As we have read from the first part of Handwriting, we realize that handwriting involves many aspects of the physical, cognitive, motor and interpersonal skills. Handwriting is a dynamic skill that requires continuous refinement over time. We also tend to take for granted children's complaints or their handwriting style as 'part of the norm' of schooling life. Little that we know that these problems will have an accumulative effect on the child's overall performance and lifestyle later in life.

How can Occupational Therapists help children with Handwriting problems?

When children presenting with handwriting problems, the Occupational Therapists (OT) will assess the child's level in the areas of motor, sensory and perceptual functions. The OT will identify the areas that the child is lacking in performance or having difficulty performing that particular area. Thereafter, the treatment programs are tailored according to the child's needs.

As handwriting involves other skills, it is important to build up on the foundations of motor and perceptual skills before any handwritten work can be done. The OT will normally use play as part of the therapy program. Play is used as a therapeutic tool because it is through play that children acquire different skills (e.g. organizational skills, motor planning, fine motor skills, hand-eye coordination, visual perceptual skills, etc.). Children who achieved a certain level of improvement in the motor, sensory and perceptual skills, can proceed to developing handwriting skills.

The Occupational Therapist will incorporate different types of activities that will help to improve fine motor movements of the hands and fingers (e.g. in-hand manipulation, finger dexterity and strength, pinch grip, grasp, etc.), which are vital in developing handwriting skills.

In addition, the OT also observes the pressure exerted on the paper when writing and the movements of the writing limb involved, as some children can fatigue easily during writing activities. Other areas that the OT look in to when implementing treatment for children with handwriting problems are:

1. Correct sitting posture

   ![Correct sitting posture diagram]

   When sitting, it is important that the height of the table does not cause the child's shoulder to shrug. It is important that the size of the table and chair is just right for the child. The quality of handwriting can be easily affected due to poor sitting posture.

2. Correct pencil grip (Dynamic tripod grip)
(1) **Letter formation & directionality**
The visual knowledge of the image of an alphabet and how it is written is very important in terms of directionality (i.e. position of starting and ending points). Most of the times, poorly formed letters are due to incorrect starting points. The OT will teach the child about alphabet directionality and formation.

(2) **Hand-eye coordination** (e.g. threading beads following a pattern sequence, simple sewing cards, etc.)

(3) **Motor planning**
Initiation and execution of movements (i.e. to put the visual knowledge of alphabets/thoughts into written language, organizing hands and fingers to write words)

(4) **Spatial awareness** (e.g. spacing between words & letters, even size of written words)

(5) **Visual-motor skills** (e.g. writing or movement activities which involve copying, imitating, etc.)

(6) **Visual perceptual skills** (e.g. figure ground discrimination, visual memory, visual discrimination, visual closure, etc.)

**Putty + Exercise = Strengthening**

Prior to cultivating good handwriting characteristics, it is important to strengthen the muscles to improve motor planning and fine finger manipulation skills. Strengthening exercises can include upper and lower extremities. Fine finger manipulation also involves proper hand muscles strengthening. These exercises also include:

Hand strengthening activity with therapeutic putty:

The consistency of the putty is graded by its different textures. Different consistency of putty used will help strengthen the intrinsic and extrinsic muscles of the hand progressively starting from the lightest to the densest. Putty can be used creatively for pinching, grasping, pulling, 'digging' activities.

Other activities that are used to strengthen the hand and fingers may include using tweezers, play dough, art & craft (pressing, squeezing, pinching, etc.), squeezy toys, etc. These activities provide a sense of proprioceptive and sensory feedback to the fingers and hands.

**Pencil Grip**

When learning to write, it is important to cultivate the correct way of holding a pencil. Dynamic tripod grip that involves the thumb, index and middle finger is the recommended technique for pencil gripping. When writing, the index finger applies a downward pressure onto the pencil, while the thumb and middle finger make tiny movements to direct the pencil.

The OT will also recommend the child to use a pencil grip when necessary. These pencil grips are already pre-moulded in the shape of a dynamic tripod pattern, thus encouraging correct pencil grip. The shaft of the pencil will be thicker when using a pencil grip, hence easier for little fingers to hold when learning to use a pencil correctly.
A child's handwriting will improve when other skills are taken into consideration during the course of therapy. Positive feedback and encouragement are very important for children with handwriting difficulties. These inputs will improve their self-esteem and self-confidence. As a result, they will be more confident and not frustrated when writing. These children will no longer find writing a challenging and difficult task to accomplish.

Occupational Therapists usually liaise with the child's parents and their teachers. Since parents and teachers spend more time with their children/students, the treatment programs which are implemented should be carried out continuously when the child is at home or in school. By doing this, the child will be able to benefit from the treatment fully.

Reference:

A Newsletter of DORSET REHAB
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We are continuously seeking to improve our newsletter and to promote more awareness. We will appreciate your feedback and opinion.

How did you find our Newsletter "Handwriting Part II"?

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Are there any topics you would like to know in our future Newsletters? (Please specify)

Doctor's Stamp

Thank you for your kind attention and assistance!

Kindly fax to 03 79600721 or send to DORSET REHAB 927, Jalan 17/38, 46400 Petaling Jaya, Selangor D.E.