CONDITION

Birthmarks

Learn about common vascular and pigmented birthmarks, how doctors evaluate them, available treatments, and signs that need prompt medical care.

WHAT IT IS
Area of skin differing from surrounding skin

BODY SYSTEM
Skin

MAIN SYMPTOMS
Skin discoloration, flat or raised mark, smooth or textured surface, changing size

WHAT CAUSES IT
Usually sporadic developmental changes

HOW IT IS DIAGNOSED
Skin examination, sometimes skin biopsy

MAIN TREATMENT
Observation, medicines, laser treatment or surgery

CAN IT BE CURED?
Sometimes - some fade or are removed

IS IT AN EMERGENCY?
Sometimes - trouble breathing or uncontrolled bleeding

LONG-TERM OUTLOOK
Most are harmless, but some persist or cause complications

Overview

A birthmark is an area of skin that looks different from the surrounding skin. It may be present at birth or appear during the first weeks of life. Birthmarks can differ in color, size, shape, texture, and location.

Most birthmarks are harmless and do not require treatment. Some fade as a child grows, while others remain throughout life. A smaller number can affect vision, breathing, feeding, movement, or another body function. Certain birthmarks may also be associated with conditions affecting the eyes, brain, spine, or other organs.

Doctors generally group birthmarks into two broad categories:

The appearance alone does not always show whether a birthmark needs attention. Its type,

location, growth pattern, and effect on nearby structures are also important. Early assessment is especially useful for marks near the eye, nose, mouth, airway, or lower spine, as well as marks that grow quickly or break open.

- Vascular birthmarks involve blood vessels or lymph vessels. Examples include infantile hemangiomas, port-wine birthmarks, and nevus simplex, sometimes called a salmon patch.
- Pigmented birthmarks involve cells that give skin its color. Examples include congenital melanocytic nevi, café-au-lait spots, and congenital dermal melanocytosis.

Symptoms

Birthmarks usually appear as a visible change in the skin. They may be flat or raised, smooth or textured, and sharply outlined or have less defined borders. They may match the child's skin tone or appear pink, red, purple, blue-gray, tan, brown, or black.

Common vascular birthmarks include:

Common pigmented or skin-cell birthmarks include:

Contact a clinician promptly if a birthmark becomes painful, forms an open sore, bleeds repeatedly, grows very quickly, or interferes with seeing, eating, hearing, breathing, or movement.

Call emergency services for trouble breathing, a seizure, sudden weakness, or significant bleeding that does not stop with firm, continuous pressure.

- Nevus simplex: A flat pink or red patch often found between the eyebrows, on the eyelids, or at the back of the neck. Facial patches often fade during early childhood. Marks on the neck may remain longer.
- Infantile hemangioma: A noncancerous growth of blood vessels. It may not be obvious at birth but often appears in the first weeks of life. Superficial hemangiomas can look bright red and raised. Deeper ones may appear blue or skin-colored. They usually grow for a period and then slowly shrink over several years.
- Port-wine birthmark: A flat pink, red, or purple capillary malformation that is present at birth. It usually does not fade on its own and may become darker or thicker with age.
- Venous or lymphatic malformation: A soft, blue, skin-colored, or swollen area caused by abnormal veins or lymph vessels. Its size may change with body position, illness, injury, or physical activity.

- Congenital melanocytic nevus: A brown, tan, or black mole present at birth or recognized soon afterward. It may be flat or raised and can develop coarse hair. These nevi range from very small to covering a large area.
- Café-au-lait spot: A flat, evenly colored light-brown patch. One or two are common. Multiple spots or spots with other findings may lead a doctor to consider an underlying genetic condition.
- Congenital dermal melanocytosis: A flat blue-gray patch, often on the lower back or buttocks. It is more common in people with darker skin tones and often fades during childhood. Because it can resemble a bruise, documenting it in the medical record may prevent confusion.
- Nevus sebaceous: A smooth or slightly raised yellow, tan, or orange patch, usually on the scalp or face. It may become thicker around puberty.

Causes and risk factors

Most birthmarks result from changes that occur while skin, pigment cells, blood vessels, or lymph vessels are developing before birth. These changes are usually sporadic, meaning they happen by chance rather than being inherited.

Birthmarks are not caused by something a pregnant person ate, did, saw, or felt. They are also not caused by ordinary skin contact during pregnancy.

Infantile hemangiomas are more common in babies born prematurely or at a low birth weight. They are also reported more often in girls and in multiple births. Having one of these risk factors does not mean a baby will develop a hemangioma.

Some birthmarks contain genetic changes limited to the affected tissue. These changes are not necessarily present throughout the body and may not be passed from parent to child. Less commonly, multiple birthmarks occur as part of an inherited or developmental condition.

Examples include multiple café-au-lait spots in neurofibromatosis type 1 and certain facial port-wine birthmarks in Sturge-Weber syndrome. Most people with a single café-au-lait spot or a small port-wine birthmark do not have these syndromes.

