GENERAL REFERENCES


American Speech-Language-Hearing Association. (2002a). Knowledge and skills needed by speech-language pathologists providing services to individuals with swallowing and/or feeding disorders. ASHA Leader, 7 (Suppl. 22), 81–87.


**FEEDING DEVELOPMENT**


**Neonates, and Early Feeding**


Pridham, K. F., Brown, R., Clark, R., Sondel, S., & Green, C. (2002). Infant and caregiving factors affecting weight-for-age and motor development of full-term and premature infants at 1 year post-


**ASPIRATION/AIRWAY AND GASTROESOPHAGEAL REFLUX/GI TRACT**


Krishnan et al


Thach, B.T. (2001). Maturation and transformation of reflexes that protect the laryngeal airway from liquid aspiration from fetal to adult life. *American Journal of Medicine, 111*(8A), 69S-77S.

**NUTRITION & ALLERGY**

**ORAL SENSORIMOTOR AND FEEDING ASSESSMENT**


**INSTRUMENTAL ASSESSMENT OF SWALLOWING**


International Commission on Radiological Protection (ICRP), 1983.


**MANAGEMENT OF FEEDING/SWALLOWING PROBLEMS**


**CRANIOFACIAL ANOMALIES & FEEDING**


**ETHICS**


TUBE FEEDING & WEANING

PICKY EATERS (FAMILY AND BEHAVIORAL ISSUES)


Clinic/Bedside Oral-Sensorimotor Feeding Assessment Worksheet
Children’s Hospital of Wisconsin

Name ________________________ History# _______________________
Eval _________________________ Referral _______________________
DOB _________________________ Examiner ______________________
C.A. _________________________ Med Dx _________________________

Presenting problem

___ Initial Assessment: ______ birth weight ____ term ____ preterm (____ wks)
___ Follow-up: ____ last seen. Interval health changes ______________________________
___ Videofluoroscopic swallow study (VFSS) in past (date ______________)
___ Feeding oral total ___ Oral + tube ___ NG-tube ___ G-tube (+/- fundoplication)
___ Tracheostomy (If yes, speaking valve ___ yes ___ no), ___ O2 ___ Suction needs
___ Medications _________________________

Reasons for Referral

___ Risk for aspiration: ____ pneumonia ____ gurgly ____ congestion ____ wheezing
___ Oral sensorimotor/swallow: ____ cough/gag ____ stuffs mouth ____ meals > 30 min.
___ Airway issues: ___ laryngomalacia ___ obstruction ___ tonsils ___ adenoid
___ GI tract issues: ___ GER ___ constipation ___ esophagitis ___ EoE ___ motility
___ Texture difficulties: ___ liquid ___ puree ___ solid ___ mixed
___ Behavior: ___ refusals ___ mealt ime stress ___ tantrums ___ picky
___ Other _________________________________

Developmental Levels:

___ gross motor ___ fine motor ___ cognition
___ speech ___ receptive language ___ expressive language

Position for feeding:

___ held by feeder ____ infant seat ____ booster seat
___ high chair ___ regular chair ___ wheelchair ___ other _____________________

Posture for feeding:

___ upright ___ semi-upright ___ supine ___ side lying

Primary feeders:

___ mother ___ other family ___ therapists ___ self (assisted/independent)

Liquid (___ oz in 24 hours) ___ thin ___ thickened (___ nectar, ___ honey)
___ nipple: ___ breast ___ bottle; ___ cup (___ open ___ spout ___ valve ___ no valve)
___ straw ___ other _______________________

Food Textures

___ puree ___ lumpy puree ___ ground ___ mashed ___ chopped ___ solid
___ finger food: examples ____________________________________

Enjoyment/Behavior during meal times

___ eager to eat and completes meal in < 30 minutes
___ starts out well, then "shuts down" or gets fussy, mealtimes > 30 minutes
___ typically not eager to eat, apt to be lethargic, and mealtimes > 30 minutes
___ fussy with struggle to feed
___ other __________________________________________

