EVALUATION OF FEEDING SKILLS

“Assessment is the constant search for the right questions and the internal review of the possible answers or solutions that can make a difference in the life of a child and family.”

(Morris & Klein, p. 158)
What is a powerful assessment?

One that:

– Identifies the child’s strengths and needs
– Identifies actions or movements that the child enjoys and wants to do
– Integrates observations from those who know the child best
– Explores differences in the child's behaviors in a series of environments
– Leads logically and intuitively to changes that will enable the child to move toward the highest potential
Guiding Questions for Infants

- Did your baby have any problems eating right after birth?
- How does your baby let you know that he is hungry?
- What are you feeding your baby? Are you giving anything else?
- Does your baby ever bite on the nipple instead of suck?
- Do you feel like feeding has changed? In what way?
- Does your baby feed differently for different people?
- Do you ever feel concerned that your baby isn’t eating enough?
- Has your pediatrician expressed any concerns about growth (height/weight)?
Medical Record Review

• Prenatal History
  — Ask about ANY complications or in-utero diagnoses, medications taken by the mother, length of labor, birth weight of baby

• Birth History
  — Ask about APGAR scores (if they know), any respiratory distress after birth, initial feeding success/failure, diagnoses given
  — ECI Medical Qualifier List can be found at: http://www.dars.state.tx.us/ecis/resources/diagnoses.asp?letter=a

Physical Examination/History

• Gross motor milestones
• Observation of Tone
  — Normal, hyper, hypo?
  — Whole body? Oral structures?
  — Refer to PT/OT if you have a question
• Extensor/Flexor Patterns
  — Ability to extend (lift head in prone) or flex (look down sitting)
• Response to Sensory Environment
  — Hypo or hyper-reactive?
    • If hypo, may have poor sucking due to impaired oral discrimination skills
    • If hyper, may prefer to sleep frequently, even when feeding
Physical Examination

• Respiratory Patterns/Pulmonary Status
  – Child lying down without a shirt
  – Color: Pink or dusky/gray?
  – Breathing: Quiet or stridor?
  – Voice: Clear or wet/gurgly?
  – Trach? What type/speaking valve? Oxygen-how delivered?
  – Resp pattern normal: Movement of rib cage & abdomen (diaphragm)
  – Resp pattern abnormal: shallow, reverse (thoracic muscles expand while abs contract), thoracic (even breathing w/ only mvt of thoracic area), belly breathing (too much ab mvt paired with almost concave upper chest)?
  – Mouth breather?

Respiratory Patterns

Normal respirations.

Seesaw respiration.

Chest and abdomen rise with inspiration.

Chest wall retracts and abdomen rises with inspiration.

Oral Motor Evaluation

• Jaw
  • Observe at rest for asymmetry, open/closed
  • Observe opening for asymmetry, thrust, grading of mvt (smooth, equal, at midline)
  • Observe any tremor during or after feedings/non-nutritive sucking

• Cheeks
  • Observe tone at rest, hypo or hypertonic?

• Lips
  • Observe at rest for asymmetry and open vs. closed
  • Check for range (labial frenum)
  • Gull Wing Sign (microform cleft): indentation of vermillion may indicate presence of submucous cleft palate

**You need to touch the child’s cheeks and lips to note hyper/hypotonicity and reaction to pressure.
Oral Motor Evaluation

• Palate
  – Any reported clefts of hard palate?
  – Any sign of submucous cleft palate?
    • Check for split in the uvula (bifid uvula), a notch in the bone of the hard palate (which can be palpated with the finger), and even an observable groove down the center of the soft palate, often called a "zona pellucida" or translucent zone caused by an absence of muscle tissue
  – High/arched/narrow/vaulted palate?
    • May be a sign of restricted tongue movement in utero as tongue shapes palate

Oral Motor Evaluation

• Gums/teeth
  – Is there a possibility of nursing bottle caries? Infants and children with nursing caries have widespread destruction of their deciduous (baby) teeth. The condition may result in pain, infection, difficulty chewing, premature tooth loss, and speech difficulties. Infections may damage the permanent teeth, and premature tooth loss may lead to shifting of teeth and the need for orthodontic treatment.
  – Any medications being taken? Some meds (e.g., seizure meds) can cause swelling of gums. If mouth is sore, baby may not want to eat.

