CONDITION

Newborn head molding

Newborn head molding is a temporary change in a baby's head shape caused by pressure during labor and birth.

WHAT IT IS
Temporary reshaping of a newborn's flexible skull

BODY SYSTEM
Skull and scalp

MAIN SYMPTOMS
Elongated head, cone shape, overlapping skull bones, mild asymmetry

WHAT CAUSES IT
Pressure during labor and passage through the birth canal

HOW IT IS DIAGNOSED
Newborn examination; imaging only when another condition is suspected

MAIN TREATMENT
Observation and routine newborn care

CAN IT BE CURED?
Yes, usually resolves without treatment

IS IT AN EMERGENCY?
Sometimes, with rapidly enlarging swelling or an unwell newborn

LONG-TERM OUTLOOK
Usually normal head shape within days to weeks

Overview

Newborn head molding is a temporary change in the shape of a baby's head after birth. The head may look long, pointed, cone-shaped, or uneven. This is common after a vaginal birth and usually improves on its own.

A newborn's skull is made of several separate bones. The narrow spaces between them are called sutures. These flexible joints allow the bones to move slightly or overlap as the head passes through the birth canal.

The soft areas between some skull bones are called fontanelles, or "soft spots." Sutures and fontanelles also leave room for the brain and skull to grow rapidly during infancy.

Molding affects the skull's shape, not the brain itself. In most babies, it does not cause pain,

affect development, or require treatment.

Not every unusual head shape is simple molding. Scalp swelling, bleeding beneath the scalp, a preferred head position, and early closure of a skull suture can also change a baby's head shape. A newborn examination helps tell these conditions apart.

Symptoms

Molding is usually noticed immediately after birth. The baby's head may look:

The shape may be more noticeable when the baby is viewed from above. It often begins to round out during the first few days.

Molding may occur alongside caput succedaneum. Caput is soft, puffy swelling caused by pressure and fluid in the scalp during labor. It can cross over the skull's suture lines and usually settles within a few days.

Bruising can also occur after birth, especially following a long or assisted delivery. A defined lump that does not cross a suture may be a cephalohematoma, which is a collection of blood between a skull bone and its covering. This is different from molding and may take weeks or longer to disappear.

A fixed head shape, a hard ridge over a suture, or an abnormal shape that becomes more noticeable over time is less typical of molding.

- Elongated from front to back
- Pointed or cone-shaped at the crown
- Uneven on one side
- Slightly ridged where skull bones overlap

Causes and risk factors

Molding happens because a newborn's flexible skull is exposed to pressure during labor and birth. As the baby's head moves through the birth canal, the skull bones can shift and overlap. This helps the head fit through a limited space.

Molding is usually more noticeable after a vaginal birth. It may be more pronounced when labor is long or when the head remains low in the pelvis for an extended period.

Forceps or a vacuum device may leave temporary swelling, bruising, or marks on the scalp. These findings are not the same as molding, although they can occur at the same time.

Babies born by cesarean birth may have little molding, particularly when labor did not occur first. However, pressure within the uterus or pelvis can sometimes affect head shape before any type of delivery.

Molding is not caused by something a parent did during pregnancy. It is also not a sign that a baby's brain has been squeezed or damaged.

Diagnosis

Head molding is usually identified during the routine newborn physical examination. A healthcare professional looks at the head from several angles and gently feels the scalp, sutures, and fontanelles.

The examination considers whether:

Tests are not usually needed for straightforward molding.

Further assessment may be needed if the shape is fixed, gets more noticeable, does not improve as expected, or suggests craniosynostosis. Craniosynostosis means that one or more skull sutures closed too early. A specialist can often recognize its pattern by examination and may arrange imaging when necessary.

A growing or widespread scalp swelling requires prompt assessment because it can represent bleeding beneath the scalp rather than ordinary molding.

- Skull bones are slightly overlapping but still movable
- Swelling is soft, firm, defined, or spread across the scalp
- The head shape begins improving after birth
- A hard ridge or unusually small fontanelle is present
- The baby is feeding, moving, and responding normally

Treatment and management

Most newborn head molding needs no treatment. The skull bones usually move back toward a more rounded position as pressure from birth ends.

Do not press, squeeze, or massage a newborn's skull in an attempt to reshape it. Special pillows, sleep positioners, and unapproved head-shaping devices are not recommended. They may create an unsafe sleep environment.

Always place your baby flat on their back for every sleep, on a firm and level sleep surface.

Molding is not a reason to place a baby on their side or stomach to sleep.

Once your baby is awake and supervised, short periods of tummy time can support neck and shoulder development. As your baby gets older, varying the direction they face during feeding, holding, and supervised play may reduce prolonged pressure on one area of the head.

A helmet is not used for normal newborn molding. Helmet therapy is sometimes considered for selected older babies with persistent positional head flattening or certain skull conditions, following specialist assessment.

If another birth-related scalp condition is present, management is based on that condition. Caput usually needs observation only. A cephalohematoma is commonly monitored for changes and for jaundice, which causes yellowing of the skin or eyes. Suspected bleeding beneath the broad scalp tissues needs urgent hospital care.

