Hand Writing skills: Pencil grip

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Some people may think that handwriting is on its way out. Be that as it may, it's not going to happen anytime soon and your children are still going to have to learn how to correctly hold that pen or pencil and make letters go legibly across the page. When and how that happens is a milestone for some children and a nightmare for others.

In addition to the neurological maturation that occurs as hand skills develop, many other factors must work together for optimal hand function. For example, postural control, motor planning, eye-hand coordination, tactile and proprioceptive input, and somatosensory processing also play a role in the development of a mature grip pattern. The maturation of grip pattern also depends on the underlying structures of the hand, such as the musculature, muscle tone, stability of the arches, and separation of the two sides of the hand. Between the ages of 3-6 the children should develop the optimal pencil grip pattern ,known as the "tripod grip", on their writing utensil. This mature grip pattern allows for the maximum amount of control with the least amount of energy.

Good Grip

- Ideally, a child should have only the thumb and index finger on the pencil, with the middle finger resting under the pencil and the ring and little fingers curled in palm. Other functional grip patterns include the thumb, index, and middle fingers on the pencil barrel

- Make an OK sign with thumb and index finger, then pinch pencil between OK sign, rest 3rd finger under pencil and tuck 4th and 5th. It is most important that a round "O" shape is formed between the thumb and index finger during writing

- The pencil should be held about 1/2 to 1 inch from the lead or tip of the writing utensil and should be pointed over the shoulder of the writing arm, not straight up and down

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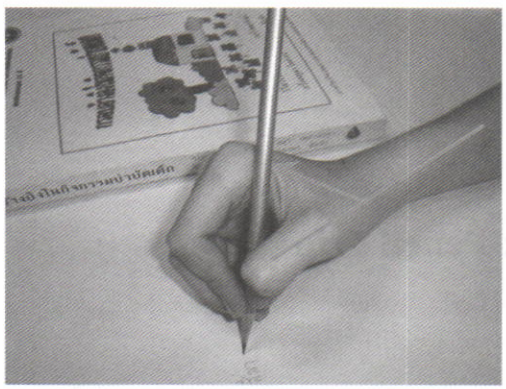

Figure 1 Good grip: Wrist bent up (when arm is on table, hand is bent upward)

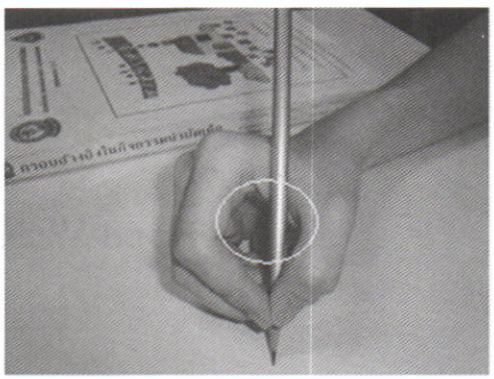

Figure 2 Good grip: Open web space (circle between thumb and fingers). Fingers and thumb move the tool

External support for hand writing skills:

- Posture

It is most important for a child to have good writing posture it not only helps with hand positioning, but it will also prevent them from getting fatigue during the activity. Some things to remember: make sure when the children are in a chair, their feet are flat on the floor, the table is at a good working height

