

Pediatric Core Exercise Program

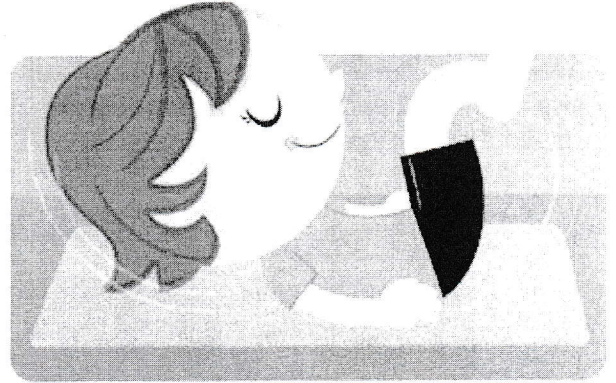
These "powerhouse" moves can be fun for children in sessions or at home.

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Core strengthening isn't just for grown-ups; children can also benefit from toning techniques--but it has to be fun. Here are some exercises kids can do in therapy or at home to work core muscles and achieve better posture, stability and endurance, without getting bored.

Bridging: Lay on back with knees bent and feet flat on floor. Push through heels and lift buttocks off surface. Hold position and focus on keeping pelvis and shoulders level. Engage lumbar stabilizers and gluteals.



- Add a little: Lift and lower pelvis with control.
- Add a little more: Hold one leg out straight but still keep hips lifted and pelvis level. Repeat on other side. Try lifting and lowering with one leg.

Add a small ball: Place a ball between the knees and hold it there while performing the same exercises. This will engage the adductors and stabilizers more. Or place the small ball under the pelvis while trying to hold it steady.

- Add a larger ball: Place feet on ball and attempt to lift hips and bridge. This can be tried with knees bent or straight.
- Make it fun: Zoom cars under the bridge see how many can pass under. Place a musical or squeak toy under the pelvis that will sound as the child lifts and lowers.

Prone Extension/Superman: Lay on stomach with arms overhead. Lift arms and legs so upper chest and upper thighs lift off surface, engaging spinal extensors. Arms and legs should be straight.

- Add a little: Change arm position so elbows are flexed to engage rhomboids and middle trapezius more.
 - Add a little more: Bring hands down by hips with palms up and lift torso and legs.
 - Add a small ball: Lift arms and legs while holding a ball.
 - Add a larger ball: Perform arm or leg lifting when torso is on a larger therapy ball in prone.
- Make it fun: Reach up for items that can be hidden under the body. Play catch from this position. Perform this on a swing or supported by a parent in the air.

Quadruped Alternating Arms and Legs: On hands and knees, hold spine stable and straight. Alternate lifting and straightening the opposite arm and leg while holding spine and pelvis stable.

- Add a little: Crunch engaging abdominals by pulling in elbow to opposite knee under the body.
 - Add a little more: Hold arm and leg out to the sides or lift arm and leg on the same side.
 - Add a small ball: Place the small ball on the low back and do not let it roll off while performing this exercise.
 - Add a larger ball: Perform exercise while arms are weight bearing on a ball (possibly weight bearing on forearms).
- Make it fun: Add movement and crawl around with a small stuffed animal on the low back, pointing to other animals in the "forest" while not letting the animal drop off a stable spine.

Plank: Assume a push-up position (body and legs straight, supported on extended arms and balls of feet). Hold a straight neutral spine in this position.

- Add a little: Lift one foot off the ground and maintain stable position
- Add a little more: Move to a side plank, supported on arm and side of foot on same side with hips and trunk in one line. Lift free arm. Moving between plank and side plank on each side is a very challenging exercise.
- Add a larger ball: Perform plank with forearms on the ball or with calves on the ball and arms extended.
 - Make it fun: Have a timed contest to see who can stay up in the position longest. Set up play kitchen toys on back pretending child is a table.

Sit-Ups: Lay supine with knees bent and feet on floor. Lift head and shoulders off surface. Breathe out as you lift and in as you lower.

- Add a little: Add a hold at the top and then possibly lift a little higher.
 - Add a little more: Add rotation to engage the obliques by reaching arm or elbow for opposite knee.
- Add a small ball: Lift and lower holding a small ball (a weighted medicine ball would add to the challenge). Or hold the small ball between the knees to better engage the adductors.
- Add a larger ball: Perform sit-ups while sitting/lying on a large ball.
- Make it fun: Play catch with the ball as the child lifts and lowers. Have the child grab a puzzle piece with each lift to then complete a puzzle.

Lunges With a Twist: Stand with feet in stride, supported on a flat foot in the front and on the ball of the toes in the back. Flex the front knee, keeping back leg straight and engaged to lower into a lunge. Push to return to upright. Be cautious to keep front knee directly over ankle and not coming forward in front of the foot.

Add a little: Rotate shoulders to the side as lowering into the lunge, but keep pelvis facing forward. This will engage the obliques more.

