

Hammersmith Infant Neurological Examination (HINE)

A guide to understanding the HINE assessment, what happens during the examination, and how it supports early identification of cerebral palsy.

What is the HINE?

The Hammersmith Infant Neurological Examination, usually called the HINE, is a structured neurological examination that can be used with infants from about 2 to 24 months of age. If your baby was born early, your healthcare team may consider their corrected age when interpreting the assessment.

The HINE uses the same set of activities and scoring system for each child. This helps trained health professionals look for patterns in neurological development and identify signs that may need further assessment or monitoring.

The HINE is one of the assessments recommended to help detect cerebral palsy (CP) early.

Why might my child have a HINE?

Your healthcare team may recommend a HINE if there are concerns about your child's movement or neurological development, or if your child has factors that may increase their risk of CP.

For example, a HINE may be part of follow-up if your child:

- was born prematurely
- experienced complications before, during or after birth
- has differences in movement, posture or muscle tone
- is developing movement skills differently than expected
- has findings from other assessments that suggest they need closer monitoring.

Parents and carers often notice differences in their child's development before a diagnosis is made. If you have concerns about your child's movements or development, talk to your healthcare team.

What happens during a HINE assessment?

The HINE is a clinical examination; it does not involve a blood test or brain scan. A trained health professional observes your child and gently checks different movements, positions and responses.

The scored part of the HINE includes **26 items** across five areas:

Cranial nerve function Responses involving the face, eyes, sight, sound, sucking and swallowing.	Posture How your child holds different parts of their body.	Movements The amount and quality of movement.
Muscle tone How muscles respond during movement and positioning.	Reflexes and reactions How your child's body responds to different positions and movements.	

The HINE also records information about your child's movement milestones and behaviour. The assessment usually takes around 10 to 15 minutes, although this can vary.

How is the HINE scored?

Each of the 26 neurological items is given a score. These scores are added together to give an overall HINE score.

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Maximum score

The score is **not simply a pass or fail**. Your healthcare professional will interpret it by considering your child's age, the overall score, scores for individual parts of the assessment, any differences between the left and right sides of the body, and changes if the HINE is repeated over time.

A score that is lower than expected for a child's age, or particular patterns or differences between the two sides of the body, may suggest that further assessment or monitoring is needed.

How does the HINE help with early detection of cerebral palsy?

CP can sometimes be identified during the first year of life. The HINE helps health professionals identify neurological signs that may be associated with CP. It is particularly useful because it provides a structured way to assess and score a child's neurological function.

The HINE may be used together with other information and assessments, such as:

- your child's medical and developmental history
- a physical and neurological examination
- the General Movements Assessment (GMA)
- brain imaging such as MRI
- other developmental assessments.

The HINE does not usually provide all the information needed to diagnose CP on its own. Instead, the results are considered together with other clinical information.

A child may be diagnosed with CP or identified as being at **high risk of CP**. Identifying a child as high risk can allow appropriate early intervention and monitoring to begin while the healthcare team continues to assess their development.

Why might the HINE be repeated?

Your healthcare team may repeat the HINE as your child grows. Repeating the assessment can help the team:

- monitor neurological development
- see whether findings change over time
- identify differences between the two sides of the body
- decide whether other assessments are needed
- plan appropriate monitoring, intervention and support.

What happens after the HINE?

What happens next will depend on your child's results and their individual circumstances. Your healthcare team may recommend:

- monitoring your child's development
- repeating the HINE at another age
- other developmental or neurological assessments
- a General Movements Assessment or brain MRI, if appropriate
- referral to a paediatrician, neurologist or other health professional
- starting early intervention
- ongoing therapy or other support.

You do not necessarily need to wait for a confirmed CP diagnosis before your child receives appropriate early intervention. If your child is identified as being at high risk of CP, your healthcare team can discuss what support may be helpful.

Questions you may want to ask

You may find it helpful to ask your healthcare professional:

1. Why are you recommending a HINE for my child?
2. What did you notice during the assessment?
3. What was my child's HINE score?
4. What does the score mean for my child at their age?
5. Were there differences between the left and right sides of their body?
6. Does my child need another HINE?
7. Are any other assessments recommended?
8. Is my child considered to be at high risk of CP?
9. Should we start early intervention?
10. Who should I contact if I have concerns about my child's development?

Talk to your healthcare team

If you are concerned about your baby or young child's movements, posture, muscle tone or development, talk to your GP, paediatrician or healthcare team.

Early assessment can help identify children who may need closer monitoring, further assessment or early intervention.