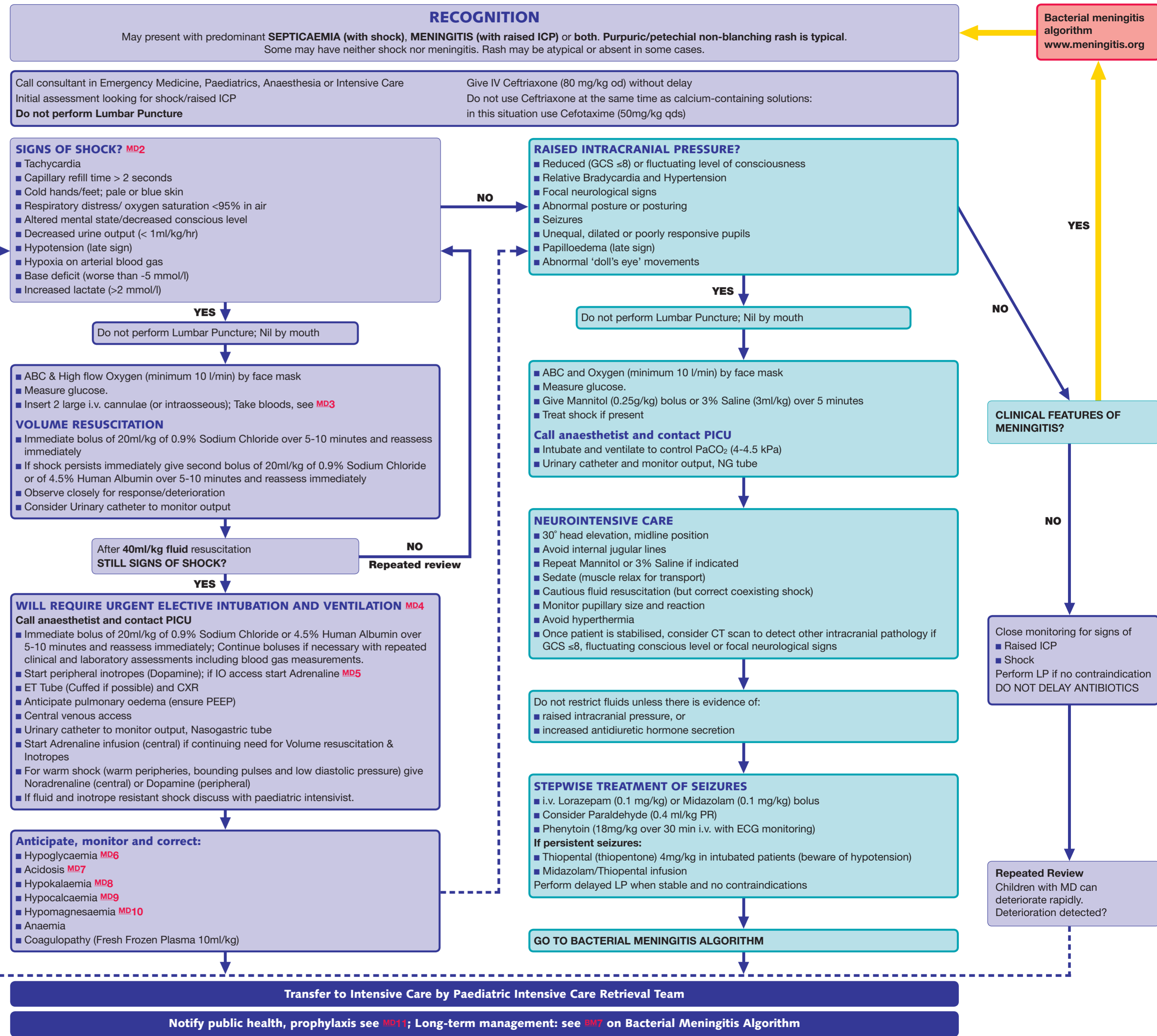


# Management of Meningococcal Disease in Children and Young People

Incorporates NICE Bacterial Meningitis and Meningococcal Septicaemia Guideline CG102. Distributed in partnership with NICE 7th Edition