- Add a little more: Hold at three different points in the movement going down and coming up.
- Add a small or larger ball: Lower to pick up and put down a small ball. Play catch while lifting and lowering
- Make it fun: Make the lunges walking lunges and have a race performing walking lunges.

Wood Chops: Seated with both hands together, lift arms up over one shoulder and, with control, lower arms across body to opposite hip. Repeat movement to both sides.

- Add a little: Perform exercise in varied positions, such as standing, tall kneel and half kneel.
 - Add a little more: Perform exercise with the resistance of holding elastic tubing secured to a table leg.
- Add a small ball: Hold the small ball (weighted, if possible) and perform movement. Or play catch with someone behind them.
- Add a larger ball: Perform exercise while seated on the larger ball.
- Make it fun: Use a plastic bat or wrapping paper roll to swing or simulate sword movements to knock down toys, have a play sword fight or swipe at balloons.

Dead Bugs: Lay on back with arms and legs off surface. Hold arms at hips and knees flexed. Lift right arm over head and straighten left leg, then switch with left arm over head and right leg straight. Move through these alternating arm and leg movements with control and abdominals engaged.

- Add a little: Lift head and shoulders slightly while performing exercise.
 - Add a little more: Make body more like an X with legs straight and arms straight overhead and reach up with arm for opposite toes. Slowly control the lowering.
- Add a small ball: With the small ball in hands, lift knees and hold ball between feet or knees. Lower legs and repeat by passing ball back up to hands.
- Add a larger ball: Perform exercise while lying on a ball and feet on the floor, alternating which foot is lifted.
 - Make it fun: Swat or pop bubbles while performing this exercise. Play balloon volleyball while in this position.

Often, a home exercise program for children can get boring and will not be followed through. It can be more beneficial to suggest functional fun activities that kids do everyday to engage the core muscles.

- Build an obstacle course out of chairs and cushions at home, and have the child crawl or climb over it.
 - Climb up a slide instead of using the steps, then turn around and slide down.
 - Hold relay races in wheelbarrow, crab walking and bear (plantigrade) positions.
 - Crawl backwards up and down the stairs.

Standing on an uneven surface (i.e. bed or pillows) while playing catch. This can also be done in a half-kneel if the child is tall.

How to Use Proprioception Activities to Help with Body Awareness

Proprioception is one of the senses that is involved with everything we do. Take a quick moment to stop and consider the position you are in right now. Are you lounging back on a couch? Sitting at a desk? Bouncing on a city bus as you glance at your mobile device? Are you perched in an office chair with your legs folded under you? Are you hanging out at the playground and glancing at your phone while your kids run in circles?

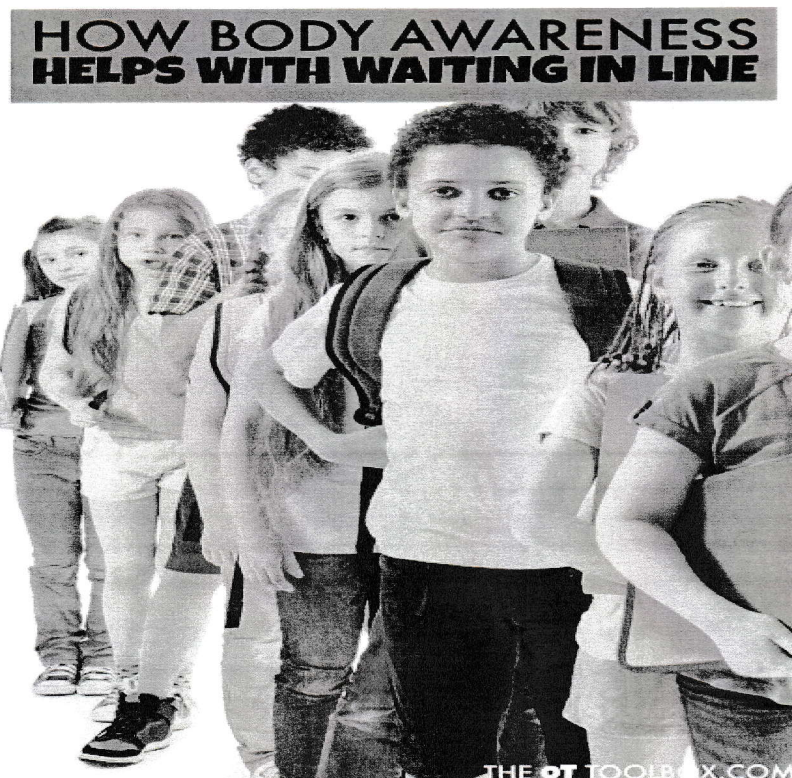
Being aware of our body position is something that happens automatically and naturally. That body awareness occurs naturally. The proprioceptive sense allows us to position our bodies just so in order to enable our hands, eyes, ears, and other parts to perform actions or jobs at any given moment. Proprioception activities help with body awareness.

The proprioceptive sense sends information about our body's position to the brain so that we inherently know that our foot is tapping the ground as we wait on the bus or that our leg is curled under the other on the couch even while we do other actions or tasks.

