New Born examination

DEPARTMENT OF PEDIATRICS

The primary examination of the newborn aims:

- Determination of gestational age of the newborn and compliance of this age
- The detection of pathologies newborn
- Establishing the presence of congenital anomalies of development.

Variants of gestational age:

- a) mature newborn (born between 37 and 42 weeks)
  b) premature infants (born until 36 weeks of gestation)
  c) newborn postmatur (born after 42 weeks of pregnancy)

- Newborn immature - baby born at term, with morphological and functional signs of prematurity

Status newborn within the first clinical examination in the delivery room:

- Apgar score;
- Criteria anthropometric (weight, height, head circumference and chest);
- Sex;
- Results of the first symptoms of urgent screening procedures.

Apgar score

TABLE 58–11. Apgar Score

Signs	Points 0	1	2
Heart rate	0	<100/min	>100/min
Respiration	None	Weak cry	Vigorous cry
Muscle tone	None	Some extremity flexion	Arms, legs well flexed
Reflex irritability	None	Some motion	Cry, withdrawal
Color of body	Blue	Pink body, blue extremities	Pink all over

Scream newborn (cry baby)

- It is estimated intensity (strong, weak, lacking), duration (short, long) modulation ("cephalic", aphonia, nazonate, "High Frequency") - emotional scream level "emotional" when applying the appropriate stimulant and pauses shortly after his action.

The skeletal system

- It begins with the external examination: the number of fingers assessment, their shape, their movements.
- Face examination
- Examination of hip-femoral joint

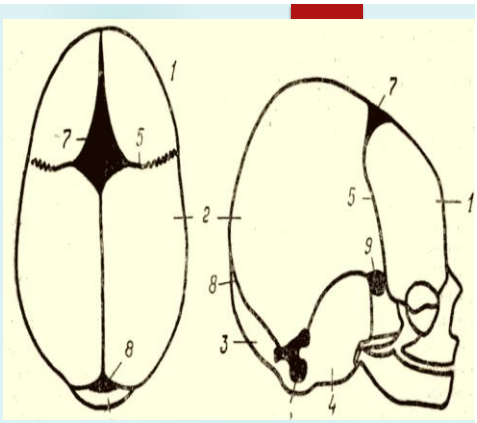
Skin and subcutaneous fat examination

- Newborn skin is hot to the touch, smooth, s
- Peculiarities skin healthy:
  -milia- tiny sebaceous retention cysts
  -crystalline millia
  -petechial hemorrhages in small quantities, telanghiectasia,lanugo
  -Mongolian spots
  - congenital pigmented nevi

Skin color

- In the first minutes after birth may be cyanotic skin or perioral cyanosis or acrocyanosis observed. After a sanitary toilet skin appears bright red coloration of them (physiological erythema). Rarely baby is born with pink skin.
- physiologic jaundice - the skin coloring jaundice (just hands and plants also keeps normal color sclera and mucous membranes) occurs in 60-70% newborns.

Head examination



- Form – brachy/ dolichocephaly, asymmetric skull "in turn" - oxycephaly.
- The perimeter of the head - usually measured 34-37 cm and is 2 - 3 cm higher than chest perimeter.
- Palpation head - determine the integrity of the cranial bones, bossa, presence of IVH - blood or cephalhematoma, subaponeurosis hemorrhage, cerebral hernia, infiltrates, abscesses, microcephaly, craniosynostosis, molding-asymmetry of the scull, resulting from the birth process.
- Findings fontanels and cranial sutures state.

Visual analyzer examination

- Responding to visual stimuly.
- For healthy newborns are characteristic:
  - fissure vents symmetry
  -transparent cornea, vineyard
  - living reaction to light
  - convergent strabismus and nystagmus may be unstable horizontal
  - exophthalmia and relaxed in premature
  - conjunctiva smooth, pink, bright
  - gaze at the second week of life

sense of smell examination

- on all approaches to the baby's nose smelling substance (drops lie, valerian tincture).
- Newborns and infants react to odors action dissatisfied by: eyelid closure, the grimace, scream, pulse and respiration intensifies.

