

1

Preoperative patient preparation

Table 1.1 Normal physiological lab values

Blood gases	
Blood pH	Normal value: 7.34–7.44
Partial pressure of oxygen (pO ₂)	Normal value: 75–100 mmHg
Blood chemistry	
Potassium (K ⁺)	Normal value: 3.6–5.0 mEq/L
Sodium (Na ⁺)	Normal value: 137–145 mEq/L
Haematology	
Haemoglobin (Hg, Hgb)	Normal Value:
	Male: 13.2–16.2 gm/dL
	Female: 12.0–15.2 gm/dL
Platelet count (Plt)	
Normal Value:	140–450 x 10 ⁹ /L
Red Blood Cell Count (RBC)	Normal Value:
	Male: 4.4–5.8 x 10 ⁶ /μL
	Female: 3.9–5.2 x 10 ⁶ /μL
White blood cell count (WBC)	
Normal Value:	3.8–10.8 x 10 ⁹ /L
Polymorphonuclear (PMN):	35–80 %
Lymphocytes (Lymp):	20–50 %
Monocytes (Mono):	2–12 %
Eosinophils (Eos):	0–7 %
Basophils (Bas):	0–2 %
Urinalysis	
Appearance:	clear, yellow
Specific gravity:	1.001–1.035
pH:	4.6–8.0
Urobilogen	Normal Value: 0.2–1.0 Ehr U/dl
Further information about normal physiological lab values can be obtained from: http://www.student.med.umn.edu/wardmanual/normallabs.php and http://www.globalrph.com/labs_a.htm	

Figure 1.1 Checking patient's wrist band on entry to the operating department



Source: Liverpool Women's Hospital.

Figure 1.2 Checking patient's care plan on entry into the operating department



Source: Aintree University Hospital, Liverpool.

Figure 1.3 Practitioner in reception checks the patient's notes and confirms status



Source: Aintree University Hospital, Liverpool.

It is essential to prepare patients for their perioperative journey so that they experience the best care and achieve the best possible results following anaesthesia and surgery. Preoperative visiting of the patient is the first step towards providing high-quality care. Preoperative visiting by perioperative practitioners (i.e. operating department practitioners (ODP) or theatre nurses) is essential to ensure that the patient is prepared for anaesthesia and surgery, and that perioperative staff know as much about the patient as possible. Practitioners may also undertake a role in preoperative assessment clinics and it is possible to visit the patient in reception before their arrival in the anaesthetic room.

Preoperative visiting

Communication with patients includes several important areas such as confirming patient details (Figure 1.1), confirming their history of illnesses, assessing their current health, and identifying any issues the patient may have (O'Neill 2010). Educating patients is important to prepare them for surgery and provides knowledge on what is going to happen to them and why. This may also help to reduce their anxiety before anaesthesia on the day of surgery. Preoperative education includes topics such as pulmonary exercises, anaesthetic information, surgical information and leaflets about their surgery. It is also important to gain information about the patient. For example, areas such as allergies, likes and dislikes, personal issues (such as mental health problems, learning disabilities, or any abuse or addiction), religious beliefs, worries and personality traits, such as positive and negative attitudes (O'Neill 2010). Concurrent medical conditions can also have an effect on patients during surgery, for example painful joints, skin problems, tissue viability and pain. Informed consent is one of the most important areas and may include clarifying the purpose of consent, checking it is completed and valid and discussing the patient's rights (Wicker 2010). Discharge planning can further reduce anxiety, for example pick-up arrangements, postoperative care, postoperative drugs, exercises, pain relief and dressing changes. As one of the most common fears in patients is not waking up, discussing discharge planning will help the patient to develop a more positive attitude to their surgery and its results.

Preoperative assessment

The use of a perioperative care plan (Figure 1.2) is standard procedure in most operating departments (Goodman & Spry 2014). Areas that need to be explored include: **assessment of needs; diagnosis of issues; requirements for anaesthesia** (e.g. denture removal, latex allergy, pain relief, suitable time of fasting to avoid the risk of inhaling gastric fluids into the lungs); **physiological assessment** (e.g. blood pressure, heart rate and rhythm, respiration, body temperature); **fluid and electrolyte needs; psychosocial needs** (e.g. anxiety, fear, lack of understanding, maintaining dignity; Euliano & Gravenstein 2004).

Diagnostic screening determines the presence or absence of diseases or illnesses and identifies the baseline for the patient's physiological parameters, such as blood pressure, pulse, respiration and temperature (Euliano & Gravenstein 2004). Assessing these parameters during surgery helps to identify any changes, such as sudden drops in blood pressure or alteration in pulse rates

(Wicker 2010). Blood tests are normally carried out before most surgical operations to assess the patient's health. These include full blood count; cross-matching of blood; blood urea levels; blood sugar levels; and arterial oxygen saturation.

Preoperative investigations

Patients often undergo preoperative investigations to assess their health. This helps them to understand the impact of anaesthesia and surgery and to identify changes that may happen during surgery. Knowledge of these results also improves patient safety and helps to identify anaesthetic and surgical needs during the procedure (Euliano & Gravenstein 2004).

Investigations may include areas such as **radio opaque dyes** (to identify areas of the body and the flow of fluids in the body); **arteriograms and venograms** (to identify problems with the cardiovascular system); **barium swallow or enema** (to identify problems with the GI tract); **diagnostic imaging** (e.g. X ray, ultrasound, magnetic resonance imaging (MRI) or computerised tomography (CT), to provide high-quality views of body parts such as organs and any problems associated with them). There are many more investigations possible, depending on the health of the patient and the procedure being carried out.

Reducing postoperative complications

Multidisciplinary teamwork is essential to support the patient before, during and after surgery. It is also essential that practitioners consider the patient's physiological activities and understand the parameters that are within the normal range (Figure 1.3). Assessing airways and breathing is one of the most important areas, considering that patients can die within minutes of the cessation of breathing (apnoea). Such assessment needs to be undertaken and understood by all practitioners involved in the anaesthetic care of the patient, so that if a problem arises the whole team carries out the required actions (Wicker & O'Neill 2010).

Preoperative assessments by medical staff and practitioners may include, for example, **respiratory care**, including baseline observations, secretions, chest drains, pulse oximetry, cardiovascular status, jaw protrusion and head and neck distension (Goodman & Spry 2014); **joint stiffness, including hips** (regarding positioning), neck (regarding intubation), shoulder (arm boards) and back pain; **urinary problems** such as infection, catheterisation and fluid intake; **pressure sores**, including damaged skin, excessive pressure, table fittings and Waterlow score; **deep venous thrombosis (DVT)**, including risk assessment, drug therapy, DVT stockings and passive limb exercises; **nausea and vomiting, including** type of surgery, anti-emetics, predisposition to postoperative nausea and vomiting (PONV), risk assessment and reducing anxiety; **pain, including** involvement of the Pain Team, patient's expectations of pain, pain medication and patient-controlled analgesia (PCA); and **wound infection**, including preoperative skin assessment, culture swabs, dressing of lesions, cleaning of skin and removal of hair (Hatfield and Tronson 2009).

Remember: Know your patient, so you can give them the best care possible!