

# What is Tummy Time : is it necessary for newborns?

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## Introduction

Chiropractic offices are receiving large numbers of infant patients into their practices. Consequently, new guidelines have been forthcoming to assist chiropractors in applying their best evidence practice to this age group.<sup>1,2</sup> However, very little has been said in how we give advice, particularly in the important topic of prone play (“tummy time”) for the infant. It is not always recognized that research data must be translated into clinical practice in order for the practical applications to benefit the end user, the patient, and in this case the parent and the infant. Why would such a simple concept, such as an infant playing in prone position be an issue for discussion between the doctor and parents? It is because the simple messages have become convoluted, confusing and difficult to follow. It is perhaps time to go back to the beginning.

## What is the postural problem?

Most new mothers report little, if any physician advice on daytime positioning, but 90% report receiving information on infant sleep positioning.<sup>3</sup> In general, correct positioning of the neonate is very important for postural control for any infant at risk of developing fixed deformities, but little specific advice may be given by physicians, except for the “Back-To-Sleep” program.<sup>4</sup>

The long-term 1992 advice from the American Academy of Pediatrics recommending that caregivers always place a baby on his or her back for sleep at night has come through loud and clear.<sup>4</sup>

This advice has been frequently reiterated, “reaffirmed” (what the AAP does periodically to keep specific policies in the public eye) and often repeated that the supine positioning has had a positive reduction in SIDS (sudden infant death syndrome).<sup>5,6-10</sup> This advice may or may not stand up to scrutiny and is a potential and necessary topic for extensive evidence based review.<sup>11</sup> That review cannot be done in the context of this paper. Our role and responsibility is to provide resources for parents so that they may attempt to make informed decisions based on the available evidence.

Another effect from Back-To-Sleep, and the topic of this commentary, has been a common occurrence of misshapen heads in the pediatric population (Table 1).<sup>5</sup>

Why does head shape change with supine sleep? Since

**Table 1. Prevalence of head shape deformity in infants**

Age	Percentage
6 weeks	16%
4 months	19.7%
8 months	9.2%
12 months	6.8%
24 months	3.3%

most of the infant’s time is spent in sleep, if the head position doesn’t vary, the soft skull is likely to flatten from consistent, weight bearing positioning. The problem is that the more it flattens, the harder it is for the infant to change position. The more time passes in only one position, the flatter the malleable, weight bearing area becomes, losing the roundness of the cranium and resulting in head deformation, or what is termed “plagiocephaly” or misshapen skull. This can occur on the posterior aspect of the skull, which is termed “brachiocephaly”, or very commonly, unilaterally (only on one side) when an infant has preferred or restricted neck rotation.

Although head shape problems do decline with age, there are still a significant number that suffer from longer term problems. Research suggests that infants with positional plagiocephaly are at risk of a delay in motor milestones.<sup>12-17</sup> Although many physicians term the cranial deformation “purely cosmetic,” it may be that cosmetic head deformity is merely a marker for the problem, not the real problem, which is more likely the lack of opportunity to play in prone position which supports development.<sup>17</sup>

Chiropractors will be very familiar with the problem of the infant who cannot rotate his or her cervical spine equally to both sides (due to vertebral fixation or muscular imbalance), thus causing a flatness on one side of the cranium (more commonly the right side).<sup>18</sup> Once the infant has settled into this preferred posture, the more the head flattens, the more difficult it is to overcome gravity and the more staying to that side becomes a habit, profoundly preferred by the child. Parents may accept this as typical behaviour and the head shape may not even be noticed by them and it is often first pointed out by the doctor on the 8 week wellness exam. If the baby is not prescribed and administered treatment to

allow him/her full range of motion of the cervical spine and is not given good instruction on the need for tummy time, the problem may persist. There is some evidence that chiropractic care is helpful to reduce the head deformity through improving the infant's ability to rotate equally in both directions.<sup>18</sup> The AAP recognized that infants were missing out on important health motor develop by 1996 and recommended to parents that they vary their infant's head position in their sleep and give them some tummy time when awake, beginning at birth.<sup>6</sup> Unfortunately, this advice was largely ignored.<sup>3</sup>

Despite that early warning about the need for tummy time, it has never really become common advice for health care professionals to disseminate. Parents have had to learn on their own of its many benefits and they sometimes have a fear of placing their baby on his/her front based on the 1992 information linking any position except supine with SIDS.<sup>4</sup> Many parents did not realize that supine is the position for sleep, but that day-time position should be varied for the health of the child.

**What is it important for parents to know and understand?**

Environment makes a difference to baby's development and babies need to move within their environment. The authors are proposing a guideline for parents to use in order to help them understand how much tummy time may help their babies adapt to their environment in a positive way and to prevent or help alleviate any positional head defor-

Age	Minutes/day
1 week	5 minutes/day
4 weeks	10
8 weeks	20
12 weeks	45
16 weeks	80 minutes/day

mation caused by continuous supine positioning (Table 2). Remember that the time per day can be split into smaller time intervals throughout the day. Make it fun with toys and interaction, so that they gradually get used to it and learn to enjoy the time and the new point of view. It is key to remember that until or unless the AAP guidelines are reviewed and refuted with evidence based information, lay babies down to sleep on their back, do not lie babies prone on less than firm surfaces (not on pillows, comforters, pillow tops, etc) and always supervise the tummy time. Doing these things may lower the risk for both SIDS and developmental problems.

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