The Association for Clinical Biochemistry & Laboratory Medicine

Better Science, Better Testing, Better Care

Summary of NICE Guidelines

Title	Sepsis: recognition, diagnosis and early management
NICE Reference	NG51
Date of Review:	4th August 2017
Date of Publication	13th July 2016
Summary of Guidance (Max 250 words)	Sepsis is "a life-threatening organ dysfunction due to a dysregulated host response to infection". Sepsis can progress to septic shock, characterised by severe hypotension despite fluid replacement and eventual multiple organ failure. Symptoms include fever, tachycardia, and raised respiratory rate, but may be non-specific. Therefore, sepsis should be considered in any patient with a possible infection. Algorithms stratified by patient age and location (hospital/primary care) are used alongside this guideline to grade risk of sepsis. <u>Patient Assessment:</u> Identify: • Possible infection source (lumbar puncture may be required in 1-3 month old infants). • Risk factors - age, immunocompromisation, pregnancy, recent surgery • Risk stratification criteria – BP/heart rate/urine output/respiratory rate/behaviour <u>Laboratory testing:</u> Patients with suspected sepsis and ≥1 high risk or ≥2 moderate risk criteria: • Venous blood gas + glucose + lactate • Blood culture • Full blood count • CRP • Urea and electrolytes • Creatinine • Clotting screen (high risk only) There is currently insufficient evidence for measuring procalcitonin. <u>Treatment:</u> Patients with high risk criteria and suspected sepsis: • Maximum dose broad-spectrum antimicrobial • Where lactate is: >4 mmol/L: Give IV fluid within 1 hour and refer to critical care. 2-4 mmol/L: Give IV fluid <2 mmol/L: Consider IV fluid • Continuous clinical monitoring (minimum 30 minute intervals). Moderate risk patients with lactate >2 mmol/L are treated as high risk.

	Patients with fewer risk criteria are monitored clinically. Lactate is repeated after 1 hour of treatment – a decrease of <20% is deemed nonresponsive. Guidance on choice of antimicrobial, IV fluids and identification of infection source is also provided.
Impact on Lab (See below)	■ None, assuming relevant biochemistry tests are available as point of care or lab tests within 1 hour.
Lab professionals to be made aware	✓ Chemical Pathologist ✓ Clinical Scientist
Please detail the impact of this guideline (Max 150 words)	This guideline aims to improve early recognition of sepsis in all healthcare environments outside intensive care units, where guidelines already exist. Detailed information regarding early assessment of patients with suspected sepsis is stratified by age group and number/severity of risk factors. Along with associated algorithms this provides a clear framework for healthcare workers to follow when assessing patients. Previously, sepsis was considered to have 3 stages: SIRS (systemic inflammatory response syndrome), severe sepsis, and septic shock. This has been replaced by the new 2-stage terminology, sepsis and septic shock, which are defined in this guideline. This guideline also includes information regarding laboratory investigations in patients with suspected sepsis. Improving understanding and awareness that these emergency investigations (particularly lactate) directly impact the treatment of individuals with sepsis may contribute to improved early management of sepsis through the provision of point-of-care lactate testing.

Impact on Lab

- ■ **None**: This NICE guideline has no impact on the provision of laboratory services
- ■ **Moderate**: This NICE guideline has information that is of relevance to our pathology service and may require review of our current service provision.
- ■ **Important:** This NICE guideline is of direct relevance to our pathology service and will have a direct impact on one or more of the services that we currently offer.

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