Children with Feeding Difficulties

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Aims of the session:

At the end of the session you will be able to:

- List causes and signs/symptoms of feeding difficulties
- Outline consequences of feeding difficulties
- Identify typical/atypical suck patterns in infants
- List areas of a feeding assessment
- Describe principles of good practice and treatment strategies for children with feeding difficulties

General developmental skills required for feeding

- Neuromuscular
- Coordination of movements
- Sensory (touch, vision, hearing, smell)
- Behaviour/motivation
- Communication

Causes of Eating & Drinking Difficulties

Who is at risk of developing feeding difficulties?

- Children born prematurely
- Children with known brain injuries, e.g. HIE, infections, microcephaly, epilepsy
- Children with syndromes/genetic disorders
- Children with cleft lip and/or palate
- Children who are severely malnourished
- Children with cardiac, respiratory, renal difficulties
- Children who are in pain due to, e.g. HIV, reflux
- Children who may not be alert to feed

Types of Feeding Difficulties

- Difficulty closing lips on breast/cup/spoon
- Difficulties with coordinating liquids/food in the mouth
- Difficulties initiating a swallow
- Difficulties moving food down the food tube (oesophagus)
- Behavioural. e.g. caused by force-feeding, associated with autism etc.

Identification of feeding difficulties: General Signs and Symptoms

- Malnutrition
- Recurring chest infections
- Carer reports child feeds for a long time without gaining weight
- Weight loss with no other reasons
- Dehydration
- Constipation

Signs and symptoms during meals

- Sensitivity around mouth, e.g. facial grimacing
- Holding food in mouth
- Food spillage
- Babies: Difficulty coordinating suck-swallow-breathing (baby gasping for air while feeding)
- Coughing, choking, gurgly voice
- Skin colour changes, eyes widening and watering
- Breathing with effort, noisy breathing
- Sneezing during/after feeding
- Back arching / increased overall stiffness
- Increased vomiting, gagging during meals (NB. Reflux)
- Increased effort causing tiredness and reduced alertness
- Food refusal / fussy eating

Why are feeding difficulties a concern?

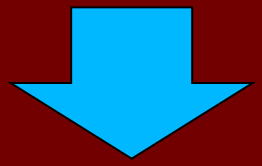
Because feeding difficulties can cause:

- Serious life threatening problems such as pneumonia and other lung conditions that can be fatal
- Problems with poor nutrition, weight gain, hydration, constipation
- Impact on general development (physical & mental) and bonding with mother
- Financial and emotional strain on family

Why chest infections?

'Aspiration pneumonia' – caused by:

Incomplete blocking off of airway during swallowing



Food and/or drink go onto lungs *not* into stomach

Babies: Importance of the sucking pattern

Appropriate suck pattern and breathing

- For babies feeding is hard work and requires adaptability of the respiratory system (Normally one suck=0.2ml of milk, therefore 300 sucks=60ml)
- Mature babies swallow after each suck and pause after 6-8 times (suck bursts).
- When breathing after each suck, the breaths are shorter and less frequent
- During pauses, breaths are deeper
- There is an initial continuous suck burst that lasts at least 30seconds

Commonly seen abnormal suck pattern

- Prolonged sucking (feeding induced apnoea)
- Short suck bursts
- Disorganised

Prolonged Sucking (Feeding Induced Apnoea)

- Prolonged suck burst without breathing at appropriate intervals
- Can result in desaturation & bradycardia
- More commonly seen in preterm infants
- Fatigues baby

Short Suck Bursts

- 1-3 sucks per burst before pausing for multiple breaths.
- Frequent pauses for increased periods of time
- This could the infant's coping mechanism if they have an incomplete or dysfunctional swallow.

Disorganised

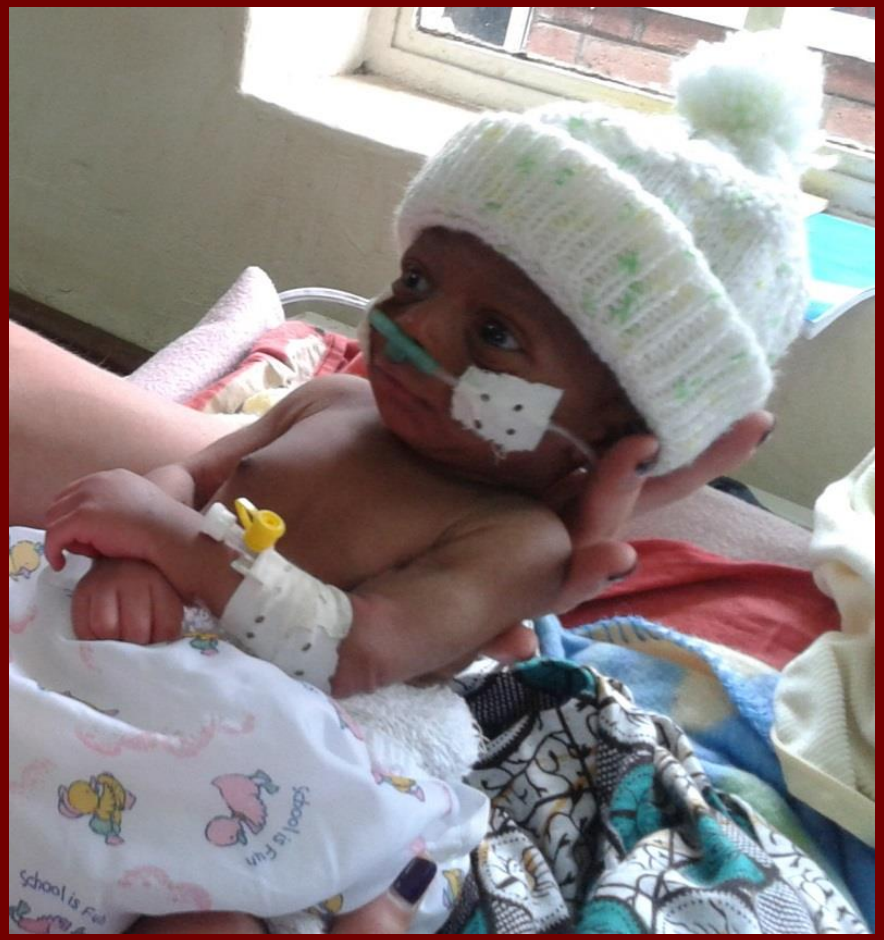
- Uneven pattern of breathing and swallowing within suck burst
- Sucking will often not recommence spontaneously
- Frequent coughing/choking is often observed
- Usually occurs at the beginning of feeds
- Reflects a babies immaturity and general disorganised behaviour

Assessment of feeding

Two important questions

Is feeding safe?