Complications

Normal molding does not usually cause complications. It does not restrict brain growth, and it is not known to cause learning, movement, or developmental problems.

The main concern is mistaking another condition for molding. Conditions that can look similar include:

A cephalohematoma can contribute to jaundice as the collected blood breaks down. Subgaleal hemorrhage can cause significant blood loss and is an emergency, but it is not the expected course of uncomplicated molding.

- Caput succedaneum: soft scalp swelling that crosses suture lines and usually fades within days
- Cephalohematoma: a defined blood collection over one skull bone that can take weeks or months to resolve
- Subgaleal hemorrhage: bleeding into a large space beneath the scalp, causing soft or boggy swelling that may spread or enlarge
- Positional plagiocephaly: flattening caused by repeated pressure on one area of the head
- Craniosynostosis: early closure of a skull suture, producing a persistent or progressive head shape

Prevention

Normal molding during labor cannot always be prevented, and it does not need to be

prevented. The flexibility that allows molding helps a baby's head pass through the birth canal.

After birth, safe positioning can reduce the chance of pressure-related flattening as the baby grows. Continue placing your baby on their back for every sleep. When awake, provide supervised tummy time and vary the way you hold and feed them.

Do not use pillows, rolled towels, cushions, or sleep positioners to change head shape. A clear, firm, flat sleep space is safer.

Living with it and what to expect

Molding often becomes less obvious during the first few days after birth. The overlapping skull bones settle, and the head gradually becomes rounder. Mild unevenness may take longer to fade, especially when scalp swelling is also present.

You do not need to measure or repeatedly press the head. Looking at its shape during routine care is usually enough. Newborn and infant checkups include monitoring of head shape, head growth, fontanelles, and development.

As babies grow, some develop a flat area from regularly resting with the head turned in one direction. This is positional flattening rather than ongoing birth molding. It may improve as the baby gains head control, spends more supervised time off the back of the head, and changes position more often while awake.

Tell a healthcare professional if your baby consistently looks in one direction or has trouble turning their head. Tight neck muscles, sometimes called torticollis, can contribute to positional flattening and may benefit from assessment and guided exercises.

Most babies with uncomplicated molding need no restrictions or special long-term care. Their usual feeding, sleep, and activity routines can continue.

When to get medical help

Mention the head shape at a routine newborn or infant appointment if it is improving slowly but your baby otherwise seems well.

Arrange an earlier assessment if:

Seek urgent medical care for scalp swelling that spreads or grows quickly, particularly if it feels soft or boggy. Also seek urgent help if your newborn is pale, unusually sleepy, difficult to wake, feeding poorly, repeatedly vomiting, or producing fewer wet diapers than expected.

A temperature of 38°C or higher in a baby younger than 3 months needs prompt medical

assessment.

Call emergency services if your baby has difficulty breathing, turns blue or grey, has a seizure, becomes limp, or does not respond normally. These are not expected features of newborn head molding.

- The shape is not beginning to improve after the early newborn period
- Flattening or asymmetry is becoming more noticeable
- You feel a fixed, hard ridge along a skull suture
- Your baby always turns the head to one side
- A scalp lump remains, enlarges, or becomes red or tender
- Yellow skin or eyes develop or become more noticeable

Common questions

How long does newborn head molding last?

It often improves noticeably within several days. Mild unevenness may take days to weeks to settle, particularly when scalp swelling is also present. A shape that remains fixed or becomes more pronounced should be assessed.

Will my baby's cone-shaped head become round?

In most babies, the head gradually becomes rounder without treatment. The flexible skull bones move back toward their usual positions after the pressure of labor ends.

Does head molding hurt my baby or affect the brain?

Ordinary molding is not thought to be painful and does not injure the brain. The skull bones shift slightly at flexible sutures while protecting the tissues inside.

Should I massage my baby's head?

No. Pressing or massaging the skull is unnecessary and could cause harm. Allow the shape to settle naturally, and have any persistent or concerning shape examined.

Is a soft lump on my baby's head normal?

Some soft swelling can be caput caused by pressure during birth. A defined lump may be a cephalohematoma. Because rapidly expanding or widespread swelling can have a more serious cause, seek prompt assessment if a lump grows, spreads, or occurs with pallor, sleepiness, or poor feeding.

Can my baby sleep on their side to make the head rounder?

No. Place your baby on their back for every sleep. Side and stomach sleeping increase the risk of sleep-related death. Use supervised tummy time only while your baby is awake.

Sources

- U.S. National Library of Medicine. Newborn head molding . MedlinePlus Medical Encyclopedia.
- Stanford Medicine Newborn Nursery. Head . Newborn physical examination photo gallery.
- Dias MS, Samson T, Rizk EB, Governale LS, Richtsmeier JT. Identifying the Misshapen Head: Craniosynostosis and Related Disorders . Pediatrics . 2020;146(3):e2020015511.
- Moon RY, Carlin RF, Hand I, et al. Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment . Pediatrics . 2022;150(1):e2022057990.
- Royal Children's Hospital Melbourne. Clinical Practice Guideline: Positional plagiocephaly .