Psychomotor development of the child

Psychomotor development is defined as a sequence of events leading from dependence to autonomy of the individual. In addition to anthropometric data, its evaluation belongs to the basic examination in pediatrics. Individual "milestones" in development have individual time differences that are taken into account, for example, by **the Denver Developmental Screening Test**. In the case of prematurity, a corrected age of approximately two years is often calculated.

🔎 *For more information see Child age distribution.*

Development of the child's cognitive functions

Newborn period

🔎 *For more information see Characteristics of the newborn period.*

Manifestations of the newborn correspond to the degree of maturity of the tegmentum - hypertonia, flexion of the limbs, increased reflexes.

- By approximately the fifth month, developmental reflexes are present:
  - sucking (fully developed from around the 34th week of gestation);
  - palmo-mandibular – push into the palm → the newborn opens his mouth and makes snapping movements with his head;
  - grip - touching the palm causes a grip;
  - deep neck reflexes – passive turning of the head → extension of the homolateral limbs and flexion of the contralateral ones (the so-called fencer's position);
  - Moro's reflex - sudden underlining of the mat under the child → abduction HK and flexion DK.


Child's drawing

Newborns are characterized by **instability** in body posture, when the head falls backwards when lifted.

Infants

🔎 *For more information see Neuromotor development of the child.*

We divide the infant period into 4 phases **according to the maturation of motor functions**:

- Holokinetic period
- Monokinetic period
- Dromokinetic period
- Kratikinetic period

⚠ From the point of view of the development of psychomotor functions, the newborn/infant interface is NOT strictly observed from the 28th day

Period of Holokinetic momentum

It lasts from the 5th day to the 2nd month. Thalamic and hypothalamic functions are maturing → predominance of diencephalic functions is already emerging, which corresponds to typical motility - an infant lying on his back has uncoordinated and jerky movements of the limbs (however, they cannot be considered dyskinesia in the true sense of the word).

Physiological hypertonia persists with flexion of the limbs. Asymmetric deep cervical reflexes disappear. There are flexion irritation pyramidal phenomena (Juster – hypothenar skin irritation...) and extension (Babinský, Roche). Around the first month, the phenomenon of triple extension appears, when pressure on the sole of the foot causes extension of the limbs, trunk and head. By the second month, **walking automatism** persists: in the sling, he extends and flexes his legs, which resembles walking.

From a social point of view, from the 6th week, the infant smiles and establishes contact with the environment.

Period of monokinetic momentum

TIt lasts from the 2nd month to the end of the 5th month. We already notice independent movement of individual limbs, even if the movements are imprecise. Holding the fingers into a fist relaxes, muscle hypertonia disappears, a period of physiological hypotonia begins, but the tendon-bone reflexes are still alive or even increased. At the

junction of I. and II. trimenon, the so-called **graze foals** - raises his head, leans first on his elbows, later on his extended hands (*the name probably comes from a herdsman lying on the ground on his stomach watching over his flock*). They raise their heads while pulling on their hands

Socialization is already developed: turns to the sound, watches the surroundings, laughs. The "hand-to-mouth" game develops, he explores all accessible objects with his mouth. Around the 3rd month, flexion irritation phenomena disappear.

Period of dromokinetic momentum

Includes 5th - 12th month. Movement with individual limbs becomes conscious, the child consciously reaches for toys, even if the movements are not precisely targeted. At the beginning of III. trimenon, the child usually sits - initially with a support, from the 9th month he sits up on his own. First, he takes the toys with his whole hand in pronation, gradually the radial grip and the interplay of the thumb and forefinger appear. Hand-to-mouth play is joined by foot-to-mouth. Around the 8th month, he starts to crawl on all fours and at the turn of the 9th and 10th month he usually stands up on his own.

During IV. trimenon (9th-12th month) reacts adequately to family members, follows the events around him, points, knows how to paci paci, waves goodbye, begins to repeat words Extensive irritation phenomena disappear (except for Babinski, who is usually up to 1.5 years old). Beginning of development II. signal systems characteristic only of humans (higher nervous activity involving the thought, spoken or written word).

Period of kratikinetic momentum

Occurs from the 12th month. Verticalization continues and sideways walking around furniture is replaced by unsteady walking with cerebellar features (wide base, staggering, falls). Physiological hypotonia disappears, muscle tone normalizes. Furthermore, during the toddler period, walking improves and becomes more confident. Squatting and lumbering running are added.

Adequate responses to verbal challenges increase, vocabulary grows. They know **pincer grip** and clumsily eat by themself with a spoon.

Toddlers and preschoolers

- between the 2nd and 3rd year there is further development of motor, speech, gnostic and intellectual functions
  - a game with a ball, the child stacks several cubes on top of himself, paints
  - even if he does not yet recognize colors, he prefers their bright and saturated tone (he chooses bright colors)
  - begins to consciously control the sphincters, holds the glass
  - learns nursery rhymes, begins to inflect, uses personal pronouns and adjectives
- between the 3rd and 4th year – maturation of cerebellar functions
  - the child runs briskly, climbs climbing frames, trees, paints, plays...
  - listens to simple fairy tales
- preschool age – development of fine motor functions, recognizes simple letters
  - recognizes colors and sides (left/right)

Links

Related Articles

- Child age distribution
- Ontogeny of the human psyche
- Psychological development according to EH Erikson
- Neuromotor development of the child
- Child growth and development

External links

- MUDr. Kučerovská: Vývojové vyšetření novorozence (https://www.pediatriepropraxi.cz/pdfs/ped/2013/04/05.pdf)
- MUDr. Cíbochová: Psychomotorický vývoj dítěte v prvním roce života (https://www.solen.cz/pdfs/ped/2004/06/07.pdf)

Source

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References

https://www.stavskola.cz › vyukove-prezentace › Nervová+soustava+2.pdf

Literature

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