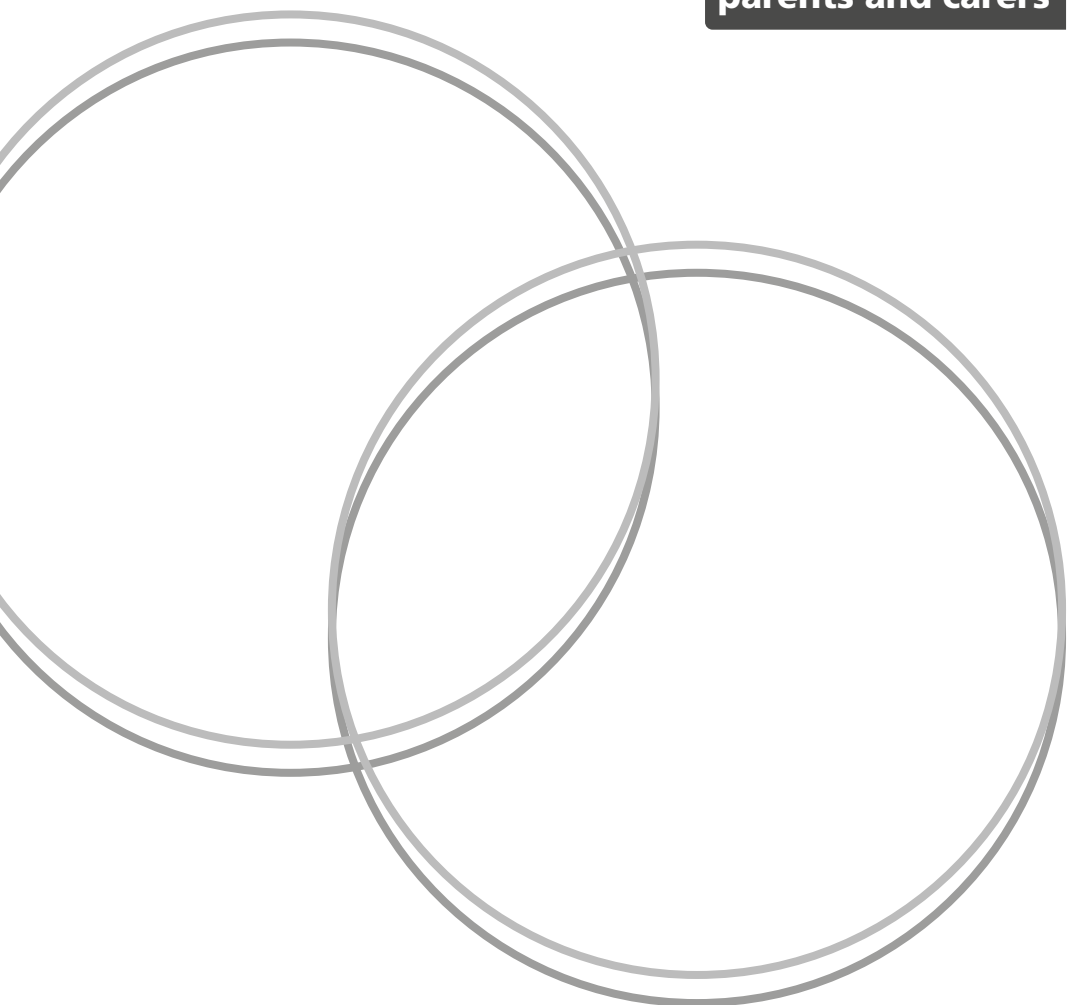




Oxford University Hospitals  
NHS Foundation Trust

# Laser Treatment for Birthmarks

**Information for  
parents and carers**





This leaflet will give you information about laser treatment for birthmarks and what to expect when your child comes for their procedure.

## **Benefits of laser treatment**

Laser treatment with a pulsed dye laser is currently the treatment of choice for reducing the colour of a type of birthmark called a capillary malformation. This type of birthmark is commonly called a 'port wine stain'. It may also help reduce the risk of a 'cobblestone' effect (raised bumps or ridges) that can develop on a birthmark in adulthood.

## **How does laser treatment work?**

Laser treatment uses a narrow beam of light that is absorbed by the red colour in the blood vessels. The light produces heat, which destroys the blood vessels that make up the port wine stain. This is called 'selective photothermolysis'. It causes the port wine stain to become lighter in colour over a period of time.

Each time the laser beam touches the skin, it treats a small area only a few millimetres across. We call this a laser 'spot'. Most children will have lots of 'spots' carried out in one laser treatment session.

## **What does the treatment feel like?**

Each laser spot feels like being flicked with a rubber band. Some children might find this upsetting so we recommend that they have a general anaesthetic (and so are asleep throughout the procedure) particularly if larger or more sensitive areas are being treated.

Some children may be able to have treatment without a general anaesthetic, depending on their age and the size of their port wine stain. The area of skin being treated can be numbed first using local topical anaesthetic cream (sometimes called 'magic' cream).

## **How long will my child need to have laser treatment?**

To get the best results we will need your child to have a series of treatments around every three to four months for around six to eight treatments. We will keep reviewing your child's progress until there is no further improvement to the appearance of the port wine stain.

## **What are the risks of laser treatment?**

The laser treatment causes immediate dark bruising, which will fade over the following couple of weeks. Other possible temporary side effects include blistering and crusting, and the skin becoming more sensitive to touch for a few days.

There may be darker or lighter areas of skin around the area where the treatment has taken place. It is particularly important to avoid sun exposure to the skin that has been treated. This is explained in more detail on page 12.

Scarring is rare, as we carry out test patches to get the correct laser settings. We may then increase the laser energy slowly on following visits. There may be some changes to the texture of the skin following laser treatment, but these are more commonly a part of the port wine stain itself.

## **Test patch**

The first stage in the treatment process is usually a 'test patch'. We apply 'spots' of different levels of laser beam energy to your child's birthmark. We will then plan the starting level of energy to be used for treatment. If your child's port wine stain is very small it might not need to have a test patch.

Following each laser treatment, your child's skin will need to be looked after carefully. For further advice please read the section on information about caring for your child after laser treatment (page 11).

## **Laser treatment**

Once your child has had a test patch and it has shown that laser treatment will help, they can start to have regular treatment sessions. These involve many more 'spots' than the test patch.

They will be booked for a treatment every three to four months. Before each treatment we will check on the improvement from the previous laser treatment. We will take photographs at different points during the course of the treatment. This will help to show the improvement and can be encouraging for your child to see. It is also helpful if family take photographs to help monitor the changes.

We will continue with the treatment until either there is no further improvement, there are side effects, or you or your child decide to have a break in treatment.

## **How well does the treatment work?**

Usually, when port wine stains are treated with a laser, there is a significant improvement in their appearance, although they do not disappear completely. Around 70% (70 in 100) of children having laser treatment will see an improvement and will have a much lighter colour birthmark after a course of treatment.

A small number of children have less of a response to laser treatment, with little fading. The success of laser treatment varies, depending on the part of the body affected and the depth of the abnormal blood vessels. In our experience, the laser works best on port wine stains that are bright pink or red and less well if the port wine stain is purple. Port wine stains on the outer cheeks generally respond better than port wine stains on the central face, the trunk of the body or arms/legs, but each child is different.

Usually, children who start laser treatment at a young age have a better response, but the port wine stain can darken again as your child grows older, particularly around puberty. Sometimes treatment will be restarted around this time. Research is on-going into new treatment methods to treat resistant port wine stains.

## **Consent**

We will ask you for your written consent (agreement) on the day for the procedure to go ahead. If there is anything you are unsure about, or if you have any questions, please ask the doctor before signing the consent form.

## **Fasting instructions**

Please make sure that you follow the fasting (starving) instructions which should be included with your appointment letter.

Fasting is very important before an operation. If your child has anything in their stomach whilst they are under anaesthetic, it might come back up while they are unconscious and get into their lungs.

## **Pain assessment**

Your child's named nurse will use a pain assessment tool to help assess your child's pain score after their operation. This is a chart which helps us to gauge how much pain your child may be feeling. You and your child will be introduced to this assessment tool either at their pre-assessment visit or on the ward before their operation. You can continue to use this assessment at home to help manage your child's pain if you wish.

## **Anaesthetic risks**

In modern anaesthesia, serious problems are uncommon. Risk cannot be removed completely, but modern equipment, training and drugs have made general anaesthesia a much safer procedure in recent years. Throughout the whole of life, a person is at least 100 times more likely to suffer serious injury or death in a road traffic accident than as a result of anaesthesia<sup>1</sup>.

Most children recover quickly and are soon back to normal after their operation and anaesthetic. Some children may suffer side effects like sickness or a sore throat. These usually last only a short time and there are medicines available to treat them if necessary.

The exact likelihood of complications depends on your child's medical condition and on the nature of the surgery and anaesthesia your child needs. The anaesthetist can talk to you about this in detail before the operation.



## **In the anaesthetic room**

A nurse and one parent can come with your child to the anaesthetic room. Your child can also take a toy or comforter.

It may be possible to give the anaesthetic with your child sitting on your lap. Your child may either have anaesthetic gas to breathe, or an injection through a cannula (a thin plastic tube that is placed under the skin, usually on the back of the hand). Local anaesthetic cream (EMLA or Ametop, sometimes known as 'magic cream'), can be put on their hand or arm before injections so they do not hurt as much. It works well for 9 out of 10 children.

If the anaesthetic is given by gas, it will take a little while for your child to be anaesthetised. They may become restless as the gases take effect. If an injection is used, your child will normally become unconscious very quickly indeed. Some parents may find this frightening.

Once your child is asleep you will be asked to leave quickly so that the medical staff can concentrate on looking after them. The nurse will take you back to the ward to wait for your child.

Your child will then be taken into the operating theatre to have the treatment. The anaesthetist will be with them at all times.

## After the procedure

Your named nurse will make regular checks of your child's pulse, temperature and the area that has been treated. They will also make sure your child has adequate pain relief until they are discharged home.

Once your child is awake from the anaesthetic they can start drinking and, if they are not sick, they can start eating their normal diet.

The minimum recovery time before discharge is two hours. This is usually enough time for us to check that your child is recovering well. It also gives us time to check that your child is passing urine (having a wee) after the operation. In some circumstances your child may be allowed home before they have passed urine. If your child has not passed urine within 6 hours of the operation, please contact the ward for advice.

Your child cannot go home on public transport after a general anaesthetic. You will need to take them home by car. This will be more comfortable for them, and also quicker for you to return to the hospital if there are any complications on the journey home. You should bring loose fitting clothes for them to wear on the journey home.

Occasionally, the anaesthetic may leave your child feeling sick for the first 24 hours. The best treatment for this is rest and small, frequent amount of fluid, toast or biscuits. If they are sick and this continues for longer than 24 hours, please contact your GP.

The hospital experience is strange and unsettling for some children so do not be concerned if your child is more clingy, easily upset or has disturbed sleep. Just be patient and understanding.

## Looking after your child's skin

The area treated with the pulsed dye laser will probably seem bruised and may feel like mild sunburn for 5 to 10 days. The skin will be very fragile and needs gentle handling. Some lasers do not cause much surface bruising, but still your child's skin still needs full care afterwards.

- Apply **Dermovate** ointment, prescribed by the Dermatologist to the lasered skin on the night after the laser treatment, the following morning and following night. You can relieve any discomfort soon after treatment by putting an ice pack wrapped in a towel or gauze on the treated area. **Do not apply ice directly to the skin as this can cause a cold burn. Paracetamol is also helpful.**
- Apply unperfumed moisturiser to the treated area, 3 to 4 times per day on the third day post laser to up 7 to 10 days thereafter or more frequently if the skin is itchy or dry. Unfortunately, we can no longer supply the moisturiser. Suitable types of moisturisers includes:
  - QV cream or similar
  - Aloe Vera gel (may sting a little when applied)

All are readily available in most chemist and supermarkets. You may also get this on prescription from your GP.

