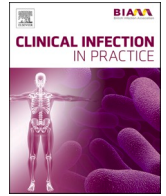




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# Investigation of sepsis in adult hospital patients; Infection quick reference guide

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### Introduction

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# Sepsis

## Investigation in adult hospital patients

### Infection Quick Reference Guide

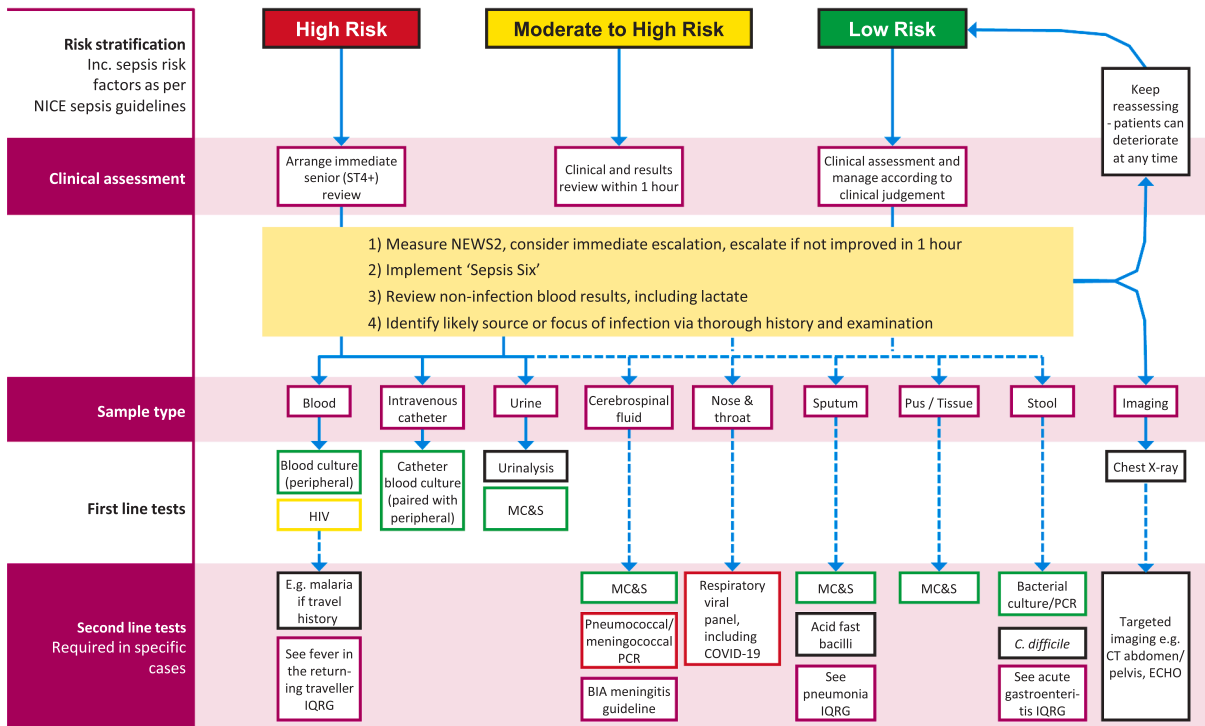
This flowchart is intended as a general resource for the care of adults with suspected sepsis. It should be used in conjunction with current UK guidance on the management of sepsis, which it does not replace (see references). **NOT for use in neutropenic sepsis** – see NICE neutropenic sepsis guideline.

<p><b>The Sepsis Six</b></p> <ol style="list-style-type: none"> <li>1) Ensure senior clinician attends (ST4+)</li> <li>2) Give oxygen if required</li> <li>3) Obtain IV access, take bloods</li> <li>4) Give antibiotics</li> <li>5) Give IV fluids</li> <li>6) Monitor (including urine output, NEWS2, lactate)</li> </ol>	<p><b>NEWS2</b></p> <ul style="list-style-type: none"> <li>• Calculate NEWS2</li> <li>• Infection + NEWS2 <math>\geq 5</math> <b>THINK SEPSIS</b> – assess urgently and consider escalation to critical care</li> </ul>	<p><b>Risk factors for sepsis (see NICE guidance)</b></p> <ul style="list-style-type: none"> <li>• Extremes of age (&lt;1 year or &gt;75 years) or frailty</li> <li>• Recent trauma, surgery or invasive procedure</li> <li>• Impaired immunity</li> <li>• Indwelling devices, people who inject drugs, any breach of skin integrity</li> <li>• Note additional risk factors in pregnancy</li> </ul>
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**Key to flowchart**

All Patients → Selected Patients

Microscopy, culture & sensitivity (MC&S) | Polymerase chain reaction (PCR) | Serology | Other



**Antibiotic considerations**

- Follow local sepsis guidance
- **Remember - Start smart, then focus**
- Discuss with microbiology department if complex patient e.g. immunocompromised, previous resistance
- Review antimicrobials within 48 hours
- In the absence of a confirmed microbiological diagnosis, consider the need for antibiotics

**Additional considerations:**

- Blood culture should always be performed in suspected sepsis
  - Use aseptic technique
  - Collect prior to antimicrobial therapy where possible
  - 20-30ml of blood should be taken per set
  - If a central line is present, take blood both from the central line and from a separate peripheral site when investigating potential infection related to the central line; the peripheral sample should be collected first
- If there is a clear source of infection, cultures of other sites apart from blood culture are generally not needed
- If infection such as intra-abdominal, pelvic, joint or necrotising fasciitis is suspected, refer early; prompt surgical/radiological management is essential
- Consider line removal if line infection is suspected

**References**

- NICE guideline NG51 (2016). Sepsis: recognition, diagnosis and early management. <https://www.nice.org.uk/guidance/ng51>
- Evans L et al. International Guidelines for Management of Sepsis and Septic Shock: 2021, *Intensive Care Med* 47:1181–1247
- Royal College of Physicians (2017). National Early Warning Score 2 (NEWS2) - Standardising the assessment of acute-illness severity in the NHS. <https://www.rcp.ac.uk/improving-care/resources/national-early-warning-score-news-2/>
- UK Health Security Agency (UK HSA) (2023). Start Smart - Then Focus: Antimicrobial Stewardship Toolkit for Inpatient Care Settings. <https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus/start-smart-then-focus-antimicrobial-stewardship-toolkit-for-inpatient-care-settings>
- UK HSA (2023). UK Standards for Microbiology Investigations: Sepsis and systemic or disseminated infections. S12.
- British HIV Association and British Infection Association Guidelines for the Treatment of Opportunistic Infection in HIV-seropositive Individuals 2011 <https://www.bhiva.org/OI-guidelines>

**Ethical review statement**

No ethical issues identified.

**CRediT authorship contribution statement**

**Jo Salkeld:** Data curation, Writing – original draft. **Anna L. Goodman:** Conceptualization, Supervision, Data curation.

**Declaration of competing interest**

The authors declare that they have no known competing financial

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