Gross Motor (Physical) Skills

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What are gross motor skills?

Gross motor (physical) skills are those which require whole body movement and which involve the large (core stabilising) muscles of the body to perform everyday functions, such as standing, walking, running, and sitting upright. It also includes eye-hand coordination skills such as ball skills (throwing, catching, kicking).

Why are gross motor skills important?

Gross motor skills are important to enable children to perform every day functions, such as walking, running, skipping, as well as playground skills (e.g. climbing) and sporting skills (e.g. catching, throwing and hitting a ball with a bat). These are crucial for everyday self care skills like dressing (where you need to be able to stand on one leg to put your leg into a pant leg without falling over).

Gross motor abilities also have an influence on other everyday functions. For example, a child’s ability to maintain table top posture (upper body support) will affect their ability to participate in fine motor skills (e.g. writing, drawing and cutting) and sitting upright to attend to class instruction, which then impacts on their academic learning. Gross motor skills impact on your endurance to cope with a full day of school (siting upright at a desk, moving between classrooms, carrying your heavy school bag).
Building blocks necessary to develop gross motor skills include:

- **Muscular strength**: An ability to exert force against resistance.
- **Muscular endurance**: Ability of a muscle or group of muscles to exert force repeatedly against resistance.
- **Motor (muscle) planning**: The ability to move the body with appropriate sequencing and timing to perform bodily movements with refined control.
- **Motor learning**: A change in motor behaviour resulting from practice or past experience.
- **Postural control**: The ability to stabilize the trunk and neck to enable coordination of other limbs.
- **Sensory processing**: Accurate registration, interpretation and response to sensory stimulation in the environment and one’s own body.
- **Body awareness**: Knowing body parts and understanding the body’s movement in space in relation to other limbs and objects.
- **Balance**: The ability to maintain position whether that is static, dynamic (moving) or rotational.
- **Coordination**: Ability to integrate multiple movements into efficient movement.
- **Crossing Midline**: The ability to cross the imaginary line running from a person’s nose to pelvis that divides the body into left and right sides.
- **Proprioception**: This is information that the brain receives from our muscles and joints to make us aware of body position and body movement.
- **Muscle Tone**: The resting muscle tension of a muscle which is the continuous and passive partial contraction of the muscles.

You can tell there are problems with gross motor skills if the child:

- Is late in reaching developmental milestones (i.e. sit, crawl, walk, run and hop).
- Moves stiffly and lacks fluid body movement or alternatively looks awkward and appears clumsy.
- Avoids physical activity.
- Participates in physical activity for only short periods (has low endurance).
- Cannot maintain an upright posture when sitting on a mat or at a table top.
- Cannot perform the same skills as their peers (e.g. catch, kick, hop and jump).
• Is less skilful than their peers in sports.
• Is not able to follow multistep instructions to complete a physical task (e.g. obstacle course).
• Is not able to plan and correctly sequence events or steps in a process (e.g. step forward before throwing).
• Does not perform movement safely (e.g. climbing).
• Needs to put in more effort than their peers to complete a task.
• Tires frequently with physical activity.
• Loses the skill if they do not keep practicing it.
• Can’t generalise a skill (use the small skill in a different setting/way) (e.g. can easily change between throwing a big/heavy ball to a light/small ball).

When you see difficulties with gross motor skills, you might also see difficulties with:

• Drawing and pencil skills lacking in a skilful outcome.
• Writing and drawing for long periods of time.
• Activities of daily living (e.g. dressing independently, holding and using cutlery).
• Maintaining posture while sitting on the floor or at a table.
• Low energy levels.
• Seems tired or lethargic and takes longer to respond to stimuli around them.
• Sensory processing (responding appropriately to the environment).
• Chewing and swallowing food.
• Dribbling.
• Articulation of sounds.
• Manipulation of small toys and utensils.

What can be done to improve gross motor skills?

