



Treat signs of sepsis with same urgency as chest pain, says NICE

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Doctors should treat patients with suspected sepsis with the same urgency as those who present with chest pains, says new UK guidance from the National Institute for Health and Care Excellence.¹

Health professionals need to think about the possibility of sepsis in far more patients—all patients who may be infected, said NICE in its evidence based guideline for identifying and treatment sepsis.

Saul Faust from the University of Southampton and chair of the group that developed the guideline said, “Sepsis can be difficult to diagnose with certainty. We want clinicians to start asking, ‘Could this be sepsis?’ much earlier on so that they can rule it out or get people the treatment they need.”

He added, “Just like most people with chest pain are not having a heart attack, the majority of people with an infection will not have sepsis. But if it isn’t considered then the diagnosis can be missed.”

The guideline says that, in hospitals, patients with suspected sepsis who meet at least one high risk criterion should have a venous blood test. If suspected sepsis is not excluded in one hour, they should then be given a broad spectrum antibiotic at the maximum recommended dose.

Outside hospital, patients who meet any high risk criterion should be transferred to hospital immediately, usually by ambulance, and secondary care should be alerted. If transfer times are more than an hour, GPs and ambulance services should be able to give antibiotics to such patients, the guideline says.

The guideline sets out detailed criteria for potential high risk signs, which fall into the domains of altered mental state; raised respiratory rate or new need for oxygen to maintain oxygen saturation; raised heart rate; low blood pressure; urinary retention for 18 hours; and mottled or ashen appearance.

Patients with two or more moderate to high risk criteria for sepsis, or with systolic blood pressure between 91 mm Hg and 100 mm Hg, should also undergo prompt blood testing, and those with lactate concentrations over 2 mmol/L or evidence of acute kidney injury should be treated as being at high risk.

“Moderate to high risk” criteria include new onset changed behaviour or change in mental state; deterioration of functional ability; impaired immune system; trauma, surgery, or invasive procedure in the past six weeks; less raised (than the criteria for high risk) respiratory or heart rate, or new onset arrhythmia;

urinary retention for 12 hours; tympanic temperature less than 36°C; and signs of potential infection (increased redness, swelling, or discharge at a surgical site or breakdown of a wound).

Clifford Mann, president of the Royal College of Emergency Medicine, said that because most patients with an infection do not have sepsis “it requires experience and expertise to ensure that broad spectrum antibiotics are not administered inappropriately, a course of action that will in due course worsen the outcome for all patients with bacterial infection.”

Ron Daniels, chief executive of the UK Sepsis Trust, which is working with NICE to update its range of clinical toolkits in response to the guideline, said, “Sepsis is a condition whose time has come. We must act decisively to save many of the thousands of lives claimed every year.” The trust said that each year the United Kingdom has around 150 000 cases of sepsis and 44 000 deaths.

Nathwani Dilip, president of the British Society for Antimicrobial Chemotherapy and chair of the Scottish Antimicrobial Prescribing Group, has studied the effects of European and US sepsis campaigns. Although prompt treatment of a wide group of patients who were potentially at risk of sepsis had been shown to improve outcomes, he said, “I could not find any evidence of them measuring the unintended consequences,” such as the overuse of broad spectrum antibiotics and the effect on outcomes among patient without sepsis.

Many clinicians still rely on the SIRS (systemic inflammatory response syndrome) criteria, which have their failings.² Earlier this year the third international consensus definitions for sepsis and septic shock (Sepsis-3) recommended the use of the quick SOFA (qSOFA) score, which identifies adult patients with suspected infection who meet two of three criteria (respiratory rate of ≥ 22 /min, altered mental state, or systolic blood pressure of ≤ 100 mm Hg) as being likely to have poor outcomes.³

- 1 National Institute for Health and Care Excellence. Sepsis: recognition, diagnosis and early management NICE guideline. nice.org.uk/guidance/ng51.
- 2 BMJ Best Practice. Sepsis in adults. <http://bestpractice.bmj.com/best-practice/monograph/245/diagnosis/criteria.html>.
- 3 Singer M, Deutschman CS, Seymour CW, et al. The third international consensus definitions for sepsis and septic shock (Sepsis-3). *JAMA* 2016;315:801-10. doi:10.1001/jama.2016.0287 pmid:26903338.

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