Managing Infants with Complex Feeding Difficulties in the Community: Bottle feeding

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Outline of session

• Referral trends and service provision
• Assessment principles
• Clinical reasoning for intervention
Referral Trends

• Number of referrals
• Complexity of referrals
Referral trends: numbers

Distribution of referrals April-Oct

- 2014
- 2015
- 2016
- 2017

- Under 6 months
- Over 6 months
Referral trends: complexity

- Extreme prematurity
- Congenital heart conditions
- Down’s syndrome
- HIE
- Malacias
Impact on service

• Rapid response
• High frequency input
• Families not confident, early stages of grieving process
• ++liaison with tertiary care
Clinical Assessment

Purpose:
• Describe the disorder
• Assess contributing causes
• Priorities for treatment and consider whether infant ‘ready’
• Plan for collaborative working
• Plan intervention
• Inform family and others involved in child’s care
What skills are needed for an infant to successfully bottle feed?

Infant related factors

- Anatomy and structure
- Neuromuscular (posture / tone)
- Reflexes
- Oral motor skills and co-ordination (praxis)
- Tactile function (sensory)
- State regulation (behaviour / motivation)
- Communication / cognition
- Co-morbidities (respiration, seizures, cardiac)
What skills are needed for an infant to successfully feed?

External factors

- Nutrition
- Environment / experiences
- Feeder competencies
- Medications
How do we assess these areas?

• Combination of:
  – Case history
  – Structured assessment
  – Instrumental assessment
  – Clinical assessment (Rational or Intuitive – Morris and Klein)
# Feeding Reflexes - review

<table>
<thead>
<tr>
<th>Reflex</th>
<th>GA</th>
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<tbody>
<tr>
<td>Suck</td>
<td></td>
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<tr>
<td>Swallow</td>
<td></td>
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<tr>
<td>Gag</td>
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<tr>
<td>Cough</td>
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<tr>
<td>Rooting</td>
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<tr>
<td>Phasic bite</td>
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<td>Transverse tongue</td>
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</table>

(Rommel, 2006) (pg 468 in Cichero & Murdoh, 2006)
<table>
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<tr>
<th>Reflex</th>
<th>GA</th>
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</thead>
<tbody>
<tr>
<td>Suck</td>
<td>Present 17w initially reflexive becomes more voluntary 3-4 months</td>
</tr>
<tr>
<td>Swallow</td>
<td>14 w</td>
</tr>
<tr>
<td>Gag</td>
<td>Present at 18w</td>
</tr>
<tr>
<td>Cough</td>
<td>Present from birth, NB: very prem babies likely to have a weak or absent cough</td>
</tr>
<tr>
<td>Rooting</td>
<td>Present at birth – extinct approx at 4-6 months</td>
</tr>
<tr>
<td>Phasic bite</td>
<td>Present at 28w – extinct approx 9-12 months</td>
</tr>
<tr>
<td>Transverse tongue</td>
<td>Present at 28 w</td>
</tr>
</tbody>
</table>

(Rommel, 2006) (pg 468 in Cichero & Murdoh, 2006)
Signs of aspiration in infants

- Desaturating / blue episode
- Feeding related apnoeas
- Slow blinking / eye widening / eye tearing
- Face reddening
- Gurgly voice / breathing
- Coughing – although infants may not yet cough at point of aspiration
Signs of aspiration in infants

Signs of risk

- Tension / flaring of hands/fingers
- Nasal flaring
- Head bobbing
- Increased work of breathing
- Moving away from breast / bottle
- Stridor
- Anterior milk loss/ejection
| Lips:          | Symmetry                  |
|               | Seal adequacy             |
|               | Tone                      |
| Tongue:       | Placement - protrusion/thrust/retraction |
|               | Initiation                |
| Mandible:     | Opening                   |
|               | Grading                   |
|               | Bite reflex               |
Assessment of bottle feeding

- Initiation of suck
- Initiation of swallow
- Number of sucks per swallow
- Sucks per burst
- Consistency of sucks per burst
- Effectiveness of micro-breaths
- Pacing
- Ejection of milk
- Breath sounds pre, during and post feeding
- Work of breathing, breath holding, stridor
- Sneezing, gagging, hiccoughs, regurgitation
- Fatigue
- Changes to face, hands

showing we care

Guy’s and St Thomas’ NHS Foundation Trust
Activity - video
Outcomes of feeding assessment

• Can infant’s hydration / nutritional needs be safely met orally?