Is feeding adequate?



What do we mean by safe?

- Minimising the risk of food/drink entering lungs

- What do we mean by adequate?

  -Meeting nutritional needs

Assessment of feeding

- Background and medical history ('red flags')
- Nutritional status
- General developmental skills
- Current feeding skills: ask carer and observe
- How the parent currently feeds the child: ask and observe
- Babies: Sucking skills (for feeding and non-feeding)

Assessing how settled baby is
= Readiness for any care. Incl FEEDING

	Least Comfortable	Most Comfortable
Position	Baby looks uncomfortable	Baby looks relaxed, cosy, content, comfortable
Head and trunk	Trunk arched, rotated or curved with -head extended -chin on chest -twisted neck	Head and neck in line, head not flat on side
Arms and hands	Hand tightly fisted, fingers splayed	Hands relaxed, open or fingers semi-flexed; hands together, hands touching face, mouth, hands holding on something
Legs and Feet	Legs straight, flaccid or "frog leg posture"; toes curled tight	In supine, feet able to touch a boundary for bracing or touching each other; in prone, knees tucked under body,
State of Arousal	Agitated, jerky , jittery, movement, fussing, crying	Sleeping restfully or quietly awake; minimal smooth movement

Reference from Inga Warren & Cherry Bond 2008

Feeding Assessment –all children

Nutritional intake and current feeding:

1. Nutrition & Hydration (what food/drink child has and how much)
2. Texture of food (liquid, puree, mash, soft to bite, chewy)
3. Positioning and stability (especially trunk & head)
4. Utensils (breast, cup, spoon)
5. Feeding techniques (communication; presentation of breast, spoon, hand, cup; size of mouthful; pacing; forcing?)

Infants: Sucking Skills

- Sucking for non-feeding: observe what baby does when presented with an adult's finger
- Sucking for feeding:
  - Mature sucking
  - Prolonged sucking
  - Short suck bursts
  - Disorganised sucking

Premature babies

- Feeding difficulties a premature baby has will depend on the gestational age of the baby and baby's weight.
- Some premature babies may have other underlying disorders

Premature babies

Development related to gestational age (weeks)

9.5	mouth opening stimulated
10-17	swallow noticed
18-30	sucking
32	gag reflex
32-34	cough, larynx protection
34-35	co-ordinated suck, swallow
30-36	lung maturation for air breathing

Features of the premature baby

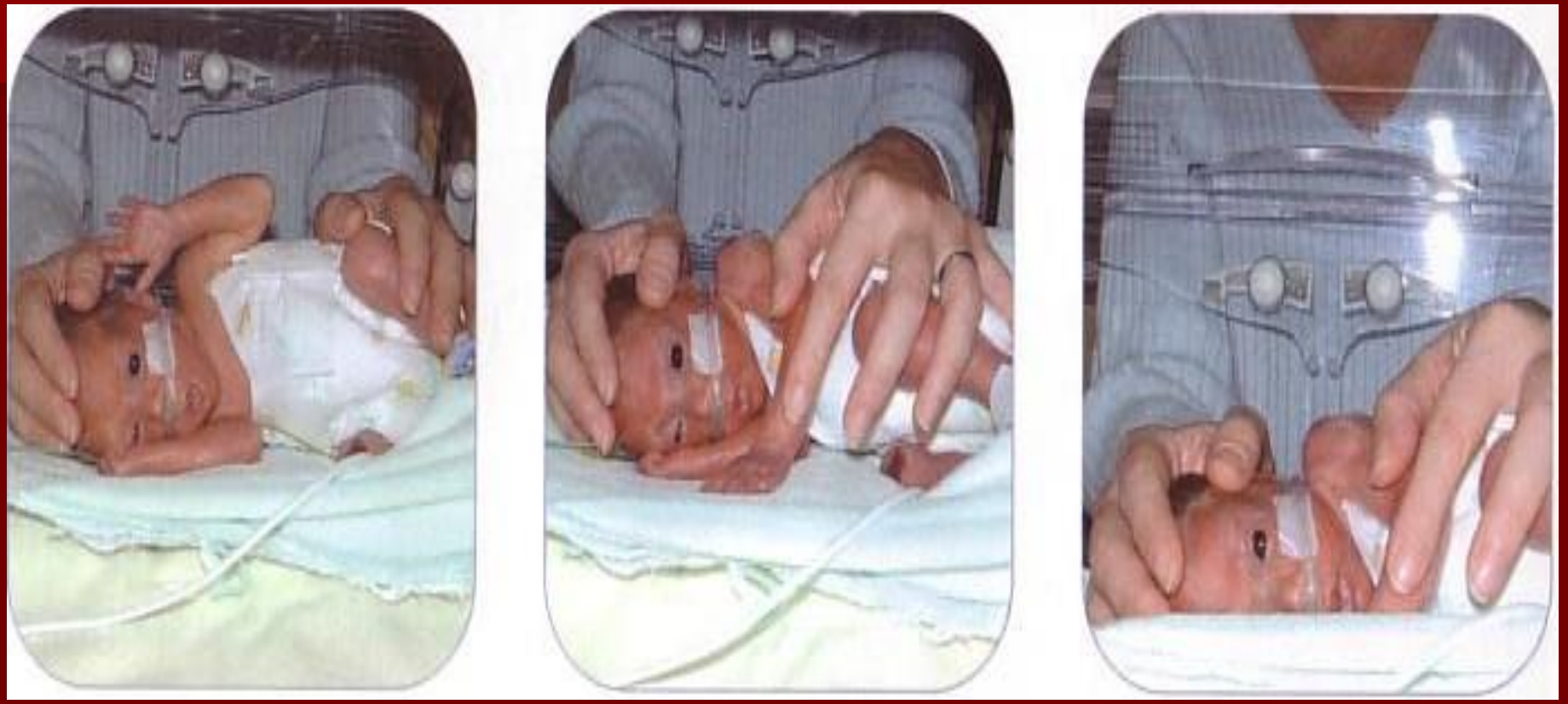
Difficulties with Self Regulation:

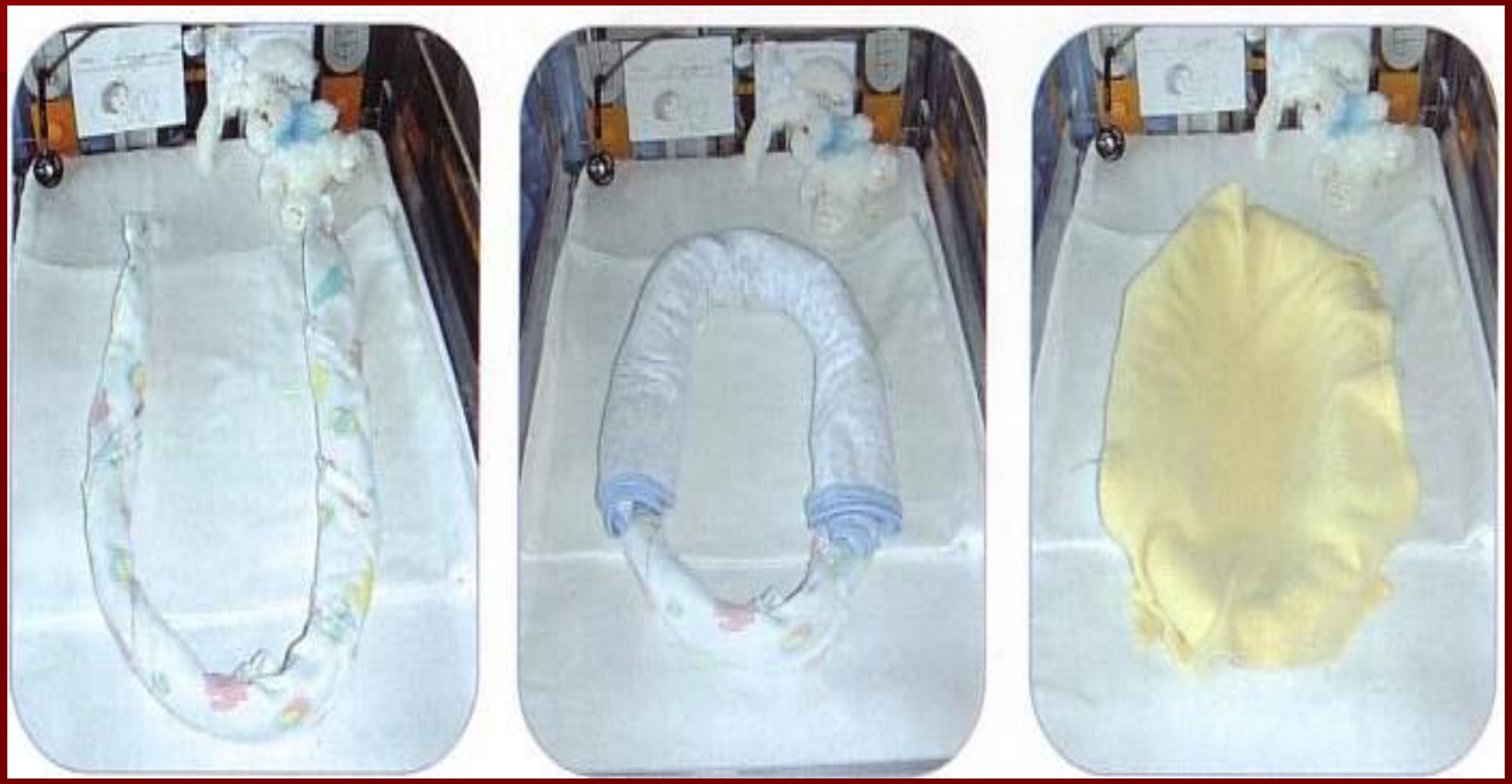
- Hypersensitive to stimulation, e.g. touch, sound, light
- Difficulty establishing a sleep wake cycle
- Difficult being alert and maintaining it
- Low tone in the trunk and neck
- Out stretched limbs and extended spine
- Results in instability of trunk & pelvis.
- Flattened rib cage
- Yawn or cry frequently
- Disorganised sucking pattern

