

MOVE General Frequently Asked Questions

Don't children have to learn to crawl before they can learn to walk?

It would be wonderful if all children were able to learn to sit, stand, and walk by going through the sequence of developmental skills typical of most infants. However, when a child has physical disabilities, this doesn't always happen. It often takes years to teach a child with severe motor delays to crawl and many children with severe motor disabilities will never learn these skills. Even with the most diligent care from parent/therapist/teacher, a young person may still find that their only means of getting about is crawling. One has to ask, How often do adults use crawling? The selection of skills to be taught is possibly the single most important factor in determining the quality of education a person with disabilities will receive. Although special education teachers have proven repeatedly that virtually all students learn, albeit some more rapidly than others, not all students are learning skills that are pertinent to daily living and to adulthood. The MOVE Programme focuses on teaching people with disabilities those skills which are necessary for their adult lives, hence the focus on sitting, standing and walking. If there is still time left after these skills have been taught, other areas (such as rolling, climbing onto furniture, walking sideways, etc.) can be addressed if deemed important.

Whose job is it to teach children to sit, stand, and walk?

There is a general consensus of opinion among leading therapists and medical personnel that therapy services have much greater value and effect if the procedures for management and movement are incorporated into every facet of the student's life. For this reason, MOVE focuses on teaching students functional skills which are relevant to their lives. These skills are practised in all areas of the student's life and means that it should not just be one specific person who teaches new skills, but all those involved with the individual. The MOVE team and input from all the members, is vital to learning. It is the repetition of the skills in different areas of the student's life that speed up the process of learning.

How much do movement and positioning exercises help the child with cerebral palsy?

It has been found that range of movement exercises have little or no effect unless they are used in daily functional activities and they have the best effect when they are self-directed by the student.

A range of movement exercises that are practised twice a week for 15 minutes cannot have much effect on a student who practises non-range of motion for the other 5,010 minutes of the week. The question must always be asked "Movement to do what?" Positioning or proper body alignment requires the same questioning: "Positioning to do what? The most common questions about positioning are related to sitting. Why do we need to sit? The most obvious answer is that standing all of the time is too tiring and we cannot function well when lying down.

There are two basic sitting positions:

1. Leisure sitting which involves leaning against the backrest and functional sitting which involves leaning forward from the hips to perform a function. Leisure sitting is used almost exclusively for receiving information (watching television or listening to a speaker).
2. Functional Sitting. When giving information by speaking or when performing a function such as eating or writing, people almost always lean forward and assume a functional sitting position.

In the past, students who do not have the ability to sit independently have been placed almost exclusively in leisure sitting positions. There are several reasons for this:

- Leisure sitting is more comfortable and enjoyable.

- A reclined sitting position takes pressure off of the spine and hips of people who are at risk for scoliosis.
 - Others can see their faces and therefore establish eye contact while talking to them from an above position.
 - And, of course, that's the way most wheelchairs and seating systems are made
- There are two major mechanical reasons for developing functional seating systems
- Arm and hand use. When in a back leaning position, it is extremely difficult to use the arms. It takes a lot of strength to pull against gravity and it is next to impossible to feed oneself or do table work while leaning back.
 - Speech production. It is easier to speak when leaning forward because it is easier to contract the diaphragm and push air through the vocal cords.

In summary, both functional and leisure sitting positions are important; but, in the past, most energy has been directed into developing maintenance systems for leisure sitting alone, whilst the need to learn functional sitting positions has been practically ignored. Before positioning can be addressed, you must determine the function the child will be performing and then analyse normal body alignment. A very common example of abnormal body alignment concerns toileting needs. Most children who lack independent sitting balance are placed on a toilet in a leisure sitting position or even in a reclining position. This is not the normal position for urination or defecation and it is not conducive to learning to use public toilets where backrests are not available. Simple prompts can be constructed from PVC pipe to help the student practise functional sitting skills while performing specific activities such as toileting. The position must not only be as normalised as possible, but must also meet the functional needs of the activity. Activities without functional purposes such as side lying, rolling over balls, propping on wedges, etc. have not proven effective in helping severely disabled children gain independent motor skills.

Can the MOVE Programme be used without the specialised equipment?

Equipment is not the basis of the MOVE Programme. However, specialised equipment is often used as a tool to allow the student to learn new skills. New skills may be taught using other means of support instead of the equipment. This can be another person, furniture, walls etc. depending on the current level of ability of the student. The objective of the MOVE Programme is to gradually reduce the support given to allow the student to develop his/her own skills.