Related Interfering Patterns

___ Hypertonicity (If yes, ___ trunk ___ face ___ upper extremity ___ lower extremity)
___ Hypotonicity (If yes, ___ trunk ___ face ___ upper extremity ___ lower extremity)
___ Difficulties with tooth brushing
FEEDING OBSERVATION

General Problems
___ Extensor thrusting during feeding, ___ Asymmetric posture
___ Nasal flaring during feeding, ___ Breathing changes during feeding, ex. _________________
___ Quick withdrawal from food: specify textures _________________

Oral Sensorimotor Function During Feeding
Lips: ___ no problem, ___ closed at rest, ___ apart at rest,
___ functional seal on nipple, ___ active pull on nipple, ___ liquid loss (nipple/spoon)
___ limited upper lip movement on spoon, ___ lack of closure for bolus formation
___ lip retraction, ___ lip pursing, ___ drooling, ___ other _________________

Tongue: ___ no problem ___ slow initiation, ___ limited movement, ___ protrusion/thrust,
___ retraction, ___ suckle pattern with spoon or cup, ___ no lateral movement/chewing,
___ limited lateral movement, ___ residue in oral cavity: ___ lateral sulci, ___ anterior
___ food packed in palate, ___ other _________________

Mandible: ___ no problem ___ wide excursion, ___ poorly graded movement, ___ tonic bite,
___ jaw thrust, ___ jaw clench, ___ no chewing, ___ vertical chew,
___ diagonal chew, ___ rotary chew, ___ bruxism, ___ other _________________

<table>
<thead>
<tr>
<th>Swallowing</th>
<th>Thin liquid</th>
<th>Thick liquid</th>
<th>Puree food</th>
<th>Ground food</th>
<th>Solid food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delayed initiation of pharyngeal swallow</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Swallows per bolus (number)</td>
<td></td>
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<tr>
<td>Gurgly voice Before, After swallow</td>
<td></td>
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<tr>
<td>Increased congestion during feed</td>
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<tr>
<td>Cough Before, During, After swallow</td>
<td></td>
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<tr>
<td>Pharyngonasal backflow</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gag</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Increased respiratory rate or effort</td>
<td></td>
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<tr>
<td>Stridor</td>
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<tr>
<td>Stertor</td>
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</tr>
</tbody>
</table>

Performance during observation typical per caregiver ___ yes, ___ no

Problem summary
___ Posture/Seating ___ Oral-motor/Swallowing ___ Aspiration risk
___ Sensory ___ Self-feeding ___ GER
___ Behavior ___ Nutrition ___ Medical/surgical

PO Feeding Summary
___ Safe swallow, functional for nutritional needs ___ Gains/progress in recent weeks
___ Safe, but inadequate to meet nutritional needs ___ Regression in recent weeks/months
___ Swallow not safe enough for total oral feeds ___ Oral sensorimotor deficits interfere

Draft 2018: JCArvedson, PhD
Videofluoroscopic Swallow Study (VFSS)
Children’s Hospital of Wisconsin

Patient Name ___________________________ MR# _________________________

Date _______________ Date of Birth ___________ Referring Physician ___________

Age ___________ Reason for referral __________________________________________

Medical History ___________________________ Medications _______________________

Present Diet & Feeding Method

Patient Status:  __ Alert  __ Active, not crying  __Crying  __ Lethargic  __ Other ___________

Airway Status:  __ No problem  __ URI or congestion  __Other _______________________

  __ O²_________  Suction Needs ________ Monitors ________________

  __ Tracheostomy ________(+/- valve_____)  __ Ventilator dependent

Seating:  ___ MAMA Chair   ___ Tumbleform   ___Other  _________________________

Pt. Position  ___ Upright  ___ Semi upright  ___ Reclining < 30º  ___ Sidelying ___ Other _________

