

# Recognition and management of infant feeding difficulties



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## Session outcomes

- What is normal feeding development?
- Recognising feeding difficulties in infants.
- Assessment & Management of feeding difficulties.
- What to advice and when for best outcomes.

## The importance of the first 1000 days.

- The first 1000 days is the critical period of life for growth and development that has a significant impact on later health outcomes.
- Nutrition is a key driver of rate of growth during this critical period of development as well as control of growth.
- The significance of good feeding practices and appropriate nutritional status for children generally and for children with additional needs is paramount.

# What is oral motor development?

- Oral motor development refers to the use and function of the lips, tongue, jaw, teeth, and the hard and soft palates (Logemann, 1999).
- The movement and coordination of these structures is very important in speech production, safe swallowing, and consuming various food textures.
- Normal oral motor development begins prior to birth and continues beyond age three. By the age of four, most children safely consume solids and liquids without choking.

# Oral skills development of infant

- Non-nutritive suck (non-feeding) sucking is observed in utero as early as 4-6 months gestation. Active feeding sucking develops at 34-37 weeks gestation.
- The intraoral space in the newborn is small and the lower jaw of the is small and slightly retracted. Sucking pads are present in infants but not in adults. Due to the sucking pads and the small jaw the tongue takes up more space in the oral cavity. This anatomy naturally protects airway initially.
- The epiglottis and soft palate approximate as the protective mechanisms until 3-4 months then the larynx drops by approximately 3cm. This is when more sophisticated laryngeal closure is needed to protect the airway during swallowing.

# 4 stages of oral skills

- **Phase 1 – Oral preparatory – voluntary** - Food is taken to mouth by child or care giver. Food is prepared by coordinated movements of tongue, teeth, cheek muscles to form the “bolus”
- **Phase 2 – Oral Phase – Voluntary** - Tongue is drawn upwards and backwards against hard palate to move bolus back. Swallow reflex is triggered
- **Phase 3 –Pharyngeal – Involuntary** - Muscle action aids transfer of bolus into the oesophagus. The airway is protected so that food does not drop into the lungs.
- **Phase 4 – Oesophageal – Involuntary** - Bolus is transferred by waves of muscle action down the oesophagus and into the stomach.

(Logermann, 1999).

## What is a feeding difficulty?

- Think of some feeding difficulties that you feel could occur at any of the 4 stages of eating
- Taste/texture trial

# Milks

- First stage
- Second stage
- Follow on milks
- Soya milk
- Other mammalian milks
- Milks for special medical purposes (FSMP):
  - stay down
  - comfort milks
  - lactose-free
- High energy milks
- Extensively hydrolysed formula
- Amino acid formula

## Common feeding issues

- Is it colic?
- Is it reflux?
- Is it cows milk protein allergy?
- Is it lactose intolerance?
- Is it dysphagia?

## Case studies

- How would you manage the following scenarios?

1) 3 week old infant who is crying lots, mum tired and weepy and she reports baby gets more upset as the day goes on – what would you do?

# Colic?

## Assessment?

General health of baby - Antenatal and perinatal history - duration of crying – feeding assessment/observation – mums diet – nature of stools – history of allergy – parents response to crying - weight/growth

'spasmodic contraction of smooth muscle causing pain and discomfort' 3hr – 3 days/week – min 3 weeks.

## Management:

- If infant is thriving and no other concerns – reassure parents.
- NHS (2017) Infantile colic. Clinical Knowledge Summaries.
- CRY-SIS parental support helpline.

2) 4 week old infant irritable with loose green frothy stools passes wind often and has painful nappy rash. Parent reports baby appears constantly hungry – what would you do?

