

Pulsed dye laser treatment

This leaflet aims to answer your questions about having pulsed dye laser treatment (PDL). It explains the benefits, risks and alternatives, as well as what you can expect when you come to hospital.

If you have any further questions, please speak to a doctor or nurse caring for you.

What is pulsed dye laser treatment?

This is a treatment that takes place in the Dermatological Surgery and Laser Unit at St Thomas' Hospital. This laser is designed to lighten red coloured skin marks, such as port wine stain birth marks. These marks are referred to as 'lesions' throughout this leaflet.

The laser produces a beam of light that is absorbed by the redness of the blood vessel in the lesion but passes through healthy tissue, just beneath the surface of the skin, without damaging it. As the light is absorbed, it causes the blood vessels in the lesion to heat up. The heat destroys the blood vessel and causes a bruise, which fades over a few weeks. Once the bruise has faded, the redness should be paler than before the treatment.

The doctor will recommend a course of treatment which will consist of a test treatment followed by either three or six treatments, depending on the size of the lesion.

What are the benefits of having pulsed dye laser treatment?

Pulsed dye lasers are able to produce significant lightening of lesions with little risk of changing the skin's texture or scarring of the skin. It is so safe, it can be successfully offered to young infants. The laser treatment can be tailored to individual needs, depending on the type of lesion, size, location, skin tone and how far the lesion is under the skin's surface.

Are there any risks associated with pulsed dye laser?

- **Alteration in skin colour** –there is a small risk of lightening or darkening of the skin. This is uncommon but more likely to happen if you have brown or black skin, or if the skin to be treated is tanned. The tanned skin as well as the lesion will absorb the laser light. This can cause the skin to darken (hyperpigmentation) more than normal. This should fade, just as a tan would. The lightening or (hypopigmentation) can sometimes be permanent, however this is extremely rare. This is why we do not treat patients whose skin is suntanned.
- **Bruising** – there will be bruising after the treatment. It is normal for the mark on the skin to look much worse because of the bruising. The bruising will fade over the next few weeks.

- **Increased sensitivity to light** – skin that has been treated with pulsed dye laser is more vulnerable to sunlight and will get sunburnt more easily than untreated skin. This sensitivity can last for up to a year after the laser treatment. **Any area of skin that has had laser treatment must be protected from the sun.** If there is any risk that the skin will be exposed to the sun, a sunscreen with a sun protection factor of 15 or higher (that blocks both UVA and UVB rays) must be applied to protect your skin.
- **Eye damage** – the laser beam will damage eyes if viewed directly without protection. We will give you special goggles to use, while you are having treatment.
- **Scarring** – sometimes a scab may form on the treated area(s). If a scab forms, it is important not to pick it. Picking a scab may leave a scar and may lead to an infection.
- **Infection** – there is a slight risk of infection, but this is very rare. Infection is most likely to happen if scabs form in the treated areas. We will give you an information sheet on how to care for the treated area after your treatment.

Are there any alternatives?

Pulsed dye laser is considered to be the most effective treatment for port wine stains. Any alternatives would have been discussed with you at your consultation. Please contact the team involved with your care if you have any further questions.

What do I need to do to prepare for my treatment?

There is no specific preparation for the pulsed dye laser but some patients like to book some annual leave from work after the treatment, whilst the bruising is still present. Because each 'pulse' of the laser stings, you may find it helpful to have a local anaesthetic cream, called EMLA cream, applied to the lesion before the laser treatment. This will need to be applied one hour **before** the appointment time given to you. The nursing team can apply this for you or you can get a prescription from your GP and apply the cream yourself one hour before your treatment time. If you get a prescription from your GP, you will need to ask for enough to cover the whole of your lesion.

Children are sometimes treated under general anaesthetic. This will have been discussed with you at your consultation. A separate leaflet has been produced for children having treatment under general anaesthetic.

Giving my consent (permission)

We want to involve you in decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This states that you agree to have the treatment and you understand what it involves.

You should receive the leaflet, **Helping you decide: our consent policy**, which gives you more information. If you do not, please ask a member of staff caring for you for a copy.

What happens during the pulsed dye laser treatment?

Any anaesthetic cream applied prior to the treatment will be removed, before the laser treatment starts. You will be provided with goggles or glasses to protect your eyes and asked to lie on a couch during the treatment. If we are treating an area around the eye, we will have to insert an eye shield to protect your eye. Anaesthetic eye drops are used beforehand to make the insertion more comfortable.

The pulsed dye laser sends a beam of yellow light to the skin through a fibre optic cable. The laser light 'shines' less than 2mm into the skin, so it 'treats' the vessels just beneath the skin surface. On the end of the cable is a device that looks a bit like a large pen with a circle at the end. This 'pen' is held gently against the surface of the skin. The operator will press a button, or foot pedal, sending a 'pulse' of light to the skin within the circle. Each pulse lasts less than one second. We overlap the circles, but small lesions may only need a few 'pulses' and will only take a few seconds to complete. Larger lesions may need dozens of pulses and the treatment may take several minutes. The first treatment will be a test treatment of only a few individual pulses within the lesion. This is to see how your skin will respond to the pulsed dye laser.

