



Hand and Upper Limb Strength

Although we generally associate the hand with writing and other fine motor activities, the whole body has a role in these tasks.

The shoulder and spine: These provide the stability that supports the positioning and movement of the arm and hand.

The wrist joint: Provides stability during fine motor activities - it should be straight or slightly extended. This is achieved by equalising the length and strength of the extensors and flexors of the wrist as they cross the joint. The wrist is more stable but less functional in a flexed position.

The hand: The arches of the hand control the movements of the fingers. The hand should be mobile enough to form a concave shape for fine motor skills. To use our hands with speed and precision, we use intrinsic muscles which are the tiny muscles inside the hand. The muscles along the side of the hand must also be strong to support controlled movement when knuckles and digits are working in opposition to the thumb.

Actives to Develop Strength:

- **Climbing** on just about anything is great for building hand strength. Think ropes, ladders, trees, jungle gyms, monkey bars any playground equipment, and more.
- **Wheelbarrow walking** – have the child place their hands on the floor while you or another child holds her feet. See how far they can walk on their hands. If it is difficult try with a friend or over an exercise ball. Try a wheelbarrow or crawling relay, crawling relay races, obstacle courses, and other games.
- **Animal walks** - where the child has to weight bear through the arms and hands such as bear walk, seal walk or donkey kicks – Have the child bend forward to place his hands on the floor and then kick his legs up behind them like a donkey. Try it during a game of Line Tag.
- **Catch** – try playing with a large exercise ball, a weighted ball, or balloon volley keeping the balloon overhead to engage the upper body and limbs.
- **Yoga** – Poses like downward dog, table pose, and handstand are great weight bearing poses.
- **Play in All Fours** – Try playing board games, colouring, or playing with toys in a crawling position so the child is holding his weight on his hands.
- **Jumping rope** – holding the shoulders steady while you move the rope provides excellent isometric contraction (stability) of the shoulder muscles.
- **Drawing, writing or colouring on a vertical surface whenever possible.**
- **Lego or Duplo blocks** – good for developing grasp strength. Smaller Lego bricks for the older children with more advanced skills or larger Duplo version for the younger crowd.
- **Velcro** – Pulling against heavy duty Velcro is another great hand strengthener. Try adapting books using Velcro, making file folder games, or making other fun velcro fine motor tasks.
- **Tape** – Pulling tape off of the roll and/or pulling it off of various surfaces (walls, tables, floors) is a great hand strengthener.

- **Connecting Beads** – Large beads that pop together are great for strengthening the larger muscles of the hand and the smaller version are great for developing the precision muscles.
- **Mr. Potato Head** – A toddler and preschool favourite, this is a great starter toy for hand strengthening. The pieces are relatively big and easy to grasp and the repetition of changing the faces over and over again is great for strengthening.
- **Rubber Bands** – Stretch and pull against the resistance to create masterpieces on a geoboard or create more fine motor activities.
- **Pegs and Foam Pegboards** – This is another great starter activity for young children working on hand strength. The foam pegboards are a little tougher to push the peg into, providing resistance and a great opportunity for strength building.
- **Rolling Pins** – Grasping, pushing, and rolling with a rolling pin are great ways to strengthen hands and fingers. Try it on play dough, bubble wrap, or during cooking activities.
- **Cooking** – Kneading dough, stirring batter, scooping, cutting, you name it...if it happens in the kitchen, it's probably a hand strengthener!
- **Theraband** – This stretchy stuff is another great “tug of war tool”. There are all kinds of ways to pull on it and against it to strengthen hands.
- **Tearing paper** – Two little hands working together to tear through paper is a simple and fun way to target hand strength.
- **Crumpling Paper** – Use smaller pieces of writing paper, practice writing some letters or spellings, or short sentences on them. Then, crumple up each piece and flick or shoot into a basket or into the recycling bin.
- **Play with play dough, putty, or clay** – Squishing, pinching, rolling, squeezing, smushing – all great for building muscles in the hands.
- **Sponges and Spray bottles** – Get children involved with household chores where they have to wring out sponges or wet rags, wash windows, table tops and desks.
- **Water guns and squeeze bottles** – Have a water fight in the backyard or let your child help water your plants with a spray bottle.
- **Scissors** – Try cutting against resistance: thicker paper or cardboard, play dough or clay – great for visual motor skills and hand strength. Make sure your child is in a good position for scissor activities – you can ask your occupational therapist for scissor tips if needed.
- **Sensory Balloons** – Fill balloons with dry rice, beans, flour, or play dough then squeeze and squish them in your hands to build strength.
- **Bubble Wrap** – It comes in all different sizes. Children love the sound it makes when they snap it between their fingers. The bubble wrap with the smallest bubbles is best for strengthening those Super Fingers, while larger bubble wrap can strengthen the whole hand.
- **Tongs and Tweezers** – Use them to pick up pompoms and other toys to move around, or use them to pick up blocks to stack into a tower.

The more you do the quicker you will develop strength!