

Estimate of child's weight (1-10 years)

Weight (kg) = 2 x (age in years + 4)

Normal systolic blood pressure = 80 + (age in years x 2)

N.B. Low BP is a pre-terminal sign in children

Conscious Level	Normal Values		
	Age	Respiratory Rate/min	Heart Rate/min
Alert			
Responds to Voice	<1	30-40	110-160
Responds to Pain	1-2	25-35	100-150
Unresponsive	2-5	25-30	95-140
	5-12	20-25	80-120
	>12	15-20	60-100

Observe HR, RR, BP, Perfusion, Conscious Level

Cardiac monitor and pulse oximetry. Take blood for Glucose, FBC, Clotting, U&E, Ca⁺⁺, Mg⁺⁺, PO₄, Blood cultures, Blood Gas (bicarb, base deficit), Cross-match

Inotropes

Dopamine or Dobutamine at 10-20 mcg/kg/min. Make up 3 x weight (kg) mg in 50 ml 5% dextrose and run at 10 ml/hr = 10 mcg/kg/min. (These dilute solutions can be used via a peripheral vein.) Start Adrenaline via a central line only at 0.1 mcg/kg/min. Make up 300 mcg/kg in 50 ml of normal saline at 1 ml/hour = 0.1 mcg/kg/min.

Intubation (call anaesthetist)

Atropine 20 mcg/kg (max 600 mcg) AND Thiopentone 3-5 mg/kg AND Suxamethonium 2 mg/kg (caution, high potassium) ETT size = age/4 + 4, ETT length (oral) = age/2 + 12 (use cuffed ET tube if possible). Then: morphine (100 mcg/kg) and midazolam (100 mcg/kg) every 30 mins.

Hypoglycaemia (Glucose < 3 mmol/l)

5ml/kg 10% dextrose bolus i.v. and then dextrose infusion at 80% of maintenance requirements over 24 hours.

Correction of metabolic acidosis pH < 7.2

Give half correction NaHCO₃ i.v. Volume (ml) to give = (0.3 x weight in kg x base deficit ÷ 2) of 8.4%NaHCO₃ over 20 mins, or in neonates, volume (ml) to give = (0.3 x weight in kg x base deficit) of 4.2% NaHCO₃.

If K⁺ < 3.5 mmol/l

Give 0.25 mmol/kg over 30 mins i.v. with ECG monitoring. Caution if anuric.

If total Calcium < 2 mmol/l or ionized Ca⁺⁺ < 1.0

Give 0.1 ml/kg 10% CaCl₂ (0.7 mmol/ml) over 30 mins i.v. (max 10 ml) or 0.3 ml/kg 10% Ca Gluconate (0.22 mmol/ml) over 30 mins (max 20 ml).

If Mg⁺⁺ < 0.75 mmol/l

Give 0.2 ml/kg of 50% MgSO₄ over 30 mins i.v. (max 10 ml).

Prophylaxis of household contacts

Inform Public Health, Give Rifampicin (bd for 2 days)
 < 1yr 5 mg/kg • 1-12yrs 10 mg/kg • > 12yrs 600 mg or Ceftriaxone (single im dose)
 < 12yrs 125 mg • > 12yrs 250 mg or Ciprofloxacin as single 500 mg dose (not in children <2 or in pregnancy)
 < 12 yrs 250 mg • > 12yrs 500 mg

Diagnosis

LP may be important if the diagnosis or aetiology is in doubt, i.e. when meningeal symptoms predominate and where no rash is present, or in infants with fever without a focus. It must not be performed when there are contraindications (e.g. RICP, shock, coagulopathy). LP should never delay treatment. Blood Cultures, throat swab, whole blood (EDTA specimen) for PCR. CSF (if available) for culture and PCR. Rapid latex antigen test and aspirations/scrapings from skin showing haemorrhagic rash (if locally useful).

Serology

For suspected cases with no isolate or where PCR does not identify serogroup, clotted blood sample to reference laboratory† (acute within 72 hrs and convalescent 10-28 days after presenting symptoms).

Isolates and PCR samples from hospitals in England, Wales and Northern Ireland (local protocols for PCR services may apply)

†HPA Meningococcal Reference Unit
 Tel: 0161 276 6757 Fax: 0161 276 5744

Isolates and PCR samples from hospitals in Scotland

†Scottish Meningococcus and Pneumococcus Reference Laboratory
 Tel: 0141 201 3836

For further copies of this resource call Meningitis Research Foundation 01454 281811

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Early Management of Meningococcal Disease in Children*

6th Edition

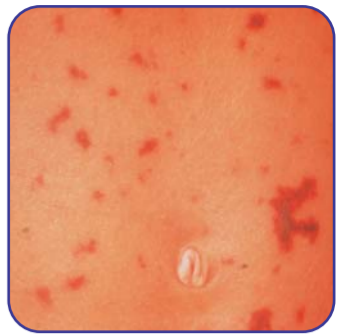


RECOGNITION

May present with predominant SEPTICAEMIA (with shock), MENINGITIS (with raised ICP) or both. Purpuric/petechial non-blanching rash. Rash may be atypical or absent in some cases.

