Positional Plagiocephaly
An Information Leaflet for Families

Chartered Physiotherapists in Paediatrics
Positional plagiocephaly is the term we use when an area at the back or side of a baby’s head becomes flattened.

When babies are born, their skull is made up of a number of bones. As they grow their bones fuse or stick together. While the bones are growing the shape of the baby’s head can be altered by pressure, leading to a flattening of their head shape. This can happen in the womb as the baby grows, or after the baby is born.

It is normal for a baby’s head to rest to one side or the other in the first few weeks of life because they are not strong enough to turn their head side to side or hold it in the middle. This changes around four months of age when their head control improves.

If a baby spends a lot of time in one position, for example lying on the flat of their back in seats and cots, or with their head turned to the same side regularly the constant pressure on one area of the skull can lead it to become flattened.
There are other reasons why babies may develop a flattened area on the skull.

- Plagiocephaly can occur in babies with tight neck muscles on one side. This affects how well the baby can turn their head and is called Torticollis.
- Plagiocephaly can also occur in any condition which results in delay of a baby developing head control and ability to turn their head from side to side. This can happen with a number of conditions or when a baby is born prematurely.

How is it noticed?

You may notice your baby’s head is flattened, or has an unusual shape at the back or on one side. You may also notice their forehead or ear may be more forward on the side of the flattening (as in the picture above). Due to the shape of their head your baby might prefer to turn their head to one side. Usually plagiocephaly is diagnosed by a physical examination carried out by your General Practitioner (GP)/Public Health Nurse (PHN)/Chartered Physiotherapist and sometimes a skull x-ray may also be taken to confirm it.

What can I do to prevent plagiocephaly?

Because newborn babies are not able to keep their head in the middle or turn it from side to side, they may rest their head to the same side most of the time, which leaves them at risk of developing a plagiocephaly. If you notice this at an early stage plagiocephaly can be prevented by simply following the tips below, but rather than concentrating on one side, do it to both sides equally.
**What can I do if I notice my baby has a flattened area on their head?**

If you notice a flattened area on your baby’s head, or if you notice your baby prefers to look more to one side than the other it is important to address this immediately.

Begin by repositioning your baby – encourage them to turn their head to their less favoured side so they are not putting pressure on the flattened area all the time. If your baby has not got a flattened area then encourage them to turn their head to both sides equally.

**Sleeping Positions**

As newborn babies are not strong enough to turn their head from side to side for the first few weeks of life, it is important that you make sure your baby is placed to sleep with their head facing a different direction each time.

However, do remember that the baby must be on their back but only have their head turned to the side.

To prevent SIDS (Sudden Infant Death Syndrome), babies under one year must sleep on their backs, without positioning devices or pillows that put the baby at risk of overheating and suffocation.

If your baby does have a flattened area, take care when placing your baby down to sleep. Place them cheek down onto the non-flattened side of their head and body. Let them settle for a moment in this position. Then, placing a hand on their head to stop it moving, gently roll their body so they lie on their back (chest up). They should end up lying on their back with their head turned to the non-flattened side.

If they do not have a flattened area, take care that they are positioned facing a different direction each time they go down to sleep.
Babies tend to turn towards light or noise, and also towards you if you are sleeping in the same room. If looking towards you or the light/noise means they are lying on the flattened side, you should change the position of the cot or the end of the cot to which you put your baby to sleep each night, so that they turn their head away from the flattened side.

Also if there is something that your baby likes looking at, such as a light/toy/mobile, place it so that your baby must turn their head away from the flattened side to see it.
Positioning for “Awake” time

Laying your baby on their side, with a pillow behind them to prevent them from rolling back, is a nice position for babies to learn to play in. If your baby has an area of flattening on one side then lay them on their other side, otherwise lay your baby down equally on their right and left sides to play.

Always make sure your baby is awake and not left alone when in this position.

Travelling with your baby

Long periods positioned in a car seat can encourage or worsen flattening of the head. Try to limit the amount of time your baby spends in car seats, especially until they have developed enough head control to hold their head in the middle and turn it side to side.

Do remember however, that when in a vehicle, babies must be positioned and restrained in an appropriate car seat for their age and weight.
Physiotherapy
If your baby develops a positional plagiocephaly your Chartered Physiotherapist can give you advice about a repositioning programme to help your baby’s head shape return to a more rounded shape.

Physiotherapy can also be helpful for children who have difficulty turning their head to one side due to tight muscles (Torticollis). The sooner their head turns as easily one way as the other, the sooner the natural correction of head shape can begin.

Helmets
The use of helmets is not endorsed by the National Paediatric Craniofacial Centre, as at the time of print the scientific evidence shows that helmets are no more effective than the methods described above.

