, we will discuss:

- the advantages and disadvantages of secondary orbital implant surgery
- the potential risks and complications of secondary orbital implant surgery implant options
- the care you will need after the operation

You will be able to ask any questions you may have during this appointment. We will also go through the consent form with you.

We will check with you whether you take any blood thinning medications. If you do, we will make an appropriate plan and give you some instructions about when to temporarily stop these medications before your surgery.

We may also take an x-ray, CT, or MRI scan of your eye. If these are needed, we will explain what each investigation involves before asking for your consent to proceed.

Pre-admission appointment

You will also need to come to hospital for a pre-admission assessment before your surgery. During this assessment, an anaesthetist (a specialist doctor) will talk to you about your general health and your suitability for surgery.

What happens during secondary orbital implant surgery?

Before secondary orbital implant surgery, an anaesthetist will give you a general anaesthetic. This may be given:

- as an injection through a cannula (a thin tube that allows medication to be given into a vein) in the back of your hand
- as gas through a face mask

Once you are asleep, a sample of dermis fat is cut from under the skin of your stomach or your buttock. This sample is then attached to the affected eye socket. This is called a graft site. The graft site is then closed with sutures.

What happens after secondary orbital implant surgery?

After the surgery, you will need to stay in hospital for at least one night (depending on your recovery).

Before you leave hospital, we will prescribe you a short course of antibacterial and steroidal eye drops. You will need to apply these drops to your eye socket once the dressing has been removed. You will not need to remove the conformer (the clear acrylic shell) to apply these drops.

After the surgery, you should:

- avoid trauma to the eye
- not swim for six weeks

You will need to wear a dressing over your eye for three to five days after your surgery. We will review your eye socket three to five days after your surgery and remove the dressings and stitches. You will then be able to start using the eye drops.

We will arrange two appointments for you to come back into the eye clinic, so we can examine your eye socket. The first appointment will be two weeks after your surgery and the second appointment will be six weeks after your surgery.

Artificial eye service

Once your eye socket has fully healed (approximately two to six months), we will refer you to an ocularist (a trained technician who specialises in making and fitting artificial eyes) at our local artificial eye service. The artificial eye service will contact you to let you know when and where your appointment will be. This will usually be at the clinic nearest to your home address, but this may not be in Southampton.

Your first appointment with the ocularist will be around eight weeks after your surgery. At your first appointment, the ocularist will take an impression of your eye socket for your artificial eye. You will then need to have a further three to four appointments before you can pick up your final artificial eye.

Once you have got your artificial eye, the artificial eye service will review you once a year. During your yearly visit, they will clean, adjust and polish your artificial eye. They will refer you back to the hospital eye clinic if they have any concerns. Because your body is constantly changing, you may need a new artificial eye and further surgery over time.

Caring for your artificial eye

You will need to clean your artificial eye once a month. You can do this with contact lens cleaner or soap and clean water.

You may wear your artificial eye constantly, even when you sleep. However, we recommend using lubricating eye drops two to three times a day to keep your eye socket moist and reduce any irritation.

For more information about how to care for your artificial eye, please speak to your ocularist.

Are there any potential risks or complications?

There are some risks and complications associated with secondary orbital implant surgery. These include:

- inflammation, swelling and pain in the eye socket
- infection (the implant may need to be removed)
- the implant moving into a different position (malposition)
- the implant being too big (over sizing) or too small (under sizing)
- the implant becoming exposed (you may need further surgery, such as a patch graft)
- a cyst forming on the membrane that lines the eyelid (you may need further surgery for this)
- over or under volume augmentation (you may need further surgery to correct this)
- needing a new artificial eye

The final result of secondary orbital implant surgery is hard to predict, and the final result may not be as successful as it was previously. You are more likely to need additional surgeries to achieve the desired final result.

When you leave the hospital, you will be given a number to call if you have any concerns.

Are there any alternatives to secondary orbital implant surgery?

There are no alternatives to secondary orbital implant surgery. PESS can be left untreated, but the socket and the soft tissues will continue to shrink and contract. This will make wearing the artificial prosthesis difficult and, as time passes, impossible.

Contact us

If you have any questions or concerns, please contact us.

Ophthalmology secretary

Telephone: **023 8120 4445** (Monday to Friday, 9am to 4.30pm)

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