



Gross Motor Skills for children under 2 years.

What can
physiotherapy do and when to
refer?

Jessica Langham
Physiotherapist

Content

- Review gross motor skills 2 years and under
- Identify atypical gross motor development
- Understand physiotherapy involvement
- Identify when to refer
- Case study

Gross motor development

- Development of gross motor skills
- Gross motor development begins from birth
- Significant gross motor development occurs in the first 2 years of life
- Gross motor skills important for every day function
- Gross motor skills develop in a range of normal

Gross motor development

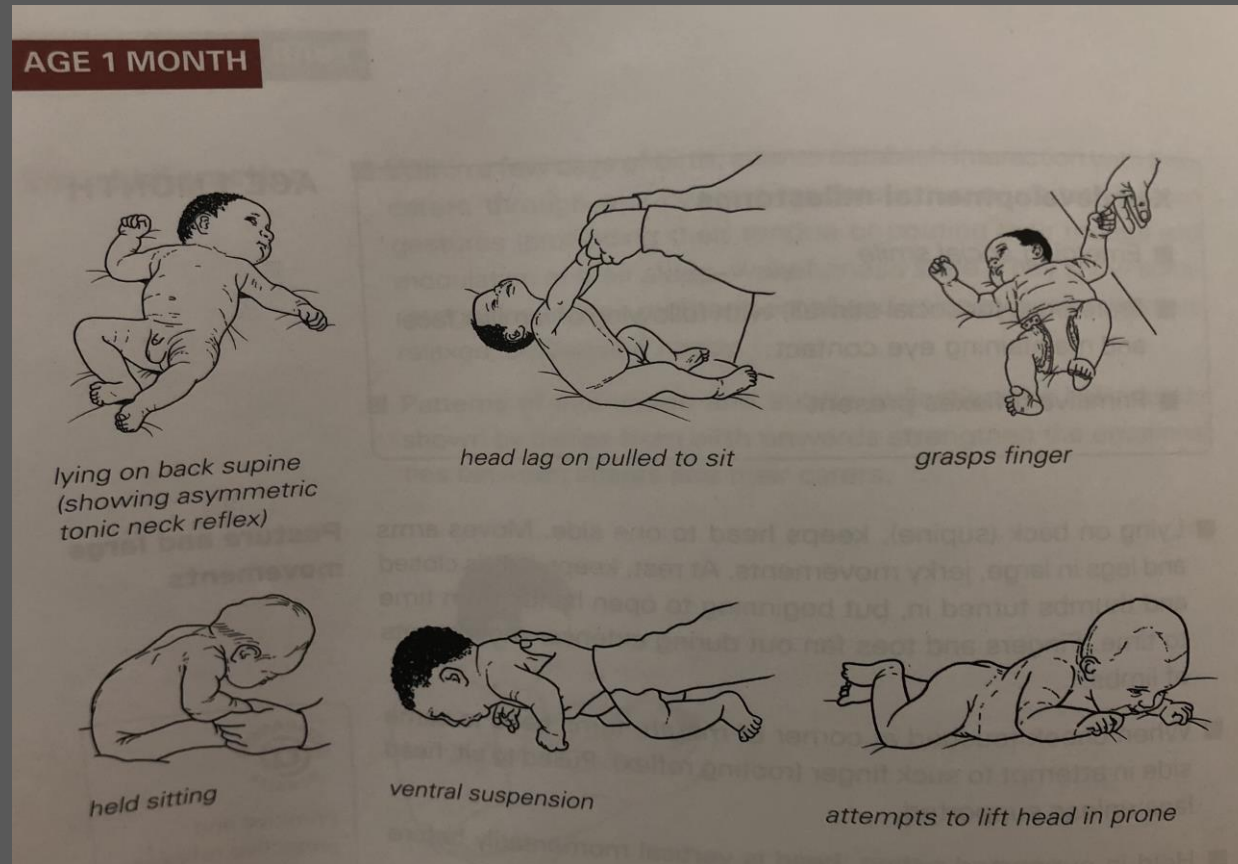
Table 2 An outline sequence of motor development (ages serve only as a guide, with much variability and overlap).

