

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ
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УЧЕБНАЯ ИСТОРИЯ БОЛЕЗНИ

Учебное пособие

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Educational history of disease

Manual

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Р е ц е н з е н т ы :

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Приведены последовательность и краткое содержание самостоятельной работы по клиническому обследованию больного ребенка с назначением необходимого параклинического обследования с интерпретацией, этапами постановки диагноза, параметрами ведения врачебного дневника.

Издание подготовлено на кафедре «Педиатрия» Медицинского института ПГУ и предназначено для самостоятельной работы иностранных студентов, обучающихся по специальностям 31.05.01 «Лечебное дело», 31.05.02 «Педиатрия».

The sequence and brief content of self-study on clinical examination of a sick child with the appointment of the necessary paraclinical examination with interpretation, stages of diagnosis, parameters for maintaining a medical diary are given.

The publication was prepared at the Department of Pediatrics of the Medical Institute of PSU and is intended for self-study of foreign students majoring in 31.05.01 "General medicine", 31.05.02 "Pediatrics".

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INTRODUCTION

In the process of working on a medical history, a student learns to correctly obtain information from a patient and to prepare medical documentation according to the requirements. The requirements for an academic medical history differ from the requirements for a medical history in a hospital.

In order to form an algorithm for examining a patient in a future doctor and to develop clinical thinking, additional sections have been introduced into the academic medical history that are not included in the medical history (a more detailed survey of complaints, identification of hidden complaints, diagnostic process: identification of symptoms and syndromes, information on preventive vaccinations, differential diagnosis, literary reference), some sections are designed in more detail (allergic history, objective examination of systems and organs, treatment).

The following sections are not covered: informed voluntary consent to medical interventions, registration of refusal of medical intervention, provision of medical care without the consent of citizens or their legal representatives, recording of the doctor on duty, registration of the appointment sheet and a temperature sheet, examinations by the head of the department, recording the results of the consultation, stage epicrisis, transfer epicrisis, registration of a certificate of incapacity for work, a statistical card of a patient discharged from the hospital, with which young doctors will become familiar while working in the hospital during their residency or primary specialization.

The medical history is a document of great practical, scientific and legal importance. Therefore, it should be kept consistently, observing the principle of "minimum sufficiency". It contains all the necessary information about the patient, the development of his disease, the etiological and pathogenetic factors contributing to the occurrence and progression of the disease, the results of clinical, laboratory and instrumental examination and the effectiveness of the therapy.

The academic medical history is completed during the period of supervision of the patient in the department by a student, in strict accordance with the medical history scheme.

The academic medical history should be written in an official business style, which requires the utmost precision of expression, excludes different interpretations, and does not allow the use of expressive means of speech (words and phraseological units of a colloquial style, colloquial words, emotionally charged words). When writing a medical history, only generally accepted abbreviations are allowed (for example: etc., including, CRH).

I. OUTLINE OF CHILD'S MEDICAL HISTORY

(University)

(Department)

(Surname, first name, patronymic of the head of the department)

Curator _____
(Student's full name)

(group, course)

Date of supervision _____

Grade _____

Teacher's signature _____

II. GENERAL INFORMATION ABOUT THE CHILD

Last name, first name, patronymic _____

Date of birth (age) _____ gender _____

Home address _____

Blood group _____ Rh factor _____

Antibiotic intolerance _____

Mother's and father's place of work _____

Attends a childcare facility (nursery, kindergarten, school) _____

Date of admission to hospital _____

Sent by _____

Diagnosis upon referral _____

Diagnosis on admission _____

Clinical diagnosis:

Basic _____

Complications _____

Related _____

Medical history

Complaints upon admission and at the time of supervision (from the patient's or parents' words).

Date of illness. Probable causes. Peculiarities of onset (acute or gradual) and further course of the disease in dynamics. Main clinical manifestations from all organs and systems (shortness of breath, cough, runny nose, fever, loss of appetite, sleep disturbance, convulsions, vomiting, loose stools, lethargy, etc.). Treatment performed and its results.

Child's life history (up to 3 years)

Obstetric history

– From which pregnancy and how many children? If this is not your first pregnancy, how did the previous one end (miscarriages, stillbirths, premature babies, abortions, etc.)?

– The course of the mother's current pregnancy (toxemia, gestosis, occupational hazards, risk of miscarriage, infectious diseases, medication intake, genital diseases, etc.). The regimen and nutrition of the pregnant woman.

– From what kind of birth? The course of this birth (duration, benefits, complications, etc.).

Newborn period

– Time of appearance and intensity of the first cry. Weight, height, head and chest circumference at birth. When was the baby put to the breast and how did he take the breast?

– The course of the neonatal period: physiological weight loss and the time of its recovery, the period of the umbilical cord stump falling off and the healing of the umbilical wound. Skin condition: the presence, duration and intensity of jaundice, prickly heat, diaper rash, allergic manifestations. Other diseases of the neonatal period: birth trauma, pneumonia, sepsis, etc. On what day was the child discharged from the maternity hospital. Was the BCG and hepatitis B vaccination done?

Feeding a child

– What type of feeding was the child on: natural, artificial, mixed? In case of natural feeding – frequency and frequency of feedings, time spent by the child at the breast, sucking activity, feeding from one or both mammary glands, pumping after feeding. In case of mixed feeding – what was the child supplemented with, from what age, what was the quantity and method of introducing supplementary feeding? What measures were taken to combat hypogalactia? In case of artificial feeding – from what age and what was the child fed with, frequency and frequency of feedings, presence of a night break, correction of feeding? Timing of introduction of complementary foods, their sequence, quantity, tolerance. Features of taste, appetite. Nutrition at the present time.

Dynamics of physical and psychomotor development of the child

– Physical development of the child: increase in weight and body mass of the child before and after one year.