Oral Motor Evaluation

• Tongue
  – Check at rest for asymmetry
  – Check tone of tongue and range of movement
  – Check for ankyloglossia (anterior or posterior)
  – Check for tremors (during activity or at rest)- can be exhibited by infants with neurological immaturity or impairment. Can also be a sign of fatigue.
Reflex/Cranial Nerve Assessment

- Rooting (V, VII, IX, X; head turns toward stimulus)
  - Helps infant find nipple
  - ASSESS: neonate at mouth should turn toward stimulus, touch center, watch for opening of mouth
- Sucking (V, VII, IX, X; non-nutritive suck)
  - Helps infant to take liquid into mouth; when reflex diminishes, allow child to move toward cup/spoon
  - ASSESS: jaw movement, touch to upper lip or cheek, watch for opening of mouth
- Gag (IX, X)
  - Protection mechanism to keep infant from swallowing something too large
  - ASSESS: touch posterior tongue or pharynx
- Palatal Bite (V, rhythmic up and down movement)
  - Allows early nursing patterns
  - ASSESS: apply pressure over gums
- Tongue Protrusion (X)
  - Can help to introduce solids on a spoon where reflex disappears
  - ASSESS: touch tongue; child can voluntarily move food to chewing surface
- Swallowing (V, VII, IX, X)
  - Allows food to travel safely through pharynx to esophagus
  - ASSESS: bolus of food in pharynx

Abnormal Reflexes to Note

- Tonic bite - strong closure of the jaw when teeth or gums are stimulated; may be difficult for child to release bite
- Jaw thrust - strong downward extension of the lower jaw; may appear to be stuck open
- Tongue retraction - strong pulling back of the tongue into hypopharynx; tip of tongue may be held against the hard palate
- Tongue thrust - forceful protrusion of tongue from mouth
- Overactive gag - gag reflex stimulated in the front of the mouth

*These are not elicited. You will observe for their occurrence during feeding.*
Assessing Infant Cues

- **Approach-Readiness Cues**
  - Smiling
  - Cooing
  - Little active movement
  - Alertness
  - Relaxed face
  - "O" face

- **Coping Cues**
  - Hands to face, mouth or midline
  - Flexor posturing
  - Grasp
  - Fisting
  - Sucking
  - Change in state (lower level)

These cues are helpful in not only reading the signals to approach or not approach an infant, but also the reliability of your evaluation results.

Assessing Infant Cues

**Stress Signs: Moderate**
- Sighing
- Sweating
- Trembling (jaw/limb)
- Facial grimacing
- Straining
- Breath movements
- Multiple swallows
- Sweating
- Startling
- Hiccup
- Gasping
- Falling asleep
- Averting gaze
- Increasing hyper/hypotonicity
- Yawning
- Squirming or increased activity level

**Stress Signs: Major**
- Coughing
- Spitting up
- Arching/posturing of trunk or extremities
- Changes in vital signs
- Changes in color
- Respiratory pauses or breath holding
- Cheeks
- Gauging
- Irregular respiration
- Bradycardia
Observation of Mealtime

• You will want to become very familiar with the 
  Inside HELP:
  – Assessment of the Child’s Environment
  – Assessment of Caregiver Interactions with the 
    Child
  • Excellent guide for a thorough observation
  • Is the environment supportive or compromising?
  • Is the caregiver’s interaction with the child supportive or compromising?

Observation of Mealtime

OBSERVE:
• Social and physical environment of mealtime
  – Predictable, safe, relaxing, appropriate?
• Infant-caregiver relationship
  – Engagement: eye contact, smile, observation?
• Feeding
  – Note how infant is held, orient head to avoid a lot of sharp body movement? (long on side or belly?) (Long any special 
    positioning)
• Child’s activity level
  – State before, during and after feeding
    • Energetic,-empty, quiet, slumber, quiet alert
• Child’s endurance level
  – Infant bridge remaining prior to end of feeding?
• Neurological patterns
  – Reflex activity present at birth several reflexes until neuromotor development is impaired: absence of reflex activity often 
    indicates some form of brain damage.
• Respiratory patterns
  – Rate: typical newborns have rates between 30-60 breaths per minute. Probably going to be 40-50 BPM while breastfeeding
    • Term infants 30-40 BPM, Preterm 40-60 BPM, Ill Infants 60-80 BPM
• Feeding: suckling/sensory patterns
  – Response to feeding
    • Wean for some infants
  – Response to sensory environment
    • Hypo or hyper-reactive?
Oral Sensorimotor Patterns

