

# Kocher criteria explained

This model helps differentiate between two non-traumatic joint infection conditions: septic arthritis or transient synovitis and determines the risk of SA in pediatric patients.

The four criteria used in the model are:

Kocher criteria	Explanation
Non weight-bearing	The pediatric patient does not want to bear weight on the side where they experience the painful joint. This is the main symptom of SA.
Temperature above 38.5°C / 101.3°F	High fever is an indicator of an underlying infection.
ESR above 40 mm/hr	The erythrocyte sedimentation rate or Westergren ESR represents the rate at which RBCs sediment and measures inflammation.
WBC above 12,000 cells/mm <sup>3</sup>	Increased leucocytes are another indicator of infection or sepsis.

Each positive answer to the four criteria weighs 1 point out of the total possible score of 4 points:

- Scores of 0: very low risk of septic arthritis, however, recommendation of close follow up;
- Scores of 1: 3% intermediate risk of septic arthritis;
- Scores of 2: 40% risk of SA and recommendation for referral to radiology and orthopedics consultation for further intervention and hip aspiration;
- Scores of 3 and 4: 93% respectively 99% very high risk of septic arthritis, indication of hip aspiration in the OR, with high likelihood of surgical drainage.

The main limitation of the model resides in the poor diagnosis performance for patients in the intermediate range, where further monitoring is required before intervention.

The Kocher criteria for septic arthritis has proved its specificity in diagnosing or ruling out SA for the extreme scores.