

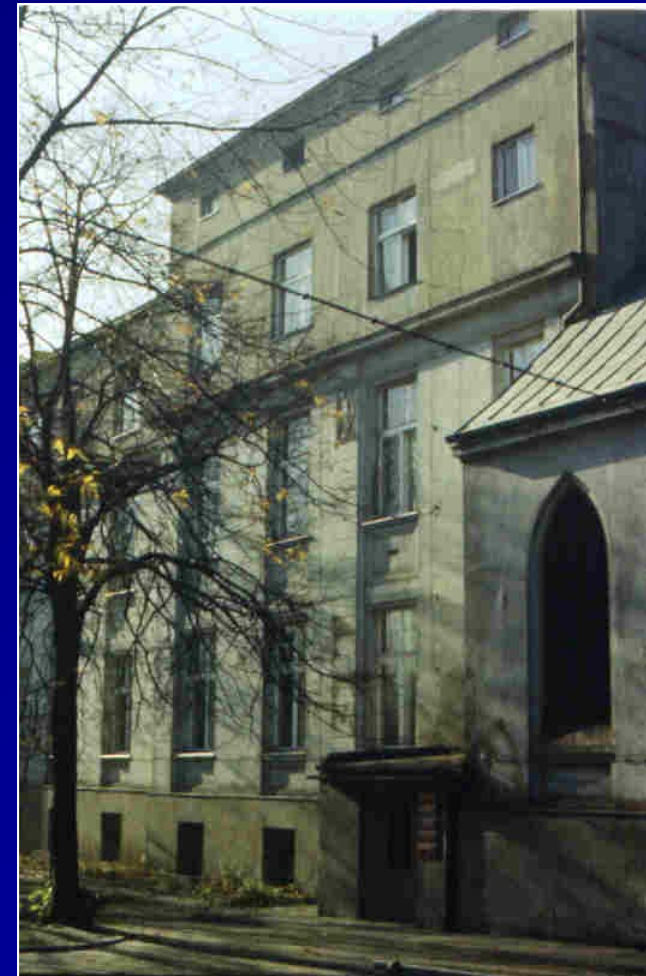
ORTHOPAEDICS AND TRAUMATOLOGY

Prof. dr hab. med. Marek Synder

*Clinic of Orthopaedics and Pediatric
Orthopaedics Medical University of Lodz*

Clinic of Orthopaedics and Pediatric Orthopaedics Medical University

ul. Drewnowska Str 75







Rotation

- * **Lectures**
- * **Outpatients Clinic**
 - **Observation of surgery**
 - **Practical examination of patients**
 - **Paediatric department**
 - **Adults department**
 - **Patient visit**
 - **DDH screening by ultrasound**
 - **DEXA screening**

**Watching surgery
at the operating room
?????**

**No more than 2 students
per surgery
(2 op. rooms)**

EXAM

**after rotation, on the last
day of rotation**

multiple questions

The results of exam :

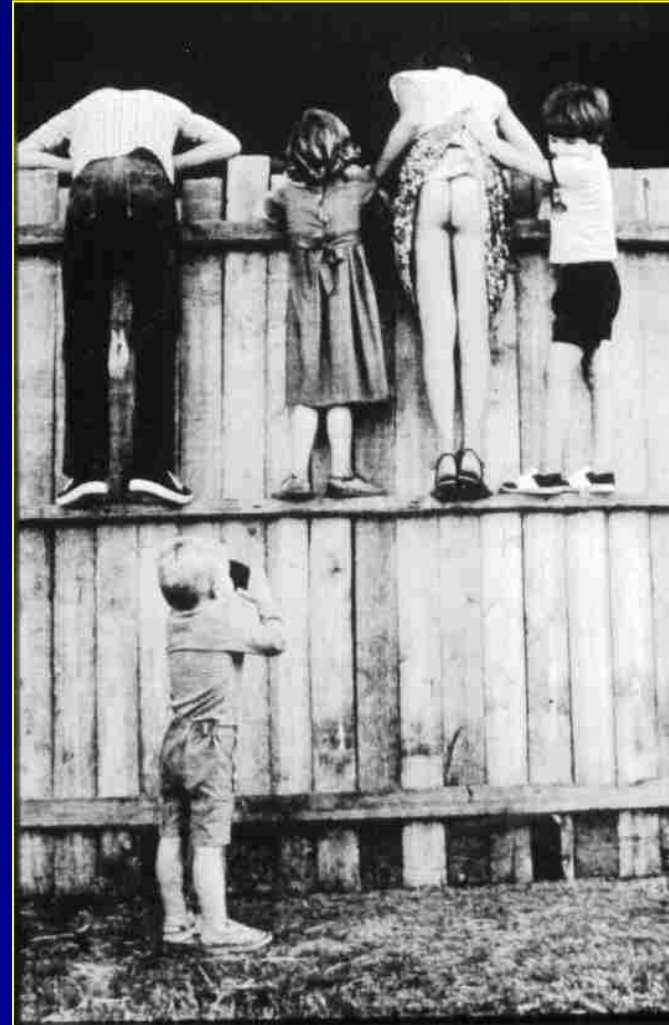
- * student's individual e-mail***
 - * in the Clinic***
- * one e-mail for all students***

You can also contact :

MAREK DROBNIEWSKI, M.D.



ORTHOPAEDICS



CONGENITAL DISEASES

Acquired diseases

**Trauma of skeletal
system**

In children and adults



Surgeon David Teniers 1670



Leg amputation 1517



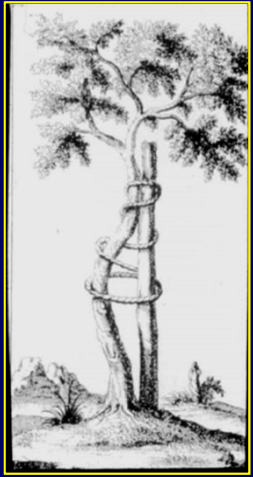
Amputation Thomas Rawlandson 1785



Babcock Surgical Clinic

ORTHOPAEDICS AND TRAUMATOLOGY





Orthopaedic surgeon takes care of :

- * BONES**
- * MUSCLE**
- * JOINTS**
- * LIGAMENTS**
- * VASSELS**
- * NERVES**

ORTHOPAEDICS



Children & adults



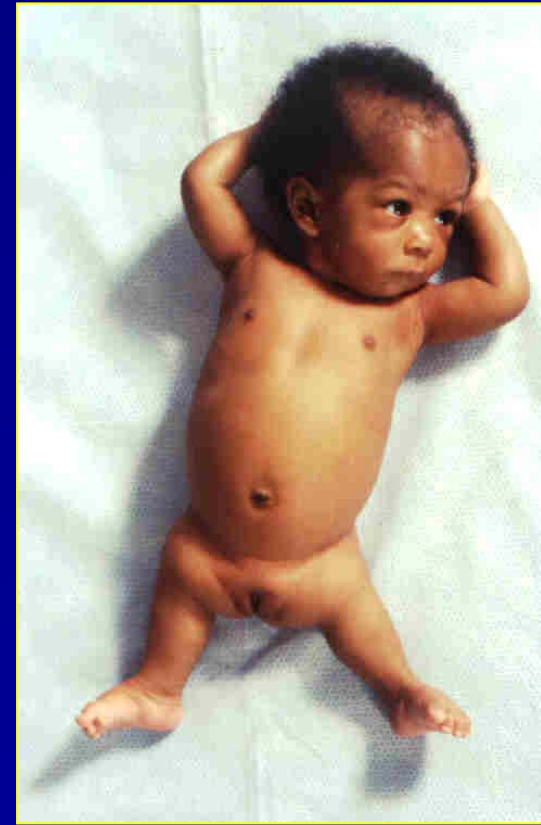
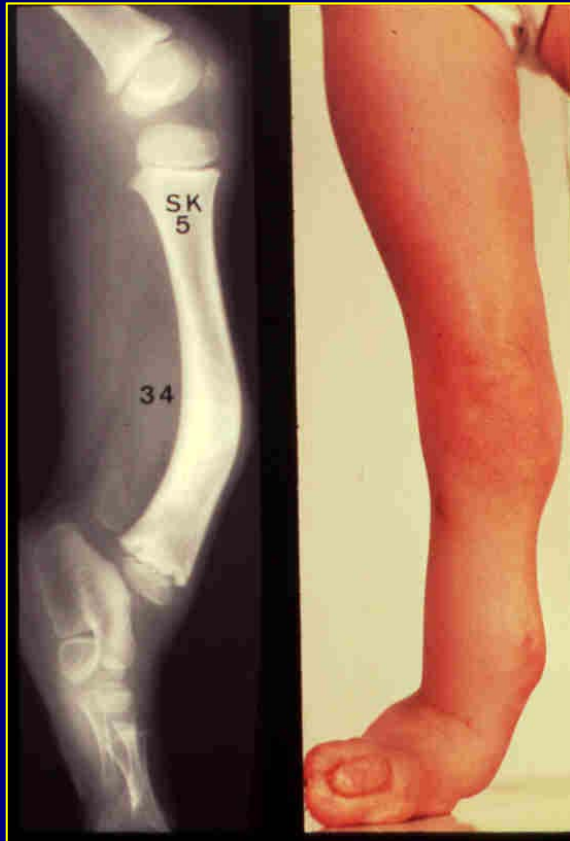
Congenital diseases

**Different stage of anatomic
deformation**

Congenital diseases

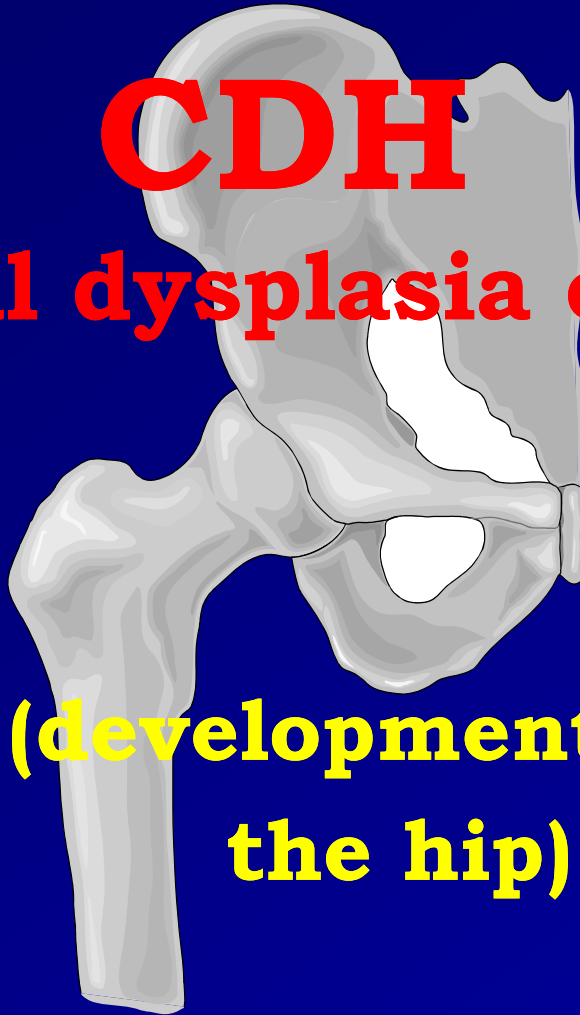


Congenital diseases



CDH

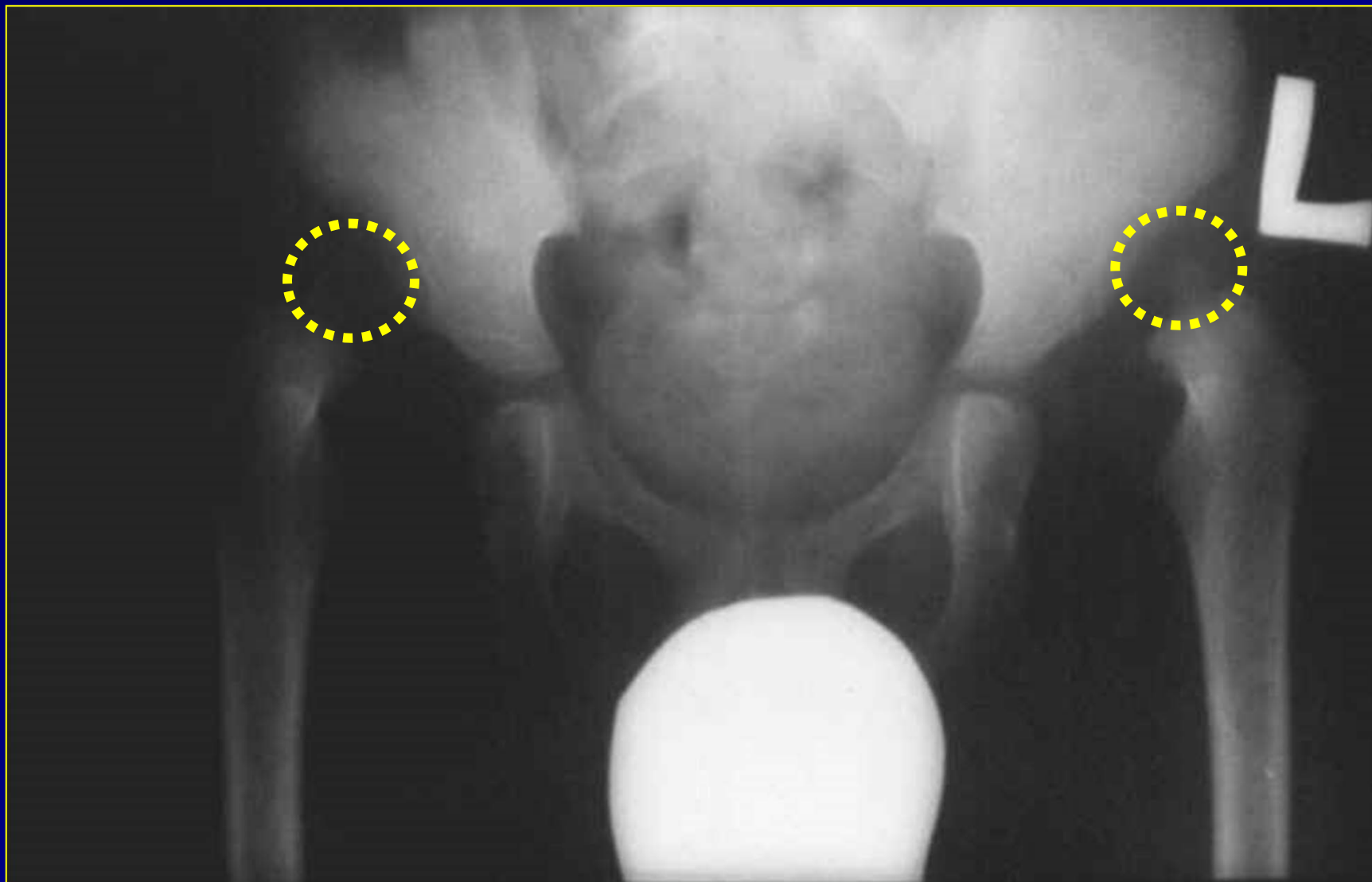
(congenital dysplasia of the hip)



• **DDH**

(developmental dysplasia of
the hip)

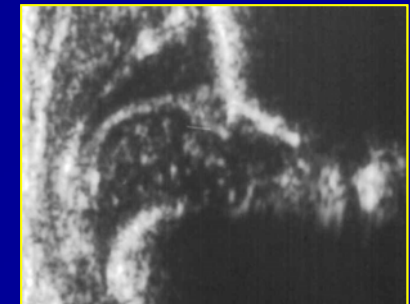
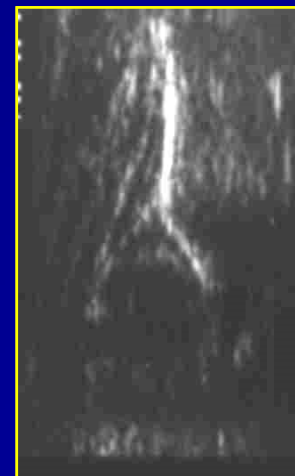
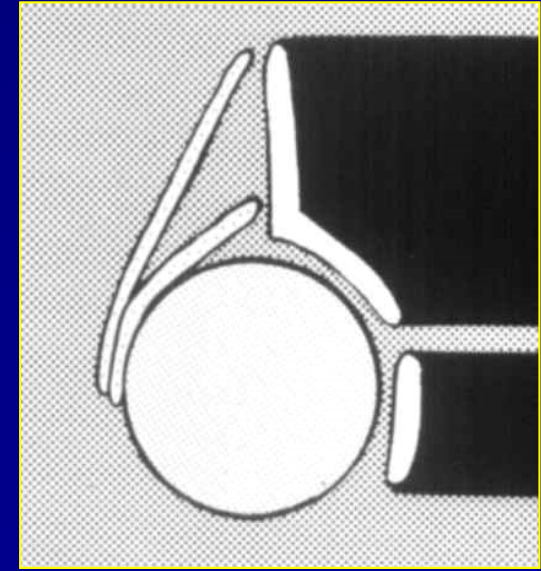
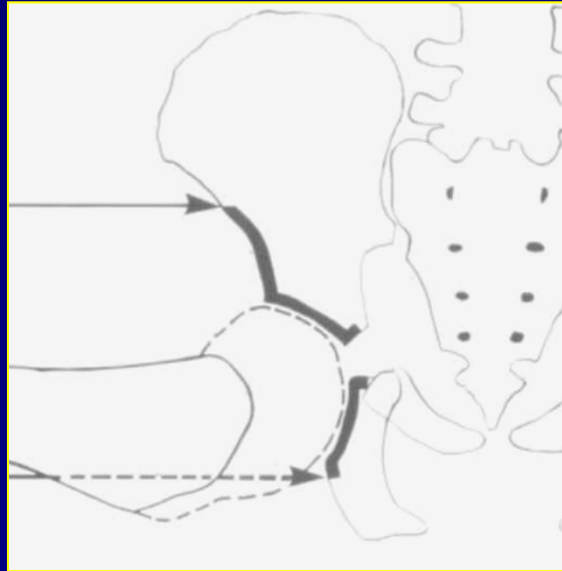
Early diagnosis !!!