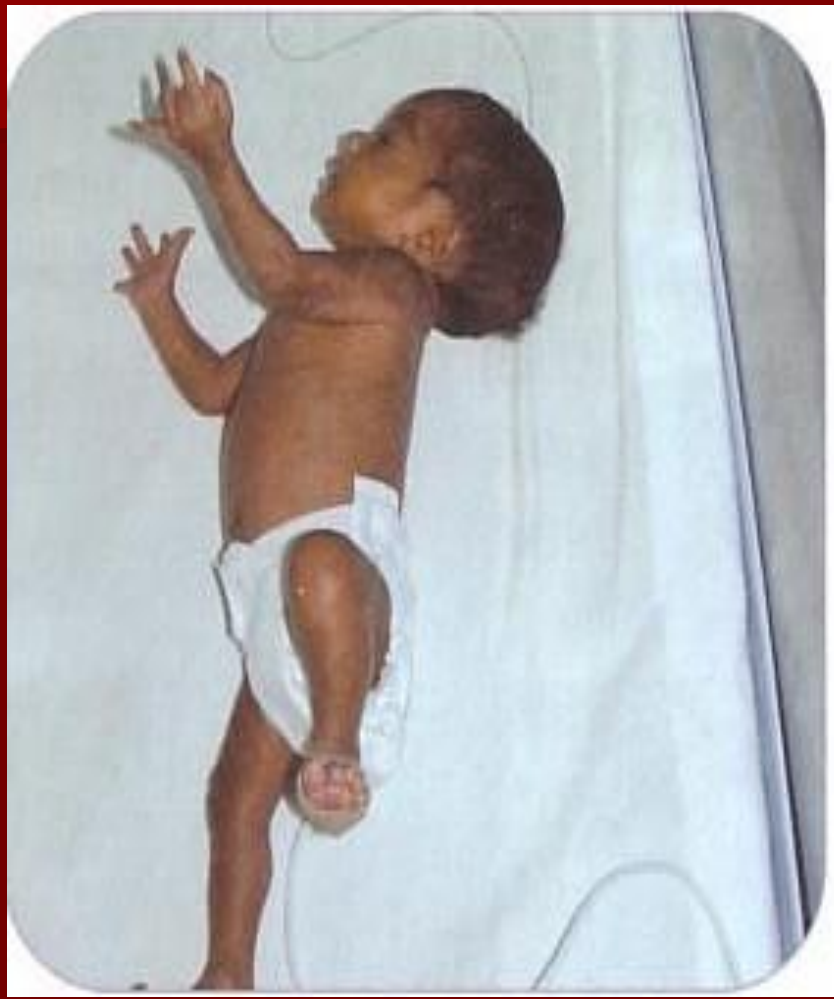
Premature babies: **Intervention**

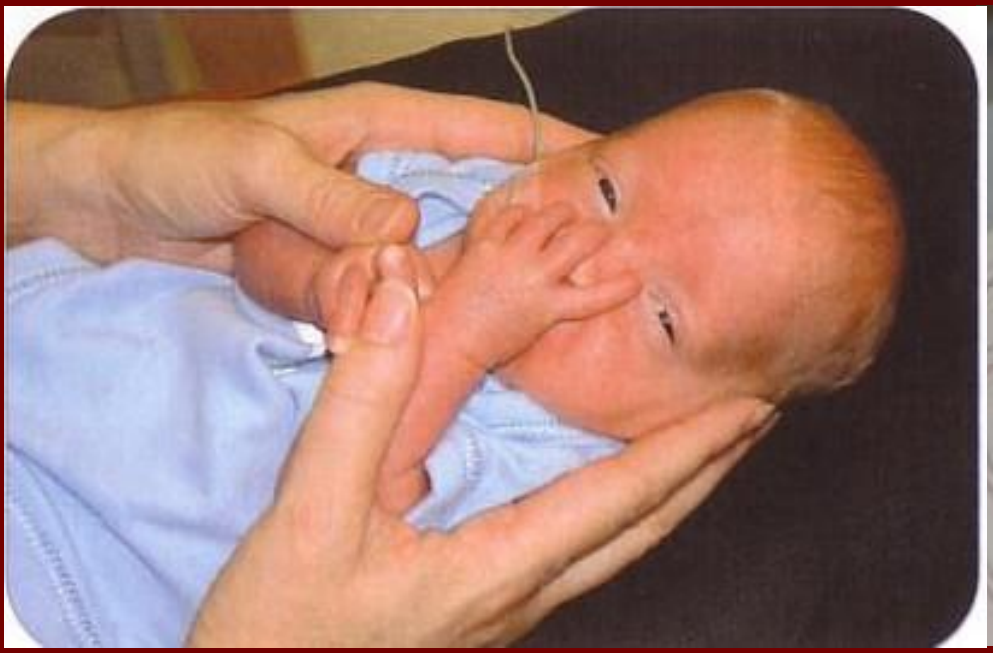
General principles of care: optimising infant's ability to feed

- Reduce light, noise level
- Build a nest for baby to sleep in
- Place hands over baby's body with a firm touch
- Bring baby's hands to mouth, hands together and foot to foot
- Regularly change infant's positions
- Pick baby up in a flexed position
- Skin to skin contact (Kangaroo-care)









Premature babies: Intervention

Test readiness for feeding

- Baby has regular respiration (no apnoea), heart rate (100-140), O_2 saturation (92-100)
- Coordinated suck-swallow-breathe (nurse to carry out with gloved finger dipped in milk)

Premature babies: Intervention

- Usually can start breastfeeding at 32 weeks
- Initially only 'playing' at nipple
- At 34 weeks increased fluid intake with NG/IV
- By 36 weeks, full neurological maturity for coordinated suck-swallow-breathe

Treatment 1: Nutrition & Hydration

Treatment 2: Positioning

It is important for mum and baby for:

