

HANDLING AND POSITIONING POINTERS

Physical preparation of the child for efficient feeding in therapy or at mealtimes, is critical to the success of the program. This paper offers a series of questions and observations that will help therapists and parents provide a good physical foundation for improved feeding and oral-motor skills. An understanding of the relationship between the body and mouth is the first step toward making changes.

OBSERVE THE TRUNK.

What is its tone? What is the stability of the trunk? Is there symmetry, or does the trunk pull down more on one side? Problems with the trunk can lead to compensations and tension in other parts of the body. Poor trunk control leads to poor head control since the neck needs a stable support surface for precise control.

OBSERVE THE HIPS AND PELVIS.

Forward or backward tilting of the pelvis in sitting or standing can influence head control, breathing, voicing, and mouth control. This occurs through action on the spine and the child's attempt to compensate for the imposed spinal curve or position. Full extensor spasms of the spine often begin with thrusting back of the pelvis. This creates major problems in the shoulders, head and mouth while the child is sitting.

OBSERVE THE SHOULDER GIRDLE.

If the two scapulae (the shoulder blades) are adducted (pulling toward each other), the shoulders will pull back into a retracted position. This retraction causes a tension which often pulls the neck into hyperextension and influences the pattern of lip, tongue, and jaw retraction. If there is scapular adduction the child will have difficulty getting hands to the mouth, putting the hands together, and reaching for a toy.

OBSERVE THE RELATIONSHIP OF HEAD CONTROL AND SPINAL MOBILITY.

Head control is mediated through the entire spine. An active, flexible spine enables the entire vertebral column to do the work of head control. When the spine is rigid or fails to respond as a coordinated unit, head control must be achieved by the neck alone. The muscles of the cervical spine (neck) are not strong, and they fatigue easily when they must take full responsibility for maintaining the head in an upright position. When a child is positioned or strapped into a tightly-fitting chair or corset so that spinal movement is impossible, the full spine cannot assist in head control. If such positioning is necessary to provide assistance with trunk control in school or for transportation, therapy should include activities which will develop mobility and control through the entire spine.

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OBSERVE THE ABILITY TO MOVE AROUND THE BODY AXIS.

Freedom of movement implies the ability to combine and integrate both flexor (bending) and extensor (straightening) components of movement. This ability enables smoothly graded movement with small steps and transitions. In perfecting an activity such as the development of trunk control, the infant initially develops control of the extensor component (such as lifting the head from tummy-lying). Control of flexor movements is added as the baby lifts the head when raised from back-lying to sitting. The development of lateral and diagonal movements requires the smooth coordination and integration of both flexor and extensor movements. The infant perfects these combined movements in rolling to the side, and in rolling from tummy-to-back and back-to-tummy. These sequenced movements occur in smooth transitions around the central axis of the body. It is important to work on these aspects of movement in the development of full head and trunk control.

OBSERVE THE ABDOMINAL MUSCLES.

The abdominal wall is composed of a series of muscle groups whose fibers run vertically, horizontally and diagonally. These muscles provide the major contribution to the development of trunk control. As the control of the abdominal muscles emerges at 5-6 months, the baby includes lateral trunk movements and the diagonal movements needed for rotation in sitting and rolling. Activation of these muscles creates a retraining wall to support the abdominal contents. This reduces the stress on the stomach valves and decreases the amount of normal spitting-up which the infant does. The abdominal muscles also hold down the lower border of the rib cage, enabling greater activity of the intercostal muscles and deeper chest breathing. Controlled activation of the abdominal muscles is required for vocalization which is loud and sustained. Relaxation of the extensor muscles of the lower back and pelvis occurs in combination with the abdominal movement. The treatment program should include activities to obtain activation and coordination of these muscles of the abdominal-pelvic girdle. The muscles may be stimulated by touch or pressure and by slow movement in all directions.

OBSERVE FOR ORIGINAL PATTERNS AND COMPENSATIONS.