Will I feel any pain?

Patients have described the sensation of each laser pulse as feeling like the snapping of an elastic band against their skin. Various methods of anaesthesia are available if needed. The pulsed dye laser in the Dermatological Surgery and Laser Unit has coolant spray built in to the 'pen'. Patients tell us that this makes the 'sting' of the pulse more tolerable. The topical anaesthesia applied to the lesion (see section on 'What do I need to do to prepare for the treatment?') lessens the discomfort of the pulses, but does not completely numb the area. We have a cooling fan available, which can be used during the treatment to help with any discomfort.

What happens after the procedure?

Bruising usually occurs at the treatment site(s) and may worsen over 48 hours before fading after a few weeks. Immediately after the treatment, the laser operator will show you the treated area and will usually apply a greasy moisturiser (such as Vaseline) before you leave the room. They may also apply a basic dressing to cover the treated area, if you would like to have one for your journey home or if it is a particularly sunny day outside. This can be removed as soon as you get home. You will be able to leave as soon as the treatment is complete. If we have treated around the eye and used a protective eye shield, we do not recommend that you drive yourself home. You will be able to travel home by public transport.

What do I need to do after I go home?

- There may be swelling of treated skin for a few days. Skin around the eyes is particularly prone to swelling which may lead to partial closure of the eye for a few days after treatment. To help reduce swelling, apply an ice pack for two to three minutes every quarter of an hour on the day of treatment. You can also use extra pillows under your head when sleeping to help reduce swelling from areas treated on the face.
- You can shower and bathe the treated area as normal but should pat the skin dry. Try to avoid shaving in and around the lesion until any bruising has faded.
- Use a greasy moisturiser (such as Vaseline) at least twice daily, as it is often soothing and stops scabbing and crusting occurring.

- **Only** use an antiseptic cream **if** crusting occurs. Savlon® can be used three times daily to reduce the risk of infection in the crusted areas. Continue to moisturise in between applications of antiseptic cream.
- If we have treated around the eye and used an eye shield and anaesthetic eye drops, an eye pad or sunglasses can be worn for a few hours following the treatment for your comfort. We will give you an antibiotic eye ointment which you should apply in and around the eye twice a day for three days after treatment.
- Avoid using any makeup on the lesion for five days after the treatment, as applying or removing it may produce damage to the skin, which is very fragile during this time.
- Avoid sports involving physical contact until the bruising has faded.
- Do not take any medicines containing aspirin for pain relief for five days after the laser treatment, as it increases the risk of bruising. If however you are prescribed aspirin by your doctor, please continue with this as normal.
- Generally you can resume normal activities straight away, but some of our patients like to book annual leave whilst the bruising is fading or arrange treatments for school holidays. Please note that the clinics tend to be much busier during holidays.

Will I have a follow-up appointment?

If you have started a course of treatment, you will be able to make your next appointment with our receptionist before you leave. You will need at least six weeks in between laser treatments for your skin to recover.

When you have completed your treatment course, the laser operator will request that you receive a follow-up with the consultant to assess the effectiveness of the treatment and discuss the need for any further treatment courses.

Further information: support groups

Changing faces

The squire centre, 33-37 University Street
 London WC1E 6JN
 Tel: 0845 4500 275
www.changingfaces.org.uk

Birth mark support group

PO Box 3932
 Weymouth
 Dorset DT4 9YG
 Tel: 0845 045 4700
www.birthmarksupportgroup.org.uk

Contact us

For laser appointment queries, please contact administration on **020 7188 6407**.

For laser treatment queries, please contact the dermatology laser nurse on **020 7188 6284** (Monday to Friday, 9am to 5pm). This is an answerphone service, please leave your name and number and someone will get back to you as soon as possible. This is not an emergency service

In an emergency, please contact your GP or your local A&E Department.

Pharmacy Medicines Helpline

If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

t: 020 7188 8748 9am to 5pm, Monday to Friday

Patient Advice and Liaison Service (PALS)

To make comments or raise concerns about the Trust's services, please contact PALS. Ask a member of staff to direct you to the PALS office or:

e: 020 7188 8801 at St Thomas' **t:** 020 7188 8803 at Guy's **e:** pals@gstt.nhs.uk

Knowledge & Information Centre (KIC)

For more information about health conditions, support groups and local services, or to search the internet and send emails, please visit the KIC on the Ground Floor, North Wing, St Thomas' Hospital.

t: 020 7188 3416

Language Support Services

If you need an interpreter or information about your care in a different language or format, please get in touch using the following contact details.

t: 020 7188 8815 **fax:** 020 7188 5953

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Become a member of your local hospitals, and help shape our future

Membership is free and it is completely up to you how much you get involved. To become a member of our Foundation Trust, you need to be 18 years of age or over, live in Lambeth, Southwark, Lewisham, Wandsworth or Westminster or have been a patient at either hospital in the last five years. To join:

t: 0848 143 4017 **e:** members@gstt.nhs.uk **w:** www.guysandstthomas.nhs.uk

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