

What is a port-wine birthmark?

A port-wine birthmark is a flat, red or purple birthmark. It happens when tiny blood vessels in the skin don't form the way they should. You might also hear it called a **port-wine stain**, **nevus flammeus**, or **capillary malformation**.

WHAT SHOULD I EXPECT?

A port-wine birthmark is usually there when a baby is born. It looks like a flat pink, red, or purple spot on the skin. It can show up anywhere on the body but often is on the face.

As your child grows, the birthmark grows too. Without treatment, it can get darker and thicker over time, though this is uncommon. If this happens, it would do so in teenage years or adulthood.

In some cases, the skin under the birthmark may also grow more fat, muscle, or bone. If the mark is on the face, the teeth, gums, or jaw on that side might slowly get bigger as your child grows.

WHAT CAUSES A PORT-WINE BIRTHMARK?

A port-wine birthmark happens because of a change in certain genes in the skin where the birthmark appears. These changes are almost never passed down from parents – they happen by chance. The genes most often involved are called *GNAQ*, *GNA11*, and *PiK3CA*. These genes help control how blood vessels develop. You can think of the change like a car stuck on "cruise control," so the blood vessels in that area keep growing slowly over time.

CAN A PORT-WINE BIRTHMARK AFFECT MY CHILD'S HEALTH?

Most children with a port-wine birthmark are healthy and do not have other problems. If the port-wine birthmark is on certain parts of the face, especially the forehead, it can be linked to changes in blood vessels in the eye or brain. This condition is called Sturge-Weber Syndrome. If your child's birthmark is on their forehead, your doctor may order special tests, like brain scans or eye checks, to make sure everything is okay. Your dermatologist will let you know if this is needed. Sometimes, doctors may watch your child's blood pressure as they grow, especially for large port-wine birthmarks involving the body.

WHAT TREATMENTS ARE AVAILABLE FOR PORT-WINE BIRTHMARKS?

Laser treatment, called **pulsed dye laser (PDL)**, can help make a port-wine birthmark lighter. It may also stop the birthmark from getting darker, thicker, or bumpy as your child grows. The laser works by aiming at the blood inside the tiny blood vessels of the birthmark. The laser gently heats the blood, which helps close off those vessels.

Every port-wine birthmark is different. Some fade a lot with laser treatment, and others may be harder to treat. Laser therapy usually works best when started early, while a baby's skin is still thin and easy to treat. Treatments are often done every 2-6 weeks during the first year. After that, treatments may happen once or twice a year to keep the birthmark from darkening or thickening.

WHAT HAPPENS DURING A LASER TREATMENT?

- » Treatments can be done in a doctor's office or sometimes in an operating room with anesthesia.
- » Everyone, including your child, will wear **eye protection** during the treatment.
- » Your child will be safely **swaddled or held**.
- » The laser treatment feels like a **blast of cold air** followed by a quick **rubber band snap** on the skin.
- » After treatment, the area may look **bruised and swollen** for about **1-2 weeks**.
- » Rarely, small **blisters or scabs** can form.
- » After treatment, it is very important to **protect the skin from the sun** to avoid brown spots after healing.
- » Using **petroleum jelly and sunscreen** helps the skin heal faster.
- » **Makeup or concealer** can be used to cover the treated area if needed.

Remember: Most port-wine birthmarks are harmless. Laser treatment can help improve how the birthmark looks, and your dermatologist will help create the safest plan for your child.

HOW CAN I MAKE MY CHILD'S LASER TREATMENTS MORE COMFORTABLE?

It's normal for babies and children to cry during laser treatments. Most of the time, it is because they are being swaddled or wearing goggles, not because they are in pain. The pain from these laser treatments usually lasts only a few minutes.

HERE ARE SOME WAYS TO HELP YOUR CHILD FEEL MORE COMFORTABLE:

- Sugar water (Sweet-Ease)**
- Pacifier**
- Music or videos**
- Cooling spray or ice packs**
- Numbing cream** (special cream to help with pain)
- Child-size goggles or glasses**

Ask your dermatologist which of these options is best for your child. During each visit, your dermatologist will check in with you and your child to make sure things are going smoothly and decide if a break from treatment is needed.



The Society for Pediatric Dermatology
8365 Keystone Crossing, Suite 107
Indianapolis, IN 46240
(317) 202-0224
www.pedsderm.net

Authors:
Diana Lee, MD, PhD
Allison Miller, MD

Reviewers:
Itana J. Frieden, MD
Lisa Gelles, MD

The Society for Pediatric Dermatology and Wiley Publishing cannot be held responsible for any errors or for any consequences arising from the use of the information contained in this handout. Handout originally published in *Pediatric Dermatology*; Vol. 33, No. 4 (2016). Handout revised (2026).

© 2026 The Society for Pediatric Dermatology