Beyond safety of feeding
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The Bobath approach to managing sensory-motor aspects of dysphagia in children with CP



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- Bobath therapy is ‘a way of thinking, observing and interpreting what the patient is doing, then adjusting what we do in the way of techniques - to see and feel what is necessary, possible for them to achieve. We do not teach movements, we make them possible….’

Bobath, 1981

Bobath

- An approach / concept not a method
- Recognizes that all children with neuro-disability have potential for enhanced function
- Recognizes the need for thorough analysis of the child's functional skills
- Emphasizes a realistic approach 'what is necessary and possible for the child'
- Emphasizes the need for the child's own activity
- Based on available knowledge and evidence
- Multidisciplinary approach

Mayston, 1997

Some of the theoretical postulates underlying the Bobath approach

- Tone = neural & non neural
- CNS = dynamic interactive systems
- Feedback & feed forward required for function

Basis of the Bobath Concept

- The interference of the normal maturation of the brain by the lesion leads to delay or arrest of some or all aspects of development, including oral motor function

- Abnormal postural tone causes abnormal patterns of posture & movement which impacts function

Bobath Classification of CP

- *Spasticity*: distributed in various ways
  - Hemiplegia
  - Diplegia
  - Quadriplegia
- *Athetosis*: various presentations
  Pure, Choreo, Dystonic, with spasticity
- *Ataxia*

Bobath Therapy Requires...

- Analysis and assessment

- Systematic preparation for specific function: mobilization, lengthening of muscles and practice of movement components as well as practicing within a functional activity

- Use of **tone influencing patterns** (T.I.P) to modify non-neural abnormal tone
- **Facilitation** of more normal patterns of activity, including components of tasks and entire tasks
- **Stimulation** to facilitate specific postures and movement patterns

Tone Influencing Pattern T.I.P.

- Are normal patterns of movement which are used to modify abnormal patterns of movement
- Serves to reduce hypertonicity & to build up tone into more normal patterns of activity..

Examples of T.I.P.

- Movement away from typical abnormal pattern, e.g. head retraction, head asymmetry, jaw & tongue thrust.
- Aim is to be able to first move out of pattern of abnormality and then….
- Progress to being able to move to a pattern containing less elements of the abnormal pattern and less of the abnormal tone

What do we use?

Key Points of Control

Are parts of the child's body from which the therapist can most effectively change patterns of posture and movement in other parts of the body.

The KPC can be used to:

- Reduce non-neural tone
- Facilitate Movement & Postures
- Stimulate Movement & Postures

Key Points of Control

Proximal:

Head & Jaw

Spine

Shoulder Girdle

Pelvis/Hips

Distal:

Elbow

Knee

Wrist/Thumb

Ankle/Toes

How do TIPs work?

- Improve Alignment to enable optimal length for muscle activation
- Provide more normal patterns of co-ordination giving basis for posture & movement
- New experience giving different sensory feedback, leading to modification of the feed-forward mechanism

- Provide opportunity for practice & repetition of functional activities
- Facilitation may use both automatic & voluntary movements
- Aim to reduce / remove handling to allow the child to take over

