

### What is crossing the body's mid-line?

The body's mid-line is an imaginary line down the centre of the body that divides the body into left and right. Crossing the body's mid-line is the ability to reach across the middle of the body with the arms and legs. This allows children to cross over their body to perform a task on the opposite side of their body (e.g. being able to draw a horizontal line across a page without having to switch hands in the middle, sitting cross-legged on the floor or being able to insert puzzle pieces using the dominant right hand when the puzzle is placed on the left hand side of the body).



### Why is crossing the body's mid-line important?

Crossing the body's mid-line is an important developmental skill needed for many everyday tasks such as writing, reaching towards your foot to put on a shoe and sock with both hands and hitting a ball with a bat. When a child spontaneously crosses the mid-line with the dominant hand, then the dominant hand gets the practice needed to develop good fine motor skills by repeated consistent hand dominance. If a child avoids crossing the mid-line, then both hands tend to get equal practice at developing skills and the child's true handedness may be delayed. This means that once a child starts school, learning to write is much more difficult when they have two less skilled hands rather than one stronger, more skilled (dominant) hand. Difficulty crossing the mid-line also makes it difficult to visually track a moving object from one side to the other or track from left to right when reading, meaning reading can also be delayed.

### What are the building blocks necessary to develop the ability to cross the body's mid-line?

- **Bilateral integration skills** (using both sides of the body at the same time).
- **Core stability** and trunk rotation: The muscles of the trunk that helps to stabilizing the body so the arms and legs can be moved with control.
- **Hand dominance:** The consistent use of one hand or foot most often that allows refine movement control to develop.
- **Planning and sequencing:** The ability to follow multi-step instructions to achieve a defined outcome or end point.
- **Body awareness:** The information that muscles and joints send to our brain that tells us about our body position.

### How can I tell if my child has problems with crossing their body's mid-line?

If a child has difficulties crossing the body mid-line they might:

- Swap hands mid way through a task such as when writing, drawing, painting or colouring.
- Use the left hand for activities on the left side of the body and right hand for activities on the right hand side.
- Rotate their trunk to the opposite side when reaching across the body (to avoid crossing the body mid-line).
- Have difficulty visually tracking an object from one side of the body to the other, such as following text when reading.
- Have poor pencil skills.
- Use different feet to kick a ball (mixed dominance).
- Have difficulty coordinating gross motor patterns (e.g. crawling, skipping, star-jumps)

### What other problems can occur when a child has crossing the body's mid-line difficulties?

When a child has crossing the body mid-line difficulties, they might also have difficulties with:

- **Pencil based activities:** The child may avoid these activities.
- **Behaviour:** The child may become angry or frustrated when engaging in fine motor activities due to less refined hand skills.
- **Performing self-care tasks independently** (age influenced).
- **Coordinating both sides of the body** so that physical skills are less refined than those of their same aged peers.
- **Reading**
- **Noticing all of the details** on a page when copying drawings or writing.

### What can be done to improve the ability to cross the body's mid-line?

- **Bilateral Integration Skills** (using both sides of the body at the same time).
- **Daily Life Skills:** Incorporate some mid-line crossing activities into your daily life skills (eg set up socks and shoes for dressing on the wrong side of the body when the child is sitting so they are forced to cross the body's mid-line to dress).
- **Core Stability:** Work on core stability and trunk rotation to encourage the physical movement of crossing the body's mid-line.

### **What activities can help improve crossing the body's mid-line?**

- **Craft:** Threading beads, cutting and pasting, folding paper.
- **Finger Puppets:** Placing finger puppets on one hand and encouraging the child to remove the puppets with the opposite hand.
- **Blocks and Percussion:** Getting the child to bang blocks or percussion instruments together in their mid-line.
- **Twister:** Playing 'Twister'.
- **Simon Says:** Playing 'Simon Says'.
- **Streamers:** Getting the child to make streamers or ribbon circles and patterns in front of their mid-line (use two hands together or one in each hand).
- **Marching games** using their arms and legs.
- **Stickers:** Placing stickers on one arm and encouraging the child to remove them with the opposite hand.

### **Why should I seek therapy if I notice difficulties crossing the body's mid-line?**

Therapeutic intervention to help a child with crossing mid-line difficulties is important to:

- Help a child develop hand dominance.
- Help prepare a child for the transition into the academic environment where many pencil skill and fine motor tasks are expected (which require effective crossing of the body mid-line).
- Help a child to complete age appropriate self care tasks (e.g. dressing).
- Help a child improve their gross motor skills such as kicking, hitting balls and running.
- Help improve the ability to visually track effectively across a page so that literacy skills develop easily (e.g. so that reading is fluent).

### **If left untreated what can difficulties crossing the body's mid-line lead to?**

When children have difficulties with crossing the body's mid-line, they might also have difficulties with:

- Keeping up in class due to poor handwriting skills.
- Participating in sports that require good coordination (e.g. basketball, baseball, netball, tennis).
- Increased pressure and anxiety in a school aged child as it is expected that most self care skills are independent or requiring only minimal assistance.

### **What type of therapy is recommended for crossing body's mid-line difficulties?**

If your child has difficulties crossing the body mid-line, it is recommended they consult an Occupational Therapist.