

ABC – SERIOUSLY ILL ADULTS: SIMPLE OVERVIEW

AIRWAY:

- Assessment: The airway is blocked if:
the patient is unconscious
breathing is noisy
chest is moving but no air entry

- Treatment: Jaw thrust manoeuvre
Yankeur suction
Guedel airway, nasopharyngeal airway,
LMA
Cuffed endotracheal tube if no gag reflex
Surgical cricothyroidotomy if above methods fail

BREATHING:

- Assessment: Rate, depth and work. Trachea.

- Treatment: Assist with a bag-valve mask if rate or depth insufficient
Treat tension pneumothorax*
Give 100% oxygen by a NRRM

CIRCULATION:

- Assessment: Pulse, capillary refill, respiratory rate, BP

- Treatment: CPR if no major pulse
Remember the causes of PEA**
Treat hypovolaemia aggressively with 2 litres fluid initially
(occult bleeding?- GI bleeding or AAA)
Remember anaphylaxis as a cause of unexplained shock

* Tension pneumothorax: Jugular venous distension, trachea deviated, reduced air entry, hyper-resonant to percussion. Release *immediately* by inserting brown venflon into 2nd intercostal space mid-clavicular line then arrange for chest drain.

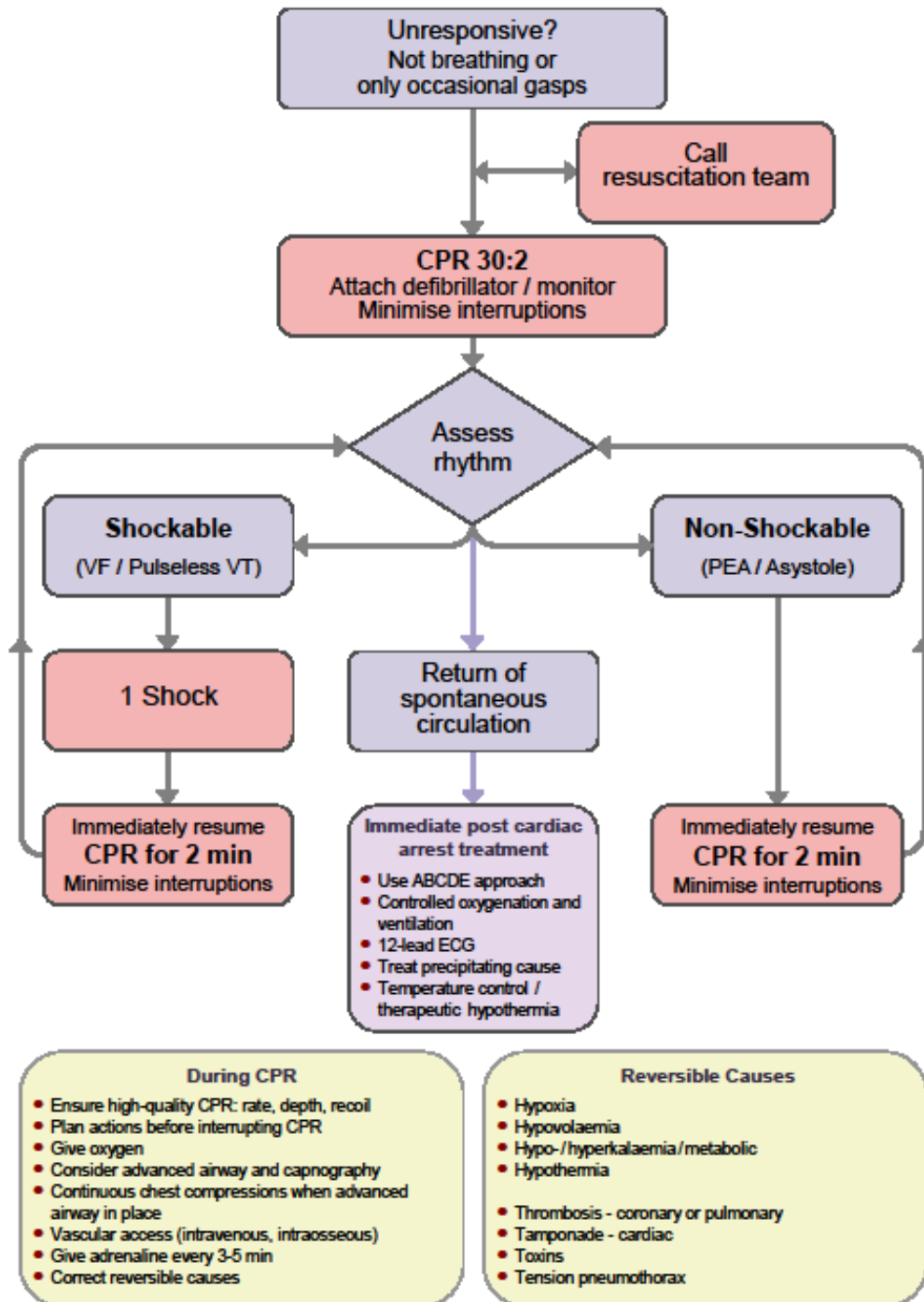
**PEA: Tension pneumothorax, hypovolaemia, drugs, pulmonary embolism, hypothermia, cardiac tamponade, electrolyte disturbance, massive brain injury, cardiac rupture

