

More About Hand & Finger Strength

There are well over 25 muscles in your forearm and hand. The muscles in the forearm control elbow, wrist and finger movements. Smaller muscles within the palm of the hand control the more refined movements of the thumb and fingers.

It may appear that someone has strong hands when they are able to squeeze something really hard. But that's not the whole story. That type of strong grip comes mostly from the forearm muscles. When squeezing, some of the strength comes from the smaller muscles within the hand, but these muscles contribute only a little bit to total grip strength.

So, when we look at hand strength, we also need to look at the strength of those small muscles within the hand. In infancy, these muscles are not fully developed. Babies are able to grip and squeeze first with all of their fingers in unison before they are able to control movement in each finger individually. As infants develop, they are able to control the thumb and fingers individually, rather than as a mass grip or squeeze.

Why is this important?

When the large and small muscles of the forearm and hand are slow to develop, weakness and incoordination may result. The large muscles of the forearm may overcompensate for weak inner hand muscles. As a result, the child will find ways to hold, pinch and grip small objects in awkward ways. As examples, the child may have difficulty:

- picking up small items (bits of food, Cheerios, coins, etc.) using the pads and tips of the index finger and thumb.
- holding a pencil, crayons and markers with a 3 or 4 finger tip pinch
- holding and using feeding utensils effectively
- fastening closures (zippers, snaps, buttons) on garments easily
- using scissors
- imitating various finger positions during finger play (e.g., touching each finger to the thumb-opposition, making the "A-ok" sign).
- manipulating small items within the hand (e.g., transferring coins within the palm out to the fingertips).