Safe and competent oral feeding requires the proper integration of physical and neurophysiologic functions that may not necessarily be mature at the time oral feeding is introduced.


Development of Suck and Swallow Mechanisms in Infants
by Chantal Lau

Key insights
A large proportion of infants are affected by oral feeding difficulties. Although the attainment of correct oral feeding is closely monitored in preterm infants during their hospital stay, feeding problems are often overlooked in term infants. The identification of oral feeding difficulties is hampered by a lack of diagnostic tools and a limited knowledge of the causes. A better understanding of the complex neurophysiologic and motor functions involved in oral feeding will enable more accurate diagnoses and facilitate the development of optimal interventions.

Current knowledge
In infants, safe and effective nutritive sucking requires the synchronous activities of sucking, swallow processing, and breathing. Altogether, these functions make up the ‘nutritive sucking pathway’ and are responsible for the swift and safe transport of a milk bolus from the oral cavity to the stomach. Difficulties in oral feeding arise because of the continuously maturing physiologic functions in infants, including those related to sucking, swallow processing, and breathing.

Practical implications
The correct synchronization between respiration and swallowing is critical for safe oral feeding. The oral feeding difficulties encountered in preterm infants result from the differing temporal maturation of the muscles involved in sucking, swallowing, and respiration. The lack of coordination between these functions may also be the result of immature neurophysiologic mechanisms at the level of the central nervous system. Currently, there is very little knowledge on the neuromuscular development and maturation of these different sites, and the current care provided to infants with oral feeding difficulties lacks evidence-based support.

Recommended reading

Safe and effective nutritive sucking requires the coordinated interaction between the neuromuscular elements involved in swallowing and breathing.