Zakład Medycyny Rodzinnej
Uniwesytetu Medycznego
w Łodzi

Family Medicine
for English language students
of Medical University of Lodz

Seminar 16

Reanimation in GP practice

- European Resuscitation Council Guidelines for Resuscitation 2015

Emergency medical dispatcher, CPR and AED

Guidelines 2015 highlights

- An effective, **coordinated community response**
- CPR providers trained and able to perform rescue breaths should **combine chest compressions and rescue breaths.**
- **CPR** remains essential to improving outcomes.
- CPR providers should ensure chest compressions of **adequate depth** (at least 5 cm but no more than 6 cm) with a rate of **100–120 compressions** minimum.
- After each compression allow the chest to recoil completely and **minimise interruptions in compressions.**

Chest Compression Depth -updated

2010	2015
> 5 cm	5 – 6 cm

Class I, LOE C-LD

Push Hard !

Chest Compression Rate -updated

2010	2015
> 100	100 – 120

Class IIa, LOE C-LD

Push Fast !

Fully Recoil !

do not leaning on chest

Class IIa, LOE C-LD

Guidelines 2015 highlights

- Providing rescue breaths/ventilations spend approximately 1s inflating the chest with sufficient volume (500-600ml) to ensure the chest rises visibly.
- The ratio of chest compressions to ventilations remains 30:2.
- Do not interrupt chest compressions for more than 10s to provide ventilations.


Yes, I am superhuman, but, even I should only do chest compressions for 2 minutes.

