

Tummy time in infants

Estela Grad^a

This comment is motivated by the restatement in 2022 by the American Academy of Pediatrics (AAP) of their recommendation to place babies on their tummies every day from birth while they are awake for a certain supervised time to prevent positional plagiocephaly (PP).

Their recommendation arose from the increased number of cases during the 1990s following the Back to Sleep campaign in the United States, which reduced mortality due to sudden infant death syndrome. PP tends to resolve spontaneously when the baby is able to rotate their head; its incidence decreases from 20% at 8 months old to 3% at 24 months old.¹ It may be noticed between 2 and 3 months of life, with an incidence of 1/60 and 2–3 times more among males.^{1,2}

In relation to the causes of PP, in 1851, Virchow already mentioned the action of external mechanical forces. Cranial deformation and preferential position have been associated with prenatal factors (constriction of the uterus), birth factors (dystocia, breech presentation, etc.), and postnatal factors (supine position and torticollis).²

In relation to the 2022 AAP's update, their recommendation is controversial because there is insufficient evidence to support it.³ The study published in 2003, cited for recommending

daily tummy time from birth to prevent PP, does not provide evidence on the usefulness of this measure.⁴ The suggestions made in different articles in relation to the time vary between 5 minutes and 20–30 minutes daily, but are also not based on evidence, which had already been stated in the 2016 AAP's update.

In 2008, a prospective study with a control group was published in Montpellier (France) that showed a lower incidence of PP when freedom of movement was allowed (supine position on a firm surface).⁵ In that study, 1) no association was found between the supine position in the first 4 months of life and PP at 4 months old, 2) infants without PP at 4 months old had more free motor skills, and 3) PP at birth or a preferential position are not risk factors for progression to PP at 4 months old. In summary, the aforementioned study suggests that the absence of unrestricted mobility, rather than the supine position, would be implicated in the higher incidence of PP. Placing the baby on the prone position while they are awake may help them achieve greater mobility of the head, which would be limited when the baby remains in devices that keep them passive and limit head rotation (baby bouncers, infant car seat, various seats, stroller). However, this measure would be less effective in resolving

doi: <http://dx.doi.org/10.5546/aap.2023-10119.eng>

To cite: Grad E. Tummy time in infants. *Arch Argent Pediatr* 2023;121(6):e202310119.

^a Specialist in Early Infant Development, UNCuyo, Mendoza, Argentina.

Correspondence to Estela Grad: estelagrad@yahoo.com.ar



This is an open access article under the Creative Commons Attribution–Noncommercial–Noderivatives license 4.0 International. Attribution - Allows reusers to copy and distribute the material in any medium or format so long as attribution is given to the creator. Noncommercial – Only noncommercial uses of the work are permitted. Noderivatives - No derivatives or adaptations of the work are permitted.

the eventual cranial deformation compared to freedom of movement in the supine position from the beginning. Van Vlimmeren et al. have confirmed this and concluded the following: 1) there is no association between the supine position and PP at 7 weeks of life, and 2) PP at birth is not predictive of progression to PP at 7 weeks.⁶

It is known that, during a period of time, babies cannot move to the prone position by themselves, they do not choose the position. As of 4 months old, they begin to lie on their stomach, depending on the freedom of movement they are allowed. Between 5 and 10 months of age, the prone position predominates; they already hold their heads and support their hands open when rolling.

In 1981, a published study compared a group of children placed only in the supine position with another group placed in the prone position during wakefulness. The second group showed sudden movements to support their head (which tends to drop) and overall discomfort (because they were not allowed to explore).⁷ Long-term effects had been described (since 1980) in infants who had been placed on their tummy early before its association with sudden death was discovered. Placing babies on their tummy before they can do it by themselves is equivalent to anticipating their development; twitching occurs (especially

in the back muscles) due to lack of coordination and the immaturity of muscle tone, which causes disorganization in subsequent coordination, with clumsiness, falls, and delays in the development of manipulation.

Finally, it is difficult not to imagine that supervision may fail while the baby lies on their tummy and, in that case, we would be faced with a new situation of risk of sudden death. ■

REFERENCES

1. Hutchinson BL, Hutchinson LA, Thompson JM, Mitchell EA. Plagiocephaly and brachycephaly in the first two years of life: a prospective cohort study. *Pediatrics* 2004;114(4):970-80.
2. Seoane S, Zagalsky P, Borao D, Breitman F, Mantese B. Plagiocefalia postural y craneosinostosis: factores asociados y evolución. *Arch Argent Pediatr*. 2006;104(6):501-5.
3. Moon RY, Carlin RF, Hand I, Task Force On Sudden Infant Death Syndrome and The Committee on Fetus and Newborn. Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment. *Pediatrics*. 2022;150(1):e2022057990.
4. Persing J, James H, Swanson J, Kattwinkel J. Prevention and management of positional skull deformities in infants. *Pediatrics* 2003;112(4):199-202.
5. Cavalier A, Picaud JC. Prévention de la plagiocéphalie posturale. Montpellier: Elsevier Masson, 2008.
6. van Vlimmeren LA, van der Graaf Y, Boere-Boonekamp MM, L'Hoir MP, et al. Risk factors for deformational plagiocephaly at birth and at 7 weeks of age, a prospective cohort study. *Pediatrics*. 2007;119(2):e408-18.
7. Szanto Feder A. Una mirada adulta sobre el niño en acción. 2ª ed. Buenos Aires: Cinco; 2014.