MARION MILLER

Gripping issues in the classroom

Do you have a child in your class who has an unusual grip on his pen or pencil? His grip is so tight that the whites of his knuckles show; he presses so hard that the indentation goes through three or four sheets of paper? He may even rotate his page by up to 90 degrees. Does the intense concentration he need to simply manipulate his tools hinder his creative process?

This could be the result of the lack of inhibition of the Asymmetrical Tonic Neck Reflex (ATNR), which is one of the primitive reflexes.

Primitive reflexes help in the birthing process and in the survival of the first few months of life. They are automatic and hard-wired to our primitive brain. If they are not inhibited appropriately, the reflexes have first call on the sensory and motor nerve impulses throughout life. This may interfere with body movements and brain function later.

Primitive brains only allow immature reactions. The primitive reflexes lay the foundation blocks for learning. Appropriately using these primitive reflexes normally inhibits and weakens them so that newly learned motor patterns can replace them.

The ATNR develops in utero. You can see the reflex in a newborn when a baby moves his head to one side. The arm and leg on the side that he turns his head toward automatically straighten. This assists in the movement down the birth canal and later helps with keeping airways free when the baby is lying on his stomach. It is usually inhibited at about six months of age. However if it is not inhibited by the time the child starts walking, any movement of the head will still cause an

"If they are not inhibited appropriately, the reflexes have first call on the sensory and motor nerve impulses throughout life. This may interfere with body movements and brain function later."

arm and leg to straighten and will affect the child's balance. If he is carrying a container of something liquid, it will spill. As the child gets older and begins developing fine motor control (as with writing), every time he moves his head, his finger will still want to open, hence the very tight grip on the pencil to compensate for this. This is but one of a number of primitive reflexes that, if not inhibited, can have a long-lasting and detrimental effect on learning.

A number of these primitive reflexes, if not properly inhibited, can also cause visual difficulties. The ATNR, for instance, can affect the ability to track smoothly; the Moro reflex affects our ability to fixate, and the Symmetrical Tonic Reflex our binocular vision (the ability of the brain to combine the two images from each eye). And this is just one aspect of learning. (More information about the greater effects of the Moro reflex was covered in an earlier article, "A tiger in the classroom," in issue two of this magazine.)

As the primitive reflexes start to inhibit, postural reflexes are developing that are controlled by higher centres of the brain. Again, if the postural reflexes do not develop fully, many of the behaviours required for learning become difficult. When this occurs it results in a brain that does not learn efficiently or easily regardless of intellectual ability. Students can only master learning through continuous, conscious effort and the skills they learn never become easy and automatic.

If the primitive reflexes are the foundation for learning, then the postural reflexes are the framework around which our further development hinges. These not only affect learning, but can also contribute to peers alienating these children because they appear clumsy, uncoordinated and "different", hard-wired by their immature central nervous system to behave/react in inappropriate ways.

Tummy time as an infant helps to develop postural reflexes. Other important physical actions for the baby are creeping or crawling. These movement patterns, amongst other things, help the eyes cross the midline, as they focus from one hand to another. The hands act as moving stimuli.

It is really important that preschoolers are encouraged to explore and interact in a physically challenging way. Slides, swings, tumbling, climbing, and balancing play an important part in developing their postural reflexes.

An enriched home or school environment that provides physical activities that stimulate postural reflexes and therefore improves balance and enables coordination, along with the appropriate sensory stimulation through such activities as rhythm and music, will cater for most children's needs.

If the primitive reflexes are not inhibited, and the postural reflexes do not develop appropriately, an older child may need to go back and repattern these earlier processes in order to reach their potential. A number of movement-based programmes such as NLK Mental Fitness Exercises can play an important part in helping schools address some of these issues. The more profoundly affected children will, as always, need more intensive intervention work on an individual basis.

" As the child gets older and begins developing fine motor control (as with writing), every time he moves his head, his finger will still want to open, hence the very tight grip on the pencil to compensate for this."