This department has an **AUTOPULSE** machine which provides excellent circulatory support in cardiac arrest where it is felt that the resuscitation will be prolonged. You will be provided with training on this during your induction.

EWS: EARLY RECOGNITION OF A SICK OR DETERIORATING ADULT PATIENT

Sometimes patients can be very sick but superficially look OK to less experienced doctors and nurses. They seem to crash suddenly but in retrospect the signs were there for some time. Early Warning Scores help doctors and nurses to detect relatively subtle signs of decompensation before the patient crashes, greatly increasing their chances of survival. The NEWS score used in Antrim Hospital is based on a province-wide guideline. The related actions are MANDATORY and subject to regular audit.

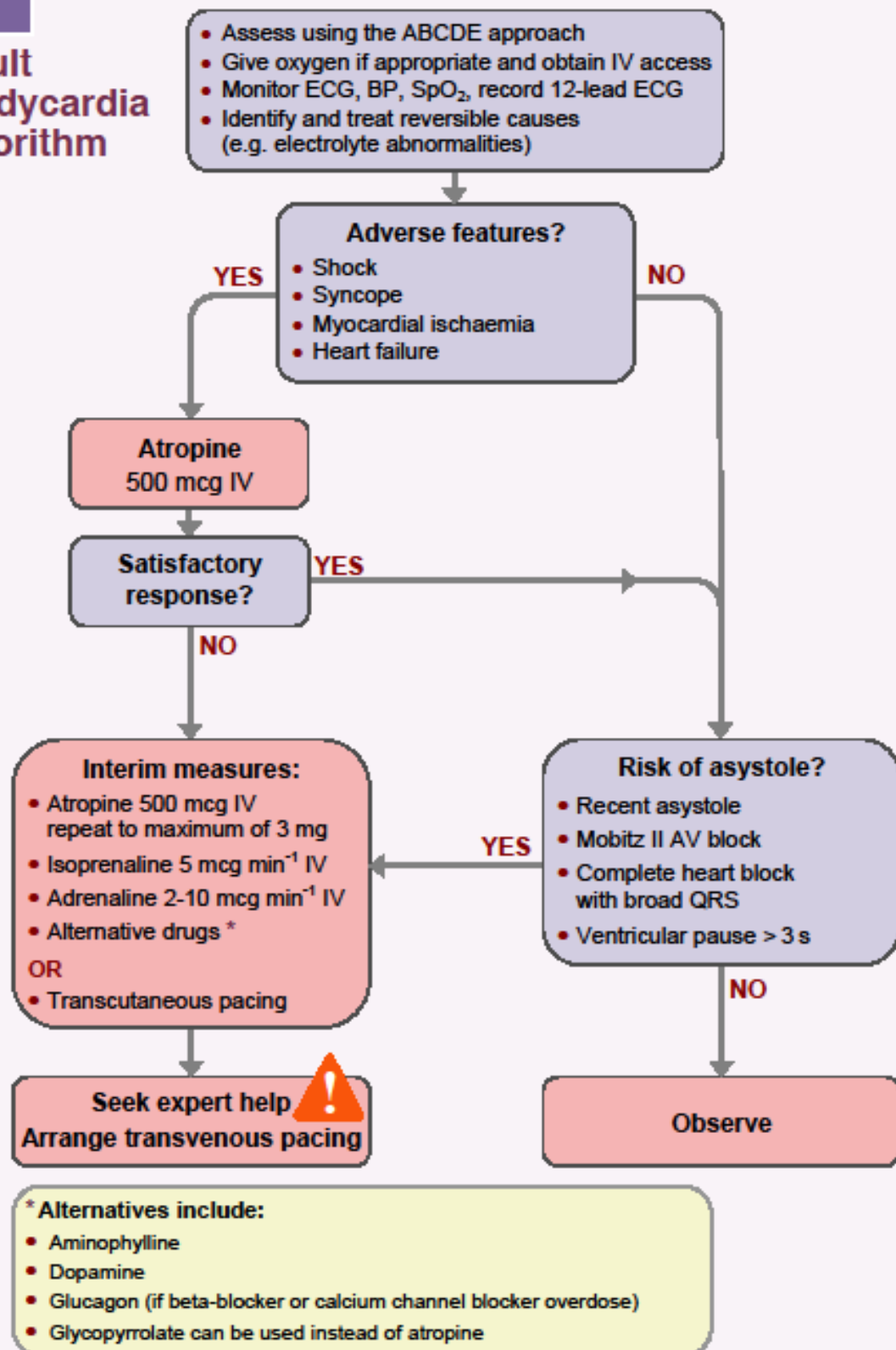
Adult Advanced Life Support



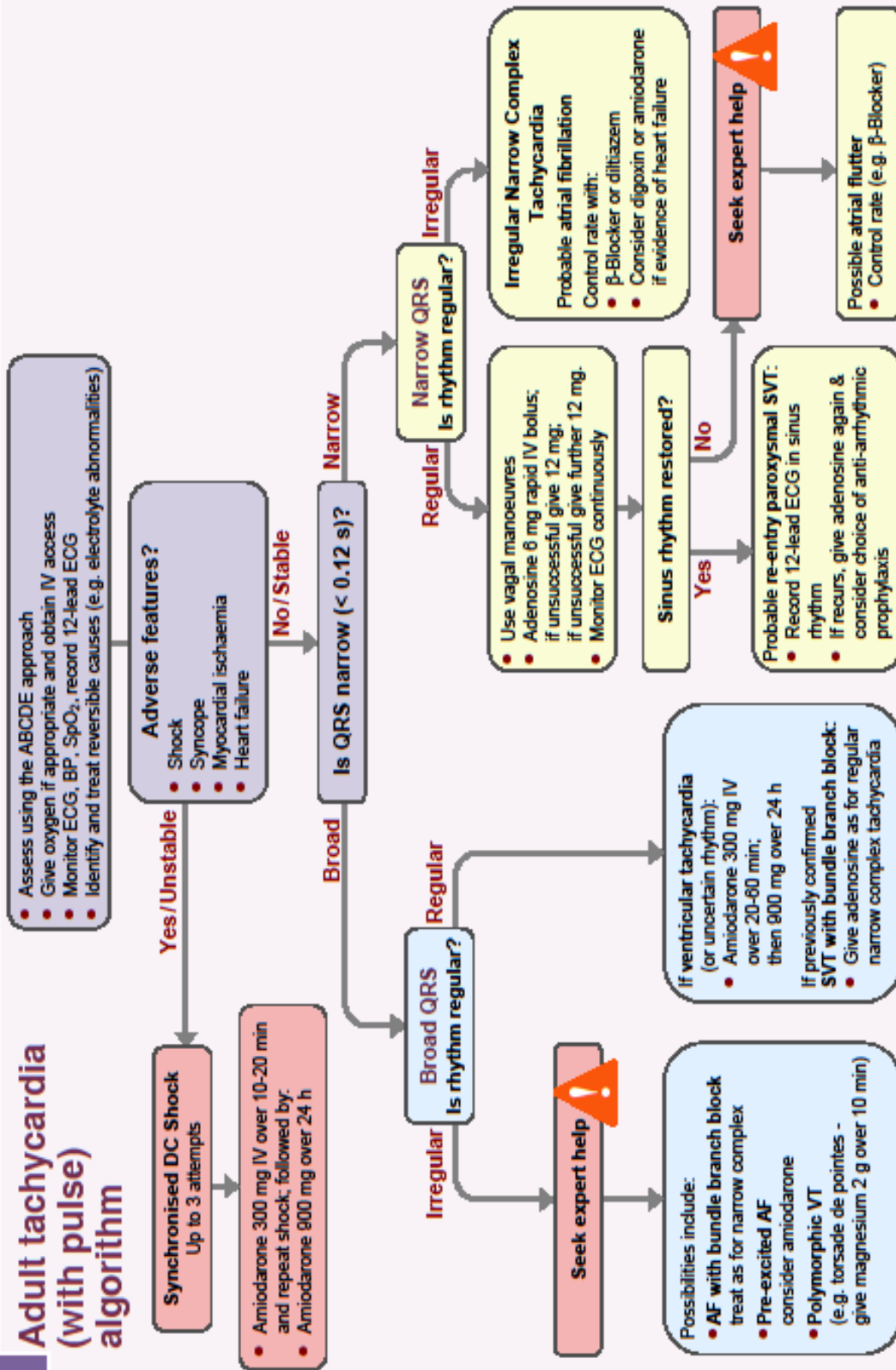
This department has biphasic defibrillators.

