



Developing the hand for holding a pencil

Introduction

The majority of people learn to hold a pencil in what is known as a **dynamic tripod grip** – *Dynamic* - because it allows the fingers to move freely without having to involve the wrist, arm or shoulder in the movement, and - *Tripod* because the pencil is held only by three digits, the thumb, the index finger and the middle finger. The free movement of the fingers whilst gripping the pencil is essential for good letter formation.



A pencil grip is only a problem if a child has difficulty writing legibly, at a reasonable speed, or complains of a sore or tired hand when writing. If an awkward grip pattern becomes a habit it is more difficult to change later. Encourage your child to hold their pencil in a way that allows their hand and fingers to move freely and easily when writing or drawing

To be able to achieve a dynamic tripod grip to use a pencil efficiently the hand has to have the following skills:

- Tip-to-tip pincer grip.
- In-hand manipulation.
- Finger isolation.
- Joint stability.
- Strength.

It is these things that any activity a child undertakes to help improve hand function must be aiming to achieve.

We are often asked what activities a child can do to help them develop their hand skills but frequently it is not the activity itself but how they do the activities that is the key to improving their skills. For example - playdoh can help a struggling child develop pincer grip but will not do so unless the child is shown how to or helped to stabilise certain joints of the hand and the activity is presented in such a way as to encourage pincer grip.

Tip-to-tip Pincer grip

This is the ability to bring the thumb and index finger together so they touch each other at the very ends of both digits and can hold objects very lightly or squeeze very hard without any of the joints in finger or thumb collapsing (hyper-extending). A child should really be able to do this between his thumb and any of his fingers.



We find many children with poor hand skills can't do this and have developed a pad-to-pad pincer grip instead – this makes moving the fingers during writing more difficult (try it).

Some children even use a lateral pincer grip between the thumb and the side of the index finger

A well developed pincer grip is important to allow the formation of the web space which is the big O space that your thumb and index finger form when in a pincer grip. Integrity of this webspace provides the basis of finger movement for handwriting

Example of hand without the 'O' webspace, where it is difficult for the fingers to move for writing

Tripod grip with open webspace

All other efficient grips are variations on this but the same basic rules apply in that the pencil is held by three digits and the pencil point extends beyond the fingers. Once the ring or little fingers are introduced it restricts the movement of the grip and encourages movement to come from the wrist and arm.



Some children will involve the ring and/or little finger to help with stabilising the pen as they are unable to do this with three fingers, usually due to muscle weakness or a hyper-mobile thumb joint – the writing of children who do this tends to be ill formed and scrawly.

It is for these reasons that Occupational Therapists try to encourage parents and teachers to ensure that children write with a dynamic tripod grip.

In-hand manipulation

Put a small object in the palm of a child's hand and they should be able to move it around in the hand to allow them to explore the object and get it in a position for them to be able to do something with it. I.e turn the object around move it up to the ends of the fingers, rotate it. They should be able to do this without the assistance of the other hand/any part of the body or putting the object down.

Put two small objects in the hand and the child should be able to manipulate one whilst continuing to hold the other securely within the same hand.

This is an important skill for handwriting as it allows the child to position the pencil correctly in the hand, reposition the pencil at any time whilst writing, hold the pencil in different places for different tasks (e.g. drawing shapes) without interrupting the flow of work.

Finger Isolation

The ability to move the first finger on its own is needed to develop a mature pinch grasp and greater fine motor control e.g. when using cutlery and pencils.



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