– Neuropsychiatric child development: when did he start holding his head up, turning on his side, from his back to his stomach, sitting, crawling, standing, walking, running? When did he start smiling, recognizing his moth-

er, cooing, pronouncing individual syllables, words, phrases? Vocabulary by 1 and 2 years. Child's behavior at home and in a group. Attitude to other children and adults. Sleep, its features and duration.

- When did the teeth come in and what is the order of teeth eruption?

Past illnesses

– When and what diseases did you have? Features of the disease course, complications.

– Treatment performed surgical interventions. Is the patient registered with specialists?

Information about preventive vaccinations

– Has the child been vaccinated? According to plan or according to an individual plan. How did the post-vaccination period proceed?

– Tuberculin tests, date, their results.

– Contact with infectious patients.

Life history of older children

– What number child is he/she?

– How did you develop during early childhood?

– Behavior at home and in a group, for schoolchildren – academic performance at school, what subjects do they prefer?

– Past illnesses and surgeries.

– Preventive vaccinations.

– Tuberculin tests, when they were carried out, their results.

– Contact with infectious patients.

Social status of parents

– Mother's and father's place of work.

– Parents' education, position, family income, number of family members.

Family history

– Age of parents, health status of parents and other family members, immediate relatives on the mother's and father's side.

– Presence of infectious, mental, nervous, endocrine, allergic diseases in the family, bad habits and occupational hazards.

Living conditions

- Where do the parents work (their profession, total income, number of family members)?
- Professional hazards in the family, bad habits of a teenager.
- What kind of apartment does the family live in: area, dry, light, warm, etc.? Number of children and adults living there? Sanitary condition of the apartment.
- Does the child attend childcare facilities?
- Who is caring for the child? What is the health status of the person caring for the child?
- Does the child have a separate bed?
- How often is the child washed? Is he provided with linen and toys?
- Do you have the season clothes?
- Is the daily routine observed? How long are walks and sleep? Diet, additional load.

III. HISTORY OF THE DISEASE AND ANAMNESIS OF LIFE

Allergic history

What allergic reactions to food, pollen, dust, medications, etc. have been noted?

Genealogical (hereditary) anamnesis – legend and graphic representation (within three generations).

– Age of parents.

– Health status of parents and immediate relatives on the mother's and father's side.

– How many children are there in the family and what is their health condition? If they died, what were the causes?

The obtained data are reflected in the genetic map (fig. 1, 2).

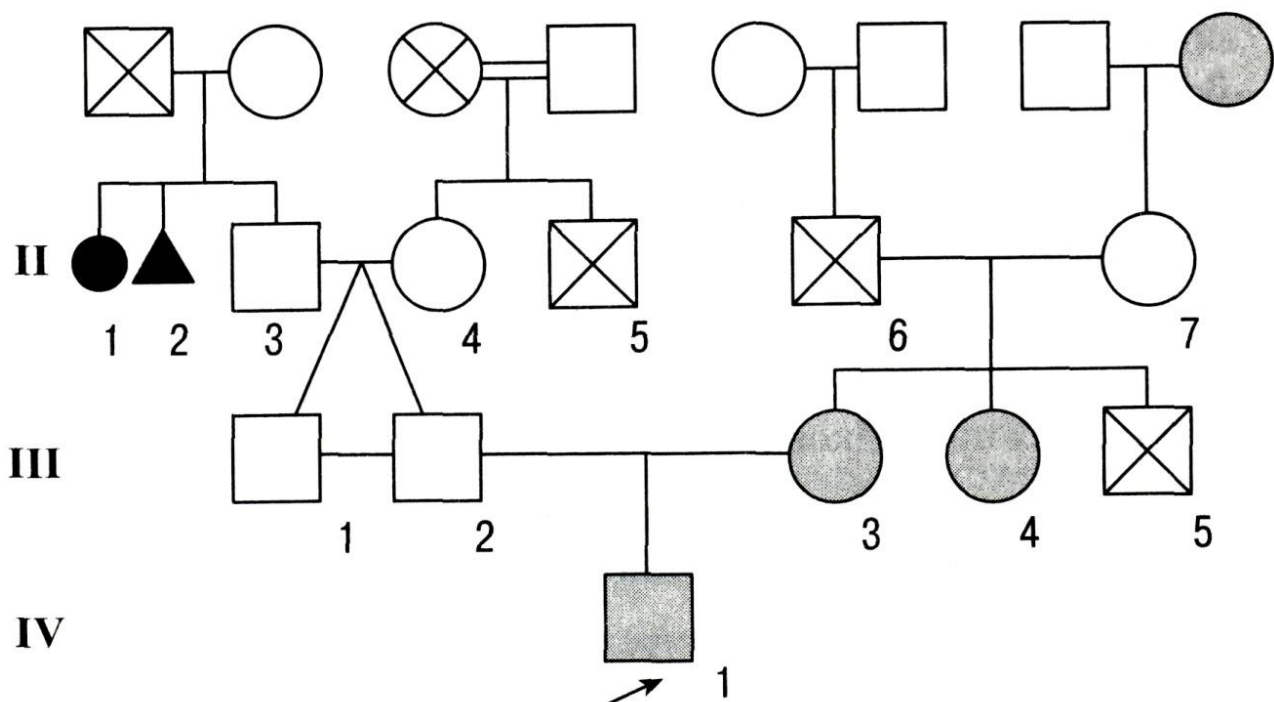


Fig. 1. Genetic map of a child: 2nd generation – grandparents; 3rd generation – father, mother, aunts, uncles; 4th generation – brothers, sisters (full and cousins); 1, 2, 3, 4, etc. – ordinal number within a generation