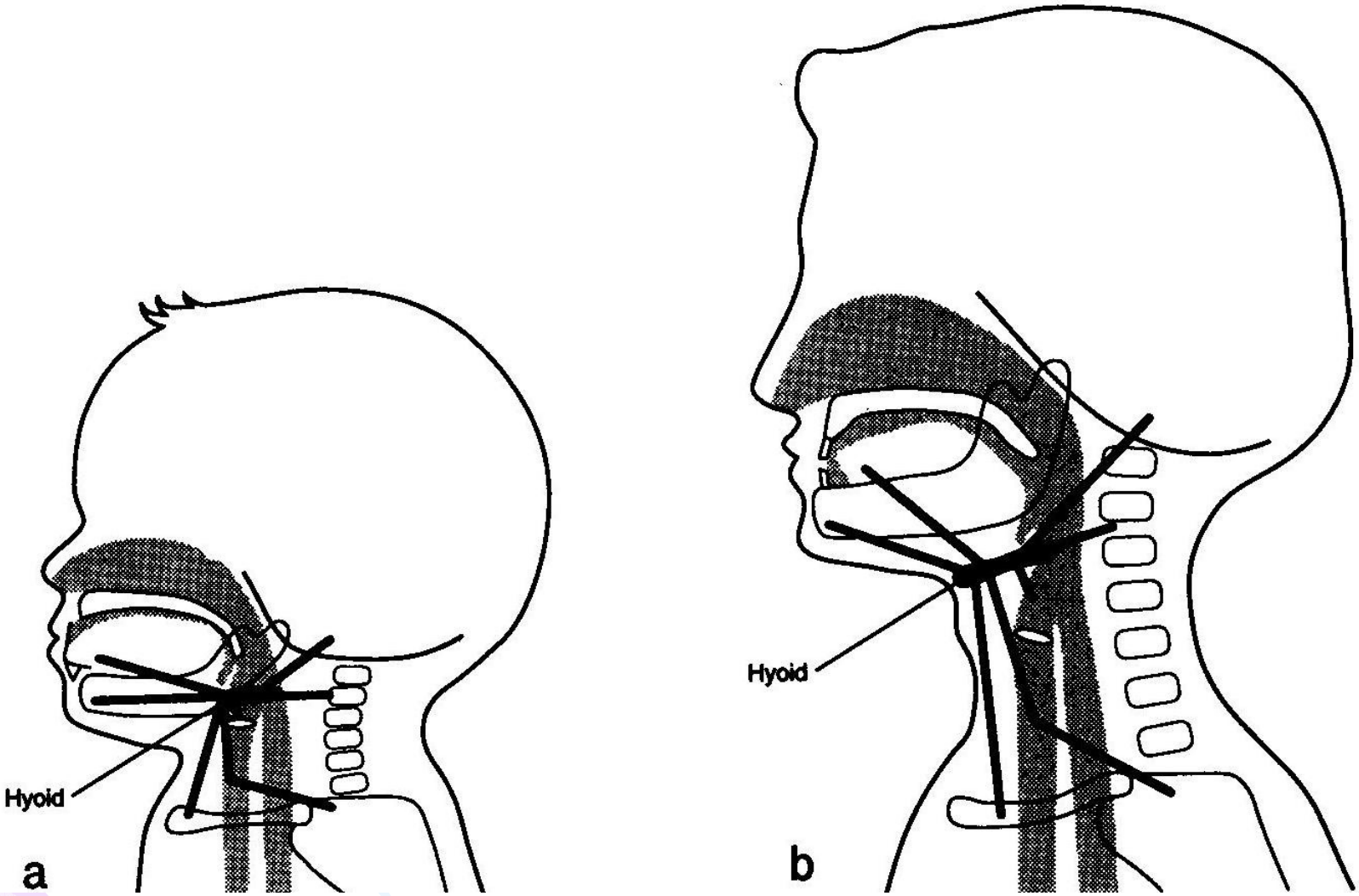
Application to eating & drinking problems

- Analyse abnormal patterns of movement used for eating & drinking and….
- Determine how these patterns interact with and are related to postural postures and patterns of movement
- The quality and influence of the abnormal tone – postural and oro-facial, on eating and drinking