• **Improve attention** to task and alertness levels in readiness to respond quickly when they lose their balance and to respond to changes in the environment around them.
• **Core strength:** Strengthen the ‘core’ (namely the large central muscles) of the body to provide greater body (especially trunk) stability.
• **General muscle strength** can be used as a coping strategy where “floppy” muscles are a challenge.
• **Simplify specific physical skills** into one or two step components to teach the skill and then gradually add in components until the skill is able to be done in its entirety (e.g. skipping – start with a step, then a hop).
Gradually increase duration and intensity of activity to increase endurance.

Improve sensory processing to ensure appropriate attention and arousal to attempt the tasks, as well as ensuring the body is receiving and interpreting the correct messages from the muscles in terms of their position, their relationship to each other, the speed at which they move and how much force they are using.

Multi-sensory approach (using as many of the 7 senses) to learn new skills will ensure a child has the best chance at learning appropriate strategies to respond to a physical demand or challenge.

Cognitive planning strategies can be used to talk the child through tasks.

Task analysis to assist with chunking of information and backwards chaining (i.e. learning small parts of a task at a time).

Develop the underlying skills necessary to support whole body (gross motor) skills, such as providing activities to support:
- balance and coordination
- strength and endurance
- attention and alertness (sensory processing)
- body awareness
- movement planning (praxis)

Activities that can help improve gross motor skills include:

- **Hop Scotch** for hopping, or other games that encourage direct task/skill practice.
- **Simon Says** for body awareness and movement planning (praxis).
- **Wheelbarrow walking** races for upper body strength.
- **Unstable surfaces**: Walking/climbing over unstable surfaces (e.g. large pillows) as it requires a lot of effort and increases overall body strength.
- **Catching and balancing**: Standing with one foot on a ball while catching another ball (encourages balance while practicing catching and throwing).
- **Large balls**: Begin catching with a large ball/balloon and only after the skill is mastered, move to a smaller sized ball.
- **Obstacle course**: Age appropriate obstacle course completion.
- **Playground** climbing and swinging.
- **Swimming** is helpful as the water provides some resistance to help build muscle strength.
Why should you seek therapy if you notice difficulties with gross motor skills?

- To increase your child’s confidence in gross motor activities (e.g. playing on the playground, running, jumping).
- To enhance their self-esteem (so they aren’t ostracized or picked last for sport teams due to their physical ability skill challenges).
- Increase sporting ability and confidence to engage in sports. Participating in sport enables a child to enrich their lives with positive people and develop strong friendships.
- To help your child develop the strength and endurance to manage the physical needs of a full school day.
- To provide your child with a strong base of support so that they are better able to use their arms and hands for fine motor skills (such as manipulating small objects, such as pencils, scissors, keys, buttons and zips).

Left untreated, difficulties with gross motor skills can lead to:

- Difficulties managing a full school day due to poor strength and endurance.
- Difficulty participating in sporting activities.
- Poor self esteem when they realise their skills do not match their peers.
- Bullying when others become more aware of a child’s difficulties.
- Poor fine motor skills (e.g. writing, drawing and cutting) due to poor core stability, meaning they do not have a strong base to support the use of their arms and hands.

What type of therapy is recommended?

If your child has difficulties with gross motor skills, it is recommended they consult an Occupational Therapist. It may also be appropriate to consult a Physiotherapist for gross motor skills. It is important to acknowledge however that in many (but not all) paediatric cases, there is a large overlap in the skills addressed by Physiotherapy and Occupational Therapy.
If you are concerned about gross motor difficulties, the next step is:

- Call Kid Sense for an obligation-free discussion with a paediatric professional on ph 1300 66 00 67.
- Take the free on-line Self Assessment to obtain a visual representation of how your child is developing (doing this in conjunction with your teacher can be really helpful too).
- Visit the Child Development Ages and Stages Charts and Checklists to see what skills are expected at your child's age.
- Go to Booking an Appointment for more information.
- Review the fact sheets below for more relevant information.

Other relevant resources:

- Low Muscle tone (fact sheet)
- Dyspraxia (fact sheet)
- Developmental Coordination Disorder (fact sheet)
- Sport participation (fact sheet)