Unlocking the Complete Blood Count: Derivation of a Single-Panel Laboratory Test that includes Monocyte Distribution Width to Create a Universal Sepsis Screening Tool

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Background | Sepsis & CBC
Sepsis 3 million cases annually; 15-30% mortality
Timely initiation of simple measures is life-saving
Septic patients presenting without obvious signs have reported delays to treatment and increased risk of mortality.

Complete Blood Count (CBC)
Unlocking the CBC for early detection of sepsis in the Emergency Department (ED) may have enormous impact, due to its routine (and early) availability.

Background | Monocyte Distribution Width
Monocyte morphology changes in response to pathogens

Methods | Study Flow Diagram

Results | CBC Index

Early Signs Group
The presence of any early vital sign indicator:
- Abnormal temperature (≥ 38°C or < 36°C at triage)
- Hypotension (< 90 mmHg at triage)
- Elevated lactate (> 2 mmol/L known prior to the CBC result.

No Early Signs ("Occult")
No early vital sign at triage and no elevated lactate prior to the CBC result.

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