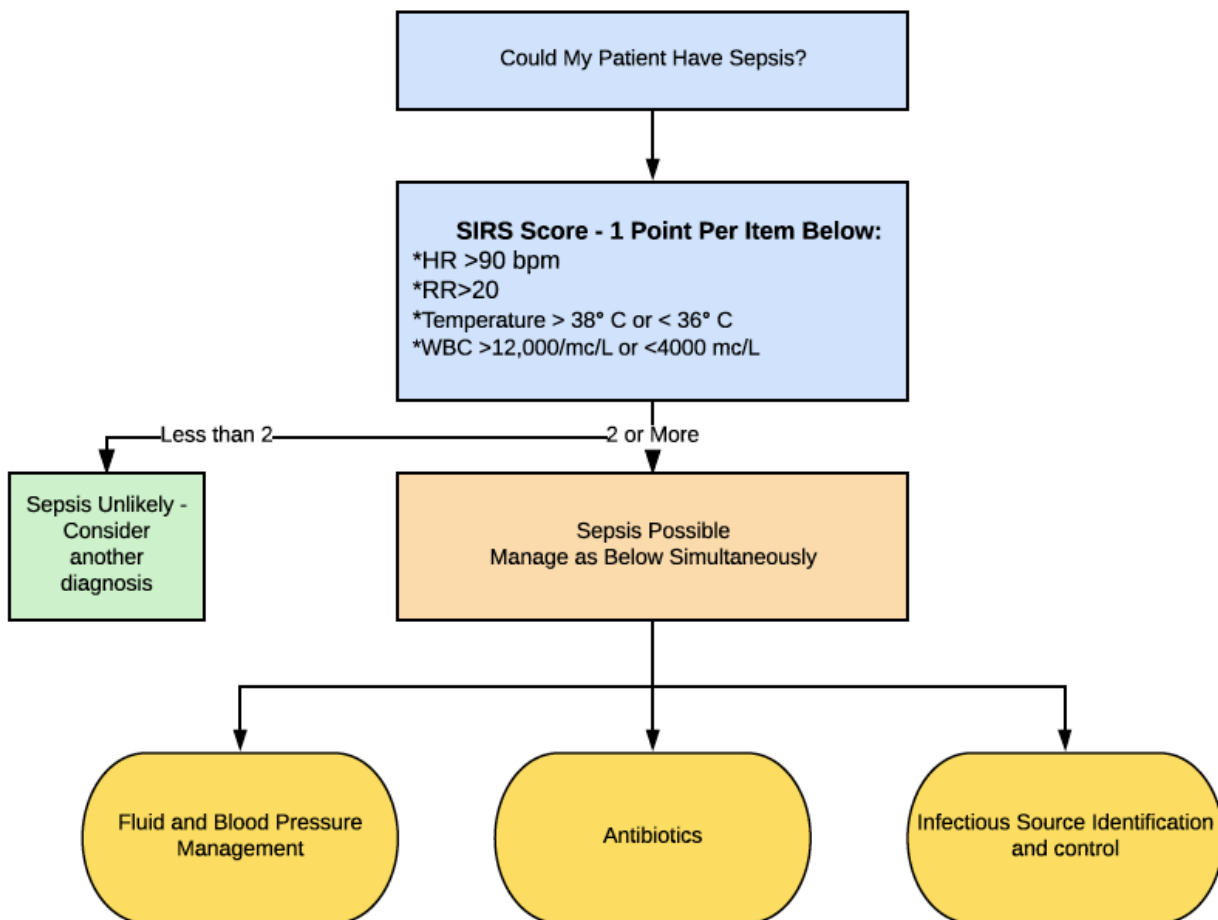


## Key Facts:

- Sepsis is defined as life-threatening organ dysfunction due to a dysregulated host response to infection.
- Sepsis has a mortality rate of 16%.
- Early identification, appropriate resuscitation and antibiotic administration reduces mortality.