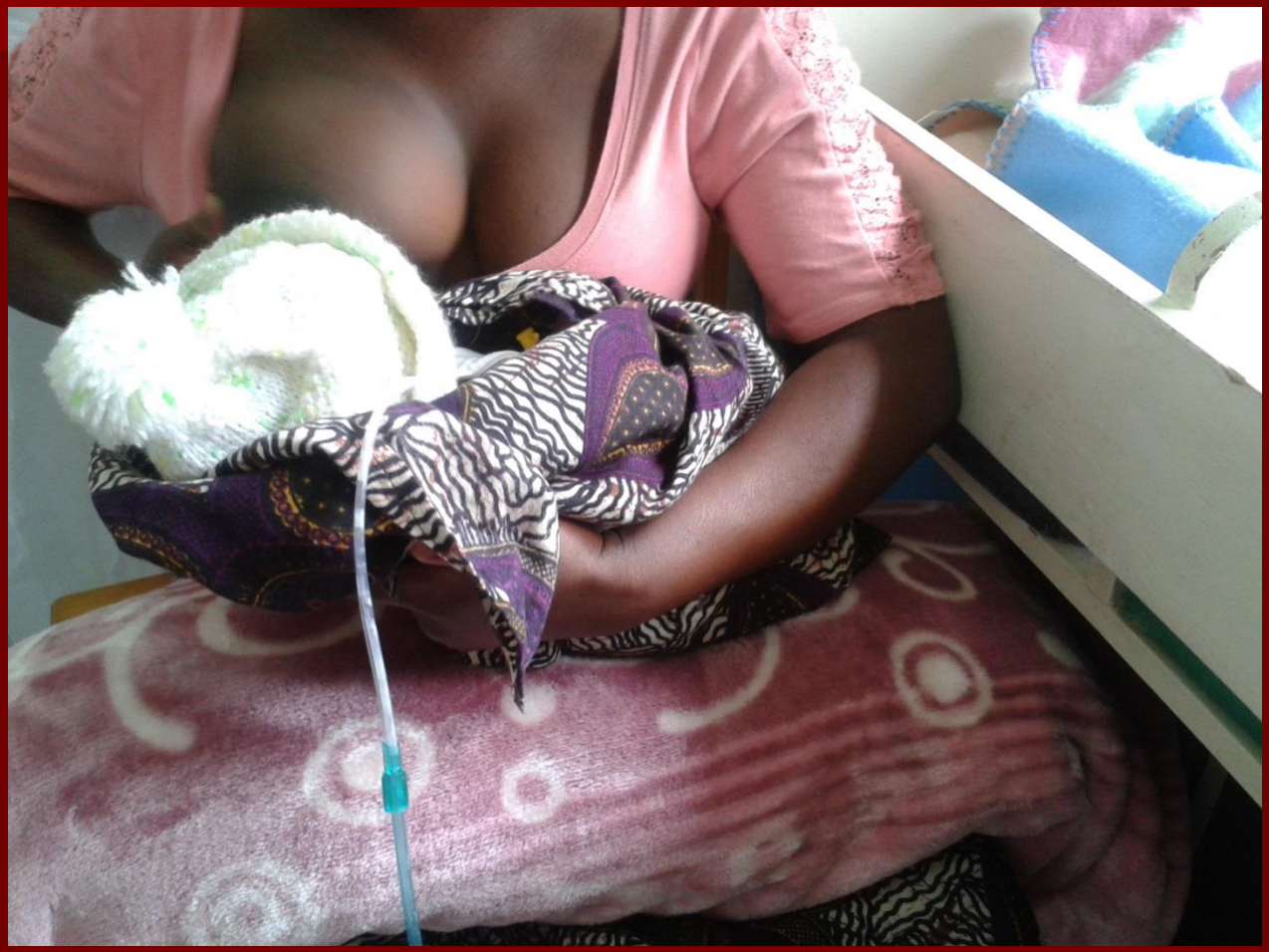
a) Comfort and stability=decrease stress, energy, and effort

b) Improve sucking as baby more stable

How

- Mum to sit with her back supported (e.g. against wall), knees slightly up and feet flat on a surface
- Use blanket on mum's lap to bring baby closer to the breast in a horizontal position
- Opposite hand from breast holds the baby's head and the other hand holds the breast

Baby breastfeeding using blankets for support



Baby supported using mum's arms

Treatment 3: Thickness & Texture

- Thickness - Thin liquids (eg.milk) can be problematic:
  - Pacing

- Texture - weaning food
  - Smooth runny puree

Treatment 4: Utensils

Usually breast

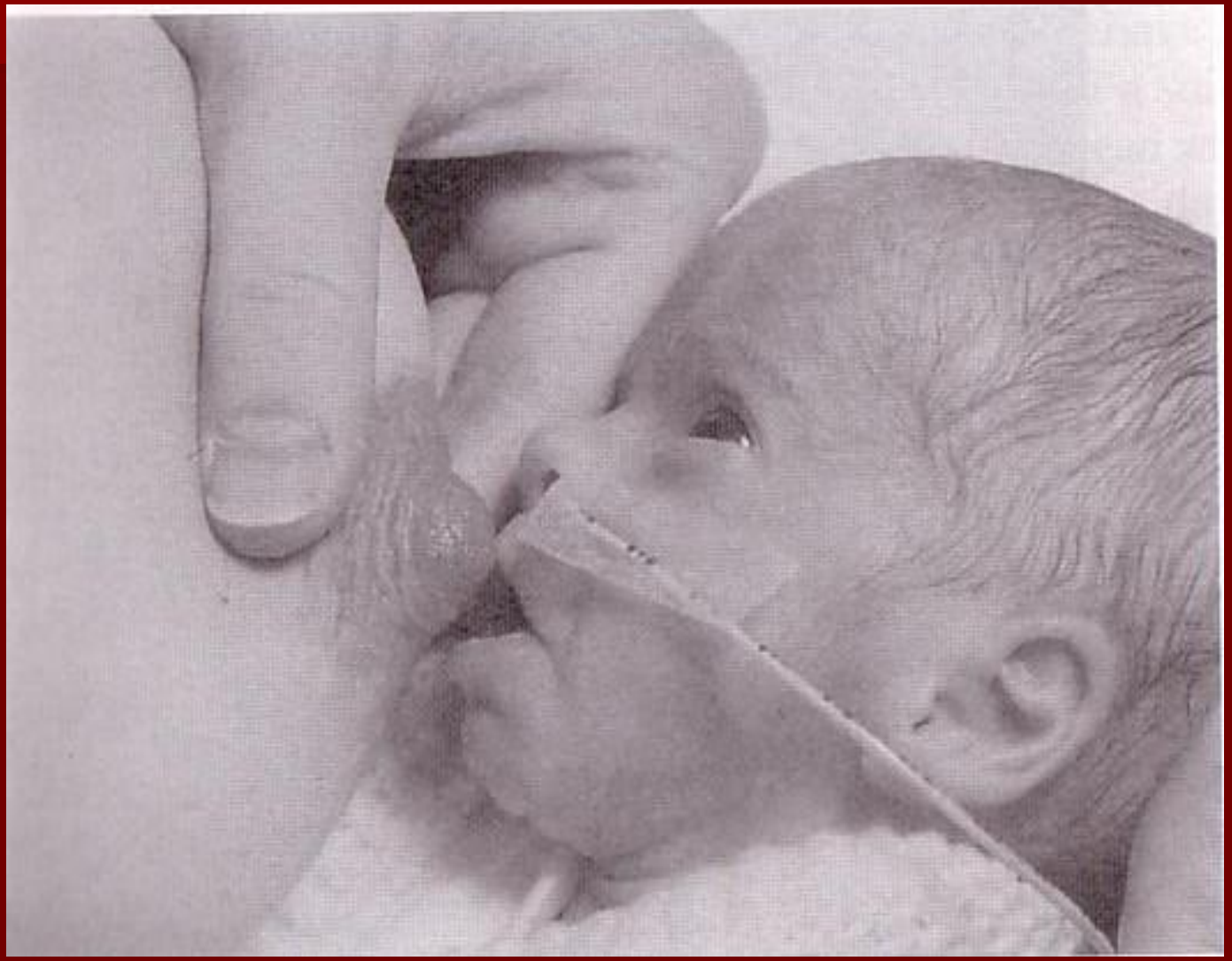
Cup: small, clear soft plastic cup

Spoon: for weaning only

Treatment 5: Techniques

If baby does not open mouth when rooting reflex is stimulated, then apply firm pressure below lip, on chin: press in and down with finger, then place on breast