Image view    ___ Lateral  ___ Anteroposterior  ___ Oblique

Food Presenter  ___ Caregiver  ___ Clinician  ___ Patient ___ Other ________ ___

Utensils  ___ Bottle  ___ Nipple  ___ Pacifier  ___ Syringe ______

  ___ Spoon  ___ Cup  ___ Straw ______

Textures  ___ Liquid  ___ Very thin (VT)  ___ Thin (TL)  ___ Nectar (N)  ___ Honey (H)

  ___ Puree  ___ Smooth (SP)  ___ Lumpy (LP)

  ___ Solid  ___ Mashed (M)  ___ Chewable (C)

Text

<table>
<thead>
<tr>
<th>RADIOGRAPHIC SIGN</th>
<th>POSSIBLE SWALLOWING DISORDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolus Formation * delivery mode</td>
<td></td>
</tr>
<tr>
<td>Loss of food or liquid out mouth, Can’t hold food in mouth anteriorly</td>
<td>↓ lip closure</td>
</tr>
<tr>
<td>Material in anterior sulcus</td>
<td>↓ lip tension or tone</td>
</tr>
<tr>
<td>Material in lateral sulcus</td>
<td>↓ buccal tension or tone</td>
</tr>
<tr>
<td>Limited tongue movement</td>
<td></td>
</tr>
<tr>
<td>Material pushed out with tongue</td>
<td>Tongue thrust, reduced tongue control</td>
</tr>
<tr>
<td>Jaw grading inappropriate</td>
<td></td>
</tr>
<tr>
<td>Limited/immature chewing</td>
<td></td>
</tr>
<tr>
<td>&gt;3 sucks per swallow (nipple)</td>
<td>↓ sucking strength/coordination</td>
</tr>
<tr>
<td>Gag</td>
<td>Heightened sensation, behavioral</td>
</tr>
<tr>
<td>Oral Transit</td>
<td></td>
</tr>
<tr>
<td>Searching tongue movements</td>
<td>Apraxia of swallow, reduced oral sensation</td>
</tr>
<tr>
<td>Forward tongue to move bolus</td>
<td>Tongue thrust</td>
</tr>
<tr>
<td>Material remains in anterior sulcus</td>
<td>↓ labial tone, ↓tongue control</td>
</tr>
<tr>
<td>Material remains in lateral sulcus</td>
<td>↓ tongue movement/strength</td>
</tr>
<tr>
<td>Material remains on floor of mouth</td>
<td>↓ tongue shaping or coordination</td>
</tr>
<tr>
<td>Material remains on tongue</td>
<td>↓ tongue movement/strength</td>
</tr>
<tr>
<td>Material remains on hard palate</td>
<td>↓ tongue strength, high/narrow palate</td>
</tr>
<tr>
<td>Limited tongue movement (A-P)</td>
<td>↓ tongue coordination, disorganized AP movement</td>
</tr>
<tr>
<td>Tongue-palate contact incomplete</td>
<td>↓ tongue elevation</td>
</tr>
<tr>
<td>Piecemeal (mult.swal/bolus)</td>
<td>Fear of swallowing?</td>
</tr>
<tr>
<td>Delayed oral transit time (&gt;3 sec)</td>
<td></td>
</tr>
<tr>
<td><strong>Pharyngeal Phase Initiation</strong></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Material in valleculae pre-initiation</td>
<td>If brief, no delay in pharyngeal initiation</td>
</tr>
<tr>
<td>Material in pyriform sinuses pre-initiation</td>
<td>Delayed pharyngeal initiation</td>
</tr>
<tr>
<td>Material in/on tonsil tissue</td>