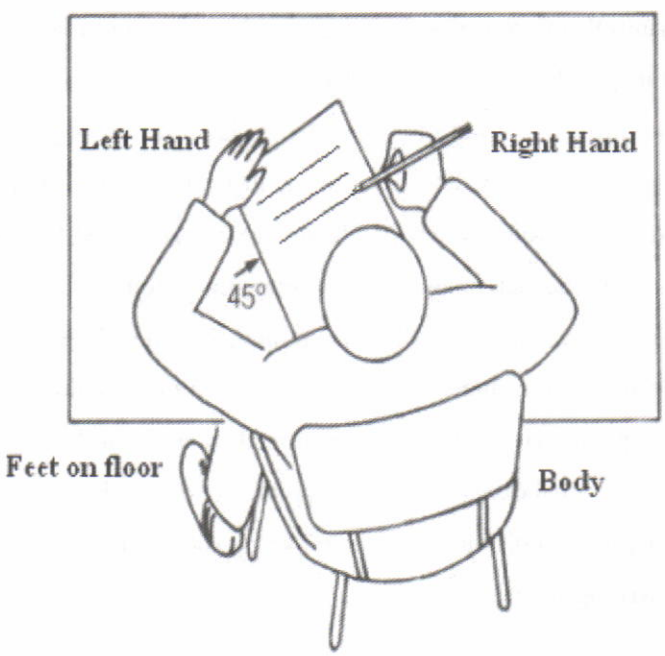

Figure 3 Paper position and correct posture for hand writing

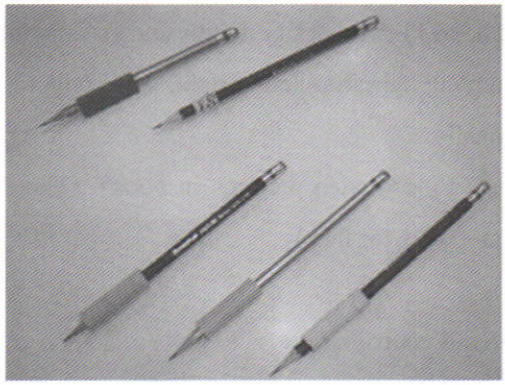

Figure 4 Pencil-grips

(shoulders should not be "scrunched up" for them to reach the table), the desk height appropriate for child, ic: 2 inches above bent elbow when seated at desk and they should not have to hunch over to write. Their head should be relaxed and not bent over the page.

- Pencil -grip

For people with hand function difficulties, adaptive equipment such as pencil-grips and holders are available to help them be as independent as possible with the daily tasks of writing and creative drawing. Many times a pencil grip may pose their fingers correctly and prevent them from slipping out of position.

Activities to develop handwriting skills

There are many activities that can be done at home to support skills necessary for children to have a good writing grip. All children can use reinforcement in the areas below, even if they do not seem to have any particular difficulty. The most important thing is that your child views these activities as fun, and not as work. The most effective activities are those in which your child will engage because he or she wants to, and not because it's time practicing a particular skill. If you find that any of these activities become too frustrating for your child, skip it and try something else. It has to be fun for both of you, and be creative to make the activities more meaningful to you and your child. The following activities support and promote fine motor and visual motor development:

Body stability

The joints of the body need to be stable before the hands can be free to focus on specific skilled fine motor tasks. Some fun body stability activities are:

- Animal walks (pretend to be a bear, crab, monkey, etc.).
- Throw, catch, and kick different sized balls
- Pretending to be a statue
- Going to the playground!

Fine motor skills

When a certain amount of body stability has developed, the hands and fingers begin to work on movements of dexterity and isolation as well as different kinds of grasps. Children will develop fine motor skills best when they work on a vertical or near vertical surface as much as possible. In particular, the wrist must be in extension. (Bent back in the direction of the hand) Some fun fine motor activities are:

- Attach a large piece of drawing paper to the wall. Have the child use a large marker and try the following exercises to develop visual motor skills: Make an outline of a one at a time.

- Have the child trace over your line from left to right, or from top to bottom. Trace each figure at least 10 times. Then have the child draw the figure next to your model several times.

- Play connect the dots. Again make sure the child's strokes connect dots from left to right, and from top to bottom.

- Trace around stencils - the non-dominant hand should hold the stencil flat and stable against the paper, while the dominant hand pushes the pencil firmly against the edge of the stencil. The stencil must be held firmly.

- Play with spray bottles full of water-using second and third fingers to pull trigger

- Use magnets on the refrigerator.

Ocular motor control

This refers to the ability of the eyes to work together to follow and hold an object in the line of vision as needed. The example games which are good for ocular control are:

- Use a flashlight against the ceiling. Have the child lie on his/her back or tummy and visually follow the moving light from left to right, top to bottom, and diagonally.

- Find hidden pictures in books. (There are special books for this.)

