DEVELOPMENTAL SCREENING TESTS & PAEDIATRIC OUTPATIENT CHECK-UPs.

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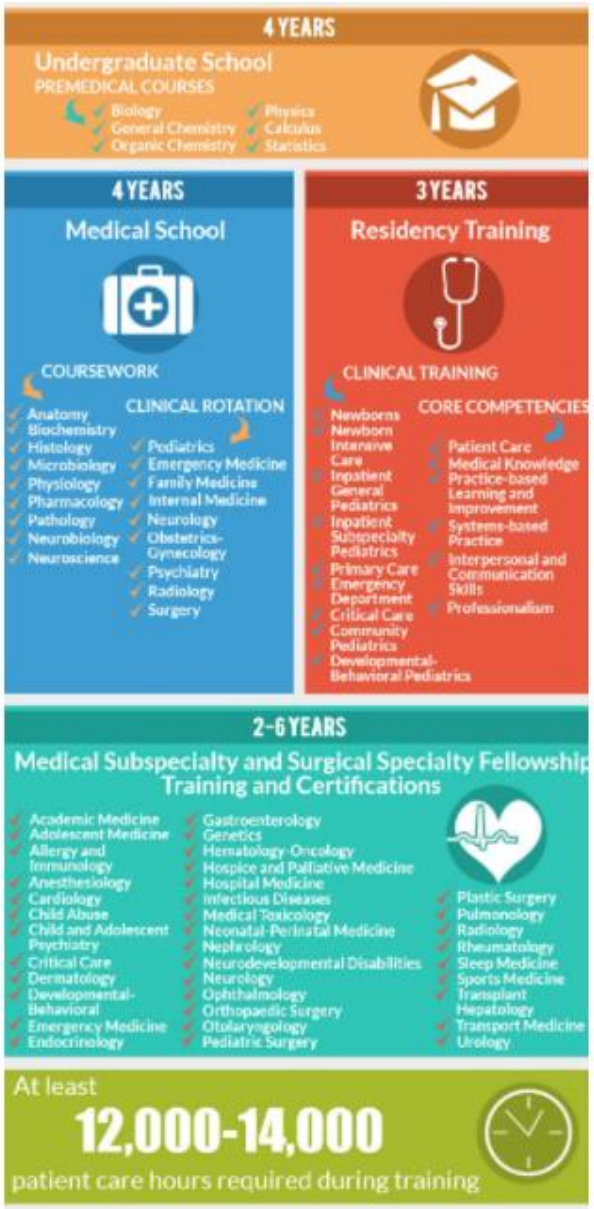
PAEDIATRICIAN



- Interesting speciality, intense training
- Primary care
- Vaccinations
- Developlemtal scrining visits
- Intensive care
- Emergency medicine

What does a pediatrician do?

A paediatrician is a child's physician who provides not only medical care for children who are acutely or chronically ill but also preventive health services for healthy children. A peadiatrician manages physical, mental and emotional well-being of the children under their care at every stage of development, in both sickness and health.

→PROPHYLAXIS CHECK-Ups IN PAEDIATRICS!

OBJECTIVES
regular developmental screening

- Physical assessment of the child
- Phychomotor assessment
- Child's achievements and miles stones
- Feeding
- Vaccinations
- Family aassessment/ relations/ abuse& neglect / support by special services
- Education& prophylaxis

ELEMENTS

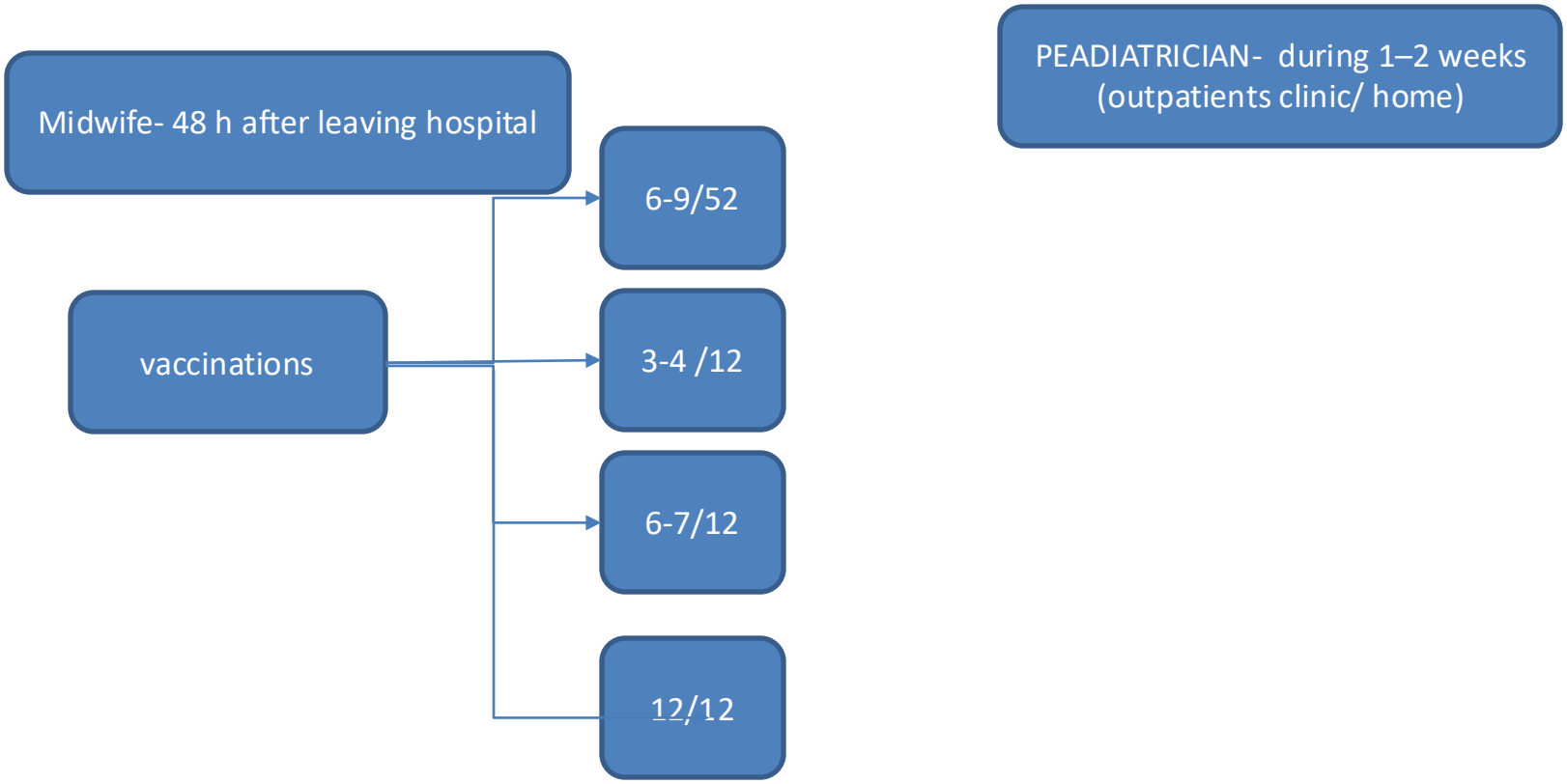
- HISTORY TAKING
- PHYSICAL EXAMINATION
- SCRINING TESTS
- ADDITIONAL TESTS& CONSULTATIONS

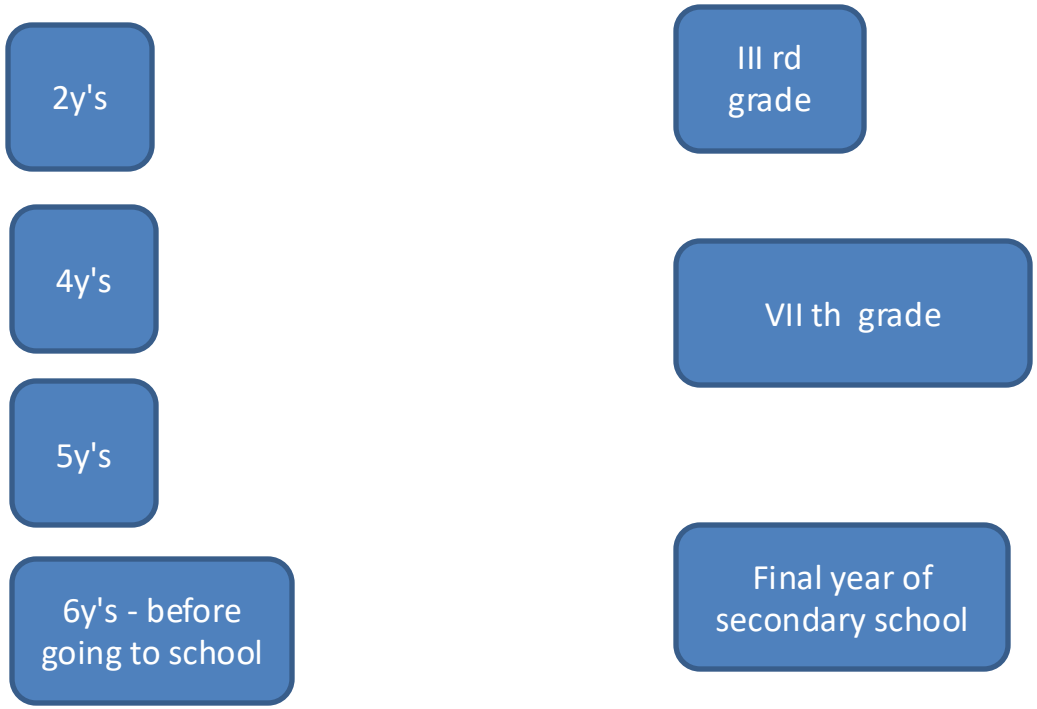
TESTS

- Growth & weight
- BP
- EYE tests
- HEARING tests
- Vaccination

- Others: cognitive functions, self- service, family bonds/support

CHECK-ups

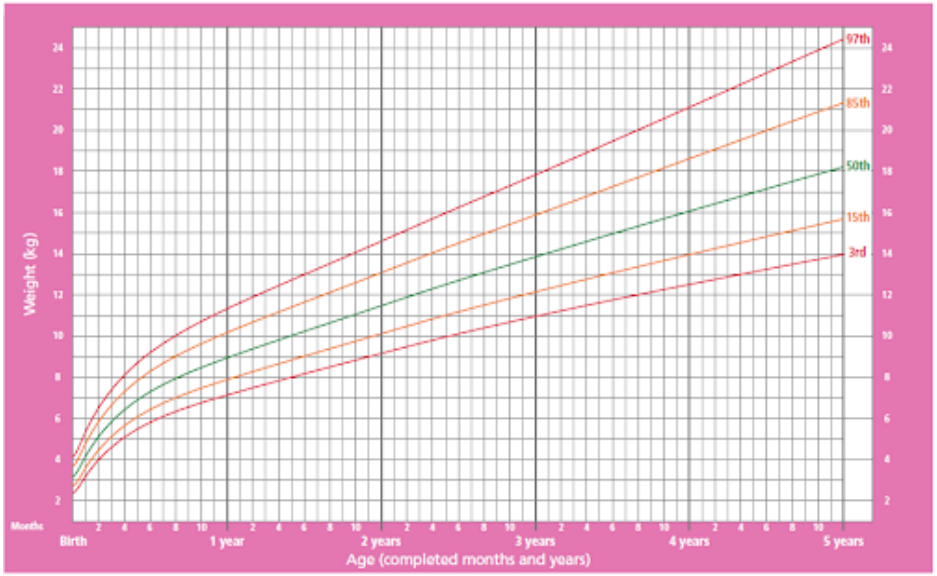

Midwife- 48 h after leaving hospital
vaccinations
6-9/52
3-4 /12
6-7/12
12/12
PEADIATRICIAN- during 1–2 weeks
(outpatients clinic/ home)


2y's
4y's
5y's
6y's - before going to school
III rd grade
VII th grade
Final year of secondary school

Weight-for-age GIRLS

Birth to 5 years (percentiles)

World Health Organization

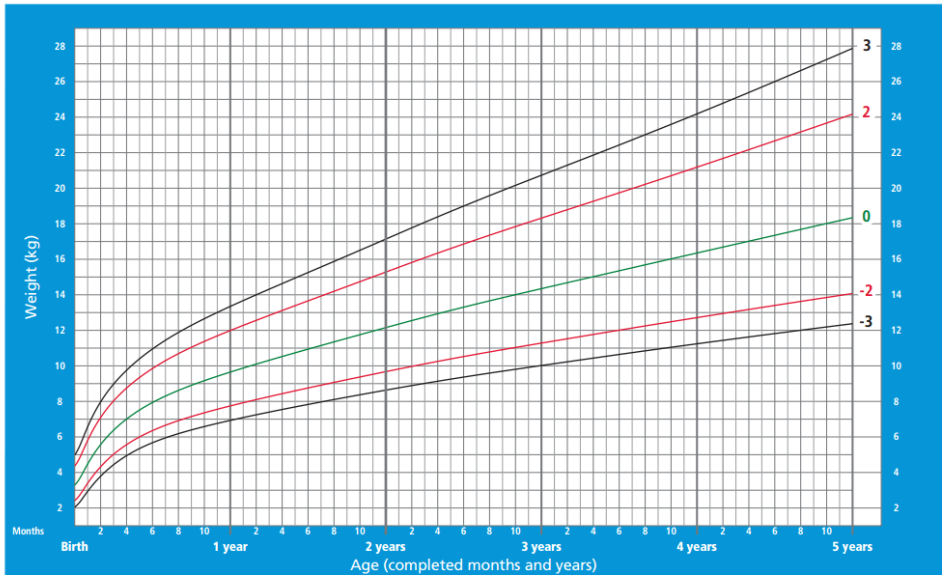


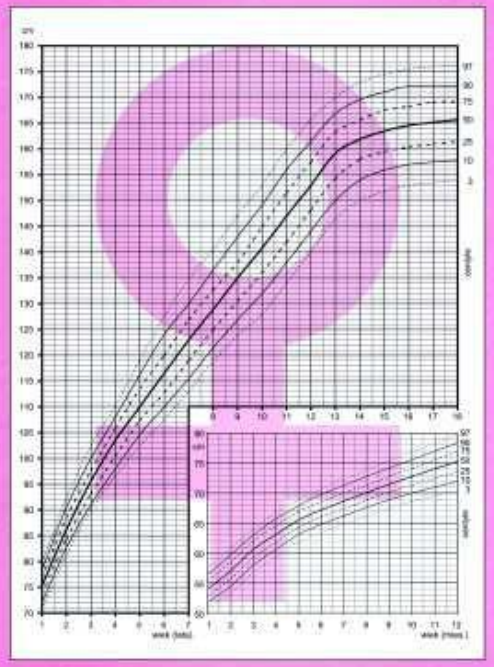
WHO Child Growth Standards

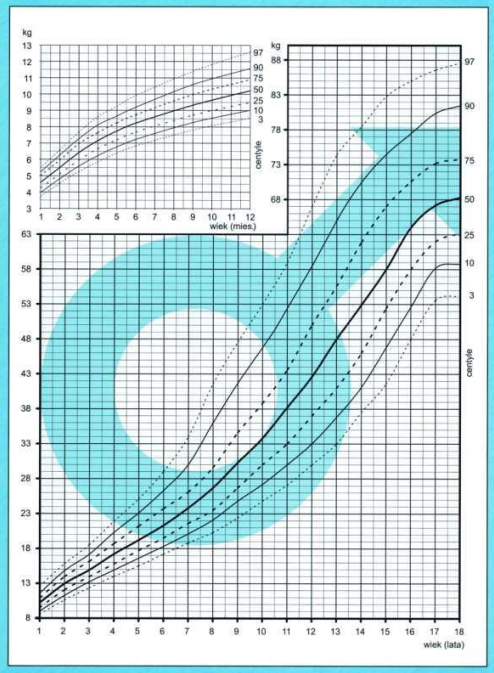
Weight-for-age BOYS

Birth to 5 years (z-scores)