What do you do about dislocated hips, scoliosis and other joint deformities?

According to Bleck, 1984, the most common and serious structural change in children who have severe physical disabilities is dislocation or partial dislocation of the hip. This deformity is seldom present at birth but develops as the child grows older and experiences abnormal muscle pull from spastic muscles, femoral torsion and the lack of bearing weight on the legs. As one set of muscles pulls the leg in one direction, the corresponding set of muscles fails to balance the pull; then, the femur (thigh bone) moves to a position away from the acetabulum (hip socket) until the femur has no shelf on which to sit. Bleck noted that some children with cerebral palsy do experience osteoporosis (brittle bones) but it is almost always limited to children who have total body involvement, are dependent on wheelchairs and spend much of their time lying down.

The osteoporosis is overwhelmingly due to lack of weight bearing and proper stress on the bones. Bleck's study also observed that dislocation of the hip is found almost exclusively in people who have total body involvement and are non-ambulatory. If a child learns to walk by the age of four or five, Bleck concludes, the probability of hip dislocation will be greatly reduced. Children who become household walkers and use assistive devices for partial weight bearing may retain the subluxation (partial dislocation) but they will not have totally dislocated hips. The ability to walk is a major influence on hip dislocation. Generally speaking, a person who has the combination of a flexion contracture of the hip due to ilio-psoas spasticity and femoral torsion will have hips that dislocate if the person is non-ambulatory and spends the majority of time sitting or lying down. On

the other hand, a person who is partially weight bearing is more likely to have subluxation of the hips and a person who is fully weight bearing will have normally located hips.

Scrutton, 1984, adds that scoliosis is usually secondary to pelvic asymmetry. If one hip dislocates, the child does not have an even foundation for sitting and it is impossible to align the trunk over the hips. If the child attempts to align the trunk over the hips, the spine must compensate for the uneven foundation and curvature results. Pelvic symmetry seems to be important in preventing scoliosis. The factors important to preventing hip dislocation and thus pelvic asymmetry are abduction (separating the legs), external rotation of the legs (keeping the knees from turning inward), and early weight bearing. In summary, the best way to prevent hip dislocation, pelvic asymmetry, scoliosis and brittle bones is to provide the child with many opportunities to bear weight on the legs in an aligned position. Most orthopaedic surgeons recommend aligned weight bearing for all non-weight bearing students regardless of hip formation unless pain is present. If the student is experiencing any pain or discomfort, surgery may be the only alternative.

Aren't some children too cognitively disabled to learn to walk?

Before we can address this question, we need to explore our definition of the term learn. It is true that human babies, unlike most animals, cannot walk immediately after birth. Most people learn to walk automatically around the age of one without any active intervention or teaching process. The most important and possibly the only necessity for automatic walking is that the motor areas of the brain have not been tremendously damaged. Experience or the chance to practise the movements necessary for walking, keeps muscles from atrophying while the brain matures; but lack of experience does not seem to play a vital role in learning to walk.

Studies with American Indians and Eskimos who kept their children in papooses as well as children who have been ill or restrained during the first months of life indicate that they quickly catch up when given the chance. Damage to the cognitive areas of the brain seems to have little or possibly no effect on learning to walk. Bleck, 1984, reported that a cognitive disability had little if any effect on the ability to walk. In 1979, Shapiro et al (in Bleck, 1984) studied 152 children with profound cognitive disabilities.

These children had neither an acquired nor a progressive degenerative disease. The majority of the children who had no major neurological disability walked by the age of six years; however, only 10 percent of the children who had both cognitive disabilities and cerebral palsy learned to walk. These authors concluded that the major determinant for learning to walk was the lack of brain damage to the motor areas of the brain. Cognition was a far less important determinant. The conclusions that most experts draw from the existing information is that damage to the cognitive areas of the brain alone may slow down the process of automatically learning to walk but does not mean that walking is impossible.

At what age should we stop trying to teach a child to walk?

Almost every one agrees that by the age of seven, those children who are going to learn to walk automatically will have done so; but that does not answer our question: Can we teach children to walk after the magic age of seven? Our studies have shown that almost all children can improve their motor skills if those skills are taught systematically using the correct support or equipment as required. The exceptions have been those children who have degenerative motor diseases, those who are totally paralysed, or those whose medical needs supersede the need to improve their ability to sit, stand and walk. Some of students have become independent walkers while others need help to maintain balance. But all of them continue to improve long after seven years of age. Many students have gone far beyond their original goals and the conclusion has now been reached that people will probably continue to learn as long as they continue to be taught.