Eye-hand coordination

This is considered as the process of coordinating movements of the eyes and hand / arm system so that they both move toward the same target. Some activities usually involving throwing or shooting small objects which develop eye-hand coordination are:

- Throw bean bags/koosh balls into a hula hoop placed flat on the floor. Gradually increase the distance.

- Play throw and catch with a ball. Start with a large ball and work toward a smaller ball.

- Practice hitting bowling pins with a ball. (You can purchase these games or make your own with soda bottles and a small ball.)

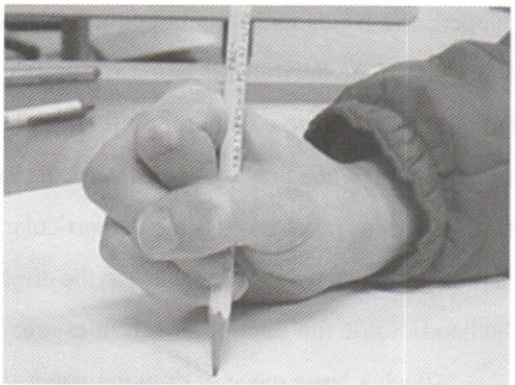

Figure 5 Improper grip: Child has a tight grip. (No space between thumb and fingers) Child holds pencil within the palm.

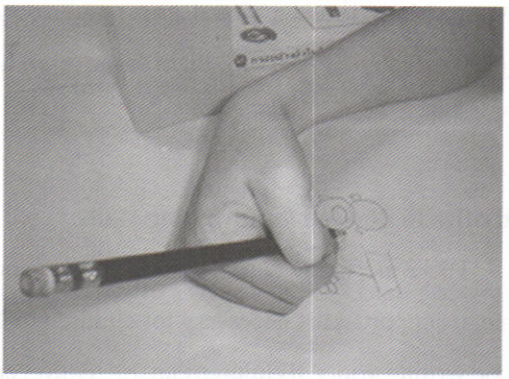

Figure 6 Improper grip: Wrist is bent down.

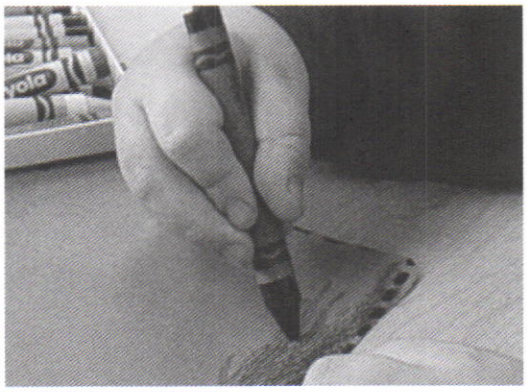

Figure 7 Improper grip: Hand and arm "float" in the air while writing.

Improper grip

The improper grip may be causing your child to strain too hard physically to manipulate the pencil. There are several things that make improper grip, such as grip patterns may be immature, muscles within the hand do not work in concert, grip patterns are developed through exposure to manipulative and large motor activities, or grip patterns are habit based as a result of all of these. Often, the improper hand grips are related to underlying fine motor difficulties. If the wrist is bent down or the fingers not moving, a child engaged in writing tasks will have:

- Difficulty controlling the tool if the writing space is too large

- Too tight or too loose grasp on pencil effecting pressure on the paper or into the tool

- Letter forms which are distorted due to poor motor control

- Decreased output in speed as well as volume

- Fatigue more quickly than his peers: child may shake or rub hands frequently during writing (motor) or child may refuse to write or take a lot of "breaks" (cognitive/social)

You shouldn't worry about a child's pencil grip unless it is affecting their writing or the child is experiencing pain. Do not try to change a grip pattern unless it is causing the writing to be hard to read or the child fatigues quickly while writing. Many children and adults use grasp patterns that are not a dynamic tripod, but do not have writing deficits. Changing the grasp pattern may cause the person to have writing difficulties. Ideally it would be nice to teach every child how to hold his or her pencil correctly from the start.

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