

# Hemangioma

BIRTH DEFECT RESEARCH FOR CHILDREN



## What are hemangiomas?

Hemangiomas are benign vascular tumors (a collection of tiny blood vessels) that occur in 2 to 3 percent of all infants. Although hemangiomas may not be visible at birth, by age one, up to 12 percent of children will have a hemangioma. The majority of hemangiomas regress by age 5 to 7 years. Hemangiomas are divided into three subgroups based on the size of the vessels. They can range from small and insignificant to large and disfiguring with potentially serious health consequences.



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Strawberry (capillary) hemangiomas are the most common form of hemangioma. They are usually red or pink in color and are more frequent in females. Strawberry hemangiomas often enlarge rapidly until the child is ten to twelve months of age when the tumors begin to regress until most have disappeared by the time the child is age seven.

Cavernous hemangiomas are large hemangiomas that tend to involve deeper structures, such as skeletal muscles. They are also more frequent in females. Many cavernous hemangiomas do not regress or may leave some degree of disfigurement after regressing.

Mixed hemangiomas are made up of blood vessels of various sizes that often develop in the parotid gland (salivary gland).

How many children have hemangiomas?

Hemangiomas are observed in approximately two to three percent of infants, but by age one, approximately twelve percent of all children have a hemangioma. They are more common in females than males and are more frequent in Caucasian infants. 20% of affected children will have more than one hemangioma.

What causes hemangiomas?

Hemangiomas are often caused by autosomal dominant inheritance. They may occur in many syndromes, or they may occur as isolated traits.

When are hemangiomas detected?

Although strawberry hemangiomas are technically birthmarks, they often do not appear until the first few weeks after birth. During the first six to ten months of life, these birthmarks grow rapidly; afterwards, the progression matches the child's growth.

Magnetic resonance imaging (MRI) can evaluate the extent of large or life-threatening lesions (cavernous hemangiomas) and involvement of other tissue or structures.

Do all hemangiomas eventually disappear? At what age?

Over a period of several years, the red color of the strawberry hemangioma begins to fade until the mark is no longer visible, although some children may have pale scars.

Typically, by age five, 50% of all children with strawberry hemangiomas no longer have symptoms. By age seven, 70% of children show complete resolution.

Large, cavernous hemangiomas may not recede and can require medical intervention.

Are there ever complications?

In less than 5 % of children, a hemangioma can leave a depression in the skin during the fading phase, especially when lips are involved. If hemangiomas involve the eyelids, their growth may cause the eyelid to droop, posing problems in the development of correct vision. In rare cases, hemangiomas inside the throat or mouth can cause difficulty breathing.

How are hemangiomas treated?

Steroid treatment -- In situations with a high risk of complications, steroid medication is the first line of treatment. Steroid treatment provides better results when initiated before age one.

Laser therapy -- Laser therapy techniques are being developed at several research centers, but this technology has not yet become widespread. Laser treatment may be the best option if the hemangioma ulcerates; if regression does not occur



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over an extended period of time; or if disfigurement occurs. The success of laser treatment can depend on the selection of the appropriate type of laser. A new outpatient laser procedure has been developed that delivers a laser “spot” in a sequence that allows time for tissue to cool and protects against tissue damage.

**Surgery** -- For some cavernous hemangiomas, surgery gives the best results. This type of procedure is rare since less than 1% of all hemangiomas are intramuscular.

**Interferon-2 alpha** -- Recently, interferon-2 alpha has been used to treat children with steroid-resistant hemangiomas and may be the choice for some children with life-threatening hemangiomas.

The outcome for children with large, life-threatening hemangiomas has improved over the last ten years. Mortality figures have dropped due to promptness in treatment and more effective therapies.

Fact Sheet by:

Birth Defect Research Children,  
Inc.

[www.birthdefects.org](http://www.birthdefects.org)