- MD1** Estimate of child's weight (1–10 years)  
Weight (kg) = 2 x (age in years + 4)
- MD2** Observe HR, RR, BP, perfusion, conscious level  
Cardiac monitor & pulse oximetry.
- | Conscious Level   | Normal Values |                |               |
|-------------------|---------------|----------------|---------------|
|                   | Age           | Heart Rate/min | Resp Rate/min |
| Alert             | <1            | 110-160        | 30-40         |
| Responds to Voice | 1-2           | 100-150        | 25-35         |
| Responds to Pain  | 2-5           | 95-140         | 25-30         |
| Unresponsive      | 5-12          | 80-120         | 20-25         |
|                   | Over 12       | 60-100         | 15-20         |
- Normal systolic blood pressure = 80 + (age in years x 2)  
N.B. Low BP is a pre-terminal sign in children
- MD3** Take bloods for Glucose, FBC, CRP, Clotting, U&E, Ca++, Mg++, PO<sub>4</sub>, Lactate, Blood cultures, Whole blood (EDTA) for PCR, Blood gas (bicarb, base deficit), X-match.
- MD4** Intubation (call anaesthetist and consult PICU) see **BM5**  
Consider using: Atropine 20 mcg/kg (max 600 mcg) AND Ketamine 1-2 mg/kg in shock or Thiopental (thiopentone) 3-5 mg/kg in RICP 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 min. Do not use Ketamine in children with raised ICP.
- MD5** Inotropes  
Dopamine 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 or IO line only at 0.1 mcg/kg/min.  
Start Noradrenaline via a central or IO line only at 0.1 mcg/kg/min. for 'warm shock'.  
Adrenaline & Noradrenaline: Make up 300 mcg/kg in 50 ml of normal saline at 1 ml/hour = 0.1 mcg/kg/min.
- MD6** Hypoglycaemia (glucose < 3 mmol/l) 5ml/kg 10% Dextrose bolus i.v.
- MD7** Correction of metabolic acidosis pH < 7.2  
Give half correction NaHCO<sub>3</sub> i.v.  
Volume (ml) to give = (0.3 x weight in kg x base deficit ±2) of 8.4%NaHCO<sub>3</sub> over 20 mins, or in neonates, volume (ml) to give = (0.3 x weight in kg x base deficit) of 4.2% NaHCO<sub>3</sub>.
- MD8** If K<sup>+</sup> < 3.5 mmol/l  
Give 0.25 mmol/kg over 30 mins i.v. with ECG monitoring.  
Central line preferable. Caution if anuric.
- MD9** If total Calcium < 2 mmol/l or ionized Ca<sup>++</sup> < 1.0  
Give 0.1 ml/kg 10% CaCl<sub>2</sub> (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).  
Central line preferable.
- MD10** If Mg<sup>++</sup> < 0.75 mmol/l  
Give 0.2 ml/kg of 50% MgSO<sub>4</sub> over 30 mins i.v. (max 10 ml).
- MD11** Urgently notify public health of any suspected case of meningitis or meningococcal disease  
**Prophylaxis of household contacts of MD**  
[http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1194947389261](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1194947389261)  
■ 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 single dose (not in children <2 or in pregnancy/breast-feeding) 2-4yrs 125mg; 5-12 yrs 250 mg; > 12yrs 500 mg  
For index case not treated with Ceftriaxone, prophylaxis when well enough.  
**Hib: prophylaxis may be indicated** – consult public health
- MD12** Antibiotics for confirmed and unconfirmed (but clinically suspected) meningococcal disease: i.v. Ceftriaxone for 7 days unless contraindicated  
**BM3** (see bacterial meningitis algorithm for antibiotics against other pathogens)



Based on Early Management algorithm, Dept Paediatrics, Imperial College at St Mary's Hospital as described in Arch Dis Child 1999;80:290 & 2007;92:283 & on NICE CG102  
<http://guidance.nice.org.uk/CG102/Guidance>  
<http://guidance.nice.org.uk/CG102/QuickRefGuide/pdf/English>  
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