The Science of Infant Sucking

Key Points
- Vacuum plays a key role in milk removal
- The tongue does not move in a marked peristaltic motion
- There is no marked indentation of the nipple
- The tip of the nipple does not reach the junction of the hard and soft palates

Minimum vacuum

1. Tongue in up position
   - Nipple held in place by vacuum and tongue
   - Tongue does not “pinch off” the base of the nipple

2. Tongue rises slightly
   - Vacuum decreases
   - Milk flows into the oral cavity

3. Tongue at lowest point – down position
   - Peak vacuum
   - Milk moves under soft palate

Maximum vacuum

4. Tongue and soft palate return to starting position
   - Milk moves into the pharynx

5. Jaw drops
   - Tongue and soft palate move downwards
   - Vacuum increases
   - Ducts expand
   - Milk starts to flow

These diagrams are based on research conducted at The University of Western Australia • Presented in: Geddes DT, Kent JC, Mitoulas LR and Hartmann PE (2008) • Tongue movement and intra-oral vacuum in breastfeeding infants • Early Human Development, 84:471-477