VF or Broad complex tachycardia	-----	150 for all shocks
Narrow complex tachycardia	-----	70 incrementing to 150
Paediatric defibrillation	-----	4 joules/kg

Adult bradycardia algorithm

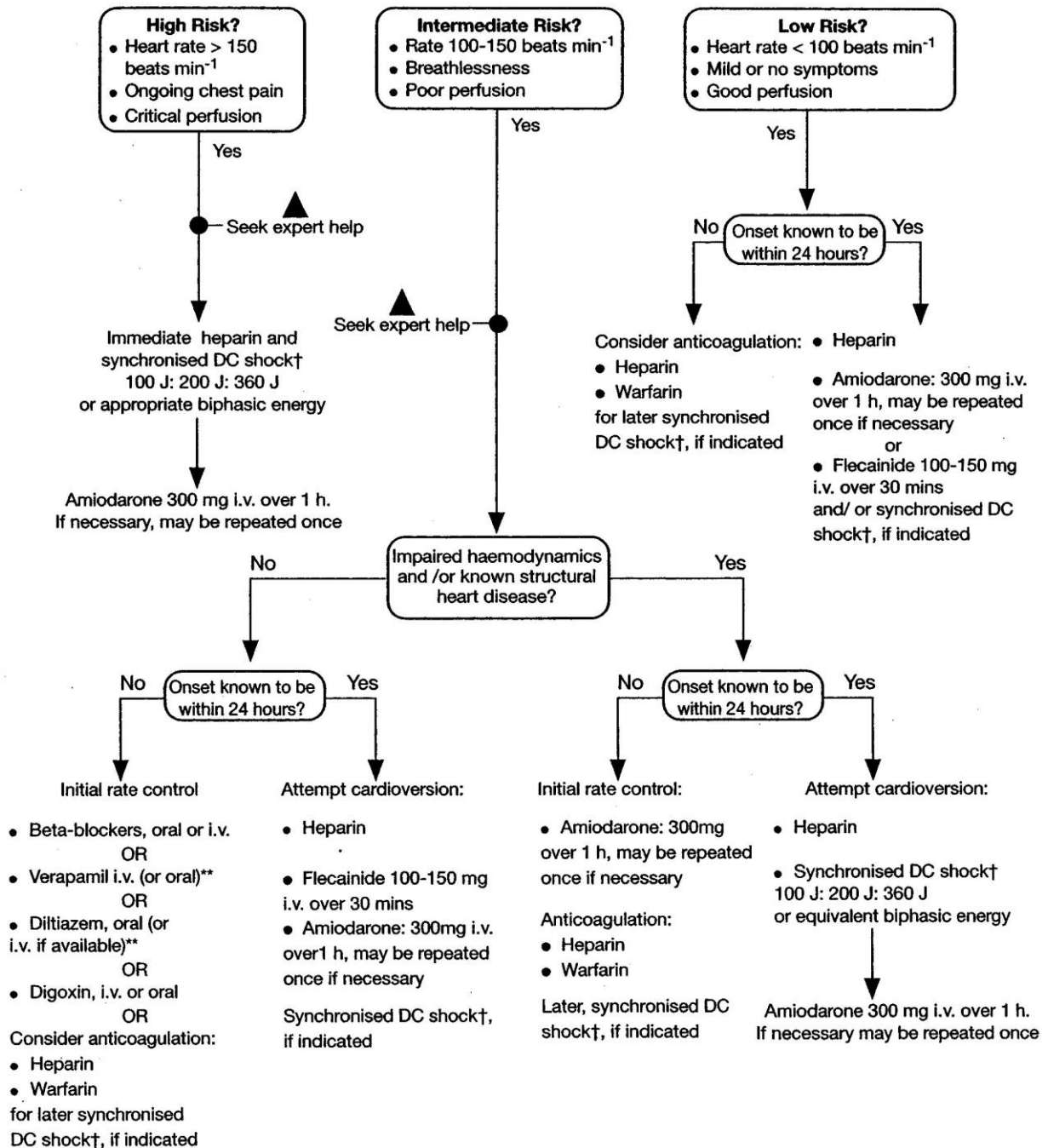


Adult tachycardia (with pulse) algorithm



Atrial Fibrillation

If appropriate, give oxygen and establish i.v. access

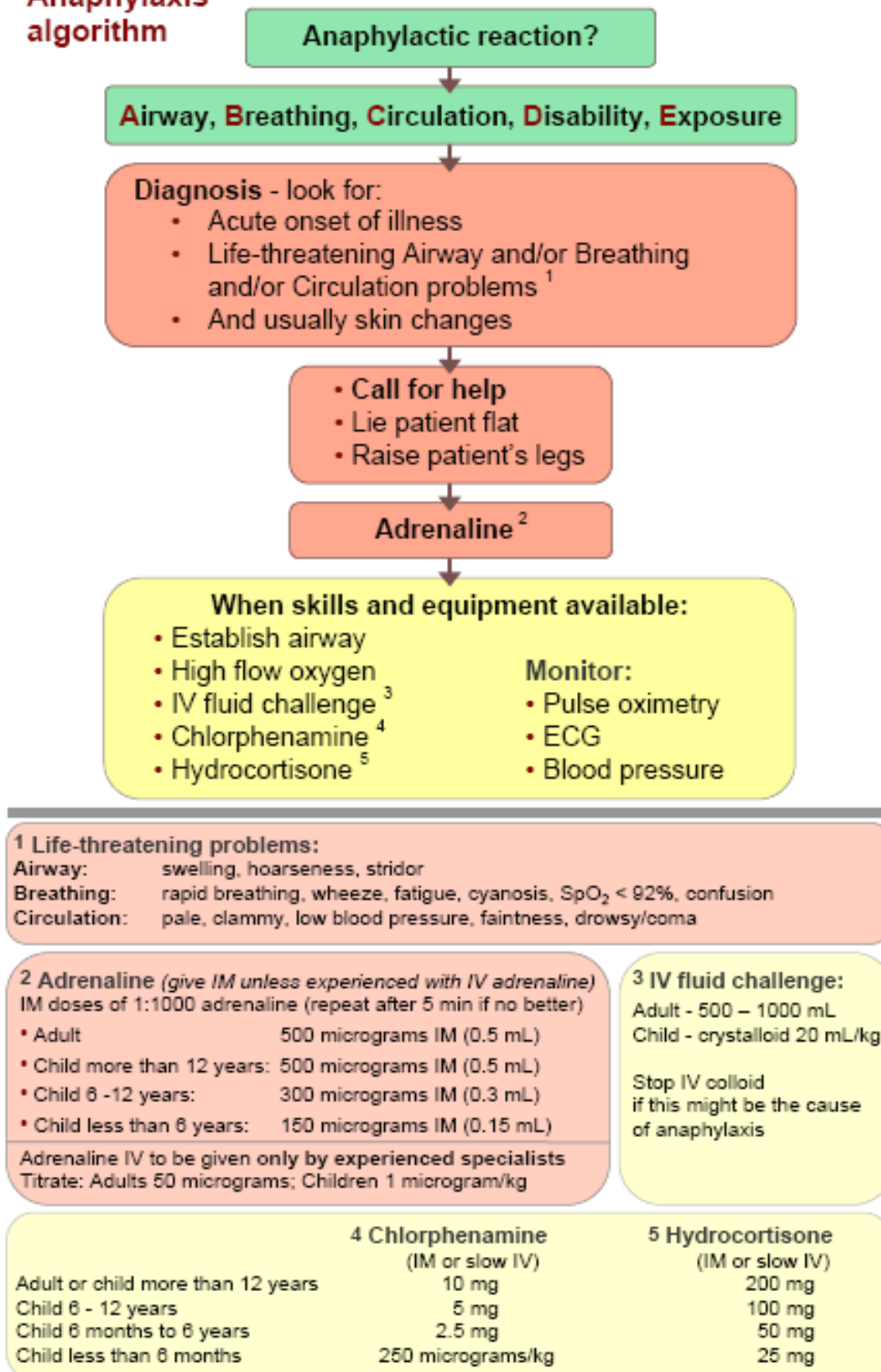


Doses throughout are based on adult of average body weight

† Note 1: DC shock is always given under sedation/ general anaesthesia.

** Note 2: NOT TO BE USED IN PATIENTS RECEIVING BETA-BLOCKERS

Anaphylaxis algorithm



SHOCK – INADEQUATE TISSUE PERFUSION

Recognise early

Give oxygen and fluids then find out the cause !