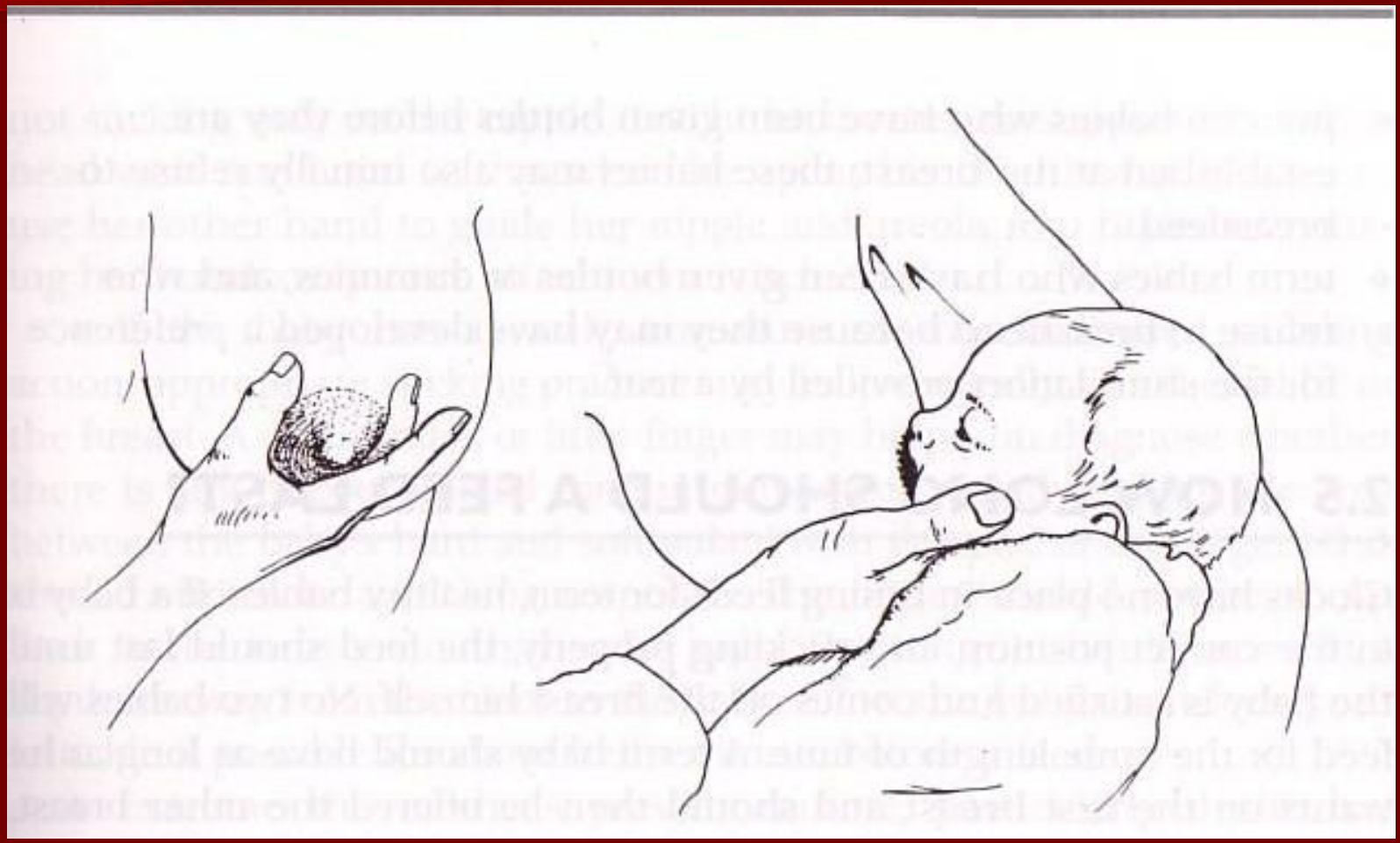
Premature babies



Premature babies

Premature baby breastfeeding with support

Dancer Position



Dancer Position

Treatment 5: Feeding Techniques cntd.,

- If sucking is disorganised, assist baby by moving the breast away from baby after 6 sucks
- After feeding, position baby upright on mum's chest or place baby in cot with baby's **left** side down.

Upright positioning after feeding

Treatment 5: Feeding Techniques cntd.,

- Limit each feed to 20-30 mins maximum. Reduce duration of feeds and increase frequency
- If baby is unable to take total nutritional needs via breast, consider cup feeding. Use a clear plastic medicine cup.

Premature baby cup feeding

Feeding Guidelines: Infants

- Alert baby by undressing, talking, singing and moving baby's limbs gently
- Wrap baby with a thin blanket, with all limbs tucked in. Leave one hand out for sensory feedback
- Ensure mum is in a supported position
- Place baby on breast in 'opposite-arm' position
- Express 1-2 drops of milk, rub baby's lips on milk
- When baby opens mouth, bring baby's head to breast (NOT breast to mouth!)

Feeding guidelines for infants cntd.,

- If baby wriggles or try to move away from breast, hold head gently but firmly. Baby will settle down and latch on!
- Watch and wait to see if baby starts sucking. If not, after 2 mins, feed by cup and try again at next feed.
- If sucks successfully, feed for 5 mins or until baby stops sucking.
- Top up with cup-feeding/NG as needed.
- Hold upright for at least 15 minutes after feeding or place in side-lying (left side down) in cot.

