Therapy Foundations for Education
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Gross Motor Skills

Gross motor skills develop from birth, beginning with head control, control of the trunk, continuing until the child has mastered sitting. Then the next developmental stage is crawling, standing and eventually walking. This then becomes the basis for running, jumping and the range of activities that an adult can do.

Gross motor skills are acquired through practice and once mastered become automatic as in walking, running and climbing over obstacles. These automatic skills present as being effortless and include :

- Balance
- Body awareness
- Motor planning
- Muscle coordination
- Crossing mid line
- Laterallity
- Awareness of body position in space

All of these neurological strengths are established on sound vestibular and proprioceptive functioning. Where a child struggles with any of the above skills the difficulty usually lies in the vestibular or proprioceptive systems.

Gross motor skills not only enable a child to be good at sports or physical challenges. It is much more than this, they can influence a child's ability to write well, read well, to develop foundation skills for maths and even to concentrate well in the classroom. Competent gross motor skills also increase a child's confidence and improve their self esteem.

Gross motor skills Milestones

3 months –1 year hold head steady when sitting , lifts head and chest when lying on the floor, pulls to sitting, sits well with support, crawls on hands and knees, rotates on trunk when sitting, pulls to stand, takes steps holding unto furniture, stands alone momentarily, puts small blocks in/out box.
2 years walk with smooth heel toe motion, runs fairly well but lacks control over turns and stops, climbs unto furniture, kicks a ball, stacks four blocks

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3 years run smoothly and stop suddenly, jump from a low step, go up and down stairs with alternating feet holding rail, throw and catch a ball, pump a swing ,undress self, stack nine blocks

4 years Runs fast, jumps well, hops forward on one foot, balance on one foot for five seconds, catch a ball from five feet, jump over a rope, dress and undress, draw simple shapes, copy block designs, cut with scissors.

5 years hops on one foot, do star jumps, carries objects up and down stairs, catches ball with two hands from five feet, skips wit a rope, rides a bicycle, dresses self, and can attend to own toileting needs.

Because each child is different and development at different rates. These mile stones are general guide lines ……However if your child is displaying an absence of any of the above milestones, this would indicate signs of possible delay in motor function for these age ranges (age related).

As gross motor skills are directly related to posture, effective movement control depends on the development of the following postural motor functions:

Reflex integration- the ability to inhibit primitive reflexes and to develop automatic postural control.

Muscle tone- adequate muscle strength to provide stable postural posture against gravity and to allow movement

Girdle Stability- stable pelvic and shoulder girdles to allow effective transition of body positions

Body balance- ability to maintain static and dynamic balance is essential for all co ordinated movements.

If a child has problems in the above postural motor functions, the child will have difficulties in motor coordination and organization in both gross and fine motor activities. Where a child has poor mid line crossing (usually as a result of not crawling, early walking , using a baby walker and lack of tummy time), they will generally have difficulties with their right left awareness. This will include not being able to have awareness of the centre of themselves, (we measure distance and space from our body center), poor body awareness and spatial orientation . Ultimately this difficulty will result in letter reversal and poor sequencing for spelling and maths skills.