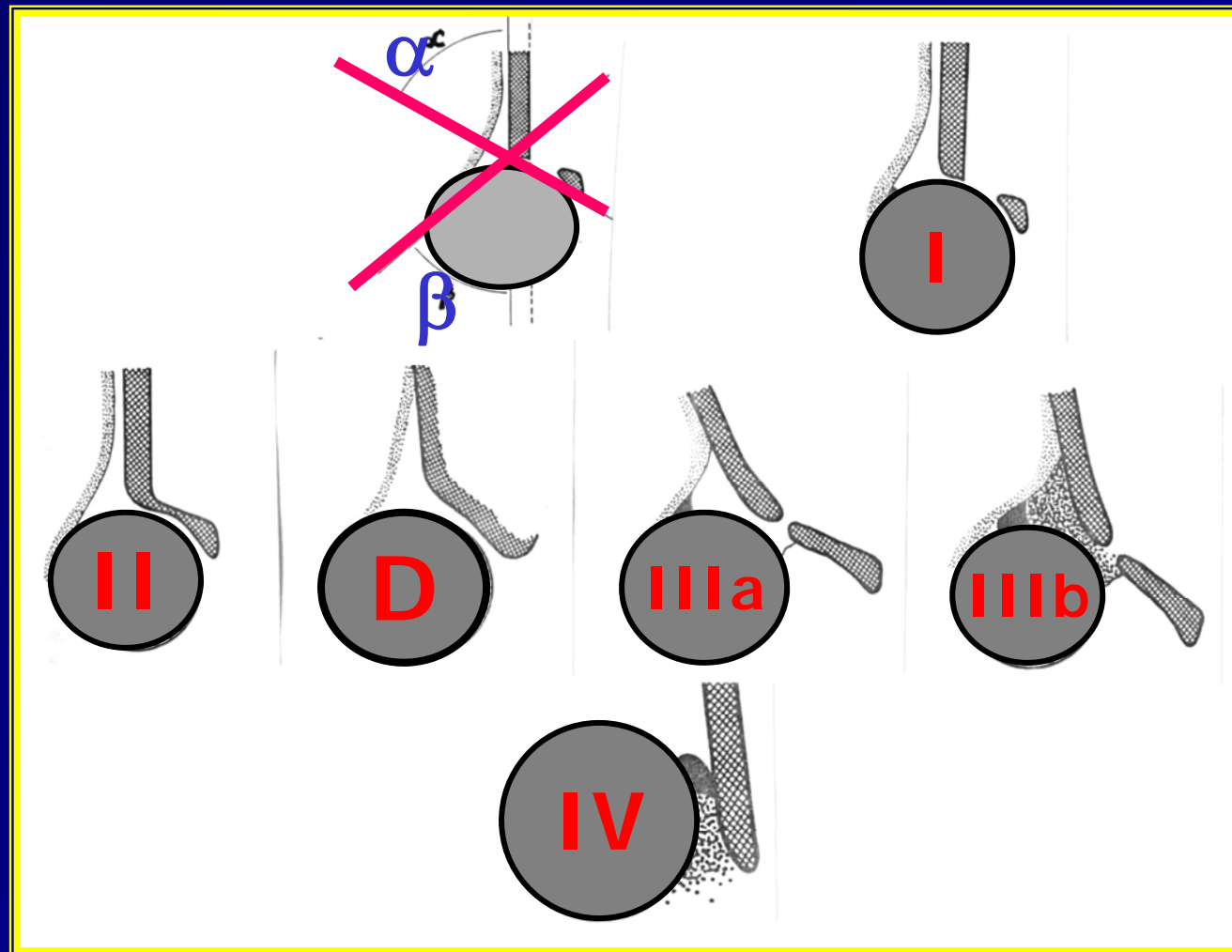
Development of the hip joint



USG



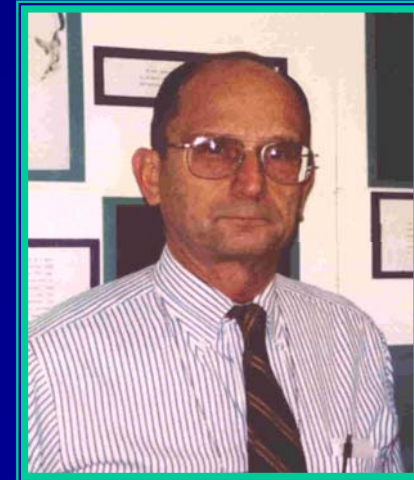
GRAF'S Method



HARCKE'S method

DYNAMIC

- Examination in two planes
 - TRANSVERSE
 - CORONAL
- 4 Typs of hip development
 - * Normal
 - * Laxity with stress
 - * Subluxation
 - * Dislocation



HARCKE'S method

DYNAMIC



**TRANSVERSE
NEUTRAL**



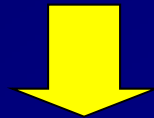
**TRANSVERSE
FLEXION**



**CORONAL
FLEXION**

DIAGNOSIS

Clinical examination

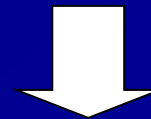
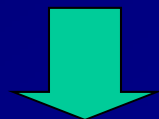


USG = First month of life



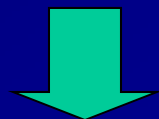
DYSPLASIA

NORMAL



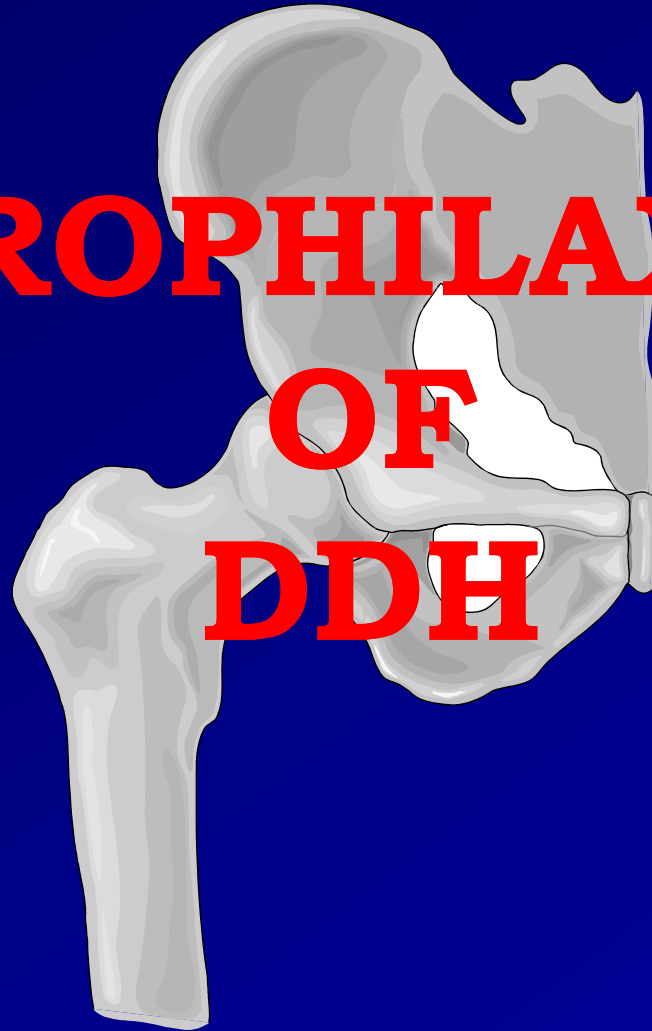
Treatment

USG at 4 months

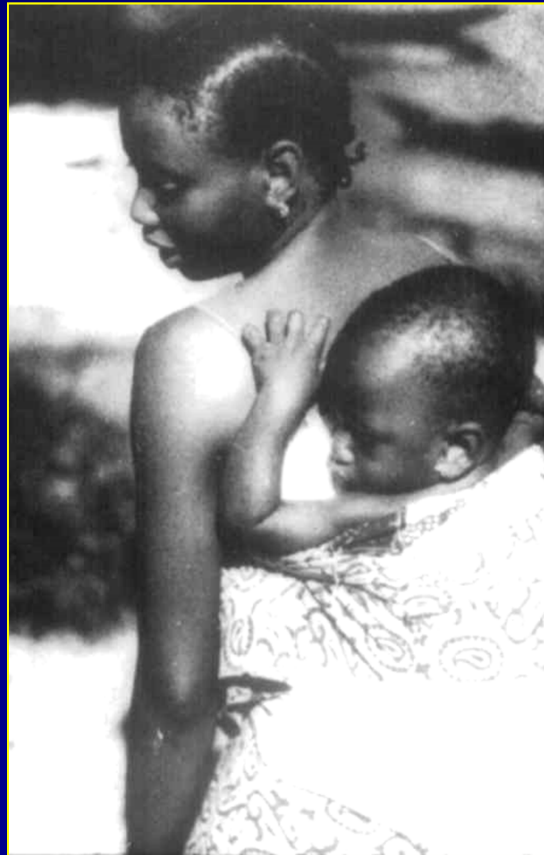


US Monitoring every 3-4 week

**PROPHILAXIS
OF
DDH**



PROPHILAXIS

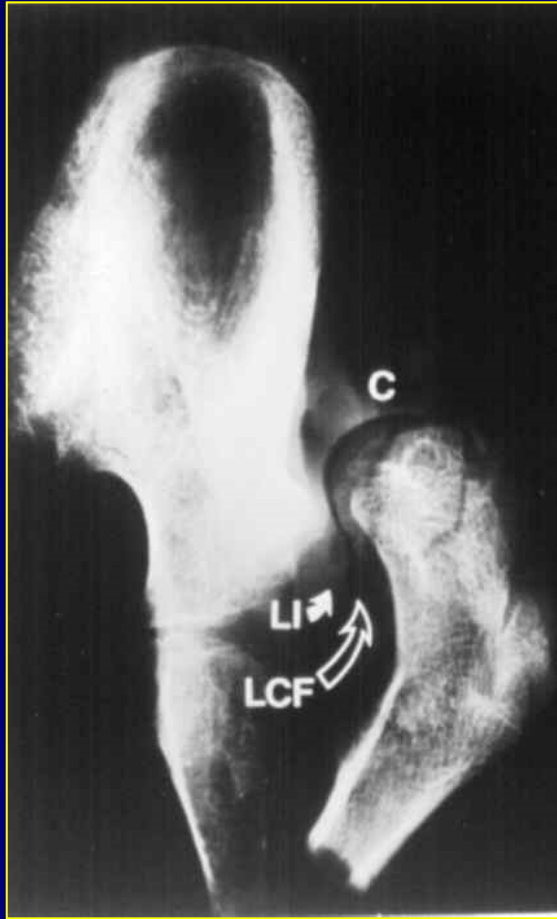


PROPHYLAXIS

- * Examination of every newborn**
- * Properly carried child**
- * Properly diapers**

EARLY DIAGNOSIS :

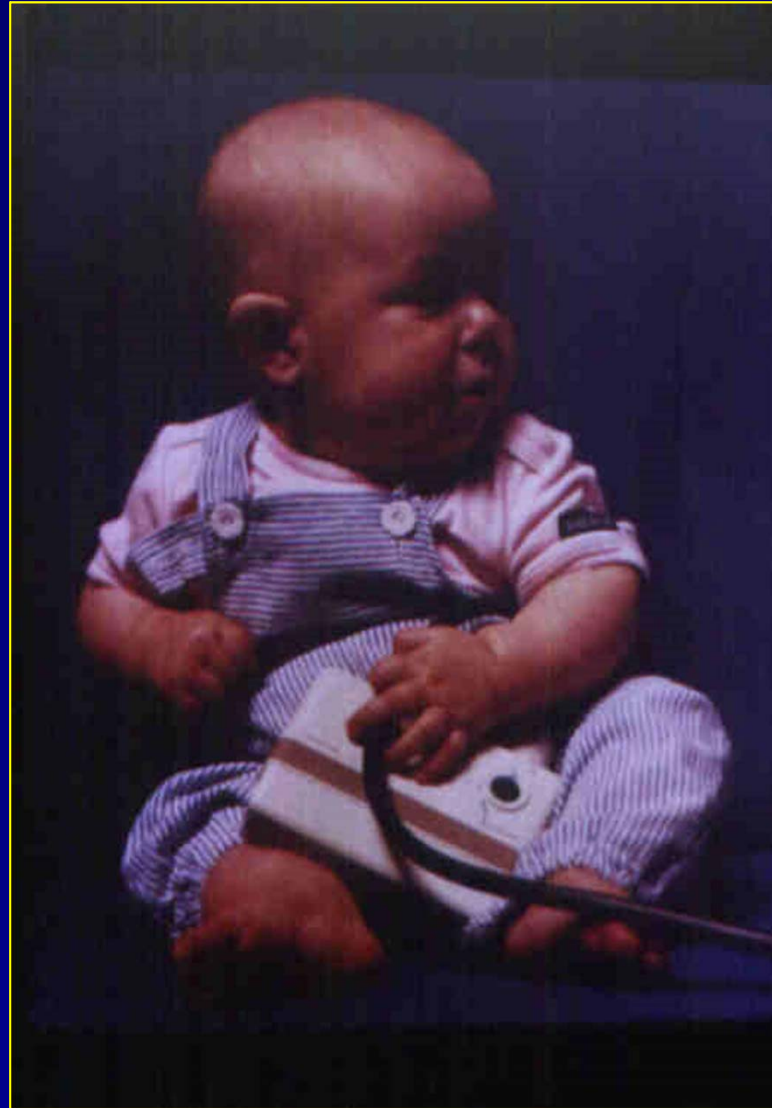
- * Early treatment**
- * Shorter period of treatment**
- * Easier treatment**
- * Decreased number of surgery**



PROPHYLAXIS



PROPHYLAXIS



CEREBRAL PALSY

**THE GROWING PROBLEM IN
ORTHOPAEDICS**

CEREBRAL PALSY

ETHIOLOGY :

1. PRENATAL:

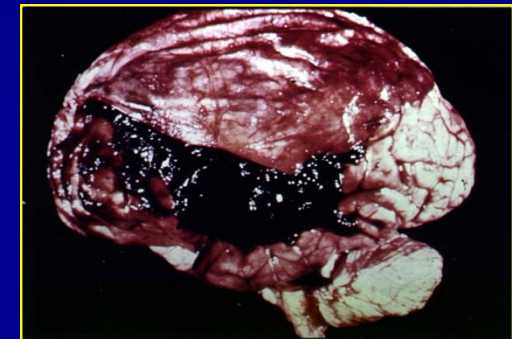
- * **mother diseases during pregnancy** – *myocardial or respiratory insufficiency, anemia, diabetes, gestosis*
- * **disorders of placenta** – *central placenta, arterial obliteration..*
- * **uterine myoma, injury, infection, serologic incompatibility**

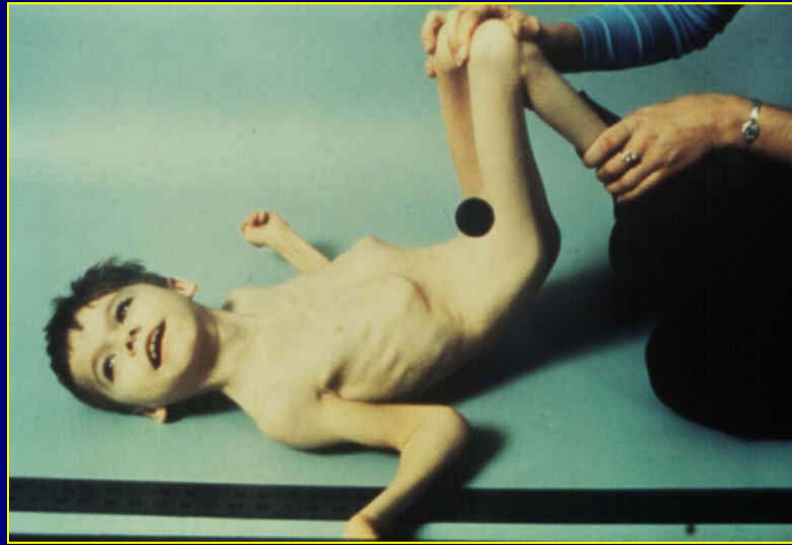
2. PERINATAL !!!

- * **asphyxia**
- * **prematurity**
- * **birth injury**

3. AFTER DELIVERY :

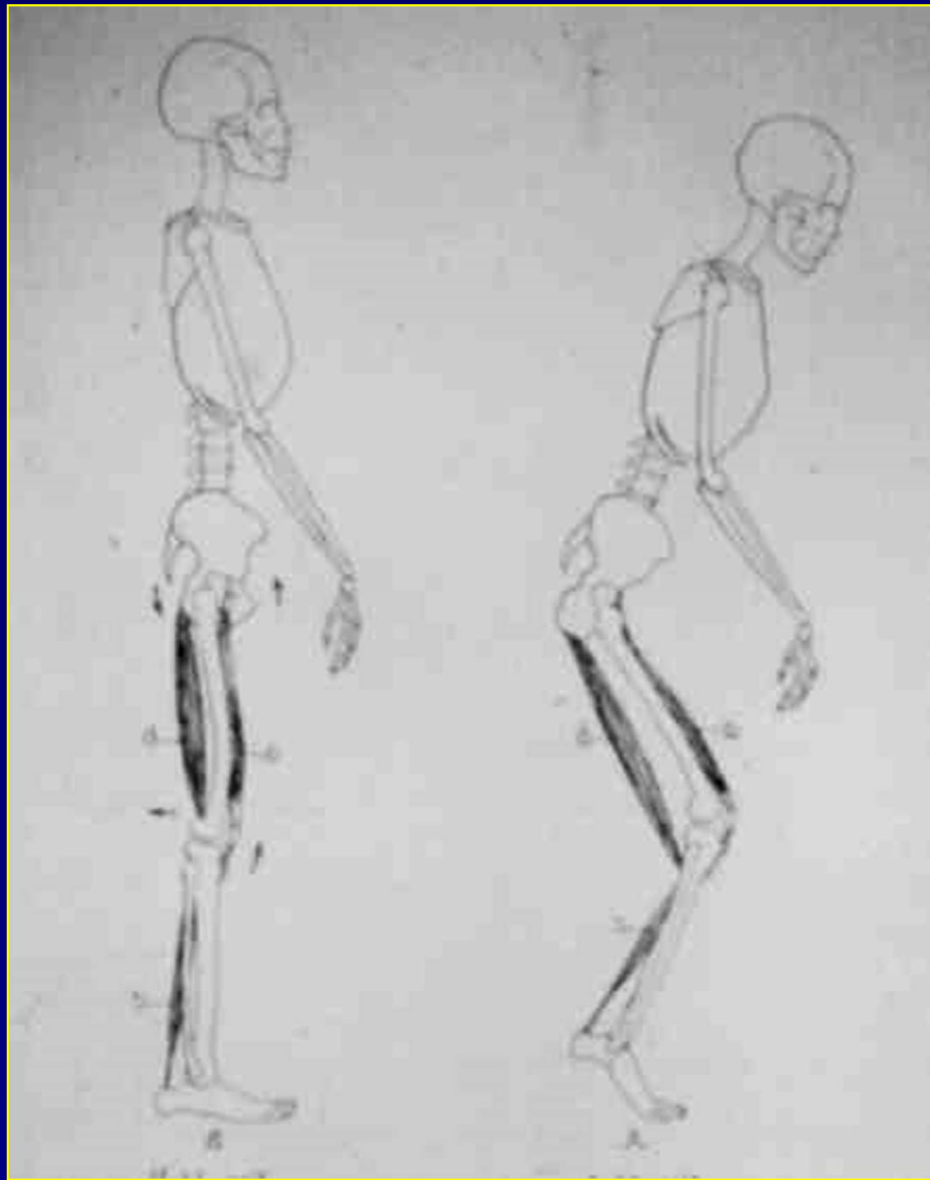
- * **meningitis**
- * **injury of CNS**





WHAT IS CEREBRAL PALSY ?