Examination of the mouth

- We draw attention to the anomalies of development: micro-, macroglossia
- Relative macroglossia Pierre-Robin syndrome (mandibular underdevelopment occurs - micrognathia)
- heiloschizis (dehiscence upper lip, “cleft-lip")
- cleft palate (dehiscence hard palate, "cleft palate")

The auditory analyzer examination

- Excite the auditory reaction. Normal at 27-28 weeks of gestation baby respond by reflex action cohlear-palpebral auditory stimuli, startle, movements in the limbs, slowing breathing and heart rate.

Neck examination

- shortening of the sternocleidomastoid muscle, head position toward to affected side and muscle palpation (suspect torticollis)
- Examine the integrity of the clavicles
- the presence of cystic hygroma and fistulas
- Short neck "Pterygoid neck" in Turner ,Noonan and Klippel-Feil syndromes.

Chest examination

- Normal newborn chest is conical and symmetric.
- Pathological conditions are considered asymmetry of chest, or
- funnel-shape (pectus excavatum), the presence of pectus carinatum (protuberant sternum).
- Chest palpation
- Percussion
- Breath sounds- a good place to listen is in the right and left axillae, The presence of bowel sounds indicates a diaphragmatic hernia.

Assessment of respiratory status

- Breathing diminished.
- rales
- Wheezing
- Tachypnea
- Bradypnea
- Disturbance of respiratory rhythm
- Prolonged apnea without bradycardia is regarded as the equivalent of seizures (mostly in premature infants).

Findings of the cardiovascular system

- Heart murmurs in neonates may be associated with the following:
- In the first 24-48 hours of life 60-80% of all newborns have murmurs. usually systolic.
- Isolated diastolic murmur in newborns is rarely found, may be present in Ebstein disease with systolic murmur combination .
- A loud systolic murmur is common in ventricular septal defect, patent ductus arteriosus, tetralogy of Fallot, single ventricle, pulmonary stenosis.
- Newborns with congenital heart defects in the first days after birth have murmurs- persistent of fetal vessel circulation.

- The healthy newborn heart sounds are clear, rhythmical.

digestive system examination

- Developmental abnormalities of abdominal wall hernias.
  abdominal bloating
  Excavation abdomen
  asymmetry abdomen
  abdominal palpation- the liver can be 1-2cm below the costal margin and the spleen tip at the costal margin.
  Scaphoid abdomen can be seen with a diaphragmatic hernia
- Patent urachus- a communication between the blader and the umbilicus occurs, resulting in urine coming from the umbilicus.

Genito-urinary system

- Kidneys - can feel its only right kidney in normal.
- Examination the external genitalia.
- The girl - vaginal slit research
- The boys need to review: hypo-, epyspadia, deformation of the penis, inguinal hernia, cryptorchidism, hydrocele.

Examination of the lumbar region and buttocks:

- hypertrichosis in regulating the formation of the spine
  If on asymmetry adrenal hemorrhage
  Symptoms "punched the ball" on the lumbar region of the spinal cord damage.
  serious development defects (lack of limbs, fingers, etc.)
  -femoral hip joints - normal is not limited abduction and lateral side of the knee does not touch the examination table
  Limitation of abduction – a click of reduction and a click of dislocation are elicited in hip dislocation

The neurological examination of the newborn

- Communicative newborn
- The reaction to light
- Excite audible reaction
- Spontaneous motor activity
- The newborn grimaces

Findings symptomatic neurological

- Vegetative abnormalities
- Ophtalmic abnormalities
- Symptoms of nazo-labiale folds
- No reaction to auditory stimuly
- Newborn don't such
- Presence of paralyze

HOW appreciate reflexes

- It is recommended that each reflex Triple research.
- Reflex normal - reflex amplitude in all three cases is the same or slightly lower in the 3rd assessment.
- Low reflex - initial amplitude is low and remains in three test cases or whether decreases in subsequent tests.
- Exhausted reflex - normal reflex amplitude first test with the following test decrease or disappearance of reflex. In contrast, high-reflex amplitude or increase the extent of testing proves they reflex growth.

- What we should know before examining a newborn!!!!

Family history:

- ethnicity, socio-economic, age of the parents;
- all disorders are hereditary in the family, relatives;
- maternal exposure to various toxic factors;
- maternal blood group, and if possible - the father;
- mother somatic disorders;
- obstetric and gynecological history mother.

