

Information for users

The Mini-Manual Ability Classification System (Mini-MACS) is a classification system that describes how children with cerebral palsy (CP) aged 1–4 years use their hands when handling objects in daily activities. Ability is ranked on five levels based on the children's self-initiated ability and their need for assistance or adaptation when handling objects. This brochure also describes differences between adjacent levels to make it easier to determine the most appropriate level. Mini-MACS is a functional description that can be used as a complement to the supposed diagnose of CP and its subtypes.

The description concern how the children handle objects relevant for age. The objects referred to are those commonly found in the children's environment which they use when performing tasks, such as playing, drawing, eating, or dressing. How children handle toys often gives a good idea of their manual ability. Obviously, a 12-month-old child does not handle the same toys and other objects as a 4-year-old. A child's motivation and cognitive ability also influence the ability to handle objects and, consequently, the Mini-MACS level.

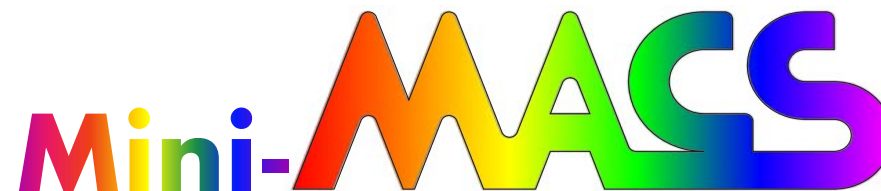
When assessing a child's Mini-MACS level, choose the level that best describes the child's usual performance in the daily environment. To better understand what a child usually does, and how he or she performs this activity, it is necessary to ask someone who knows the child well. The questions should be phrased to obtain a description of the type of objects the child handles, in what situations, and how. Mini-MACS levels reflect what the child usually does, not his or her best performance as demonstrated in a specific test situation.

Mini-MACS assesses the child's general ability to handle everyday objects, not the function of each hand separately. Mini-MACS does not intend to explain the underlying reasons for impaired manual capacity.

The Mini-MACS system spans the entire spectrum of functional limitation found among children with CP and covers all CP sub diagnoses. Level I includes children with minor limitations, if any, while children with severe disabilities are usually classified on level V. Certain CP subtypes can be found at all levels, e.g., bilateral CP, while unilateral CP usually occurs at levels I–III. Mini-MACS does not include children without physical disabilities; if it did, they would be classified as level "0". However, no such level exists!

Since Mini-MACS consists of only five levels, each level includes children with relatively varied function. Consequently, Mini-MACS is a classification system, probably not sensitive to changes and should therefore not be used to evaluate development or interventions. Mini-MACS can be used to describe and differentiate into five levels functional aspects on how a suspected CP diagnosis affects children's manual ability.

The five-level Mini-MACS scale is ordinal, which means that the differences between levels are not necessarily equal, nor are children with CP equally distributed across the five levels.



Mini-Manual Ability Classification System for children with cerebral palsy 1 - 4 years of age

The Manual Ability Classification System (MACS) described how children aged 4–18 years with CP use their hands when handling objects in daily activities. Mini-MACS is an adaptation of MACS for children aged 1–4 years.

- Mini-MACS classifies children's ability to handle objects that are relevant for their age and development as well as their need for support and assistance in such situations.
- Mini-MACS describes how children usually use their hands to handle objects, such as toys, in various settings. In other words, it describes what they ordinarily do, rather than what is known to be their best capacity.
- Mini-MACS classifies the child's overall ability to handle objects, not the ability of each hand separately.
- To find out how a child handles various objects in everyday life, it is necessary to ask someone who knows the child well. Such knowledge cannot be obtained through specific testing. The questions should be phrased to obtain a description of the type of objects the child handles daily, in what situations, and how.



What do you need to know to use Mini-MACS?

Mini-MACS users need to find out what objects the child usually handles and how they handle them: with ease or difficulty, quickly or slowly, with precision or randomly? For example, you can ask about and/or observe how the child uses his or her hands when playing and during meals, or when participating in usual activities of daily living.

Ask questions about the child's self-initiated ability and how much adult help and support the child needs to handle everyday objects, e.g. toys.

Below is a description of the five Mini-MACS levels of children's self-initiated ability and their need for assistance or adaptation when handling objects.

- I. **Handles objects easily and successfully.** The child may have a slight limitation in performing actions that require precision and coordination between the hands but they can still perform them. The child may need somewhat more adult assistance when handling objects compared to other children of the same age.
- II. **Handles most objects, but with somewhat reduced quality and/or speed of achievement.** Some actions can only be performed and accomplished with some difficulty and after practice. The child may try an alternative approach, such as using only one hand. The child needs adult assistance to handle objects more frequently compared to children at the same age.
- III. **Handles objects with difficulty.** Performance is slow, with limited variation and quality. Easily managed objects are handled independently for short periods. The child often needs adult help and support to handle objects.
- IV. **Handles a limited selection of easily managed objects in simple actions.** The actions are performed slowly, with exertion and/or random precision. The child needs constant adult help and support to handle objects.
- V. **Does not handle objects and has severely limited ability to perform even simple actions.** At best, the child can push, touch, press, or hold on to a few items, in constant interaction with an adult.

Distinctions between Levels I and II

Children in Level I may have slightly more difficulty handling items that require good fine motor skills compared to children without disabilities of the same age.

Children in Level II handle essentially the same objects as children in Level I, but they may encounter problems performing tasks and/or take longer to perform them, so they often ask for help. Functional differences between hands may cause performance to be less effective. They may need more guidance and practice to learn how to handle objects compared with children in Level I.

Distinctions between Levels II and III

Children in Level II can handle most objects, though they may take longer and do so with somewhat less quality, and they may need a lot of guidance and practice to learn how to handle objects.

Level III children manage to use easily handled objects but often need help placing objects in an easy position in front of them. They perform actions with few subcomponents. Performance is slow.

Distinctions between Levels III and IV

Children in Level III manage to use easily handled objects independently for short periods. They perform actions with few subcomponents, and the actions take a long time to perform.

At best, children in Level IV can perform simple actions such as grasping and releasing easily handled objects that are offered in an adapted position. They need constant help.

Distinctions between Levels IV and V

Children in Level IV perform individual actions with a very limited selection of objects and need constant help.

At best, children in Level V perform simple movements in special situations. For example, they can press a simple button or hold single, simple objects.