

# OSTEITIS / OSTEOMYELITIS

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# **MECHANISM OF INFECTION**

- **Haematogenous Spread**
- **Direct inoculation**
  - **Trauma**
  - **Complication of Surgery**

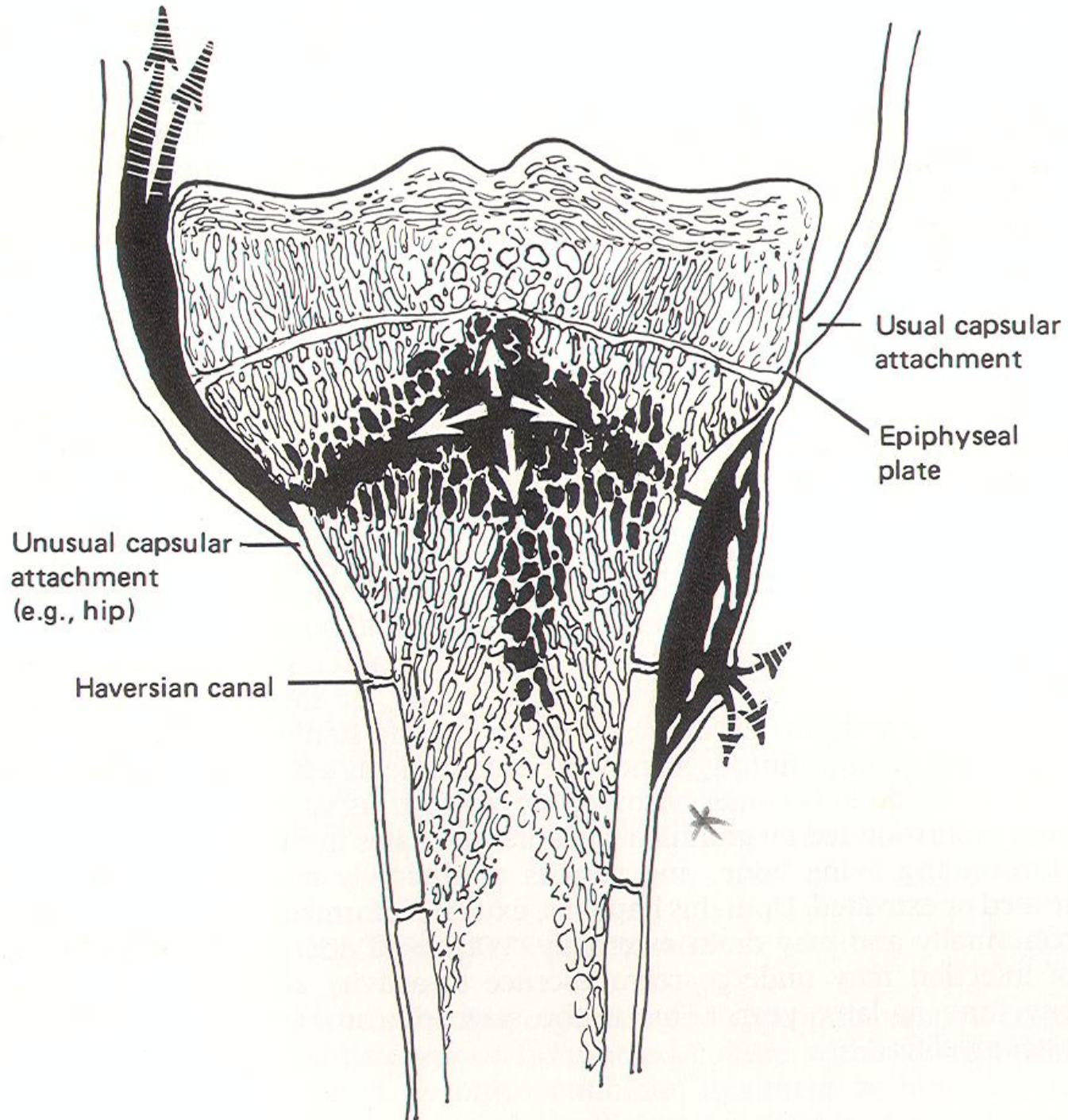
# **ACUTE / CHRONIC**

- Acute Haematogenous osteitis**
- Children**

# **ANATOMY**

- **Anatomy of long bone**
- **Blood supply**
- **Blood supply in a neonate**
- **Relation of growth plate to the joint**