What are the conditions for the examination of newborn

- the child is examined in the first hours after birth
- temperature of the room where the newborn will be 24 - 26□ C
- examination is performed in the hatchery or on the table with heater, the newborn must be dry
- the child is examined in daylight or the light of day lamps
- Examiner hands must be dry and warm
- During the welcome for consideration - between feedings (usually after 30 min after feeding).

What we need to pay attention when examine a newborn?

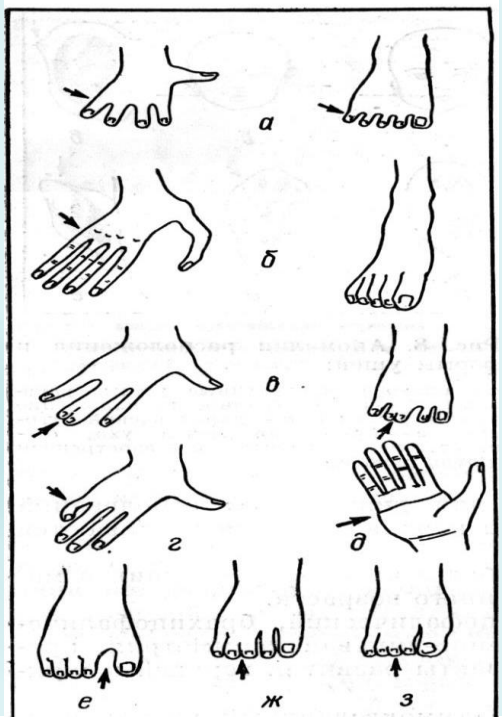
- The child has cyanosis?
- The baby has jaundice?
- There are no signs or microcirculation disorder,?
- Pretty perfect pink color is pronounced the skin are; pale indicates
- shock, anemia, or acidosis?
- No skin rash? There are traces of meconium?
- It's normal baby picture? No tremors or convulsions?

- No changes to the characteristic or there is any syndrome, for example, Daunism? Breathing is regular? E its normal frequency (40) and character? If you are going on the ventilator, breathing child's concurring with the regime after phase fan?
  They edema, inflammation focus, the child tends not to take a particular position (not to be changed)?
  If the abdomen is distended, peristalsis are sectors with or without, with regions with hyperemia?
- Review diapers, has been swaddled baby, be careful if there are traces of vomit, urine, blood, feces, which could indicate pathological changes.

- The pathological changes of skin color n / n are

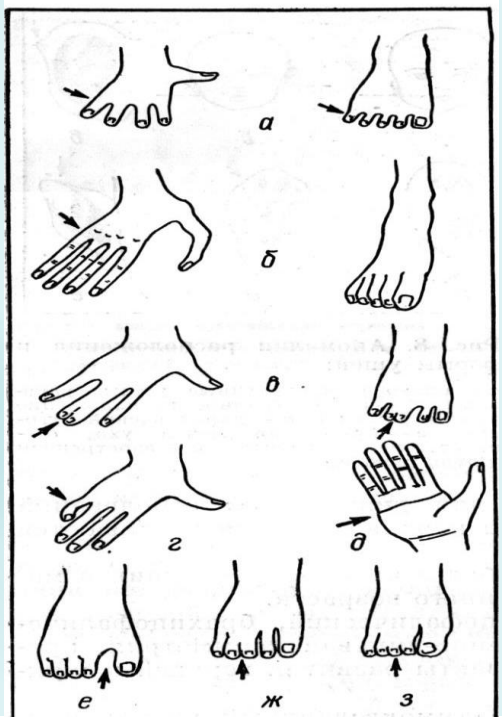
- General purpose central cyanosis
- Peripheral cyanosis.
- acrocyanosis
- Symptoms "harlequin"
- pale skin
- Greyish (earthy) skin
- pathologic jaundice
- mottled
- skin maceration

- What pathological positions of the hand know?