<td>Tonsils blocking bolus transit, delayed pharyngeal initiation</td>
</tr>
<tr>
<td>Material on PPW</td>
<td>Delayed pharyngeal initiation</td>
</tr>
<tr>
<td><strong>Pharyngeal Phase</strong></td>
<td><strong>SWALLOWING DISORDER</strong></td>
</tr>
<tr>
<td>Pharyngonasal backflow</td>
<td>↓ velopharyngeal closure, ↓ UES opening</td>
</tr>
<tr>
<td>Penetration to underside epiglottis</td>
<td>Incoordination, ↓ pharyngeal contraction</td>
</tr>
<tr>
<td>Penetration to laryngeal vestibule</td>
<td>↓ airway closure</td>
</tr>
<tr>
<td>Penetration/Aspiration (P/A Score)</td>
<td>↓ airway closure</td>
</tr>
<tr>
<td>Aspiration before swallow</td>
<td>Delayed pharyngeal initiation, incoordination, weakness</td>
</tr>
<tr>
<td>Aspiration during swallow</td>
<td>Vocal fold paralysis/paresis, incoordination</td>
</tr>
<tr>
<td>Aspiration after swallow</td>
<td>↓ pharyngeal contractions, ↓ UES opening, timing deficit</td>
</tr>
<tr>
<td>Productive spontaneous cough</td>
<td></td>
</tr>
<tr>
<td>Nonproductive, delayed cough</td>
<td></td>
</tr>
<tr>
<td>No cough (silent)</td>
<td></td>
</tr>
<tr>
<td>Eliminated (ejected, squeezed out)</td>
<td></td>
</tr>
<tr>
<td>Coating of pharyngeal wall after swallow</td>
<td>↓ tongue base retraction, ↓ pharyngeal contraction</td>
</tr>
<tr>
<td>Residue along tongue base</td>
<td>↓ tongue base retraction, ↓ pharyngeal contraction, ↓ UES AP opening diameter</td>
</tr>
<tr>
<td>Residue in valleculae</td>
<td>↓ tongue base retraction, ↓ pharyngeal contraction, ↓ UES AP opening diameter</td>
</tr>
<tr>
<td>Residue in pyriform sinuses</td>
<td>↓ tongue base retraction, ↓ pharyngeal contraction, ↓ UES AP opening diameter</td>
</tr>
<tr>
<td>Residue posterior pharyngeal wall</td>
<td>↓ tongue base retraction, ↓ pharyngeal contraction, ↓ UES AP opening diameter</td>
</tr>
<tr>
<td>Residue in/on tonsil tissue</td>
<td>↓ tongue base retraction, ↓ pharyngeal contraction, ↓ UES AP opening diameter, interference by tonsils</td>
</tr>
<tr>
<td>Residue cleared with next swallow</td>
<td></td>
</tr>
<tr>
<td>Residue not cleared</td>
<td></td>
</tr>
<tr>
<td><strong>Upper Esophageal Phase</strong></td>
<td></td>
</tr>
<tr>
<td>Slow bolus passage through UES</td>
<td>UES prominence, ↓ UES AP opening diameter; reduced pharyngeal pressures may contribute</td>
</tr>
<tr>
<td>Residual on/in UES</td>
<td>Structural abnormality or ↓ UES AP opening diameter</td>
</tr>
<tr>
<td>Retrograde bolus movement from esophagus to pharynx</td>
<td>Esophageal dysmotility, Structural abnormality</td>
</tr>
<tr>
<td>Retrograde bolus movement from lower esophagus to upper esophagus</td>
<td>Esophageal dysmotility, Structural abnormality</td>
</tr>
</tbody>
</table>