# Lactose Intolerance?

## Assessment?

General health of baby – Antenatal/perinatal history - feeding history - irritability/crying – observe feed – mums diet – nature of stools – history of allergy – parents response to crying – weight and growth

## Management:

- Reassure parent – infant has sensitive digestive system - Does not mean Intolerance for life!
- LF milk for 6 week OTC then retry– no need to prescribe
- LIFIB Local Infant Feeding Board Information leaflet  
[www.LIFIB.org.uk](http://www.LIFIB.org.uk)

3) 7 week old infant with recurrent vomiting – what would you do?

# Gastro oesophageal reflux

## Assessment?

General health of baby – Antenatal/perinatal history - feeding history - irritability/crying – observe feed – mums diet – nature of stools – history of allergy – parents response to crying – weight & growth – **severity of vomiting? Is it projectile?**

Regurgitation is common and is natural physiological process that does not usually need investigation or treatment. 40-50% babies <3m regurgitate at least once daily – 5% have more than 6 episodes daily and peaks at 3m - 90% resolve by 1 year old.

## Management:

- NICE –Gastro-oesophageal reflux disease in children and young people: diagnosis and management. [www.nice.org.uk/guidance/ng1](http://www.nice.org.uk/guidance/ng1)
- LWR – Parents guide to Gastro-oesophageal Reflux (GOR) and Reflux Disease (GORD) in infants. [www.livingwithreflux.org](http://www.livingwithreflux.org)

4) 18 week old infant – ex prem 28 week, CLD on O<sub>2</sub>, specialist premature feed – recently started to drop on the centile – what do you do?

# Faltering growth

## Assessment

- Clinical, developmental and social assessment, take a detailed feeding or eating history, observe feeding, any infection?

## Management:

- Refer to dietician for high calorie feed. Keep diary.
- Advise re optimising energy and nutrient density if weaning .
- Refer to SALT for assessment
- Monitor weight and growth regular
- NICE (2017)- Faltering growth: recognition and management of faltering growth in children.

5) 6 month old infant struggling to commence weaning and to use a cup, coughs and splutter lots with milk via bottle and water from a cup – history of recurrent chest infections – struggling to maintain weight – what would you do?

# Dysphagia? Possible aspiration?

## Assessment

- Any developmental issues? Weight/growth - detailed feeding or eating history, observe feeding, frequent chest infection? How frequent coughing?

## Management:

- Refer to SALT for URGENT assessment
- Refer to dietician for high calorie feed.
- Optimise energy and nutrient density foods .
- Speak to HV to do developmental assessment
- NICE (2017)- Faltering growth: recognition and management of faltering growth in children.

6) 10 month old - mum reports is refusing any food but puree – what would you do?

# Delayed oral skills or difficulty with transition through textures?

## Assessment:

- Assess development, history of feeding, observe feeding, routine, behaviour, weight and growth, any sensory issues?

## Management:

- HV to support – may be selective or parental anxiety
- SALT assessment if needed for therapy
- Behavioural? Messy and food play is helpful

7) 7 month old mildly averse to new foods when offered – has history of infantile eczema – history of GOR on small dose of medication off GP but mum reports no change – eczema gets worse with some foods

# Mild to moderate Allergy?

## Assessment?

General health of baby – feeding history – behaviour – mums diet – nature of stools – history of allergy – weight & growth – onset of symptoms? Type of symptoms - Delayed or immediate?

## Management:

- Maximise GOR medication and review
- Refer to dietician for guidance on IMAP milk ladder.
- Possible trial Ehf and observe effect - ?CMPA
- NICE (2011) –Food allergy in children and young people. Diagnosis and assessment of food allergy in children and young people in primary care and community settings
- LWR – Symptoms in infants – is the cause Food Allergy or Reflux Disease (GORD)?