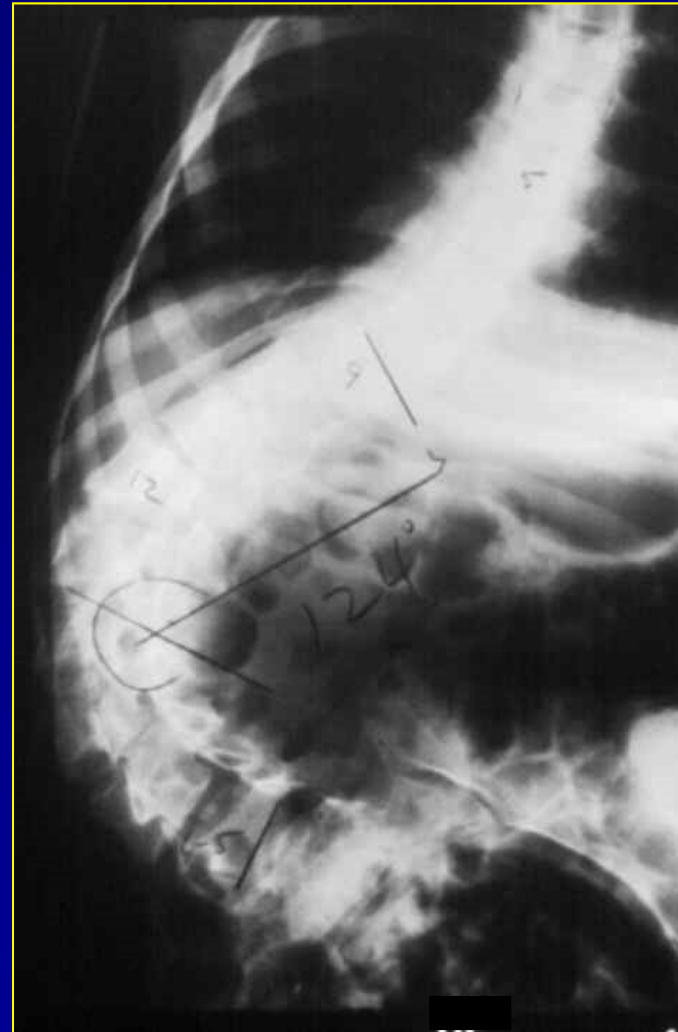
- **This is no one disease**
- **This is a collection of motor function disorders as a cause of damage of CNS, before, during or after delivery**
- **This is non-progressive disease**
- **If motor disorders continue to progress or only are periodically seen it means that **it is not CP****



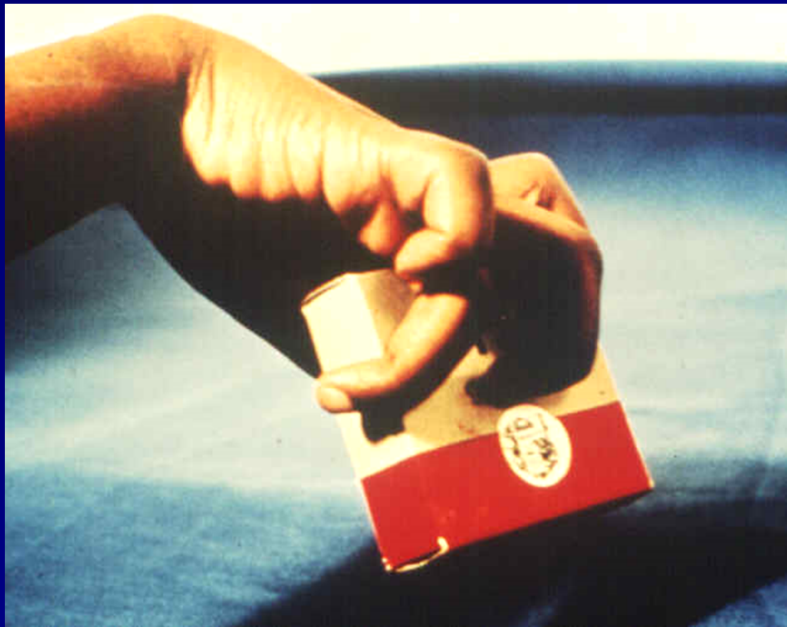
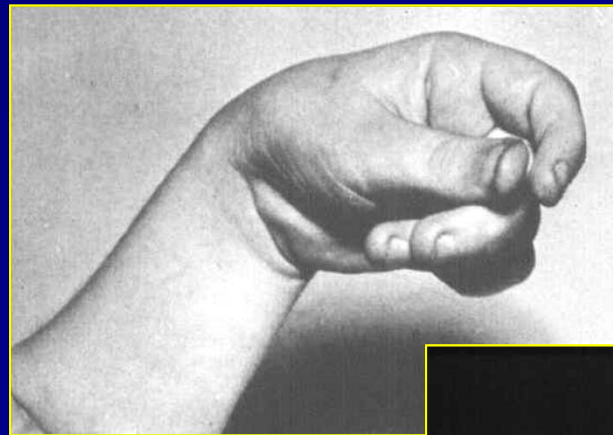




SPINE



HAND



HIP JOINT





**ACUTE
HEMATOGENOUS
OSTEOMYELITIS
AND
SEPTIC ARTHRITIS**

ACUTE HEMATOGENOUS OSTEOMYELITIS

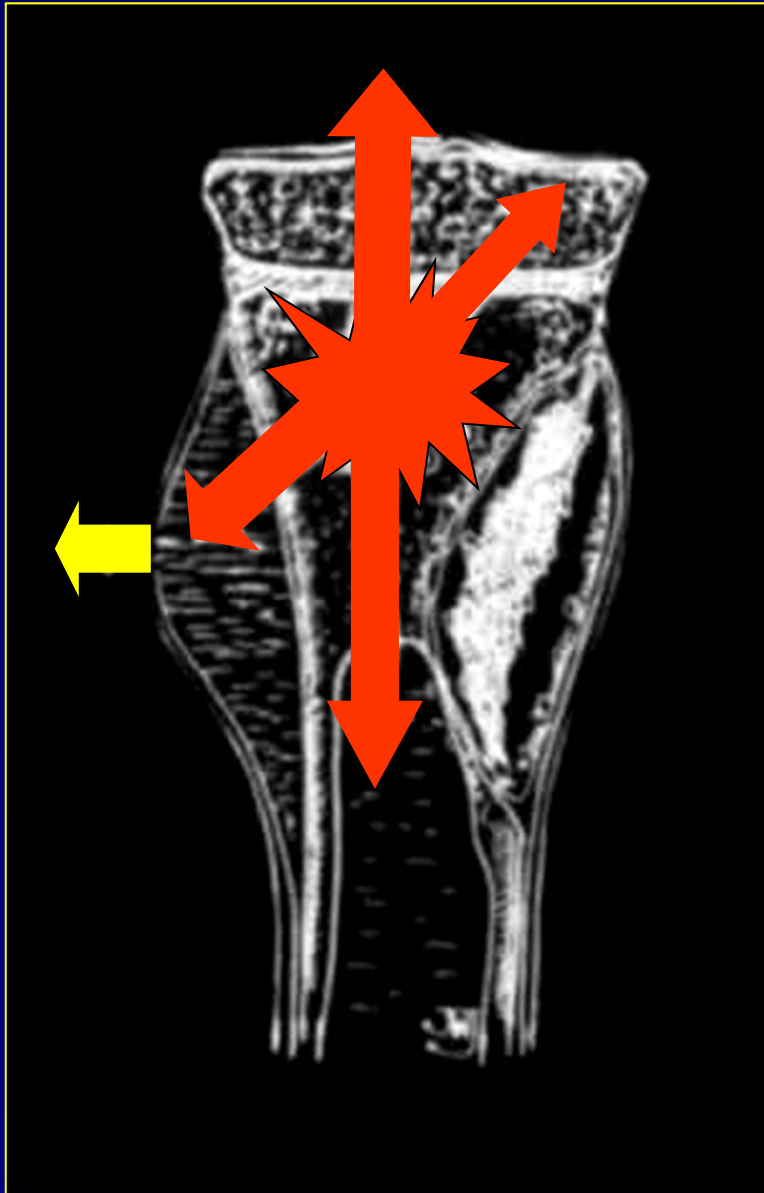
The most common seen in

- * NEWBORNS**
- * INFANTS**







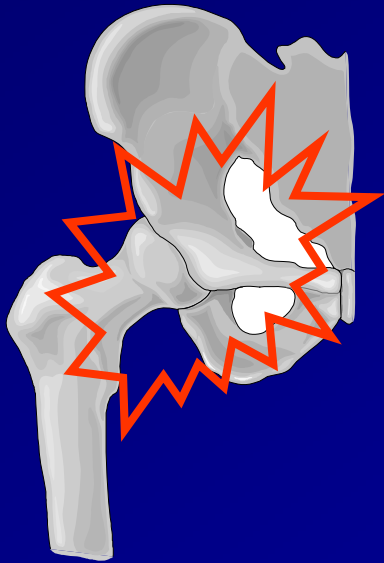


**Originates in
methaphysis of the
long bones**

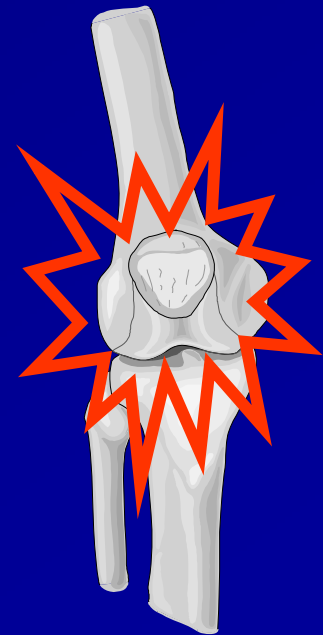
- 1. Spongiosa**
- 2. Slower blood flow**
- 3. Anasthomoses
vein-arteria**