* Delivery mode: **B=Bottle  C=Cup  SC=Spout Cup (+/- valve)  S=Spoon  F=Fingers  SY=Syringe**

**Findings Summary re Aspiration:** ___Yes ___No

If Yes: ___ very thin liquid ___ smooth puree
 ___ thin ___ lumpy puree
 ___ nectar ___ mashed
 ___ honey ___ chewable

JCA/CHW/Feeding/VFSSform2018
THE FOOD RULES
To promote a pleasant, healthy mealtime environment.

1. Meals will be at regularly scheduled times, also planned snacks.

2. The child must sit in the highchair or at the table while eating. No “grazing”, walking around with cup or food, or eating all through the house.

3. Nothing between meals will be offered, including bottles, milk or juices. The child may drink water if thirsty (nothing else).

4. Solids will be offered first, fluids last. Alternating food & liquid works for some.

5. Meals will last no longer than 30 minutes.

6. Child will be encouraged to self-feed as much as possible (i.e., finger feed, hold spoon, etc.)

7. A sheet or large garbage bag can be placed under the high chair to “catch the mess”. Wipe the child’s mouth and hands and clean up only after the meal is over.

8. The child should learn to eat without approval or disapproval. Do not force food or comment on the child’s intake. Mealtime should be a neutral atmosphere. Praise specific to the actions often is helpful, e.g., “I like the way you took the spoon” or “you put the cracker on your teeth” with a big smile.

9. Do not ask your child “are you ready?” or “do you want _____?” If child says “no,” you must respect that “no” and you are done. Instead say something like “time to eat,” or “here comes the spoon,” or offer a choice: “Do you want _____ or _______?” Parent stays in charge, while child learns to make choices.

10. Food should not be given as a present or reward.

11. No game playing at mealtime. Do not use games or distractions to feed the child.

12. Food should be removed after 10-15 minutes if the child seems to play with the food without eating.

13. Mealtime should be ended if the child throws food in anger. However, it is important that the child is calmed before getting out of a seat. End the meal on your terms before the child gives signs that she is finished. For example, “2 more bites, then all done.” Follow through.

14. Relax and remember it is okay for a child to miss a meal once in awhile.

From multiple sources. Draft updated 03/22/18
GUIDELINES FOR SPOON FEEDING

Prerequisites
- Begin at 4 to 6 months developmental age when child sits independently for short time.
- Upright position with support to keep trunk, neck, and head in "neutral" (mid-line).
- Feeder sits at eye level to look directly at child’s face.

Utensils and Procedures
- Use a flat, hard plastic coated spoon, not metal. Start with small amount - 1/8 to 1/4 tsp.
- Child should open mouth as spoon approaches to give permission for spoon to be placed in the mouth. Do not force food into child’s mouth.
- Put spoon on tongue at mid-tongue with slight downward pressure. Lips should close around the spoon. Bring spoon out along the tongue, NOT scraping off roof of mouth.
- If child needs help closing lips, place one finger between lower lip and chin to help guide jaw to close, or press up gently directly under chin bone (to help stabilize the jaw).
- Do not scrape off chin with every bite, just occasionally. Scraping interrupts the routine. You can clean off the face at end of meal.

Texture Changes Leading Toward Chewing
- Gradual changes usually work best. Do not mix liquid and pieces in same bite. Increase thickness and lumpiness in small steps. Goal is lumpy, not chunky.
- Do not change texture and taste at the same time. Try to take a food a child likes, and make it slightly thicker, grainier, or lumpier. For example, oatmeal, mashed potatoes, and applesauce can all be altered readily by modifying amount of liquid or time in a blender.
- By about 7-9 months developmental age, children may be ready for “munching.”
- Place a thin strip of soft chewable food on the molar table (side of mouth). Alternate sides, but not necessarily 1:1 to promote lateral tongue action. Suggestions include graham cracker, soft banana, cooked carrot, cheese curl, and other foods that “smoosh” rather than flake apart in the mouth.
- Mature rotary chewing skills are not expected until children reach 2- to 3-years of age.

Joan C. Arvedson, PhD, CCC-SLP, Children’s Hospital of Wisconsin
Program Coordinator, Feeding & Swallowing Services. Updated Draft: March 2018
GUIDELINES FOR CUP DRINKING

Prerequisites

- Child should sit fairly well independently, usually ready 1- to 2-months after spoon feeding is well established. Child should be in a chair with good back support.

- Child typically shows interest in handling utensils & putting them to the mouth.

Utensils and Procedures

- A wide-lipped clear cup is often more effective than
  - Spout cups that promote suckling, similar to a nipple
  - Straight cups that bump the child’s nose or make the head tip back may result in choking

- Wider diameter at top lets child keep head straight with just a little bit in the cup – reduces potential for spills.

- The feeder should offer a small sip at first, placing cup on lower lip while making sure the tongue is under the edge/rim of the cup. The cup can then be eased into the “corners of the mouth” to minimize spills and to add sensory cues for the child.