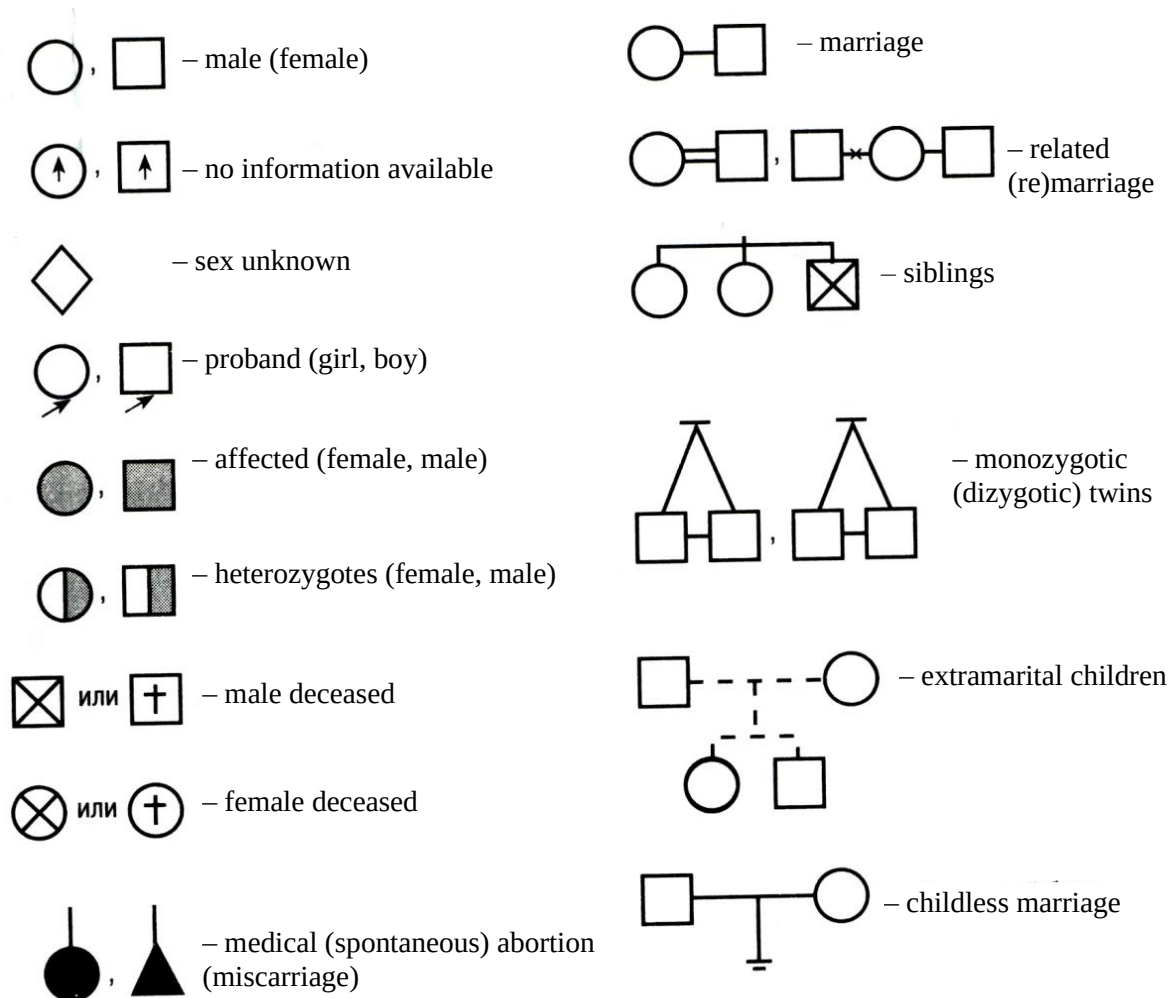


Fig. 2. Graphic symbols used in drawing up the map

Epidemiological history

- Contact with infectious patients in the last 3 weeks, including tuberculosis patients.
- Venereal diseases in the family.
- Viral diseases in the family.
- HIV-infected in the family.

IV. OBJECTIVE RESEARCH DATA

Status praesens (objective research data)

- General condition of the child (satisfactory, moderate, severe, extremely severe).
- The child's well-being (suffers, does not suffer, is impaired, is not impaired).
- Mood (even, calm, elated, excited, unstable).
- Reaction to examination (adequate, inadequate). Contact with surrounding children and adults, interest in toys are assessed.
- The position of the child (active, passive, forced).
- The patient's consciousness (clear, somnolent, stuporous, coma).
- During a general examination, establish the presence of congenital abnormalities in the child (stigma of dysembryogenesis).
- Facial expression (excited, suffering, frightened, indifferent).
- Body type (correct or incorrect; strong, average or weak; asthenic, hypersthenic).
- Sleep. Appetite.
- Body temperature.
- Skin: color and its disturbances (paleness, icterus, hyperemia, cyanosis), elasticity, moisture (increased, dry skin, peeling), rash, hemorrhages, scars. Skin appendages: hair, nails.
- Mucous membranes (color, cleanliness, moisture, hemorrhages, plaque, rashes).
- Subcutaneous fat layer: uniformity of distribution, thickness, compaction, edema (their localization and prevalence), tissue turgor.
- Lymph nodes: localization (cervical, submandibular, occipital, inguinal, etc.). Size, shape, consistency. Mobility, soreness.
- Muscular system. The degree of development of muscle mass is weak, average, good. Atrophy, malformations. Muscle tone is normal, hypotension, hypertension, presence of contractures. Motor activity (reduced, hyperkinesis).
- Skeletal system. Head shape (round, dolichocephalic, brachycephalic, deformations, etc.). Head size (microcephaly, macrocephaly, etc.). Condition of the anterior fontanelle (for children under one year). Facial part of the skull (bite, number of teeth, shape of teeth, their condition, etc.). Chest (shape, deformations, epigastric angle). Spine (curvatures – kyphosis, lordosis, scoliosis).

sis). Upper and lower limbs (length, symmetry, deformation). Clubbing of fingers. On palpation (pain, deformation, softening, thickening).

– Joints: deformation (specify which joints). Pain, crunching and fluctuation (specify which joints). Hyperemia of the skin and local increase in temperature in the joint area. Range of motion (full or partial). Stiffness, symmetry, etc.