Birth–4 months	Primitive reflexes
4 months–1 year	Improving muscle tone – reducing flexor and increasing extensor tone Improving balance and coordination Movements become differentiated and functional
1–2 years	Improving power and stability Better differentiated and more precise movements
3–5+	Improving efficiency in skills, e.g. running, jumping, catching, throwing Applying motor skills for sports and work

Gross motor skills: 0- 1 month

- Primitive reflexes
- Arms and legs jerky movements
- Prone: head turned to the side with arms and legs flexed
- Supine: head to one side
- Pull to sit: head lag
- Sitting: (supported) head vertical before falling forward
- Ventral suspension: holds head in midline

Gross motor skills: 0- 1 month



Gross motor skills: 1-3 months

- Supine: head in midline, brings hands to midline
- Pull to sit: little to no head lag
- Sitting: (supported) c spine posturing with a steady head
- Ventral suspension: head held above line of body
- Prone: head and shoulders held off ground with the use of forearm support

Gross motor skills: 3-6 months

- Supine: able to lift head up and moves arms to be lifted
- Pull to sit: no head lag and able to pull into sitting
- Sitting: able to independently with support and turns head from side to side
- Rolling: able to roll prone to supine. Supine to prone usually develops a little later (6-7 months)
- Prone: head and chest lifted off the grounds with use of hands to push

Gross motor skills: 6-9 months

- Sitting: independently, can pull into and out of sitting and reach for objects
- Crawling: signs of crawling, commando crawl, coming onto hands and knees
- Standing: some children are able to pull to stand at this age but unable to lower back down

Gross motor skills: 9-12 months

- Crawling: on hands and knees or in bear walk position
- Standing: pull to stand and sit down again
- Walking: cruising furniture, walking with hands held

Gross motor skills: 12-15 months

- Walking: may be independent walking
- Stand: independently or holding onto something
- Kneeling: independently or with support

Gross motor skills: 15- 18 months

- Walking: independent, carrying objects
- Running: cautious running, trouble negotiating obstacles
- Sitting: backs into a chair to sit
- Stairs: walks up stairs with hand held
- Kneeling: kneeling independently
- Squats: deep squat position to pick up toys. Uses hands to stand back up

Gross motor skills: 18 months – 2 years

- Running: stop, start, change direction and negotiate obstacles
- Jumping: able to jump
- Climbing: onto furniture
- Stairs: up and down holding on. 2 feet per step
- Throwing: able to throw forwards
- Kicking: able to walk in to ball to kick
- Squat: deep squat to play and pick up toys. Able to stand without the use of hands

Identifying Atypical Gross Motor Development

- Not developing along the path as per usual
- Delays in gross motor skills for their age
- Parental concern

Tip:

- Knowing typical development
- Check list for each age
- Having resources

Identifying Atypical Gross Motor Development

- <https://pathways.org/watch/2-month-old-typical-and-atypical-motor-development/>
- <https://pathways.org/watch/4-month-old-typical-and-atypical-motor-development/>
- <https://pathways.org/watch/6-month-old-typical-atypical-motor-development-side-side-comparison/>

Atypical Gross Motor Development

pathways.org

Pathways.org

About Pathways.org


Donate

Menu

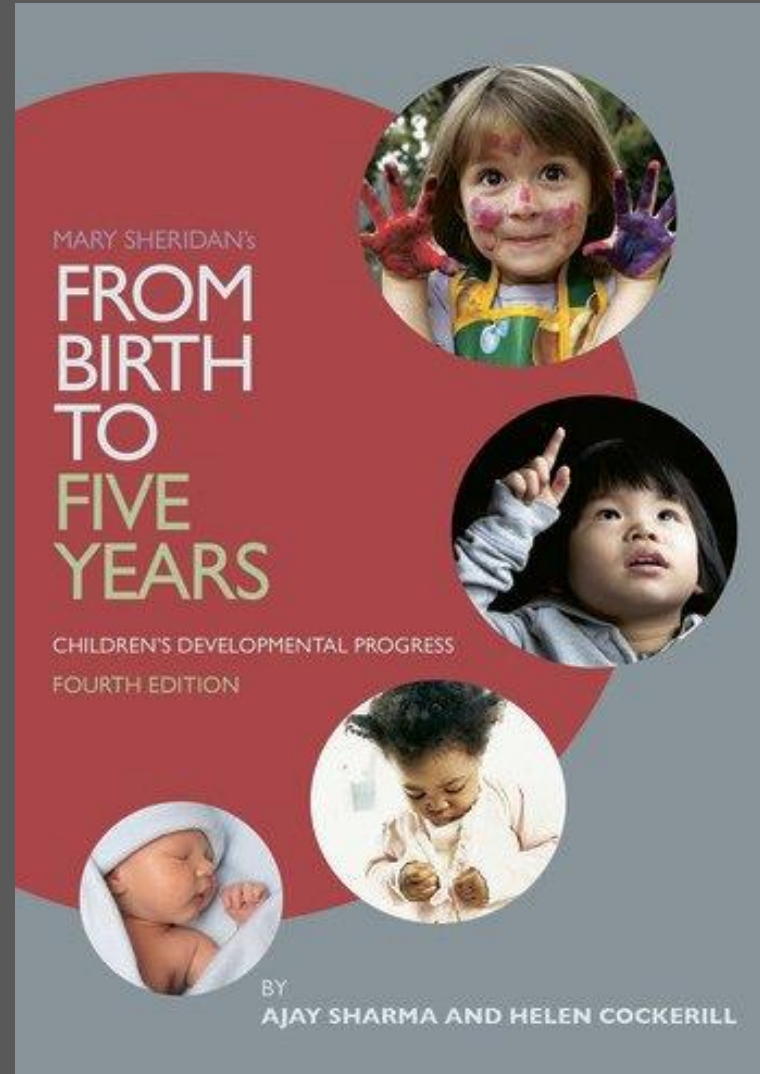
It's never too early to get your baby on the right pathway (or too late)

