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Promoting Pencil Control and Fine Motor Skills

When students have difficulty with pencil control often need to spend time working on these foundation skills:

- Body awareness
- Crossing midline
- Core stability
- Shoulder stability
- Hand strength (NB: hand strengthening alone will not be helpful without also strengthening the core and shoulder)

It can also be helpful to look at wrist position and grasp pattern.

Body Awareness

The brain uses feedback from sensors in the muscles and joints to monitor how the body is positioned and moving. We need accurate body awareness to determine how much force to apply through the pencil and to 'feel' how we need to move our hand to form different shapes and letters. This information is stored and added to each time we practise pencil skills to form a 'motor memory'. Over time writing becomes automatic so we can think about the content of our writing rather than how to form each of the letters.

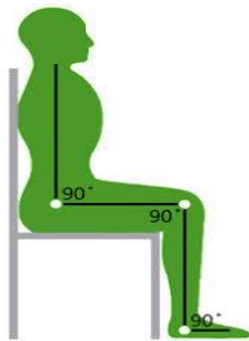
Good body awareness also helps us to feel secure and 'grounded' in our seat.

Students who have reduced body awareness may have to visually monitor how their hand is moving. Handwriting may not become automatic for them. They may press very hard or too lightly. They may frequently squirm or change position in their seat or find ways of 'anchoring' to the chair (e.g. by wrapping their feet around the chair legs) to help them feel grounded.

What can help?

Environment:

Make sure that tables and chairs are not too big or too small for students with reduced body awareness as they need to be well supported and feel grounded.

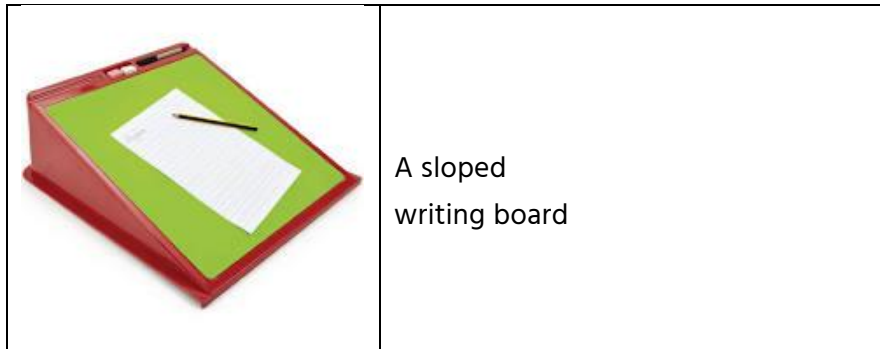


The optimal sitting position is with hips, knees and ankles at 90 degrees. Tables or work-surfaces should be level with the student's elbows.

Is it possible to swap some of the chairs and tables between classrooms to accommodate students of different heights in different class groups?

If tables are shared between a number of different students, the following equipment may be helpful:

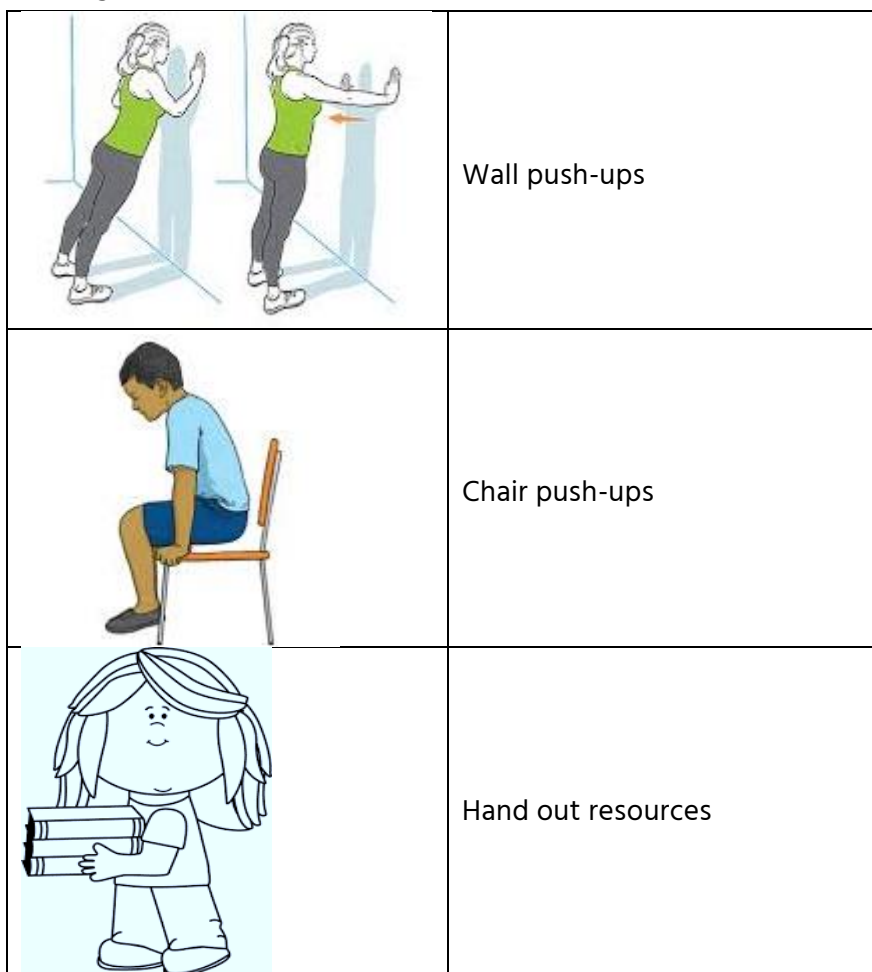
	<p>Chair Band (resistance band)</p>
	<p>Wedge cushion</p>
	<p>Adjustable-height bath step</p>



Wake-up the system before pencil skills:

Completing exercises which provide enhanced feedback to muscles and joints can help to 'wake-up' this system and help it to register how we are moving. For pencil skills, we want to target muscles and joints in the shoulders, hands and wrists. Activities which involve resistance or weight-bearing through the hands are particularly helpful.

