

Department of Plastic Surgery

## Propranolol for treatment of Haemangiomas

Information for parents and carers

### What is a haemangioma?

A haemangioma is an overgrowth of blood vessels in the skin. The most common type is an infantile haemangioma, which appears shortly after birth and can grow rapidly.<sup>(1)</sup> They occur in about 1 in 20 babies.<sup>(2)</sup> Haemangiomas tend to grow rapidly when they first form. Their growth naturally slows down and they eventually get smaller with time. However this can take more than five years for some patients.

Haemangiomas are not dangerous in most children, but may cause a problems in some. Issues can be:

- They can ulcerate, bleed and become infected.
- They can be disfiguring, especially on the face.
- They can interfere with eyesight, feeding or breathing if close to the eye, mouth or neck.

If any of the above happen or are likely to happen, your doctor may suggest treating the haemangioma with propranolol to help it shrink in size.

### What is Propranolol?

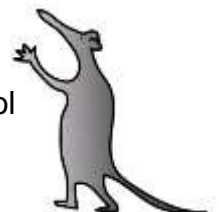
Propranolol is a medicine which has a variety of different uses. For many years, it has been used to lower blood pressure, to slow down a fast heart rate and to treat symptoms of anxiety. More recently it has been shown to be very effective at shrinking down the size of haemangiomas in babies.

### What side effects does propranolol have?

The dose of Propranolol given for haemangiomas is well below the cardiac doses used, and serious side effects are rare.<sup>(4)</sup> If you are concerned that your child is experiencing any side effects please get in contact with us.

Side effects include: <sup>(6,7,8,9,10)</sup>

- Wheeze or cough - if your baby has a cold and becomes wheezy, you may need to stop treatment for a few days.
- Cold hands and feet.
- Bradycardia (low heart rate) and hypotension (low blood pressure).
- Low blood sugar – because of this it is advised that you give your baby propranolol along with feeds. <sup>(9)</sup>
- Lethargy – your baby may become floppy or disinterested in their surroundings.
- Sleep disturbance.
- Diarrhoea or constipation.



### Taking propranolol

Propranolol is taken by mouth as a liquid medicine. The dose for haemangiomas is normally 2mg per kg per day, spread over three doses a day. Your child will start on a half dose of the medicine for several doses. If there are no side effects with this half dose we will advise you to increase to the full dose.

Some infants who are at higher risk of side effects may be monitored in hospital when the treatment is started. This allows doctors to keep an eye on your baby's heart rate, blood pressure and blood sugar; to be sure they can tolerate the full dose without side effects.

Propranolol is taken three times a day, eight hours apart. Always give Propranolol to your baby with a feed. This prevents children getting low blood sugar as a result of taking the medicine. Avoid applying teething gels which contain local anaesthetics whilst your baby is taking propranolol. <sup>(7)</sup>

### **Does my child need any tests before starting Propranolol?**

Most children only need some basic observations, like heart rate and blood pressure, before starting treatment. Some children may require an ECG (heart tracing) or an echocardiogram (ultrasound of the heart). If there are multiple (more than 5) haemangiomas, the doctor may recommend an ultrasound scan to check for any haemangiomas in the liver or spleen.

### **How will Propranolol be monitored?**

Your child will have regular monitoring whilst taking Propranolol, to monitor how the haemangioma is shrinking. The doctor may suggest you have photographs taken at some appointments to document this change. Your child will also be weighed so the dose of Propranolol can be adjusted as required. Initially this will be every month, and it may be offered in person or by telephone.

### **How long will the treatment last?**

The length of treatment is dependent on how your child reacts to the treatment, however it is normally given up to age 9-12 months.

### **How quickly will I notice an effect?**

Each patient is an individual, but some parents notice lightening or softening of the haemangioma within 24 hours of starting treatment. <sup>(3)</sup>

### **What are the other options?**

Propranolol helps to prevent haemangiomas growing to a large size, and can shrink them more quickly, preventing many of the potential complications. If left without treatment, most haemangiomas will continue to grow until a baby is aged nine months, before starting to shrink from the age of 12-18 months.

If your child does not tolerate propranolol, there may be other alternatives which would be discussed with you. These alternatives include prednisolone by mouth and topical timolol. Propranolol is widely considered as the first line therapy of choice.

Haemangiomas are rarely removed surgically in the early stages as this would leave a scar, which may be unnecessary. If there is any excess skin left once the haemangioma has shrunk down, this can be removed at a later date. Laser treatment may be offered when your child is older to reduce any red blood vessels which remain. We will see your child routinely in clinic before they start school to talk about further treatment.

### **Further resources:**

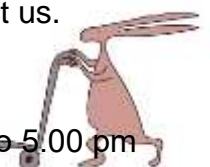
NHS choices website: <http://www.nhs.uk/Conditions/Birthmarks/Pages/Introduction.aspx>

### **How to contact us**

If you have any queries or would like further information please do not hesitate to contact us.

Email: [laser@alderhey.nhs.uk](mailto:laser@alderhey.nhs.uk) - we can usually reply to your query with 2-3 working days

Plastic Surgery Department (Alder Hey) Tel: 0151 252 5510 Monday to Friday 9.00am to 5.00 pm





## References:

1. Richter GT, Friedman AB. "Haemangiomas and Vascular Malformations: Current Theory and Management", *International Journal of Paediatrics*. 2012
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This leaflet only gives general information. You must always discuss the individual treatment of your child with the appropriate member of staff. Do not rely on this leaflet alone for information about your child's treatment.

This information can be made available in other languages and formats if requested.

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