Diagnosis

A clinician can identify many birthmarks by examining the skin and asking when the mark first appeared and how it has changed. Photographs taken over time can help show changes in color, thickness, or size.

The examination may include the birthmark's location, borders, texture, color, and relationship to nearby structures. The clinician may also look for other skin findings. A dermatoscope, a handheld tool that magnifies and lights the skin, can provide a closer view.

Additional testing is not needed for most uncomplicated birthmarks. When the diagnosis is uncertain or deeper structures may be involved, testing can include:

Babies with many infantile hemangiomas on the skin may be assessed for hemangiomas inside the body, particularly in the liver. Large segmental hemangiomas on the face, scalp, lower back, or pelvis may also lead to imaging or specialist evaluation because they can occasionally occur with developmental differences elsewhere.

- Ultrasound to examine blood flow or the depth of a vascular growth.
- Magnetic resonance imaging , or MRI, to assess a large or deep birthmark and nearby tissues.
- Eye examination for certain birthmarks around the eyelid, forehead, or face.
- Skin biopsy , in which a small sample is examined under a microscope, if the diagnosis remains unclear or a concerning change develops.
- Genetic evaluation when several findings suggest a possible inherited or developmental condition.

Treatment and management

Many birthmarks only need observation. Treatment decisions depend on the birthmark's type, size, location, growth pattern, symptoms, and likely long-term effects. The child's age and the family's goals also matter.

Infantile hemangiomas that are small, uncomplicated, and away from important structures may be monitored as they shrink naturally. Treatment is considered when a hemangioma threatens vision or breathing, affects feeding, develops an open sore, may cause permanent skin changes, or is associated with another medical concern.

Oral propranolol, a medicine that blocks certain stress-hormone effects on the heart and blood vessels, is commonly used for higher-risk infantile hemangiomas. A clinician evaluates the child before treatment and provides instructions for monitoring and safe use. Topical timolol may be considered for selected thin, superficial hemangiomas. Laser treatment, surgery, or other medicines are used in specific situations.

Port-wine birthmarks do not usually disappear without treatment. Pulsed-dye laser therapy uses focused light to target abnormal blood vessels. Several sessions may be needed, and

complete clearing is not always possible. Treatment can lighten the mark and may reduce later thickening.

Venous and lymphatic malformations may be managed with compression garments, procedures that close abnormal vessels, surgery, medicines, or a combination of approaches. Care is often coordinated through a vascular-anomalies team.

Congenital melanocytic nevi may be monitored or surgically removed. Decisions are individualized because removal can leave a scar and may not eliminate all melanoma risk, especially when a nevus is large or extends into deeper tissue. Changes such as a new firm lump, persistent ulceration, or an area that looks very different from the rest should be examined.

Café-au-lait spots and congenital dermal melanocytosis usually need no treatment. Laser treatment for pigment may have variable results, and pigment can return.

Birthmarks can also affect confidence or attract unwanted attention. Counseling, peer support, camouflage cosmetics, and school-based support may help children and families manage social or emotional effects.

Complications

Most birthmarks do not cause medical complications. When problems occur, they depend on the type and location.

Infantile hemangiomas can ulcerate, meaning the surface breaks down into an open sore. Ulcers may be painful, become infected, bleed, or leave a scar. Hemangiomas near the eye can affect visual development, while those around the mouth or airway may affect feeding or breathing.

A port-wine birthmark involving certain areas of the forehead or eyelid can be associated with glaucoma, which is increased pressure inside the eye, or with Sturge-Weber syndrome, which can affect the brain and eyes. The birthmark does not by itself confirm either condition.

Large facial infantile hemangiomas can occasionally occur with PHACE syndrome, a group of differences involving the brain, arteries, heart, eyes, or chest. Large birthmarks over the lower spine may sometimes be associated with spinal or urinary tract differences.

The melanoma risk related to a congenital melanocytic nevus varies mainly with its size and other features. The risk is higher for very large or multiple congenital nevi than for small, isolated ones. Regular skin checks may be advised even after surgery.

Follow up

Routine follow-up depends on the type of birthmark. A stable, harmless mark may only need review during regular health visits. Birthmarks that are growing, being treated, or linked to possible complications may need more frequent appointments with dermatology, ophthalmology, plastic surgery, neurology, or a vascular-anomalies team.

Taking clear photographs with consistent lighting and a ruler for scale can help track changes. Protecting the area from sunburn is also useful, particularly for pigmented birthmarks. Sunscreen does not remove a birthmark, but it can reduce sun-related skin damage and color contrast.

Arrange a routine appointment if a birthmark gradually changes in color, texture, or thickness; if new spots appear; or if it causes distress or problems at school.

Seek prompt medical advice for rapid growth, repeated bleeding, pain, warmth, swelling, drainage, an open sore, or a mark that begins affecting vision, feeding, hearing, or movement.

Emergency care is appropriate for breathing difficulty, a seizure, sudden neurologic symptoms, or bleeding that remains heavy despite firm pressure.

Sources

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