- Call consultant in A&E, Paediatrics, Anaesthesia or Intensive Care
- Initial assessment, looking for features of early shock/raised ICP
- DO NOT ATTEMPT LUMBAR PUNCTURE

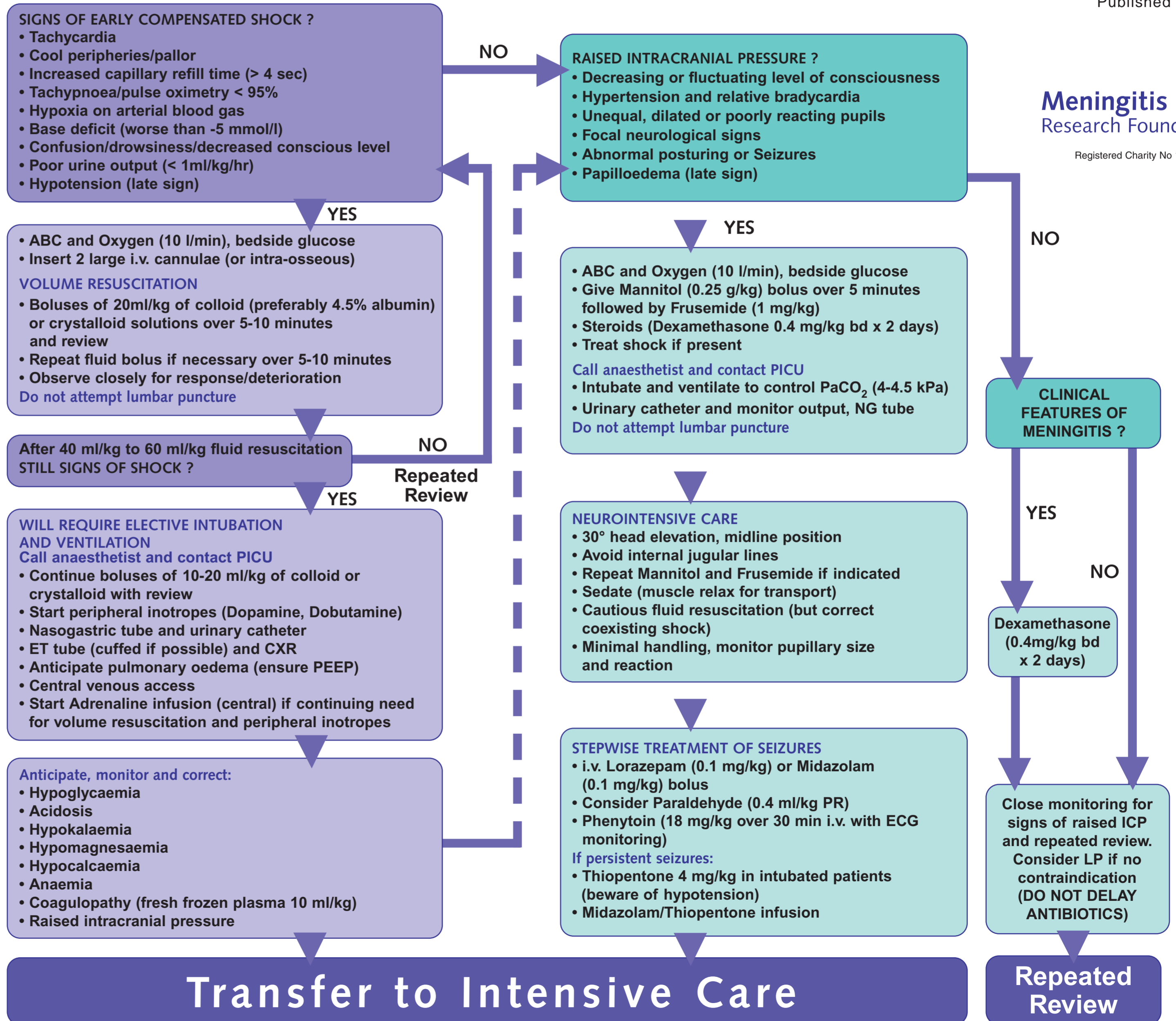
- IV Cefotaxime (50mg/kg tds) or Ceftriaxone (80mg/kg od) but note MHRA Safety Update - avoid first line use where calcium infusion may be used <http://www.nelm.nhs.uk/Record%20Viewing/viewRecord.aspx?id=587080>



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Transfer to Intensive Care