

Parenteral doses (for adults and children) of drugs for medical emergencies

N.B. This list is not comprehensive. It includes drugs that GPs might need to use parenterally in an emergency. It should be used in conjunction with advice given in the original articles (*DTB* 2005; 43: 65-8 and *DTB* 2005; 43: 81-4) and the *BNF* and *BNF for Children*.

DRUG	USE	DOSAGE (see over for 'BNF' table of ideal weight for age)
adrenaline (1mg/mL, i.e. 1:1,000)	Anaphylaxis or acute angio-oedema	Give intramuscularly (not intravenously): adults and 12-18 year olds: 500micrograms (0.5mL) 6-12 years: 250micrograms (0.25mL) 6 months-6 years: 120micrograms (0.12mL) under 6 months: 50micrograms (0.05mL)
atropine (600micrograms/mL)	Bradycardia plus hypotension in myocardial infarction	Adults: 0.3-1mg intravenously; the dose may be repeated if the first dose is effective
benzylpenicillin (600mg vial for reconstitution with sodium chloride or water for injection)	Suspected bacterial meningitis or meningococcal septicaemia	Give intravenously (or intramuscularly if venous access is not available) as a single dose: adults and children 10 years and over: 1.2g 1-9 years: 600mg under 1 year: 300mg
cefotaxime (1g vial for reconstitution with water for injection)	Suspected bacterial meningitis or meningococcal septicaemia, in patients allergic to penicillin (no history of anaphylaxis)	Give intravenously or intramuscularly as a single dose: adults and children 12 years and over: 1g children up to 12 years: 50mg/kg
chloramphenicol (1g vial for reconstitution with water for injection)	Suspected bacterial meningitis or meningococcal septicaemia, if there is a history of anaphylaxis due to penicillin	Adults and children: 12.5-25mg/kg intravenously
chlorphenamine (10mg/mL)	As an adjunct after adrenaline in the treatment of anaphylaxis or acute angio-oedema	Give by slow intravenous injection over 1 minute: adults and children over 12 years: 10-20mg 6-12 years: 5-10mg 1-6 years: 2.5-5mg 1 month-1 year: 250micrograms/kg (max 2.5mg)
cyclizine (50mg/mL)	Vomiting due to vestibular disorders or with diamorphine (except in myocardial infarction)	Adults: 50mg intramuscularly or intravenously children over 1 month: 0.5-1mg/kg intravenously (max single dose: 6-18 years, 50mg; 1 month-6 years, 25mg)
diamorphine (5mg or 10mg powder for reconstitution with water for injection)	Severe pain (e.g. myocardial infarction) and acute left ventricular failure	Give by slow (1mg/minute) intravenous injection (particularly with shock or peripheral vasoconstriction): adults: 1.25-5mg 12-18 years: 2.5-5mg 1-12 years: 75-100micrograms/kg 6-12 months: 75micrograms/kg 3-6 months: 25-50micrograms/kg 1-3 months: 20micrograms/kg Or, intramuscularly (not in myocardial infarction) or subcutaneously (but not if tissue perfusion is impaired or if there is oedema) in a dose of 5-10mg in adults, or 5mg in children aged 12-18 years
diclofenac (25mg/mL)	Analgesia (e.g. ureteric colic, bone pain, acute back pain)	Adults: 75mg intramuscularly deep into the gluteal muscle
flumazenil (100micrograms/mL)	To reverse respiratory depression caused by benzodiazepines	Adults: 200micrograms intravenously over 15 seconds, then 100micrograms at 1-minute intervals, if needed (max 1mg)
furosemide (10mg/mL)	To relieve pulmonary oedema associated with acute left ventricular failure	Adults: 20-50mg by slow intravenous injection

glucagon (1mg/mL)	Hypoglycaemia – first-line use, except in those who have been hypoglycaemic for some time and may have exhausted their supplies of liver glycogen	Give subcutaneously, intramuscularly or intravenously: adults: 1mg children 2–18 years: 0.5–1 mg (i.e. weight <25kg, 0.5mg; >25kg, 1mg) 1 month–2 years: 500micrograms under 1 month: 200micrograms/kg
glucose (10% and 20% solution)	Hypoglycaemia – second-line use in unconscious patients	Give intravenously into a large vein over 3 minutes: adults: up to 50mL of 20% infusion children: 2–5mL/kg of 10% infusion
haloperidol (5mg/mL)	Very agitated or violent patients with psychiatric illness	Adults: 2–10mg intramuscularly
hydrocortisone (100mg powder as sodium succinate for reconstitution with water for injection)	Acute severe asthma Severe or recurrent anaphylaxis Hypoadrenalism	Give intravenously over at least 1 minute: adults: 100mg children: 4mg/kg (max 100mg) Give by slow intravenous injection: adults: 100–300mg children 1 month–18 years: 4–8mg/kg (max 300mg) Give by slow intravenous or intramuscular injection: adults and children over 12 years: 100mg children: 1 month–12 years: 2–4mg/kg
lorazepam (4mg/mL)	Very agitated or violent patients with psychiatric illness Status epilepticus	Adults: 1–2mg intramuscularly Adults: 4mg by slow intravenous injection into a large vein
metoclopramide (5mg/mL)	Nausea and vomiting. Can be given with diamorphine in patients with myocardial infarction	Adults: 10mg intramuscularly or intravenously over 1–2 minutes
morphine (10mg/mL)	Severe pain	Adults: 10mg (15mg for heavier well-muscled patients) subcutaneously (but not if patient is oedematous) or intramuscularly, or 2.5–7.5mg by slow (2mg/minute) intravenous injection children, subcutaneously or intramuscularly: 12–18 years: 10mg 5–12 years: 5–10mg 1–5 years: 2.5–5mg 1–12 months: 200micrograms/kg children, intravenously (over at least 5 minutes): 12–18 years: 2.5–10mg 1 month–12 years: 100–200micrograms/kg
naloxone (400micrograms/mL)	Opioid overdose	Give intravenously (subcutaneously or intramuscularly only if intravenous route not feasible): adults and children 12–18 years: 0.4–2mg. Dose can be repeated every 2–3 minutes up to a maximum of 10mg children 1 month–12 years: 10micrograms/kg with a subsequent dose of 100micrograms/kg if there is no response
prochlorperazine (12.5mg/mL)	Nausea and vomiting	Give by deep intramuscular injection: adults and children 12–18 years: 12.5mg 5–12 years: 5–6.25mg 2–5 years: 1.25–2.5mg
procyclidine (5mg/mL)	Oculogyric crisis or acute dystonia	Give intramuscularly or intravenously: adults and children 10–18 years: 5–10mg (occasionally more than 10mg is needed) 2–10 years: 2–5mg under 2 years: 0.5–2mg

BNF table of ideal weight for age (kg)

newborn	1 month	3 months	6 months	1 year	3 years	5 years	7 years	12 years	adult female	adult male
3.5	4.2	5.6	7.7	10	15	18	23	39	56	68