Physical development of the child

Objective research	Atropometric data			
	Height, cm	Weight, kg	Circumference (heads, breasts), cm	
Upon admission				
On the day of curation				
Age standards				
Conclusion on physical development				

Research of the nervous system

– Cranial nerves (olfactory, taste, vision, hearing, vestibular apparatus). Facial muscles, swallowing. Speech and its disorders. Reading, writing.

– Motor sphere (determination of muscle tone and motor activity). Patient's gait. Coordination of movements.

– Sensitivity (tactile, pain, temperature, etc.).

– Reflex activity. Newborn reflexes (for children in the first 6 months of life). Reflexes from the mucous membranes (corneal, pharyngeal). Tendon and pathological reflexes.

– Autonomic nervous system (dermographism, vascular tone, cardiac activity, thermoregulation, innervation of smooth muscles, etc.)

– Function of higher nervous activity (thinking, memory, attention, speech).

– Meningeal symptoms (tension and bulging of the anterior fontanelle, rigidity of the occipital muscles, Kernig's, Brudzinski's, Lesage's symptoms (for children in the first year of life, etc.).

Respiratory organs

– During examination: the patient's position, his behavior. The condition of the skin and visible mucous membranes. The presence of the phenomenon of "drumsticks" or "watch glasses" and other signs of the disease.

– Nasal breathing (free, difficult, absent). Voice (aphonia, hoarse, etc.). Cough on examination, presence of sputum. Dyspnea (inspiratory, expiratory or mixed).

– Respiratory rate per minute (normal, bradypnea, tachypnea). Rhythm (rhythmic, arrhythmic).

– Type of breathing (thoracic, abdominal and mixed). Pathological types of breathing (chaotic, Biot, Kussmaul, Cheyne-Stokes).

– Chest (shape, arrangement of ribs, uniformity and participation in breathing).

– Palpation (resistance, soreness, thickness of the skin fold on both sides at the level of the angles of the shoulder blades). Vocal tremor.

– Topographic percussion: height of the apices of the lungs in front and behind, width of the Krenig fields, lower borders of the lungs on both sides, excursion of the lungs (depending on age).

– Percussion is comparative (clear pulmonary sound, box sound, dullness of percussion sound, dullness – with indication of localization).

– Auscultation: breathing (puerile, vesicular, bronchial, hard, weakened). Wheezing: dry, humming, buzzing, whistling, wet, small, medium and large bubbles; crepitation. Pleural friction rub indicating location and quantity.

– Bronchophony.

Circulatory organs

– External examination and palpation (pulsation of the carotid arteries, swelling and pulsation of the jugular veins, venous network, cardiac impulse, cardiac hump, pulsation in the epigastric region; apical impulse, its localization, strength, prevalence; "cat's purr"). Pulse on the radial artery, its characteristics – frequency per minute, synchronicity, filling, tension and rhythm.

– Percussion (boundaries of relative and absolute cardiac dullness).

– Auscultation: heart sounds, their clarity, purity, presence of accents, splitting of sounds, rhythm. Characteristics of systolic and diastolic murmurs – timbre, intensity, place of best listening, irradiation, duration, conductivity, dependence on changes in position and load. Pericardial friction murmur.

– Blood pressure.

– Functional cardiac tests in children over 5 years of age.

Digestive organs

– Examination of the oral cavity: mucous membrane (moist, dry, clean, color). Pharynx (color, plaque, back wall of the pharynx, tonsils). Tongue

(clean, moist, color, plaque, follicles, cracks, condition of papillae). Teeth (baby, permanent).

- Examination of the abdomen – shape and size of the abdomen, dilation of the veins of the anterior abdominal wall, visible peristalsis, divergence of the rectus abdominis muscles, condition of the navel and participation of the anterior abdominal wall in the act of breathing.

- Percussion of the abdomen (ascites, ballottement symptom, determination of the size of the liver according to Kurlov, spleen, Mendel's symptom).

- Superficial palpation of the abdomen (tension, pain, hyperesthesia, compactions, their presence and localization).

- Deep methodical palpation according to Obraztsov – Strazhesko: palpation of the sigmoid, cecum, ascending, transverse and descending colons. Palpation of the liver (the lower edge is sharp, rounded, soft, dense, painful, painless, the surface is smooth, bumpy, rough). Symptoms of Ortner, Murphy, Georgievsky – Mussy, Ker's point. Palpation of the stomach (pain, "splashing noise"), spleen, mesenteric lymph nodes, pancreas (Desjardins, Mayo – Robson points). Symptoms of Shchetkin – Blumberg and others.

- Auscultation (stomach size, severity of peristalsis).

- Condition of the anus (cracks, gaping, prolapse of the rectum).

- Feces (color, odor, consistency and pathological impurities).

Urinary organs

- Examination: presence of characteristic pallor, swelling, examination of the lumbar region.

- Palpation of the kidneys and along the ureters.

- Percussion of the upper border of the bladder. Percussion symptom.

- Frequency and characteristics of urination (pain, incontinence).

- Urine (external signs – color, transparency, mucus, sediment and pus).

Endocrine system

- Growth disorders (gigantism, dwarfism) and body weight (emaciation, obesity), distribution of subcutaneous fat layer.

- Thyroid gland condition (size of lobules and isthmus).

- Genitals, secondary sexual characteristics, degree of their expression.

- Other disorders of the endocrine system.

V. PRELIMINARY DIAGNOSIS AND EXAMINATION PLAN. TREATMENT PLAN. DIARY

Preliminary diagnosis

- Primary and concomitant diseases.
- Complications.

Patient examination plan

- Necessary additional diagnostic tests:
 - clinical and biochemical laboratory, instrumental, radiological and other tests;
 - consultations with specialists.

Results of additional research methods, their interpretation

Clinical diagnosis and its rationale

- Main, concomitant diseases (according to accepted clinical classifications), complications, their rationale.
- List of diseases for differential diagnostics (according to leading pathological syndromes).