- Your child will be able to have a bath or shower, but do not use bubble bath or rub the treated area with soap for at least a week.
- The treated skin will be dry and may crack and form a crust or blister. If this happens, just gently moisturise the area and do not pick the skin.
- Your child does not need to avoid PE, games or swimming after treatment. They can return to these activities after a few days, as long as their skin is not broken, cracked or blistered.
- Your child can use camouflage cream after a few days, if they would like to, as long as their skin is not cracked or blistered.

## Using sun blocks

It is important to follow these instructions about sun block creams.

Sunlight increases the melanin (pigment) in the skin. This can darken port wine stains, making them harder to treat. It can also cause white patches to appear on the birthmark after laser treatment. You should not expose your child's birthmark to strong sunlight while they are having laser treatment and for at least a year afterwards.

Your child will need to wear a high factor or total sun block (especially over the affected area) throughout the entire year, to protect their skin when they are in sunlight. The sun's rays can still be strong, even in the colder months of the year. You will need to reapply this regularly, throughout the day. You can get high factor sun block cream on prescription from your GP.

If you are visiting a sunny country at any time of year, your child should wear sun block all the time and it should be reapplied regularly.

If your child is at school, they should apply sun block before school, at each school break time, at lunchtime, and before going home.

Sun block should be re-applied after swimming, even if the bottle says it is waterproof.

Your child should stay out of direct sun between 11am and 3pm, when the sun is at its strongest.

Your child should wear a hat with a peak or wide brim when outdoors, if possible. Babies should always have an umbrella to shade their pram or buggy.

If your child's skin surrounding the port wine stain becomes darker (tanned) you will need to contact your consultant to delay the next laser treatment, until the tan has faded back to normal skin colour.

## **If you have any concerns**

If you have any worries or questions about your child or the treatment once you get home, or if you notice any signs of infection such as a raised temperature, increasing redness, pain or discharge from around the treatment area, or any blistering, please contact us.

## **How to contact us**

### **Childrens Ward Horton**

Telephone: 01295 229 001  
(7:30am to 10:00pm)

### **Secretary to Dermatology Consultants**

Telephone: 01865 228 202  
Option: 3  
(08:00am to 4:00pm)

If you are calling on the day of treatment, please contact the Childrens Ward Horton directly.

### **Specialist Nurse Practitioner: Laser**

Telephone: 01865 228 280 or 01865 228 241  
(08:00am to 4:00pm)

### **Hospital Switchboard:**

Telephone: 0300 304 7777  
Option: Horton Hospital  
Option: Churchill Dermatology (08:00am to 4:00pm)

## Further information

You may find further information on the following websites:

### **NHS Website**

Website: [www.nhs.uk/Video/Pages/portwine-birthmarks](http://www.nhs.uk/Video/Pages/portwine-birthmarks)

### **British Association of Dermatologists**

Website: [www.bad.org.uk](http://www.bad.org.uk)

You can find further information about coming into hospital on our website:

Website: [www.ouh.nhs.uk/children](http://www.ouh.nhs.uk/children)

We hope that this information is useful to you. We welcome any comments about the care or information you and your child have received.

**Please bring this leaflet with you on the day of your child's appointment.**

## Reference:

<sup>1</sup>From the Royal College of Anaesthetists (2020) 6th Edition  
Your child's general anaesthetic. Information for parents and guardians of children.

Website: [www.rcoa.ac.uk/patientinfo](http://www.rcoa.ac.uk/patientinfo)

## Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

Author: Dermatology Department - Laser  
December 2023  
Review: December 2026  
Oxford University Hospitals NHS Foundation Trust  
[www.ouh.nhs.uk/information](http://www.ouh.nhs.uk/information)



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