Children who are weaned:

Intervention

Hygiene

Advice for carers:

- Handwashing (flowing source + soap or ash + air dry – avoid shared towel)
- Utensils (rinse in good water & dry in sun)
- Washing children's hands (same way as yours)
- Washing children's face
- Wiping table clean (use a clean cloth)
- (Weaned) Clean teeth of children at risk of chest infection *before* eating as well as after

DIET & TEXTURE

- Smaller meals more often
- High nutrient density
- High calorie density (-CP/neurological problems)
- Smooth texture (no bits) (-CP/neurological problems)
- Foods to avoid for children with Autism –additives, other?

GIVE PLENTY OF WATER!

(keep 1 litre bottle for each child)

(for constipation as well as dehydration)

Texture: Good or bad?

- Biscuits
- Nsima/ugali
- Rice with cabbage or kale strips
- Chappati
- Mandazi
- Bread
- Mashed beans
- Cassava
- Avocado

X Biscuits

√ Nsima/ugali

X Rice with cabbage or kale strips

X Chappati

X Mandazi

X Bread

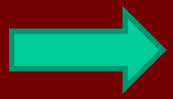
√ Mashed beans

X Cassava

√ Avocado

Communication

- How do children know it is mealtime?
- How can they tell you they are hungry/thirsty?
- How do they say they are full or want more?
- Can you offer choices?

