

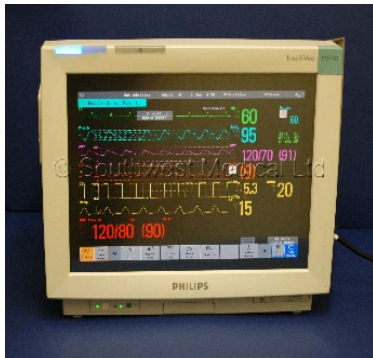
Critical Care Services: Equipment and Procedures

Information for Patients, Relatives and Carers



The Critical Care unit can be a frightening place for patients and visitors. Seeing a loved one attached to various machines can be distressing and upsetting. This leaflet has been designed to help you understand some of the equipment and procedures you may see and some of the terminology used.

Monitoring System



This monitor is located at the back of the bed space. It gives staff information on the patients' vital signs such as blood pressure, heart rate and oxygen levels. The numbers will constantly change and alarms may sound. Most of the time there may be a simple reason, such as a patient moving.

Ventilator (Breathing Machine)

Ventilators assist the patient with breathing. The machine will blow air and oxygen into the lungs through a tube in the patients' mouth (endotracheal tube) or a tube in the throat (tracheostomy). These machines are complex and have a variety of settings to suit the patients' needs. They can help with breathing or totally breathe for the patient.

As the patients' condition improves their body becomes stronger. Support from the ventilator can be reduced. This is called 'weaning' and in most cases it can take anything from a few hours to a few weeks. In some rare cases it can take a number of months.



Kidney Machine



Sometimes a patient's kidney may stop working due to illness. The kidneys work to filter the blood and remove waste products that in a healthy person would come out as urine. When the kidneys stop working the waste will build up and the patient's blood will become more and more acidic and fluid will collect in the body. The filtration we use is slow and gentle. The machine connects to a large tube (vascath). This will have been inserted into a large vein usually in the neck or groin by a doctor.

The ventilator and kidney machine are life saving devices and hence a patient on them would be described as being on "life support". This is a serious situation which the staff on the unit will be happy to talk to you about.

Pumps, Lines and Tubes

You may notice lots of other tubes that have been inserted such as

- **CVC (Central Venous Catheter)** – This is a line that is inserted usually into the neck but occasionally into the groin. It allows staff to give many medications. Quite often these medications are given through pumps like these pictured here

- **Arterial Line** – A cannula inserted into an artery that allows frequent blood sampling and continuous blood pressure monitoring

- **Feeding pumps** are used to give liquid feed through a special tube called a nasogastric tube (NGT). This tube enters via the patient's nostril and sits in the patient's stomach. The tube is sometimes used for drainage.

- **Urinary Catheter** – this is a thin tube that drains urine from the patient's bladder. Staff measure the volume produced and record it on the patient's chart.




Tracheostomy

When a patient needs ventilating for several days or weeks the Critical Care team may decide that a tracheostomy would be advantageous. This is done by making a small hole in the throat and windpipe. A short tube is inserted into the windpipe. This connects to the ventilator so that the tube in the mouth can be removed. A tracheostomy is performed for a number of reasons

- It is easier to keep a patient's lungs clean by suction
- It is more comfortable than having a tube passing through the mouth
- Patients do not need as much sedative meaning that they can do more breathing for themselves to help the weaning process
- Patients can be awake and may be able to speak / whisper with a tracheostomy in place.

For more information about tracheostomies please see the separate leaflet available in the waiting area.





Terms you may hear in Critical Care – you may hear terms and abbreviations used in Critical Care that are unfamiliar to you. This is a short list of the most common ones.

Arterial Line – A cannula inserted into an artery that allows frequent blood sampling and continuous blood pressure monitoring

Arterial Blood Gas (ABG) - A blood sample is taken from an artery and tested to measure the level of oxygen, carbon dioxide and acidity. This may be done several times a day.

Blood Cultures – A sample of body fluid (commonly blood, sputum, urine, wound swab) is taken to test for infection.

Blood gas machine - A machine which accurately measures oxygen and carbon dioxide levels in the blood.

Bronchoscopy – A flexible tube with a light (bronchoscope) is passed through the nose or mouth into the patient's lungs. It allows inspection of the airways with a camera, removal of secretions and biopsy of tissue.

Carbon dioxide - This is the waste gas eliminated by the lungs.

CCS/ICU/ITU - Intensive Care Units can be referred to by various names which mean the same thing, for example Critical Care Services (CCS), Intensive Care Unit (ICU) or Intensive Therapy Unit (ITU). The unit cares for patients with acute illness or injury that require specialised procedures and treatments by specialised staff.


Central line - A line is inserted into the patient in order for liquids/drugs to be passed into their veins. It is usually positioned in their neck or groin. See CVC above.

Critical Care Team - A team of health professionals who care for critically ill and injured patients. It includes critical care doctors, critical care nurse, physiotherapists, pharmacists, technicians, social workers and clergy.

Electrolytes – These are salts that are found naturally in the body. When patients are unwell the level of these can be affected and may need replacing.

Endotracheal tube (ETT) – A tube that's inserted through either the patient's nose or throat into the windpipe and is sometimes referred to as an ET tube.

Hemofiltration - Filtering blood to remove toxic substances when the kidneys fail to work normally.



Inotropes – Medicines that are given into the vein that are used to support the heart and blood pressure.

Nasogastric tube – A tube inserted through the nose and into the stomach. It can be used to drain the stomach or deliver liquid food.

Nasal High Flow – A type of breathing circuit that sits just under the nose. It allows staff to give oxygen at higher flow levels than normal nasal oxygen.

Oedema – Swelling that can occur anywhere in the body. In patients that are very unwell the most common places are the hands, arms and face.

Pneumonia – An infection in the lungs. Treatment includes antibiotics and severe infection may require support from a ventilator.

PO2 - Blood oxygen level.

Pulse oximeter / Saturation probe - A probe that is placed on the hand, foot or ear. It is connected to a machine which measures how much oxygen the blood is carrying.

Sedatives – These are prescribed medicines that staff may give to a patient. They make the patient sleepy.

Sepsis – An abnormal, life-threatening reaction to a serious infection that affects the whole body.

Speaking valve - This allows a patient with a tracheostomy to use their voice and is only used as the patient's condition improves.

Suction - Mechanical removal of mucous from the nose, throat or endotracheal tube through a plastic tube.

Urinary Catheter – A thin tube inserted into the patient's urinary tract to empty the patient's bladder.

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Please contact the Patient Advice and Liaison Service (PALS) if you require this leaflet in a different format, or would like to feedback your experience of the hospital. Email ruh-tr.PatientAdviceandLiaisonService@nhs.net or telephone 01225 825656.