Peri-operative anaphylaxis
For anaesthetists/intensivists

A = Airway  B = Breathing  C = Circulation  D = Disability  E = Exposure

Diagnosis – look for:
• Unexplained hypotension, tachycardia, bradycardia, bronchospasm (wheeze may be absent if severe)
• Unexpected cardiorespiratory arrest where other causes are excluded
• Skin signs are often absent in severe reactions

Call for HELP
Stop/remove non-essential surgery. Call for cardiac arrest trolley

Stop/remove suspected triggers if possible
e.g. Antibiotics, NMBAs, dyes, colloids, chlorhexidine coated lines/catheters, lubricants, latex

Give initial IV bolus of adrenaline
Adult and child > 12 years: 50 micrograms IV (0.5 mL IV of 1 mg/10 mL [1:10,000])
Child < 12 years: 1 microgram/kg, needs careful dilution, titrate to effect
If no IV access: 10 micrograms/kg IM, (max 500 micrograms IM) of 1 mg/mL (1:1,000), and secure IV/IO access
If in doubt, give adrenaline

& Give rapid IV fluid bolus
Adult and child > 12 years: 500–1000 mL
Child < 12 years: 20 mL/kg
• Multiple fluid boluses may be needed (e.g. up to 3-5 L in adults, 60-100 mL/kg in children)
• Avoid colloid

If poor response to adrenaline boluses, start IV infusion*
Involve ICU team early

If systolic BP < 50 mmHg or cardiac arrest, start CPR

Immediate follow-up
• Take blood (clotted) for serum tryptase once stable
• Request further samples 1–4 hours after onset of symptoms, and at least 24 hours later
• Complete allergy referral form: bit.ly/NAP6referral
• If surgery is urgent or time-critical and patient is stable, proceed with surgery but avoid suspected triggers
• Refer fatal cases to bit.ly/UKFAR

*Use local protocol for adrenaline infusion
(Peripheral infusion recommended if no central venous access)

OR
Peripheral low-dose IV adrenaline infusion (if no local protocol):
0.5 mg (0.5 mL of 1 mg/mL [1:1000]) in 50 mL
• In both adults and children, start at 0.5–1.0 mL/kg/hour, and titrate according to clinical response
• Continuous monitoring and observation is mandatory

AB = Airway/Breathing
Give 100% oxygen Ensure sustained ETCO2 trace. Change to inhalational anaesthetic if appropriate.
Severe/persistent bronchospasm:
• Exclude oesophageal intubation
• Check patent airway and anaesthetic circuit
• Nebulised salbutamol and ipratropium
• Consider IV bronchodilator

C = Circulation
Hypotension may be resistant, requiring prolonged treatment with large volume resuscitation
• Give further fluid boluses, titrate to response
• Consider head-down table-tilt or elevating legs
• Establish invasive monitoring as soon as practical
IF REFRACTORY TO ADRENALINE INFUSION:
• Add a second vasopressor (noradrenaline or vasopressin) in addition to adrenaline
• Consider glucagon 1 mg IV in adults on beta-blockers
• Consider steroids for refractory reactions or shock
• Consider extracorporeal life support

Resuscitation Council UK
Association of Anaesthetists
BSACI
CIPN
RCOA
Perioperative Allergy Network