- Thicker liquids than formula, juice, or water may make it easier at first.
  - Thin cereal with milk for a milk shake consistency.
  - Thin baby food fruit slightly with fruit juice or water.
  - This may give the child slightly more control and time to produce swallows.

- Child can be encouraged to put hands around the cup while the feeder has control for the timing and amount. Gradually the child will learn to take consecutive sips.

- A cup with a lid (ideally spill proof) becomes necessary when the child wants to do the drinking totally independently. Try to find a cup with a lid that may have a slit or holes recessed into the lid, similar to adult travel mugs, rather than the spout.

- Straw drinking can be introduced gradually as that requires mature sucking like adults

Joan C. Arvedson, PhD, CCC-SLP, Children’s Hospital of Wisconsin
Coordinator of Feeding & Swallowing Services. Updated Draft: March 2018
ORAL STIMULATION FOR INFANTS

INFANT READINESS SIGNS

- Infant needs to be stable (breathing, heart rate, body temperature).
- Infant needs to be awake, alert, and calm.
- Infant should tolerate handling in an organized manner.

NON-NUTRITIVE STIMULATION

- Hold infant in semi-upright feeding position to support head, neck, and trunk in a straight line. Side-lying may be useful for some.
- Use gloved little finger to stroke side of face (does the infant root for a nipple?) then into the mouth for nonnutritive sucking (2 sucks per second in rhythmic pattern). Pacifier can be used.
- If no spontaneous sucking, stroke from mid-tongue to front with gloved little finger in rhythmic way (1 stroke per second 5-6 times, then hold in place to see if infant sucks). If no suck in a few seconds, repeat the pattern with pause times between. Can do for about 5 minutes.
- Give a taste by dipping finger, pacifier, or Q-tip into breast milk, formula, or glucose solution.

BREAST FEEDING – Encourage – may work with lactation consultant.

NUTRITIVE SUCKING (BOTTLE)

- Consistent non-nutritive suck necessary, but not sufficient for PO.
- Infant should get good seal around nipple, suck 1 time per second.
- Burst-pause pattern (10-15 sucks, pause, swallow, take a breath, repeat).
- Bubbles should be seen in the liquid with every suck (sign of good flow) with standard type bottle/nipple systems, not with vented systems.
- Press up on bone under chin to assist stripping action of tongue if needed.
- Feed for 15-20 minutes (should take less than 30 minutes for full feed).
- Burp as needed. Hold upright for a few minutes before return to bed.

J. Arvedson, PhD, CCC-SLP
Children’s Hospital of Wisconsin-Milwaukee
Building Healthy Eating Habits

A parent's role is to provide healthy foods at regular times. Your child can decide how much of that food to eat.

- It is normal and okay for your child to be picky or skip meals on occasion.
- Be flexible. Look at what your child eats over several days, not just one day or one meal.
- Don't be a short-order cook. Have your child try what the rest of the family is eating.
- Be patient with new foods and keep offering them. It can take up to 10 to 15 tries for a child to accept a new food.
- Keep it simple.
  - Too many choices can be confusing.
  - Always offer a new food with foods that you know your child likes.
  - Offer the new food at the beginning of the meal when your child is hungry.
- Offer 3 meals and 2 to 3 healthy snacks per day at regular times.
  - Have a variety of tasty, healthful foods from all food groups.
  - Include whole grains, fruits, vegetables, lean meats and low-fat dairy every day.
  - Sweets and higher-fat snack foods can be part of the diet, but should be eaten less often and in small portions.
  - Healthy snack ideas: fruit, string cheese, hard-boiled eggs, peanut butter on toast, yogurt, and unsweetened cereal. For children age 4 years and older, dried fruit, nuts and raw vegetables are also good choices.
- Offer only water between meals and snacks. This will help your child to be hungrier and eat better at mealtimes.
- Limit fruit juice to one small glass per day.
- Avoid sweetened drinks like soda, Kool-Aid and Gatorade.
- Let your child help with grocery shopping and cooking. Have your child choose a vegetable at the store, put a slice of meat or cheese on a sandwich, peel a banana, mix or stir ingredients, put plates or cups on the table, etc.
- Eat with your child.
  - Set a good example with your food choices.
  - Make mealtimes pleasant.
  - Mealtimes can be a great time to talk with your child.
Cue-based Feeding

