

# Conductive education for cerebral palsy

**Wendy Fidler** explores a unique system of teaching and learning for children with cerebral palsy and links it to the work of Dr Montessori.

**C**onductive Education was designed in the 1940s by Hungarian physician and educator Professor András Pető to improve motor skills, develop personality and increase independence in all aspects of everyday living. Professor Pető, pioneered a method of rehabilitation for people whose movement and coordination difficulties stemmed from damages to their central nervous system. Pető surmised that the difficulties that children and adults with cerebral palsy experienced were largely due to a *lack of co-operation between* what the brain wanted to do and the movements that the person could actually perform.

Conductive education is based on the idea that despite damaged areas of the brain, caused for example by lack of oxygen during birth, the child's nervous system still possesses the capacity to form new neural connections, especially in the first two years of life. Pető suggested that motor-disordered people should be treated not by 'therapies' but through real education which targeted everyday living and learning skills and which prioritised developing self esteem, independence and the development of personality.

As with Montessori education, which *indirectly* prepares the child for physical and cognitive skills through practical life and sensorial activities,

Pető devised an indirect way to integrate the functions and the learning of coordinated operations by targeting cognitive and perceptual areas. He did not share the traditional view of the time that considered injuries to the central nervous system to be irreversible and the disabilities to remain permanent.

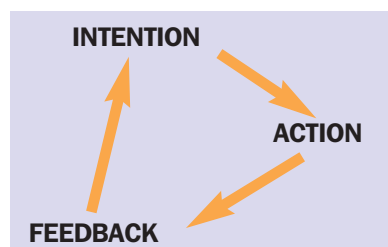
Further correlations can be made between Pető's ideas and the work of Dr Maria Montessori. Both had medical and educational backgrounds, both rose to the challenge of educating the motor-disabled and both designed a comprehensive programme of activities which help integrate and co-ordinate sensory perceptions to produce fluent thoughts, language and movements.

In Montessori education children achieve 'normalisation' by adapting to the routines and social graces of their school communities; similarly, conductive education aims to help the motor disordered person adapt to their everyday living and learning environments.

## Motor Skills Development

All voluntary actions include both a cognitive and a physiological process, i.e. a representation of the intended (cognitive) action outcome movement pattern carried out (physiological) to actually produce the outcome. This intention is linked to the goal set; for example, if the child intends to kick a ball a series of physiological movements will be initiated in relation to the goal.

To simplify this process it can be seen as:



Intention therefore is more than the will to perform an action; it also triggers the appropriate physical response.

During the process of performing an action there is interaction of both the perceptual and action systems. This means that once the child has initiated the action there is a continual series of messages moving between the brain, the muscles and joints and back to the brain, to enable the child to carry out this action in a skilled manner.

When learning a motor skill the most important part in this learning cycle is the feedback. The success of any action is measured in the difference between the 'intended' action and the 'actual' action. If a child is learning to play tennis and intends to hit the ball over the net the results of their action will be measured by whether the ball goes over the net or not. If the ball falls into the net the child will need to adjust the position of their racket head in order to lift the ball further. During the next



The Pető Institute in Hungary

stroke they will then use this information prior to making contact with the ball in order to correct their action. This process of learning will continue until the intention equals the action. The changes therefore do not occur at the level of action but prior to this, at the level of intention.

**The acquisition of motor skills needs to focus on intervention prior to action and not at the level of action.**

Feedback should not be a statement of results but rather concrete information which can feed into the intention. For example, if the child hits the ball into the net then feedback of, 'You must hit the ball higher' is not beneficial. What the child needs to know is, *How* do I hit the ball higher?, What do I need to do with my grip, my stance, the movement of my arm? etc.

For most of us the acquisition of daily motor skills is a painless, semi-automatic process. We are able to use our own internal feedback to assist in adapting the intention and moving closer towards our goal. For the child with cerebral palsy this is not so. They need to be specifically taught 'how' to change their motor skills and control rather than 'what' they need to correct.

## Rhythmical Intention

In Montessori education children learn by gradations how to fine-tune their small and large muscle movements. For example, as they work through the rhythms of the sensorial materials, using sequentially different grips and pressures to grasp and carry the graded blocks of the pink tower or broad stairs, the vestibular and proprioceptive feedback they receive helps them to integrate and coordinate their actions.

There is a similar *rhythmical intention* of repeated practice in conductive education, where actions are broken down into sections and built one upon the other. The intention is not the movement itself but the process of reaching the goal, i.e. the coordination of sensory motor operation.

## How can we help children with Cerebral Palsy in Montessori schools?

Practising grasp and release in many situations: grasping and holding helps a child stabilise his body and balance



## What is Cerebral Palsy?

**Cerebral Palsy (CP)** is a blanket term used to define a movement disorder caused by non-progressive damage to the brain which has occurred before, during or within approximately two years of birth.

The effects of cerebral palsy are different to the effects of brain injury at other stages in life because it affects the brain before it has fully developed.

CP can be caused by many factors including infection, reduced supply of oxygen at any stage, head injury and bleeding in the brain which is common in babies born prematurely.

There are various types of CP – spasticity, athetosis, ataxia and its effects vary in extent. The main effect of CP is on the child's development of movement however additional problems are likely to include vision, speech, understanding, sensory feedback, perception, feeding and seizures

more effectively. The ability to let go is key to achieving greater independence.

Clasping hands together and stretching them out in front breaks some reflex patterns and allows the hands to come together in the midline.

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### Conductive Education in the UK:

*Foundation for Conductive Education  
Russell Road, Moseley, B'ham B13 8RD*  
**Scottish Centre for Children with Motor Impairments** 1 Craighalbert Way, Cumbernauld, Scotland, G68 0LS



Photos courtesy of The András Peto Institute of Conductive Education and Conductor Training College, Hungary.

## The Pető Institute - Past and Present

Professor Pető set up his 'institute' in a Budapest basement immediately after World War II, in 1945. The Hungarian government officially established today's 'Pető Institute' in the 1950s.

'The András Peto Institute of Conductive Education and Conductor Training College' is the centre of the conductive educational network operating in various countries of the world.

Out of ten young children starting the Pető method before the age of one year, eight will be able to join normal nursery school by the time they reach that age group.

**Taken from the official website of The András Pető Institute of Conductive Education and Conductor Training College: [www.peto.hu](http://www.peto.hu)**