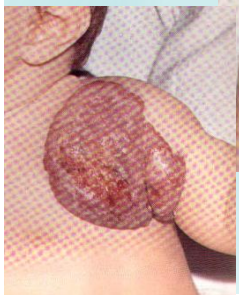
1. shaped hands "claw" - CNS
2. "Hand balance" - affecting the lower cervical spinal cord segments (Dejerine-Cliumpche)
3. the "monkey" hand (Aran-Duchenne atrophy) - Perinatal CNS damage of different genesis
4.Poziție pathological hand fingers - Patau syndrome II- IV, III - IV Edwards syndrome

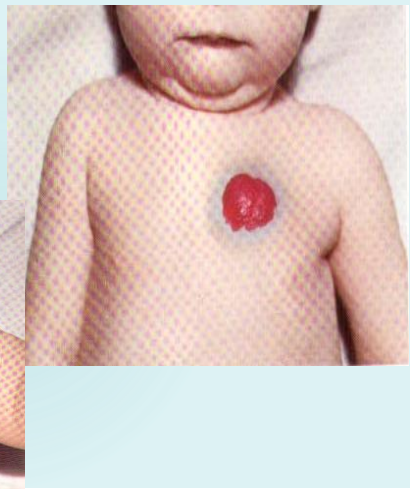
What pathological position of the plant do you know?

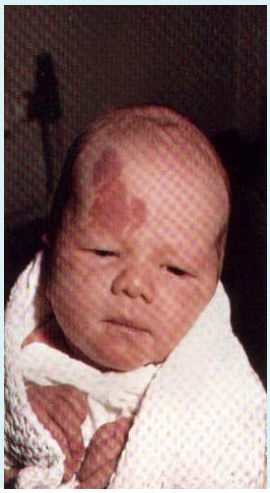


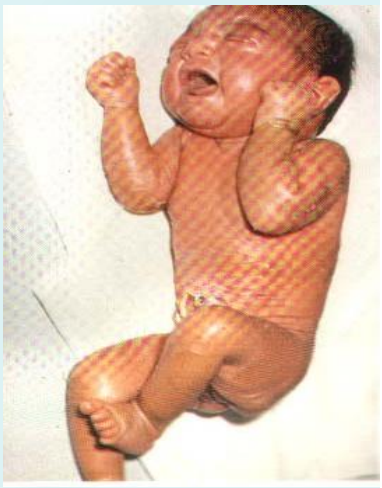
1.Varus - medial deviation of the plant at the foot axis
2.Valgus - lateral deviation of the plant at the foot axis
3. "Foot calcanean" - dorsal flexion of the plant
4. LIBRA foot - damage to the spinal cord segments affected lumbar nerve trunks or departing from these segments

Pathology of the skin

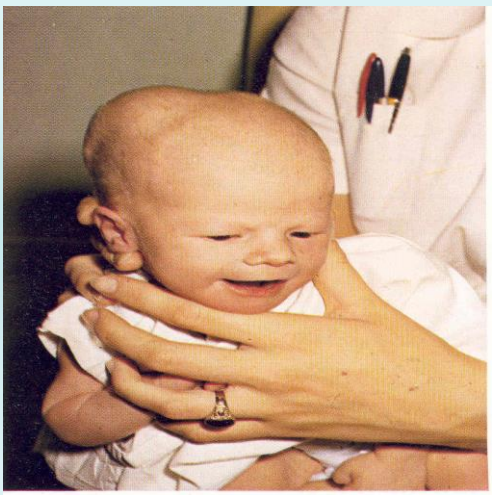


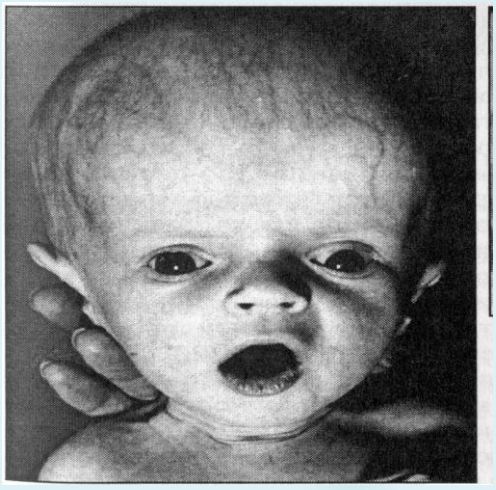






What pathology Is presents in this slide?