Usual capsular attachment

Epiphyseal plate

Unusual capsular attachment (e.g., hip)

Haversian canal

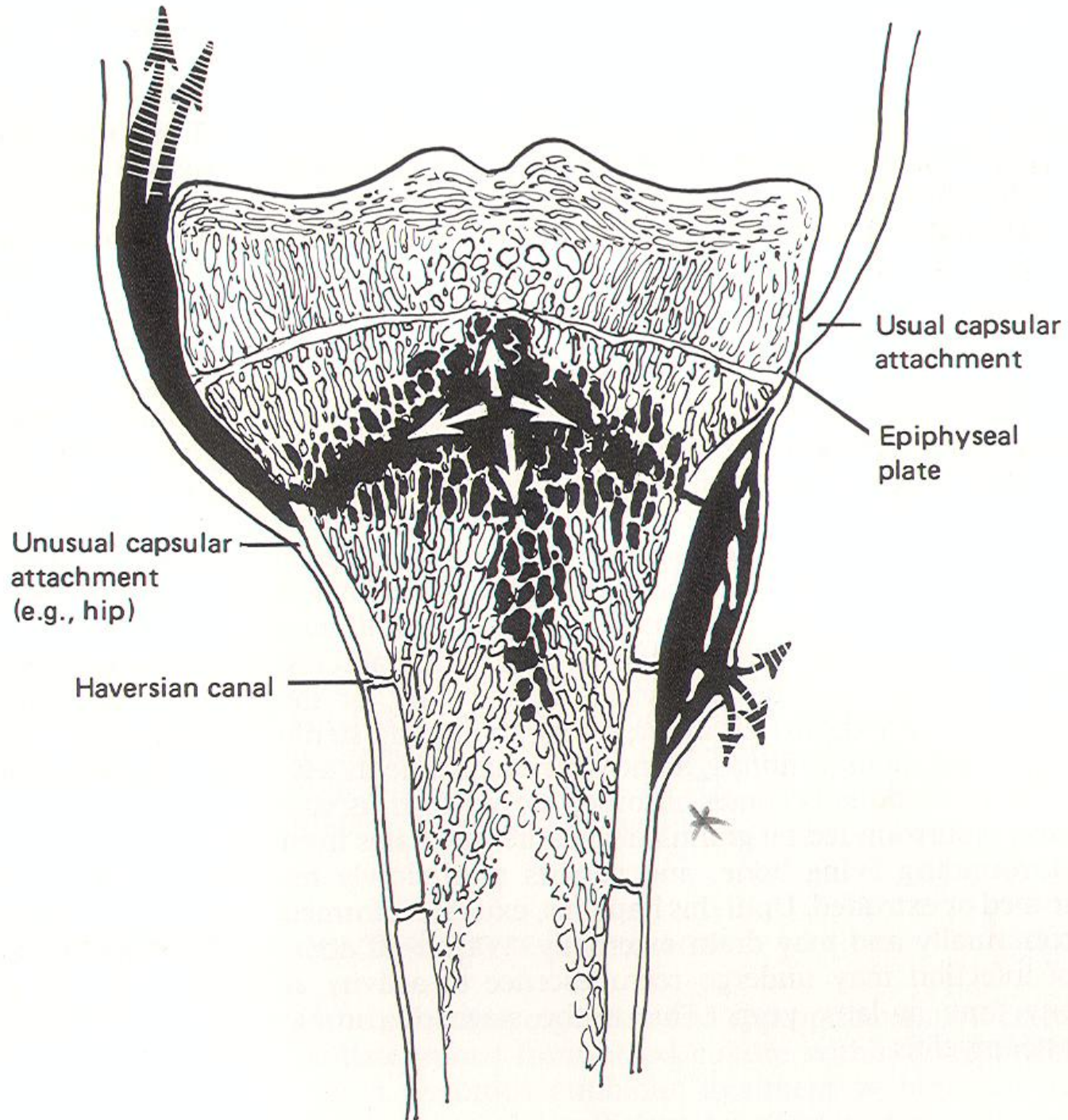


# CAUSATIVE ORGANISM

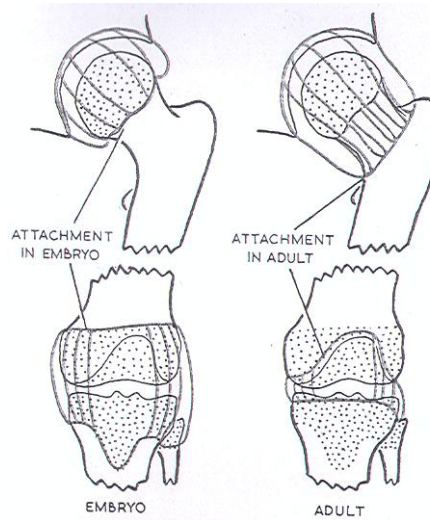
- **Staph Aureus**
- **Streptococcus**
- **Haemophilus**
- **Pneumococcus**

# **PATHOLOGY**

- **Transient Bacteraemia in children**
- **Minor trauma ⇒ Haematoma**
- **Blood a good culture medium for bacteria.**
- **Suppuration ⇒**
- **Necrosis ⇒ Sequestrum**
- **New Bone Formation - involucrum cloaca**



# ANATOMY OF A SYNOVIAL JOINT



# **CLINICAL PRESENTATION**

- **Child - immature skeleton**
- **History of trauma**
- **Pain - localized**
  - **severe**
  - **not relieved by rest**
  - **short duration of onset of symptoms**

# EXAMINATION

- **General:** Child looks ill and lethargic  
High Temp  
Rapid pulse
- **Look:** Limb is held still  
Swollen  
May look red
- **Feel:** Tender over metaphysis  
Diaphysis usually normal  
Warm  
Swollen
- **Move:** Can move joint few degrees  
Does not bear weight on the limb

# INVESTIGATIONS

- X-rays**
- Normal at the beginning
  - Soft tissue swelling
  - Periosteal reaction  
(at 2 weeks)
  - Sequestrum
  - Involucrum

# **OTHER INVESTIGATIONS**

- **FBC**  
**ESR / CRP**  
**Blood Culture**



# **DIFFERENTIAL DIAGNOSIS**

- **Septic arthritis**  