• Assess NNS abilities first
  – Strength, coordination, and rhythm of suck
  – Integration of compression and suction
  – Regularity of HR and RR, color changes, changes in oxygenation
  – Postural control, muscle tone, reflexes
  – Behavioral response to oral input

Feeding Skills

• Assess:
  – Position for feeding- refer to HELP guidelines
  – Latching upon stimulation? Appropriateness of latch
  – SSB synchrony/rhythm of 1:1:1 ratio, moving to 2-3:1:1 toward end of feeding or older infants
  – Pausing to breathe after sucking burst of 10-30 sucks? Shorter or longer bursts? Gasping for breath?
  – Listen for swallowing & expiration after swallow: is swallow audible or is there gulping?

Response to Feeding

If possible, allow caregiver to feed, and then take a turn feeding so you can observe directly.

• State control
  – Is baby able to maintain calm state throughout feeding? Does baby start out or become disorganized?

• Behavioral Response
  – Do you notice any stress signals? Does baby appear to be satisfied after feeding (goes to sleep or appears calm/happy)?
Considerations

- **Family support**
  - Does primary caregiver have any help? Emotional support? Other children to take care of? Any signs of postpartum depression?
  - Do you get the sense that there are family members that exert pressure on the mother?

- **Adequacy of nutrition**
  - Type/amount of formula? Appropriate mixing?
  - Feeding schedule/time spent feeding

- **Socioeconomic factors**
  - Amount/condition of physical space, types of foods offered, individuals who provide food to child

- **Cultural influences**
  - Does primary caregiver have any help? Emotional support? Other children to take care of? Any signs of postpartum depression?
  - Do you get the sense that there are family members that exert pressure on the mother?
  - All different cultures, whether in a tropical village or a highly urbanized and technologically sophisticated community, contain some practices and customs which are beneficial to the health of the group and some which are not. It is not the function of any culture to have a monopoly on wisdom or absurdity.”

- **Cultural Differences: info from literature**
  - Health professionals are faced with a growing challenge to appreciate the cultural beliefs influencing infant feeding practices for both recent immigrants as well as for resident US ethnic groups. Discussions regarding infant feeding often are the initial interaction between citizen and mother and, as such, are important in building a foundation of trust and rapport necessary for successful well child visits leading to optimal development of the infant through childhood.”
  - Pak-Gorstein, S., et al., 2009
  - Authors investigated whether Asian-Indian (AI) mothers who immigrate to the US change their infant feeding beliefs from those held in India, and how the infant feeding beliefs of Anglo-American (AA) mothers differ from those held by Asian-Indian-American (AIA) mothers. Survey responses from 141 AA mothers and 133 AIA mothers living in the southeastern US, and 101 AI mothers living in Coimbatore, India, were presented. The mean ages of the ethnic groups were similar, all 3 groups were relatively well educated, and the AI mothers had lived in the US for a median of 5.9 years. The infant feeding beliefs of the Asian-Indian-American (AIA) and Asian-Indian (AI) mothers indicate that they especially in need of services provided by dietitians and other health care providers. Otherwise, differences in beliefs were found between the 3 groups, except that all 3 groups believe that a baby should not take a bottle to bed.”
  - Kannan S, et al., 1999

Assessment of Carer/Patient Interactions with the Child

1. **Negotiation:**
   - (Sample interaction which supports child’s development in this area)

2. **Cooperation:**
   - (Sample interaction which supports child’s development in this area)

3. **Encouragement:**
   - (Sample interaction which supports child’s development in this area)

4. **Support:**
   - (Sample interaction which supports child’s development in this area)

5. **Assessment:**
   - (Sample interaction which supports child’s development in this area)
What if child has difficulty?

- Try techniques to improve performance- i.e., “Diagnostic Therapy”
  - Facilitative (therapeutic) VS. Compensations
  - Change in environment/state
  - Postural changes
  - Stimulation
  - Compensatory support
  - Timing/Pacing changes
  - Utensil change
  - Change in food
    - Thickness, taste, temperature
Techniques

- **Change in environment/state**
  - Background noise? Too many distractions? Appropriate lighting? Heat to improve state?

