

The impact of prolonged dummy and bottle sucking on the development of speech and language in children



Dummy use

- NHS guidance suggests waiting until breastfeeding is established (around 4 weeks) before using a dummy
- Using a dummy during sleep is linked to a lower risk of Sudden Infant Death Syndrome (SIDS). If you choose to use a dummy, offer it for every sleep, day and night. Offering it only sometimes may be less effective for SIDS risk reduction.
- Breastfeeding itself is the best option, and a dummy should not be forced if a baby refuses it
- Use an orthodontic dummy
- **Never:** put anything sweet on the dummy, as this can cause tooth decay.
- **Never:** use a neck cord or dummy attachment, as they are a strangulation hazard.
- Don't force it: If baby spits the dummy out, don't worry about putting it back in during their sleep.
- Keep it clean and wash it regularly with hot soapy water

The development of oral motor skills

- oral motor skill involves muscle groups working together to carry out functional processes such as phoneme articulation, suction, chewing and swallowing
- Due to the complexity of the muscles and structures involved any change may result in disorders of the oro-facial structure and disorganisation of muscle movements
- This can then have an impact on the way that these structures and muscles function to produce speech

In a normal development the oral motor skills necessary for feeding can be divided into 6 developmental stages.

Conception to birth

- Sucking begins in utero
- Non-nutritive suck from 18-30 weeks
- Nutritive suck (needing development of suck/swallow/breathe synchrony) from 34-37 weeks

Birth to 3 months

- Feeding in a supine position
- Non-nutritive suck at non-feeding times
- Nutritive suck at feeding times, with an efficient pattern having been set up within a few days after birth at the latest

3-6 months

- Semi-upright position.
- The sucking pattern matures, and the lips become more active in sealing around the teat.

6 months

- Weaning onto runny puree. Initially the baby sucks but gradually the early feeding reflexes fade
- The child learns more volitional control over the oral movements and develops a new range of tongue and jaw movement
- As textures are introduced this stimulates the development of a broader range of oral motor skills
- The absence of the teat in the mouth leaves more space for tongue tip movement
- The child gradually learns to control food coming off the spoon with more discrete jaw, lip and tongue movements

6 months to 1 year

- Development of vertical chewing movement.
- Moving to an open cup or straw drinking results in sucking being abandoned and the development of more mature patterns of lip, jaw and tongue movement

12-24 months

- Tongue movements now become more complex with tipping and side to side movements and more defined use of the tongue tip

There can be a significant impact on the development of the bony structures of the mouth, the dentition and the patterns of oral motor movement required for speech not moving through the developmental stages at an appropriate age

Factors which affect the development of normal articulatory movement include:

- Abnormal resting posture of the oro-facial musculature.(dummy /bottle use held between teeth habitually/finger sucking)
- Atypical or developmentally inappropriate chewing and swallowing patterns.(e.g. prolonged use of smooth puree with no exposure to texture)
- Dental malocclusions

The jaw lips and tongue function together smoothly to contribute to the development of communication skills. These functions can be affected adversely by:

- The presence of an intrusive object
- Abnormal growth patterns
- Deprivation of listening, talking and chewing opportunities

Breastfeeding encourages nose breathing; this exerts pressure on the palate causing it to lower and expand. This enables the face bones to grow at an appropriate rate and generates space for teeth to erupt.

Prolonged use of bottle feeding can set up several abnormal patterns

- When the bottle is used nose breathing is compromised. The tongue rests on the maxillary arch allowing air to enter through the mouth
- A bottle use can alter the tongue position resulting in inadequate mandibular growth and a posterior crossbite
- The buccinator muscle may become too big and powerful thus triggering a disproportionate ratio of maxillary and mandibular growth
- The repetitive pressure from bottle feeding can lead to a high, narrow hard palate, whereas the more natural, deep suction of breastfeeding can help maintain the palate's shape

Other bad habits to be discouraged

- Finger or thumb sucking can lead to narrowing of the maxilla and an open or posterior cross bite. This tends to result in an interdental or lateral lisp
- Dummy sucking causes all the problems associated with prolonged bottle feeding. Also causes a significant increase in the incidence of Otitis Media. Prolonged periods of hearing loss will interrupt speech and language development
- Use of a spouted beaker/ Sippy cup encourages the same pattern of sucking as bottle feeding

Introduction of open cup drinking from 6 months

- As a child learns to drink from a cup their jaw, cheek, lip and tongue skills are strengthened
- To drink from a cup the child must direct the fluid from the front to the back of their mouth without the guidance of a bottle teat
- In cup drinking the tongue action changes from the immature in and out action to a more mature up and down action. The cup allows the opportunity to learn this action, whereas the bottle continues to allow the less mature action
- Lip control improves with cup drinking as the lips must draw in at the corners and pull liquid in, directing it at the centre of the mouth

When to stop using a dummy

- Start to phase out the dummy between 6 and 12 months of age
- Consistent long-term use after 8 months can lead to potential issues with teeth and speech development
- Gently wean your baby off the dummy by their first birthday