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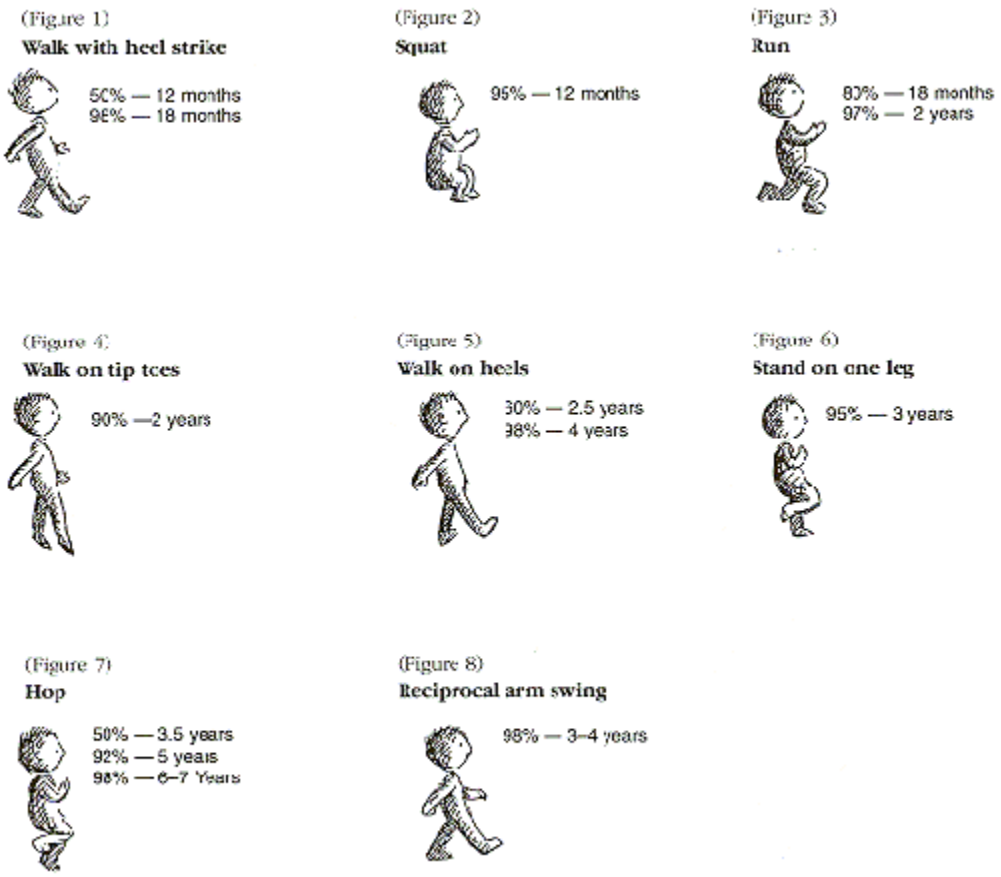
Motor development is therefore significant as an early foundation skill for academic and higher brain functions.

Diagram 1: The Development of Normal Motor Skills



The majority of children will achieve these normal motor skills by the age set out in the above diagram.

Fine Motor Skills

These are small muscle movements of the fingers that help your child to perform school readiness and school necessary activities, such as:

- Tying shoe laces
- putting on shoes
- manipulating buttons or zips
- putting small objects together
- writing legibly without cramp or fatigue

- doing puzzles
- using scissors or using utensils or tools
- doing anything that requires small precise movements of the fingers

- Painting with a paintbrush
- Cutting with scissors
- Drawing and writing using a pencil, crayon or text correctly
- Holding and manipulating small objects
- Holding and using a knife and fork
- Craft activities

Being able to isolate the movement of your fingers can be difficult for some children , especially when combined with all the other things that are needed for school skills, such as balance, muscle tone, hand stability and muscle strength mid line crossing and visual and auditory processing simultaneously. It's hard to imagine but it takes a lot of effort and attention to combine all of these things and then remember to use the fingers muscles accurately.

Between the ages of three and five children usually demonstrate rapid gains in fine motor manipulation, finger dexterity and tool use. Fine motor skills don't develop overnight but take time, patience and practice.

Fine motor skills require the solid foundations of efficient proprioceptive and tactile feedback, a stable base in pelvic and shoulder girdle ability, sound protective reflexes with well integrated primitive reflexes, body awareness, effective mid-line crossing, laterality and the ability to motor plan.

According to Michelle (the Occupational Therapist and originator of the www.sensoryprocessing.com) *"I just want to mention, there is a very high correlation between children with sensory processing disorders and children with a delay in fine motor skills. It is often a big part of sensory integration therapy and one of the main reasons children are initially referred to an Occupational Therapist. Please understand, I am NOT saying they HAVE a sensory processing disorder if they have poor fine motor skills... fine motor delays may be an isolated issue.*

Properly Developed Fine Motor Skills Are Important To Every Day Living

The ability to complete functional activities that require these skills will follow you your entire life. ***So, I beg of you****... if you see signs of fine motor difficulties in any child, please address it with a teacher, Occupational Therapist, or through educating yourself (as you are now... yay you!) on how to improve fine motor skills."*