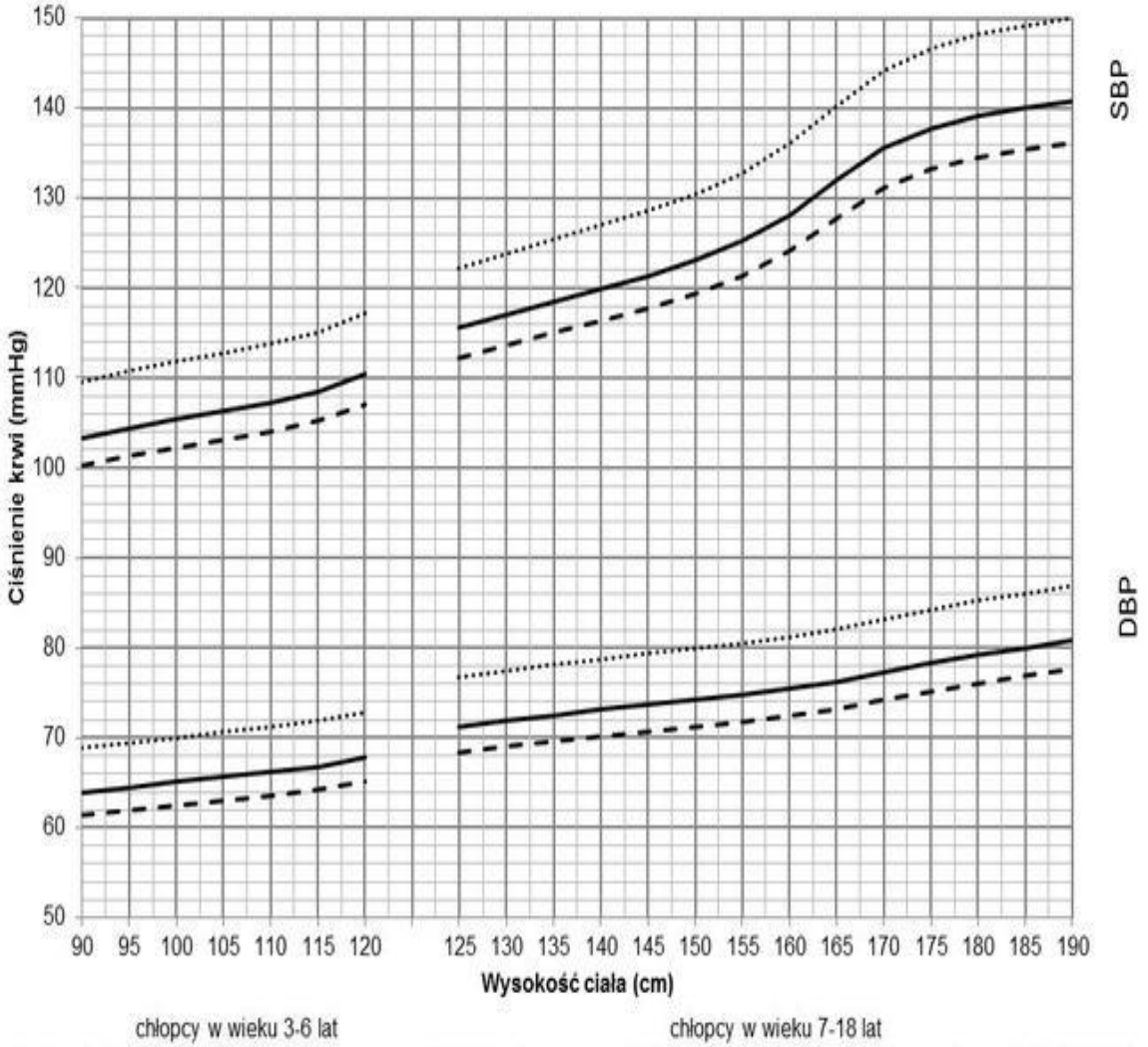
World Health Organization







Blood preassure



Rycina 4. Centyle ciśnienia krwi: skurczowego (SBP) i rozkurczowego (DBP) chłopców wg wysokości ciała; badania OLAF i OLA w latach 2007-2012; centyl 90-linia przerywana, centyl 95-linia ciągła, centyl 99-linia kropkowana. Źródło: Standardy Med. Pediatria 2013;10:22-30

Skeletal system

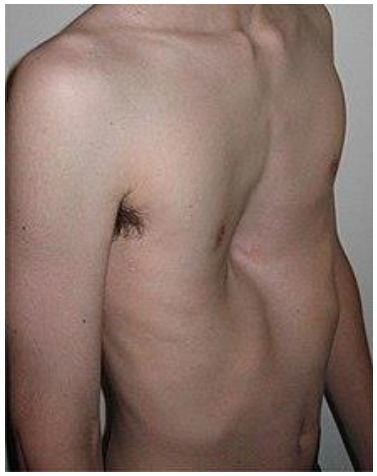
Skeletal system

- **Congenital hip dysplasia**
- **Skoliosis**
- **Posture**
- **Erb’s palsy**

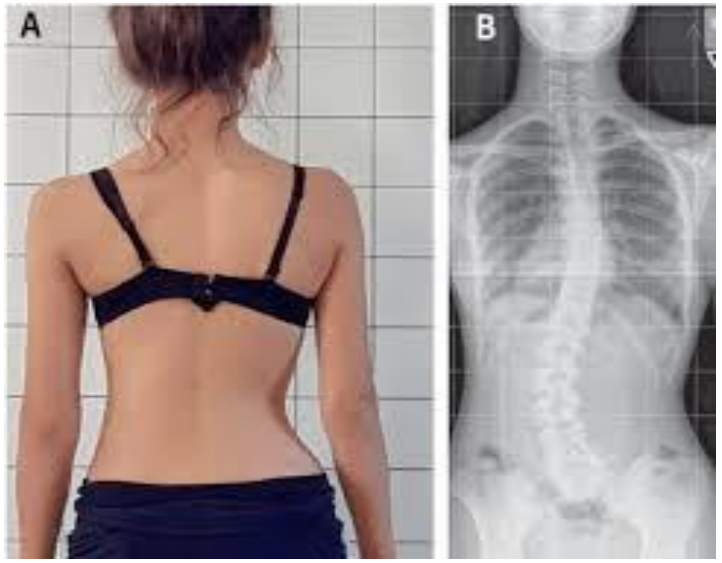
Posture

PHYSICAL EXAMINATION OF THE SKELETAL SYSTEM

1. **Inspection**
2. **Palpation**
3. Percussion
4. Auscultation



Funnel chest (pectus excvatum)



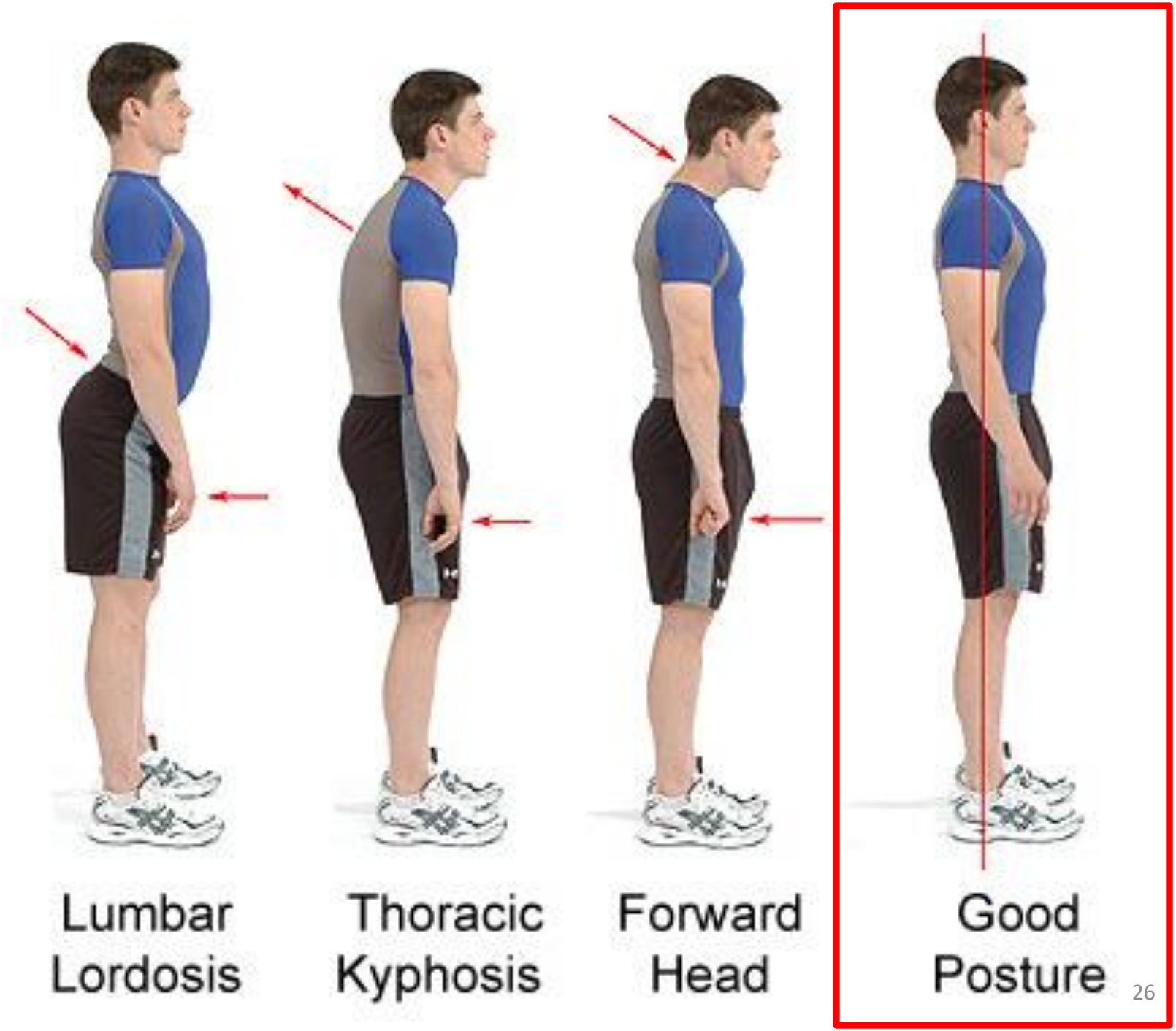
scoliosis

Bates' Pocket Guide to Physical Examination and History Taking, Lynn S.Bickley

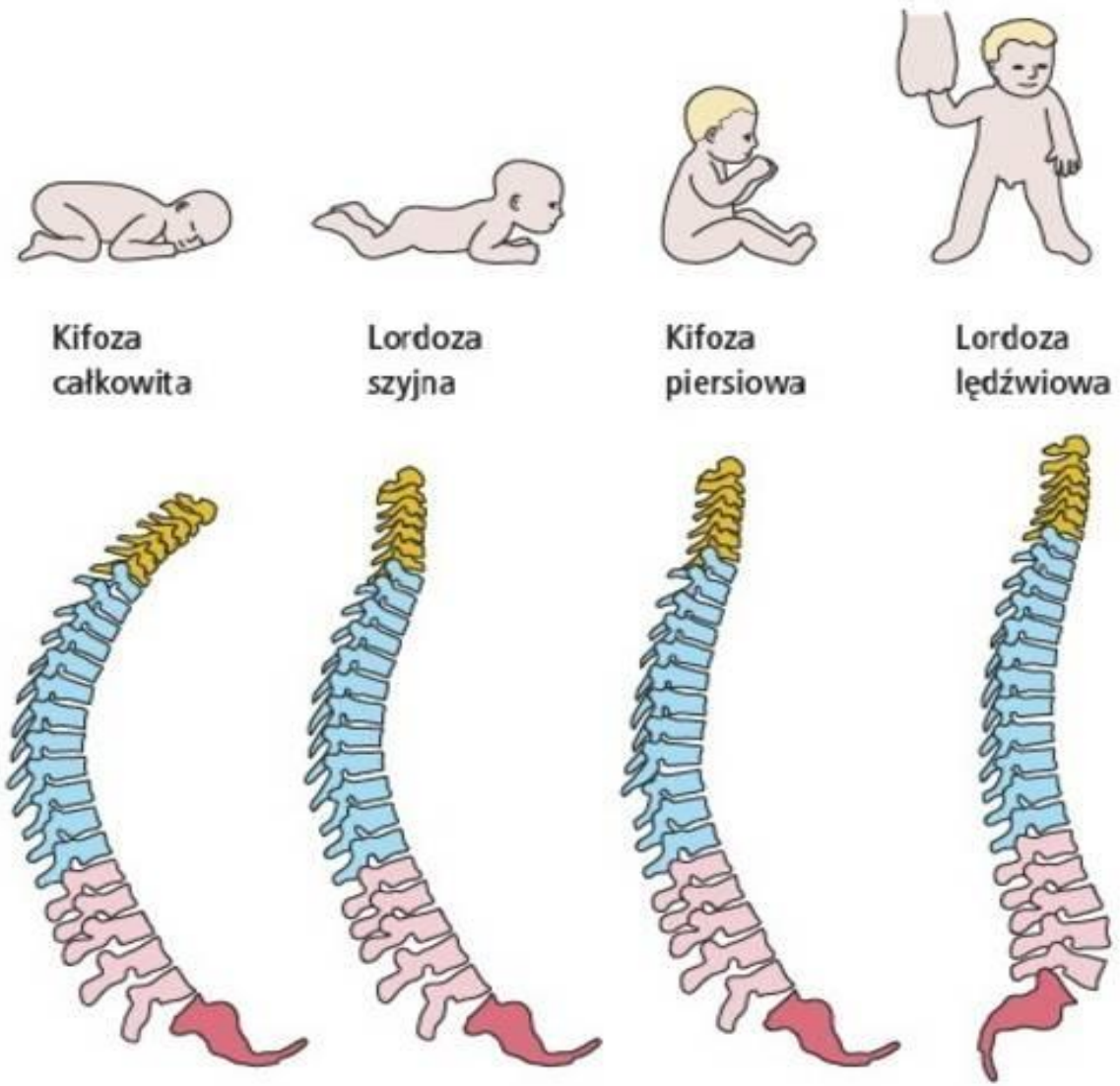
Inspection

1. **Posture:**

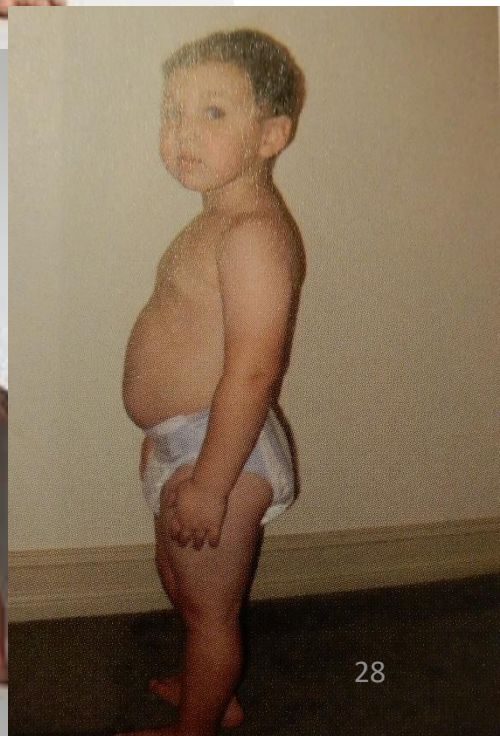
- Position of the head
- Position of the shoulders
- Position of the pelvis
- Shape of the chest
- Physiological curves of the spine (normal ranges for age!)- saggital plane
- Skoliosis?- transverse plane
- Position of kness and feet
- Proportion & appearance of the body parts


Lumbar Lordosis
Thoracic Kyphosis
Forward Head
Good Posture

Physiological curves of the spine -SAGGITAL PLANE

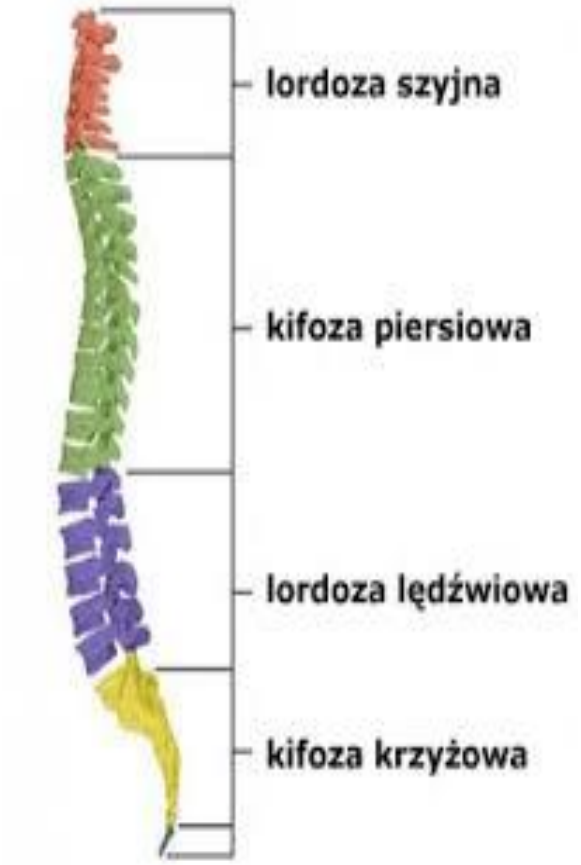


Is this posture normal in children?