# Different types of Allergic response

**Mild to Moderate Non-IgE-mediated** CMA 'Delayed' Onset Symptoms. Mostly 2-72 hrs. after ingestion of cow's milk protein. Formula fed, exclusively breast fed or at onset of mixed feeding

**Mild to Moderate IgE-mediated** CMA 'Acute' Onset Symptoms. Mostly within minutes of ingestion of cow's milk protein. Mostly formula fed or at onset of mixed feeding

**Severe Non-IgE-mediated** CMA 'Delayed' Onset Symptoms - Mostly 2-72 hrs. after ingestion of cow's milk protein. Formula fed, exclusively breast fed or at onset of mixed feeding

**Severe IgE mediated CMA** - ANAPHYLAXIS (More at risk if asthma)

- NICE (2011) –Food allergy in children and young people. Diagnosis and assessment of food allergy in children and young people in primary care and community settings
- British Society for Allergy and Clinical Immunology. [www.bsaci.org](http://www.bsaci.org)
- Allergy UK [www.allergyuk.co.uk](http://www.allergyuk.co.uk) – food label and other information.

8) 1 week old infant very irritable and unsettled when feeding - mum reports some noisy breathing and rash and vomiting and loose stool

# Severe Allergy?

## Assessment

General health of baby – feeding history – infant behaviour – mums diet – nature of stools – history of allergy – weight/growth – onset of symptoms? Types of symptoms? Delayed or immediate?

## Management:

- Commence on Ehf and AA formula if severe
- Refer for further assessment to paediatrician/allergy specialist
- Refer to dietician for ongoing support
- Allergy UK [www.allergyuk.co.uk](http://www.allergyuk.co.uk)
- Anaphylaxis UK [www.anaphylaxis.co.uk](http://www.anaphylaxis.co.uk)



- Cost effectiveness, quality, equity and patient safety.

# Other milks

## Under 12 months

Cows milk or milk from any other mammal (goat, sheep or buffalo), soya milks or milk substitutes such as oat milk or almond are **not suitable as the main drink for infants in the first year of life**. Rice milk is **not recommended** under 5 due to level of arsenic (FSA, 2009)

## Mammalian milks from 12 months:

- Any whole milk is suitable as a main drink from 1 year – cows, goats or sheep's milk as long as they are pasteurised.

## Non animal milks from 12 months:

- Unsweetened calcium fortified soya milk, oat milk, hemp milk, or nut based milk alternative can be given.

## Milk comparison

This information gives an idea of milk differences in nutritional value

Product	Kcal/100ml	Protein/100ml	Calcium/100ml
Cows milk	50	3.6	120
Soya milk (alpro)	44	3.2	120
Oat milk	45	1.0	120
Almond milk	24	0.5	120
Coconut milk	27	0.2	120
Rice milk	47	0.2	120

# Weaning

- When?
- Early weaning
- Premature babies
- Neophobic stage

## Weaning – points to remember

- Exposure is paramount rather than volume to enable transition through textures – opportunity for taste
- Babies need all textures to aid oral motor development and future speech – the tongue & sides of mouth need to be desensitized.
- Chewing skills only develop with experience – oral motor skills may not be good enough to separate lumps from smooth - opportunity for texture
- Good weaning practices and early exposure to tastes predicts better consumption of food acceptance eg. fruit and veg at later age.

## Cost

- High cost due to inappropriate use of specialist milks.
- 2006/07- 2012/13 (specialist allergy, high energy and post discharge preterm milk) increased by 212% to £9.14 million in London alone. Allergy milk increased by 393% (London) with total spend of £7.2 million and 2016/17 rose to £7.7 million.
- Would you assess more in depth and review before prescribing now?

## Take home messages

- Importance of detailed feeding assessment.
- Feel more confident in what to advise and when.
- Understand when vitamin and calcium supplement is needed.
- Importance of monitor, review, reintroduction.
- Better understanding of the milks available.
- Better understanding of the need for challenging CMPA to ensure correct diagnosis?
- Ensure formula prescribing is monitored.
- Importance of messages to parents from the beginning to reduce any unnecessary elimination of diet and nutrients.
- HV might not know mum and baby are struggling and can support and reduce anxiety – contact them.

**Thank you for listening - any questions?**