Find resources for your baby's development * :
**Adjust for prematurity*





0-3 Months →	13-18 Months →
4-6 Months →	19-24 Months →
7-9 Months →	2-3 Years →
10-12 Months →	4-6 Years →



Atypical Gross Motor Development



Red Flags Early Identification Guide for children aged birth to five years

Area	6 months	9 months	12 months	18 months	2 years	3 years	4 years	5 years	Red flags at any age
 Social emotional	<ul style="list-style-type: none"> Does not smile or interact with people 	<ul style="list-style-type: none"> Not sharing enjoyment with others using eye contact or facial expression 	<ul style="list-style-type: none"> Does not notice someone new Does not play early turn-taking games (e.g. peekaboo, rolling a ball) 	<ul style="list-style-type: none"> Lacks interest in playing and interacting with others 	<ul style="list-style-type: none"> When playing with toys tends to bang, drop or throw them rather than use them for their purpose (e.g. cuddle dolls, build blocks) 	<ul style="list-style-type: none"> No interest in pretend play or interacting with other children Difficulty noticing and understanding feelings in themselves and others (e.g. happy, sad) 	<ul style="list-style-type: none"> Unwilling or unable to play cooperatively 	<ul style="list-style-type: none"> Play is different than their friends 	<ul style="list-style-type: none"> Strong parental concerns Significant loss of skills Lack of response to sound or visual stimuli
 Communication	<ul style="list-style-type: none"> Not starting to babble (e.g. aahh; oohh) 	<ul style="list-style-type: none"> Not using gestures (e.g. pointing, showing, waving) Not using two part babble (e.g. bubu, dada) 	<ul style="list-style-type: none"> No babbled phrases that sound like talking No response to familiar words (e.g. bottle, daddy) 	<ul style="list-style-type: none"> No clear words Not able to understand short requests (e.g. 'Where is the ball?') 	<ul style="list-style-type: none"> Not learning new words Not putting words together (e.g. 'push car') 	<ul style="list-style-type: none"> Speech difficult for familiar people to understand Not using simple sentences (e.g. 'Big car go') 	<ul style="list-style-type: none"> Speech difficult to understand Not able to follow directions with two steps (e.g. 'Put your bag away and then go play') 	<ul style="list-style-type: none"> Difficulty telling a parent what is wrong Not able to answer questions in a simple conversation (e.g. 'What's your name? Who is your family? What do you like to watch on TV?') 	<ul style="list-style-type: none"> Poor interaction with adults or other children Lack of, or limited eye contact
 Cognition, fine motor and self care	<ul style="list-style-type: none"> Not reaching for and holding (grasping) toys Hands frequently clenched Does not explore objects with hands, eyes and mouth Does not bring hands together at midline 	<ul style="list-style-type: none"> Does not hold objects Does not 'give' objects on request Cannot move toy from one hand to another 	<ul style="list-style-type: none"> Does not feed self finger foods or hold own bottle/cup Unable to pick up small items using index finger and thumb 	<ul style="list-style-type: none"> Does not scribble with a crayon Does not attempt to stack blocks after demonstration 	<ul style="list-style-type: none"> Does not attempt to feed self using a spoon and/or help with dressing 	<ul style="list-style-type: none"> Does not attempt everyday self care skills (such as feeding or dressing) Difficulty in manipulating small objects (e.g. threading beads) 	<ul style="list-style-type: none"> Not toilet trained by day Not able to draw lines and circles 	<ul style="list-style-type: none"> Concerns from teacher about school readiness Not able to independently complete everyday routines such as feeding and dressing Not able to draw simple pictures (e.g. stick person) 	<ul style="list-style-type: none"> Differences between right and left sides of body in strength, movement or tone Marked low tone (floppy) or high tone (stiff and tense) and significantly impacting on development and functional motor skills
 Gross motor	<ul style="list-style-type: none"> Not holding head and shoulders up with good control when lying on tummy Not holding head with control in supported sitting 	<ul style="list-style-type: none"> Not rolling Not sitting independently/ without support Not moving (e.g. creeping, crawling) Not taking weight on legs when held in standing 	<ul style="list-style-type: none"> No form of independent mobility (e.g. crawling, commando crawling, bottom shuffle) Not pulling to stand independently and holding on for support 	<ul style="list-style-type: none"> Not standing independently Not attempting to walk without support 	<ul style="list-style-type: none"> Not able to walk independently Not able to walk up and down stairs holding on 	<ul style="list-style-type: none"> Not able to walk up and down stairs independently Not able to run or jump 	<ul style="list-style-type: none"> Not able to walk, run, climb, jump and use stairs confidently Not able to catch, throw or kick a ball 	<ul style="list-style-type: none"> Not able to walk, run, climb, jump and use stairs confidently Not able to hop five times on one leg and stand on one leg for five seconds 	