Physiological curves of the spine SUMMARY

- **Cervical lordosis** – begins to form when a head in kept upright , formed- 6/7 years of age
- **Thoracic kyphosis**– formed 6/7 years of age
- **Lumbar lordosis**– begins to form whith the chils's first steps, formed- teenagers
- **Sacral kyphosis**



Common posture abnormalities in children

Pathological kyphosis

Kyphosis refers to a roundback deformity or to increased angulation of the thoracic or thoracolumbar spine in the sagittal plane

1. Scheuermann's disease (structural kyphosis)

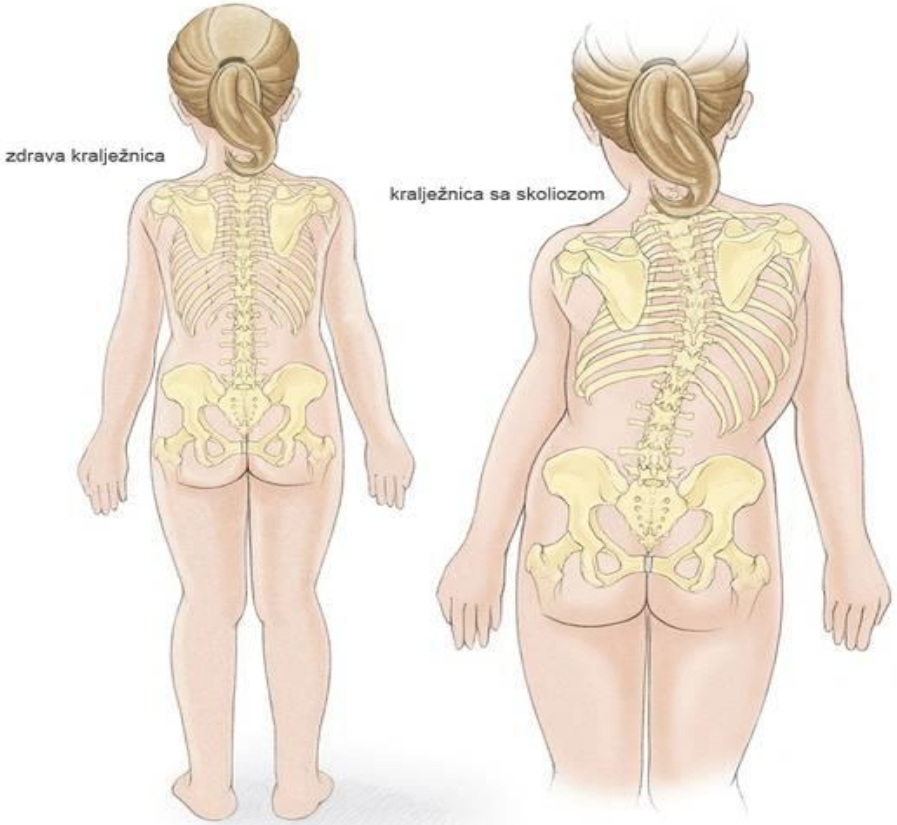
- is considered to be a form of juvenile osteochondrosis of the spine
- is found mostly in teenagers
- uneven growth of vertebrae results in the signature "wedging" shape of the vertebrae, causing kyphosis

- 2. **Congenital kyphosis**

- 3. **Postural roundback**

Examination of the spine
TRANSVERSE PLANE

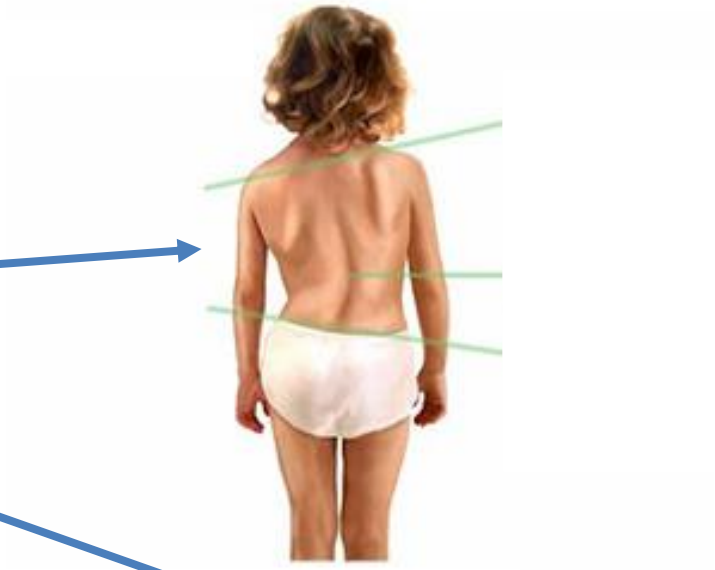
Scoliosis- Alterations in normal spinal alignment that occur in the anteroposterior plane



Inspection of the spine

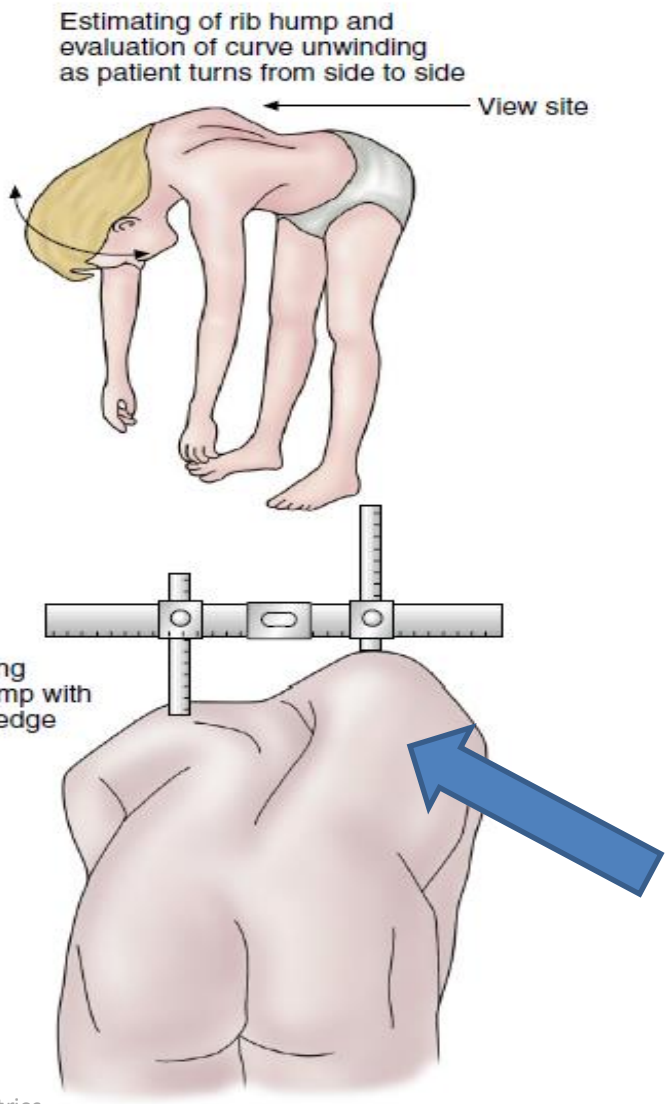
<u>Looking/ Inspection</u>

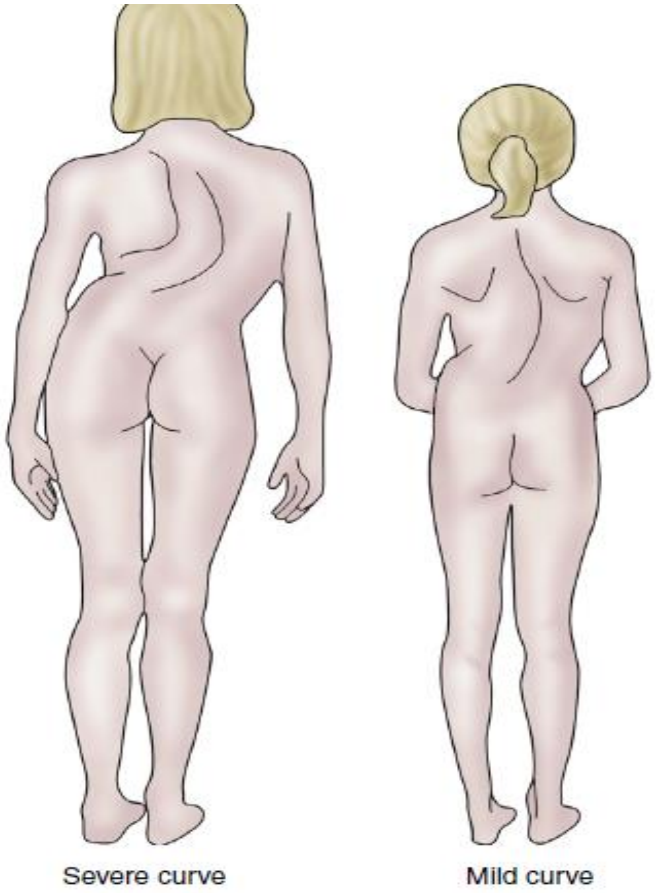
- Shape
  - ❖ Physiological curves
  - ❖ Scoliosis
  - ❖ **Adams bending test**
- Movements (active & passive)



- <u>Palpation (pain?/ dyscomfort?)</u>
- <u>Axial compression</u>
  (pain?)