Pillows
The Irish SIDS guidelines do not recommend having anything soft, including pillows, in the cot when your baby is asleep unsupervised.

What is the outlook for my baby?
For your baby’s head to become more round, the pressure, causing the plagiocephaly in the first place, needs to be removed or reduced. Therefore, as your baby becomes more active (for example: rolling, sitting and crawling) and spends less time lying in the same position the sooner their head will begin to change shape.

Most cases of plagiocephaly round out by the time the baby is two years of age and even after this there is still plenty of scope for the head to re-shape. A degree of flattening can remain but this is not usually obvious once hair has grown and the size of the baby’s head is more in proportion to their body.

However, the earlier steps are taken to prevent/treat the flattening, the easier to prevent the condition developing.
• If you must make a long journey, take rest breaks, and lift your baby out of the car seat to reduce the pressure on their head.
• Consider using a colourful toy to encourage your baby to look to their less favoured side whilst in the car seat.
• When out and about avoid using the car seat but consider a pram or baby carrier/sling instead.

A note on baby carriers/slings
A baby carrier or sling may be an option for you for carrying your baby. However ensure that it is appropriate for their age and ability and that their hips and legs are well supported. Be aware that your baby can and will still turn to their favoured side whilst in the sling, and again if they do not have adequate strength or support they may end up with their heads resting in a tilted position, which can cause the plagiocephaly to become more pronounced.

Baby seats/Bouncer seats
Too much time spent in seats by babies who haven’t yet developed head control can lead to the baby allowing their head to ‘fall’ to one side (tilt) or turn to their comfortable or favourite side. This can worsen a plagiocephaly and may also lead to tightening of neck muscles (torticollis).

• Avoid letting your baby sleep in their bouncer seat. Place them in their seat only when you are happy that they have adequate head control to hold their head in a forward position rather than to the side when sitting in their seat.
• Avoid letting your baby sleep in their seat, hold your baby on your knee reading/playing with them to keep them interested.
Carrying positions
It is important to support your newborn baby’s head when you pick them up or carry them. However, as your baby grows and their head control improves and neck muscles get stronger they will need less support from you to hold their head up. Carrying them over your shoulder or facing away from you (e.g. in the ‘crook’ of your arm or against your chest) allows plenty of visual stimulation to encourage them to look around and hold their head upright themselves.

- Try to carry your baby in different positions, such as alternate the hip/arm you hold them in, so that they spend roughly equal time looking to both directions.

Feeding
Whether you breast or bottle feed your baby, change the arm you hold your baby in, to make sure they are turning their head both ways.

If your baby has a favourite side to turn to, approach and feed them from their less preferred side when taking spoon feeds and sitting in a high chair. If they do not have a preferred side, approach equally from both sides when feeding.
Tummy Time

Tummy time should be introduced from birth and be part of every baby’s daily routine as this is where they will develop the strength in their neck and shoulders and also learn the skills needed to roll, sit and crawl. Being on their tummy also prevents pressure on the back of their head which causes plagiocephaly.

• It is recommended to have tummy time regularly throughout the day. Use a reminder such as after a nappy change or before a feed so that it becomes part of your daily routine.
• It is important that your baby is awake and active during tummy time.
• If tummy time is not yet part of your daily routine, don’t worry it is never too late to begin. Your baby may protest at first if they are not used to being on their tummy however they will soon enjoy it, especially when you entertain them in this position. In the early days you can do tummy time lying on your chest or lying on your lap (see pictures below).

• Carrying your baby in a tummy down position along your forearm is another nice way of bringing tummy time into your day.

• As your baby gets older use a play mat and encourage your baby to push through their arms to look around and lift their head up. You can start by placing a small rolled towel under their chest to help them lift their head and shoulders (see pictures below).

• Use bright toys, mirrors or musical toys to encourage them to lift and turn their head from side to side.

**Your habits**

Be aware that if you are left handed or right handed this may influence to which side your baby will want to turn. If you always carry them or feed them on one side this encourages them to turn to that side. Be aware of your own preferences; alternate your carrying and feeding positions.
Further Treatment
If you are concerned about the shape of your baby's head or your baby has difficulty turning their head to either side, speak to your local GP or Public Health Nurse (PHN) as soon as possible and they will arrange for further assessment and treatment for your child if required.

General Information
Chartered Physiotherapists are health professionals allied to the Medical Profession and carry a university qualification. The title “Chartered Physiotherapist” and the initials “M.I.S.C.P.” indicate that a physiotherapist is a member of the professional regulating body the Irish Society of Chartered Physiotherapists (ISCP). Chartered Physiotherapists work in hospitals, the community and in private practices. Many specialise in ‘paediatrics’.

You can directly contact a Chartered Physiotherapist or your G.P. can refer you for a consultation.