ACUTE HEMATOGENOUS OSTEOMYELITIS

Most common seen in



Hip joint
Knee joint

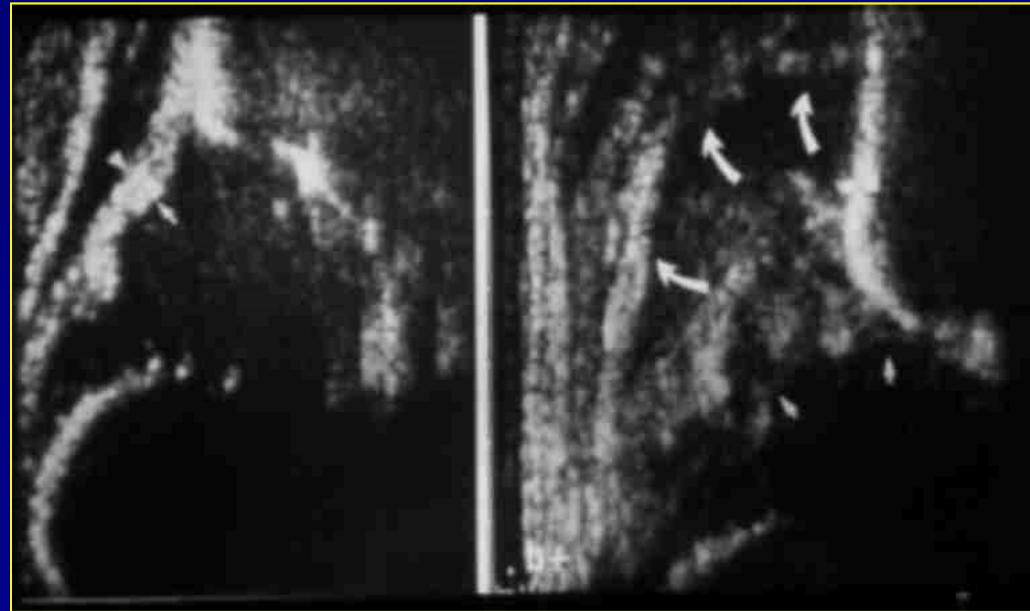


Septic arthritis

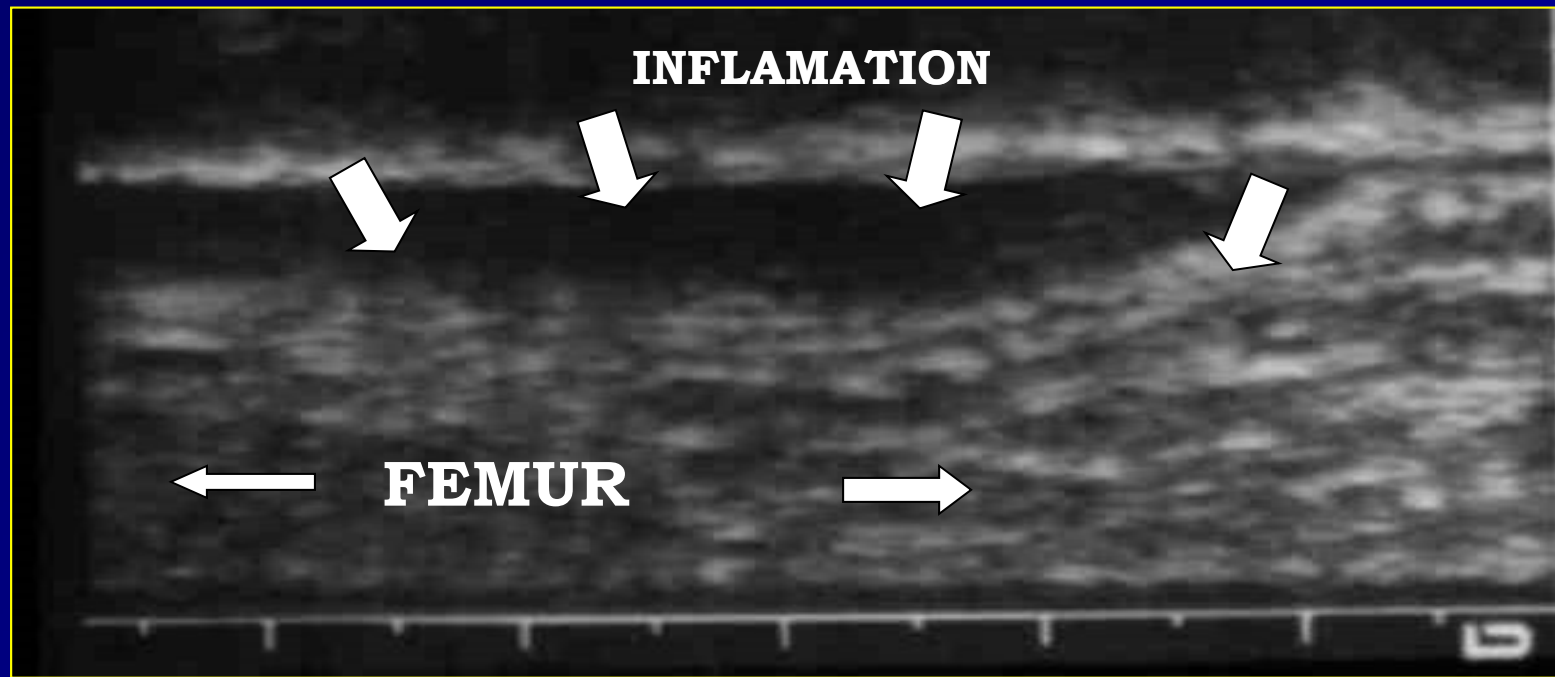


SEPTIC

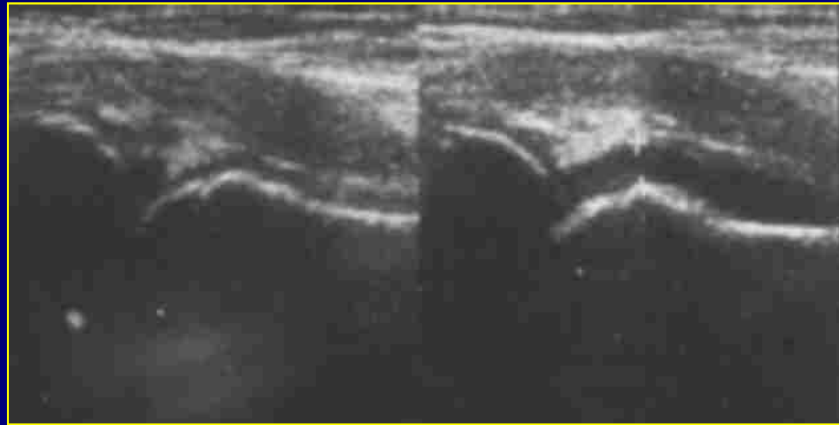
NORMAL



ACUTE HEMATOGENOUS OSTEOMYELITIS



US presentation of effusion in the hip joint

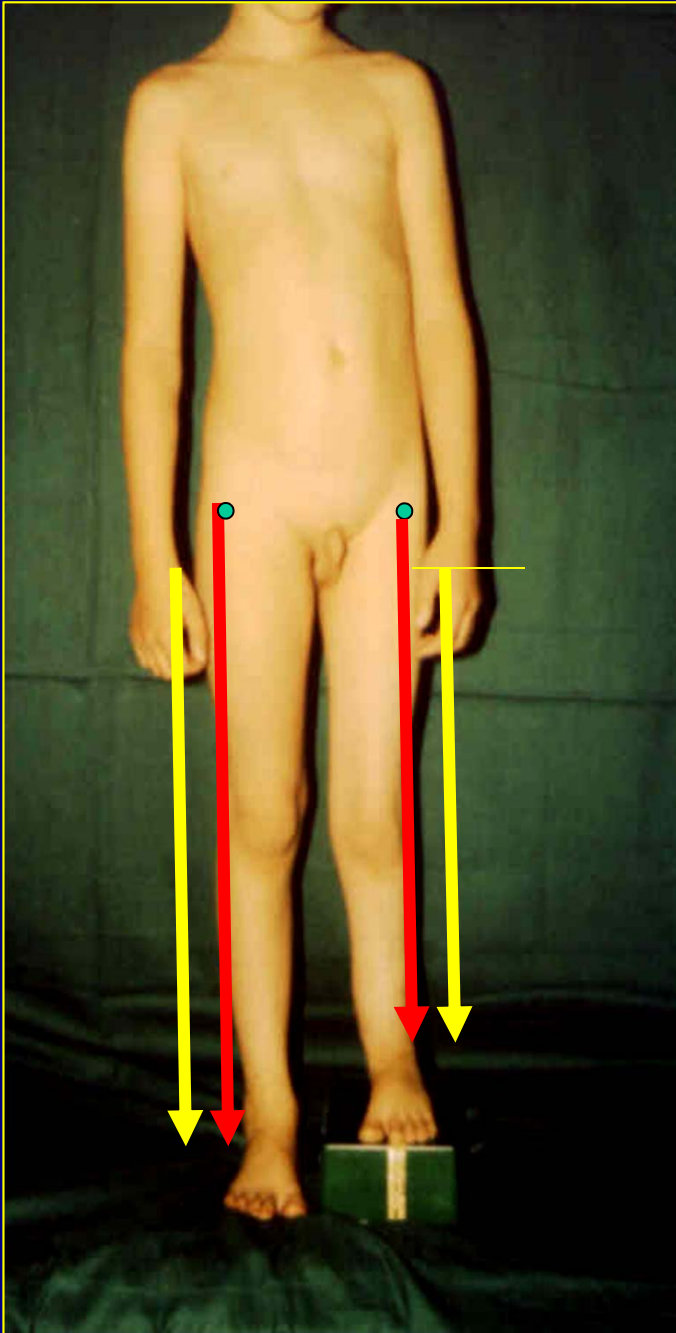


KNEE JOINT

LLD

FROM 4 TO 9 CM

**LIMB LENGTH
DISCREPANCY
PROBLEMS**



LLD



ETIOLOGY OF LLD

1. **Congenital diseases** - hypoplasia, aplasia, systemic diseases
2. **Ostitis** *demage of the growth plate*
3. **TRAUMA** – *fracture, gp, axis deviation*
4. **Paresis** – *spastic, hypotonic*
5. **OTHERS** – *bone tumors, SCFE, M.Perthes...*

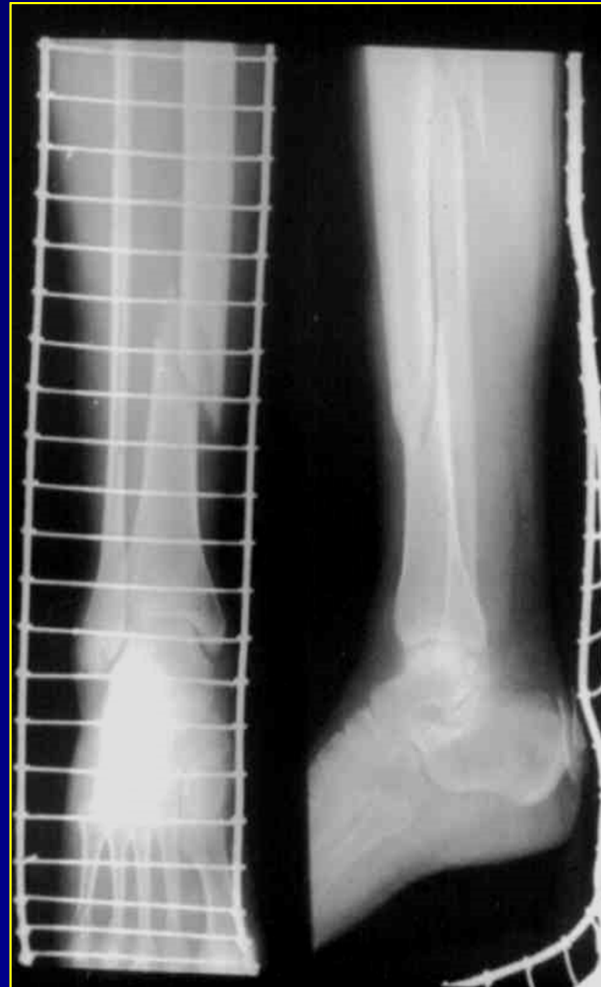
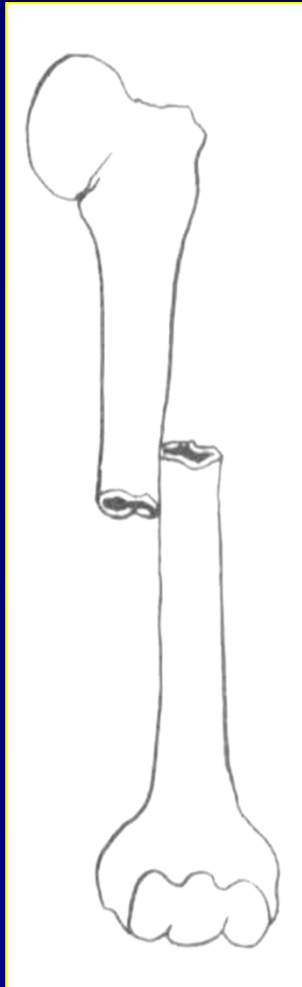
CONGENITAL ANOMALIES



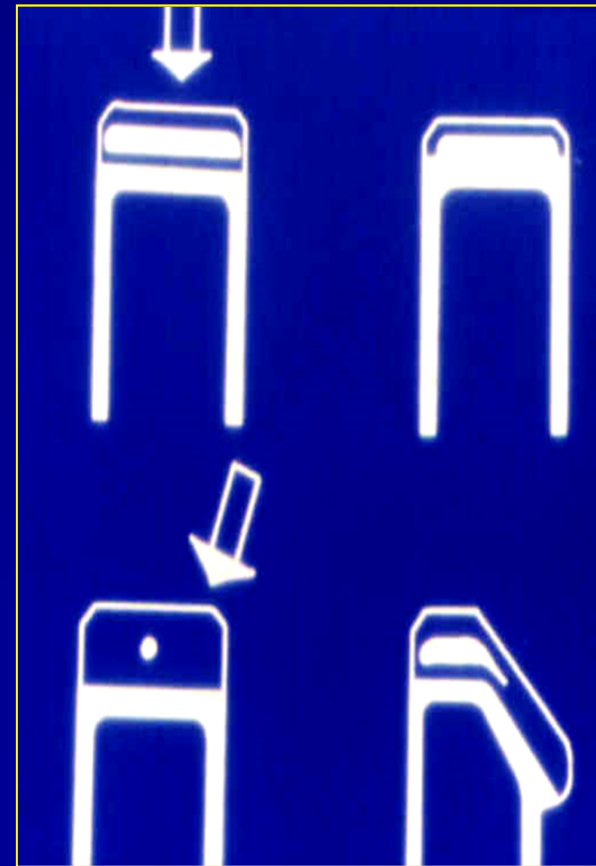
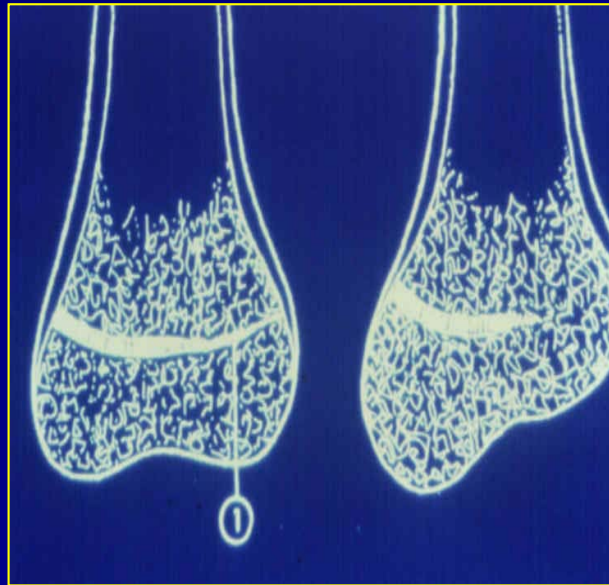
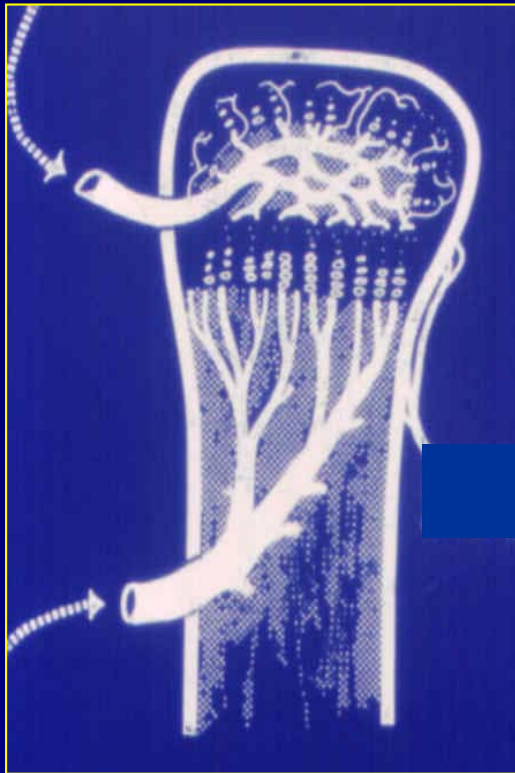
OSTITIS



TRAUMA



INJURY OF THE GROWTH PLATE



TREATMENT

1.  **2 cm** - inlay

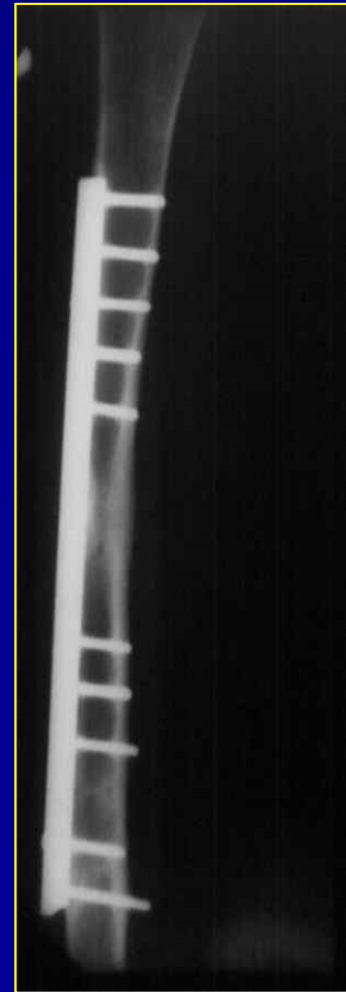
2. **2-4 cm** – inley, epiphysiodesis, shortening

3. **4-6 cm** – epifizjodesis, lengthening

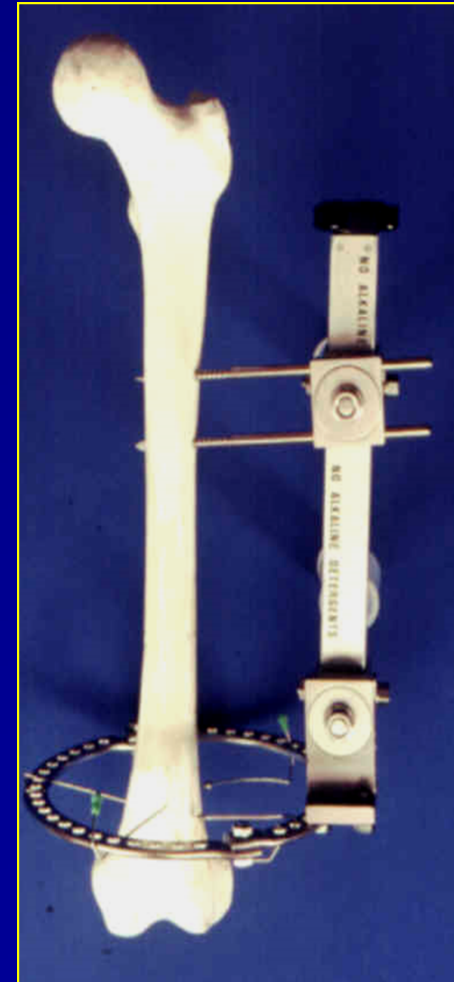
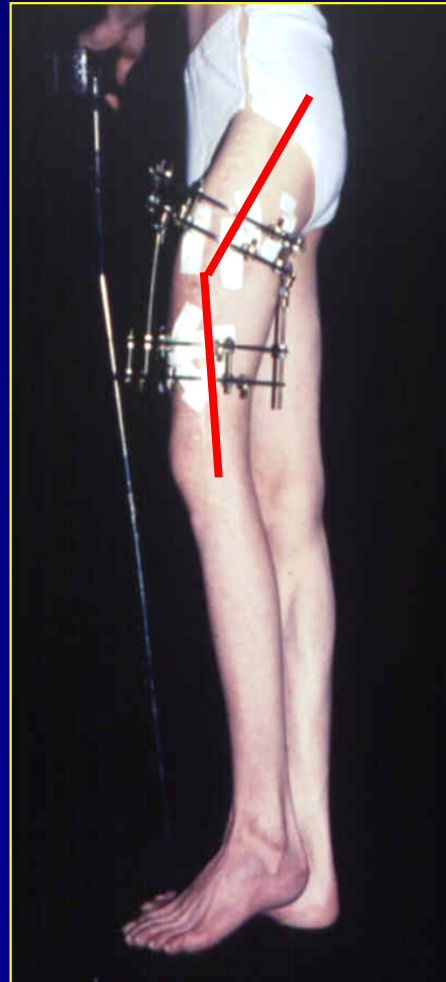
4. **6 - 15 cm** – limb lengthening

5.  **15 cm** - amputation

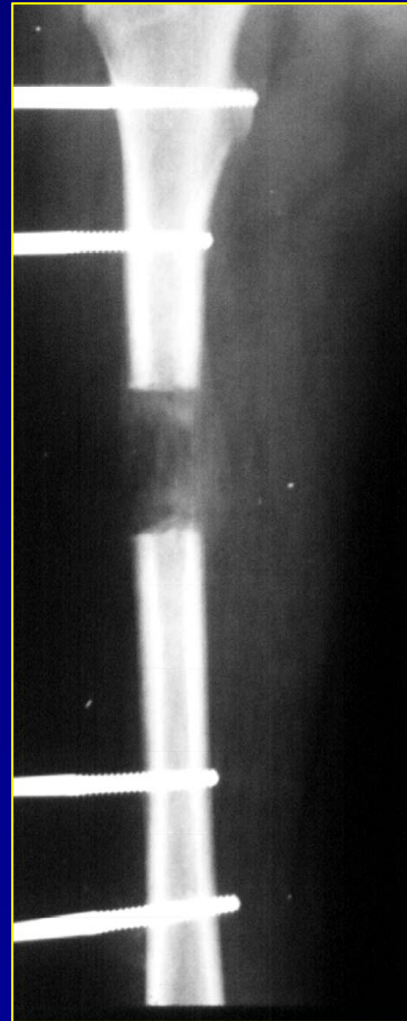
WAGNER'S method



ILIZAROV's method



De BASTIANI'S method





Static diseases

SPINE



SKOLIOSIS

VALGUS



KNEE



VARUS

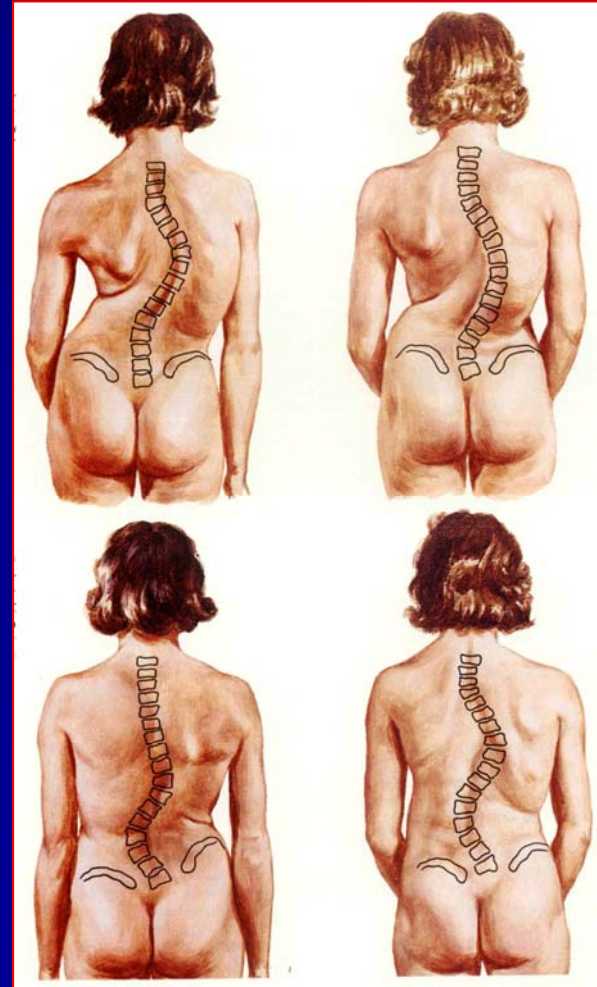
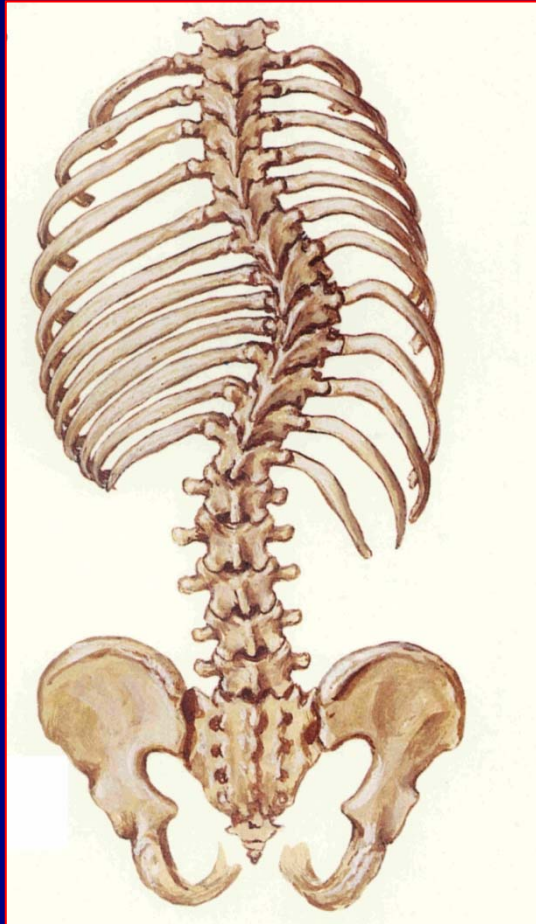
FOOT



