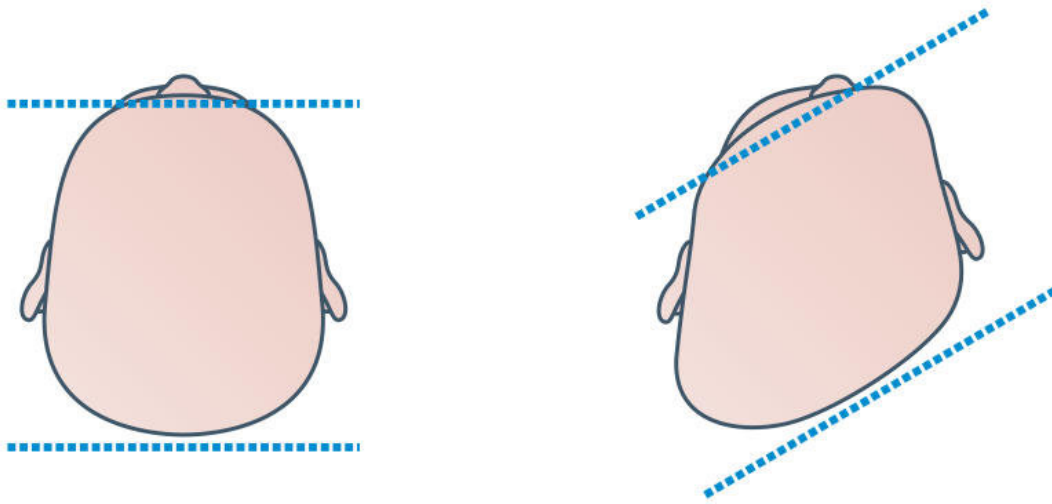


Helping babies avoid getting a flat head

July 10 2018, by Kathryn Powley



Plagiocephaly is caused by prolonged pressure on the baby's growing skull.
Credit: The Royal Children's Hospital

All that physiotherapist Liz Williams wants is for baby pumpkins to be able to move their heads on their own. If that sounds odd, it's because Mrs Williams likens young babies' heads to pumpkins because that's how many new parents treat them – as inanimate objects.

Following advice, many new [parents](#) 'position' their resting baby with their [head](#) on one side and then on the other side—when in fact [babies](#) should be encouraged to move their "pumpkins" all on their own.

Mrs Williams recently completed her Ph.D. research at the University of Melbourne, exploring how we can prevent what has become a common problem in many infants—flat headedness.

Her research investigates whether babies can and should move their heads by themselves, and if they did so, whether they could avoid plagiocephaly, the clinical name for asymmetrical flat-headedness.

The condition is caused by prolonged pressure on the baby's growing skull, flattening the back of the head, and in severe cases, causing distorted facial features and a bulging forehead. It has [been likened to a growing pumpkin](#) on flat ground . Some babies need to wear a special head shape-correcting helmet in order to fix their growing skull.

Although the problem is mostly cosmetic, it is a source of stress for many parents and some studies have found it is a [marker for developmental delay](#) .

As a result of her research, Mrs Williams has created a straightforward [fact sheet](#) which is now available through Victorian maternal health providers and the Royal Children's Hospital.

The fact sheet provides practical advice to parents including:

- Even newborn babies can move their head to each side by following their parents eyes or their voice
- From birth babies need both tummy time and face time
- Babies heads are heavy, so they do need support
- Tummy time can include when your baby is lying on you
- Both face time and tummy time can be on the floor
- Sleep baby on their back from birth, not on their tummy or side.

Deformational or positional plagiocephaly is relatively common.

In 2013, a [study of 440 healthy Canadian babies](#) aged two to three months found 46.6 per cent had plagiocephaly, with 45 of the group having moderate or severe skull deformity requiring treatment .

The condition has been on the rise in the West since 1992 when the American Academy of Pediatrics made its ground-breaking and life-saving recommendation that babies be put to sleep lying on their backs not their tummies, to reduce their risk of Sudden Infant Death Syndrome, or SIDS.