- **Postural changes**
  - Place in comfortable position with alignment of head, shoulders, hips
  - Try head posture pattern with shoulders pulled forward and chin slightly tucked for improved airway protection
  - Try sitting posture for child with poor head control
  - If respiratory issues, may use arm around feeder’s back to open chest

- **Stimulation**
  - Anterior rooting offers or suckle/buck with your finger or pacifier to increase readiness for feeding

- **Compensatory support**
  - Use support patterns (e.g., chest support, shoulder support, chin=tuck)
  - Try flexed posture pattern with shoulders pulled forward and chin slightly tucked for improved airway protection
  - Try sidelying posture for child with poor head control
  - If respiratory issues, wrap one arm around feeder’s back to open chest

- **Stimulation**
  - Stimulation (rooting reflex or suckle/suck) with your finger or pacifier to increase readiness for feeding

- **Compensatory support**
  - Jaw support (anterior loss/tremor), lip support (anterior loss), cheek support (thumb/middle finger of hand holding infant to increase stability during feed)

- **Timing/Pacing changes**
  - Pull away nipple/tip bottle (external pacing) - no fluid in nipple
  - Imposed pauses - improve pacing by allowing baby to rest periodically
  - Attend to child’s cues - help caregiver understand signals of fullness, etc.

- **Utensil change**
  - Nipple - avoid changing multiple times during assessment, but change if necessary
  - Bottle - note if different type of bottle (angle neck, compression only) might be helpful

- **Change in food**
  - Slightly thickening (rice cereal, commercial thickeners) helps child with poor oral motor control, gives more sensory input, and moves slower to allow more time to close/protect airway
  - Temperature changes (serving milk cold or room temp instead of warm) may help alert a hyposensitive system

Further Evaluations

- **Note if child needs any further diagnostic evaluations or consultations**
  - Physical therapy
  - Occupational therapy
  - Clinical nutrition
  - Physician specialty consult
    - Neurologist
    - Gastroenterology
    - Developmental pediatrician
    - Geneticist

Clinical Decision Making

- **Early and intense treatment = better long-term results**
  - Putting the time in at the beginning will hopefully change the baby’s trajectory
  - A LOT of learning happens in the first six months
  - We want to capitalize on that time period to help baby maximize their potential
  - Try to recommend and follow through with as much therapy as you feel is necessary
    - Dependent upon caregivers’ competence/learning style
    - Dependent upon you being able to prioritize clients’ needs
Bathing, dressing, diapering and toileting (cont.)

What does bath time look like for you and your child?
Is bath time a fun or stressful time of day?

(adaptive/self-help, cognitive, communication, motor and social-emotional)

How does your child let you know that he/she needs a diaper change or needs to use the toilet?

(adaptive/self-help and communication)

Meal Times (cont.)

What do meal times look like for your child?
Is there anything difficult or special about meal times?

(adaptive/self-help, motor, social-emotional and communication)

How does your child let you know when he/she is hungry or thirsty, what he wants and when he is finished?

(communication, adaptive/self-help and cognitive)

Playtime and other daily activities

How does your child play? What does he/she like to play with?
Are there times that are easier or more frustrating than others?

(cognitive, communication, motor and social-emotional)

Does your child have the opportunity to be around other children and adults? If yes, how and where does your child interact with them?

(cognitive, social-emotional)

How does your child act when you take them out in public? How does your child respond to separations and transitions?

(motor, social-emotional and communication)

Eligibility Statement
Qualitative Determination of Delay for Ages Birth through 1 Month

<table>
<thead>
<tr>
<th>Client's Name</th>
<th>Eligibility Status</th>
<th>Duration</th>
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Conclude this page for those who meet all of the following criteria:
1. Age is less than 1 month
2. Delay is not caused by the child's age less than 1 month
3. Delay is not caused by the child's age less than 1 month

Complete all sections of this page to provide a complete clinical description of the issue below:

Developmental delay: including delay in cognitive, social-emotional, and communication skills

Motor: in patients with neuromuscular disease, visualize systems result in functional and motor delays

Speech: in patients with neuromuscular disease, visualize systems result in functional and motor delays

Communication: in patients with neuromuscular disease, visualize systems result in functional and motor delays

Social-emotional: in patients with neuromuscular disease, visualize systems result in functional and motor delays

Please see the clinical ordering form entry with the child's name and birth date. Include observations and recommendations for the child.

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Questions?