

SEPTIC ARTHRITIS



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LECTURER : UON



SEPTIC ARTHRITIS

- **An orthopaedic emergency**
- **The morbidity of a missed case far outweighs the morbidity of treatment.**

OUTLINE

- Definition
- Synonyms
- Occurrence
- Etiology
- Pathogenesis
- Clinical manifestations
- Investigations
- Management
- Differential diagnosis

Synonyms

- Bacterial,
- Suppurative,
- Purulent
- Infectious arthritis
- Non-gonococcal arthritis

Occurrence

- 4–5 cases per 100 000 children per year
- Male : Female=2:1

Table I: Atypical organisms associated with septic arthritis with disease and demographic associations

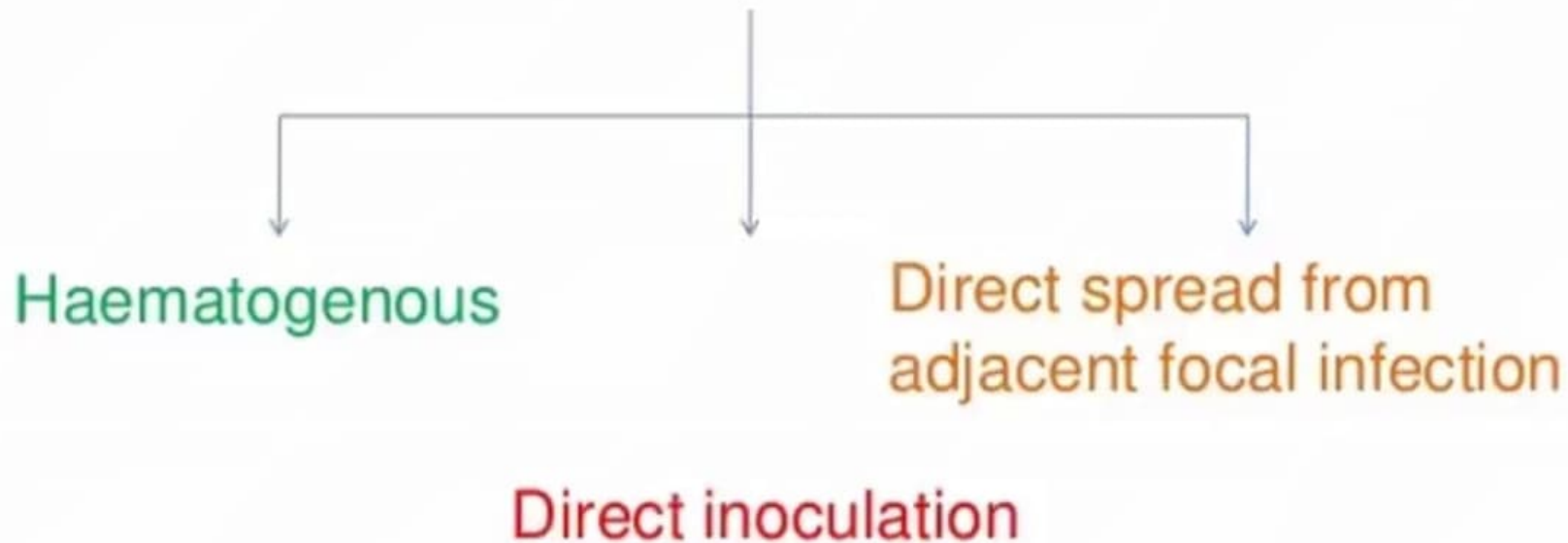
Organism	Clinical association
Group B streptococcus	Neonates ⁶
<i>Escherichia coli</i>	Neonates Sickle cell anaemia ⁷
<i>Streptococcus pneumoniae</i>	First 2 years of life ⁷
<i>Salmonella spp</i>	Sickle cell anaemia ⁷
<i>Kingella kingae</i>	Emerging pathogen among paediatric population ⁵

