PHYSICAL DEVELOPMENT OF CHILDREN OF DIFFERENT AGES

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ANNOTATION

Physical development of a person is a set of morphological and functional features, which are interrelated. The process of formation and development of the child's body is intensive, determines its special sensitivity to the external environment. The child's physical development is influenced by climatic conditions, living conditions, schedule, eating habits, as well as past illnesses. The pace of physical development is also influenced by genetic factors, type of constitution, metabolic intensity, the body's endocrine background, the activity of enzymes in the blood and the secretion of nutrients. Therefore, the equality of physical development of children is a reliable indicator of their health.

Keywords: physical development, body, weight, height, bones, speech, health.

The process of growth and treatment is associated with a single dialectical integrity, the law of continuity of quantitative changes with adherence to qualitative changes. Growth and development are reflected in the increase in body length and weight. The growth and development of the human body includes the following basic laws. They are;

1. The law of endogenousness. Growth and development are not related to external influences, but to internal influences and causes of the organism. hidden in the breeding program, satisfies the body's natural need to reach adulthood to continue the offspring.

2. The law of eternity. It is the inability of a person to reconstruct a structure that had the characteristics of childhood or infancy.

3. The law of cyclicity. There will be periods of growth activation and deceleration; the first - the period of the mother's womb before birth and the first months of life after birth; then at the age of 6-7 years there is an acceleration of growth, and at the age of 11-14 years there is a sharp jump in growth or pubertal growth.

Given the cyclical nature of the growth process, German scientists have expressed important views on the growth retardation (slowing or stagnation) associated with the activation of growth and the increase in body mass.

It has been shown that growth inequality is manifested in seasonal acceleration or slowing of the growth process (retention) throughout the year, growth in body height occurs mainly in summer, and mass gain occurs mainly in autumn.

4. Slow - the law of slowness. This law of physical development is one of the most important stages in the development of a person.

In the normal development of the organism, one of these periods cannot be "jumped". Before the skeletal bones can stop growing, the bones need to grow to their full size. The deciduous teeth need to fall out in order for all the permanent teeth to come out.

5. The law of synchrony. In accordance with each other, the law of equal functioning integrates the process of growth and development of our various organs and structures in a relatively simultaneous manner.

As growth and aging accelerate, the principle of synchrony is violated. Therefore, the acceleration of growth and aging often leads to disorders, disharmony; these processes precede the tempo and expression of some of our organs and structures and others. The overall size of the body and the proportions of our limbs combine in length, weight and width of the chest.

Developmental characteristics of 2-3 year old children

This period has its own peculiarities. During the period from one to two years of age, the child's speech and the ability to understand the words spoken by others develops rapidly, and by the age of 2-3 years, the process of imitating the speech of others begins, the child becomes a musician, an artist. The effect is given quickly.

That's why he should be taught to sing and dance from the same period. They develop the ability to sing with adults, to move to the music, to feel the melody.

When children of this age are brought together, they begin to develop interpersonal skills. Educational work should focus on developing the same skills that children are beginning to develop and turning them into skills.

Developmental characteristics of 4 young children.

When a child reaches the age of four, his physical growth accelerates somewhat, during which time he grows to 105-108 cm in height and weighs 18-19 kg. During this period, the child's brain develops rapidly. The cortex of the large hemispheres continues to improve. There are significant qualitative changes in the development of basic movements in the child, the naturalness of their performance increases, and children develop the ability to compare. Children of this age have a more fluent speech, a deeper memory, and a more developed level of independent thinking. He strives to perform all actions independently. At this age, the child becomes very active, playful and very curious. He will gladly attend any event. That's why it's important to feed them properly, get them to sleep on time, protect their health, monitor their mood, and keep them in a happy mood. It is advisable to focus on the same content as you would with them.

Developmental characteristics of children 5-6 years

During this time, the baby's height increases by 7-8 cm. His legs develop faster than his body, weighing 20-22 kg. Children’s spine can bend quickly due to lack of rigidity. Therefore, special care should be taken to ensure proper bone growth. Their heart is 4-5 times larger than a baby's heart, but their muscles are not yet strong enough. By the age of six, the cerebral cortex's nerve cells have developed and become closer to those of adults in weight and appearance. Therefore, it is necessary to be very careful with the child's nerves. His pronunciation should be clear and his speech should be fluent.

If a child has a disability, it is important to take steps to prevent it. Particular attention should be paid to the development of vocabulary in children of this age. The words in their speech should fully satisfy the child's need for expression. During this period, children should develop mathematical thinking and calculation skills. There is a need for basic economic concepts. Particular attention should be paid to the rapid development of the child's imagination.

The following indicators should be taken into account when assessing the physical development of children:

1. Morphological indicators: body weight and height, chest circumference, dizziness in children under 3 years.

2. Functional indicators: vital capacity of the lungs, muscle strength of the fingers, etc.

3. Development of muscles and muscle tone, posture, musculoskeletal system, development of subcutaneous fat, tissue turgor.

Body length. Body length is stable compared to other indicators of physical development. In the first 3 months of life, the height of the child reaches the highest rate. At the age of 4, the child's height reaches 100 cm. The following formula is then used to determine neck growth (up to 10 years):

The length of the child's neck

R = 100 cm + 6 (n-4),

n is the age of the child, 6 is the average annual height added, cm. The most intense height corresponds to 5-7 years and the period of onset of sexual formation.