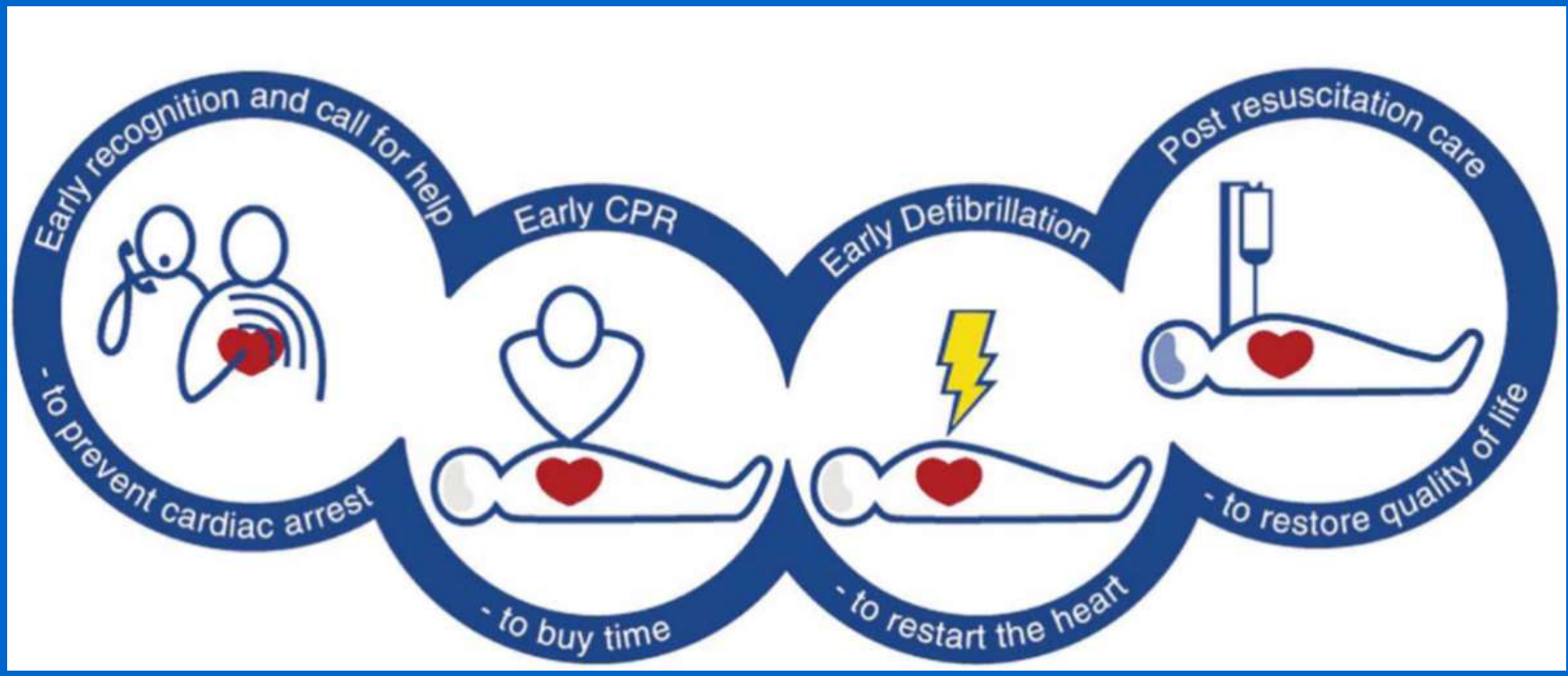
Guidelines 2015 highlights

- Defibrillation within 3–5 min of collapse can produce survival rates as high as 50–70%.
- The adult CPR sequence can be used safely in children who are unresponsive and not breathing normally.
- Chest compression depths in children should be at least one third of the depth of the chest (for infants that is 4 cm, for children 5 cm).

Guidelines 2015 highlights

- There are a variety of approaches to airway management during CPR and a stepwise approach based on patient factors and the skills of the rescuer is recommended.

The Chain of Survival



The Chain of Survival

1. Early recognition and call for help – **unresponsiveness** and **not breathing normally**
2. Early bystander CPR – The immediate initiation of CPR can double or quadruple survival from cardiac arrest.

The Chain of Survival

- Early defibrillation

- Early advanced life suport and standardised post-resuscitation care – Advanced life suport with airway management, drugs and correcting causal factors.