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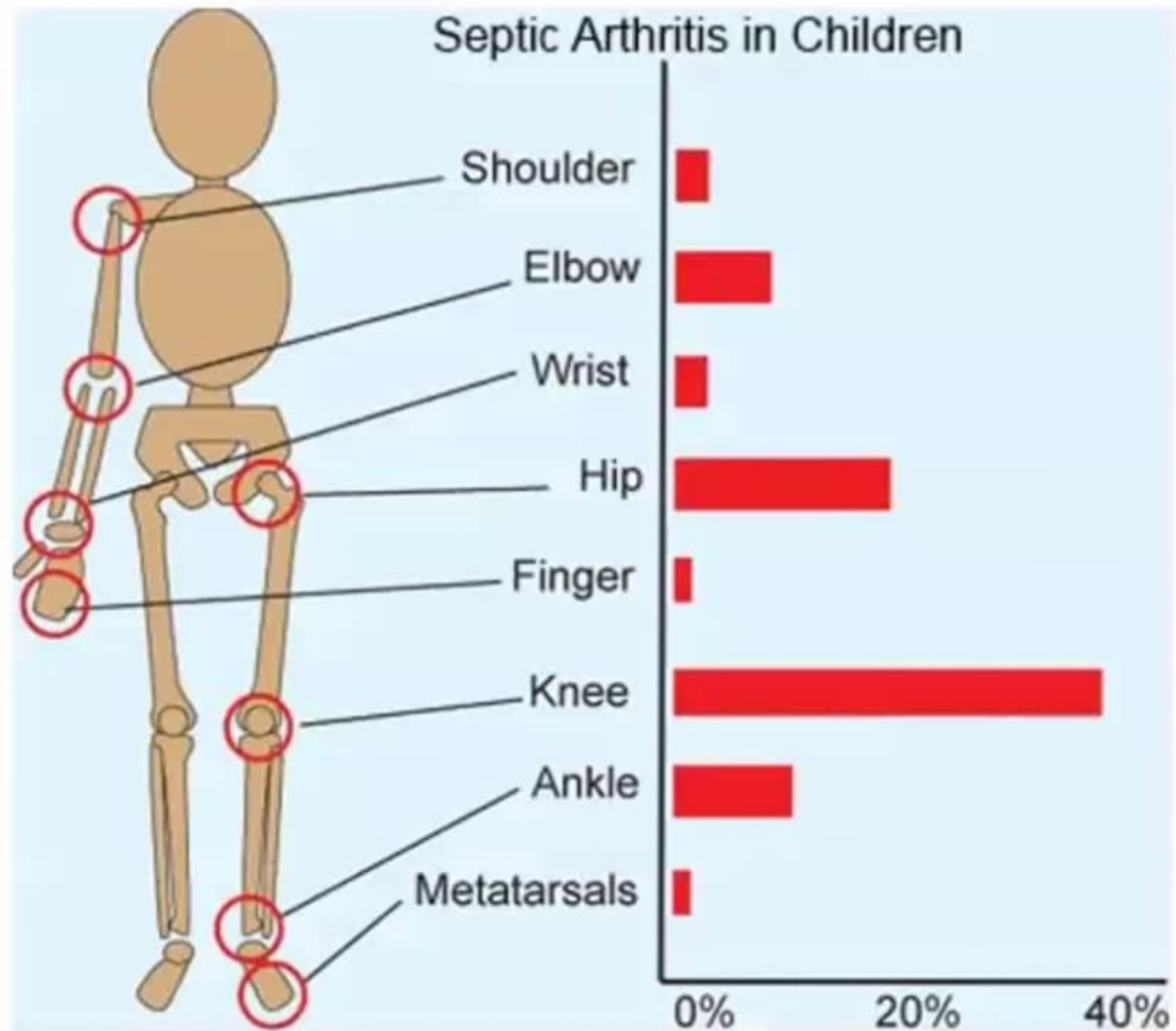
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Infection Sources

- Bacteria can gain entrance to a joint via 3 routes:



Pathogenesis - sites



Pathophysiology

- Proteolytic enzymes → cartilage destruction

Increased intracapsular pressure.



Ischaemia



Growth plate damage and avascular necrosis

Clinical Presentation

- Acute Onset Of Joint Pain,
- Limited Movement And
- Fever.
- Limping Or Non-weight Bearing (Lower Limb Joints).
- Swelling And Warmth: In Subcutaneous Joints:

Clinical Presentation

Neonates and infants:

- Irritability
- Pseudo-paralysis of the affected limb
- \pm fever

Kocher criteria

- Non-weight-bearing on affected side
- Erythrocyte sedimentation rate > 40mm/hr
- Fever > 38.5 °C
- White blood cell count > 12,000

Score	Likelihood of septic arthritis
1	3%
2	40%
3	93%
4	99%

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Investigations

- Laboratory
- Imaging

Lab Studies

Blood:

- **CBC with diff:** leukocytosis ($>12000^9/\mu\text{L}$)
- **ESR:** Elevated ($>40\text{mm/hr}$).
- **CRP:** Elevated ($>5\text{mg/dL}$). For monitoring treatment
- **Blood cultures:** may be +ve in 50%

Synovial fluid analysis: cell count, MCS

Imaging Studies

- Plain X-ray – rule out fracture, OM, Tumor
- Ultrasound – detect joint effusion
- MRI

Treatment Principles

- **Emergency - ADMIT**
- Take blood samples
- Child should be kept fasting.
- IV Antibiotics after taking joint fluid.
- **Surgery:** Open Incision and drainage or arthroscopic
- Rest joint

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Antibiotic choice

- Flucloxacillin
- Cephazolin

- **Penicillin Hypersensitivity,**
- Clindamycin
- Vancomycin



Acute Septic Arthritis

Differential Diagnosis

- Acute Osteomyelitis
- Trauma
- Transient synovitis
- Hemophilia
- Rheumatic Fever
- Tumor

Complications

- Septicemia
- Osteomyelitis
- Joint contracture
- Joint dislocation
- Growth plate damage
- Gait abnormalities
- Osteonecrosis

TAKE HOME MESSAGE

- Septic arthritis in children is an orthopaedic emergency.
- Prompt diagnosis and treatment are critical in optimising patient outcomes.
- Mismanagement can lead to serious sequelae