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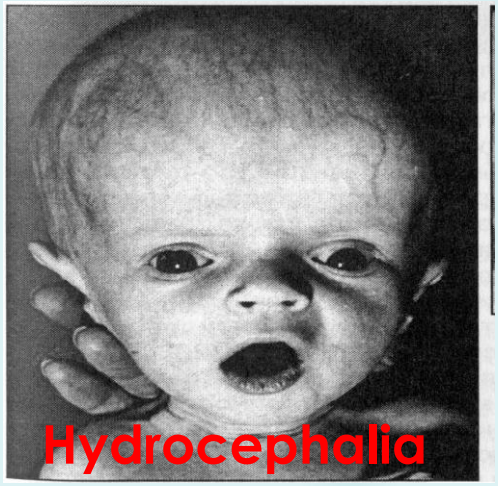
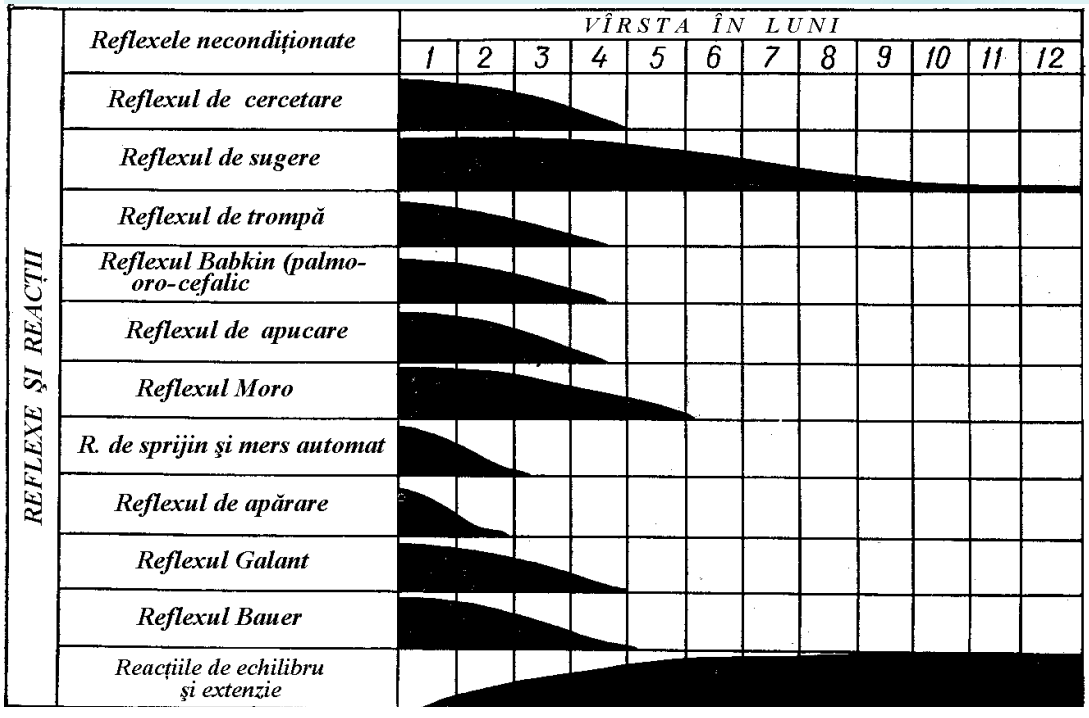