## Fluid and Blood Pressure Management




- The ideal fluid management in sepsis is uncertain.
- Patients with evidence of hypoperfusion or shock (MAP <65 mmHg) should initially be given 30ml/kg of fluid (normal saline or ringers) over 3 hours.
- Monitor capillary refill time alongside other haemodynamic markers to guide fluid response (this has been shown to be as effective as following serum lactates).
- Monitor urine output hourly
- Patient who fail to respond to fluid are in '*septic shock*' and vasopressors should be commenced.
- Use norepinephrine as first line vasopressor and target a MAP of 65 mmHg.

# Infectious Source Identification and Control

- The signs and symptoms of sepsis are nonspecific and often mimic multiple other disease.
- A third of patients initially diagnosed with sepsis turn out to have noninfectious conditions.
- There is no 'gold standard' test to diagnose sepsis.
- Therefore the following steps should be taken.
  - Appropriate routine microbiologic cultures (blood, urine and if indicated CSF) should be collected prior to antibiotics (as long as does not delay antibiotics more than 45 min).
  - There should be 2 blood cultures taken from 2 sites, with 10mls of blood in each culture bottle.
  - Continuously assess the patient to determine if other, non infectious, diagnoses are more or less likely.

# Antibiotics

- Early administration of antibiotics has been shown to reduce mortality (each hour delay increased mortality by 7.6%).
- This needs to be balanced with antibiotic stewardship.
- The following approach is therefore recommended.

	 Shock is present	 Shock is absent
<b>Sepsis is definite or probable</b>	<input checked="" type="checkbox"/> Administer antimicrobials <b>immediately</b> , ideally within 1 hour of recognition.	<input checked="" type="checkbox"/> Administer antimicrobials <b>immediately</b> , ideally within 1 hour of recognition.
<b>Sepsis is possible</b>	<input checked="" type="checkbox"/> Administer antimicrobials <b>immediately</b> , ideally within 1 hour of recognition.	<input checked="" type="checkbox"/> Rapid assessment* of infectious vs. noninfectious causes of acute illness.
<p><i>*Rapid assessment includes history and clinical examination, tests for both infectious and noninfectious causes of acute illness, and immediate treatment of acute conditions that can mimic sepsis. Whenever possible, this should be completed within 3 hours of presentation so that a decision can be made as to the likelihood of an infectious cause of the patient's presentation and timely antimicrobial therapy provided if the likelihood is thought to be high.</i></p>		<input checked="" type="checkbox"/> Administer antimicrobials <b>within 3 hours</b> if concern for infection persists.

## Which Antibiotics Should I Use in Kijabe?

- In general antibiotics should be directed towards the likely focus of infection e.g. urine/chest.
- See the relevant guideline for antibiotic details.
- If the focus is uncertain then use the table below as a guide:

Patient Description	First Line Antibiotic
Patient presents from home and has not been admitted at another facility or been on a previous course of antibiotics.	Ceftriaxone 2g Stat IV. Then 1g every 12 hours. Consider infusions over 6 hours rather than stat doses.
Patient an inpatient, or previously admitted at another hospital, or on previous course of antibiotics	Piptazocin 4.5g stat. Then 4.5g every 8 hours. Check renal function to see if dose needs adjustment.
Patient known or at risk of neutropenic sepsis (e.g. on chemotherapy).	Piptazocin 4.5g stat. Then 4.5g every 8 hours. Check renal function to see if dose needs adjustment.
Patient meeting criteria for septic shock.	Piptazocin 4.5g stat. Then 4.5g every 8 hours. Check renal function to see if dose needs adjustment.

**All patient with possible sepsis or septic shock should be discussed with a consultant.**

### • References:

- Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock 2021. Critical Care Medicine 49(11):p e1063-e1143, November 2021. | DOI: 10.1097/CCM.0000000000005337
- Uptodate - accessed 9th March 2023