The movement behavior that one sees in an older infant or child is usually a mixture of the original pattern imposed by the brain damage, and the child's response to that pattern. The underlying picture in the young infant is usually one of low tone with trunk instability. As tone develops, extensor tone is the first to emerge (as in normal infant development). The

infant's response to the low tone combined with extensor tendencies is to counteract the pattern with a holding or fixing movement. As this fixing becomes stronger, movement is curtailed in those parts of the body involved in the fixing. These blocks to movement are seen predominantly in the neck, shoulder girdle and pelvis. The child unconsciously uses other movements to compensate for lack of movement in the blocked area. Thus, if a child is locked with the pelvis tipped posteriorly in sitting, he is in danger of falling backward. If he has some control of the trunk, he may round the upper spine forward to remain upright. Through this compensation, they may develop a strong pull-down into flexion in the pectoral muscles of the chest and shoulder girdle. He may, furthermore, need to tip the head into hyperextension in order to use the eyes effectively. In treatment it is important to identify and treat the underlying pattern rather than focusing on the compensation. One can never successfully take a compensation away from an individual unless a better movement or control pattern has been provided.

OBSERVE EYE CONTROL SKILLS.

Can the child maintain focused eye contact with an object or face? Can she track in all directions? Problems with the control of eye movement can influence how a child holds the head. Tilting of the head into extension or to one side may be a compensation for inadequate focus or movement of the eyes in one or more directions. Work on eye control is most successful if the child is lying in a supine position (on the back) with the head slightly elevated. Since demands are not placed on the child for maintaining head and trunk control, it is easier to separate out eye movement. The therapist can explore the child's abilities to sustain eye contact with a toy when it is held at different distances from the face. Work on tracking or following movements can be done in two ways. The child can hold the head still in midline and move the eyes to follow the object. Separation of eye and head movement can also be achieved through asking the child to keep the eyes on the stationary object as the head is turned slowly to the side or in an upward or downward direction.

OBSERVE THE SITTING BASE.

If the child's base for sitting is narrow, a greater amount of trunk control is required. The child who lacks adequate trunk control will have greater problems if the legs are close together (adducted) in sitting on the floor or in a chair. The separation of the legs by an abduction wedge or pommel can widen the sitting base, allowing the child to use a more limited amount of trunk control. The use of W-sitting by many children is a compensation for poor trunk control and inadequate balance reactions. The child learns that the wider sitting base created by the W-position of the legs

increases her security and steadiness, allowing for greater freedom in play. The focus in treatment should be placed upon building greater stability and control of trunk movement, greater rotation and movement in and out of side-sitting, and improved balance reactions.

OBSERVE INTERACTIONAL ASPECTS OF POSITIONING.

Does the positioning or type of handling that you have selected maximize the child's opportunities for interacting and communicating? What must the child do in order to see your face? What choices does the child have to indicate discomfort or desire for a change in position or activity? Is the child a true participant in the treatment session, or is he expected to comply with the therapist's instructions? When the child feels manipulated or disrespected, tense physical patterns are often elicited as a type of communication.

OBSERVE THE USE OF YOUR BODY

The therapist, educator and parent should become aware of their personal use of movement. Where handling of the child is effortful or tense, the child receives the added message from the adult's body that movement is difficult, that efforting is appropriate or that the adult is coercive or uncertain of the child's response. An awareness that efficient, gentle and rhythmical movement from the adult will increase the likelihood of easy movement from the child should be developed. The adult body can also be used as an initial piece of equipment to assist the development of skills such as tummy-lying, sitting, or standing. For example, the shifting of weight in sitting or the use of propping forward on the hands is much more interesting for the child while sitting astride the adult's abdomen or waist, than when sitting on a roll or ball. Work on head control in prone can be done with the child lying on the parent's abdomen and chest. Assistance can be given at the shoulder girdle or pelvis to assist with the maintenance of head lifting and support on the forearms. Because the child is in physical contact with the adult, and is able to interact freely with the eyes and face, the motivation for keeping the head upright is high. The child perceives the activity as interactive and playful rather than something which must be done to please the adult.

OBSERVE THE ROLE OF EQUIPMENT IN THE SESSION.