Potentially reversible causes of cardiac arrest

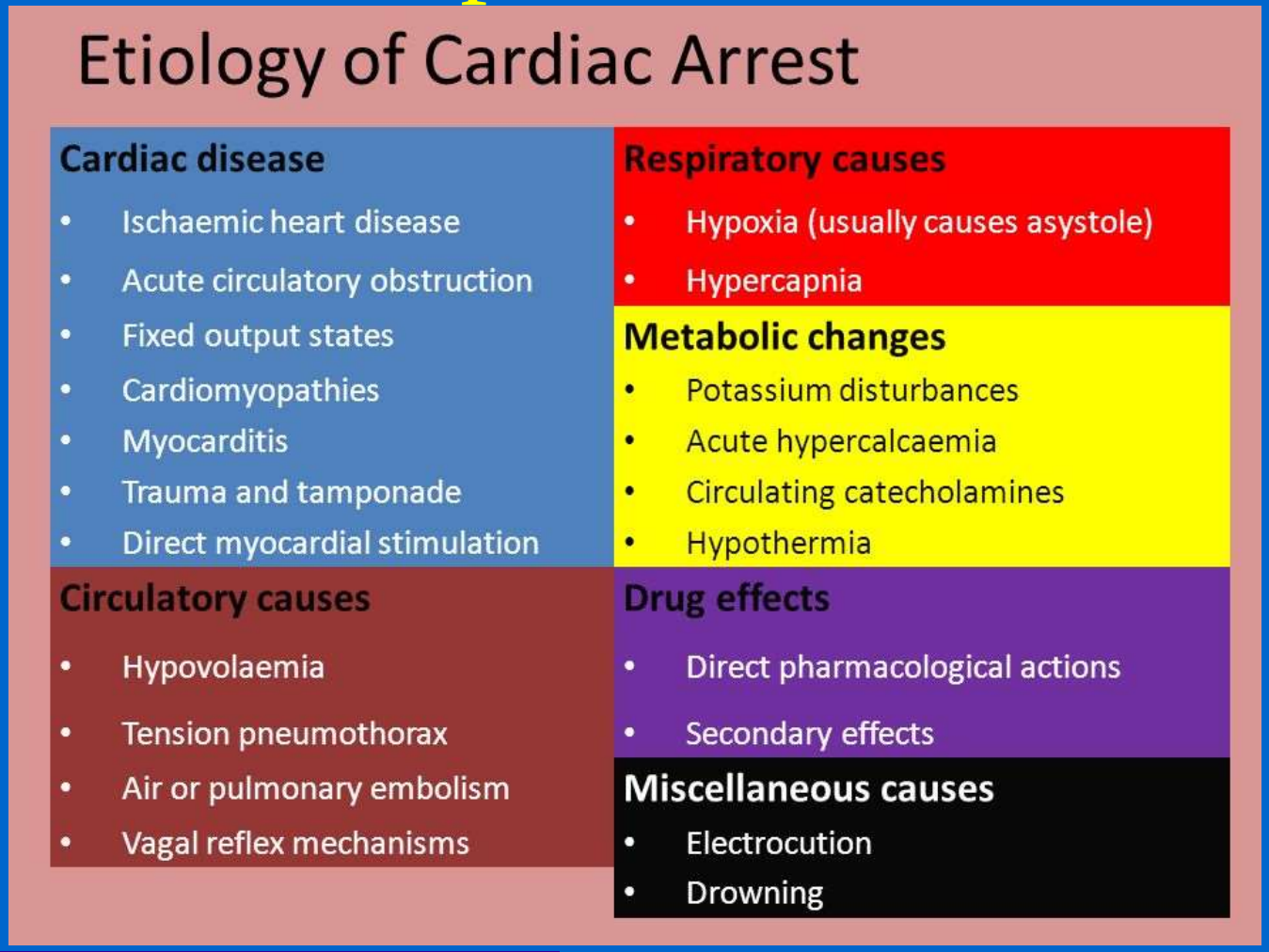
- 4H

1. H…
2. H…
3. H…
4. H…

- 4T

1. T…
2. T…
3. T…
4. T…

Causes of cardiac arrest in GP practice

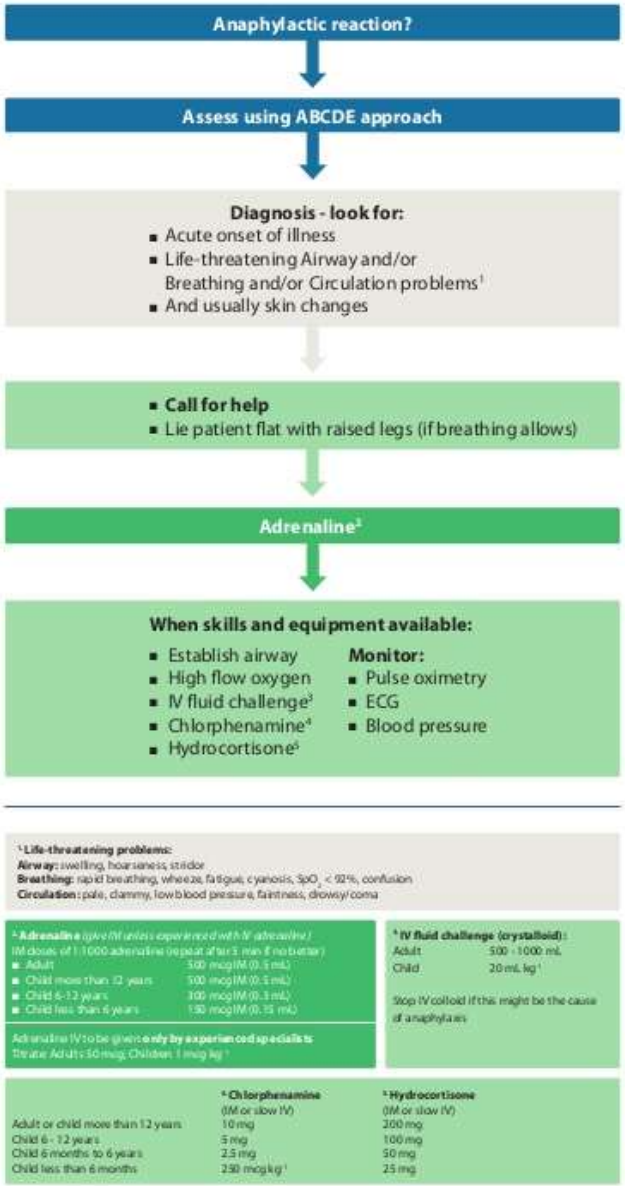


Opening the Airway

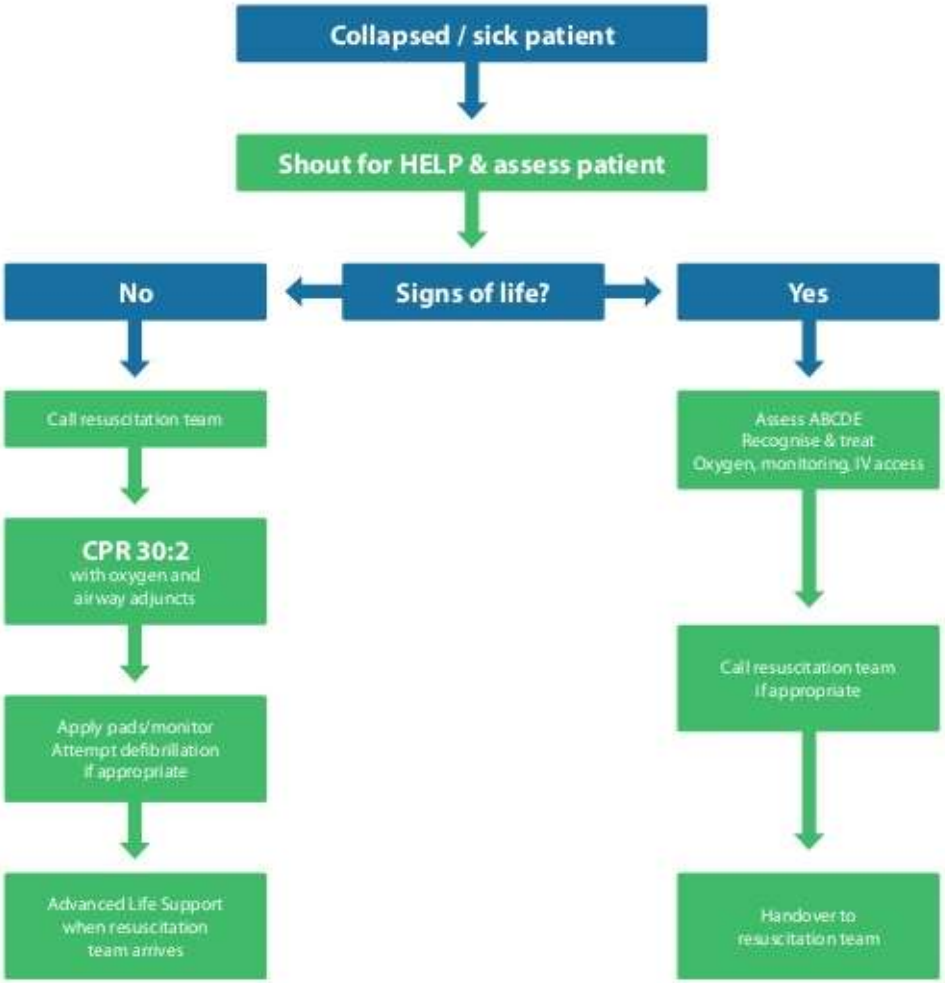
- Jaw thrust

Head tilt–chin lift

Anaphylaxis



In-hospital Resuscitation




Unresponsive?
Shout for help
Open airway
Not breathing normally?
5 rescue breaths
No signs of life?
15 chest compressions
2 rescue breaths
15 compressions
Call cardiac arrest team
or Paediatric ALS team
after 1 minute of CPR

ABCDE Assessment

	Initial assessment (look, listen, feel)	Measure	Action	Consider (after initial assessment)
A Airway	**Is the airway patent - can the patient talk?** Snoring, stridor, obstruction (e.g. foreign body, vomit, blood, edema) Cervical spine		**Non-patent airway:** - Head tilt, chin lift, jaw thrust - Suction - Naso/oropharyngeal airway **O^2 (15 L/min)**	
B Breathing	Cyanosis, use of accessory muscles, breathing depth and rhythm, tracheal position, symmetrical chest expansion Breath sounds and auscultation Chest percussion	Respiratory rate SpO^2	Positioning of patient Bag/pocket mask ventilation Decompression of pneumothorax Inhalations	ABG Chest X-ray
C Circulation	Bleeding Skin: - Color (pale, red, mottled) - Cool/warm/dry/sweaty Auscultation	Capillary refill time Pulse Blood pressure ECG	Stop bleeding IV/IO access Fluids/blood	12-lead ECG Blood tests Urinary catheter ECHO/FAST/FATE
D Disability	AVPU Pupils (reaction, size, equal) Neck stiffness	GCS Blood glucose	Recovery position	Lumbar puncture Focused neurologic assessment Rectal examination (sphincter tonus)
E Exposure	**Head-to-toe assessment:** - Trauma, fractures, wounds, lesions - Bleeding - Infection, petechiae, rash	Temperature	Prevent hypo-/hyperthermia Stabilize fracture	Blood cultures Culture from wound Antibiotics