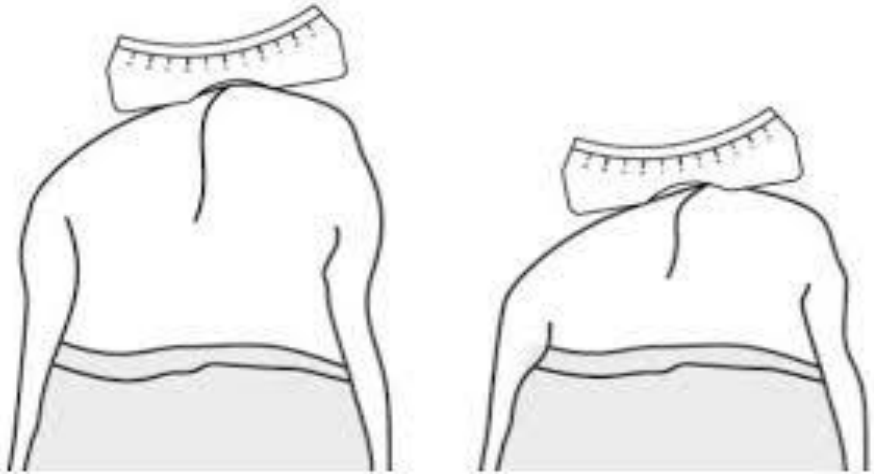
Assessment of skoliosis





„Nelson essentials of pediatrics

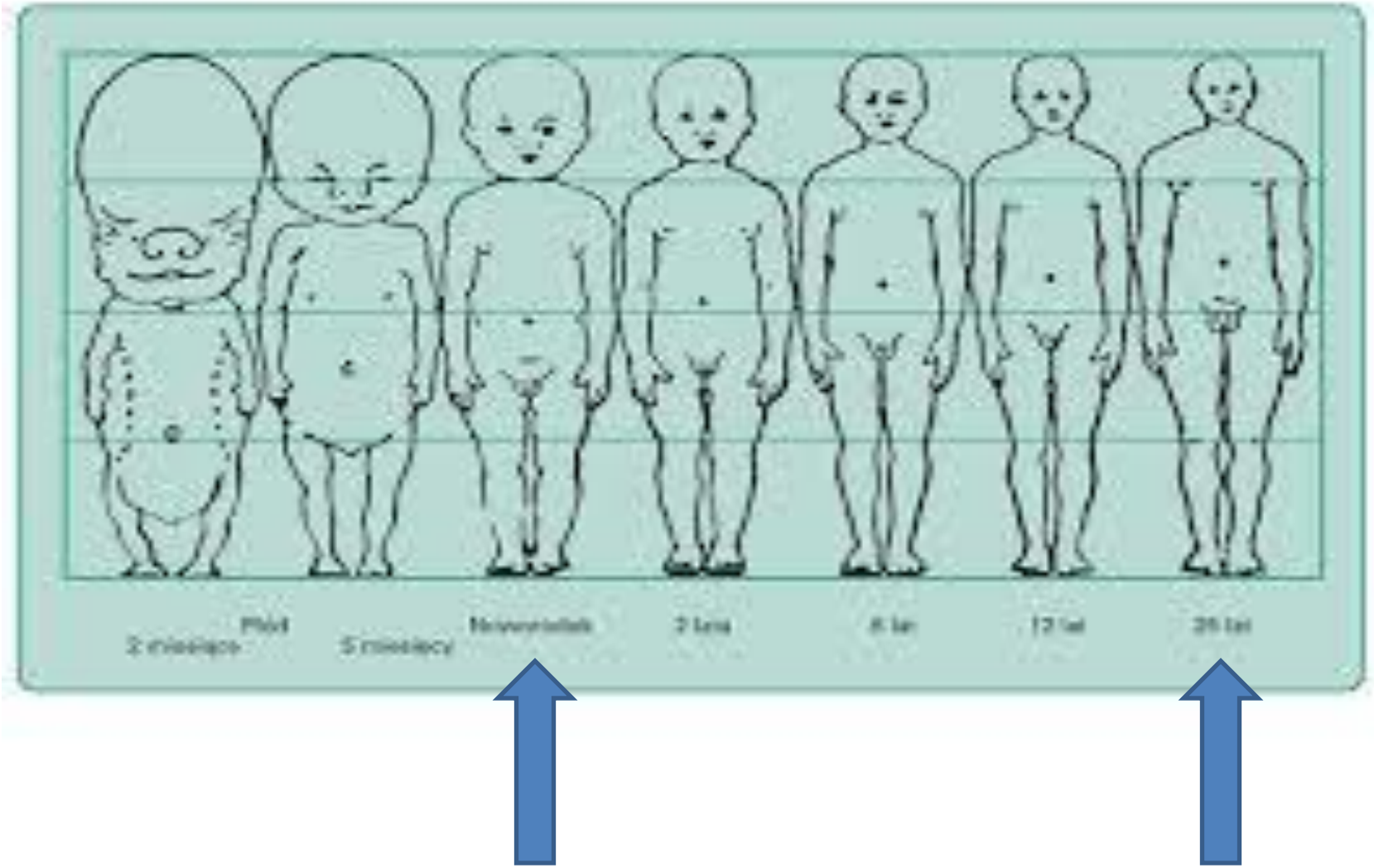
Skoliosis



Proportions

Proportion of the body parts

1: 4 **1: 8**

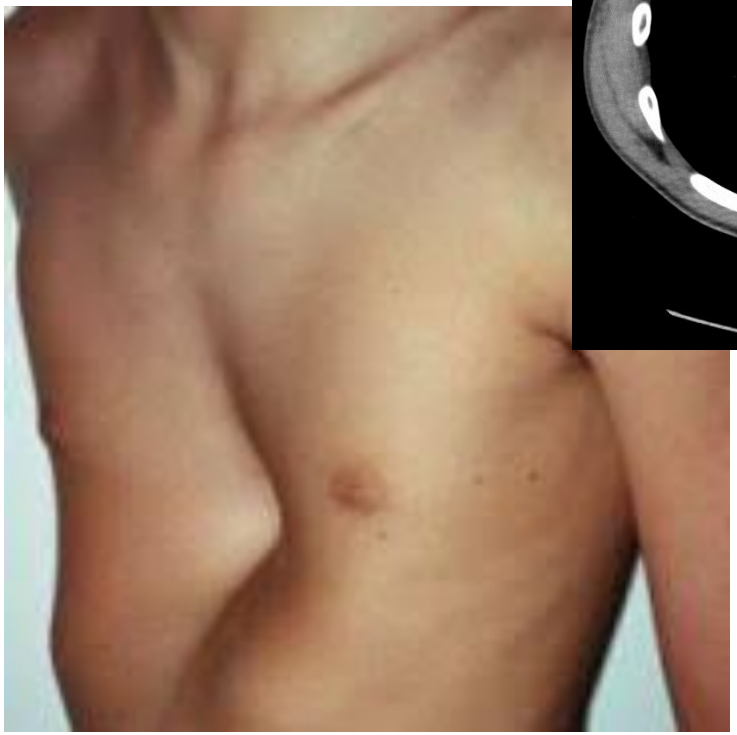


Achondroplasia in children

- is the most common form of **short stature** (dwarfism)- 70 %
- is linked to a **mutation in the fibroblast growth factor receptor-3**
- autosomal dominant (de novo or familial)
- **a long and narrow trunk, shortening of the proximal segments of limbs, large head, mid-face hypoplasia (flat face)**

Chest

Chest



Pectus excavatum

- structural deformity of the anterior thoracic wall in which the sternum and rib cage are shaped abnormally
- **caved-in or sunken appearance of the chest**
- can either be present **at birth or develop after puberty → reffer to cardiologists and chest surgeon**

Chest

Pectus cariantum (also called pigeon chest)

malformation of the chest characterized by a protrusion of the sternum and ribs

Extremities

Extremities/ Limbs

Looking

- symmetry
- shape
- length
- proportion

Palpation

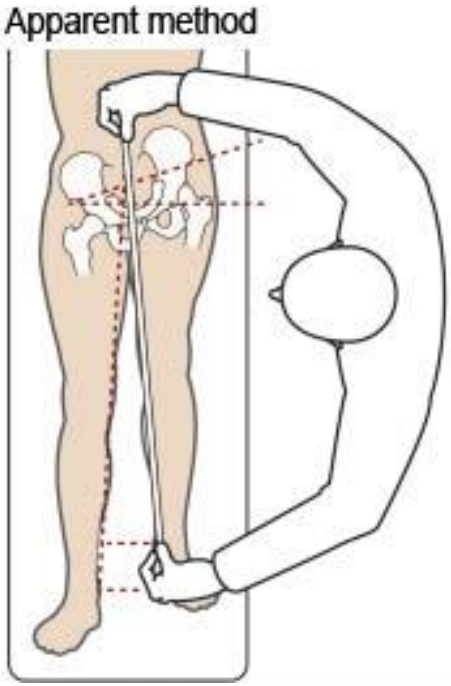
- Funtion !
- Any pain

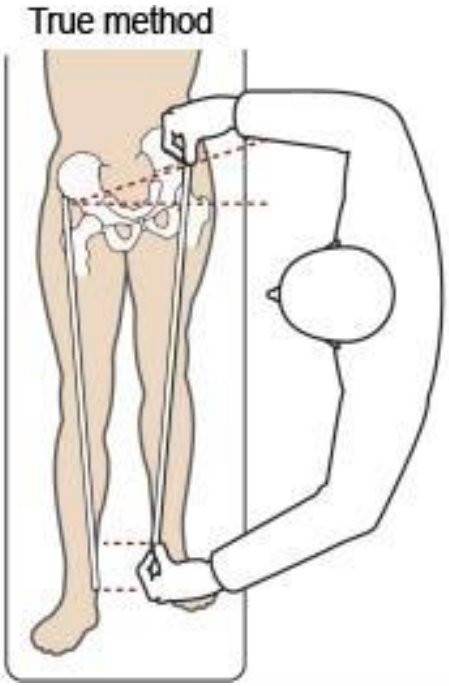
or dyscomfort

GAIT!

Checking the length of the lower extremities

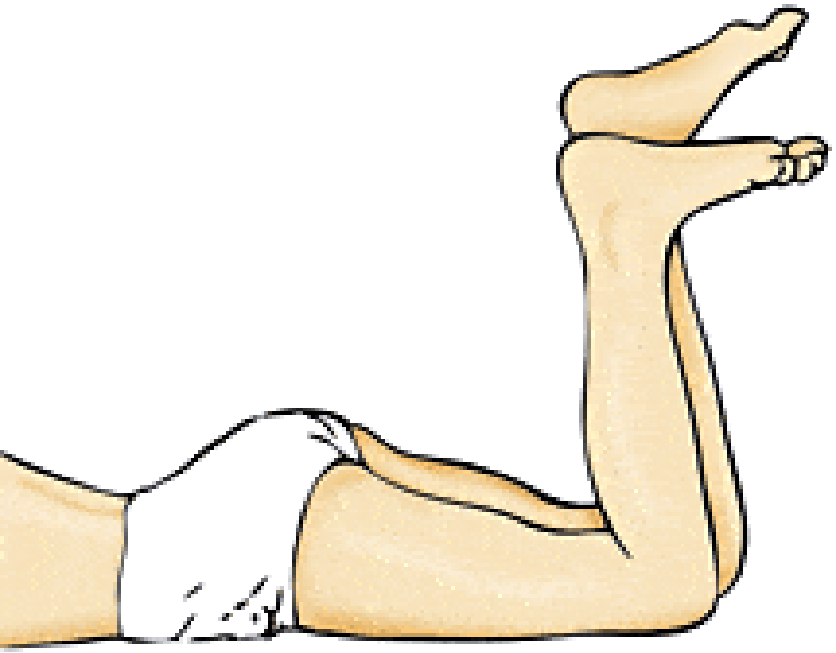
may be a reason of compensatory scoliosis!!!





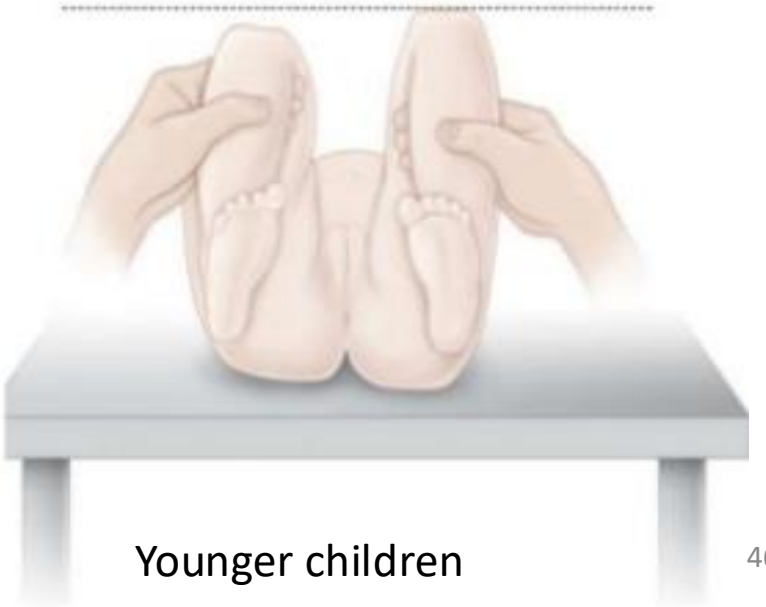
Length of the lower extremities is measured from **superior anterior iliac spine** do **medial malleous**

Pathological- if diameters > 1 cm



Prone position

On the back



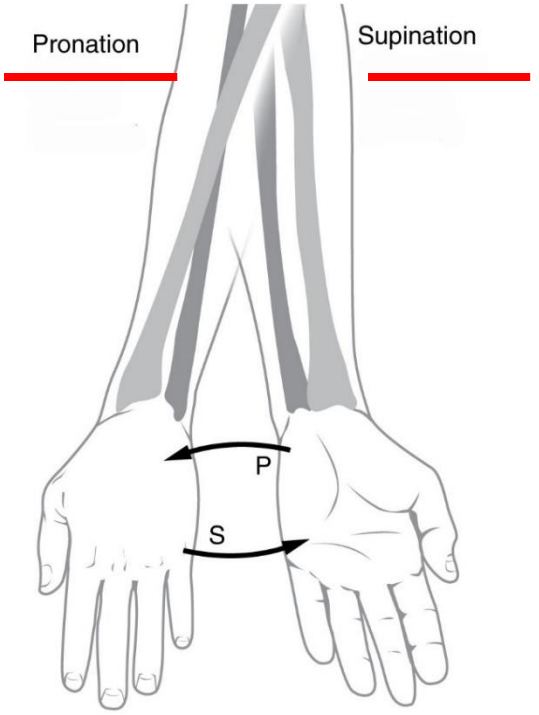
Younger children

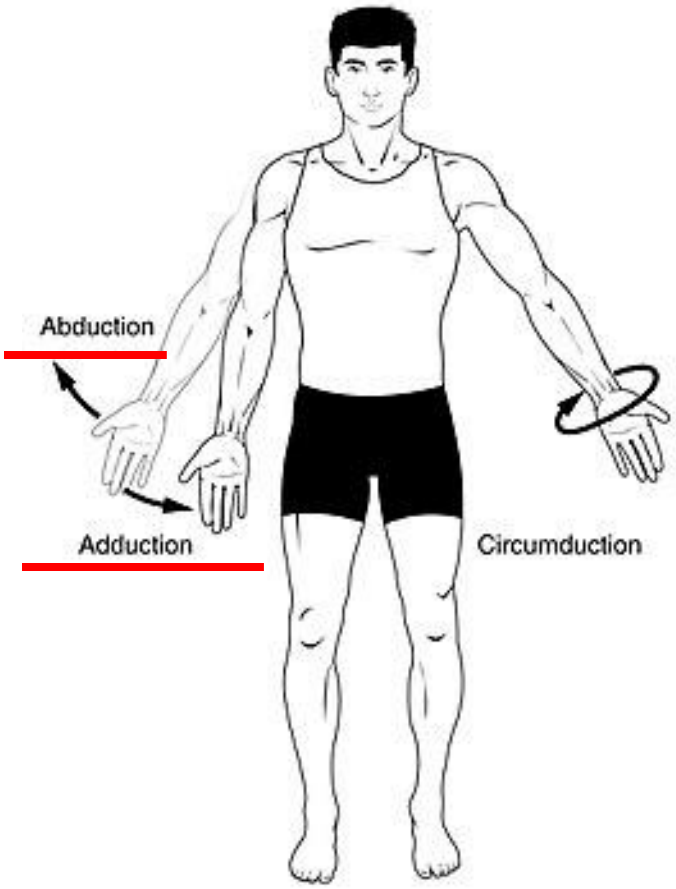
Causes of the shorter limbs:

- **Congenital malformation** of the limbs (abnormalities of the bones or/ and joints)
- **Diseases of epiphysis** of the bone
- **Hip dysplasia**
- **Hip dyslocation**
- **Inflammatory** (after osteitis)
- **Injuries** (bad bone union, damage of growth cartlilage)

Erb’s palsy

NOMENCLATURE





(e) Angular movements: abduction, adduction, and circumduction of the upper limb at the shoulder

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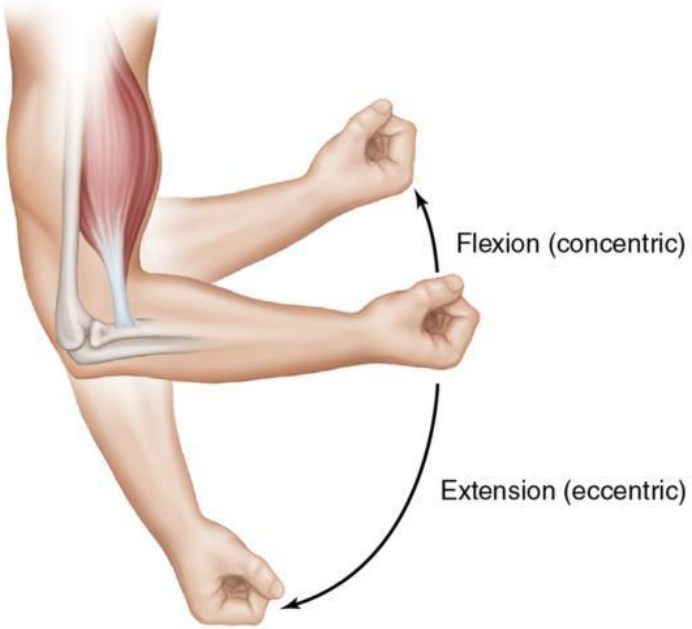
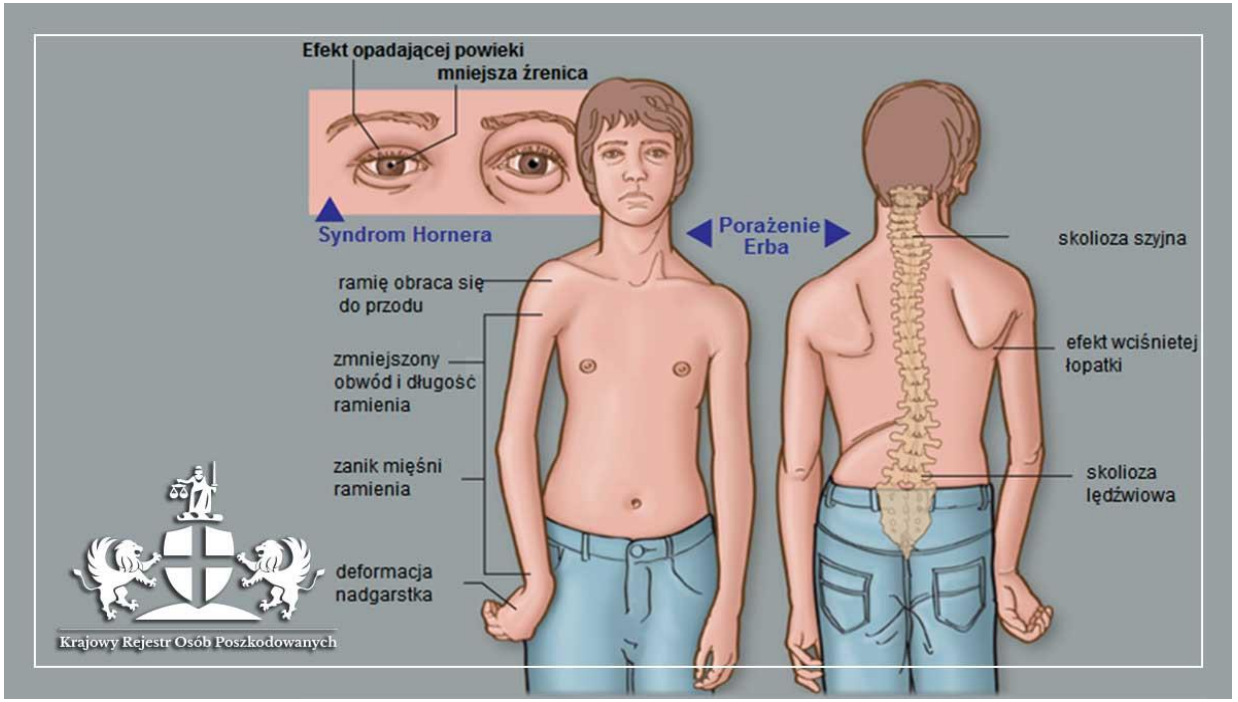


