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| 3-14 Sepsis v.1 |
| Severe sepsis (hypotension persisting after initial fluid challenge of 30ml.kg-1 or blood lactate concentration ≥ 4mmol.l-1 if infection most likely underlying cause) or septic shock (sepsis with end organ dysfunction). |

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| Box A: FLUID THERAPY |
| * Crystalloids initial fluid of choice in severe sepsis and septic shock.
* Greater than 30 ml.kg-1 of crystalloid may be required in some patients.
* Continue fluid challenge if haemodynamic improvement.
* Hydroxyethyl starches should not be used.
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 START.

❶ Call for help and inform theatre team of problem.

❷ Increase FiO2, consider reducing anaesthetic agent and intubate patient.

❸ Give crystalloid i.v.:

* Adult: at least 30 ml.kg-1 (Box A, Box B).
* Child: at least 20 ml.kg-1 (Box C).

❹ Take bloods including blood gas, lactate, FBC, U&Es, coagulation and cultures.

❺ Give empiric intravenous antimicrobials within 1 h (seek microbiology advice).

❻ Consider whether indwelling devices could have caused a septic shower.

❼ If patient is not improving proceed to the next steps.

❽ Insert central and arterial access lines. Check serial lactates.

**❾** Start noradrenaline to achieve mean arterial pressure ≥ 65 mmHg (Box D).

❿ Insert urinary catheter and record hourly urine output.

⓫ Consider monitoring cardiac output to further aid fluid and vasopressor therapy.

⓬ Identify source of sepsis, consider source control and send source cultures if possible (eg. surgical site, urine, broncho-alveolar lavage).

⓭ Discuss whether appropriate to abandon or limit surgery.

⓮ Discuss ongoing management plan with intensive care team.

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| Box B: SET PHYSIOLOGICAL GOALS |
| * Central venous pressure.
* Mean arterial pressure.
* Urine output.
* Central venous (superior vena cava) or mixed venous saturation.
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| Box C: PAEDIATRIC CONSIDERATIONS |
| * Goals: capillary refill time (CRT) ≤ 2 secs, normal BP for age, normal peripheral pulses, warm extremities, urine >1 ml.kg-1.hr-1, SCVO2 >70%.
* Give 20 ml.kg-1 initially up to or over 60 ml.kg-1 fluid until goals or unless rales or hepatomegaly develops.
* Begin peripheral inotropic support pending central/intraosseous access.
* If warm shock (↑HR, ↓BP) start noradrenaline.
* If cold shock (↑HR, ↓CRT) start dopamine and, if resistant,adrenaline.
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| Box D: DRUG THERAPY |
| * Noradrenaline (NA) as first choice vasopressor.
* Adrenaline added to noradrenaline when additional agent needed.
* Vasopressin 0.03 units.min-1 added to ↑MAP or ↓noradrenaline need.
* Dobutamine up to 20 µg.kg-1.min-1 if evidence of myocardial dysfunction or ongoing signs of hypoperfusion despite adequate MAP and adequate intravascular volume.
* Hydrocortisone if unable to restore haemodynamic stability.
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