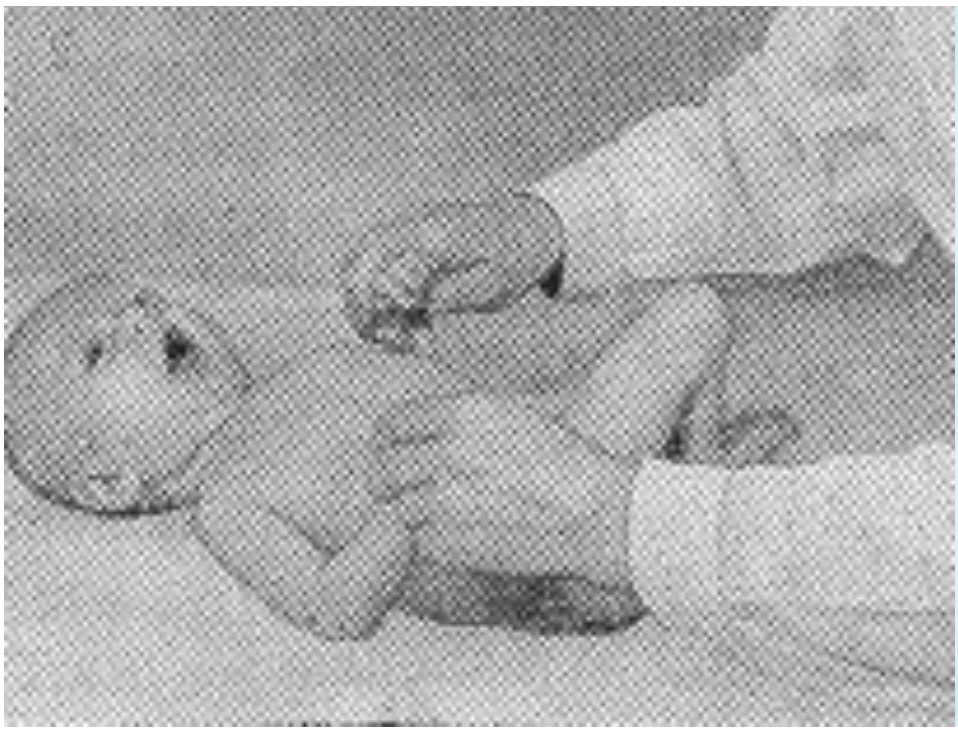
TABLE 179–1. CNS Reflexes of Infancy

Reflex	Description	Age of Appearance	Age of Disappearance	Origin in CNS
Moro	Sudden head extension causes extension followed by flexion of the arms and legs	Birth	4-6 mo	Brainstem vestibular nuclei
Grasp	Placing a finger in palm results in flexing of the infant's fingers, accompanied by flexion at elbow and shoulder	Birth	4-6 mo	Brainstem vestibular nuclei
Rooting	Tactile stimulus about the mouth results in the infant's mouth pursuing the stimulus	Birth	4-6 mo	Brainstem trigemina system
Trunk incurvation	Stroking the skin along the edge of the vertebrae produces curvature of the spine with the apex opposite to the direction of the stroke	Birth	4-6 mo	Spinal cord
Placing	Infant places foot on examining surface when dorsum of foot is brought into contact with the edge of the surface	Birth	4-6 mo	Cerebral cortex
Crossed extension	One leg held firmly in extension and the dorsum and sole of the foot stimulated results in a sequence of flexion, extension, and adduction, followed by toe fanning of the opposite leg	Birth	4-6 mo	Spinal cord
Tonic neck	With the infant supine, turning of the head results in ipsilateral extension of the arm and leg in a "fencing" posture	Birth	4-6 mo	Brainstem vestibula nuclei
Parachute	With the infant sitting, tilting to either side results in extension of the ipsilateral arm in a protective fashion	6-8 mo	Never	Brainstem vestibula nuclei
Landau	With the infant held about the waist and suspended, extension of the neck produces extension of the arms and legs	6-8 mo	15 mo-2 yr	Brainstem

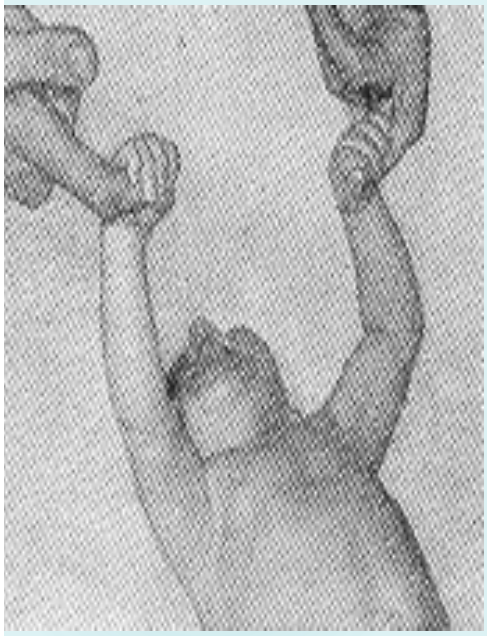
List the dynamics of unconditioned reflexes baby:



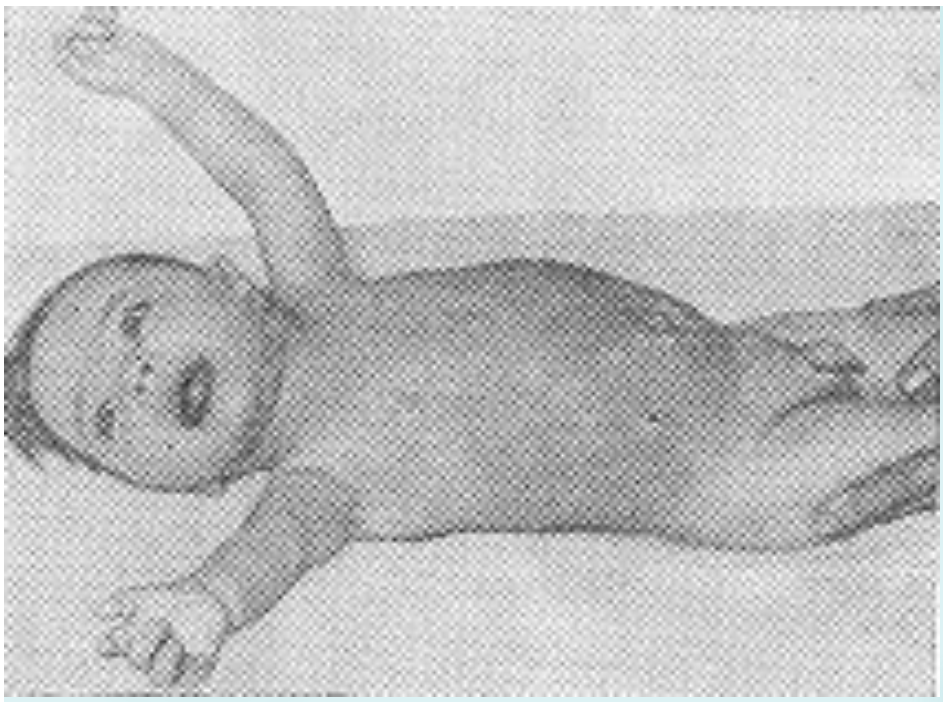
How to appreciate Babkin reflex



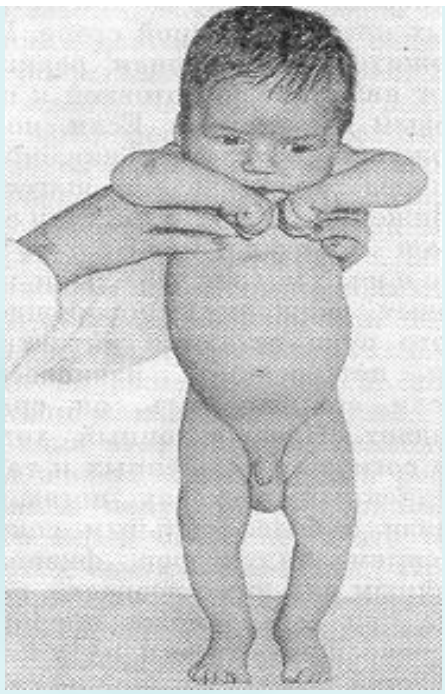
How to appreciate grasp reflex?