Treatment plan with rationale for each prescription

- Regime:
 - strict bed rest;
 - semi-bed rest;
 - gentle;
 - training, general.
- Diet:
 - preparation of a daily menu in accordance with the child's age, nature and phase of the disease;
 - calculation of caloric content and food ingredients.
- Evaluation of the prescribed nutrition.
- Drug treatment (etiologic, pathogenetic, symptomatic) with justification of the pharmacodynamic action, doses, methods of administration of drugs, duration of use in a given patient, physiotherapeutic prescriptions.

Diary

Information about the patient's condition in the form of brief but comprehensive records reflecting the dynamics of the disease process.

Date	Temperature, pulse, respiration, blood pressure, body weight	Recording of observations in dynamics

APPLICATION

Complete blood count

Indicators	Age				
	Newborns	Chest age	Up to 5 years	5–12 years	Older 14 years old
Hemoglobin g/l	220–180	Up to 5 months – 120–150 Up to 1 year – 120–140 (not less than 110)		130–150 (not less than 120)	
Erythrocytes × 10 ¹² /l	7,2–4,7	4,2–4,8		5,2 (m) – 4,8 (d)	
Color indicator	0,9–1,1	0,8–1,0			
Reticulocytes 0/00	10–30	5–10	2,5–5		
Platelets × 10 ⁹ /l	180–400				
Leukocytes × 10 ⁹ /l	30–12	6–8 (4–9 is acceptable)			
Neutrophils %	1 day – 65 Day 5 – 45	up to 2 years – 25–30 At 5 years old – 45		It's increasing	65
Band %	1–5				
Segmented %	Subtract the number of band neutrophils from the age-specific number of neutrophils				
Eosinophils %	1,4				
Basophils %	0,5				
Lymphocytes %	1 day – 25 Day 5 – 45	up to 2 years – 60–65 At 5 years old – 45		It's decreasing	25
Monocytes %	6–10				
ESR mm/hour	0–2	204	4–10		

Biochemical blood test in children

Indicators	Age				
	newborn	chest	preschool	preschool	school
Protein, g/l	47–65	41–73	59–79	62–78	70–80
Albumin, g/l	23–46	20–50	40–50		
Globulins, g/l					
α1	0,9–3,2	1,2–4,4	1,0–4,0		
α2	2,4–7,2	2,5–11,0	5,0–10,0		
β	2,4–8,5	1,6–13,0	6,0–12,0		
γ	6,0–16	4,1–9,5	6,0–16,0		
Total lipids, g/l	1,7–4,5	2,4–7,0	4,5–7,0		
Triglycerides, mmol/l	0,2–0,86	0,39–0,93	0,39–0,93		
Phospholipids, mmol/l	0,65–1,04	1,17–2,08	1,3–2,2	1,4–2,3	1,8–3,3
Cholesterol, mmol/l	0,14–0,42	1,6–4,9	3,7–6,5		
Urea, mmol/l	2,5–4,5	3,3–5,0	4,3–7,3		
Uric acid, mmol/l	0,14–0,29	0,14–0,21	0,17–0,41		
Residual nitrogen, mmol/l	14,6–22,8	17–28	19–29		
Creatinine	35–110				
Seromuroid	0,13–0,20				
Thymol test, U	0–6,5				
C–reactive protein	negative				
Amylase, ED	4–64				
ALT,ED	up to 40				
AST, ED	up to 40				
Total bilirubin, μmol/l	up to 102,6	3,4–20,7			
Direct bilirubin, μmol/l	4,3–12,8	2,05–5,1			
Indirect bilirubin, μmol/l	12,8–55,2	6,5–15,4			
Glucose, mmol/l	1,6–4,0	2,8–4,4	3,3–5,5		
Potassium, mmol/l	4,7–6,66	4,15–5,76			
Sodium, mmol/l	135–155	133–142	125–143	137–147	
Total calcium, mmol/l	2,3–2,5	2,5–2,8			
Inorganic phosphorus. mmol/l	1,78	1,29–2,26	0,65–1,62		
Iron, μmol/l	5,8–19,0	3,9–14,5	9,3–33,6		
Chlorides, mmol/l	96–107				
ASL–0	50–250				
Alkaline phosphatase, U	Up to 150	Up to 644			

General urine analysis

Indicators	Age			
	Newborns	Chest age	Up to 5 years	Older 5 years
Color	dark red, then colorless	colorless after the introduction of complementary foods – straw-yellow		
Transparency	cloudy, then clear	transparent		
Reaction (pH)	slightly acidic 5,5–6	breastfeeding – 7–8 artificial feeding – 5,5–6	slightly acidic – 5–7	
Specific gravity	1,018	1,002–1,005	1,010–1,015 (1,020)	1,010–1,25
Protein	(–) or not more than 0,033‰			
epithelial cells	flat – up to 2–4 in the field of view (significant in boys) polymorphic – up to 2–4 in the field of view renal – neg.			
Leukocytes	1–3 in the field of vision (up to 5 in the field of vision is acceptable for boys and up to 10 in the field of vision for girls)			
Erythrocytes	0–2 in p/z			
Cylinders	hyaline and cylindroids – not >1–3 in the field of view			
Salts	(+) – (++)			
Mucus	May be	–		

Urine analysis in children according to Zimnitsky. Normal.

