ICU for Beginners

If in doubt, call for help

1) ICU registrar – Bleep 1005
2) Other ICU / HDU residents

If you can’t get hold of them, don’t worry there are plenty of other people about:

3) 2nd on call anaesthetics (reg) – Bleep 4598 (resident in hospital – senior anaesthetist who can help if the ICU reg is busy / unavailable)
4) 1st on call anaesthetics (SHO) – Bleep 4600; obstetric anaesthetics on call (reg) – Bleep 1527
5) ICU Consultant – via switchboard (at home)

Common Ventilator Terms and Settings

**PEEP** - Positive End Expiratory Pressure - the amount of pressure in the lungs at the end of expiration

**CPAP** – Continuous Positive Airway Pressure
Machine gives a constant amount of pressure into the lungs. This increases the PEEP which helps prevent the alveoli from collapsing

**BiPAP** – Bi-level Positive Airway Pressure
Machine gives a constant pressure, with intermittent increased pressure to facilitate inspiration. No respiratory effort needed and rate can be controlled

**ASB** – Assisted Spontaneous Breathing
Additional ‘pressure support’ given by the machine when patient triggers it by attempting a normal spontaneous breath. Can be used both with CPAP and in between compulsory BiPAP breaths

**SIMV** – Synchronised Intermittent Mandatory Ventilation
**APRV** – Airway Pressure Release Ventilation

**Pinsp** – Inspiratory Pressure
The amount of pressure delivered to the lungs to generate an inspiratory breath during BiPAP

Other Abbreviations

**CAM ICU** – Confusion Assessment Method in ICU (delirium screening test)
**CVVH** – Continuous Veno-Venous Haemofiltration (filtering of blood in renal failure)
**IHD** – Intermittent Haemo-Dialysis (dialysis usually done 3 times/week)
**HFNC** – High Flow Nasal Cannula (delivers high oxygen concentrations & a small amount of PEEP)

Drugs used in ICU

**Vasopressors**: Noradrenaline, Vasopressin (through central line only)
Phenylephrine, Metaraminol (can be given peripherally)

**Sedatives**: Propofol, Clonidine, Midazolam
Alfentanyl, Remifentanil (also ↓airway reflexes & have analgesic properties)

**Inotropes**: Adrenaline, Dobutamine

**Muscle Relaxants**: Atracurium – only use on specific instruction
Dealing with Emergencies

Cardiac Arrest

Who goes? The ICU 3 SHO and a nurse from ICU attend all arrests throughout the hospital. The HDU SHO and an HDU nurse also attend arrests on Wards 1 – 12.

What to take? If the bleep goes off take the red/black rucksack if you’re on ICU 3 (or the red defib if on HDU) and go with the nurse (ideal for navigation) to the arrest. The rucksack contains advanced airways, an ambu bag, cannulas and an IO access kit. ALS drugs are found on the crash trolleys.

What to do? The ICU 3 SHO’s priority is the airway, the HDU SHO may need to lead the arrest. Guedel airways, NPAs and an Ambu bag will always be available on the crash trolley on the ward. Ensure adequate chest rising 30:2 – you will probably need a 2 person technique with 1 holding jaw thrust up with mask and the other person bagging.

If a definitive airway is needed or you need help then bleep the ITU reg on 1005. You can also bleep the med reg on 0029 (they don’t automatically attend arrests).

After the arrest: ICU 3 SHO should complete a cardiac arrest audit form & put it in the folder on ICU.

A. ET tube or Tracheostomy comes out unexpectedly

Insert basic airway adjuncts (e.g. OP / NPA) and ventilate the patient using bag-mask ventilation

Ask the nursing staff to call the ICU reg on call on 1005

Do NOT attempt to replace them yourself

B. Patient suddenly desaturates

Use an ABC approach, increase the oxygen to 100%, and consider the following:

1. Check equipment: Is the ET tube / trache displaced? Is the tube obstructed? Is there a disconnection in the circuit or kink in the tubing?
2. Examine the chest: Is there bilateral air entry? Consider pneumothorax and PE.
3. Look at the capnograph: (usually white line on monitor) to see if CO₂ is being produced
4. Check to see if you can pass a suction catheter through the ET tube / tracheostomy

C. Blood Pressure suddenly drops

Use an ABC approach, consider a 250ml fluid bolus and think about the following:

2. Check the Equipment: Kink in the lines between vasopressors and patient? Pump failure? Arterial line reading inaccurately?

ICU/HDU will be a completely alien environment to many – don’t be hard on yourself if you don’t know what you’re doing at first. Seek out learning opportunities and enjoy!

Night shift routine: complete daily sheets (front sheet for ITU, just summary section for HDU), review bedside charts regularly, if quiet offer help to other units particularly HDU, prepare handover (reason for admission, significant events/plans, oxygen/ventilator settings, other organ support). Let nurse in charge & other SHO know if leaving unit other than for arrests.