VALGUS

SPINE

scoliosis



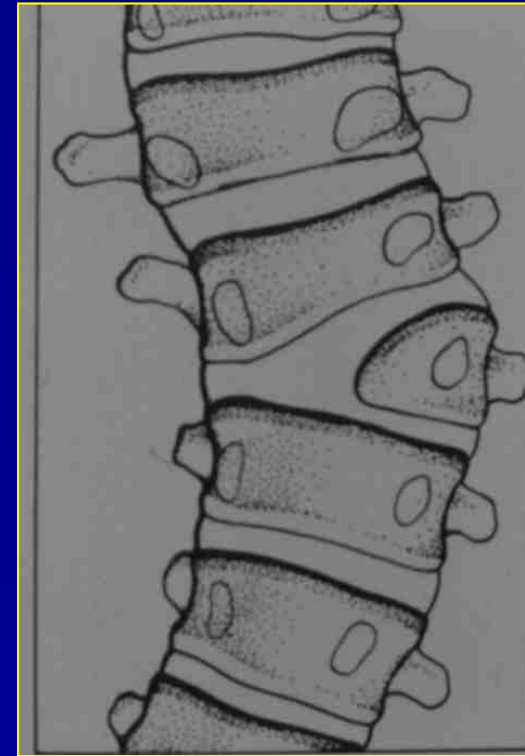
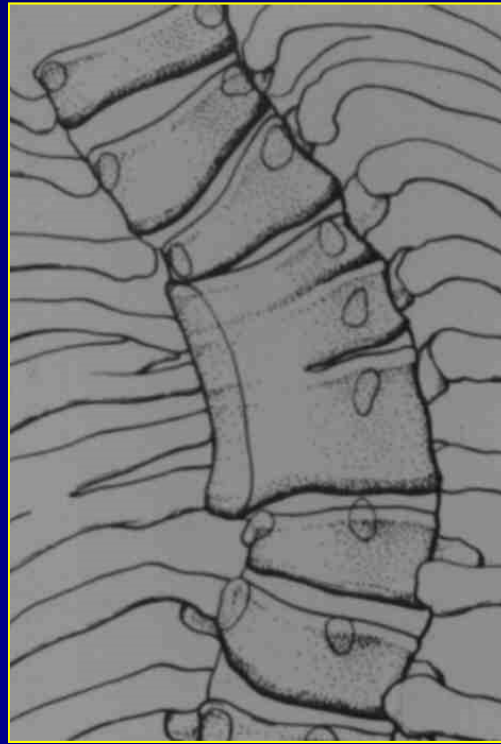
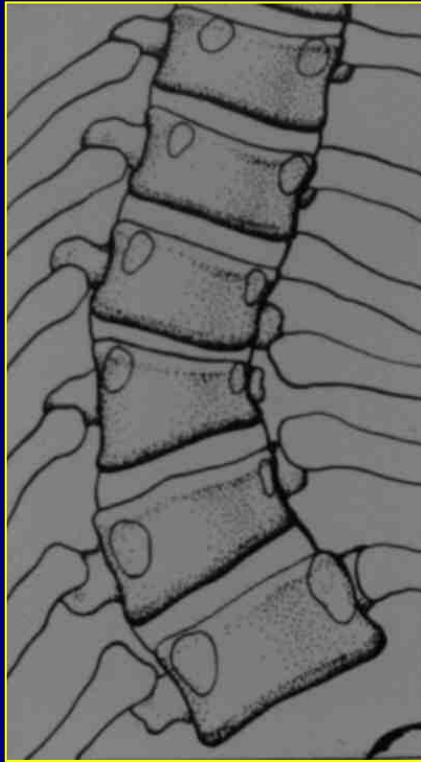
SPINE Scoliosis



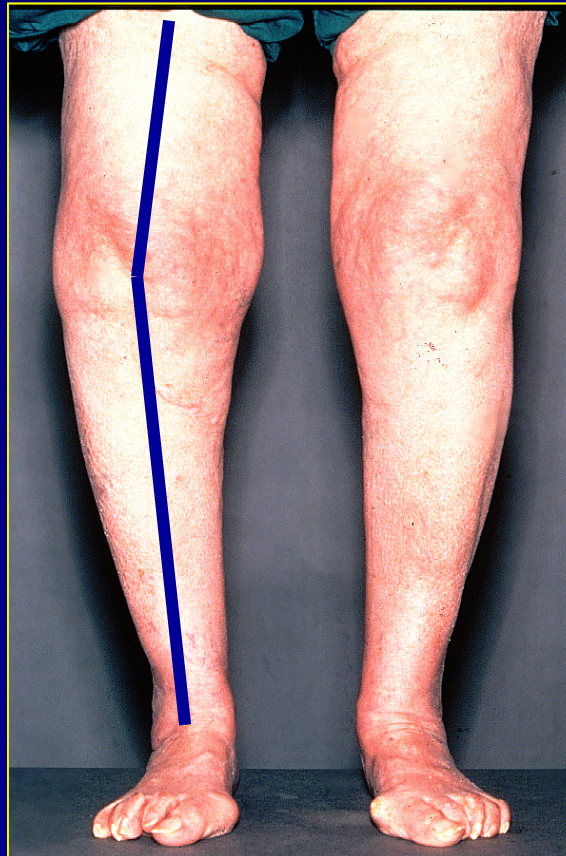
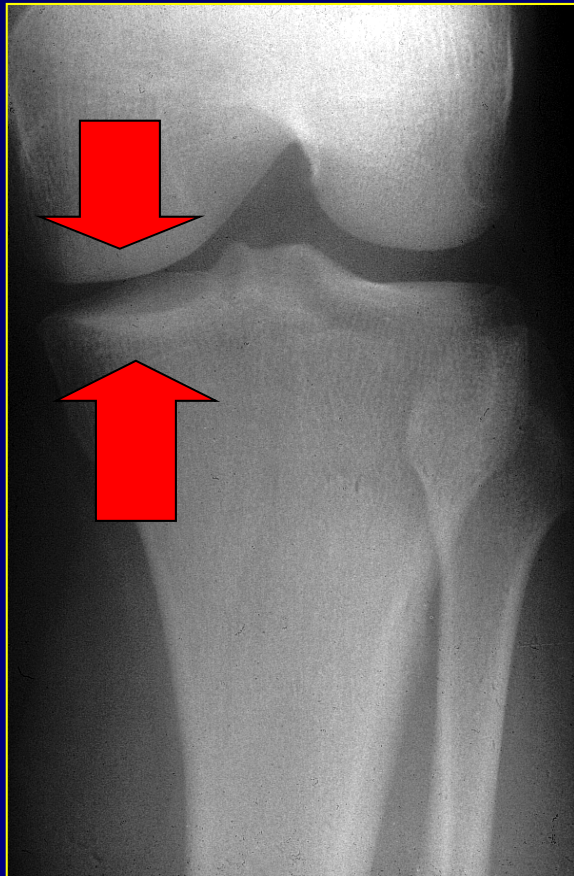
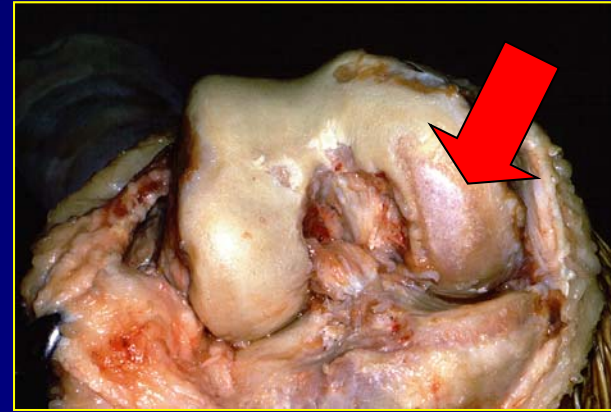
SPINE

scoliosis

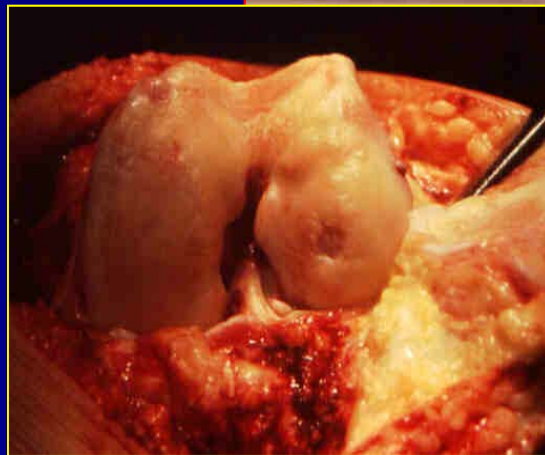
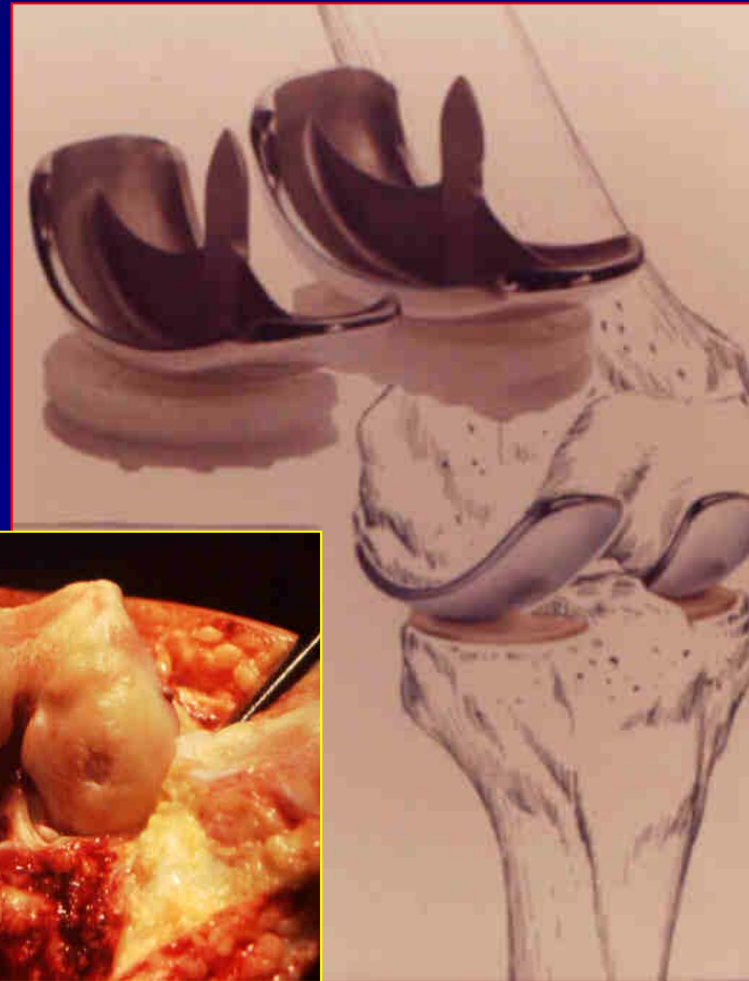
congenital



Knee Deformation



KNEE JOINT

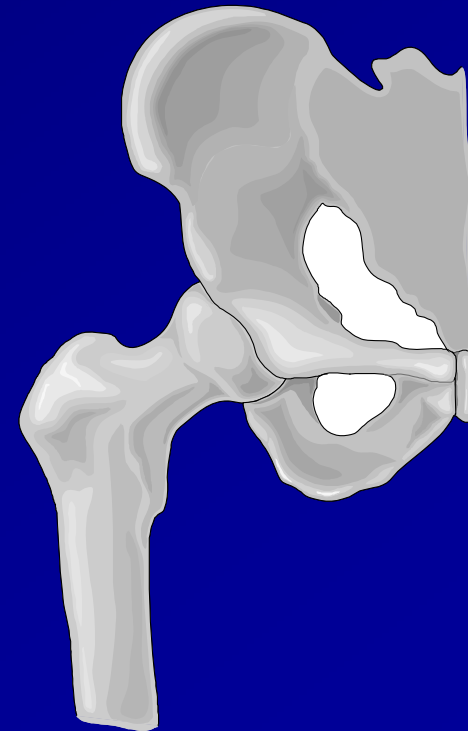


COXARTHROSIS

Primary - *idiopathic*

Secondary - :

- * **DDH**
- * **Trauma**
- * **Arthritis**
- * **SCFE**
- * **Perthes**
- * **Tumors**
- * **Necrosis**
- * **Others**

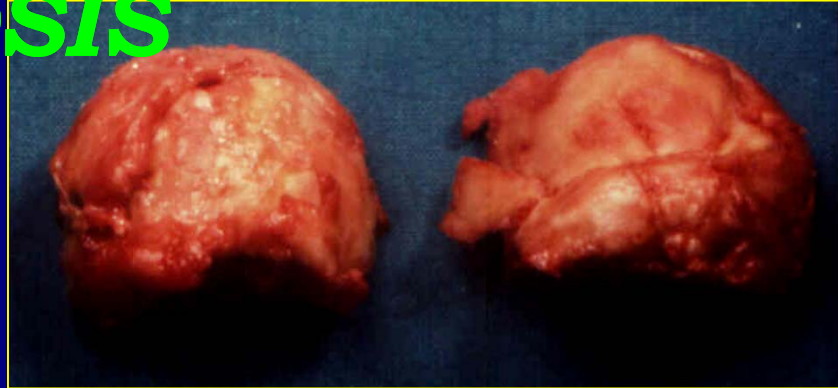


COXARTHROSIS





COXARTHROSIS



Hip Arthritis



THR

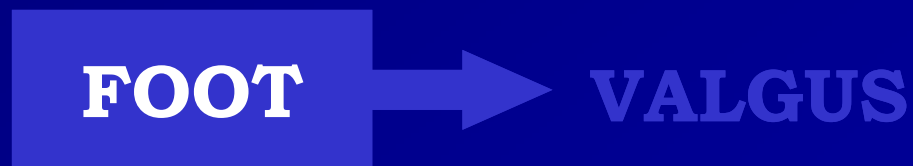
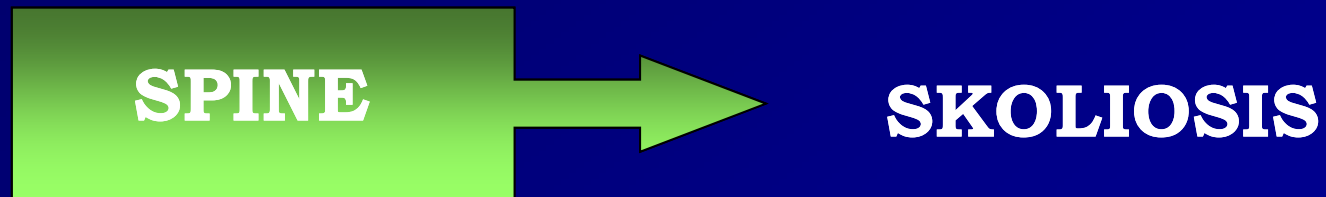