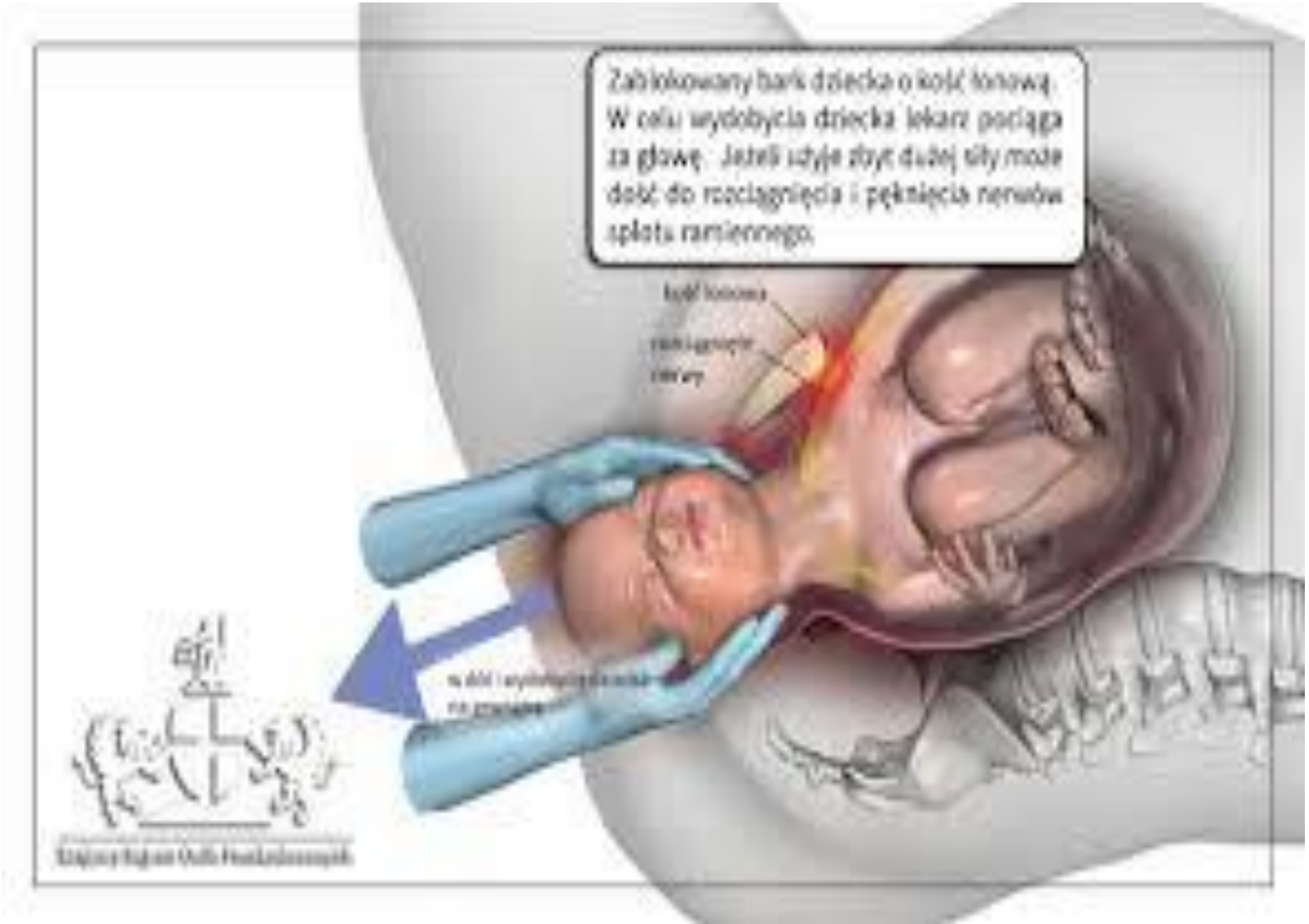
Mechanical damage of brachial plexus



- paralysis of the arm caused by **perinatal injury** to the upper group of the arm's **main nerves**,
- specifically due to the severing of the **upper trunk C5–C6 nerves (brachial plexus)**
- the most commonly involved nerves are **the suprascapular nerve, musculocutaneous nerve, and the axillary nerve**
- include **loss of sensation in the arm, paralysis and atrophy of the deltoid m., biceps, and brachialis muscles**
- **Characteristic position: the arm hangs by the side and is rotated medially; the forearm is extended and pronated, the arm cannot be raised from the side; all power of flexion of the elbow is lost**

The mechnism of shoulder dystocia

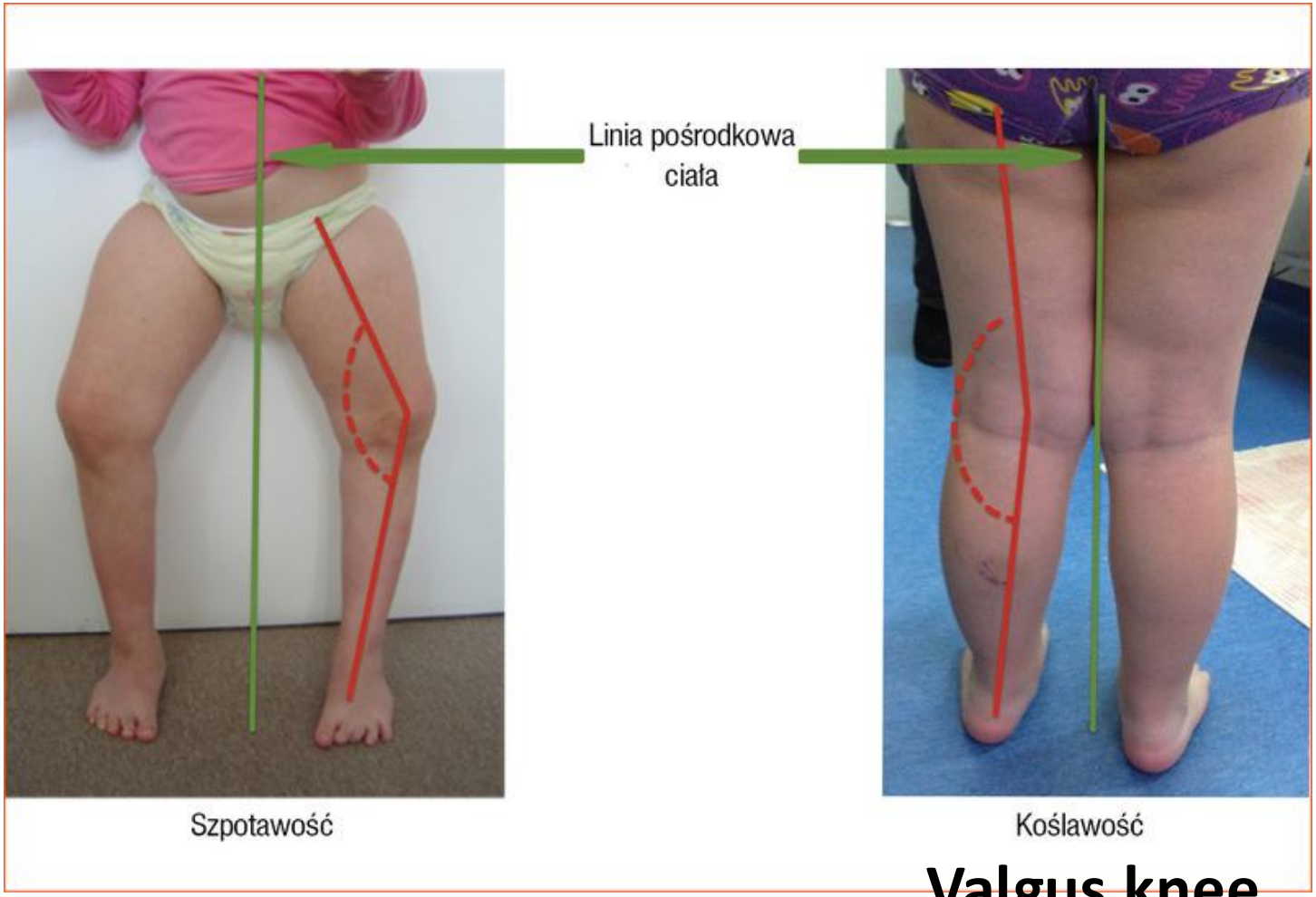
- the damage to each nerve can range from bruising to tearing



Erb’s palsy

Knees

Knees- developmental anomalies

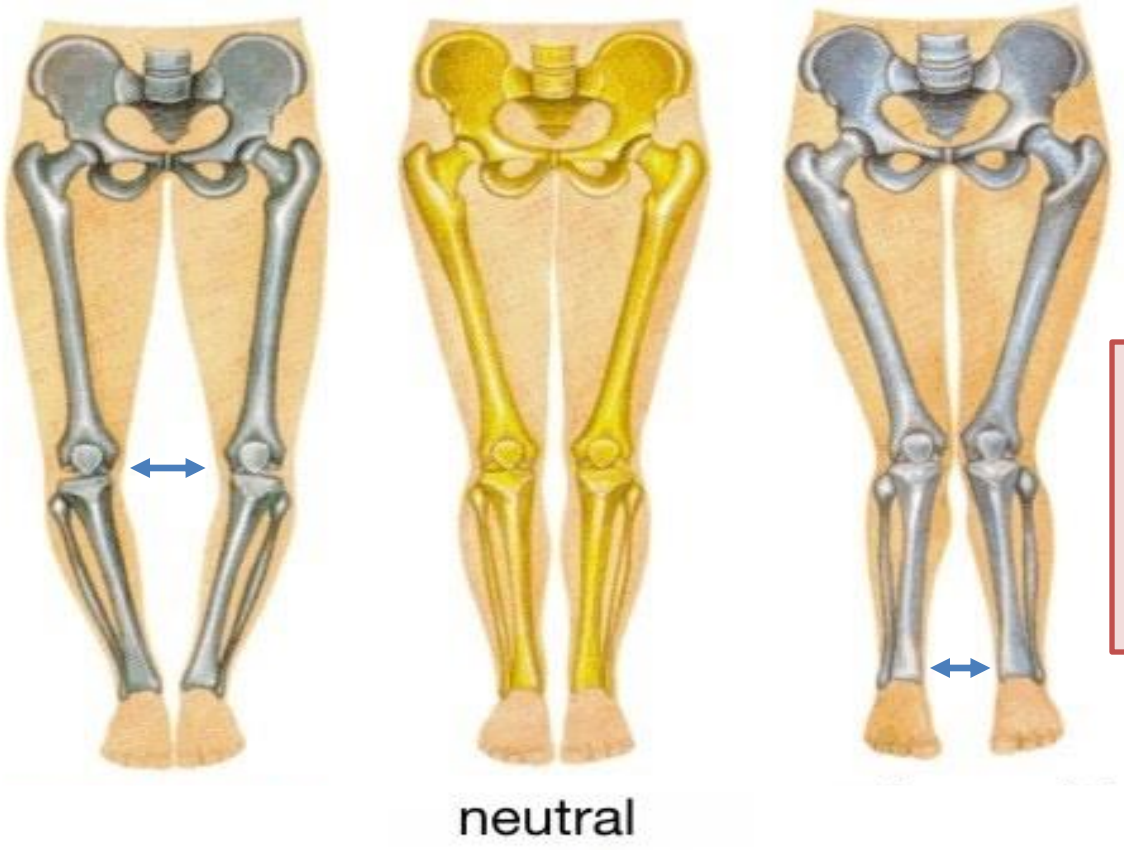


Varum knee (lat. Genu varum)
(also called **bow-leggedness)**

Valgus knee
„knock-knee”
(lat.genu valgum)

Knees

Diameter between knees <= **6 cm (when feet together)**



Diameter of medial malleous <= 8 cm when knees together)

VARUM KNEE

- May be physiology in children who stand and walk very quickly
- **should resolve up 18-20 months of age**

VALGUS KNEE

- **is normal < 2years ,**
- **should resolve definitely < 7 years (obese children)**

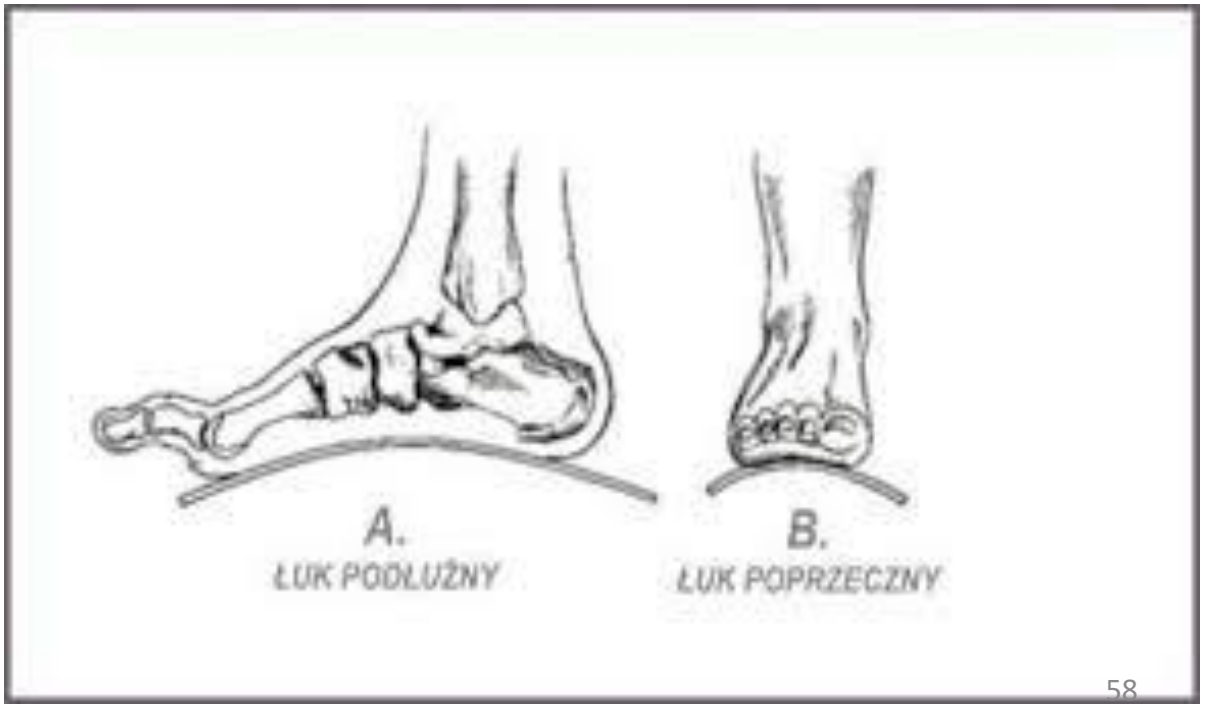
Physiotherapy & prevention

Valgus knee

Feet

Feet examination

- Shape, count toes
- **Arch** (longitudinal/ transverse arch)
- Position
- Function
- Pain/ discomfort