**Soft tissue injury**  
**Epiphyseal injury**
- **Metaphyseal**  
**fracture**

# TREATMENT

- **Resuscitation:**
  - I/V Fluids
  - I/V Antibiotics (Cloxacillin),  
( Erythromycin/ Fucidin)
  - Analgesics
  - Splintage
  - Often High Care / ICU
- **Surgery:**
  - an emergency,
  - once child is stabilized

**The operation - incision and drainage**

# COMPLICATIONS

- **Mestatic infection:** - Spread to other bones / joints.
  - Lung - pneumonia.
  - Heart peri-carditis.
- **Septic Arthritis:** - Metastatic disease.
  - Anatomy of metaphysis.
  - esp in very young.
- **Chronic Osteitis**
- **Growth Disturbance**
- **Pathological fracture**

# **CHRONIC OSTEITIS**

- 1. Secondary to acute osteitis**
- 2. Secondary to trauma or surgery**
- 3. Primary chronic osteitis**
  - TB**
  - Syphilis**

# **CLINICAL MANIFESTATIONS**

- **Pain**
- **Swelling**
- **Bone Swelling**
- **Episodes of discharging sinuses**
- **Episodes of acute flare up with signs of acute inflammation**

# DIAGNOSIS

- **X-rays**  
**FBC**  
**ESR / CRP**  
**Pus Swab**

# TREATMENT

- **Pus swab culture**
- **Appropriate antibiotics**
- **Cannot cure chronic osteitis**
- **Can hope to relieve symptoms**

# TREATMENT

- **Pus swab culture**
- **Appropriate antibiotics**
- **Surgery** - **Drain Abscess**
  - **Remove a sequestrum**
  - **Remove bone**