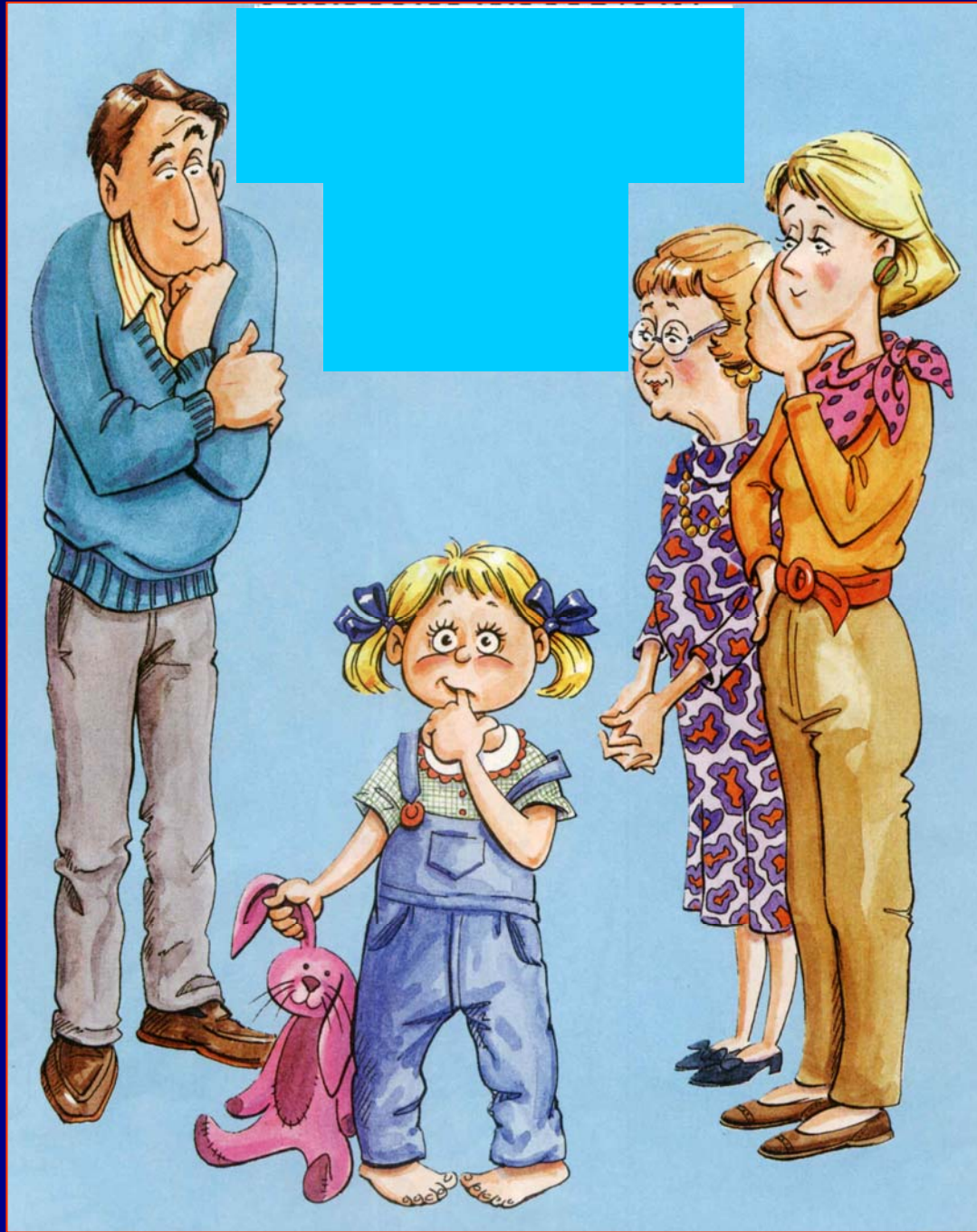
THR



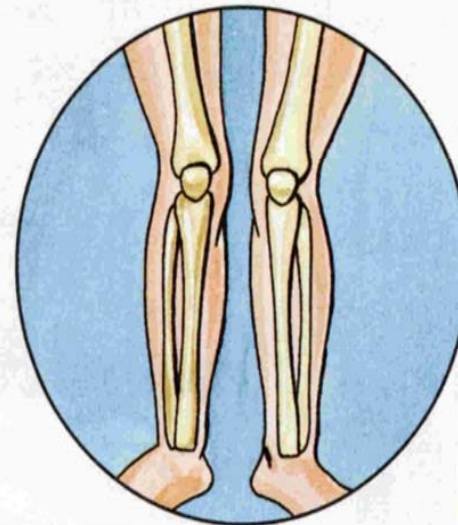
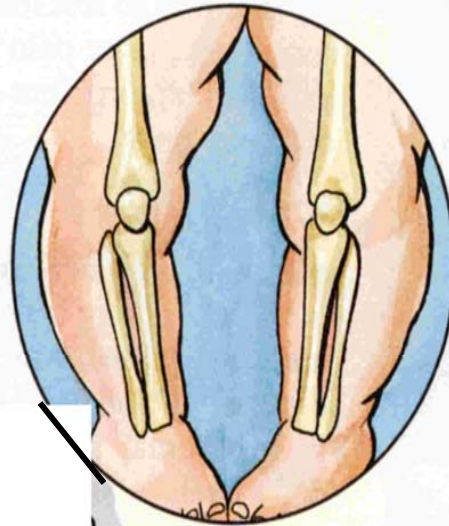
**More than
100 models
of hip prosthesis**

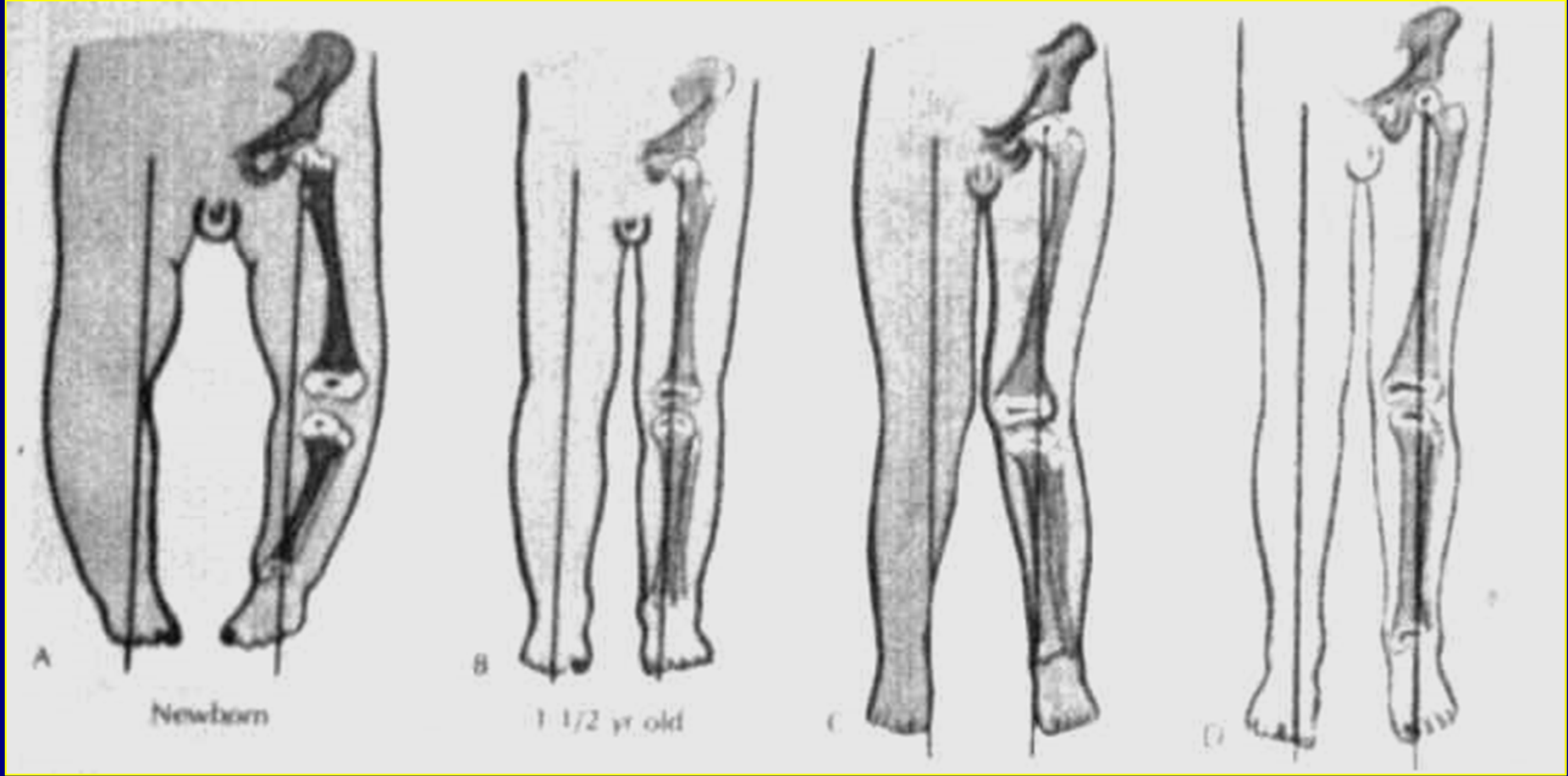
Static diseases





Varus or valgus knee

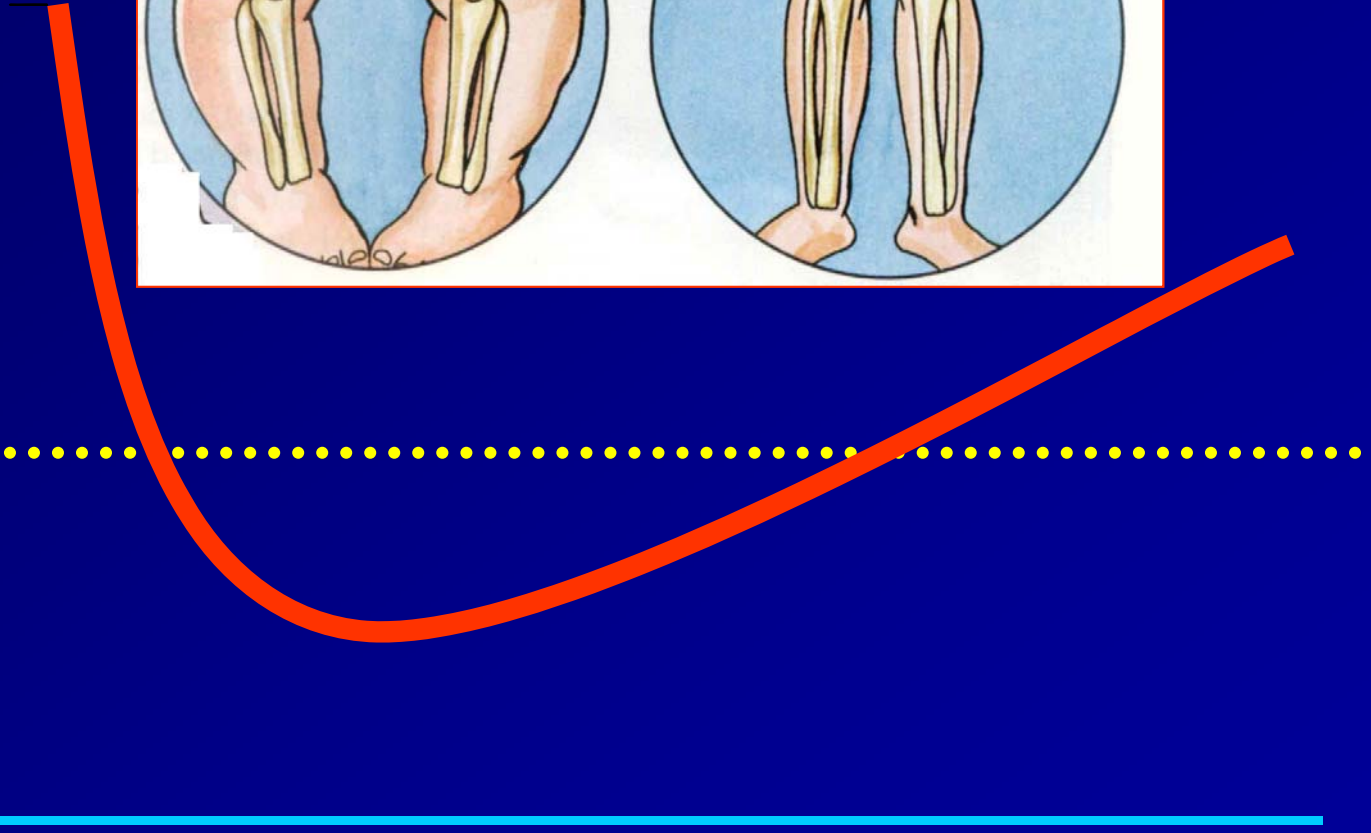
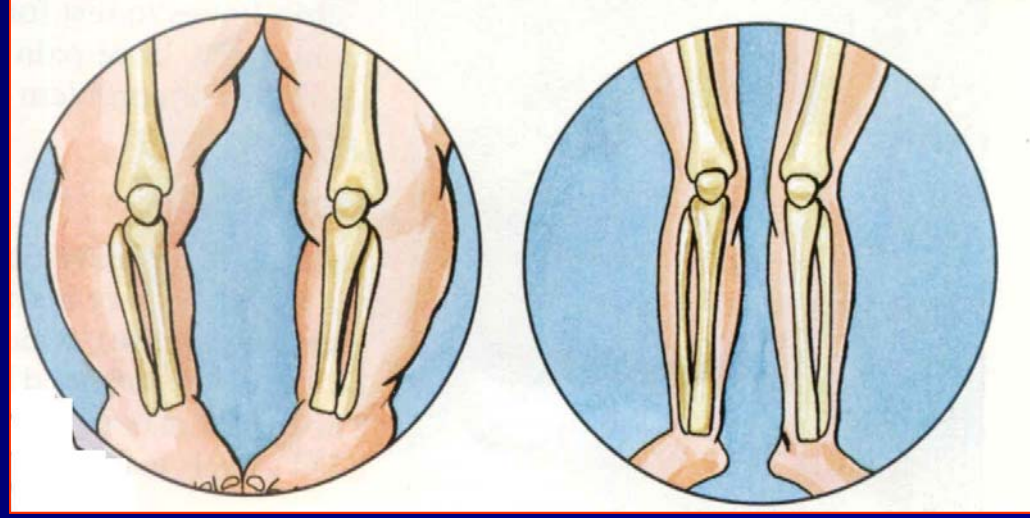




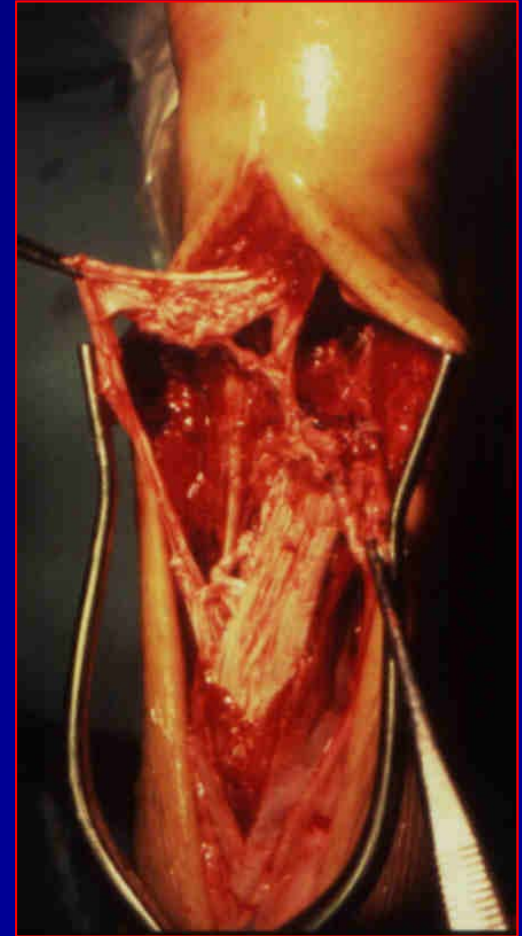
varus
valgus

15° 10° 5° 0° 5° 10° 15° 20°

1 2 3 4 5 6 7 8 9 10 11 12 Age



TRAUMA



TRAUMA





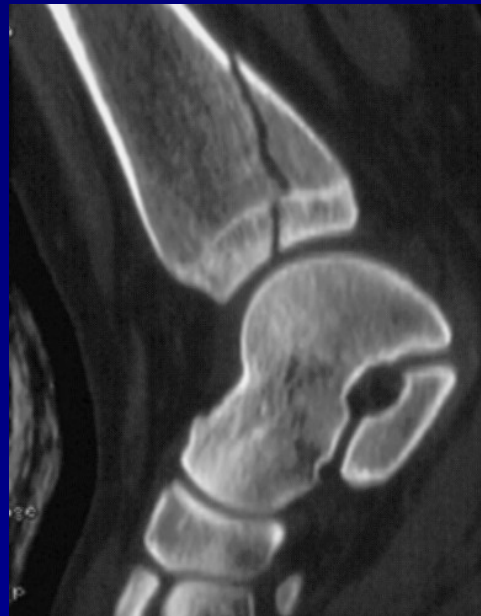
TRAUMA



TRAUMA



TRAUMA



TRAUMA



TRAUMA



Children's fractures



Spica cast treatment



6 month



7 months

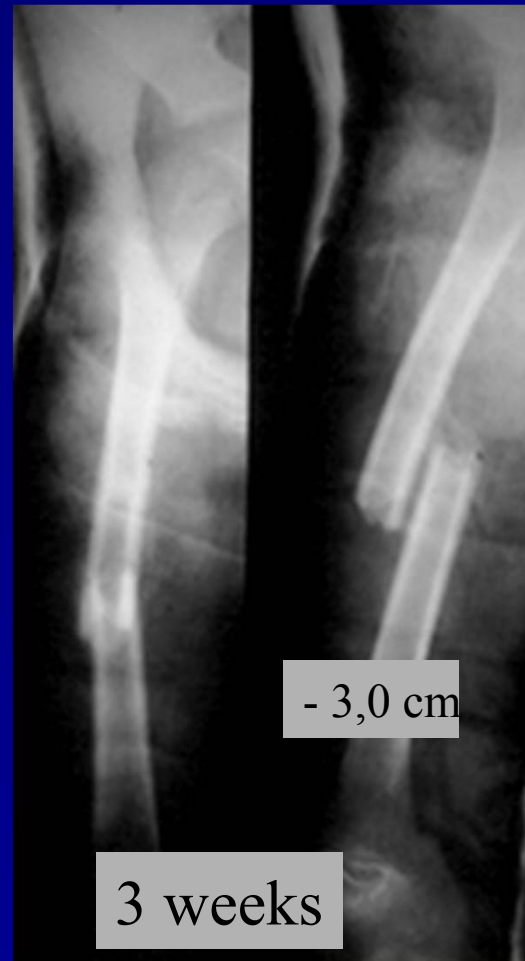
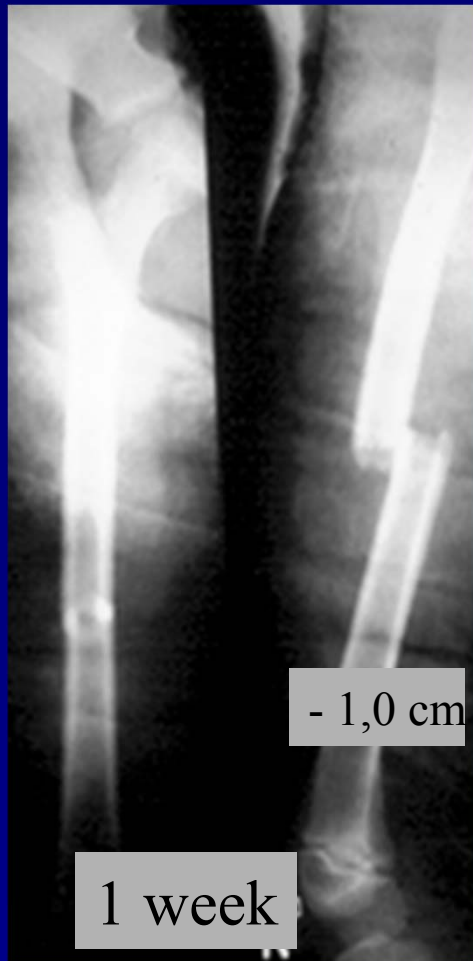
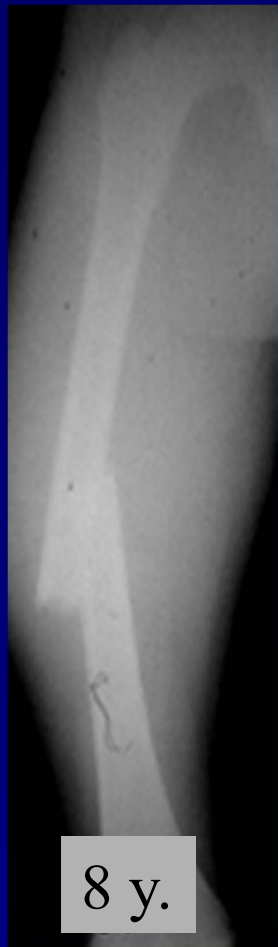