Foot of the newborn

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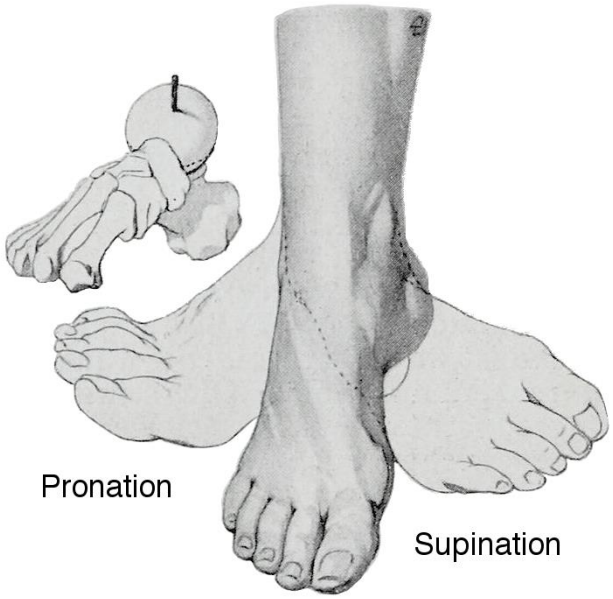
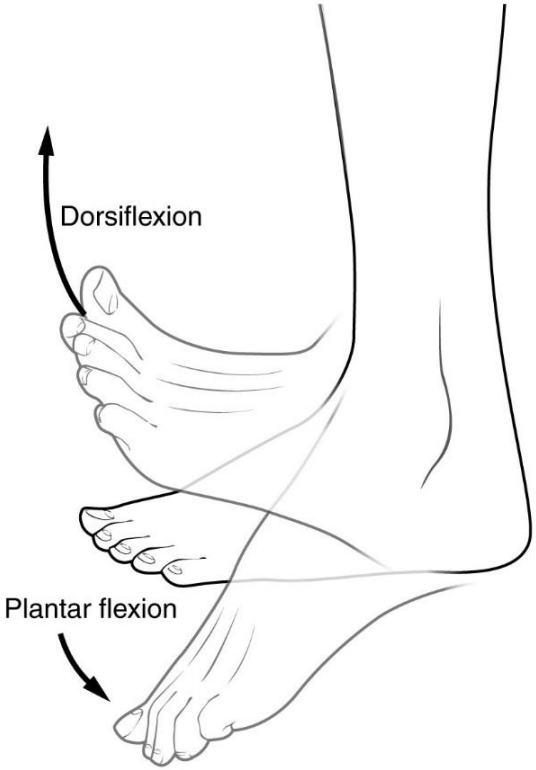




Feet

Club feet

- inward & downward rotation

(supination & inversion)

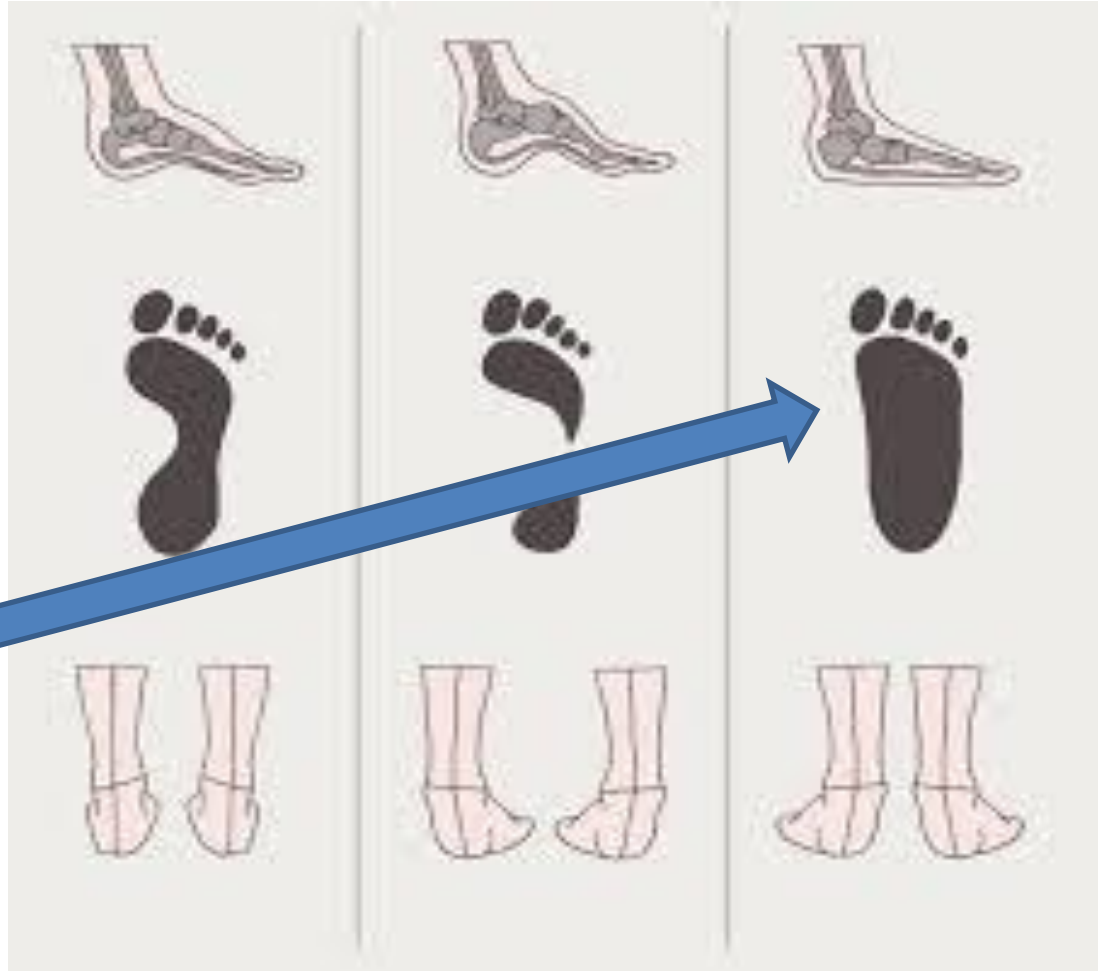
Flat feet (plano-valgus)

-arches of the foot collapse

-entire sole of the foot coming into complete or near-complete contact with the ground

-pronation&evertion

Feet



Flat foot (plano-valgus foot)

- normal up 3 years !

Normal/ abnormal?

Flat foot

Physiology < 3 years of age

Flat foot

Clubfoot

Clubfoot

Clubfoot

Clubfoot

Equine foot

- the foot is **pointed downward, forcing one to walk on tiptoe**
- chromosomal abnormalities
- neuronal dysfunction
- miopathy

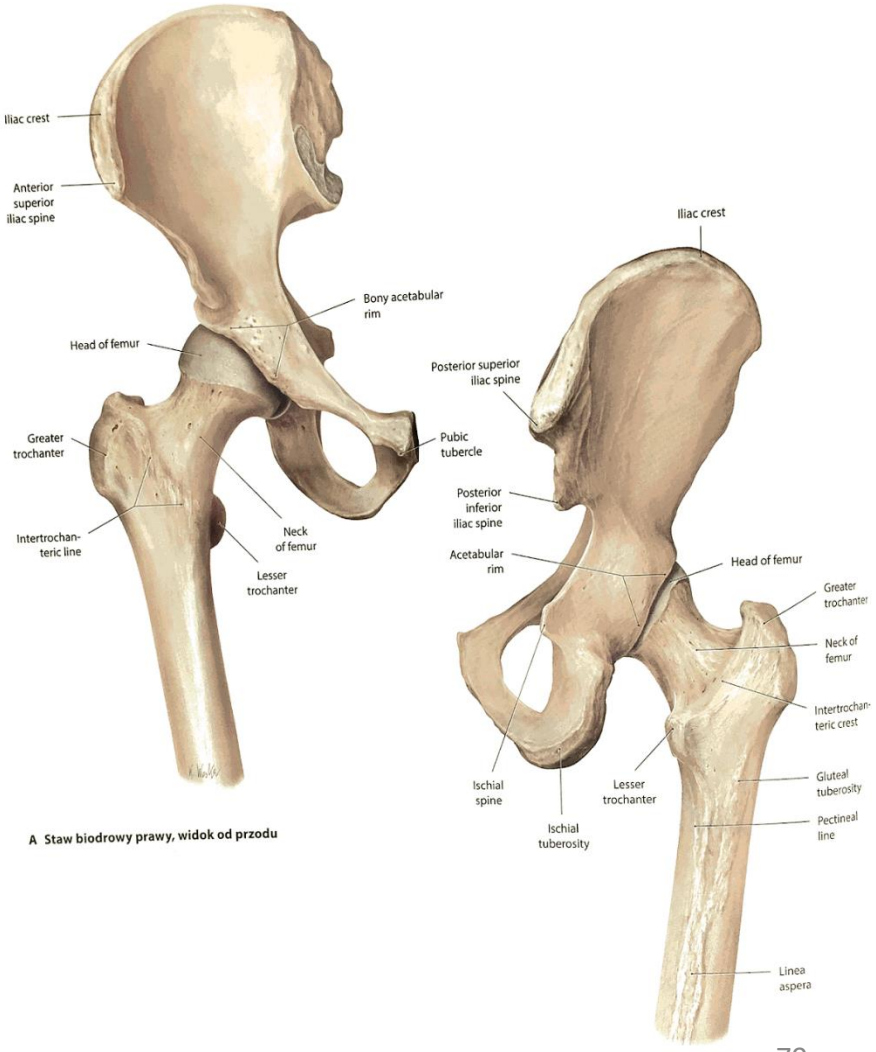
Examination of hip
&
Congenital hip dysplasia

Congenital hip dysplasia = Developmental dysplasia of the hip (DDH)

- is a condition where the **hip does not properly form in babies → hip is unstable**

- abnormality of the hip joint where the <u>socket **(acetabulum)**</u> portion does not fully cover the <u>ball portion (**head of the femur**)</u>, resulting in an **increased risk for joint dislocation**

- <u>Risk factors</u>: breech birth & family history of DDH

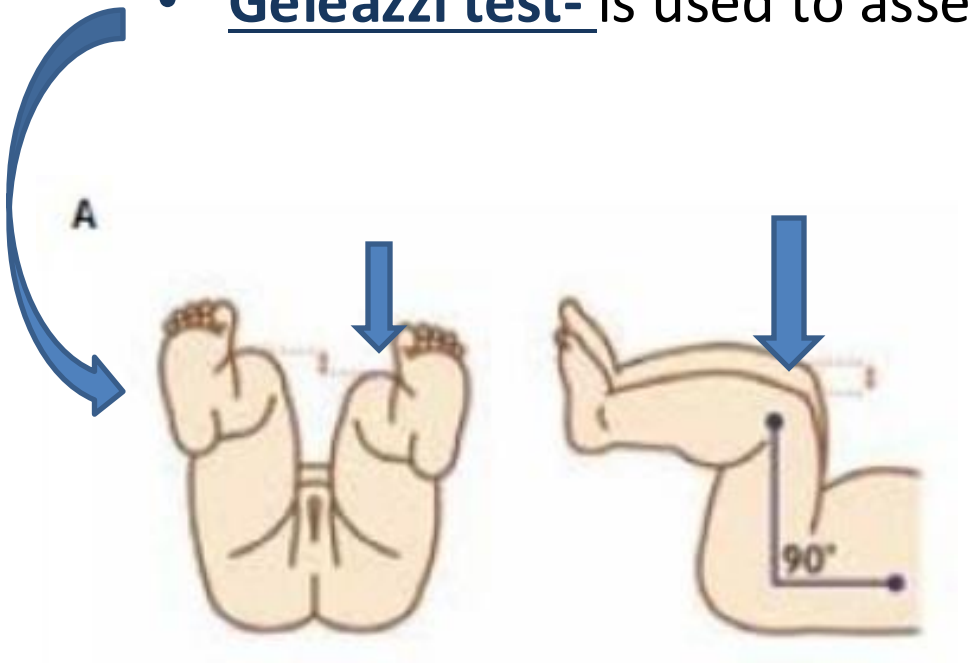


A Staw biodrowy prawy, widok od przodu

B Staw biodrowy prawy, widok od tyłu

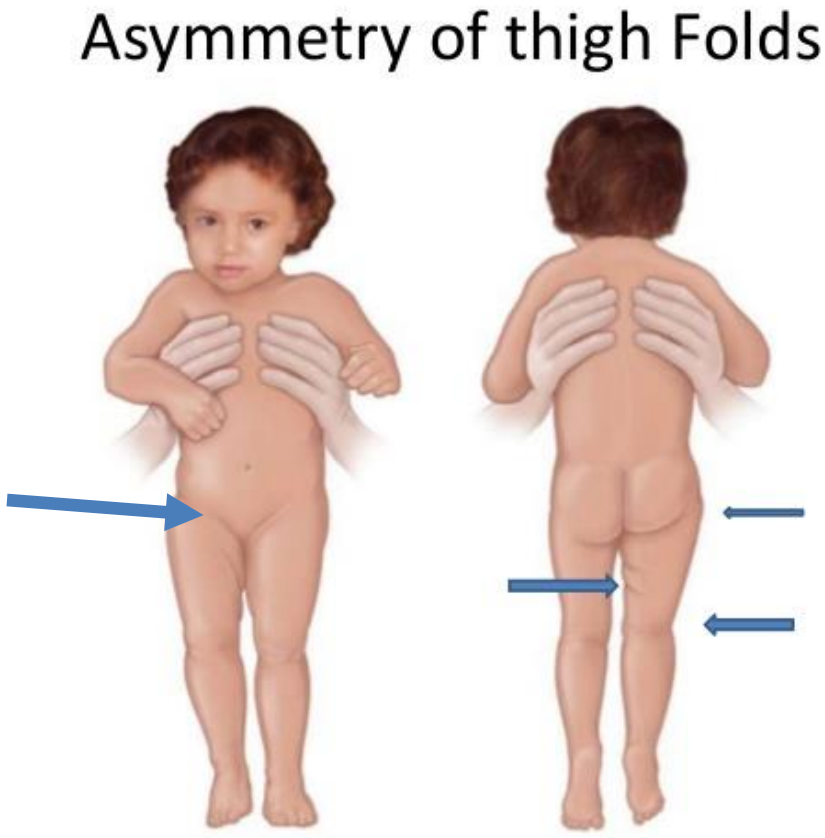
HIP examination

- **Length of legs** (**shorter leg on the side of hip dysplasia**)
- **Geleazzi test-** is used to assess for hip dislocation



HIP examination

- **Symmetry of folds**:



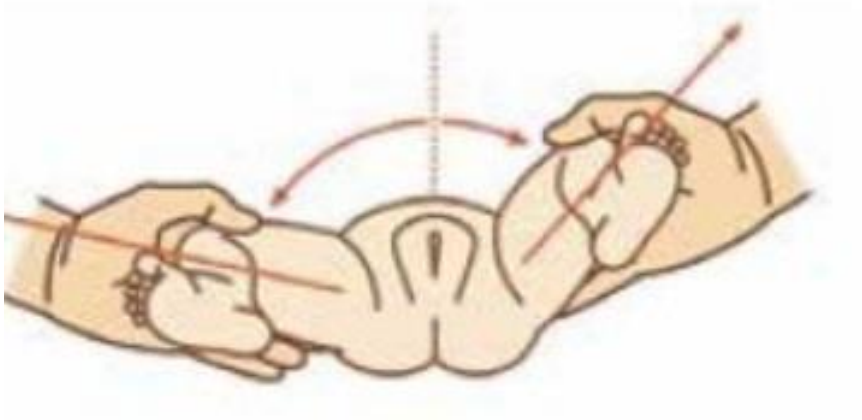
Hip movements

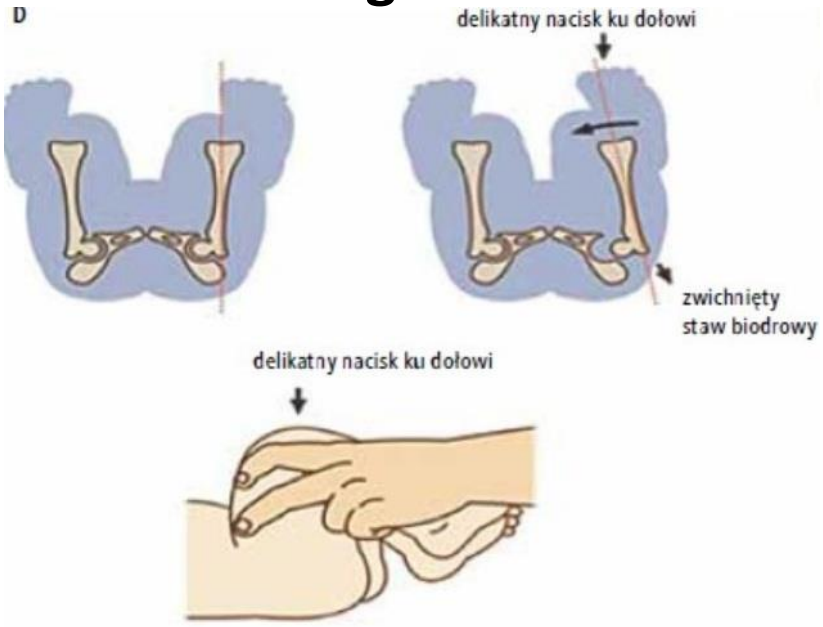
CHECT ABDUCTION OF THE HIPS

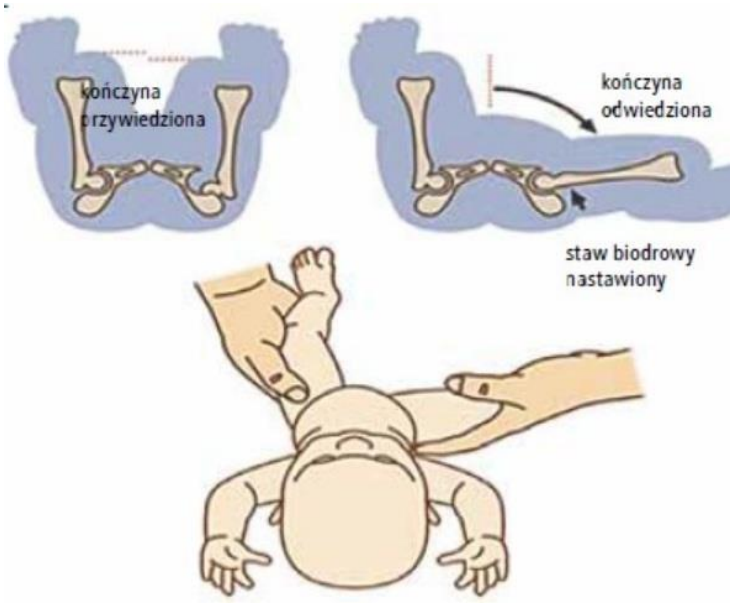
Physiology: 70- 80°

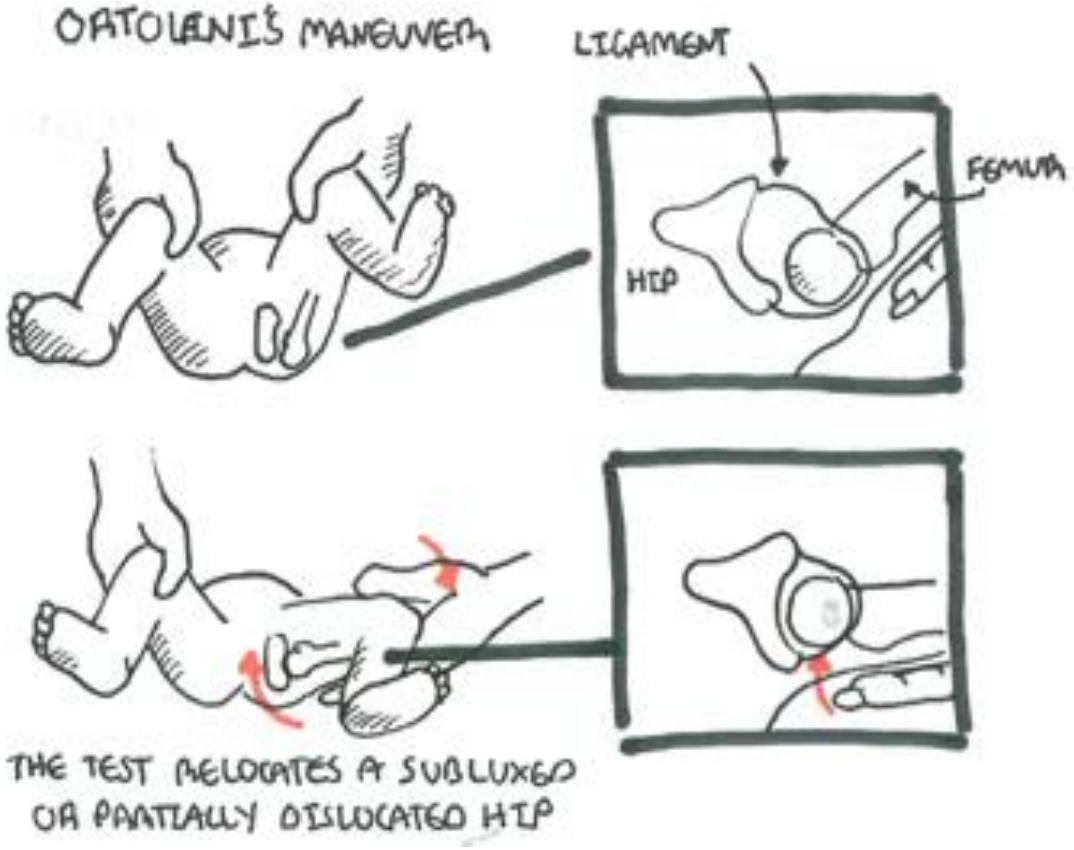
Pathology:

- <60°
- **Ortolani sign**
- **Barlow sign**





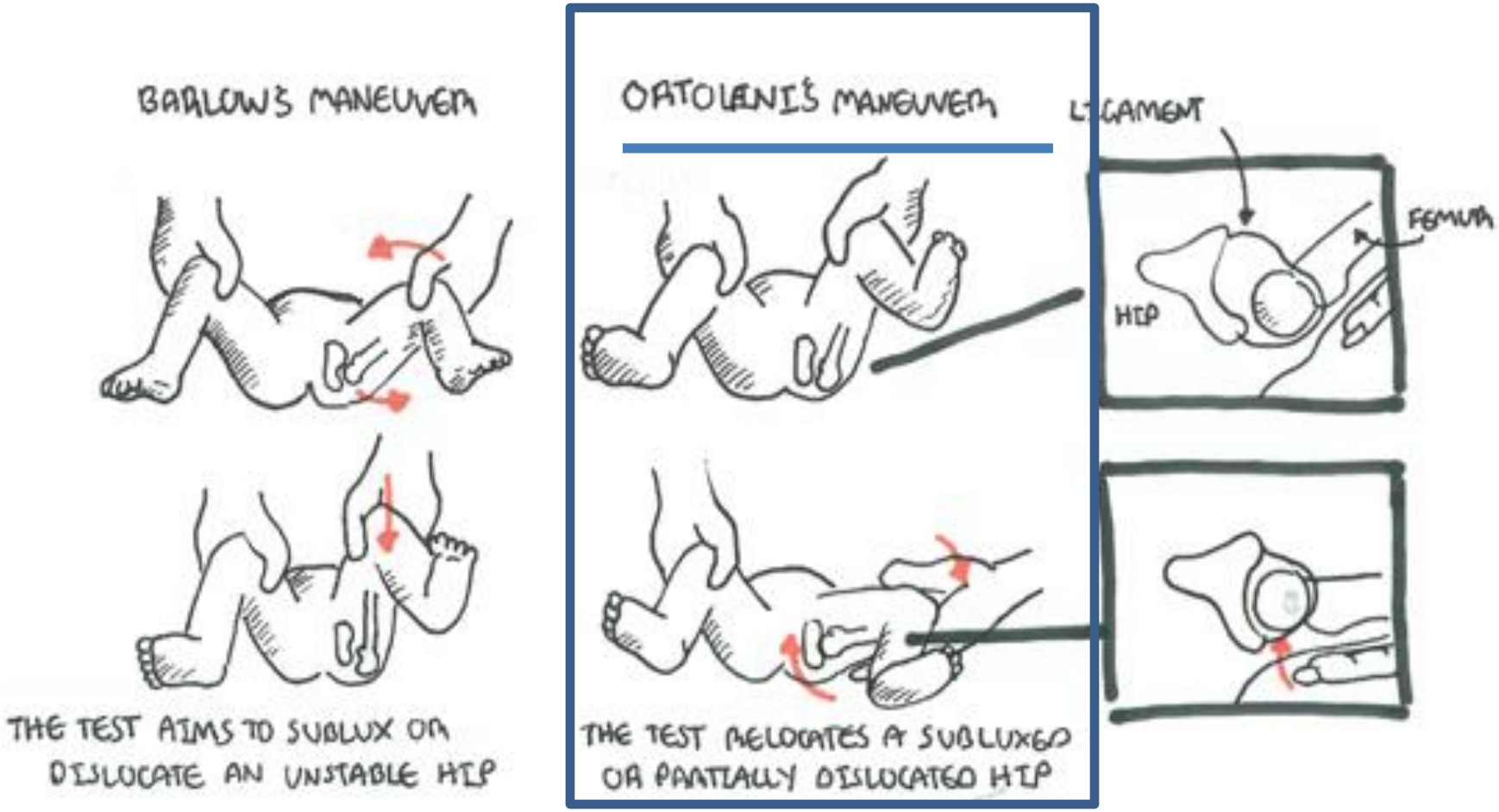




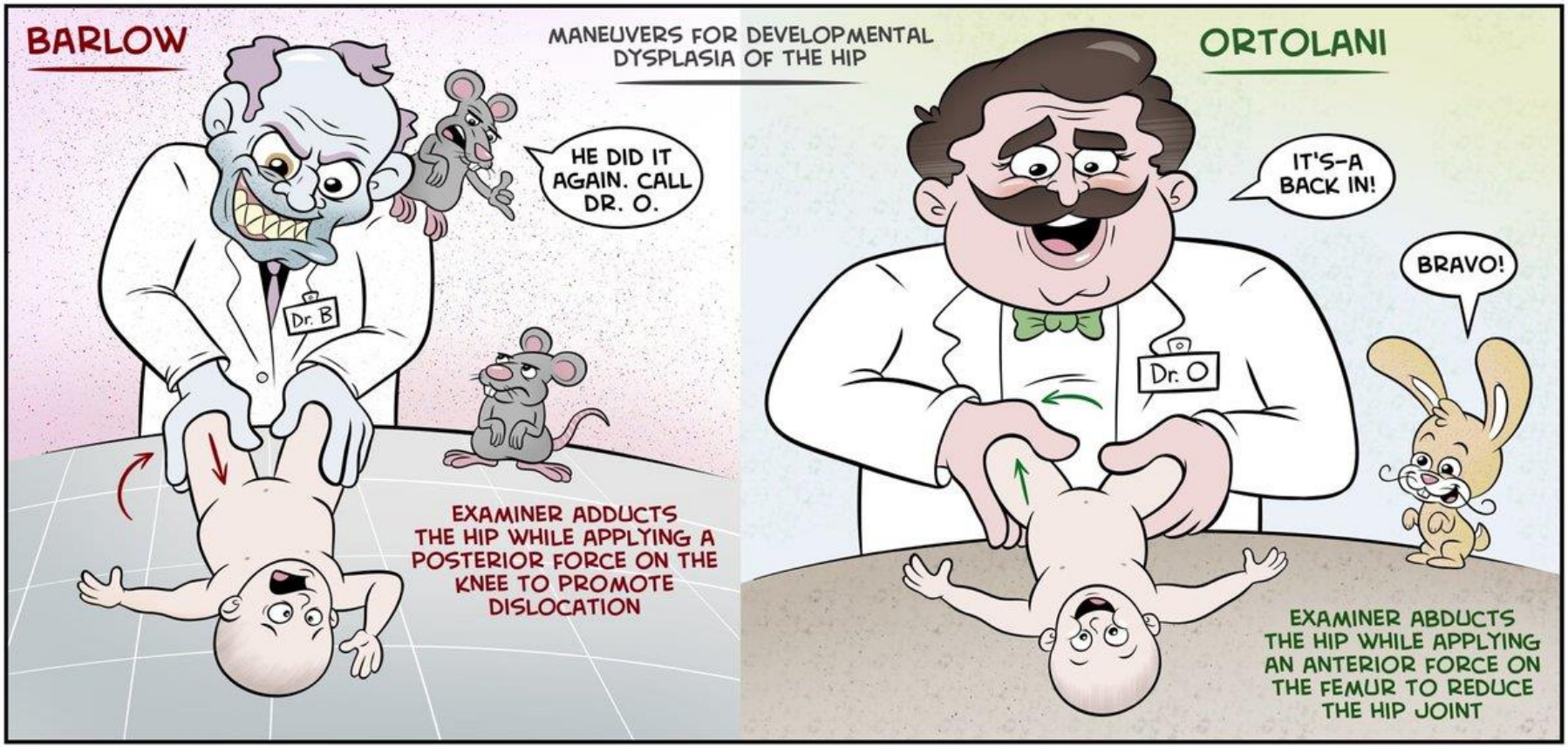
The aim of this test is to dislocate the unstable hip

Adduct the hip holding the knee straigt at the same time,

Head of the femur pops up from the acetabulum



The aim of this test is to relocate the dislocated hip and to confirm the Barlows test


BARLOW
MANEUVERS FOR DEVELOPMENTAL DYSPLASIA OF THE HIP
ORTOLANI
HE DID IT AGAIN. CALL DR. O.
Dr. B
EXAMINER ADDUCTS THE HIP WHILE APPLYING A POSTERIOR FORCE ON THE KNEE TO PROMOTE DISLOCATION
IT'S-A BACK IN!
BRAVO!
Dr. O
EXAMINER ABDUCTS THE HIP WHILE APPLYING AN ANTERIOR FORCE ON THE FEMUR TO REDUCE THE HIP JOINT
WWW.MEDCOMIC.COM
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Screening tests

- Referral to orthopaedic surgeon- 6/52
- U/S of the hip- risk group

Poduszka Frejki

Szelki Pavlika

EYES

- Detection of **strabismus**
- Detection of **lacrimal duct narrowing**
- **Detection of cataract**

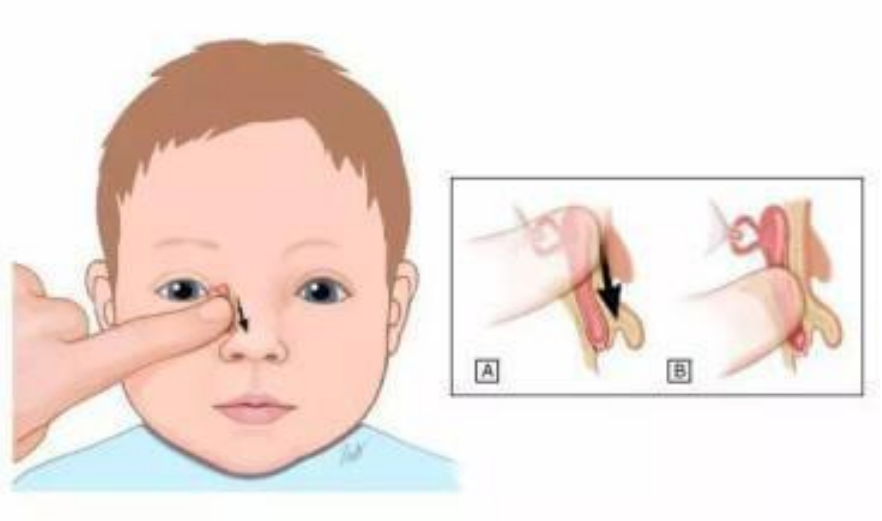
SKRININGS TESTS

- CORNEAL REFLEX (**Hirschberg test**) – 6/52-6yo
- **cover test** – from 6/12

- Detection of colour blindness/ colour vision- **Ishihara colour perpceprion plates**