1. Hypovolaemia:

- Early signs are tachycardia, tachypnoea (without increased respiratory effort, delayed capillary refill and poor urinary output)
- Hypotension is a late sign
- Apart from trauma, common causes of occult blood loss are ruptured abdominal aneurysm and GI bleeding (do a PR)

2. Cardiogenic:

- Hypoperfusion with jugular venous distension. Abnormal ECG
- Unless you are certain, consider a fluid challenge +/- CVP monitoring prior to inotropes
- Remember tension pneumothorax, cardiac tamponade and massive pulmonary embolism can present this way – exclude by clinical examination and CXR

3. Anaphylactic:

- Possible history of previous anaphylaxis, collapse, potential allergen
- May be upper respiratory tract obstruction as well
- Adrenaline 0.5ml of 1 in 1000 IM repeated if ineffective and IV fluids

4. Neurogenic:

- Overt spinal trauma or unsuspected spine injury (e.g. with head injury)
- Hypotension but normal or increased capillary refill time
- Meticulous spinal care, IV fluids in moderation, maintain normal temperature

5. Septic:

- Hypotension, pyrexia, tachypnoea, metabolic acidosis, altered mental status
- IV fluids, broad spectrum IV antibiotics (e.g. Tazocin and gentamicin)
- Specific antibiotics for special types of septic shock e.g. toxic shock syndrome, meningococcal septicaemia.

Note the surviving sepsis campaign and the following sepsis bundles on the next page. Complete the sepsis proforma.