7m

Spica cast - age 3 – 5 years



Spica cast – 2008 no indication in treatment children > 8 years of life



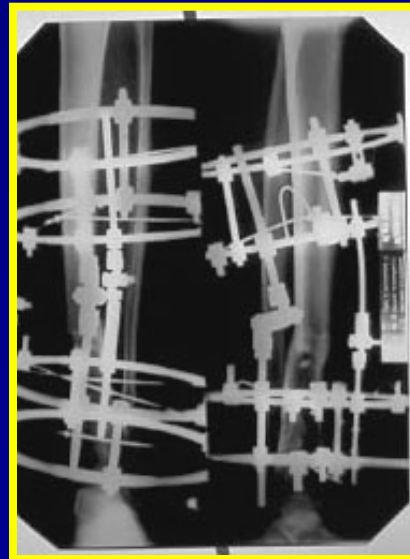
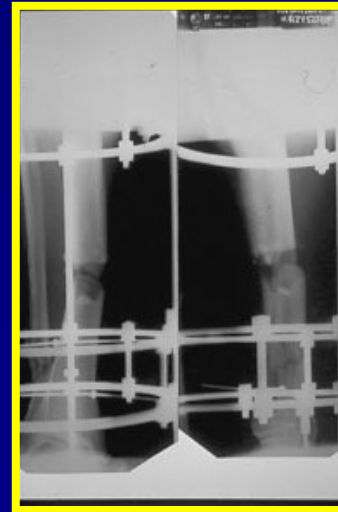
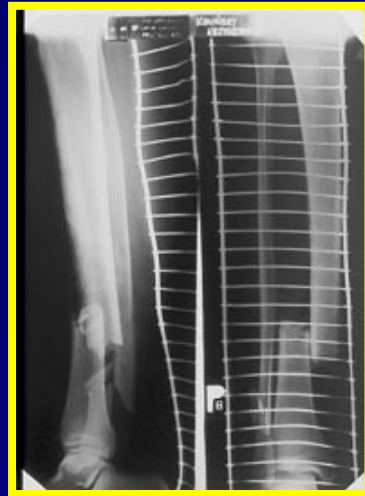
Intramedullary nail

Potential risk of
AVN

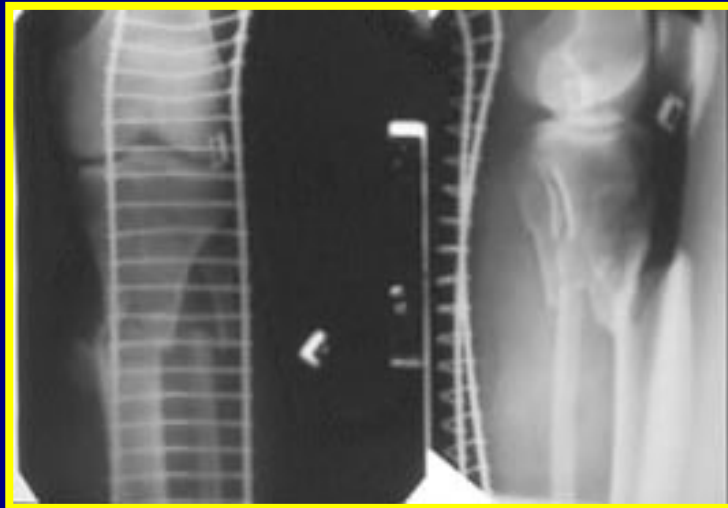


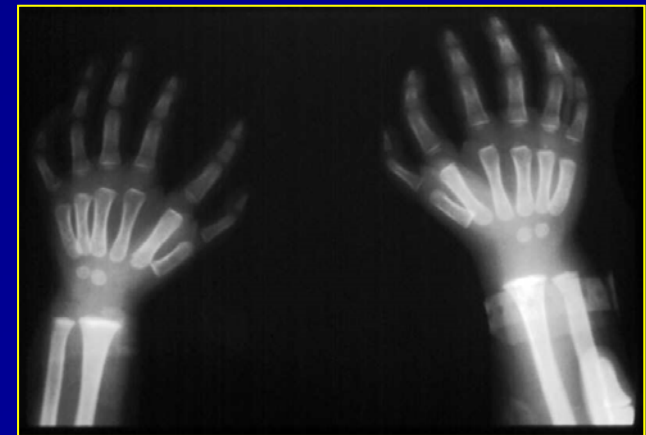
TRAUMA

Patient treated with Ilizarov frame

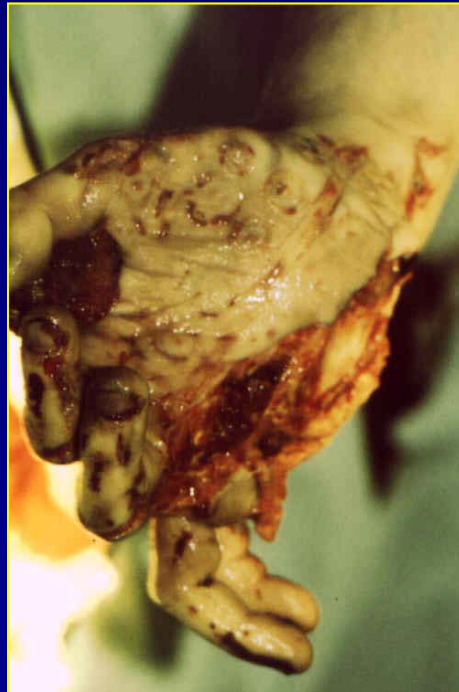


Patient treated with Ilizarov frame



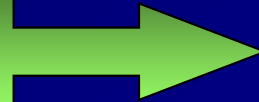






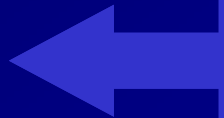
Static diseases

SPINE

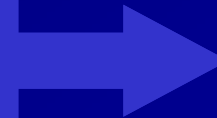


SKOLIOSIS

VALGUS



KNEE



VARUS

FOOT

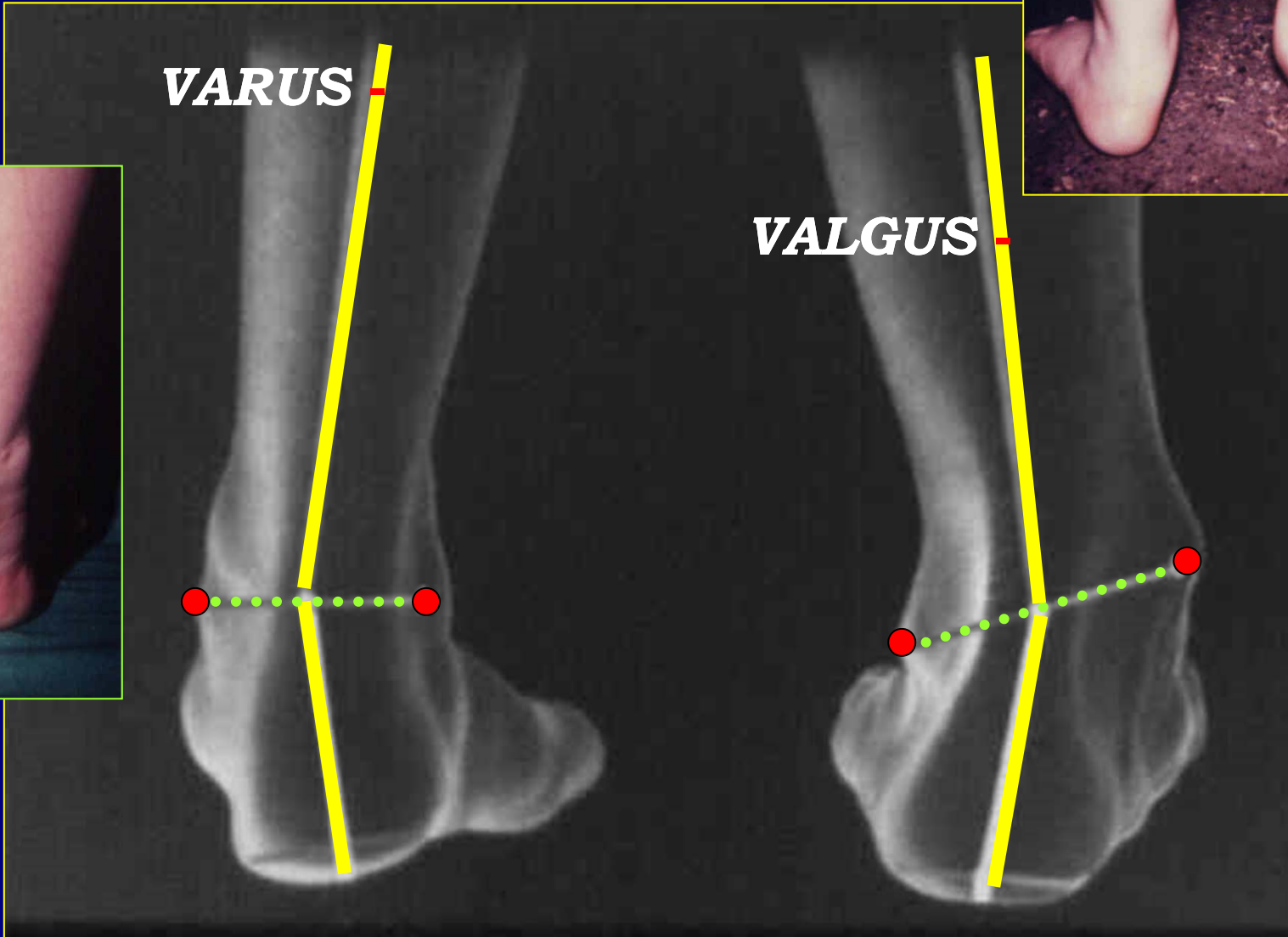


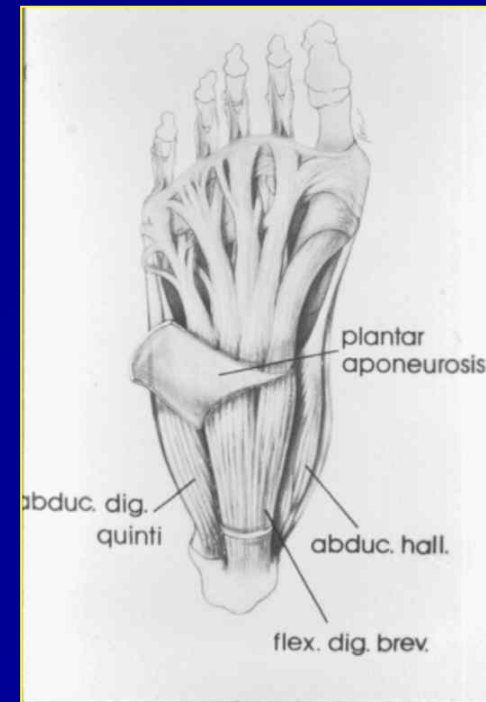
VALGUS



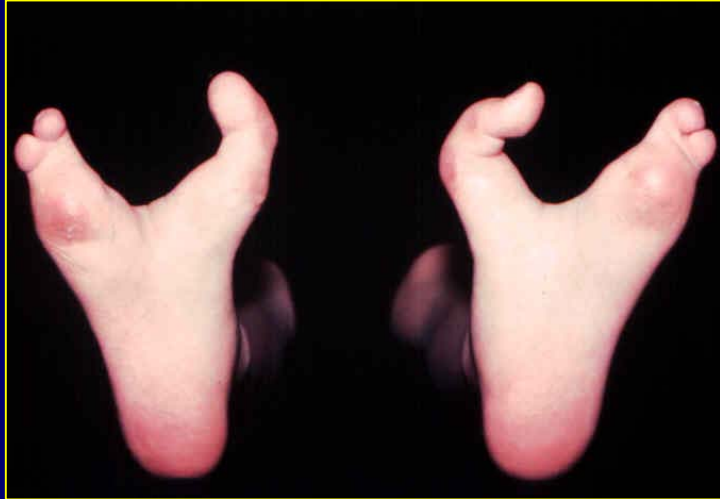
VARUS

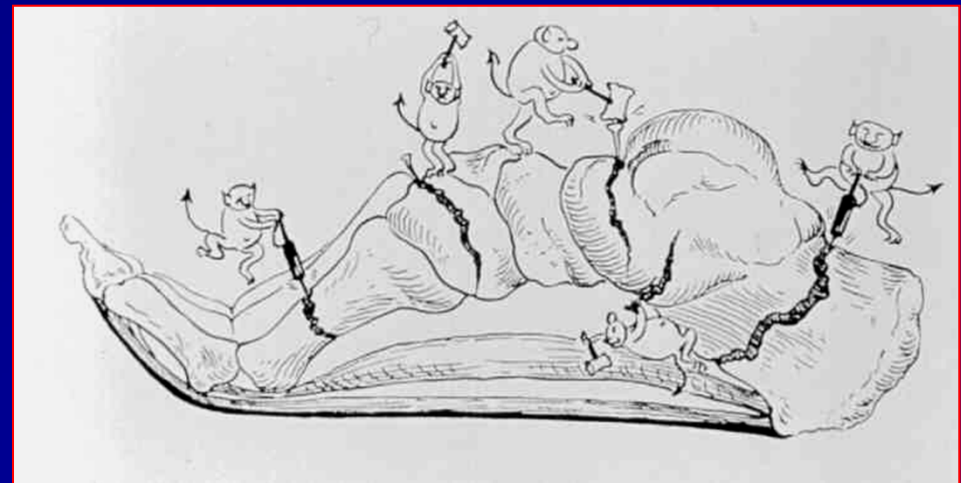
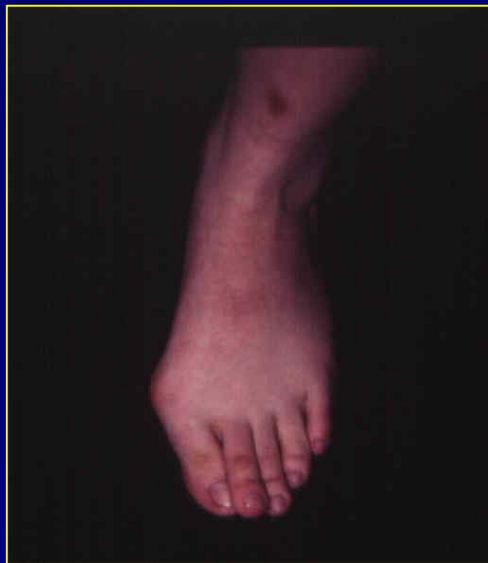
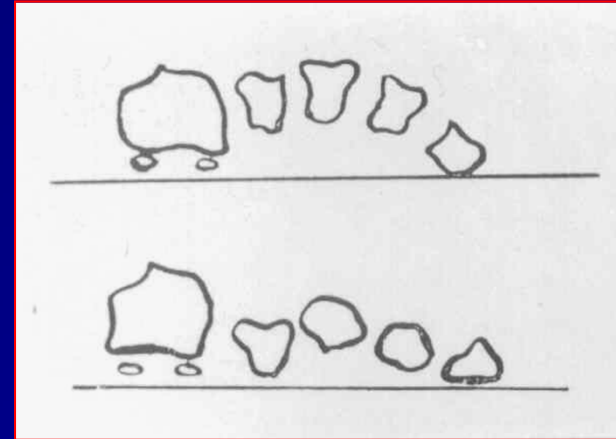
VALGUS