Child Development Program Clinical Access Service call 1300 731 805
or email CDPAccessService@health.qld.gov.au

Child Health Service call 1300 366 039
Call 13HEALTH (13 432584) 24 hours, 7 days to speak to a Child Health Nurse

© Developed by the Child Development Program in conjunction with Brisbane North Primary Health Network. Updated: July 2016



Physiotherapy Involvement

- Physiotherapy can assist in gross motor development
- Modify tasks
- Breakdown tasks to learn parts of a skill
- Educate parents and families on how to best support their child to achieve a gross motor skill
- Age appropriate assessments for gross motor skills:
 - NSMDA
 - AIMS
 - HINE

When to refer?

- Sooner rather than later
- If you are unsure about gross motor development
- If gross motor delay is present
- High risk infants e.g. LBW, Prem babies, foetal alcohol
- Low or high tone
- Disability
- If a child:
 - Clumsy
 - Avoids tasks
 - Orthopaedic issues: Plagiocephaly, torticollis, DDH, TEV

Why early referral?

- NDIS
- Ease of developing gross motor skills
- Reduce subsequent issues
- Reduce anxiety and stress for family



Case Study Mr T

- 18 month old
- Knee walking
- Delayed in all gross motor skills
- Did not like his feet touching the ground



Case Study

One month of therapy:

- Pull to stand
- Required trunk support
- Unbalance

A photograph of a young child standing in a room, leaning their right arm on a white horizontal surface for support. The child is wearing grey pajamas with a dark, repeating pattern. The background shows a bed with grey bedding and some items on a shelf. A large, semi-transparent grey circle is overlaid on the right side of the image, containing the text.

Case Study

Two month of therapy:

- Able to stand with one arm support
- Cruising



Case Study

Three months of therapy:

- Pushing walker
- Limited foot clearance in swing phase



Case Study

Five months of therapy:

- Taking steps
- Still knee walking



Case Study

Six months of therapy:

- Independent walking indoors

Seven months of therapy:

- Independent walking outdoors

Now:

- Climbing

Summary

- Gross motor skill have a range of “normal”
- Knowing what is typical helps identify atypical
- Have a check list and resources
- Physiotherapy can simplify tasks to help a child master their gross motor skills
- Early referral = earlier skill development
- If unsure refer on to physiotherapy

Contact Details

Jessica Langham

Country Family Physiotherapy

0432609349

countryfamilyphysiotherapy@gmail.com

Armidale, Dorrigo, Bellingen and surrounds

QUESTIONS?



COUNTRY FAMILY
PHYSIOTHERAPY

For all your family needs



References

Campbell, S. K. (2021). *Physical Therapy For Children 4Ed (Hb 2012)* (4th ed.). Elsevier.

Choose physio / Australian Physiotherapy Association. (n.d.). Australian Physiotherapy Association. Retrieved July 13, 2021, from <https://choose.physio/your-lifestage/infants-and-children/gross-motor-development>

Pathways.org. (2021, July 6). *Pathways.org* / *Tools to maximize child development*. <https://pathways.org/>

Sharma, A., & Cockerill, H. (2014). *Mary Sheridan's From Birth to Five Years: Children's Developmental Progress* (4th ed.). Routledge.



COUNTRY FAMILY
PHYSIOTHERAPY

For all your family needs