Involve ITU in any patient with shock not responding to initial treatment

SEPSIS CARE BUNDLES

1. Sepsis Six – To be completed within first hour of recognition of severe sepsis or septic shock

Address simultaneously; target time: (1h from presentation)			Time when task	Initials
1	100% oxygen	Give 15L/min via facemask with reservoir bag unless oxygen restriction necessary (e.g. in chronic CO ₂ retention aim for an SaO ₂ of		
2	IV fluids	Give a 500mL - 1000mL bolus of crystalloid (i.e. 0.9% saline or Hartmann's solution) over 30 - 60min. In patients with an initial systolic BP <90 or a lactate >4, give a larger (20mL/kg) bolus. Involve your middle grade doctor or consultant if further fluid resuscitation is required. Give additional boluses of 250-500mL if		
3	Blood cultures	Take a minimum 2 sets, including at least one from a fresh venepuncture. Also send sputum culture / wound swabs etc. as		
4	IV antibiotics	Ensure cultures have been taken first. Prescribe in full compliance with local antimicrobial guidelines; contact microbiologist if in doubt. Document target time ('to be given by'-time) in drug chart and inform	Prescribed by	
			Given by	
5	Lactate, Hb & other blood tests	Lactate requires blood gas analysis (venous sample is acceptable; ensure sample is sent on ice if delay to analysis anticipated). Also request FBC, U&E, LFT, clotting (INR and APTT) and glucose.		
		Repeat lactate after first-hour care duties have been completed.		
		Arrange transfusion if required (target Hb =7). p Not required, as Hb >7	Prescribed Given by	
6	Catheter	Dip CSU; send for C&S as appropriate. Monitor urine output hourly.		
Discuss further management plan with your middle grade doctor or				

2. Resuscitation Bundle – to be completed within four hours of recognition of severe sepsis or septic shock

Initial tasks		Time when	Initials
Fluid	Check that patient has received an initial 20mL/kg bolus of		
ITU assessment	Arrange urgent review by ITU team.		
CVP line	Insert urgently under US guidance and in an appropriate environment (e.g. resuscitation or procedure room / theatre). Seek help from your seniors or ITU team if you do not yet have the		
HDU / ITU care	Ensure a bed of the appropriate care level is allocated to patient.		
Goals to be achieved by: (4h from presentation / breach time)		Time task initiated	Initials
Source control	Remove any infected urinary catheter or other indwelling device; arrange for abscess drainage / laparotomy etc. as needed.		
CVP 8-12mmHg	Give 500 - 1000mL IV bolus of crystalloid every 30min until goal achieved.		
MAP 65mmHg	Patients needs Noradrenaline if MAP <65 despite adequate CVP (unless ITU care is deemed inappropriate and reason has been		
ScvO₂ 70%	Take blood gas sample from CVP line at regular intervals to determine central venous oxygen saturation (ScvO ₂). Patient needs Dobutamine (in ITU) if goal not achieved despite Hb >7 and		
Discuss further management plan with your middle grade doctor or			

ABDOMINAL AORTIC ANEURYSM

Patients with a leaking aneurysm are bleeding to death

Suspect leaking aneurysm if:

- Over 55 AND
- Severe Abdominal Pain/'Renal Colic' (haematuria is common)/ Low Back Pain OR
- Unexplained Shock OR
- Known AAA and pain or shock



Patient is examined by the most senior doctor in the ED IMMEDIATELY +/- USS if competent

If AAA still suspected:

- Contact vascular SpR in RVH via #6124
- Patient to be transferred by emergency ambulance ("blue light") to RVH for vascular assessment.
- ECG and IV access
- Do not do CT AAA - this is an unnecessary delay to definitive treatment



- Usually no doctor is required to accompany patient – surgical doctor if necessary
- Give 100% O₂
- Give Morphine +/- Metaclopramide in iv aliquots
- Do not give iv fluids unless unconscious or systolic BP > 80 mmHg

Aim for a maximum time in the Emergency Department of 10 minutes.

Target call-to-surgery is 60 minutes