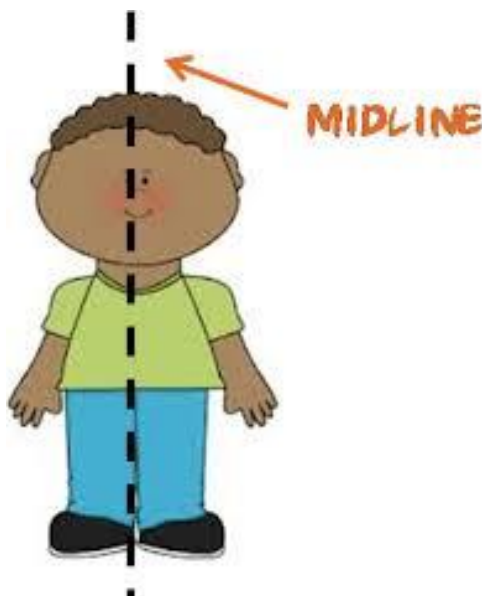
This might be:



	<p>Yoga-poses</p>
	<p>Use resistive fidget toys, stress balls or hand therapy resources</p>

We can also add resistance to the writing task by:

- Using a textured (rather than smooth) paper
- Placing fine grade sandpaper under the page
- Using media such as pavement chalks or crayons



Crossing Midline:

This is the ability to reach across the imaginary line in the middle of the body. It is the foundation for skilled 2-handed tasks and enables us to write across the whole of the page (without leaning or twisting).

We also need to cross midline with our gaze when we visually scan from left to right when reading.

Practising this skill regularly help to strengthen the nerve pathway in the brain so that this pattern of movement becomes 'automatic'.

What can help?

One of the simplest ways to develop midline crossing skills is to position resources for different learning tasks to the left and right of each student and prompt them to reach for materials to their left with their right hand and vice versa.

We can also try:

	<p>Cross-crawls</p>
	<p>Grapevine</p>
	<p>Windmills</p>
	<p>The Macarena</p>

Core Stability:

This is the technical term for having the muscle strength needed around the trunk to maintain an upright posture whilst standing or seated without the need to lean against the wall or over the desk. Along with shoulder stability it is the foundation for good fine motor skills.

Students who have reduced core stability often need to use a lot of effort just to maintain their posture at the desk. They may have no availability left for learning or may use avoidance behaviour.

What can help?

- Ensuring tables and chairs are the correct size (see previous)

	<p>Bridging</p>
	<p>Animal walks</p>
	<p>Lie over the therapy ball to complete short activities</p>
	<p>Walking slowly forward on hands over therapy ball</p>



Activities on tummy on a platform or nest swing

NB: If core stability is reduced these activities will be really challenging so should be completed 'little and often' until the students begin to build up stamina.

Shoulder Stability

The shoulder is designed to be a very mobile joint so is supported by a complex series of muscle structures. We need to work on different muscle groups to gain the greatest benefit.

You can do:

	<p>Shoulder spirals</p>
	<p>[Yoga] poses holding the arms at shoulder height</p>
	<p>[Yoga] poses holding the arms above the head</p>

	<p>Weight-bearing Activities (see previous)</p>
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Hand strength

It is important to work on both hand strength and grasp strength. The following can be tried:

	<p>Resistance band finger stretch (NB: hair bobbles can also be used for this)</p>
	<p>Use resistive fidget toys, stress balls or hand therapy resources</p>
	<p>Tweezer Challenge: Using tongs, tweezers and clothes pegs in a range of activities</p>

	<p>Popping Bubble Wrap</p>
	<p>Construction activities</p>

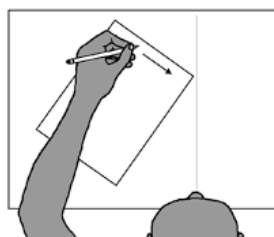
Wrist Position and Pencil Grasp



Some students write with their wrist in a 'hooked' position.

Try completing writing practise on a vertical surface (e.g. a whiteboard or paper on the wall) as gravity will naturally help to bring the wrist down.

A sloped writing board can also help.



People who are left-handed often write with a hooked hand so they can see what they have written. Left-handed students should be encouraged to angle paper as shown so they can see their writing.

Once a pencil grasp has become firmly established it can be very difficult to correct (if students are already reluctant writers this is not recommended).



Using pens and pencils which necessitate a totally different grasp pattern (such as the PenAgain and Twist 'n Write pictured) can be helpful. They are best used for 'doodling' and fun pencil tasks until the student becomes acclimatised to the different way they feel.

NB: As you can see many of these activities will help to develop more than one foundation skill at a time so a lengthy programme is not needed. This is a generic programme so please speak to the therapist about tailoring it to individual student need.

Thank you,

Locala Health & Wellbeing Sensory Occupational Therapy