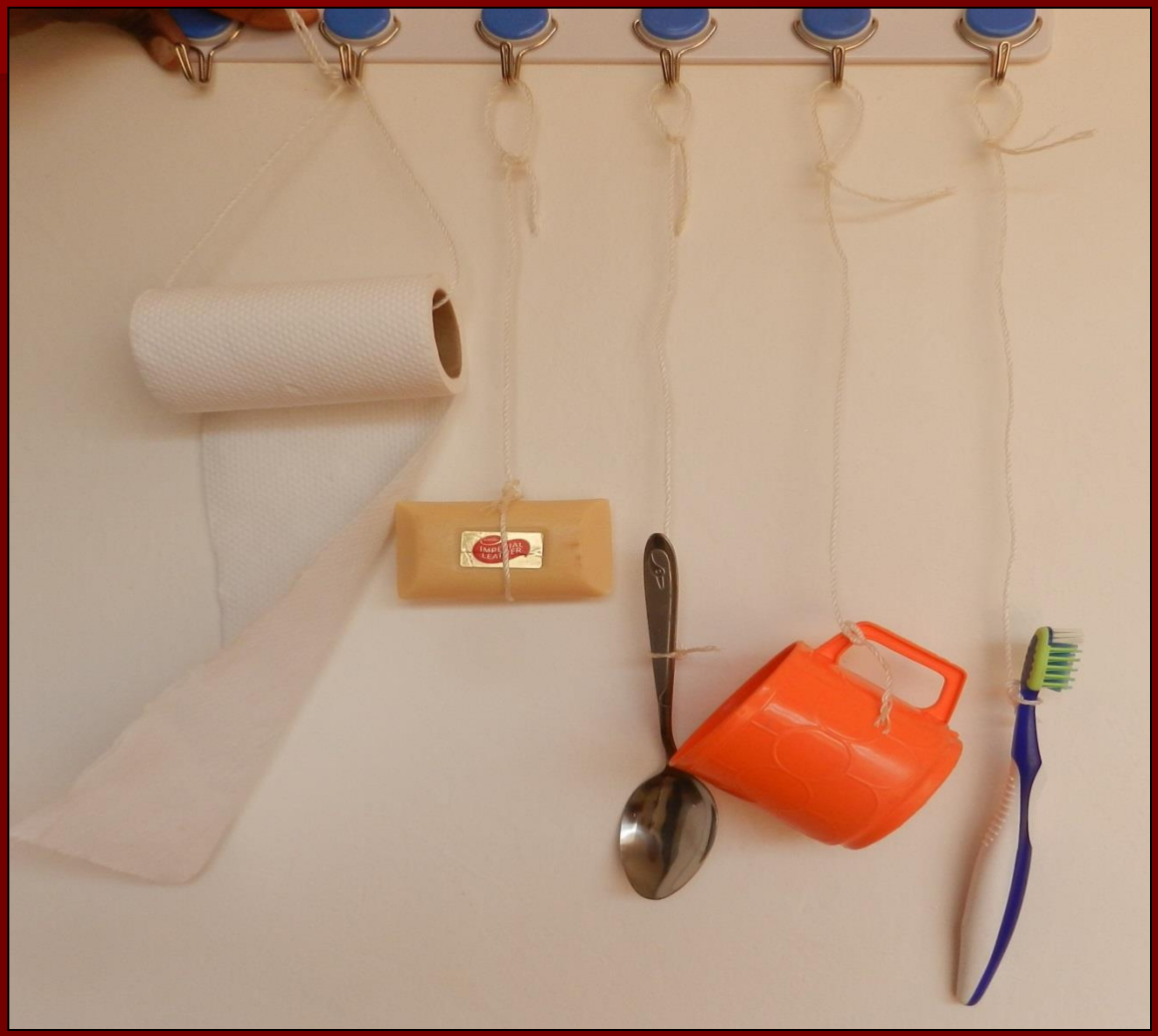


'Total Communication'……

Total Communication

- Objects
- Gestures
- Pictures
- Signs

Objects of Reference



Positioning

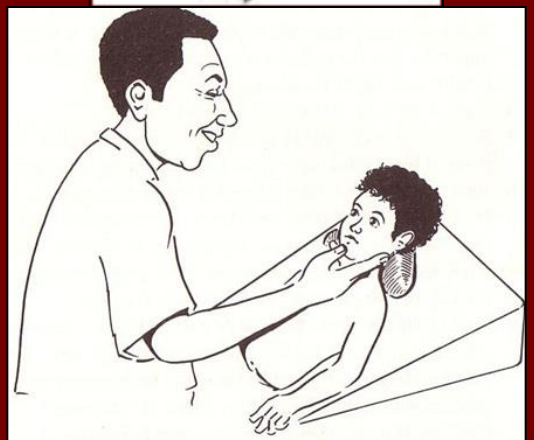
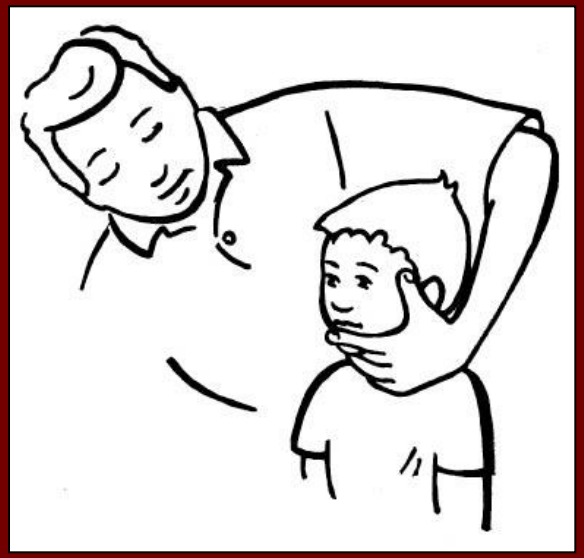


Figure 10 *An example of a good lying position*
Note: The child is well supported and calm; he is symmetrical; his neck is elongated; his arm is relaxed; the adult is providing oral control; there is good eye contact between them.



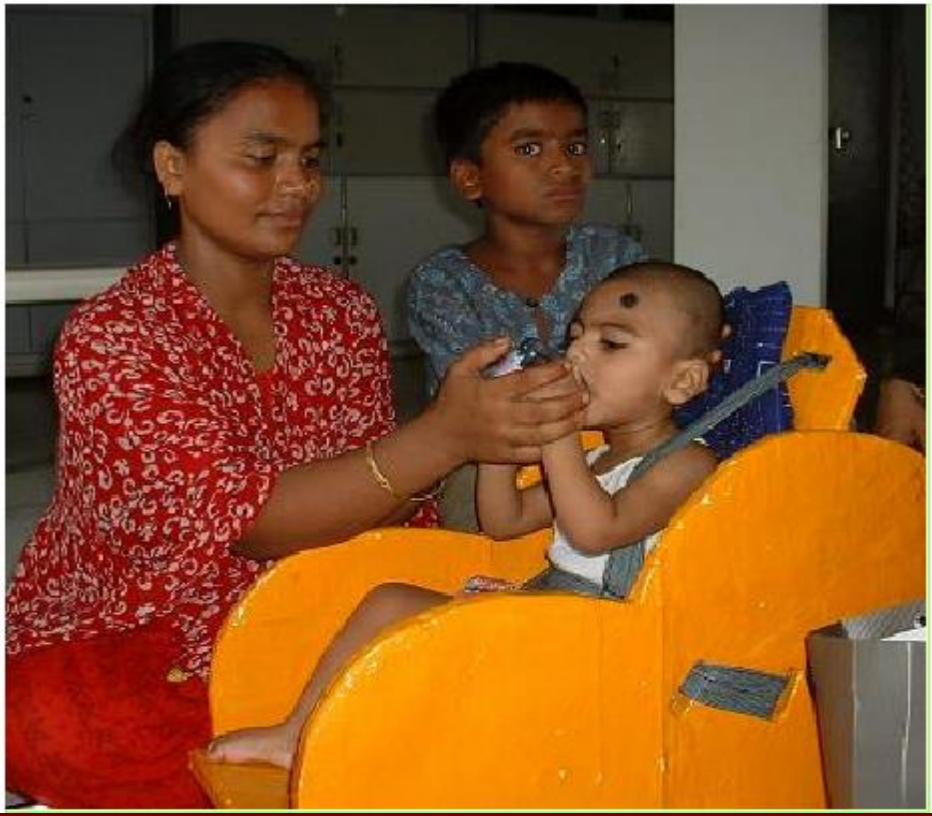
Seating

Responsive and Sensitive

- *Talk* to the child
- Give *small* mouthfuls – food AND drink
- Feed at the right *speed* and *pause frequently* for the child to rest
- *Watch* for signs of discomfort/distress…and *wait*
- *Support child to learn to self feed* with their hand first, then a spoon (hand-over-hand)
- *Be patient with fussy eaters*. Allow them to explore food. Find out how they like their food to be presented (colour, texture, temperature, together or separate etc.)
- *NEVER force-feed* (it is cruel, risks choking and food/drink on the lungs, causes fear and increased refusal to eat)

What has changed?

Before & after



Before & after

Before & after

Watch videos

Before: what suggestions would you give for change

After: what has changed? What is good about this. Is there anything you would still like to change further?

Medical intervention

- Reflux
- Epilepsy
- Severe malnutrition or dehydration
- Chest infection

Feeding Guidelines: Weaned

- Follow good hygiene practices – feeder & child
- Give smaller meals more often: high nutrient & calorie content; smooth texture
- Communicate with child in positive manner
- Position – support child in upright position with chin slightly down (use special chair)
- Use correct utensils (small plastic cup & spoon)
- Feed sensitively: small mouthfuls, slowly, watching & pausing. NEVER FORCE

‘Red Flags’

1. Medical History

Birth history:

- ❑Premature
- ❑Birth trauma (eg. HIE)

Known diagnoses:

- ❑CP or other neurodisability eg. Muscular dystrophy
- ❑Condition eg. Hydrocephalus, cleft lip/palate, syndromes, congenital cardiac disease

Morbidity:

- ❑Brain infection eg. Meningitis
- ❑Malaria
- ❑Frequent chest infection
- ❑Mother has HIV
- ❑Significant weight loss over last XX months

2. Carer Interview

During every meal:

- ❑ Eating/drinking take longer than they should of a child of this age (compare with weight gain)
- ❑ Child spills a lot of food/fluid from the mouth
- ❑ Child coughs / eyes water
- ❑ Child resists feeding eg. turns head, arches back, extends limbs, cries

If at least one item identified in sections 1 and 2 above, child should receive detailed feeding observation