Sepsis, Red Flag Sepsis and Septic Shock

Severe Sepsis is a major cause of mortality and morbidity in the UK and worldwide. Prompt identification and treatment is required. Any two of the following plus an infection should make you think the patient may be septic:

- evidence/history of infection
- systolic BP <90 mmHg
- high respiratory rate (< 20 per minute)
- temperature > 38.3⁰C or < 36⁰C
- tachycardia (< 90 per minute)
- acute confusion/reduced consciousness level
- mottled skin
- prolonged capillary refill (> 2 seconds)

Not all of these signs and symptoms may be present. The most dramatic cause of severe sepsis is meningococcal septicaemia, but it can also be caused by other forms of meningitis, pneumonia, urinary tract infection, encephalitis, cellulitis, post-partum infections and indeed any severe generalised infection.

Interventions:

- monitoring
- take blood sample for lactate if equipment available, and trained to do so
- administer high-flow oxygen
- fluid – administer 1 litre of normal saline IV over 30 minutes and repeat once if still hypotensive
- pre-alert

If meningitis is suspected, give antibiotics.
Pre-Hospital Sepsis Screening Action Tool

Sepsis is a time critical condition. Screening, early intervention and immediate treatment saves lives. This tool should be applied to all adult patients who are not pregnant who have a suspected infection or their clinical observations are outside of normal limits.

1. Are any 2 of the following present?
   * Temperature >38.30C or <36.0C
   * Respiratory rate > 20 per minute
   * Heart rate > 90 per minute
   * Acute confusion/reduced conscious level
   * Glucose > 7.7 mmol/l (unless DM)

   YES → SEPSIS PRESENT
   NO → SEPSIS NOT PRESENT
   Treat to standard protocols

2. Could this be a severe infection?
   For example
   * Pneumonia
   * Urinary Tract Infection
   * Abdominal pain or distension
   * Meningitis
   * Cellulitis/septic arthritis/infected wound

   YES → RED FLAG SEPSIS
   NO → SEPSIS PRESENT
   Transport to designated destination.
   Communicate presence of sepsis at handover

3. Is any red flag present?
   For example
   * Systolic B.P < 90mmHg
   * Lactate > 2 mmol/l
   * Heart rate > 130 per minute
   * Respiratory rate > 25 per minute
   * Oxygen saturations < 91%
   * Response only to voice or pain/unresponsive
   * Purpuric rash

   YES → RED FLAG SEPSIS
   NO → SEPSIS PRESENT
   Transport to designated destination.
   Communicate presence of sepsis at handover

   YES → RED FLAG SEPSIS
   This is a time critical condition, immediate action is required.
   Resuscitation:
   250ml boluses crystalloid to maximum 2000ml (care in CHD)
   Oxygen 15L/min NRB (care in CPOPD)
   Intravenous antibiotics (if available)
   Record lactate (if available)

   Communication:
   Pre-alert receiving hospital of Red Flag Sepsis
   Divert to the Emergency Department (or other agreed destination)
   Handover presence of Red Flag Sepsis