

Speech Therapy For The Cerebral Palsied Child

A plan of treatment based on the Bobath Technique

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The speech therapist engaged in treating the Cerebral Palsied child has usually looked to the sphere of physiotherapy for guidance and help, and has always reaped the benefit of the techniques and principles propounded by such eminent authorities as Phelps, Collis and Temple Fay. Now, once again, the speech therapist can benefit from a physiotherapy technique, and gain a wealth of knowledge to help her in her therapy with the Cerebral Palsied child. Here the writers refer to the approach to treatment devised by Mrs. B. Bobath.

THE THERAPEUTIC PROGRAMME

General Principles

1. The therapist must endeavour to normalise the muscle tone of the child's whole body in the Reflex Inhibiting Posture (R.I.P.) before she attempts to teach speech to the child. The speech therapist should employ all the R.I.P.'s that will normalise muscle tone in the spine, neck, head, tongue, peripheral speech mechanism and pre-vertebral muscles. Cerebral Palsy is not a difficulty concerning individual muscles, but is rather a deficiency in movement and co-ordination, as the nervous impulses to the muscles are not directed in the normal way. There is also lack of inhibition from the higher centres in the central nervous system. If the therapist concentrates on treating only one muscle, she will probably produce spasm in other muscles, thus often stimulating spasticity in other parts of the body. The athetoid child must be taught to maintain muscle tone and control and grade movement.
2. Training through the visual sensory field is used more as an aid than as a basic technique. Preferably, training should be done through the proprioceptive pathways. Cerebral Palsy is a sensory motor handicap, and the Cerebral Palsied child usually has a deficient or distorted sensory intake. Therefore the therapist should encourage the teaching of the "sensations" of normal movement and use the visual pathways as an aid only.
3. The child unhampered by the difficulties produced by Cerebral Palsy usually achieves head

control at about six months, and at this time begins to babble. One cannot have a selective activity without first achieving fixation. In the Cerebral Palsied child the head and neck must be controlled before speech can function as an adequate means of communication. Thus, one may summarise the problem, and say that the foundation stone of speech therapy for the Cerebral Palsied child is to first achieve head and neck control. The therapist must at first try to achieve total inhibition of any movement of the body which effects the head or neck. At a later stage the child should be able to speak and move simultaneously without spasm. Ultimately the aim should be to create a speech function which is independent of the rest of the body.

4. The speech therapist must not allow any deterioration of muscle tone while giving her speech lessons. It is of the utmost importance that the speech therapist is aware of the spasm that can and does occur when the child initiates speech. This spasm must be inhibited. Therefore, the therapist must first inhibit the primitive reflex patterns, and aim to build up higher and more organised reflex and voluntary activity on a developmental scale.
5. Breathing should be taught on the basis of releasing spasm or normalising tone. Bobath suggests that depending on where the spasm occurs, the therapist should manipulate and vibrate either the spine, thorax or larynx to improve exhalation. The concept of blowing exercises to improve breathing has been found to create diaphragmatic, thoracic and head/neck spasms. This, of course, is most undesirable, and can only cause further handicap to the child. Instead the vibratory movement initiated by the therapist, as in the Bobath method, helps to achieve relaxed breathing and frequently a long sustained sound without pressure or blocking occurs.
6. Once vocalisation has been induced and if the child is in a well controlled R.I.P. and vocalises spontaneously, the therapist must facilitate speech

- sounds by manipulating the tongue, lips and face. The therapist must be careful not to reinforce wrong patterns of posture or movement. If the child has an extensor spasm he must be positioned so that the head is in the midline or flexed. Similarly if the pattern is one of flexion, the head must be up-right. Usually the child with an extensor spasm will articulate "g" and "k" sounds more easily than he will other sounds. The child with flexor spasticity will find the "b", "p" and "M" sounds easier to articulate. The easiest sound to facilitate is "b". The voiceless sounds are the most difficult ones to initiate and should be left to the last stages of therapy. Vowels should be taught first and then consonants, and finally the combinations of vowels and consonants. Alveolar sounds are facilitated by the therapist moving her finger up and down under the front of the mandible. This forces the tongue up to the alveolar ridge. Velar sounds are obtained by moving the finger up and down under the mandible towards the back of the tongue. The other sounds are facilitated in a similar way depending on where they are made in the mouth.
7. The therapist must allow the child to experience all the stages of normal speech development. Thus, therapy may follow the same phases of development as in the normal child, based on the preliminary feeding patterns of chewing, sucking and swallowing. The child is placed in the R.I.P. most suitable for him and is helped by the therapist to chew, suck and swallow. Hard foods are used for chewing exercises, while tubing and straws are used to help the child to suck. The swallowing reflex is stimulated by the therapist massaging and gently pressing the front of the throat, whilst the lips are held together. At all times the therapist must observe where the spasm occurs, and then position the child accordingly. The technique of "upside down feeding" is also used if the child drools incessantly. Another way of obtaining lip closure to reduce drooling, and when the muscle tone is low, is by the technique of "pinching" round the mouth. If the child continually bites when stimulated on the front and sides of the gums, this primitive "bite" reflex must be inhibited by the therapist placing the child in a suitable R.I.P., holding the jaw down and stimulating the area round the lips, teeth and gums. When these areas have eventually been desensitised so that the child will not automatically bite when stimulated, the grip on the chin area is gradually reduced and finally eliminated.
 8. The abnormal movements of the tongue must be corrected. It is of no avail to drill the Cerebral Palsied child with endless tongue exercises, without first reducing the spasm or overflow movements in the tongue, i.e. the tongue must be relaxed and controlled through an R.I.P. which normalises muscle tone in the head, neck and spinal regions. It has been found that it is far easier to achieve control of the tongue by first establishing jaw control. One of the key points, in this connection, is under the chin. Here, once again muscle tone must be normalised. If the child has a forward tongue thrust the therapist must position the child so that his chin is not in a downward position, resting on the chest. Conversely if there is an extensor thrust of the head and neck, paper may be placed under the chin. The child must hold this in position while the therapist endeavours to pull it away. This is for learning control of the extensor spasm in the neck.
 9. Voice quality can be affected by any change of muscle tone. Spasms occurring in the laryngeal areas cause considerable deviations in the quality of the voice. Since the athetoid and ataxic child have fluctuating muscle tone, one may find the voice quality and volume to be equally fluctuating. The vocal quality of the spastic child is often whispered and jerky. When treating the spastic child the stimulus must be graded e.g. beginning with a slow movement and increasing the speed, as greater speed will give rise to increased tone. With the athetoid and hyperkinetic child the therapist positions the child, gradually reducing her hold and eventually gives control over to the child. Control is always from proximal to distal with the spine being stimulated for head control.
 10. The speech therapist should use more than one reflex inhibiting posture during a therapy session. These R.I.P.'s follow the movement patterns of the development of the normal child. What is achieved in one position, should also be tried in another position. There must be a carry-over into all positions such as sitting, standing etc. To achieve such a carry-over, the therapist should first initiate various movements of the limbs, and the shoulder/neck regions whilst the child is vocalising.

CONCLUSION

The writers wish to point out that the above discussion represents only one of the methods used in their treatment of the Cerebral Palsied speech defective child. Other techniques are employed concomitantly with the Bobath technique.