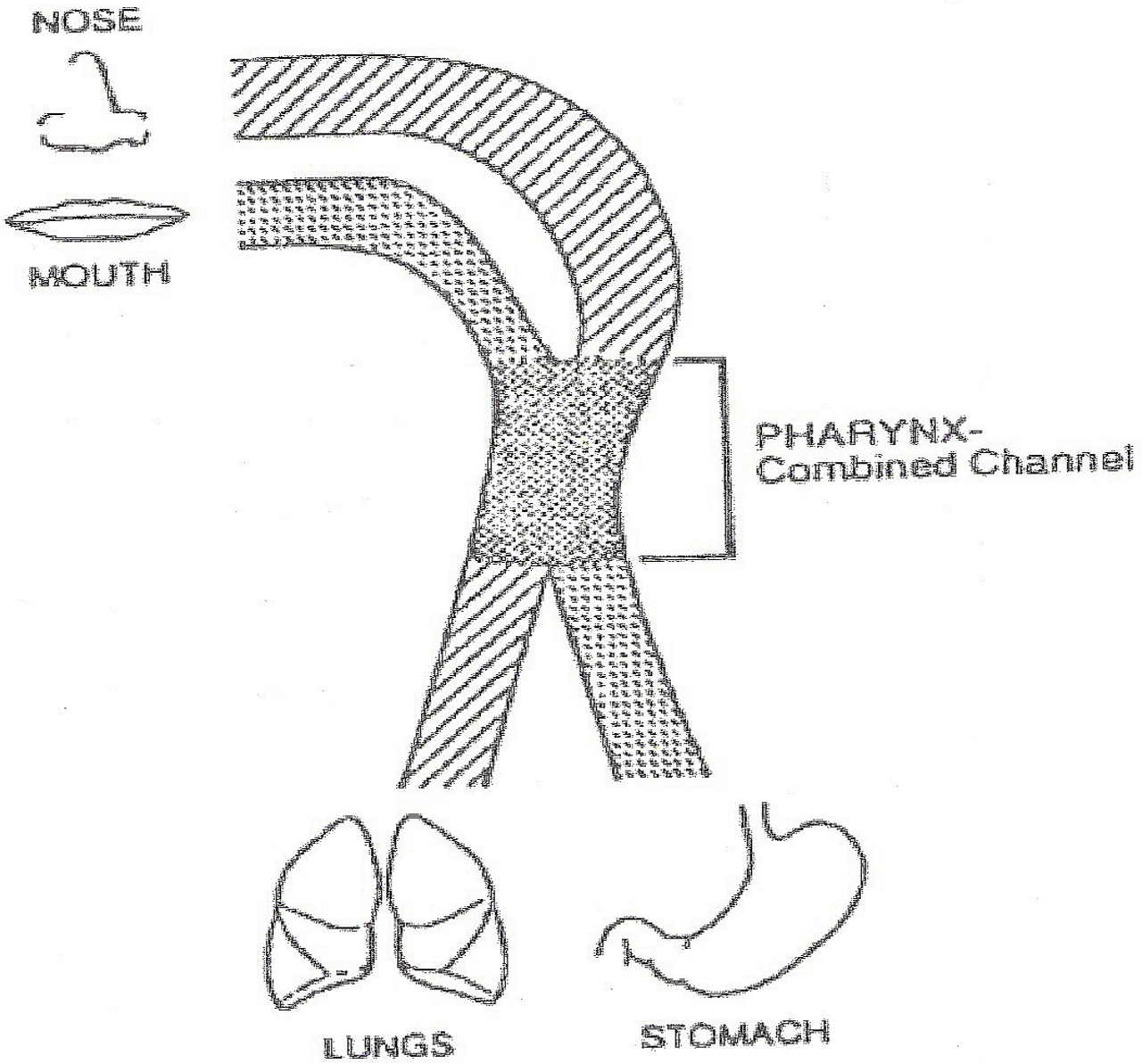
- Extent of oral phase involvement
- Determine effect of head-neck-shoulder alignment on breathing – can breathing be stabilised with optimal positioning
- Pattern of swallow response
- Acceptance of mouth closure – partially or completely
- Signs of aspiration
- Sensory system involvement

Hyoid complex alignment

- Suprahyoids
- Infrahyoids



Wolf, L. S; Glass, P.G (1992).



From: Wolf, L. S; Glass, P.G (1992).

Intervention principles for oral sensory-motor dysfunction

- Assist child to 'move' out of pattern of abnormality (e.g. head retraction, open mouth posture, head-neck asymmetry, increased tone in tongue) and then….
- Progress to enabling child to use oral motor movements containing less elements of the abnormal patterns and less of the abnormal tone

Intervention

- Alignment (positioning, oral control)
- Optimal length for muscle activation (hyoid, oral, pharyngeal, laryngeal)
- Stimulate more normal patterns of oral movement & co-ordinate with breathing
- Provide new experiences (consistencies, tastes, temperatures, feeding utensils) giving different sensory feedback, leading to modification of the feed-forward mechanism & thus improved function

- Provide opportunity for practice & repetition of eating and drinking activities
- Facilitation of eating and drinking patterns may use both automatic & voluntary movements
- Aim to reduce / remove handling (e.g. oral control; utensil control) to allow the child to take over