Cue-based feeding is a process used to get your baby ready to feed. It helps you learn readiness and stress cues from your baby. A successful feeding is safe and efficient. It is judged by the quality of the feeding experience rather than by how much your baby eats.

Early positive experiences provide a positive base for successful feedings. This starts before oral feeding begins.

- Mouth cares with expressed breast milk.
- Kangaroo care.
- Use of a pacifier. This is called non-nutritive sucking.

Before all oral feeding:
Turn on the indirect lights about 1/2 hour before you want to feed your baby. This lets your baby gently wake on their own.

A baby must show 3 signs that they are ready to eat before you start oral feedings. These signs are called readiness cues. Your baby needs to:

1. Maintain energy by keeping arms and legs close to body.
2. Open and move their mouth towards a pacifier and start to suck on it. This is called the rooting reflex.
3. Have "normal" color and breathing.

As a general rule you will see these cues around 32 to 35 weeks old. Your baby may not be able to coordinate the suck, swallow and breathe until 37 weeks old.

When all three readiness cues are present, you should start the feeding.

- Cradle your baby in your arms against your body. See Fig 1.
- Don't hold the baby in front of you by the back of the neck. This makes it hard to swallow. See Fig 2.
- Give your baby a pacifier to suck. This helps your baby learn to how to breathe when sucking.
- Focus on the baby during the feeding and make this a quiet time to bond.

During the feeding your baby will need to coordinate sucking, swallowing and breathing.

- Watch for your baby's readiness cues.
- Watch your baby's sucking patterns. You should see 1 or 2 sucks then swallowing.
- Watch for stress cues.
# Feeding Your Baby for the First 12 Months

Why should I follow guidelines for feeding my baby?

Feeding your baby is one of the most important tasks you face. In the first year of life your baby grows and develops quickly. Good nutrition is very important during this time. Knowing how and when to start your baby on solid foods may be confusing. This information will help you meet your baby's nutritional needs.

<table>
<thead>
<tr>
<th>Age of child</th>
<th>Watch for these skills</th>
<th>Foods to offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 6 months:</td>
<td>Uses hands to help hold the bottle steady.</td>
<td>Use breast milk or infant formula. Do this until your baby is 1 year old.</td>
</tr>
<tr>
<td></td>
<td>Holds head steady.</td>
<td></td>
</tr>
<tr>
<td>6 months to 7 months:</td>
<td>Starts to sit without support. Starts to hold a spoon while caregiver feeds. Opens mouth for spoon. Tries to bite food.</td>
<td>Continue breast milk or formula. Add single grain infant cereal. Also add strained foods such as fruits, vegetables and meats to your baby's diet. It does not matter what order you start these foods. Do not give cereal with a bottle unless directed by health care provider.</td>
</tr>
<tr>
<td>7 months to 8 months:</td>
<td></td>
<td></td>
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<tr>
<td>8 months to 10 months:</td>
<td>Can bite into foods. Starts to use fingers for feeding. Eats with up-and-down munching movement. Takes sips from open cup.</td>
<td>Continue breast milk/formula, cereals, strained fruits, vegetables, and meats. Limit fruit juice to 0 to 4 oz per day. Add mashed foods, such as cooked beans. Offer a variety of solids 3 times per day. Add finger foods to your baby's diet: Toast, crackers. Cooked noodles, cooked rice. Soft fruit slices (bananas, pears). Cheese. Solid foods that dissolve easy. Try purfs, dry cereal or cookies that crumble easily.</td>
</tr>
<tr>
<td>10 months to 12 months:</td>
<td>Can hold spoon and mouth it but cannot use it for feeding. Helps hold cup. Starts to eat on their own using their fingers.</td>
<td>Continue foods listed above for 8 to 10 months old. Add finely diced table foods. Add plain yogurt, cottage cheese and cooked scrambled eggs. Add pasteurized whole milk once your child reaches 1 year old. Offer solids at 3 meals per day.</td>
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</tbody>
</table>
Feeding your Toddler: (1 to 3 years old)