Mrs Williams, who became a registered physiotherapist in 1968, fully supports "back to sleep" advice which [halved the incidence of SIDS](#).

Studies have recognised the increased incidence in skull deformities since the "back to sleep" was widely adopted but until recently, researchers medicalised the problem rather than looking at prevention.

In 2011, [a French study](#), then in [2014 Finnish research](#) found reduced plagiocephaly rates in hospital studies after doctors advised parents how to help their babies achieve free and spontaneous movement from birth. This intervention was implemented by trained physicians in maternity units, which is hard to replicate. But since then, the message has stalled.

But, says Mrs Williams, advice for parents to give babies plenty of "tummy time" and alternate on which side their head rests doesn't go far enough.

"Standard prevention advice makes sense as it reduces pressure on the back of the baby's skull, but it treats babies' heads like giant pumpkins. It makes babies like an inanimate object, to be positioned and turned. We're told to alternate their head position or put them on their tummy for play.

"But this passive approach is not working. We must encourage babies to be active, to move themselves. And the best way to encourage movement in babies is to engage with them from birth," Mrs Williams says.

We control our head with our sternocleidomastoid muscles or SCMs which start at the top of the sternum and finish on the skull just behind each ear.

These muscles control our head balance and allow us to raise and lower our heads.

If one SCM remains contracted, a condition known as torticollis results in asymmetrical head or neck position.

In babies, if one SCM is stronger than the other from always lying on the same side, the infant can get stuck in that position, have poorer head control and experience constant pressure on the same spot on the back of their head resulting in plagiocephaly.

'Tummy time' gives babies' SCMs a good stretch, which could explain why they dislike it so much at first.

By age three or four months babies are typically able to use their SCMs to balance and hold their head up against gravity.

A filmed test can check this. At the Royal Children's Hospital's plagiocephaly clinic, babies are observed performing a routine pull-to-sit test, where they are gently pulled up by their hands from lying on their back up into a sitting position.

This test gives a good indication of head control, but Mrs Williams observed that babies at the clinic, aged an average seven months, did not fully meet typical development guidelines.

"It is reasonable to expect infants to control their heads, especially to the midline and side-to-side by two to three months and to maintain their head against gravity by themselves when pulled up to a sitting position by four to five months," Mrs Williams says.

Mrs Williams also surveyed 183 [maternal and child health \(MCH\) nurses](#) who saw 11-50 infants with plagiocephaly in the previous year at the age of one to three months; 15 paediatric physiotherapists who saw 10-25 infants in the previous year did not see them until four to six months; and a physiotherapist at the Royal Children's Hospital who saw a whopping 350 cases a year.

The MCH nurses say they advised parents to place the baby with their head on the unaffected side and to give plenty of tummy time. The nurses tend to refer parents to paediatric physiotherapists and general practitioners, with some also referring parents to chiropractors or osteopaths.

The physiotherapists surveyed encourage active movement and stretches for torticollis and referred babies with severe cases for helmet therapy.

But both MCH nurses and physiotherapists expressed doubt about the efficacy of their prevention advice.

Finally, Mrs Williams audited almost 4000 appointments for 1990 individuals over a three-year period at the Royal Children's Hospital's plagiocephaly clinic.

Due to high demand, babies referred to the clinic at a critical time in their development have to wait two months for an appointment.

The average age for appointment is seven months—65 per cent of those babies are boys, 60 per cent with a right-sided deformation, 72 per cent

with mild deformations and eight per cent needing helmet therapy. It is a large resource for this condition and reducing health care cost is a motivating factor for better prevention.

Mrs Williams hopes the new fact sheet will go some way to reducing the number of babies needing the clinic and empower parents to encourage their babies to develop their pumpkins themselves.

"Researchers have found that [some parents are so fearful of skull deformities](#) that they are resorting to unsafe sleeping practices like using a positioning pillow," says Mrs Williams.

"This is really alarming. Clearly these parents need better advice than what they get now. I hope the fact sheet helps change that."

Provided by University of Melbourne

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