



Understanding Hand and Finger Development In Young Children

Why a palmar grasp at ages 3–4 (and delayed handwriting) can be developmentally appropriate

At The Nurturing Hand, we often hear parents ask:

“Is it normal that my child is still using a whole-hand (palmar) grasp?”

The short answer is yes - very often, it is. And more importantly, it can be a sign that your child’s body and brain are developing exactly as they should.

This handout explains:

- how children’s hands develop
- what medical imaging shows us about bone maturity at ages 3–5
- why formal handwriting is not expected before age 6
- and what **realistic fine motor expectations** look like for young children

How children’s hands actually develop

Children’s fine motor skills don’t develop in isolation. They grow out of whole-body stability and nervous system readiness.

Before fingers can work independently, children need:

- strong core and shoulder stability
- controlled elbow and wrist positioning
- a sense of safety and regulation in their body

This means hand skills develop **from the inside out** — not from fingers first.

What a palmar grasp is really telling us

A palmar (whole-hand) grasp often means:

- the child is prioritising **control and stability**
- the smaller hand muscles are **still developing strength and endurance**
- the task may be demanding, tiring, or require extra support

Children often move between grasp styles depending on:

- fatigue
- posture

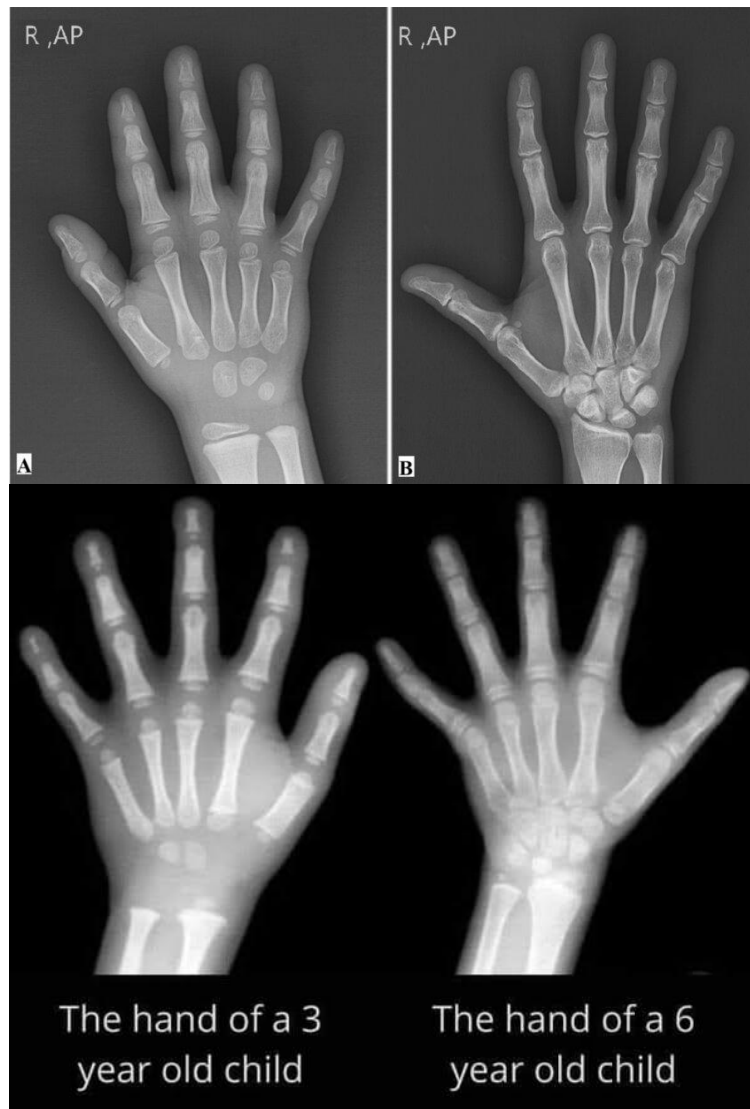


- attention demands
- emotional state

This variability is **developmentally normal** at ages 3 and 4.

What medical imaging shows us about young hands

One of the most helpful ways to understand fine motor readiness is to look at hand and wrist X-rays, commonly used in paediatric medicine to assess skeletal (bone) age.



This comparison of a **3-year-old hand** and a **6-year-old hand** shows us something important:

- At ages **3–4**, many wrist bones are **still cartilage**
- Several carpal (wrist) bones don't fully appear until **5–6 years and beyond**
- Growth plates are still open, meaning bones are **actively growing and reshaping**

This matters because:



Fine finger control relies on a stable wrist and hand base - and that base is still under construction in early childhood.

Expecting sustained, precise finger grasp before this structure is ready can lead to:

- excessive tension
- fatigue
- reduced enjoyment
- compensatory movement patterns

Why children under 6 are not expected to do formal handwriting

Handwriting is one of the most complex fine motor tasks a child will learn. It requires:

- stable wrist and hand bones
- strong intrinsic hand muscles
- finger isolation and coordination
- postural control and endurance
- visual-motor integration
- attention and emotional regulation

For most children, these systems are not fully ready until around age 6.

This is why many early learning environments prioritise play, creativity, and hands-on learning rather than formal handwriting, and this is developmentally appropriate.

Realistic fine motor expectations by age

Around age 3

It is typical to see:

- whole-hand or palmar grasps
- switching between different grasps
- arm-led movements rather than finger-led
- interest in scribbling rather than precision

At this age, hands are designed for exploration, not refined control.

Around age 4

It is common to see:

- emerging tripod or modified grasps
- short bursts of finger control
- frequent reversion back to a palmar grasp
- fatigue during longer drawing or writing tasks



A child may *touch* a mature grasp without being able to *maintain* it consistently, and this is developmentally appropriate.

Why expectations can sometimes become unrealistic

Many expectations placed on young children come from:

- school readiness checklists
- comparison with older children
- social media images
- early academic pressure

Neurologically and physically:

- intrinsic hand muscles continue developing into **early primary school**
- endurance and refinement typically come **after age 5–6**

Pushing precision too early can interfere with natural development.

What supports healthy hand development

Rather than “fixing” a pencil grip, we support the foundations through play. Helpful activities include:

- playdough, putty, and resistive play
- colouring, scribbling, drawing
- tearing paper
- beading and threading
- tweezers or peg activities
- climbing, crawling, hanging
- pushing, pulling, carrying
- cleaning, wiping, sweeping
- cutting with scissors
- planting, digging, gardening

These activities may not *look* like education, but they are the building blocks for future writing. Grasp develops as a by-product of play, not pressure.

We’re not asking whether your child can hold a pencil ‘properly’ yet. We’re asking whether their body and nervous system are ready, and right now, they’re building those foundations beautifully.

Our approach at The Nurturing Hand

At The Nurturing Hand, our focus is on:

- supporting development at the child’s pace
- building strength, coordination, and confidence
- protecting a child’s love of learning and play
- using play as the pathway to skill development