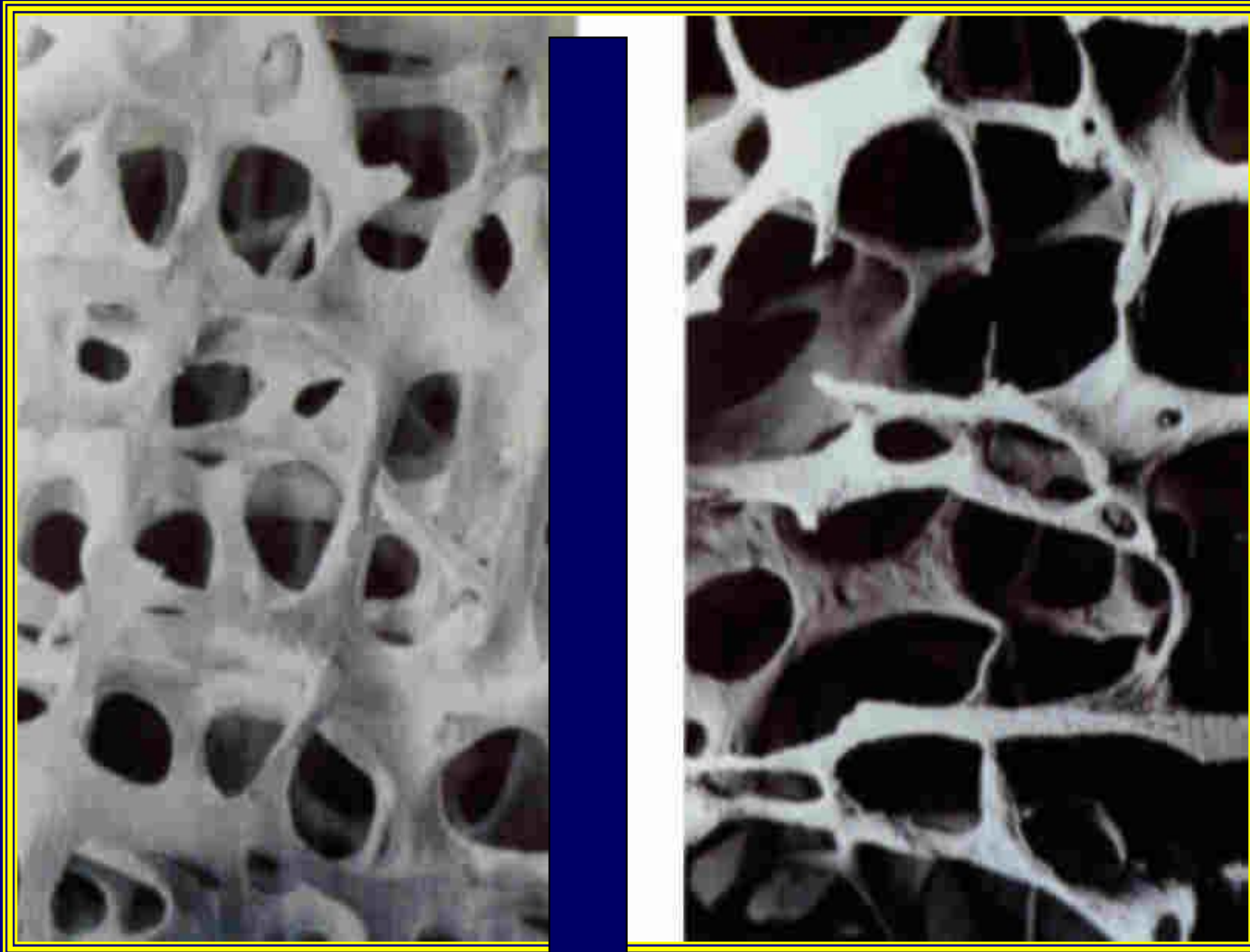






STOPA

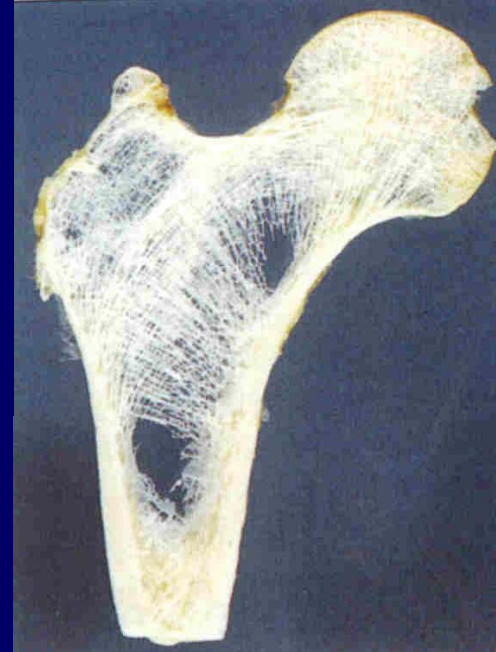
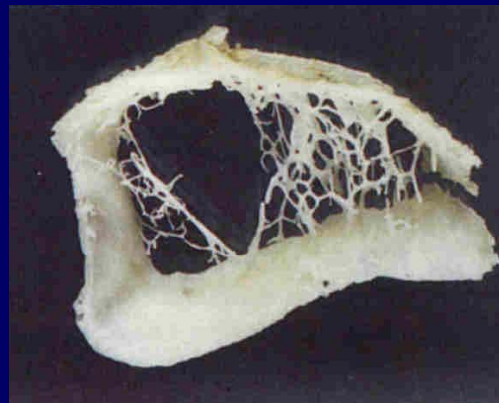
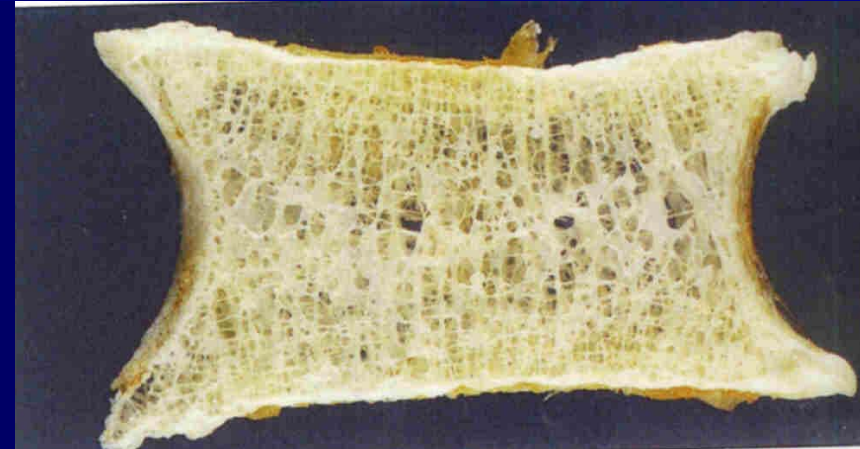
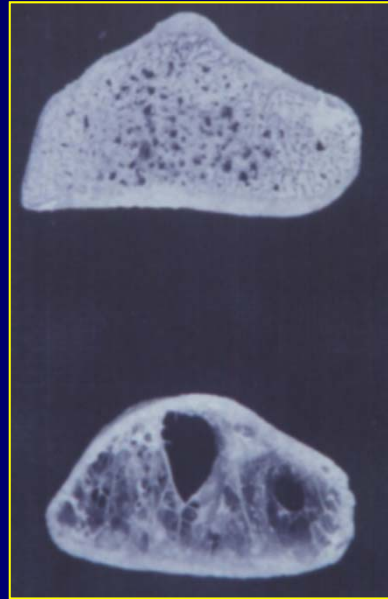




Normal bone

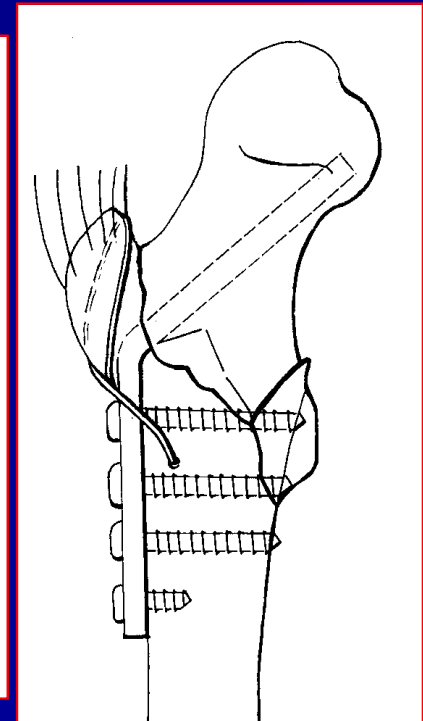
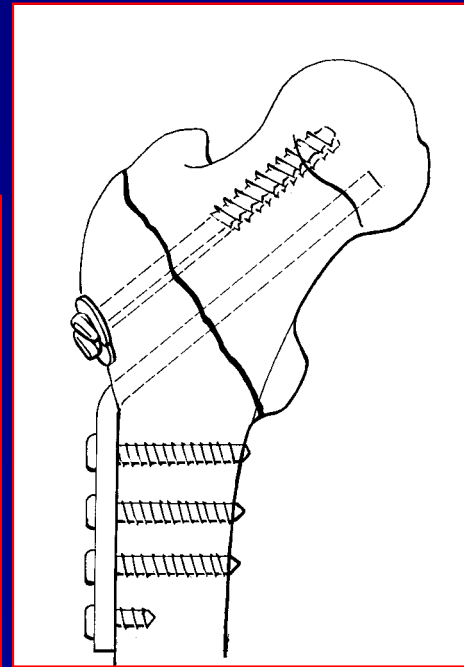
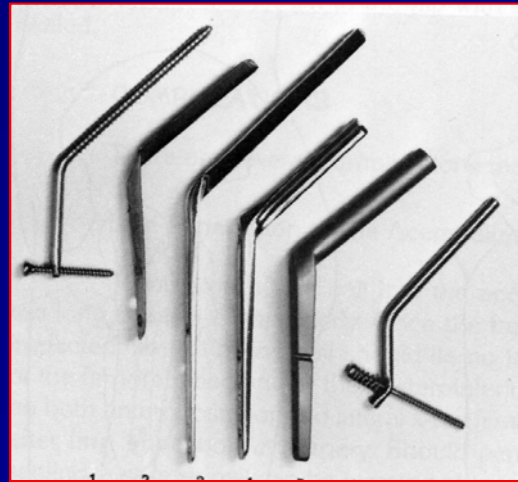
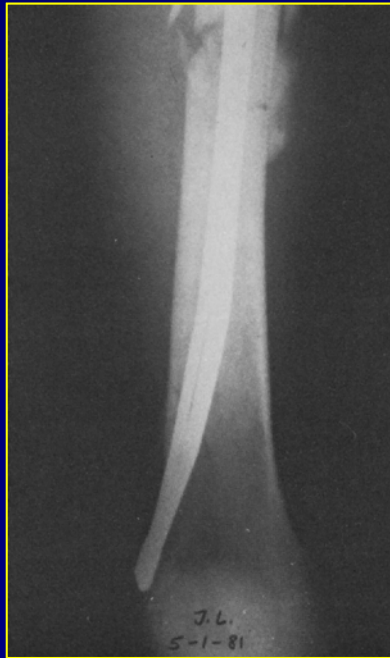
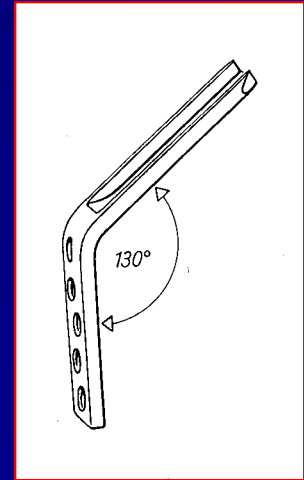
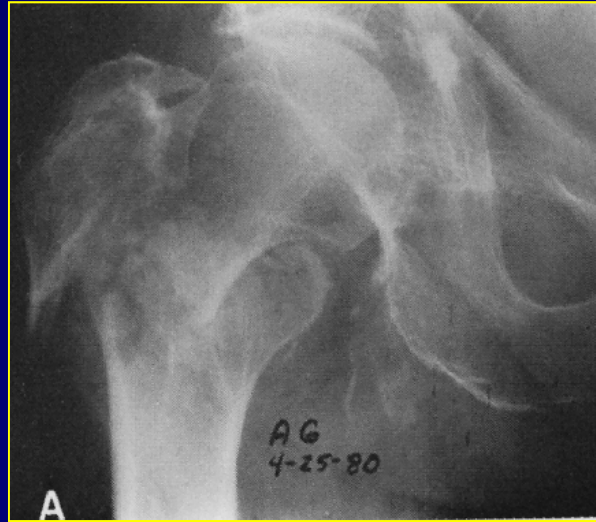
Osteoporosis

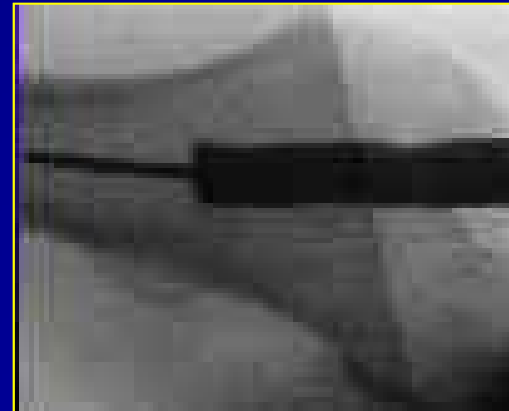
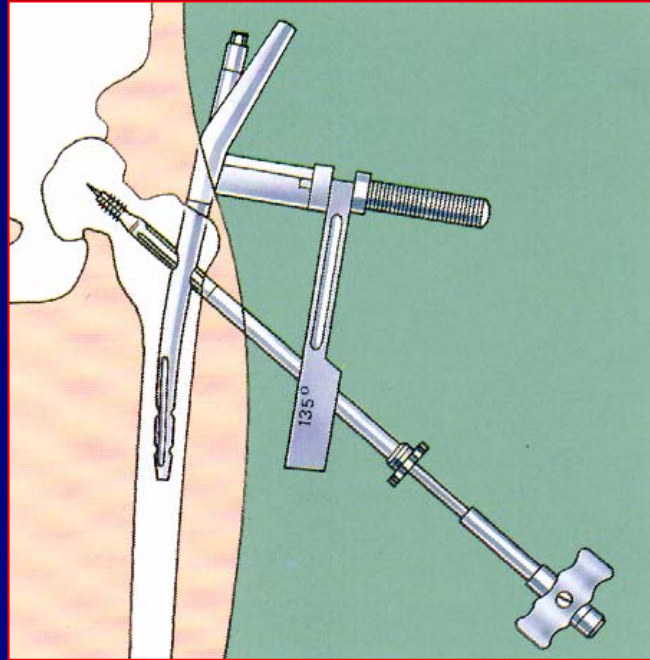
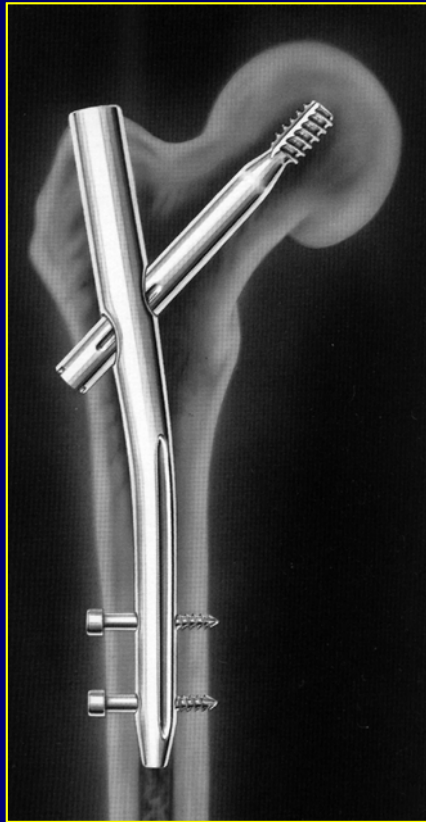
OSTEOPOROTIC FRACTURE



SPINE AND POSTURE CHANGES

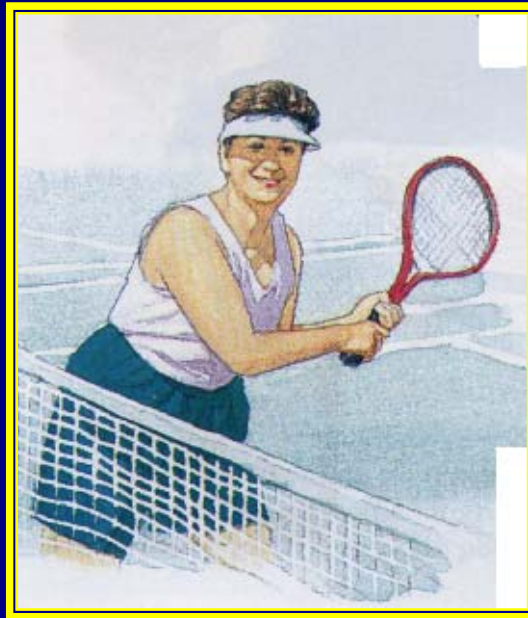


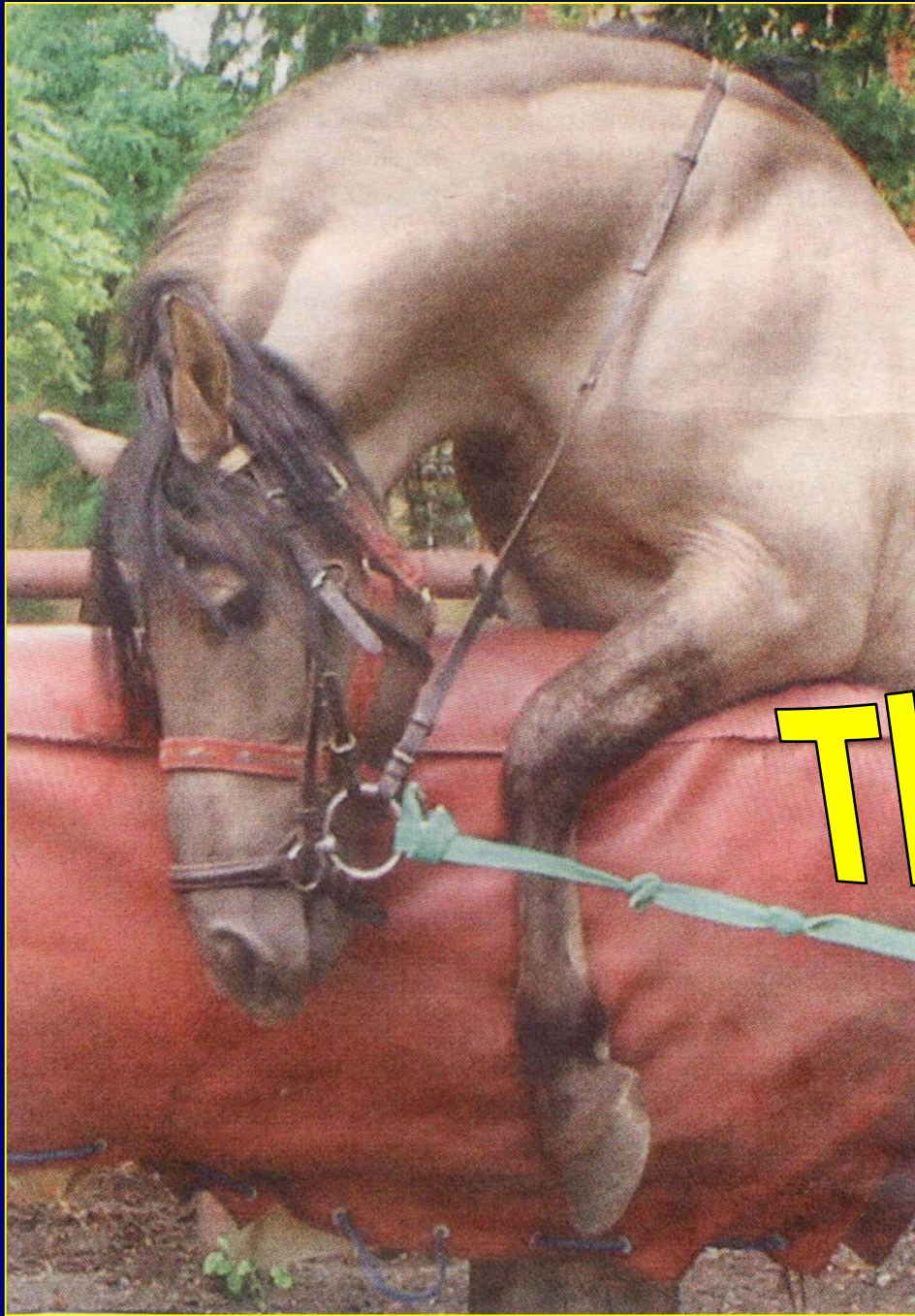




PROPHYLAXIS







Thank you