

## ATLS

### VF / VT

- 1mg adrenaline IV (3-5 mins)
- 300mg amiodorone IV

### Unshockable

- 1mg adrenaline IV (3-5 mins)

### Narrow complex tachycardia

- Sinus massage / Valsalva
- If fails, 6mg IV adenosine + saline flush
- If fails, 12mg IV adenosine + saline flush

### Bradycardia

**Compromised (BP <90mmHg, HR <40, ventricular arrhythmia, heart failure)**

OR

**Recent asystole, mobitz type 2, complete heart block, ventricular pause >3 seconds**

- 500 micrograms atropine IV

**If no satisfactory response:**

- Atropine 500 micrograms IV to maximum of 3mg
- If fails, adrenaline 2-10 micrograms / minute
- If fails, SpR+ advice / transcutaneous pacing

### Anaphylaxis

- 0.5mg IM adrenaline (repeat every 5 minutes as required)
- 10mg chlorphenamine IV
- 200mg hydrocortisone IV



## AF / atrial flutter

### New onset (<48h)

**Compromised (chest pain, HR>150, heart failure, systemic BP<90)**

- DC cardiovert, if fails metoprolol up to 5mg IV over 4-5 minutes

### Uncompromised

- Bisoprolol 5-10mg PO, flecainide 2mg/kg IV over 30 minutes (discuss SpR+, better for <65y, no cardiac history, not in flutter)

### Pre-existing (>48h)

#### Compromised

- 1<sup>st</sup> line IV metoprolol 5mg, 2<sup>nd</sup> line 500 micrograms digoxin IV

#### Uncompromised

- Oral bisoprolol, oral digoxin

### STEMI

- 300mg aspirin PO
- 5-10mg IV morphine + 10mg IV metoclopramide
- GTN spray
- Phone Hartbury suite (BRI out of hours)

### NSTEMI

- 300mg aspirin + 300mg clopidogrel PO
- 2.5mg fondaparinux SC od (if creatinine clearance <20ml/min use enoxaparin 1mg/kg od)
- Atorvastatin 40mg ON
- Bisoprolol PO (HR>70, BP >110)



## Acute Asthma

- Sit up + O<sub>2</sub>
- 5mg salbutamol nebulised
- 0.5mg ipratropium nebulised
- 100mg IV hydrocortisone / 40-50mg prednisolone PO
- CXR (exclude pneumothorax)

### Life-threatening

- 1.2-2g IV magnesium sulphate

### Pulmonary oedema

- Sit up
- Oxygen
- 2.5-5mg diamorphine slow IV
- 40-80mg furosemide slow IV
- GTN spray 2x puffs (not if sBP <90mmHg)
- GTN 2-10mg/h IV infusion (keep sBP >110mmHg)

## Hypoglycaemia

**Emergency treatment (unconscious, fitting, NBM, unable to swallow)**

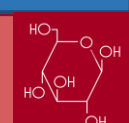
- 1mg glucagon IM
- Wait 10 minutes and recheck blood glucose

### <4mmol/L

- 160ml 10% glucose IV over 15 minutes
- Repeat blood glucose after 10 minutes
- If still <4, repeat infusion

### >4mmol/L and conscious

- Carbohydrate snack – 2 biscuits / 1 slice bread / 200-300ml milk



## Diabetic ketoacidosis

### Discuss with ITU if:

- pH <7, age <17 or >75, cardiac or renal failure, pregnant, Na <120, K >6, septic, low BP, acute cardiac event

### Tests

- Δ: lab blood glucose (not capillary), venous pH <7.3, venous HCO<sub>3</sub> <15, capillary ketones >3mmol/L or urine ketones 2+
- U+E, FBC, trop T, ECG, CXR, MSU, cultures

### Fluids and potassium supplementation

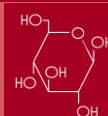
IL 0.9% NaCl	1 hour	Plasma K+	Add KCl
IL 0.9% NaCl	2 hours	<3.5 mmol/L	40 mmol
IL 0.9% NaCl	2-4 hours	3.5-5.0 mmol/L	20 mmol
IL 0.9% NaCl	4 hours	>5.0 mmol/L	Nil
IL 0.9% NaCl	4-6 hours		
10% dextrose	10 hours		

### Insulin

- Continue long-acting and discontinue rapid / mixed insulins
- Fixed rate insulin 0.1 units/kg/h until pH >7.3, HCO<sub>3</sub> >18mmol/L, capillary ketones <3 mmol/L
- Check trust DKA protocol for more details

### Bicarbonate supplementation (pH <7, SpR+)

- 250-500ml 1.26% bicarbonate over 4 hour



## Hyperosmolar hyperglycaemic state

### Tests

- Δ: lab blood glucose (not capillary) >30mmol/L, osmolality (2Na + glucose + urea) >320mOsm
- If venous pH <7.3, venous HCO<sub>3</sub> <15, capillary ketones >3mmol/L or urine ketones 2+ → DKA
- U+E, FBC, trop T, ECG, CXR, MSU, cultures

### Initial treatment

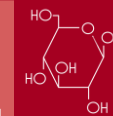
- IV fluids according to regimen
- Reduce osmolality by 5mOsm / kg / hour
- Once glucose no longer falling, start fixed rate IV insulin at 0.05 units / kg / hour
- Continue long-acting insulin but discontinue other diabetes medication

### Na and Osmolality

- Reduce osm 3-8mOsm / kg / hour
- Reduce Na by 10mmol / 24hours
- For every 5.5 mmol/L reduction blood glucose, Na+ may rise 2.4mmol/L
- Only use 0.45% NaCl if osmolality fails to drop despite adequate fluid resus

### IV fluid regimen

1L 0.9% NaCl	1-2 hours	Urinary catheter + 1hourly fluid balance
1L 0.9% NaCl	2-4 hours	
1L 0.9% NaCl	4-6 hours	Treat precipitating cause
1L 0.9% NaCl	6-8 hours	Prophylactic LMWH
1L 0.9% NaCl	8-10 hours	Assess pressure area



## Status epilepticus

- Lorazepam 2-4mg slow IV

OR

- Buccal midazolam: 10mg (10+ years), 5mg (1-4 years), 2.5mg (6-12 months)

OR

- Rectal diazepam 10mg

### Repeat dose after 10 minutes

## Hyperkalaemia

### Severe (>6.5 mmol/L or symptomatic)

- Cardiac monitor
- IV calcium gluconate 10% 10ml over 2 minutes (30 minutes if on digoxin. Repeat after 5 minutes if required)
- IV 10 units actrapid in 50ml of 50% glucose over 15 minutes. Repeat as necessary
- 20mg nebulised salbutamol if no IV access or resistant hyperkalaemia
- If venous HCO<sub>3</sub> <20, sodium bicarbonate 0.5-1g QDS PO or 250ml 1.26% IV over 2 hours (if not overloaded or anuric)

## Hypokalaemia

### Severe (<2.5 mmol/L or symptomatic)

- 40mmol KCl in 1L N. Saline BD or TDS
- Standard infusion rate 10mmol/h
- Maximum infusion rate 20mmol/h

### Ward round checklist

- Observations (including blood glucose)
- Fluid balance
- Drug chart (VTE, antibiotics)
- Results and scans