Your child is ready to move from baby food to regular food. You can help your child move from being fed to self-feeding by watching for signs of interest in new foods. As you introduce new foods, watch closely for signs of allergy, such as a rash, upset stomach or difficulty breathing. If you have concerns, talk with your child’s health care provider.

Set a good example. Good eating habits are formed when families eat regular meals together that include a variety of foods. Offering your child different foods helps your child get all the nutrients needed for growth.

Wean your child from the bottle at about one year of age. Continue breastfeeding for as long as you and your baby desire. It is important that breastfeeding doesn’t interfere with eating solid food. After you child’s first birthday you may switch to whole milk. It may take your child a while to get used to the taste of whole milk, but keep offering it. After age 2, you may switch to low fat dairy products.

Picky eating and eating a limited variety of foods (called food fads) is common in toddlers. It can be frustrating, but it is normal and does not last forever. A child who is growing well and eating some foods from each basic food group is most likely getting enough to eat. Talk to your child’s healthcare provider if you:

- Are having a hard time feeding your child.
- Think your child’s diet is inadequate.

Feeding tips and mealtime advice

- Offer 3 meals and 2 to 3 snacks each day. Do not skip meals. Do not let your child eat between meals and snacks. This is called grazing.
  - Meals and snacks should be every 2 ½ to 3 hours.
  - Let your child decide how much to eat and if they are going to eat.
  - Have a regular eating place and limit distractions (no TV).
  - Use a belted booster seat or highchair during meals and snacks.
  - Limit mealtimes to 20 to 30 minutes.
- Offer a variety of foods.
- Give new foods in small amounts. If your child doesn't like the food, try again in a few days.
  - Try the new food at a meal that includes other favorite foods.
- Offer finger foods so your child can eat on their own. Cut food into bite-sized pieces.
  - Expect your child's first tries at self-feeding to be messy.
- Give water between meals; only offer milk at meal and snack times.
- Avoid juice or limit to 4 oz daily.
- Avoid offering too many foods at one meal or making special meals.
- Do not force or bribe your child to eat. It does not work and may cause your child to overeat.
- If your child refuses a meal, offer a snack in 2 to 3 hours.
Homemade Tube Feeding: The Basics

What is a homemade tube feeding formula?
Homemade tube feeding is a formula made with real foods. Ingredients may include:

- Baby foods
- Table foods
- Commercial formula

A blender is often used to mix these foods together. This is sometimes called blenderized or blended tube feeding.

Talk with your child’s doctor about homemade formulas. Ask if they are right for your child. Some medical conditions make these feedings very hard or impossible.

Homemade tube feeding is not recommended if:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>A J-tube or NG-tube is used for feeding</td>
<td>You have overnight feedings.</td>
</tr>
<tr>
<td>The G-tube is smaller than 14 French diameter</td>
<td>You have continuous drip feedings.</td>
</tr>
</tbody>
</table>

Homemade tube feeding may be very hard if your child:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has many food allergies.</td>
<td>Has a metabolic disorder.</td>
</tr>
<tr>
<td>Has a weakened immune system.</td>
<td>Has to avoid many foods.</td>
</tr>
<tr>
<td>Is less than 6 months of age.</td>
<td>Has kidney disease.</td>
</tr>
</tbody>
</table>

Is homemade formula right for my child?
There are many things to think about before you choose a homemade formula for your child. The chart on the next page will help you decide.

- Homemade tube feeding is a commitment for you and your family. It takes more time, energy, and resources than using commercial formula.
- It may be easier to use commercial formula when traveling or if your child is ill.