Core strength as defined by Collin’s English Dictionary is:

“the strength of the underlying muscles of the torso, which help determine posture”

In more technical terms:

“The deep muscles (those closest to the bone), especially the muscles providing three dimensional support around the central vertical axis of the head, neck and trunk.”

(Frick & Kawar, 2004)

The core muscles are the many different muscles in the abdomen and back that work together to support your spine and hold you upright. The muscles around the shoulder girdle and the hips also form part of the core.

**Importance & functional implications**

The demographics are leaning more and more towards living in high density housing such as units and less towards larger homes with access to space and outdoor play.

Children are at school for up to 7 hours a day and have many fine and gross motor demands throughout their school week. By incorporating core strength activities into the classroom and outdoors you may find that children are able to concentrate for an extended amount of time or that their gross motor skills improve.
Good core stability help children to maintain a good sitting posture at the desk, and will help develop a stable, supportive base for gross motor and fine motor movements.

Additionally

- The core helps support arm, leg and head movement
- Important for the development of precise hand finger movements
- Postural control become effortless & may help to concentrate
- If a tree doesn’t have solid ground it will fall over

**OT and core strength:**

OTs look at incorporating core strength activities into everyday life to enable postural control components and create a good base for fine and gross motor activities to occur. It is important that core strength activities are carried out in the home and school to get the best results.

**Identifying weak core strength**

If a child has poor core strength, he/ she may look like this in the classroom:

- Hook arms over the back of the chair, rocking on the chair and generally unable to sit still
- Instead of sitting upright, may have a tendency to lie all over the desk, supporting body weight on the arms and propping the head in a hand
- Preferring to lie down instead of sitting upright, or preferring to lie down during floor work at school
- Slouching the body against walls or tables, instead of standing up straight
- Struggling to balance while lifting one leg off the ground, or losing balance easily during gross motor activities and sports
- Poor gross motor skills and general clumsiness
- Avoids climbing on playground equipment
Regular Core Strength Program activity ideas for early primary school aged children:

The key is FUN!

The following outlines suggested activities incorporating core strength principles to enable increased postural control and a strong basis for development.

Stage 1 activity ideas (k-2: ages 5-8)

Incorporating a core strength program into the classroom:

Ideas for activities which can be used in a core strength program, this can be done at the beginning of the day, between sessions or as part of fitness.

- **Snake curl ups**
  Children lie on backs with knees bent and an object or piece of paper etc between knees to keep them together with hands on thighs. As the “snake charmer” says, the “snake” sits up to being hands to knees without letting object drop.

  **Benefits:**
  This activity promotes activation of core muscles and strengthening, leading to a strong core and endurance in all activities.

- **Superman/woman**
  Lying on bellies and lifting(straight) arms and legs off the ground, think quality of movement as opposed for length of time held.

  **Benefits:**
  Holding this position for up to 10 seconds helps strengthen all core muscles but in particular muscles of the back, shoulders and glutes.

- **Popcorn**
  Get children to lie on their backs and pull their legs towards their chests, tuck their heads in and hold their legs with their arms, then POP and put arms and legs out straight for as long as possible. Making sure we take breaths and keep head off the ground! 3 seconds to start off with.

  **Benefits:**
  Flexing all the core muscles, this position encourages abdominal, hip, pelvis and neck muscles to get stronger, which therefore helps with postural control.
**Bridges**

Children pair up and sit in TV position (on forearms) with their feet touching like a bridge, the children then tilt their “bridge” from side to side, keeping bodies and arms on the ground. Can also incorporate bicycle feet, alternating legs, like when cycling.

*Benefits:*

This exercise is great for abdominal, hip and back muscles.

**Picking something off the ground with a book on head**

*Benefits:*

Engaging core to emphasize stability using leg, abdominals and hip muscles.

**Dog with sore paws**

On all fours, (hands and knees hip width apart) get children to lift their left arm and right leg simultaneously and then right arm and left leg, try to sustain for a few seconds; this is also good for left and right generalization.

*Benefits:*

Uses glutes, leg and arm muscles to do movements, whilst keeping trunk stable. Also good for body concept, motor co-ordination and learning left and right.

**Snake SSS**

Children pair off and sit with legs out straight facing partner, about a meter apart (where enough room) children then hold their palms together and creep towards partner on their bottoms whilst saying “SSSSSSSS”.

*Benefits:*

By engaging breathing the core abdominal and upper thigh muscles are able to become stronger and help support seated positions in the classroom.

**Older stage strategies:**

**Plank**

On arms, trying to hold for 20 seconds. Make sure bottom is low, incorporates all core muscles!

**Hover**

On forearms, slightly less challenging than plank but essentially incorporates the same principles.

**Wheel barrow walks**

In pairs, children can practice wheel barrow walks to retrieve items or in between transition periods in the classroom.
Adapting everyday classroom activities:

- **Writing in prone**
  Lying on their bellies to read, complete work on the floor, propping up their upper body using arms.

