Anaphylaxis
Anaphylaxis is a life-threatening systemic hypersensitivity reaction with death may be biphasic (recurrance of symptoms within 72 hours). Death has never occurred > 6 hours from exposure (usually < 5 mins if iv, 10-15 mins if venom and 30-35 mins if ingested).

Causes:
- Drugs – antibiotics, NSAIDs, contrast media, suxamethonium, opiates, gelofusin
- Food – common in children; nuts, egg, milk, shellfish, legumes
- Venom
- Latex
- Idiopathic (ie no cause identified)
- Rare – exercise induced, semen

Systemic Allergic Reactions
Angioedema – May be allergic (mast-cell mediated, associated with urticaria) or non-allergic (bradykinin-mediated, without urticaria, typically more gradual onset).

Causes include C1 esterase inhibitor deficiency, ACE inhibitors (20%), NSAIDs, statins, SLE, lymphoma and idiopathic (40%)

Urticaria – May be acute or chronic (occurring daily for > 6 weeks, rarely associated with allergy).

Causes of acute:
- allergy, viral or bacterial infections, idiopathic
- idiopathic (75%, often triggered by stress), SLE, thyroiditis, physical stimuli (heat, cold, exercise, sunlight), menstruation, urticarial vasculitis (lasting > 36 hours and causing bruising / pain), urticaria pigmentosa (reddish brown macules)

Anaphylaxis
A: stridor, hoarse voice, throat closure
B: DIB, chest tightness, wheeze, cyanosis
C: signs of shock - pre-syncpe or syncope, pale, clammy, reduced GCS

May be associated erythema, urticaria, angioedema, itch, nausea, vomiting, abdominal pain, diarrhoea

Angiodema
Deep muc-cutaneous swelling affecting face, throat, bowel, digits and genitals

If signs anaphylaxis (urticaria, bronchospasm, rapid onset), follow anaphylaxis algorithm

Urticaria
Pruritic migratory erythematous plaques, occurs alone or in association with angioedema

If any signs of anaphylaxis, follow anaphylaxis algorithm

Investigations
Not usually required

Discharge
Ask GP to refer to Allergy Clinic (see below) if any red flags present:
- Rash > 6 weeks (chronic)
- Painful
- Fixed staining (non-blanching areas within urticaria)
- Allergy to foods, insect venom or drugs

Ask the GP to organise blood tests prior to clinic if chronic:
- FBC
- CRP
- U&E
- C3 & C4
- ANA
- TFFs & thyroid antibody

Follow-up
Urticaria = Allergy Clinic: Dr Runa Ali, RLH, FAX: 0208 983 2279
- Chronic urticaria > 6 weeks (ask GP to refer)
- Allergy to foods, insect venom or drugs
- Urticarial vasculitis

Angioedema = Immunology Clinic: Dr Hilary Longhurst, RLH, FAX: 0203 246 0283
- C1 esterase inhibitor deficiency
- Isolated angioedema

Anaphylaxis = Allergy Clinic

Investigations
- ONLY if no clear trigger:
  - C3 (low in SLE)
  - C4 (low in SLE, C1e deficiency)
  - C1e inhibitor
  - D dimer
  - FBC, CRP, LFT

OR if anaphylaxis:
- Tryptase
  (as per anaphylaxis regime)

Investigations
Not usually required

Treatment
- If mild, no treatment needed, resolves within hours / days
- Discontinue potential triggers eg ACEIs
- Consider antihistamines / steroids but unlikely to respond if no allergic signs
- If severe:
  - 1st line: Labetalol 30 mg in 3 mL SC
  - 2nd line: FFP 2 – 4 units

Investigations
- NO
- Yes

Treatment
- C1 esterase concentrate 20 units / kg iv over 10 mins
- Repeat dose at 2 hours may be required
- 2nd line: Labetalol 30 mg in 3 mL SC
- 3rd line: FFP 2 – 4 units

Investigations
- If peri-

Treatment
- Adrenaline 0.5 mL of 1:1000 (500 mcg) im
- Repeat at 3-5 minute intervals if required
- If peri-arrest / shock not responding to im treatment, titrate 0.5 mL 1:1000 (500 mcg) iv – seek senior advice
- Fluids: 500 – 1000 mL bolus 0.9% saline (20 mL/kg) if signs of shock despite adrenaline
- Antihistamines: Chlorpheniramine 10 mg iv
- Steroids: Hydrocortisone 200 mg iv
- Nebulisers: 5 mg salbutamol if wheeze – repeat as needed. Stridor neb adrenaline 5 mL 1:1000 (5 mg)

General:
- Stop iv drug if potential cause / remove allergen
- Patients on β blockers with refractory hypotension may require glucagon 2 – 10 mg iv, followed by an infusion of 50 mcg/kg/hr
- Stop β blockers (discuss with senior)

Investigations
- Tryptase: (yellow top) – take as soon as possible following emergency treatment, plus a 2nd sample within 1 – 2 hours (no later than 4 hours post onset)
- FBC, VBG
- ECG (NB non-specific ST ECG changes are common post adrenaline and with anaphylaxis)

Exclusions to CDU admission?
- Use of 3 or more doses of im adrenaline (needs HDU)
- Use of iv adrenaline
- Refractory shock
- Severe bronchospasm at any time
- Known biphasic reaction
- Co-morbidity requiring in-patient admission

Follow-up
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Anaphylaxis = Allergy Clinic
Allergic Reaction

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Reference Documents

Anaphylaxis CG134, NICE, December 2011