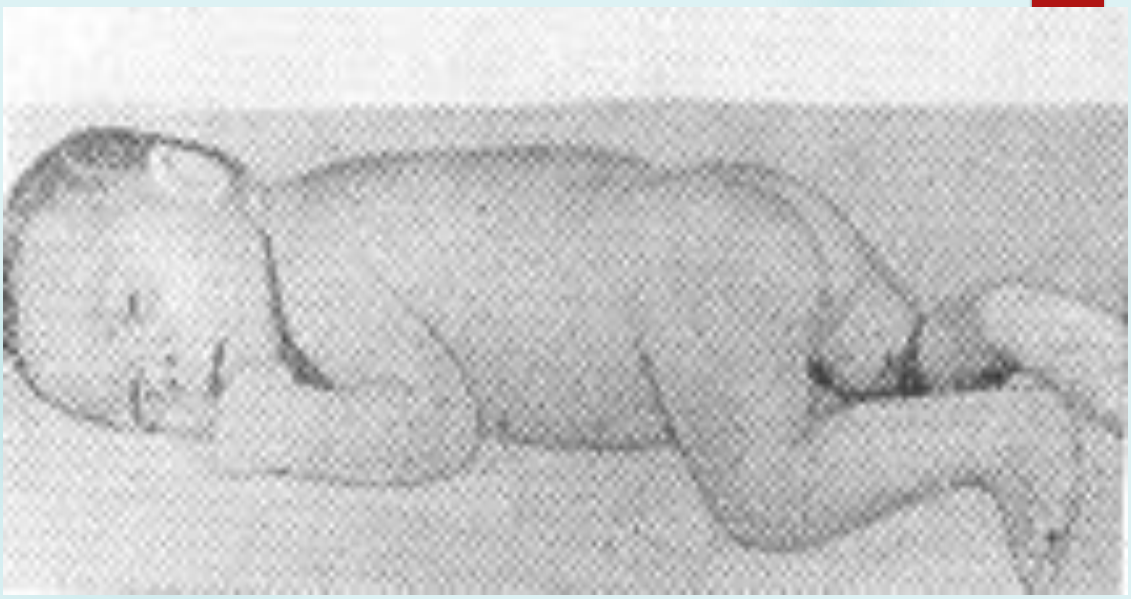
How to appreciate the Moro reflex?



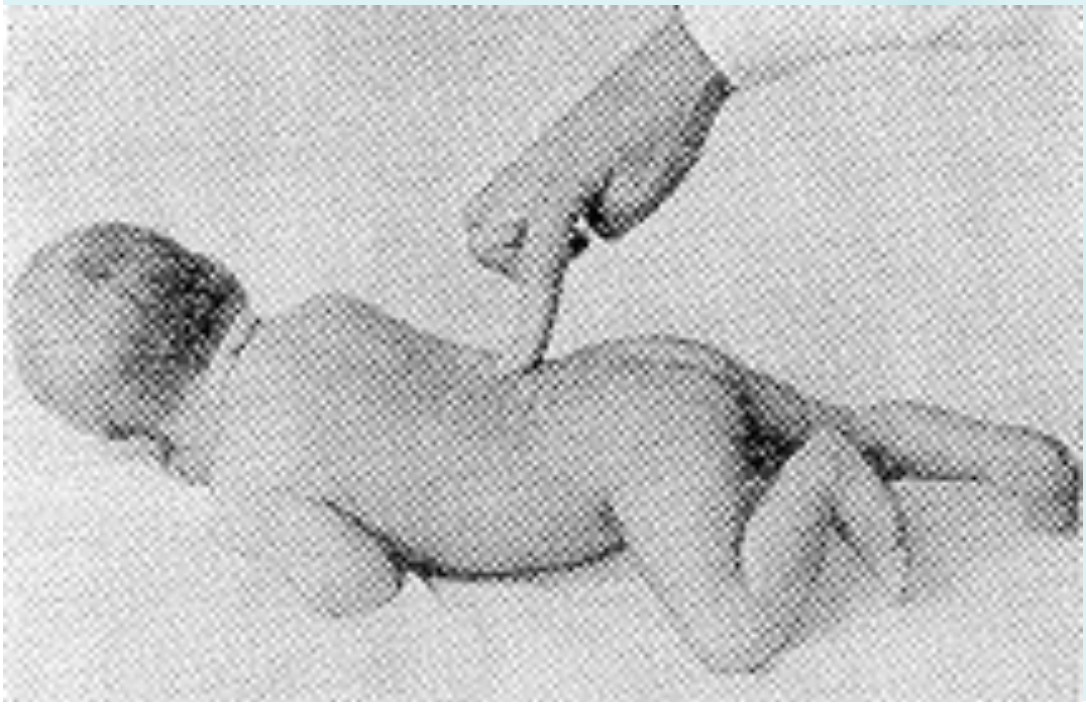
Stepping/walking reflex



How to appreciate reflex Galant



- How to appreciate reflex Peres



- How to appreciate reflex Bauer (crawl reflex)