Leukokoria (retinoblastoma)

LACRIMAL DUCT NARROWING/ OBSTRUCTION- purulent conjuntivitis



Hirschberga TEST

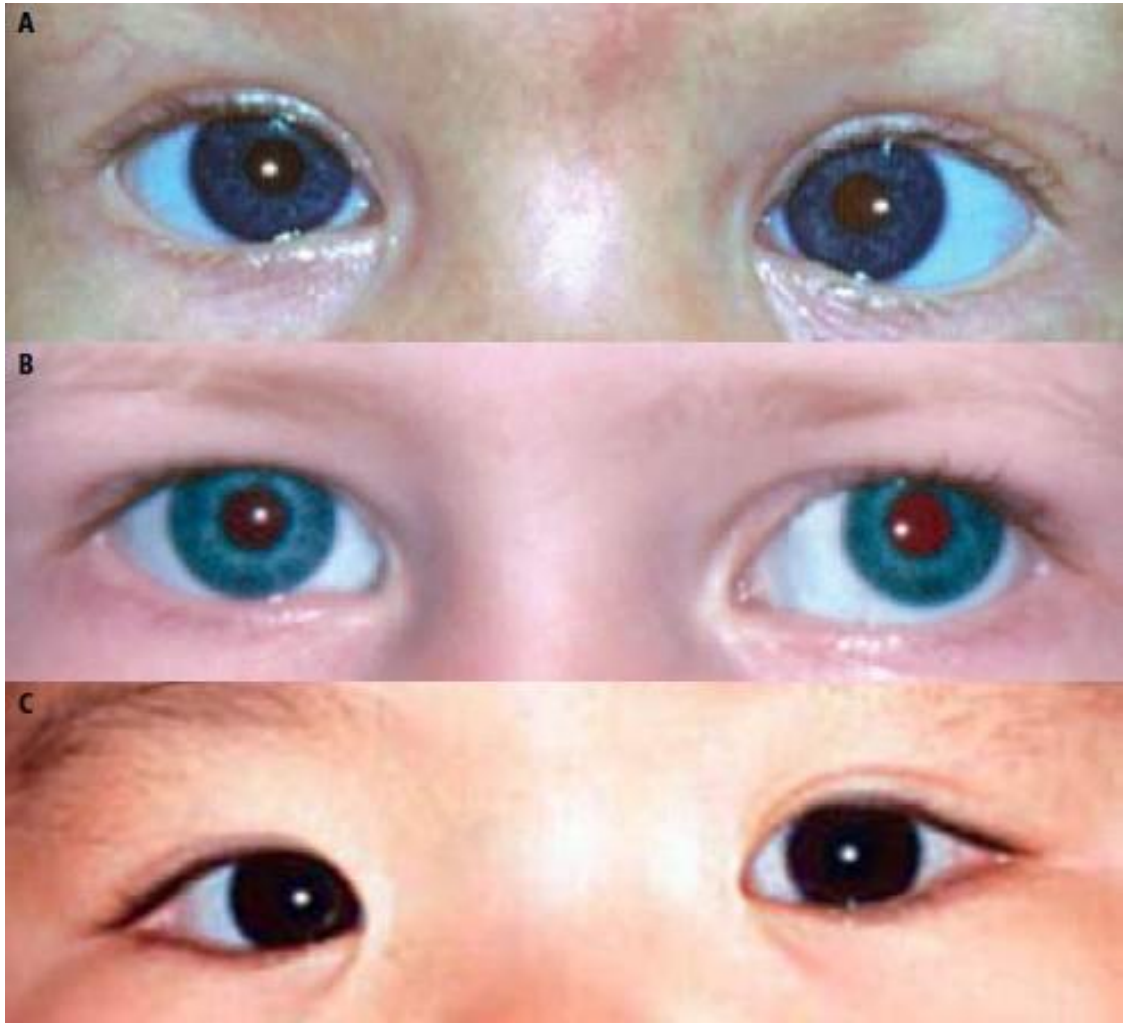
A. Esotropia

B. Exotropia

C. Hypertropia

D. Hypotropia

STRABISMUS- Hirsberg test

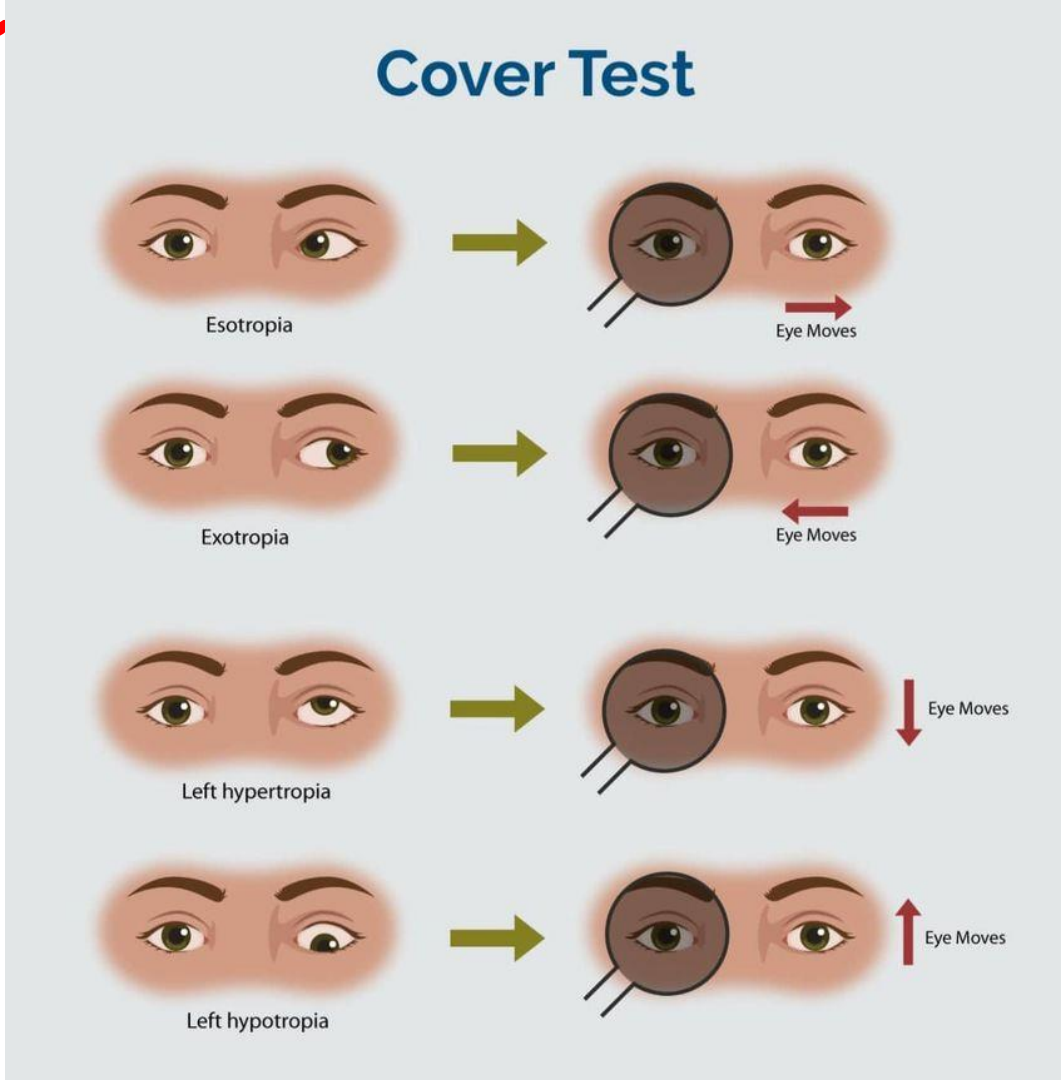


Cover test

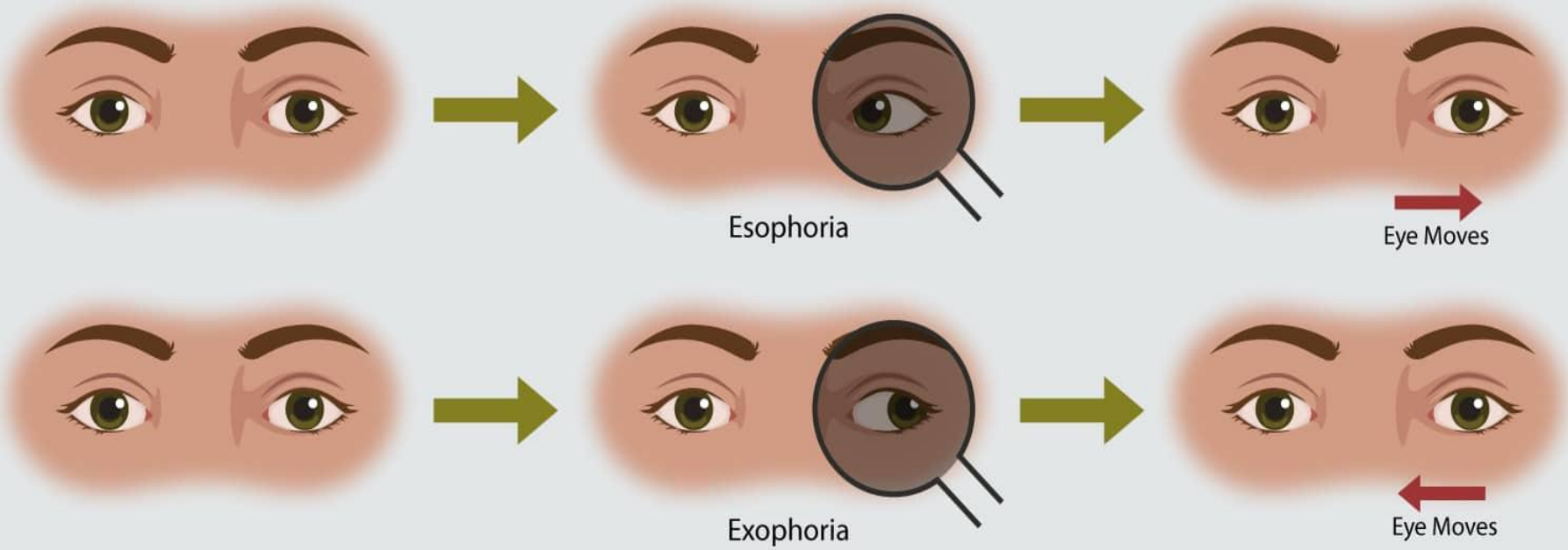
- Eyes do noit properly align

With each other

- Poor Fusion when focusing to an object
- Misalignment may be present occasionaly
- May be subtle



Cover-uncover Test



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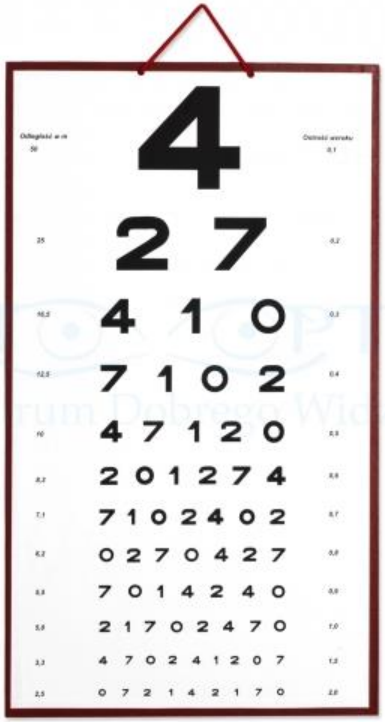
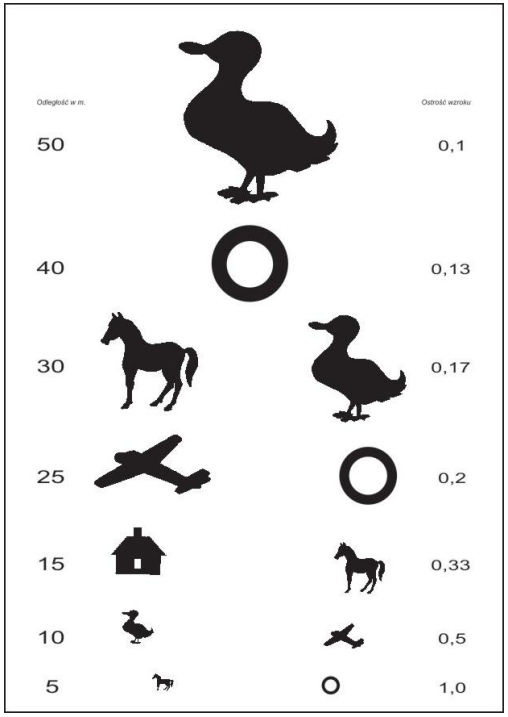
Film- strabismus

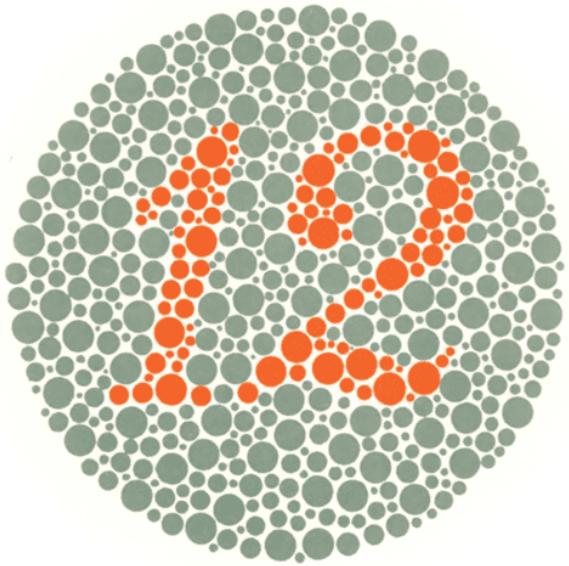
- https://www.youtube.com/watch?v=Wf8DGL7WE8U
- https://www.youtube.com/watch?v=j57G7N1CnOE

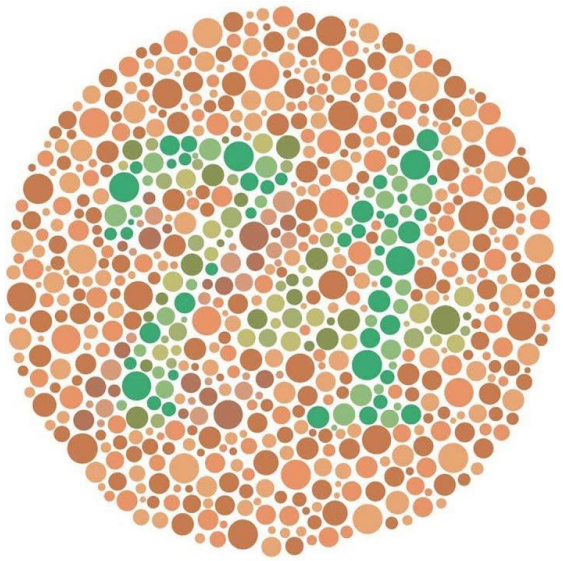
Sharpness vision tests





Isihiara tables





Tanner puberty assessment