- **Writing on vertical surfaces**
  Vertical surfaces such as walls and white boards make great surfaces to engage neck and shoulder muscles, try switching to these for occasional activities.

- **Desk push offs**
  using the desk, ask children to push themselves back a few times, listing shoulders off the desk. This engages shoulder muscles and keeps the body upright, it is also good as a movement break.

- **Wall/ chair push ups**
  Wall and chair pushups may be difficult for some children, however engage most core muscles (abdominals, should, legs and backs) to strengthen postural muscles. Have the children push themselves off their chair up to 10 times, allowing for breaks if they tire.

- **Animal walks between transition periods**
  A great and easy way to incorporate core strength principles for some of the younger years is to get them to walk to bathroom, door, library or even just from floor to desk in animal position: bears with their bottoms high, frogs who get very low then high and crabs with their bellies very flat. (incorporating books/ bean bags/ pencil cases on their bellies in crab walks may encourage bottoms to stay off the ground)

- **Leg raises**
  Get children to stand and hold the back of their chairs then lift one leg at a time, then lower it trying not to touch the ground again(repeat 3 times) then try to then let go. This encourages children’s balance and body awareness and engages hip, leg and abdominal muscles.

- **Pushing hands together “stretch”**
  Getting children to push against their own hands while sitting at their desk, or even on the floor is a good way to give them that little bit of extra shoulder muscle use (isometric activity). Have children reach above their heads and push and out in front and push and behind and push. Great for a small movement break after completing a somewhat arduous task.
Outdoor/ sport activities:

- **Tug of war**
  Playing tug of war is always fun, and children especially love this game. It is also a great activity for children to use all their whole body muscles. This can either be a game for the whole class, or have the children spread into small groups of 4-6 and compete in their small groups. A long rope or tea towels can be used to play this game.

- **Over under ball game**
  This game supports children to identify different body parts, use positional language and move in a limited amount of space. This also promotes teamwork and communication. Ask the children to form two lines (more if you have a large group of children). Ensure there is at least an arm’s length space between them. The first child will pass the ball backwards over their head, the second child will take the ball and pass the ball backwards through their legs, the third child will take the ball and pass the ball backwards over their head and so on. The line of children that gets their ball to their last player is the winner.

- **Wheelbarrow walks**
  Wheelbarrow walks are a great upper body strengthening activity. This can be done in pairs. Children can aim to retrieve item at the end of the wheelbarrow walks. Supporting hips instead of legs will make it easier for younger grades, while older stage children can achieve wheelbarrow walks with legs being held.

- **Commando walks**
  Commando walks are another great upper body strengthening activity. They incorporate core strength principles and use of all big muscles (glutes, shoulders and back muscles). Children commence lying on their tummies and crawl forward with their arms and body movements.

- **Monkey bars**
  Monkey bars are a common piece of school playground equipment, which are great to gain upper body (shoulder and arm) strength while incorporating stabilization through core and back.

- **Animal walks (crab walks with bean bags on bellies)**
  Have children put a bean bag on their bellies and perform crab walks to keep their bottoms up and maintain a good “crab” posture. Glutes, backs, arms and shoulder muscles are all used. Children should try to keep their bottoms off the ground to achieve a better result.

- **Captain ball**
  It is simple fun game for children to play as a team and is good for shoulder, leg and hip strength. Can be one or multiple teams depending on class size. Have teams line up with the captain of each team standing one meter away from the first person on the team. To start the game, the captain throws the ball to the first player in the line who then throws the ball back and squats down. The captain throws the ball to the next player, who throws the ball back and sits down. The player continues in this way until all players have had a turn. The last player catches the ball and runs to the captain to replace him. The new captain now repeats the throwing of the ball to each player.
- **Ball kicking in TV sit**
  Have children to split in small groups and each will have a gym ball. Taking turns to throw the ball to peers, and others will have to go on TV sit. (Weight bearing on forearms, sit up and look at the ball-throwing peer). Children who are in TV sit will have to kick the ball back their peer. “Kapow”. Engages core muscles.

- **Hula hooping**
  Hula hooping engages the hip and abdominal muscles to stabilize hoop and keep it on hips. This is a difficult skill to acquire but keeping the hula hoop around hips may help with body awareness.

- **Balance beam with bean bags on head**
  Have the children to put a bean bag on head and walk a distance or on balance beam. It requires a relatively good posture which is upright body to hold the bean bag and at the same time to balance on the beam. It is also good activity for concentration training.

- **Scooter boarding (where possible)**
  NB: This require close supervision. Have children to take turns lying on their tummies on scooter and walk along a distance with their arms. Put bean bags 5 meters away from the starting point, and children will have to scooter along to the bean bag and bring the bean bag back to the starting point.
REFERENCES:


