

Carbon dioxide laser treatment

This leaflet aims to answer your questions about having carbon dioxide (CO₂) laser treatment. 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 carbon dioxide (CO₂) laser treatment?

The carbon dioxide laser is used to treat various skin lesions that are not flat (such as keloid scars or warts). It can be used to smooth out the skin or for cutting the skin and removing tissue. The laser emits a beam of light, which is absorbed causing heat damage to the skin cells and destroying them. If the beam is focused, it will cut the skin and seal any bleeding vessels. If the beam is defocused, the effect is scattered over a wider area and results in vaporisation of a thin layer of skin cells.

The treatment is carried out in the Dermatological Surgery and Laser Unit, South Wing, Block C, 3rd floor, St Thomas' Hospital

What are the benefits – why should I have carbon dioxide laser treatment?

The benefit of having carbon dioxide laser treatment, rather than traditional surgery, is that it can remove the top layers of skin, often with less scarring than traditional surgery.

There is less bleeding with carbon dioxide laser treatment, because the laser beam seals small blood vessels during treatment.

What are the risks?

- **Eye damage** – The laser beam will damage eyes if viewed directly without protection. We will provide eye protection during your treatment.
- **Bleeding** – There is a small risk of bleeding at the treatment site. The doctor or nurse caring for you will give you information on how to prevent and deal with this.
- **Pain** – The local anaesthetic should last until you return home. If you need to, you can buy paracetamol from a chemist without a prescription. Always check that the painkillers will not react with any other medication you are taking and follow the instructions on the packet.
- **Alteration in skin colour** – There is a small risk of lightening or darkening of the skin following treatment. This is uncommon but more likely to happen if you have brown or black skin or if the skin to be treated is tanned.
- **Increased sensitivity to light** – Skin that has been treated with the carbon dioxide 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 (SPF) of 15 or higher (that blocks both UVA and UVB rays) must be applied to protect your skin.

- **Scarring** – There may be slight scarring once your wound has healed. This can be reduced if scabbing is avoided. You will be given an after care leaflet to help you with this on the day of your treatment. Please ask the doctor treating you if you are concerned about any potential scarring.
- **Infection** - There is a small 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 other alternatives?

Carbon dioxide laser treatment is effective for a variety of skin lesions. There may be alternative treatments available, and these would have been discussed with you at your consultation. Please contact the team involved with your care if you have any further questions.

How can I prepare for carbon dioxide laser treatment?

- Avoid the sun for four to six weeks prior to your carbon dioxide laser treatment. Your skin is more vulnerable to lightening or darkening if the area to be treated is tanned.
- On the day of treatment please do not wear any make up or jewellery on or near the site to be treated.
- You can eat, drink and take your medications as normal before your appointment. Please also bring a list of your medications with you.
- Please tell the staff looking after you if you are taking any **antiplatelet medicines** (such as aspirin or clopidogrel) or any anticoagulant medicines (such as warfarin or rivaroxaban) as they may increase the risk of bleeding during and after the procedure. The doctor at your consultation will advise you if you need to stop any of your medicines before your biopsy.
- If you are taking warfarin, please visit your local warfarin clinic two to three days before your surgery date and have your INR checked. If it is below 2 or above 3.5, please contact the dermatology clinic, as your treatment date may need to be rearranged. The contact number is given in the 'Contact us' section of this leaflet.
- Please let us know if you have any allergies to medications, including local anaesthetic..
- Because some people feel light headed after their treatment, you should not drive to your appointment and should arrange for someone to help you home.

Asking for your consent

We want to involve you in all the decisions about your care and treatment. If you decide to go ahead with the carbon dioxide laser treatment, you will be asked to sign a consent form. This confirms that you agree to have the procedure and understand what it involves. You should receive the leaflet, **Helping you decide: our consent policy**, which gives you more information. If you do not receive this, please ask us for one.

What happens during the carbon dioxide laser treatment?

Local anesthetic will be injected in to the area that is to be treated. This may sting for a few seconds, but then the area will feel numb.

If you have several lesions or a large area to be treated, the doctor may perform a test treatment to allow assessment of the cosmetic outcome before a full treatment is booked for a later date.

You will be provided with protective goggles to wear 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 area to be treated will be cleaned and the surrounding areas of skin or hair may be protected by placing wet gauze or drapes over them.

The doctor operating the laser will guide the beam to the treatment area with a small hand piece. It may be used to cut the skin or vaporize the skin layer by layer. This process may be repeated several times. As the carbon dioxide laser vaporises the skin tissue, it creates a small plume of smoke. A suction machine, which sounds and functions like an air vacuum cleaner, will be placed near the treatment area to prevent you and the staff inhaling the smoke.

A treatment can take as little as a few minutes or as long as an hour, depending on the size of the area and the condition being treated.

Will I feel any pain?

Local anesthetic will be injected directly to the area that is going to be treated to numb the skin. You should not feel any discomfort during treatment. The local anaesthetic will begin to wear off about 30 to 40 minutes after the operation. If you experience any discomfort from your wound, you can take simple painkillers such as paracetamol to help with this. Always follow the instructions on the packet and never take more than the recommended dose.

What happens after the procedure?

Following treatment, you will have a raw area that will look red and may be swollen. This appearance can be similar to a burn or abrasion. The treated area may leak a clear, straw coloured fluid as it is healing. This is called serous fluid and is completely normal.

We will usually cover the area with a greasy moisturiser and an airtight dressing. A nurse will explain how to look after the treated area and give you an aftercare information sheet.

You will be able to leave the hospital as soon as you feel well enough and you can eat and drink as soon as you wish to.

Usually you can return to your normal daily activities straight away, but if the treated area is large, you may require time to recover. The team can give you further advice on the day of your treatment.

You will be provided with the aftercare information leaflet, **Carbon dioxide laser: After care**. Please ask a member of staff for a copy if you are not provided with one.

Will I have a follow-up appointment?

You will have a follow-up appointment with the team that treated you with the carbon dioxide laser. We usually see you several times during the following weeks and months so we can monitor the healing and assess the cosmetic result of the treated area. We will give you more information about when we need to see you on the day of your treatment.

Contact us

If you have any questions or concerns about carbon dioxide laser treatment, please contact the Dermatological Surgery and Laser Unit (DSLU) on **020 7188 86284** and leave a message on the answer phone (9am to 5pm, Monday to Friday).

Alternatively you can contact the paging system between 9am to 5pm, Monday to Friday. Please telephone **0844 822 2888** and give the operator pager the number, **802941**. Once you have given the pager number, you will be asked to leave a message. Please give your name and telephone number and you will be contacted as soon as possible. This is not an emergency number

In an emergency please contact your GP or go to your local A&E department.

Changing Faces

Changing Faces is the leading UK charity that supports and represents people who have disfigurements to the face, hand or body from any cause.

t: 0207 391 9270 **w:** www.changingfaces.org.uk

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 **t:** 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 Direct – Offers health information and advice from specially trained nurses over the phone 24 hours a day.

t: 0845 4647 **w:** www.nhsdirect.nhs.uk

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, please call 0848 143 4017, email members@gstt.nhs.uk or visit www.guysandstthomas.nhs.uk

Leaflet number: 802/VER2

Date published: April 2014

Review date: April 2017

© 2014 Guy's and St Thomas' NHS Foundation Trust