# Thumb and Finger Sucking

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# In Brief

## Thumb and Finger Sucking

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Although the incidence of thumb sucking in developed countries has declined in recent years, it remains a common behavior. Several related habits—thumb sucking, finger sucking, and pacifier use—are considered forms of nonnutritive sucking. Rates of nonnutritive sucking have varied over time. Studies in the past suggested as many as 70% to 90% of children engaged in such behavior, with digit sucking more common than pacifier use. Currently, pacifier use is more prevalent.

Thumb sucking is present in fetal life and has been noted at 29 weeks' gestation. Recent studies have found finger-sucking behaviors during infancy in 10% to 34% of children. A large United States study found the prevalence of pacifier use at 40% and digit sucking at 30% by the end of the first postnatal year. This prevalence reversed by age 3 years, when digit sucking was more prevalent than pacifier use, although both habits had decreased by this age. By 4 years of age, only 12% of children in this study sucked their fingers; pacifier use was reduced to 4%.

During the first few months after birth, infant finger sucking happens more during sleep. However, by the end of the first postnatal year, more infants suck their fingers while awake during the day. There is no difference in the rate of the behavior between boys and girls, although girls may have more trouble stopping the habit. Up to 50% of children who suck their thumbs or fingers do so while holding an object.

Although pacifier use may place infants and children at a higher risk for otitis media, no evidence suggests that digit sucking does so. Pacifier use, but not thumb sucking, also has been found to interfere with breastfeeding.

There are many theories about why infants and young children engage in these behaviors. The psychoanalytic theory (Freud) posits that sucking is a newborn reflex and thumb sucking is a form of "infantile sexuality." When it persists past the oral phase of infancy, thumb sucking can be the result of an "emotional disturbance." Another theory describes finger sucking as innate behavior that becomes a habit, a learned behavior. Others note that because thumb sucking is soothing to the infant, the habit persists in some children when they are bored, tired, or anxious.

For the most part, thumb and finger sucking is a benign habit that has no consequences or concern. However, children who suck their thumbs chronically have a higher incidence of paronychia, herpetic whitlow, irritant eczema, and accidental ingestion and can develop calluses and, rarely, digital deformities that require surgery.

The dental consequences of thumb and digit sucking were described in the 1870s. Dental changes in primary, mixed, and secondary dentition include malocclusions, such as posterior cross bite, anterior open bite, and excessive overjet. It is not clear at what age such changes become permanent. Many believe that if the habit is stopped by the age of 4 years, the changes are reversible. Persistent changes in mixed and permanent dentition depend on how long a child has sucked his or her thumb, how often the child sucks the thumb during the day, and the intensity of thumb sucking. There also appears to be a genetic predisposition.

Older children who suck their thumbs are subject to social stigma. They may be ridiculed by peers as well as their parents, and they may be treated as immature and less socially acceptable.

Treatment for thumb sucking should not be pursued before the child is 4 years of age. Even in older children, if the behavior is infrequent or does not interfere with dentition, cause social stigma, or harm self-esteem, therapy is not necessary.

A variety of techniques can be used to stop thumb or digit sucking if treatment is sought. All techniques should have the child as a willing and active participant in the change in behavior. Negative comments by the child's parents can be counterproductive, reinforcing the thumb sucking as an attention-getting technique. In addition, by not criticizing or ridiculing the child, parents can lower tension and stress related to finger and thumb sucking in the family. Parents should try to discern when the thumb or finger sucking happens and what precipitates the behavior. In particular, it should be noted if the thumb sucking occurs when the child is bored, stressed, or tired. Any relationship noted can help target therapy.

Positive reinforcement techniques, negative or aversive therapies, competing response therapy, and dental appliances all have been used to treat nonnutritive sucking habits. Generally, therapies are tailored to the child and often are combined.

Positive reinforcement should be given when the child is not sucking the thumb or finger. Examples include praise, small nonfood rewards, or stickers on a calendar for times when thumb sucking is avoided. Another technique is for the older child or the parent to record every time the thumb is sucked; positive reinforcement then should be given for decreases in the frequency of the habit. Negative or aversive therapies include a bad-tasting substance put on the nails to deter or remind the child not to put the thumb or fingers in the mouth. A variety of over-the-counter nontoxic substances are sold for this purpose. A sock, adhesive strip, splint, or glove can be used to remind the child not to put the thumb or fingers in the mouth.

Once the child and parent are aware of when the sucking habit occurs, a competing response can be used as an alternative to the thumb or finger entering the mouth. For example, squeezing an object whenever the child feels the impulse to thumb or finger suck can deter the unwanted behavior. The efficacy of this technique improves if practice sessions occur after thumb or finger sucking and if a parent monitors the child for the sucking behavior.

If all else fails, an appliance, either a palatal crib or rake, can be an excellent reminder not to suck the thumb or finger. Discussion should make clear to the child that the appliance is a reminder and not a punishment. Palatal appliances ideally should be placed during the spring or summer, when other activities can distract the child. Usually 3 months with the appliance is sufficient to change or eliminate the thumb sucking, although some children may need longer. A fixed appliance is more effective than a removable palatal appliance. The earliest a palatal appliance should be considered is during the mixed or permanent dentition stage. Complex dental changes should be referred to an orthodontist.

Parents and pediatricians should remember that thumb sucking usually is not problematic and that most children stop thumb sucking by 4 years of age. For some other children, therapy is indicated when thumb and finger sucking becomes a psychological issue or is having detrimental effects on dentition. As with all therapies, ongoing monitoring is essential to ensure that the therapy is working, the technique is appropriate for the child and family, and the intervention is not causing more stress or psychological strain than the problem itself. For pediatricians, that last condition is key, given the generally innocuous sequelae to thumb and finger sucking.

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