Portion urine No.	Time (hour)	Amount of urine (ml)	Specific gravity	Diuresis
1	9.00	100	1030	Daytime diuresis DD = 700 ml
2	12.00	150	1020	
3	15.00	200	1016	
4	18.00	250	1020	
5	21.00	150	1018	
6	24.00	100	1016	Night diuresis ND = 500 ml
7	3.00	70	1020	
8	6.00	180	1028	
				Daily diuresis = = 1200 ml

Number of formed elements in urine

Method	Leukocytes	Erythrocytes	Hyaline casts
According to Nechiporenko	no more than 400	no more than 1000	no more than 200
According to Amburg	no more than 400	no more than 1000	no more than 200
According to Addis-Kakovsky	no more than 4,000,000	no more than 1,000,000	no more than 20,000

Coprogram

Macroscopic examination		
1	Form	when breastfeeding – mushy when bottle-fed – putty-like for children over 1 year old – formalized
2	Consistency	when breastfeeding – soft, homogeneous when bottle-fed – thick in children over 1 year old – dense
3	Color	when breastfeeding – orange-yellow when bottle-fed – whitish for children over 1 year old – brown
4	Smell	when breastfeeding – sour with artificial feeding – sharp in children over 1 year old – moderate fecal
5	Mucus	No
6	Pus	No
7	Blood	No
Microscopic examination		
1	Connective tissue	(–) (+) (++)
2	Muscle fibers	(–) (+) (++)
3	Neutral fat	(–) (+) (++)
4	Fatty acids	(–) (+) (++)
5	Soaps	(–) (+) (++)
6	Undigested fiber	(–) (+) (++)
7	Overcooked fiber	(–) (+) (++)
8	Starch	(–) (+) (++)
9	Mucus	No
10	Leukocytes	1–4 in p/z
11	Erythrocytes	1–2 in p/z
12	Epithelium	2–4 in p/z
13	Protozoa	No
14	Worm eggs	No

Cerebrospinal fluid parameters

Color – colorless (xanthochromic in newborns)

Transparent

Pressure – 130–180 mm H₂O (80 mm H₂O up to 6 months)

The speed of drops from the needle is 40–60 per 1 min

Cytosis – 0,002–0,008 × 10⁹/l

Lymphocytes – 80–85 %

Neutrophils – 3–5 %

Protein – 0,25–0,33 g/l (0,33–0,5 g/l up to 3–6 months)

Pandy reaction – (–) (up to 6 months (+)–(++)) due to large amount of protein)

Condition after puncture – headache, if a large amount is taken – vomiting.

Blood pressure

In newborns – 59–71 and 30–40 mmHg.

1–12 months – 85–100 and 35–45 mmHg.

In older children: systolic pressure – $90 + 2n$

diastolic pressure – $60 + n$, where n is the child's age.

Pulse rate in 1 minute

Newborn – 120–140 (up to 160)

Breast period – 120

5 years – 100

10 years – 85

12 years – 80

15 years – 70–85

Respiratory rate per minute

Newborn – 40–60

Up to 1 year – 30–35

5 years – 25

10 years – 20

Over 12 years old – 20–16

Assessment of the condition of a newborn child using the Apgar scale

Clinic	0 points	1 points	2 points
Coloration of the skin	General pallor or general cyanosis	Pink coloration of the body and bluish coloration of the limbs	Pink coloration of the Whole body And limbs
Heart rate per 1 minute	absent	<100	>100
Reflex excitability	absent	The reaction is weakly expressed (grimace, movement)	Reaction in the form of movement, coughing, sneezing, loud screaming
Muscle tone	Absent, limbs drooping	Reduced, some flexion of the limbs	Active movements are expressed
Breathing	absent	Irregular, weak cry, hypoventilation	Normal, the scream is loud

Assessment of the condition on the Apgar scale

The assessment is carried out 2–3 times depending on the situation.

– If the baby received from 7 to 10 points in the first minutes of birth, this is considered normal, a repeat assessment occurs after 5 minutes.

– If the newborn receives below 7 points, the child requires mandatory observation by specialists and a repeat assessment after 5 and 10 minutes.

– If the score is 3 or lower, this is a reason to begin the necessary resuscitation measures and save the baby.

Sizes of abdominal organs in children according to ultrasound examination results

Liver	
Right lobe	Left lobe
1 year – 60mm, each last year + 6 mm; 15 years – 100 mm; 18 years – 120 mm	–33–40 mm each. Last Year + 2 mm – – 50 + 1,5 mm – 50 + 1,5 mm

Normal gallbladder size

Age	Length (mm)	Width (mm)
2–5 age	50,5 + 1,5	17
6–8 age	61 + 2,3	18
9–11 age	64 + 1,6	23
12–16 age	64 + 1,5	24
Wall thickness: Children up to 1mm; adults – 3mm		

Normal pancreas size

Age	Head(mm)	Body(mm)	Tail(mm)
before 1 month.	10 + 4	6 + 2	10 + 4
1month. – 1year	15 + 4	8 + 3	12 + 4
1 year – 5 year	17 + 3	10 + 2	18 + 4
6 year – 10 year	16 + 4	10 + 3	18 + 4
11 year – 18 year	20 + 5	11 + 3	20 + 4

Normal spleen size in children

Age	L (mm)	D (mm)
newborns	40	38
1–3 year	68	50
3–7 year	80	60
8–12 year	90	60
12–15 year	100	60
adults	120	60
V. lienalis d = 5 mm – 6 mm; no more than 9 mm S of the spleen in the norm = 40 – 45 cm		

The table shows the average normal kidney sizes in ultrasound examination in children, depending on age

	Left kidney	Right kidney
<i>Newborns</i>		
Length	36,2–60,7	36,9–59
Width	14,1–26,9	13,7–29,4
Thickness	13,6–27,4	16–27,3
<i>From 3 to 6 months</i>		
Length	47–72	45,6–70
Width	17,2–31	18,2–31,8
Thickness	19–30,6	19,1–30,3
<i>1–3 year</i>		
Length	54,7–82,3	55,6–84,8
Width	20,9–35,3	19,2–36,4
Thickness	20,4–31,6	12,2–34
<i>5–7 year</i>		
Length	66,3–95,5	67–99,4
Width	26,2–41	23,5–40,7
Thickness	23,7–39,5	21,4–42,6
<i>7–10 year</i>		
Length	66,7–103,3	71,2–103,6
Width	24,5–44,9	26–44
Thickness	23,9–39,5	27–41
<i>10–14 year</i>		
Length	74,4–113,6	74,4–116
Width	28–48,7	27,2–47,7
Thickness	25,5–43,1	27–46,3

