

Early Positioning, Stimulation and Exercises for babies and pre-school children with Hydrocephalus



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It is important that all babies with hydrocephalus are referred to the Child Development Centres and, therefore, have supervision from Therapists (Physio, Occupational & Speech) through their pre-school years and that their parents have guidance and suggestions on ways to position, stimulate and exercise through play.

For any child to reach their maximum potential, they must be encouraged to explore the world around them and be stimulated to use all their learning processes. This involves the pathways to the brain, through eyes, nose and taste, as well as feeling from the skin, muscle and joints of their bodies. To this end the head is paramount and there is quite naturally some extra anxiety for parents of a baby with hydrocephalus, due to the increased size of the head, and/or the insertion of the shunt system. There are several ways in which the head can be supported, yet allow the baby to acquire confidence in movement and be stimulated to learn about the world.

Always check with your therapist before embarking on something new, as to the appropriateness of the exercise/equipment. Similarly, check cost and suitability of new equipment with the therapist before buying.

Lying on the back – using a cheese shaped wedge of firm foam, which raises the head and upper part of the body, so the baby is able to see more. These days, the various forms of baby relax seats are very useful for giving this sort of support.

If the head tends to flop from side to side a useful way to keep it central is to use two small rolls of foam covered and jointed with towelling, between which the head can fit comfortably. In this position the baby can reach out and play and develop the use of the hands and eyes together. This is a very important stage in child development.

Side Lying – again using a small firm foam wedge pillow and firm foam block, a baby can be laid on the side and be well supported. Toys and interesting objects can be placed nearby to be watched and

to encourage reaching out. This again develops the use of eyes and hands together.

These exercises are a generalisation and a plan of action will have been worked out for each individual child in the form of a continuing assessment.

Prone and tummy-lying over a wedge should always be supervised. The baby/child should never be left unattended or asleep in this position. This is best done in the first instance with the therapist as minor adjustments may be required to accommodate a large or heavy head.

Lying on the tummy – using a firm foam wedge, the baby or small child can be laid on their tummy so that the head is over the edge of the wedge and the hands and arms are resting on the floor.

In order to make the baby/child feel fully secure, a towel can be wrapped over the bottom and tucked under each side of the wedge to prevent forward movement off the wedge. In this position the movement and control of the head can be encouraged and the muscles that raise the head can be strengthened. By using attractive coloured foil papers, lights etc, the baby can be encouraged to follow these with their eyes and as these objects are moved upwards or sideways, to move the head. Later they may raise the head to look at musical toys and things that have attractive sounds.

After the baby has surveyed its surroundings from the lying position, she/he can then start looking at it from the sitting position and unconsciously begin the learning process for 'perception' (relating one object to another in space), judging distance, height etc.

There are several ways of supporting the child with hydrocephalus whose head control is not yet good enough for it to be free in an upright position

1. Using the baby relax type of chair in the higher position so that the child is fully supported, but looking at objects and the room in a 'sitting' position.

2. Making use of foam wedges, pillows or cushions in the pram or cot to support the head and shoulders in the 'sitting' position.
3. For the most severe hydrocephalus or the baby/child with very poor muscles and head control, the use of the Britax type car seat inside a baby buggy or suitable chair, can give good support and allow them to experience the 'sitting' position.

All through the baby's early life, encouragement in movement is important and there are some simple exercises that can be enjoyed by parents and babies.

Place the baby in the lying position with the head and shoulders slightly raised on a firm pillow/cushion or a wedge of foam. Position yourself at the baby's feet and face her/him.

- a) Giving support under the shoulders and behind the neck, encourage the baby to raise the head. A toy can be placed in a suitable place to be seen when the head is raised, so that there is a reward for lifting the head.
- b) Later when the baby has some control over the head, the same movement may be helped by the arms being held, and given a slight pull in the upward direction.
- c) To help in developing the working of hands and eyes together bring both the baby's hands together, such as in Pat-a-cake, and encourage the baby to look at them.
- d) Play games of taking the baby's hand to parts of your face and their face and then encourage them to do it on their own. It is not important to talk and name the parts of the body whilst performing the movements.
- e) Move the legs up and down and encourage the baby to play with their toes.

When the baby is able to support the weight of the head, but is having difficulties in getting from lying to sitting, there is a way of helping.

Place one hand on one of the baby's forearms and hand and hold it on the floor to the side of the baby; now hold the other elbow and pull this arm forwards and across the baby's body, so they come up through a half turn,

leaning on the propping forearm before straightening the arm into the sitting position.

A baby's first independent mobility may be by wriggling along the floor, rolling and later creeping or bottom shuffling. All these activities are at ground level and therefore it is very important to make sure that the baby with hydrocephalus is placed on the floor. Parents might feel more relaxed at first to use a foam mat. It is important for the baby to accept new and possibly 'threat-making' situations calmly and that he senses a feeling of confidence from the adult at these times. All activities should be fun. This is the time when you should start bouncing the baby on your knee, holding her/him up in the air and bringing her/him forward through space onto your chest.

What makes a baby decide to move? A natural sense of inquisitiveness; something attracts the eye, the colourful sparkling exciting shape just out of reach, so all movements are geared towards reaching it.

Vision probably provokes about 90% of movement, but babies have the ability to be attracted to objects by sound, smell and texture, so those babies with hydrocephalus and sight problems should be encouraged to develop these other sensory skills from as early an age as possible. In this way, when they reach this early stage of mobility these senses can be used to entice movement.

Once a baby becomes a toddler it marks a new burst of mobility on different levels, which in turn increases babbling and words and a great expression of language development, as well as heralding a whole new world to be investigated. This is also a time when they are being very physically active and increasing their physical stamina. From now onwards they see and perceive their surroundings more like an adult from 'on top', underneath, at the back and front, and sideways which leads onto learning the concepts 'under', 'over' and directions 'up' and 'down', 'left' and 'right' etc. This is a period that is very important for the child with hydrocephalus, as emphasis of this perception and directional understanding at this stage may help to form a basis to assist those children who can have a number of learning difficulties in later years. The need for simple clear sequential sentences is paramount for these children to learn about subjects they find difficult to understand.

If you have any questions or would like further information, please do not hesitate to contact the Family Support Workers at:

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