## Important Developmental Milestones Relevant to Feeding

<table>
<thead>
<tr>
<th>Age</th>
<th>Motor/Postural Stability</th>
<th>Oral-Motor</th>
<th>Sensory</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8 weeks</td>
<td></td>
<td></td>
<td>- appearance of specialized taste cells</td>
</tr>
<tr>
<td>10 weeks</td>
<td></td>
<td></td>
<td>- primary olfactory receptors present</td>
</tr>
<tr>
<td>11 weeks</td>
<td>PCA – 13 weeks PCA</td>
<td>- Non-nutritive sucking movements</td>
<td>- mature taste cells</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- olfactory bulbs form</td>
</tr>
<tr>
<td>12 weeks</td>
<td></td>
<td>- fetal swallowing begins</td>
<td></td>
</tr>
<tr>
<td>20 – 28 weeks</td>
<td>PCA</td>
<td></td>
<td>- nares plugs dissolve and airway is then open and continuously bathed in amniotic fluid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- markers of olfactory function are present (24 weeks)</td>
</tr>
<tr>
<td>28 - 29 weeks</td>
<td>PCA</td>
<td>- Transverse tongue reflex</td>
<td>- respond to nasally administered odors (eg. changes in facial responses and movement)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- olfactory neurons mature ~ 29 weeks. Can now detect and discriminate between 2 different odors</td>
</tr>
<tr>
<td>32 weeks</td>
<td></td>
<td>- Gag reflex</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Rooting reflex</td>
<td></td>
</tr>
<tr>
<td>34 - 36 weeks</td>
<td>PCA</td>
<td>- Nutritive sucking</td>
<td></td>
</tr>
<tr>
<td>37 weeks</td>
<td></td>
<td>- Coordinated suck/swallow/breathe</td>
<td></td>
</tr>
<tr>
<td>38 - 40 weeks</td>
<td>PCA</td>
<td>Present at Birth:</td>
<td>- Can discriminate between different concentrations of sweet flavors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Swallow reflex</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Phasic bite reflex</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Palommental reflex</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Transverse tongue reflex</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Sucking is supported by a central pattern generator</td>
<td></td>
</tr>
<tr>
<td>2 weeks old</td>
<td></td>
<td></td>
<td>- Reject bitter flavors</td>
</tr>
<tr>
<td>2 months</td>
<td></td>
<td></td>
<td>- Reject sour flavors</td>
</tr>
<tr>
<td>Age</td>
<td>Motor/Postural Stability</td>
<td>Oral-Motor</td>
<td>Sensory</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 2 ½ - 3 ½ months | - Steady head control achieved  
- Can maintain a semi-flexed posture during feeding   | - Transition to volitional sucking (range = 1.5 to 3 months)                | - Can detect flavor differences (e.g. increased suckling to new flavors) |
| 4-6 months  | - Beginning hand-to-mouth play (independent oral exploration of objects)  
- Increased reaching skills  
- Reaches for bottle or spoon when hungry | 2 to 6 months: Integrating Reflexes  
- Rooting  
- Palmomental  
- Phasic Bite  
- Loss of Central Pattern Generator that supports sucking rhythms  
- Opens mouth when spoon approaches/ touches the lips  
- Tongue used to move purees to back of mouth for the swallow  
- Munching jaw movements  
- Lateral jaw movements  
- Diagonal jaw movements  
- Lateral tongue movements | - Preference for salty flavors emerges                                                |
| 6-7 months  | - Trunk control sufficient for independent sitting for greater than 3-5 seconds  
- Stable head control in sitting (no head bobbing)  
- Transfers toys and food from one hand to the other  
- Holds bottle in both hands | - Able to bring upper lip down to draw food off of the spoon.  
- Full lip closure emerges.  
- Consistent tongue lateralization seen when foods presented to sides of tongue.  
- Active movement of foods from side of mouth to central tongue groove and back  
- Mature tongue lateralization emerging  
- Diagonal rotary movements |                                                                                     |
| 7-8 months  | - Trunk rotation and weight shift  
- Beginning to move in and out of positions  
- Voluntary release patterns  
- Uses fingers to rake food toward self  
- Puts finger in mouth to move food and keep it in  
- Introduction of cup drinking | - Circular rotary movements  
- Able to transition to slightly more texture (small bumps)  
- With assist, able to break off pieces of meltable foods  
- “Chewing” (munching) of softer foods |                                                                                     |
| 8-10 months | - Trunk rotation and weight shift  
- Beginning to move in and out of positions  
- Voluntary release patterns  
- Uses fingers to rake food toward self  
- Puts finger in mouth to move food and keep it in  
- Introduction of cup drinking | - Circular rotary movements  
- Able to transition to slightly more texture (small bumps)  
- With assist, able to break off pieces of meltable foods  
- “Chewing” (munching) of softer foods |                                                                                     |
<table>
<thead>
<tr>
<th>Age</th>
<th>Motor/Postural Stability</th>
<th>Oral-Motor</th>
<th>Sensory</th>
</tr>
</thead>
</table>
| 10-12 months | - Independent sitting in a variety of positions  
 - Pincer grasp developing  
 - Pokes food with index finger  
 - Uses fingers to self-feed soft, chopped foods | - Clearing food off of lips emerges.  
 - Simple tongue protrusion may occur.  
 - More controlled biting, isolated from body movements.  
 - Full transfer of foods from sides across midline occurs, without difficulty.  
 - Rotary movements begin to emerge |                                                                                  |
| 12-14 months | - Typically “co-feeding” with a parent  
 - Grasps spoon with whole hand  
 - Holds and tips bottle  
 - Holds cup with 2 hands | - Chews and swallows firmer foods without choking.  
 - Chews foods that produce juice.  
 - Able to keep most bites in mouth during chewing |                                                                                  |
| 14-16 months | - Efficient finger feeding  
 - Practicing utensil use versus effective use for volume | - Uses tongue to gather shattered pieces  
 - Sweeps pieces into a bolus with the tongue  
 - Chews bigger pieces of soft table foods  
 - Working on chewing foods increasing in texture “hardness” |                                                                                  |
| 18-24 months | - Able to pick up, dip, and bring foods to mouth  
 - Increasing utensil use (not efficient until after 24 months of age)  
 - Scoops purees with utensil and brings to mouth | - Working on increasing speed and efficiency  
 - Chewing strength improves  
 - Better able to manage hard-to-chew foods |                                                                                  |
| 24-36 months | - Use fingers to fill spoon  
 - Increasing fork skill  
 - Open cup drinking without spilling  
 - One handed cup holding | - Circulatory jaw movements improve  
 - Chews with lips closed  
 - Working further on increasing speed, strength and efficiency with bigger and bigger pieces of harder and harder to chew table foods |                                                                                  |