Assess, Treat as you go and Re-assess

SATS

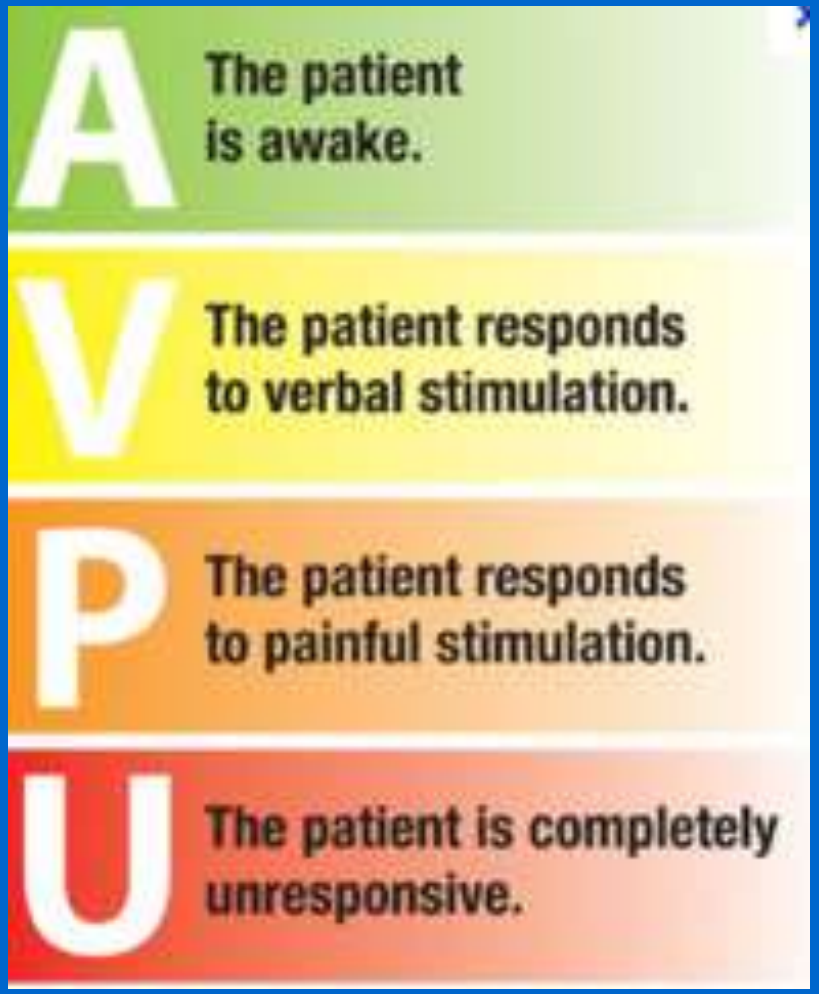
Nørgaard S, Hindborg M, Jensen L, Kristensen C