Normal kidney sizes in ultrasound examination in children

Age of fetus/child	Size of the renal pelvis
31–32 weeks of intrauterine development	4 mm
36–37 weeks	7 mm
Newborn period	7 – 9 mm
Children over 3 years old	8 mm

The national calendar of preventive vaccinations

Age	Vaccination	Name of vaccination		
		Practically healthy children	Risk group	Risk group
24 hours	Against Engerix B, Combiotec V(1)	Against viral hepatitis B V(1)	Against viral hepatitis B V(1)	Against viral hepatitis B V(1)
3–7 days	Against BCG-M V	Against tuberculosis V	Against tuberculosis V	Against tuberculosis V
1 month	Against Engerix B, Combiotec V(2)	Against viral hepatitis B V(2)	Against viral hepatitis B V(2)	Against viral hepatitis B V(2)
2 months	Engerix B, Combiotec		V(3) against viral hepatitis B	
3 months	DPT, Infanrix, OPV V(1) against diphtheria, whooping cough, tetanus	V(1) against diphtheria, whooping cough, tetanus	V(1) against poliomyelitis V(1) against diphtheria, whooping cough, tetanus	V(1) against diphtheria, whooping cough, tetanus V(1) against poliomyelitis V(1) against Haemophilus influenzae infection
4,5 months	DPT, Infanrix, OPV	V(2) against diphtheria, whooping cough, tetanus B(2) against poliomyelitis	V(2) against diphtheria, whooping cough, tetanus B(2) against poliomyelitis	V(2) against diphtheria, whooping cough, tetanus V(2) against poliomyelitis V(2) against Haemophilus influenzae infection
6 months	DPT, Infanrix, OPV	V(3) against diphtheria, whooping cough, tetanus V(3) against poliomyelitis V(3) against viral hepatitis B	V(3) against diphtheria, whooping cough, tetanus V(3) against poliomyelitis V(3) against viral hepatitis B	V(3) against diphtheria, whooping cough, tetanus V(3) against poliomyelitis V(3) against viral hepatitis B, V(3) against Haemophilus influenzae infection

Age	Vaccination	Name of vaccination		
		Practically healthy children	Risk group	Risk group
12 months	MMR II, Priorix	V against measles, rubella, mumps	V against measles, rubella, mumps V(4) against viral hepatitis B,	V against measles, rubella, mumps
18 months	DPT, Infanrix, OPV	R(1) against diphtheria, whooping cough, tetanus R(1) against poliomyelitis	R(1) against diphtheria, whooping cough, tetanus R(1) against poliomyelitis	R(1) against diphtheria, whooping cough, tetanus R(1) against poliomyelitis R against Haemophilus influenzae infection
20 months	OPV	R(2) against polio	R(2) against polio	R(2) against polio
6 years	MMR II, Priorix	R against measles, rubella, mumps	R against measles, rubella, mumps	R against measles, rubella, mumps
6–7 years	Exhausted diphtheria tetanus vaccine	R(2) against diphtheria, tetanus	R(2) against diphtheria, tetanus	R(2) against diphtheria, tetanus
7 years	BCG	R against tuberculosis	R against tuberculosis	R against tuberculosis
14 years	Exhausted diphtheria tetanus vaccine, BCG	R(3) against diphtheria, tetanus R(3) against poliomyelitis R against tuberculosis	R(3) against diphtheria, tetanus R(3) against poliomyelitis R against tuberculosis	R(3) against diphtheria, tetanus R(3) against poliomyelitis R against tuberculosis
From 18 years	Exhausted diphtheria tetanus vaccine,	R against diphtheria, tetanus	R against diphtheria, tetanus	R against diphtheria, tetanus

Fontanelles of the newborn skull

Age, months	Average dimensions of the sides of the large fontanelle, mm
Age, months	Average dimensions of the sides of the large fontanelle, mm
0–1	26–28
1–2	22–25
2–3	23–24
3–4	20–21
4–5	16–18
5–6	16–18
6–7	16–16
7–8	14–16
8–9	14–15
9–10	12–14
11–12	5–8

Limits of relative cardiac dullness in children

Border	Age			
	up to 2 years	2–7 years	7–12 years	over 12 years old
Right	Right parasternal line	Medially from the right parasternal line	Midway between the right parasternal and right sternal lines	In the middle between the right parasternal and right sternal lines, closer to the latter, hereinafter – the right
Upper	2nd rib	Ii intercostal space	Iii rib	Iii rib and iii intercostal space
Left	2 cm outward from the left midclavicular line	1 cm outward from the left midclavicular line	0,5 cm outward from the left midclavicular line	On the left midclavicular line or 0,5 cm inward from it
Transverse dimension	6–9 cm	8–12 cm	9–14 cm	9–14 cm

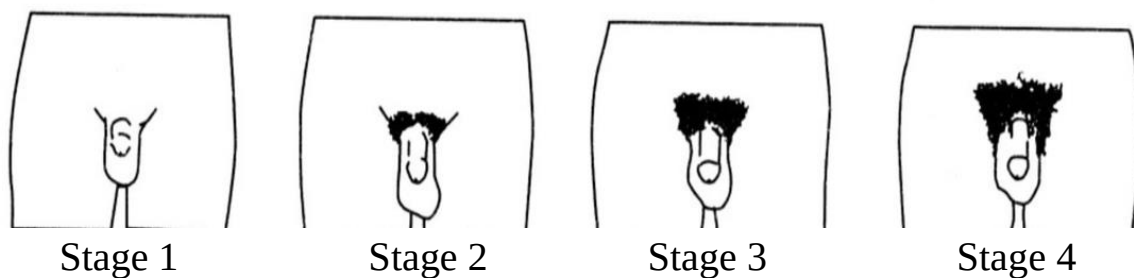
Lower borders of the lungs in children

Line	Right	Left
Midclavicular	VI rib	The lower border of the left lung along the midclavicular line is distinguished by the fact that it forms a notch for the heart and departs from the sternum at the height of the fourth rib and descends steeply downwards
Mid-axillary	VIII rib	IX rib
Scapular	IX–X rib	X rib
Paravertebral	At the level of the spinous process of the 11th thoracic vertebra	