• What factors interfere with feeding?

• Do parent/carer concerns match with assessment findings?

• Is additional information needed? (further clinical assessment, referral for instrumental assessment, referral to other discipline)

• Do intervention options make a difference to feeding? (dynamic assessment) (Wolf and Glass)
Intervention: Best Practice

- Team work
- Skills in information gathering & observation
- Knowledge of typical development of feeding skills
- Knowledge of the physiology of swallow
- Problem-solving & clinical/deductive reasoning skills
- Knowledge of evidence based intervention
- Long term and where possible, preventative focus
- Holistic perspective of the child and family

?Experience
?Intuition
Intervention Areas
Can we influence change?

Infant related factors
- Anatomy & structure
- Neuromuscular
- Praxis
- Sensory
- State
- Communication
- Cognition
- Co-morbidities: e.g. respiratory seizures, cardiac

External factors
- Feeder competencies
- Nutrition
- Medications
- Environment & experiences

FEEDING

Guy's and St Thomas' NHS Foundation Trust
Intervention options
Can we influence change?

- Nutrition & Hydration
- Positioning & stability + state
- Food characteristics
- Utensils
- Feeding techniques –pacing, volume, food presentation etc,
- Oral tactile normalisation
- Developmental progression of feeding
Principles of Intervention

• **Compensatory:**
The goal is to improve the swallow safety using alternative/compensatory strategies

• **Therapeutic:**
The goal is to improve the swallow function and eating behaviors

(Cechero & Murdoch)
Compensatory or Therapeutic?

- Adding butter to pureed food
- Supporting neck with a cushion
- Placing bread to the side of the mouth
- Increasing dry swallows to reduce drooling
- Providing jaw stability during bottle feeding
- Introducing timed mealtimes
- Using a soft spoon to reduce bite reflex
- Using puree to reduce cough
- Using cup drinking for a neonate with a cleft
- Introducing a cup to a toddler using a bottle
Logistics

What factors influence change?

- Timing of intervention –
  - child’s readiness: maturity, health, windows of opportunities
  - family’s readiness: priorities, support
- Resources available – human and material
- Intensity – frequency of input, task repetition
- Effectiveness of strategies selected
Expected outcomes

Outcome 1: Improved health
• Reduce risk of aspiration
• Improve child’s nutrition & fluid intake

Outcome 2: Improved wellbeing
• Process of feeding to be more enjoyable and less stressful for both caregiver and infant

Other outcomes
• Infant eating/drinking food typical for age
• Decreased abnormal oral-motor patterns
Intervention Options: Utensils

Which teat?

MotherCare

Mam teats

Dr Brown’s

Nuk teats
Utensils: teats

What are the important considerations?

• Teat hole sizes available
• Adaptability to feeding position
• Durability, cost, accessibility
• Parent preferences
• Promoting developmental feeding skills/inhibit abnormal feeding patterns
Latch

This latch?  Or this?
This better?
Intervention Options: Food Consistency

Who needs thickened fluids?
Infants who are:
- delayed in initiating sucking
- unable to form the bolus in the oral cavity
- unable to propel the bolus in a timely manner
- delayed in triggering a swallow and initiating laryngeal protection
- unable to coordinate suck-swallow-breathe synchrony
Food consistencies
Food Consistencies

Important considerations:
• Carobel is the only commercially available thickener recommended for infants <12 months
• Too thick? Too thin?
• Carobel continues to thicken, making it difficult to suck milk out of bottle towards the end of feed
• May cause fatigue and reduced intake
• Impacts on choice of teat/utensil
• May cause constipation/diarrhoea
• Important to advice carers to thicken ALL fluids, not just milk


Managing Infant Feeding in the Community: A workshop for SLTs

Date: 4 -5 September 2018 (9am – 5pm)
Follow-up day: 5 December 2018 (tutorial, 9am – 5pm)
NB: participants must attend all three dates

Location: Mary Sheridan Centre, SE11 4TH

Contact: Sharon Brown (020 3049 6021 or Sharon.brown@gstt.nhs.uk) by 31st July 2018 to book. Spaces limited to 15 participants - booking secured with full payment