EMSS17

AVPU

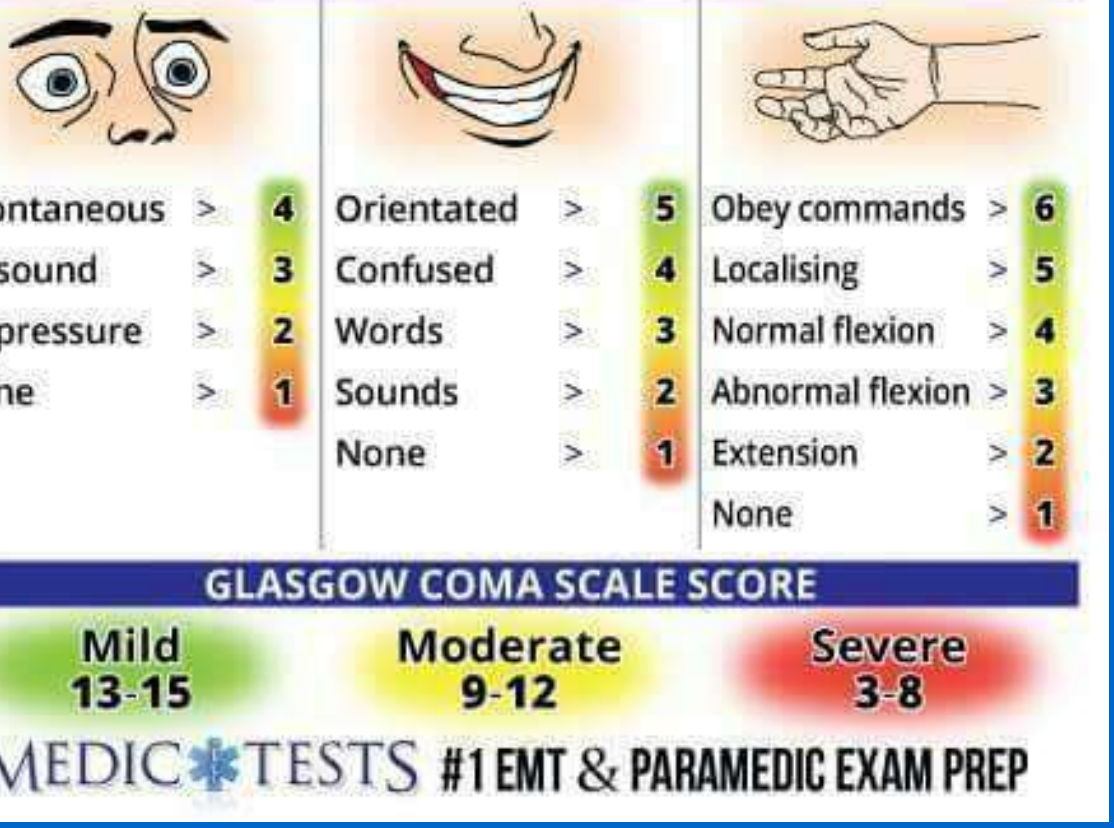
- A…
- V…
- P…
- U…

AVPU


A
The patient is awake.
V
The patient responds to verbal stimulation.
P
The patient responds to painful stimulation.
U
The patient is completely unresponsive.

GCS

Glasgow Coma Scale



Drugs:

Adrenaline

- The first drug used in cardiac arrest of any cause: it is included in the ALS algorithm for use every 3–5 min of CPR (alternate cycles).
- Preferred in the treatment of anaphylaxis
- A second-line treatment for cardiogenic shock.
- 1 mg dose

Drugs:

- Amiodarone – indications:
- Refractory VF/pVT
- Haemodynamically stable ventricular tachycardia (VT) and other resistant tachyarrhythmias
- Initial intravenous dose of 300 mg amiodarone, diluted in 5% glucose to a volume of 20 ml.

Drugs:

- Amiodarone:
- Should be given after three defibrillation attempts irrespective
- Lidocaine
- Is recommended for use during ALS when amiodarone is unavailable.

Clinical scenario

Clinical scenario	You are working on a medical assessment ward. Mr Gerald Smith is a 45 year old gentleman has just been admitted via his General Practitioner (GP) with shortness of breath. The nurse in charge has asked you to undertake the initial assessment of this patient.
A-airway	Check airway to ascertain if clear. A clear verbal response indicates a patent airway. Listen for sounds that may indicate a partially obstructed airway, such as snoring, gargling, coughing, wheeze or stridor. If any partially or fully obstructed treat or call for expert help.
B-breathing	Assess depth, rate and rhythm of breathing. Observe effort of breathing and use of accessory muscles and symmetrical chest expansion. Monitor oxygen saturations. If patient is showing signs of respiratory distress and/or saturation compromised apply high flow oxygen and consider calling for expert help.
C-circulation	Feel skin temperature and observe skin colour. Assess pulse for rate, rhythm and strength. Monitor blood pressure and capillary refill. Monitor output from urinary catheter and/or any wounds or wound drains. Assess the need for intravenous access and/or IV fluids. If required call for expert help.
D-disability	Monitor brain function by assessing conscious level using the Alert, Voice, Pain, Unresponsive (AVPU) scale. Assess pupils for shape, size and reaction to light. Assess blood glucose. If required call for expert help and treat any abnormalities.
E-exposure	Maintaining patients privacy and dignity expose the patient and observe for any signs that might indicate the cause of deterioration e.g. rashes, wounds, oedema, signs of sepsis. Record temperature. Check any notes, drug charts, events leading up to deterioration for possible causes. Call for expert help if required and treat any abnormalities. Continue to assess using ABCDE until improvements and/or expert help arrives.