This awareness allows us to walk around objects in our path, to move a spoon to our mouth without looking at it, and to stand far enough away from others while waiting in a line at the grocery store. It enables a student to write without pressing too hard or too lightly on their pencil when writing, and it helps us to brush our hair with just the right amount of pressure.

Proprioception is essential for everything we do!

Sometimes, the proprioceptive system does not do its job. When the proprioceptive system isn't functioning properly, body awareness and motor planning can be a problem.



When a child needs to pay attention to where their body is in space at all times, they can not attend to other important information like what is happening in their world around them. He or she can not automatically adjust to environmental changes. The child then needs to visually compensate in order to adjust his or her body. This can result in a child being clumsy, fearful, are even scared in certain situations.

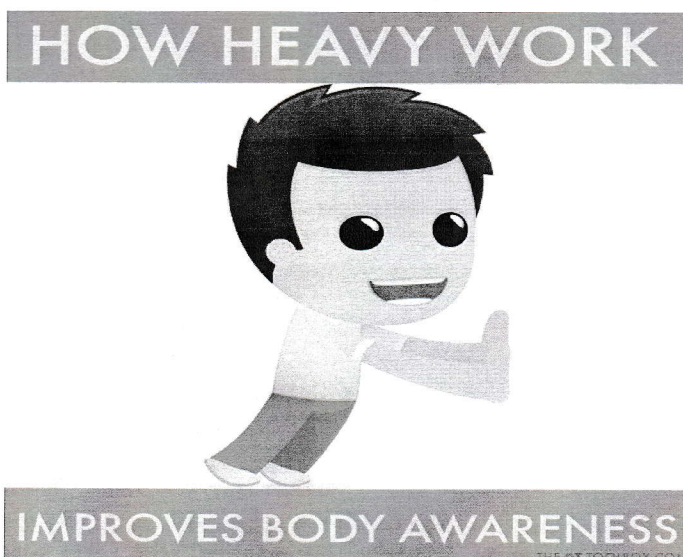
Below are two situations that describe a child with proprioception challenges. In both, imagine a child who struggles to know where their body is in space.

Imagine you are sitting on a set of bleachers in a crowd of wiggly, moving, and LOUD students. There is a lot going on around you, whether you are at a sporting event or in a gymnasium. But, you also notice the bleachers don't have a bottom to the steps; that is, you can see directly down to the ground below you. Kids are standing up, sitting down, jumping, roughhousing, and you are SCARED. Your body doesn't know how to position itself in a safe manner. You don't know what action will come next and you don't know where to look. You don't know where your feet are or if your hands are supporting you. Climbing up and down the bleachers is downright terrifying! For the child with proprioceptive struggles, just sitting on a set of bleachers can be challenging and overwhelming.

Now think about the child who is sitting at their desk and is required to write a journal entry. For the child with proprioceptive challenges, this can be a task with many "self-checks". They need to look at their feet to make sure they are under their desk so they don't get in trouble for almost tripping someone between the desk aisles. They need to make sure they are sitting upright in their chair and that their back is touching the chair's backrest. They need to hold the paper and the pencil like they were taught. They need to align the paper and the words and then think about how hard to press on the paper, how to make the lines for individual letters, and how to string together letters to make words. What a workout it is just to get settled in and started on a writing task! By now they might have lost several minutes of the writing time and they still don't know what they are even writing about!

Both of these situations happen on an every day basis. For the child with proprioception difficulties, the ability to be aware of their body in space and plan out motor actions is very much a struggle. These kids might appear fidgety, unsure, overwhelmed, clumsy, awkward, uncoordinated, or lazy.

Body awareness is related to visual spatial relations.



How to use proprioception activities to help with body awareness:

The proprioceptive system is alerted through heavy work activities that involve heavy pressure, firm sensations, large, forceful motor movements, and pushing or pulling activities. These actions can be calming and organizing.

Try these proprioception activities to help with body awareness:

Proprioception activities at home

- Carry full laundry baskets to the laundry area
- Empty wet clothes into the dryer
- Change sheets
- Pull weeds
- Pull garbage cans to and from the curb
- Carry in grocery bags
- Carry donations to the car
- Wash windows
- Scrub carpets
- Shovel snow
- Rake leaves
- Mop floors
- Vacuum
- Rearrange furniture

Proprioception activities in the classroom

- Carry piles of books
- Rearrange furniture
- Help gym teacher move mats
- Carry bin of lunchboxes to/from the lunch room
- Wall push-ups
- Chair push-ups
- Clap erasers
- Stack books in the library
- Place chairs on desks at the end of the day, pull them down again in the morning

Proprioception games and actions

- Hopscotch
- Jumping jacks
- Jumping rope
- Climbing trees
- Jumping on a trampoline
- Jumping in piles of leaves
- Make a snowman
- Pull a wagon
- Running
- Clapping games
- Twister
- Play dough
- Bounce a ball against a wall (Vary the size and weight: Use heavier/bigger and lighter/smaller balls to experience differing amounts of feedback.)