Oral control for alignment





Spoon Feeding

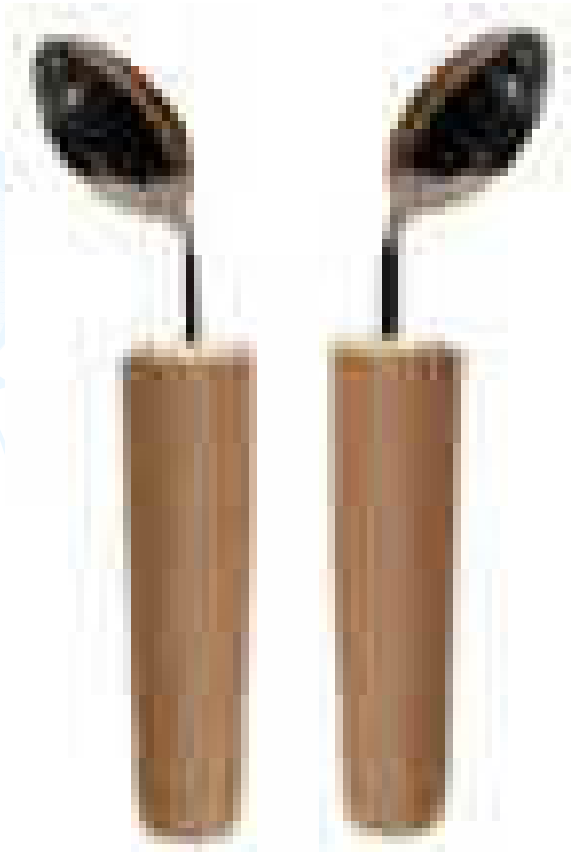
- Paste/ set/ smooth mashed consistency
- Firm shallow spoon
- Size matched to child's mouth size
- Enter mouth centrally
- Press down firmly on anterior ½ of tongue
- With combination of oral control & spoon pressure on tongue, upper lip should remove food from spoon without scraping against teeth



Assisted self-feeding

- Hand-over-hand assistance
- Handle of spoon between assistant's index & middle finger & child grips over adult's grip
- Support head or oral control or shoulder/arm as required
- OR child may control spoon and adult provides oral control

Angled spoons & forks





Finger Feeding

- Solid soft (e.g. softly cooked potato/carrot) or crispy consistency (e.g.finger biscuit)
- Enter laterally at corner of mouth
- Assisted self-feeding – use hand-over-hand
- With oral control, facilitate graded mouth opening and facilitate biting off a small piece

Cup Drinking

- Initially - thickened liquid to slow down flow rate
- Soft cup – diameter should match child's mouth size – avoid covering visual field with cup
- When introducing cup drinking – use small cup (e.g. bottle nipple cover)
- Cut out small section to make space for nose when tilting cup – child's head doesn't have to tilt back (cut-out section is furthest away from face)



- With oral control, facilitate small mouth opening – I.e prevent downward jaw thrust

- Place rim of cup on lower lip and tilt cup so liquid touches the upper lip, wait for child to sip liquid

- If transition from bottle to cup is too hard for child – use spoon drinking
- With oral control, facilitate slight mouth opening –prevent downward jaw thrust
- Hold spoon laterally and place base of spoon on lower lip
- Tilt spoon so liquid touches upper lip – allow child to sip liquid





Straw Drinking

- Use firm rubber tubing (small inner diameter) and start with short tube in cup (no more than 10cm length)
- Most difficult drinking method if lip & jaw closure is problem
- With oral control – facilitate lip & jaw closure
- Place straw between lips and model sucking action

- If too difficult for child to suck against gravity –use fruit juice box/sport bottle with tubing/straw so you can squeeze box/bottle and push liquid up in straw – child doesn’t have to suck much

- Place straw between lips and model sucking action

Drinking Utensils



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Managing oral sensory issues

- Alignment-to enable more typical motor responses to sensory stimuli
- Facilitate improved motor responses if required
- Grade sensory input: quality, quantity
- Use activities of daily life when possible
- Use child’s own body & appropriate objects if required

- Provide opportunities for variety of sensory experiences in a variety of contexts - improves the ability of the nervous system to process & integrate sensory intake

- Children who develop normally continuously seek out and engage in sensory experiences

- Children with motor limitations may not be able to independently engage in sensory exploration

Textured spoons




waterpik
Ultra Cordless
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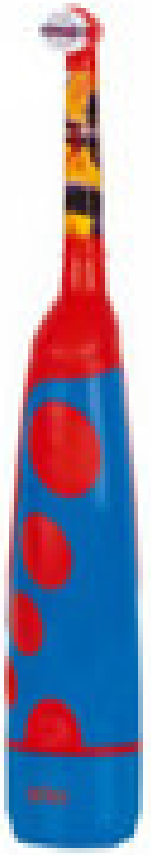

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