Body weight. It is a labile indicator and can change under the influence of constitutional features, neuro-endocrine and somatic disorders, which also depend on exogenous causes (diet, agenda). The most intensive addition to a child's body weight occurs before the age of 1 and puberty.

In infants, the average body weight in boys is 3494 g, in girls - 3348 g. At 4 -4.5 months, the child's body weight increases 2 times, and at 1 year - 3 times. At 1 month the child is added 600 g, at 2 and 3 months 800 g. The gain in body weight after 3 months is found as follows for each subsequent month, the gain for the following months is 50 g ordetermined by the following formula:

X = 800 - 50 x (n - 3),

X is the body weight added in each expected month, n is the number of months.

The rate of weight gain in children slows down after the age of 2 and averages 2 kg per year.

Expected body weight in children under 10 years of age is calculated according to the following formula:

R = 1 year old child body weight + 2 kg x (n -1),

R is the expected weight, n is the age.

After the age of 10, body weight can be determined by the formula of IM Voronsov:

Child over 10 years body weight = age x 3 + last age number

Determining body surface area

Body surface area (m^2) = √body weight (kg) x height (cm): 3600

Head and chest circumference. At birth, in mature infants, the head circumference is 33 - 37.5 cm, it should not exceed 1-2 cm from the circumference of the chest.

In the first 3-5 months, 1-1.5 cm is added every month, and in the following months 0.5-0.7 cm. At one year, the head circumference increases by 10-12 cm and reaches 46-48 cm. At the age of 1-3 years, the child's head circumference increases by 1 cm per year. From the age of 4, the head circumference increases by 0.5 cm per year. At the age of 6 it increases to 50-51 cm, in subsequent years to 5-6 cm.

In infants, the circumference of the chest is 33-35 cm. In the first year of life, the average monthly incision is 1.5-2 cm. At one year of age, the chest circumference increases by 15–20 cm, then this indicator decreases intensively and increases by 3 cm in the preschool age and 1–2 cm in the school age. Most mature infants received a thorax - the size of the back, smaller than or equal to the transverse size. At the end of the first year of life, the transverse dimension is larger than the anterior dimension, and the shape of the thorax is close to the adult configuration, ie expands.

To assess and monitor physical development, it is necessary to measure the child over a period of time:

• body weight and rate of contraction;

• Height growth rate

• dizziness and growth rate;

• psychomotor and mental development.

When and how often should body weight be measured?

When the first measurement is born

The second 15 days

The third is 30 days

Up to One year per month

1-3 years old every 3 months

3-5 years old every 6 months

Every year In later years

The chronological age of the child is indicated in years and months. For example:

Date of measurement: April 30, 2003 = 03.04 / 12

Date of birth: March 29, 2001 = 01.03 / 12

Chronological age: 03.04 / 12- 01.03 / 12 = 02.1 (2 years 1 month)

By monitoring physical development, growth retardation can be identified before clinical signs appear. measurements taken at the child at all stages - height, body weight, head circumference are marked in the form of a dot on a standard diagram and a graph of physical development (curve) is drawn, the diagram itself should be on the child's development map.

Each graph has 5 curves, the main of which are the median 0, -2 and +2 standard deviation (SO).

The physical development of children whose height and weight correspond to -2SO and + 2SO is considered normal.

Results below -2SO and -3SO, above + 2SO and above + 3SO are considered low and above normal, and such children require special attention as a child prone to weight loss and obesity.

Children with a score below -3SO and above + 3SO are considered poor.

Some anthropometric indices are used to assess the proportionality of child development.

Chulisky Index (Nutrition Evaluation Index):

3 x shoulder circumference, + hip circumference + leg circumference - body length.

In children under one year 20 - 25 cm, in 2 - 3 years - 20 cm, in 6 - 7 years 15-10 cm.

Erisman index. Chest circumference (cm) - half height (cm).

Characterizes the development and nutrition of the child's chest.

Chest circumference in children under one year of age is more than half of the neck 10-13.5 cm, 2-3 years - 9 - 6 cm, 6 - 7 years 4 - 2 cm, 8 - 10 years - more than 1 cm or 3 smaller than cm. In the individual assessment of the child's physical development, it is necessary to compare the anthropometric indicators developed specifically for this region with the norms and standards, taking into account the climatogeographic living conditions of the child. With the proposed standards, morphofunctional assessment of child development can be performed by sigmal regression or sentile methods.

Teeth. After one year (14–16 months), small root teeth erupt (anterior teeth), lateral teeth appear at 16–20 months, and posterior small root teeth appear at 20–24 months. At the age of 2, a child has 20 baby teeth. To determine the number of deciduous teeth, the child must be 2 years old, subtracted from the number of months of his life 4.

For example, at the age of 1 year the child has (12 - 4) - 8 teeth, at 18 months (18 - 4) - 14 teeth and so on.

Thus, in the indicator of physical development, sexual differentiation - is manifested with the emergence of sexual maturity. The period when an organism reaches biological maturity is called puberty and is characterized by the appearance of secondary sexual characteristics. The timing of the appearance of secondary sexual characteristics depends on health status, diet, climatic conditions, and genetic characteristics.

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