

Development of the Hand

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Montessori Credentials:
Early Childhood, MACTE
Elementary I, AMS

Development is driven by the need to become upright against gravity. This allows the head, the location of many of our senses, to be the highest point in most positions.

Four important building blocks for hand development

- Grasping objects
- Reaching out for objects
- Releasing objects deliberately
- Moving the wrist in different directions

Newborn

- The entire body is flexed into a curled position. This includes the limbs, trunk and head.
- The fingers are curled into the palm with the thumb frequently inside the fingers. Any grasping is a reflex.



- Over the next few months, the baby begins to lift the head and shoulders off the surface.
- This allows the hands and lower arms to help push the head and shoulders up even higher.

- As weight is put on the lower arms and hands, the hands and fingers begin to uncurl.
- As the fingers and hands open, the reflex grasp fades and the child is able to hold an object intentionally.
- The child still has reflexive release.

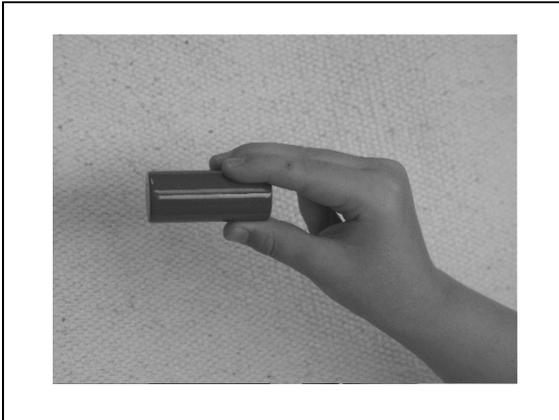
- As the child continues to put more and more weight on the hands and arms he now can intentionally reach for an object, grasp it, turn it, and put it in his mouth. Gradually intentional release has developed. The thumb is now out of the palm.



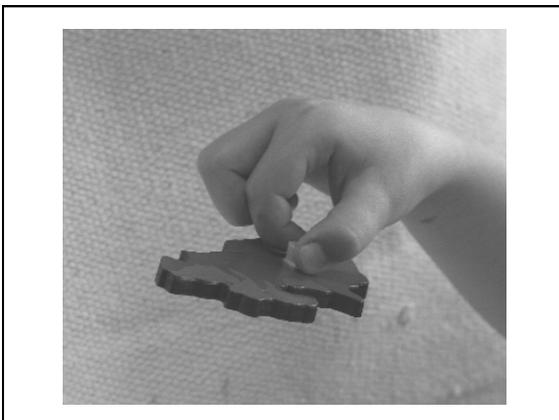
▪ Once the child is able to sit, the hands are free to grasp an object, turn the wrist and view that object from different angles. This activity helps develop visual perception. The child will frequently put the object in his mouth to use his very sensitive tongue to confirm the shape that his eyes are seeing.

▪ The child will also transfer the object from one hand to the other which helps him develop cooperation and coordination between his hands.
▪ While the child is sitting he frequently “flaps” his arms from the shoulders.

▪ At this point the child’s thumb is completely out of the palm and wraps around the object.
▪ The child will pick up objects put them in containers and take them out again.
▪ The child is now beginning to work the objects from a palmar grasp and out into the fingers.



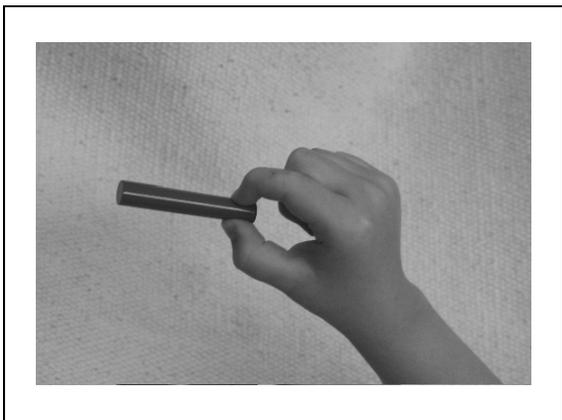
- The child is beginning to pick up finger foods like Cheerios with a lateral pincer grasp.
- Around ten months the child develops “forefinger to the fore” and can now isolate the first finger from the others. He will now find every tiny object in reach!



- As the child continues to use his hands in conjunction with his eyes and mouth, the grasp continues to refine until he is able to move the thumb under the first finger and a pad to pad pincer grasp develops.

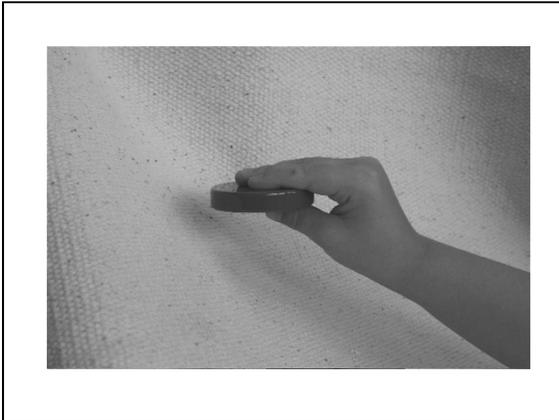


- With practice the child moves the thumb and first finger into a tip to tip pincer grasp for even smaller objects.
- As grasping and manipulating skills develop the two hands move beyond using the dominant hand to manipulate an object and the other hand to hold.



- Now the child begins to work on using the two hands for different parts of the task.
- The child should also be able to reach across the midline of his body to pick up or put down an object.

- The small muscles in the hands are getting stronger through use and can begin to hold flat objects such as cards.



- When new tasks are presented the eyes initially guide the hands through the task.
- As skill develops the eyes begin to anticipate the next movement for the hands.
- As mastery is reached the eyes may not even be used for the task at all!

As the child continues to mature and practice, hand movements and all types of grasp should become faster and more coordinated.

Questions to ponder:

- In what part of the hand is grip the strongest?
- In what position is grip the weakest?
- In what position is grip the strongest?
- In what position are hands the most stable for work?
- In what position are they the least stable?

Questions to ponder:

- When teaching a new hand skill ideally where would you like the hands to be?
- Where would you like the body to be?
- Where should the teacher be?

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