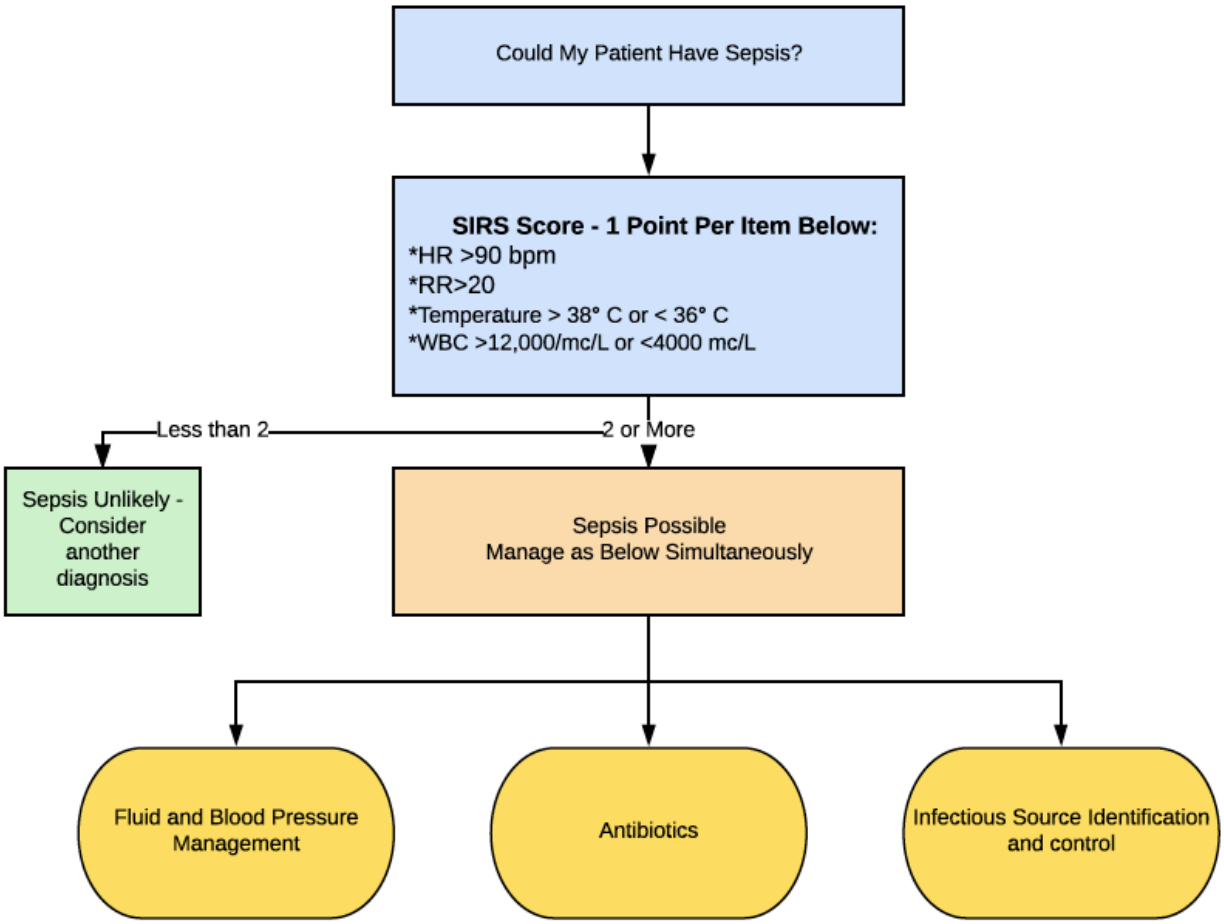
Sepsis

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

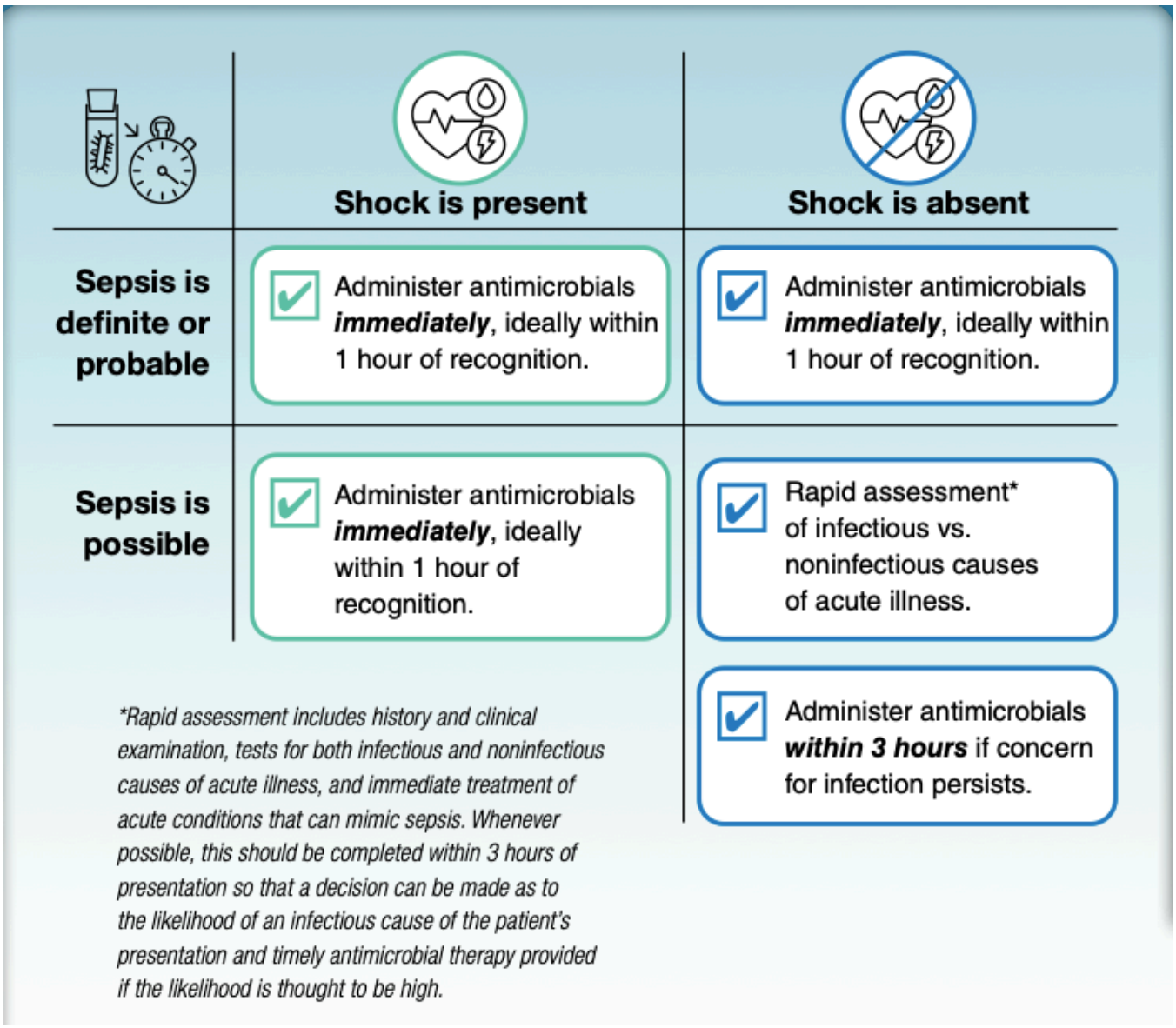
- The ideal fluid management in sepsis is uncertain.
- Patients with evidence of hypoperfusion or shock (MAP <65 mmHg) should initially be given 30ml/kg of fluid (normal saline or ringers) over 3 hours.
- Monitor capillary refill time alongside other haemodynamic markers to guide fluid response (this 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 asses 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.



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