Equipment can be used effectively to maintain a movement pattern or posture with which the child is familiar and comfortable. It should not be used to create or achieve a new movement pattern. Thus, the child is prepared for sitting in a specific chair through handling on the therapist's lap or straddling a roll. Famil-

arity with weight-bearing through the hips, legs and feet is provided through work from a ball or a lap before placing a child in a prone stander. Even when a child has experienced the sensations involved in standing or sitting, it may be necessary to prepare her for placement in her chair or prone stander prior to its use in a therapy session or classroom. Preparation for use of a chair for feeding or a prone stander for a learning or language activity in the classroom may be done in a therapy session immediately prior to the use of the equipment in the classroom.

FACILITATION.

The word, facilitation means "to make easy". Specific sensory input through touch, movement, temperature, pressure, hearing, and vision can allow a child to experience a new, easy movement pattern. Facilitation implies that the nervous system contains patterns and possibilities for improved sensation and movement that are not typically used by the individual. In order to use facilitation concepts effectively, attention must be paid to the tone and movement patterns that have limited the child's spontaneous development of skilled movement. These patterns are curtailed by reducing the type of sensory input that usually elicits them. For example, if the child's head is turned strongly to the right side, the body may assume the stereotyped movement pattern and tone of the asymmetrical tonic neck reflex (ATNR). The limbs on the face side may be extended while those on the skull side are flexed. If the therapist reduces neck extension and brings the head to midline, the brain no longer receives the stimulation to the proprioceptive receptors in the neck that trigger the ATNR. As the child's system is freed from the influence of this movement pattern, stimulation to the righting reactions will enable the child to experience a new type of head control. Through facilitation the therapist helps the child create and experience a new sensorimotor pattern. As this new pattern is repeated, it becomes familiar to the child. The new pattern can then be compared with the old limiting or inefficient way of moving. The child must have a clear sense of how these movement patterns are similar and different. The therapist assists the child in learning how to move between the two patterns. Verbal comments can be added which will give the child a clearer frame of reference. For example, one movement could be described as "stiff" and contrasted with a "soft and easy" movement. Words that are descriptive rather than evaluative can be selected. When the therapist describes the movement as "your bad voice" or your "good voice", the focus is shifted from the description to the inner judgment of acceptance and adequacy. It is the child who ultimately decides which voice or movement pattern provides the greatest pay-off.

It is not enough to handle the children so that they experience normal tone and movement. When the adult is not with the child, or when more challenging activities are attempted, the habitual patterns will return. Children must have a bodily understanding that will enable them to switch to the more efficient pattern independently. They need to know how to get unstuck when they feel stuck in the old movement pattern. A major emphasis in treatment should be placed upon the transitions between movements rather than on the achievement and maintenance of a static posture (such as sitting or prone-on-elbows).

TEAMWORK.

Teamwork implies a sharing of the knowledge and insights of different individuals who work with a child and family. Frequently the concept is implemented through formal meetings designed to allow all professionals and the parents to know the current components of a child's program. This may be followed by a discussion that results in specific changes in the emphasis or components of the total program. Teamwork can also be a joining-together and sharing of knowledge and insights. The physical or occupational therapist may be more comfortable with needs for positioning and handling than the classroom teacher or speech-language pathologist whose professional training has placed less emphasis on movement. When

these skills are shared with others who are less comfortable with the movement aspects of treatment, all will benefit. The teacher can contribute appropriate ideas for the development of cognitive and academic skills. The speech-language pathologist can enrich classroom and PT-OT sessions through sharing ideas and insights for the enhancement of communication and language skills.

Teamwork involves a sharing of oneself. This implies the free giving of knowledge, skills and insights without the need for their acceptance by the other person. When the individual offers suggestions based on an inner attitude of criticism and judgment of another's ability, judgmental and critical feelings will prevail. A learning environment of acceptance and freedom provides the foundation for integration of new information, for change and for creative problem solving. When suggestions are made with the expectation that they will be implemented, a sense of demand prevails. Demands provoke resistance. Suggestions offered in an environment of interaction and freedom are evaluated more openly since the issue of expectation is not involved. When the individual's sense of personal worth is separated from the results of treatment or suggestions, the situation can be assessed more objectively.