Stages of puberty in boys (Tanner J., 1962)

Stage	Development of the genitals	Pubic hair
I	Penis and scrotum in children	Absent
II	Enlargement and hyperemia of the scrotum, no growth of the penis	Single straight hairs at the root of the penis
III	Growth of the penis in length, further enlargement of the testicles and scrotum	Hair growth extends beyond the pubic symphysis, hair darkens and curls
IV	Increase in penis diameter, further enlargement of testicles and scrotum, pigmentation of genitals, pollution	Hairiness as in an adult, but on a smaller area
V	The size and shape of the genitals are the same as those of an adult	Hair growth occupies the entire suprapubic area, extending to the abdomen and inner thighs

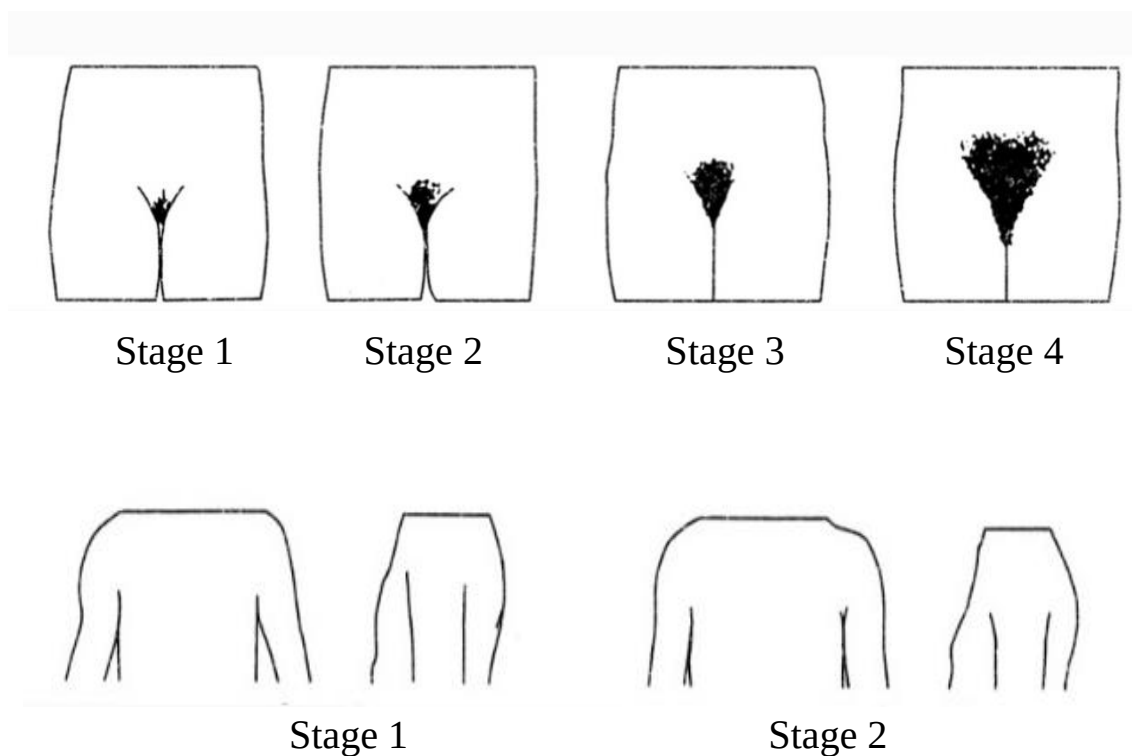
Scheme of sexual development in boys

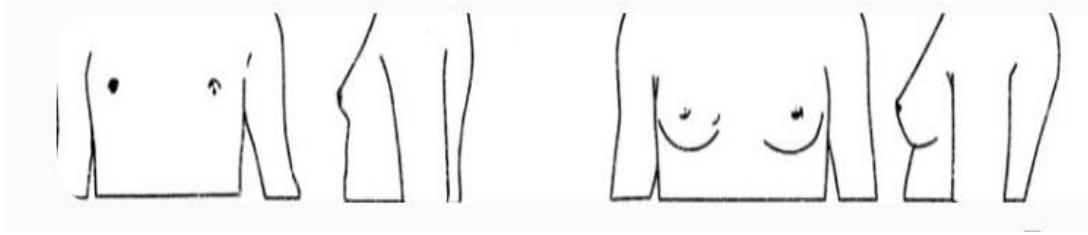


Stages of sexual development in girls (Tanner J., 1962)

Stage	Mammary glands	Pubic hair	Menses
I	The mammary glands are not developed, the nipple is raised	Absent	No
II	The gland and nipple are raised in the form of a tubercle, the diameter of the areola increases	Single straight hairs in the labia majora area	No
III	Enlargement of the gland and areola without separation of their contours	Curly pubic hair, like in adults, but on a smaller area	Menarche
IV	Protrusion of the nipple and areola with formation of a secondary tubercle	Female hair growth pattern	Ovulation
V	The mammary glands correspond to those of an adult woman.	Female hair growth pattern	Regular ovulatory cycles

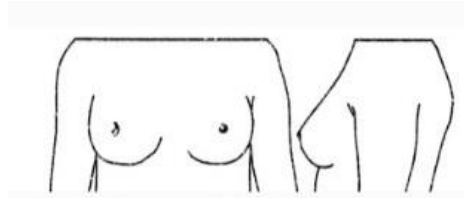
Scheme of sexual development in girls





Stage 3

Stage 4



Stage 5

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На английском языке

На обложке использовано фото из открытого источника:

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