Overview of anaesthesia and patient selection for day surgery

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Abstract

This article looks at the selection and preoperative assessment of patients for day surgery and includes a discussion of the 'ideal' anaesthetic for day surgery. The NHS has a target of 75% of all elective procedures being performed in the day case setting (defined as stays of under 24 hours) and day case surgery in the UK has grown as a result of economic pressure, limited resources, and modern medical techniques so that the British Association of Day Case Surgery now recommends more than 200 operations as day case procedures. A successful service revolves around selection criteria for patients and procedures, with the correct procedure being coupled to the correct patient. Suitable surgical and anaesthetic techniques must be employed aiming to minimize postoperative morbidity especially postoperative nausea and vomiting (PONV). The use of analgesic premedication, supplemental local anaesthesia, delicate tissue handling, and positive psychological reinforcement will help this, as will using techniques that minimize postoperative pain (including that from airway devices) and have a minimal 'hangover' effect.

Keywords Anaesthetic technique; day case surgery; patient selection; procedures

Learning objectives

After reading this article, you should be able to:

- explain the benefits of day case surgery to patient and healthcare system
- list the types of procedure and which patients are suitable for day case surgery
- outline the functioning of a working preassessment system
- suggest the ideal anaesthetic techniques to achieve good day case results.

Introduction

Day case surgery has evolved from minor surgery performed at the patient's home in the early years of the last century, to the present where complex intra-abdominal procedures and even neurosurgery can be undertaken in a day case setting. Advances in anaesthesia, surgery, and new equipment have all made this easier, but defining the specialty itself is difficult and definitions therefore range from 'same day surgery' to 'in-hospital stay of less than 24 hours'. One NHS target is for 75% of elective surgical procedures to be carried out as day cases but, for selected procedures in the UK, this currently stands at only 68%. Other countries have exceeded this target and, despite early promise in the UK, a recent Audit Commission Report indicates that day case centres are not used to full capacity and day case surgery has levelled off (if not declined) in many centres. This may be failure to recognize the potential benefits, but in most cases the reasons are likely to be difficult to establish.

Benefits of day case surgery include:

- in-hospital treatment, but recovery at home
- low or no risk of cancellation
- reduced risks of hospital-acquired infection and venous thrombo-embolism
- highest quality care provided for minor and intermediate surgery while inpatient beds and resources are retained for major cases
- improved throughput, easier booking and reduced waiting times
- cost-effective commissioning (for primary care trusts)
- decreased postoperative cognitive dysfunction in the elderly.

Encouragements for day surgery include the ambition set out in the NHS Plan 2000 '…To achieve a target of treating more patients faster, reduce waiting times, introduce patient choice and for the NHS to ''do things differently''…'

For children, The European Charter of Children's Rights advocates children being admitted only '…if the care they are to receive cannot be provided at home or on a day care basis.'

To achieve these goals, two fundamental principles should be applied: (1) that the surgery is suitable to be performed as a day case procedure and (2) that the patient is suitable to undergo that procedure in the day case setting.

If these two fundamentals are expanded, there are four elements to the day case pathway:

1. Selection and assessment
2. The operation and anaesthesia
3. Discharge
4. Postoperative support.

(For discharge and postoperative support, see pages 153–156, in this issue.)

Selection and preoperative assessment ('preassessment')

Three decisions have to be taken before a patient undergoes successful day case surgery. Is the procedure (and available expertise) suited to this type of care? Is the patient fit for this type of care? Is the home environment suitable for patient convalescence?

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What types of surgery are suitable?

The National Audit Committee published a 'Basket of 25 procedures in 2000' (Table 1) ideally listed and undertaken as day surgery; if a patient requires one of these procedures, the question asked should be 'is there justification for admitting this case as an in-patient?' rather than 'is this patient suitable for day case surgery?' The British Association of Day Surgery (BADS) added a 'Trolley' of procedures that should be considered for day surgery (Table 2).

The 'Trolley' has since been updated, and BADS now publish a list of more than 200 procedures that should be considered for day case surgery or 23- and 48-hours stay.

Contraindications to being *listed* for day surgery are:

- patient refusal (although this is a relative contraindication for very minor surgery)
- procedure deemed unsuitable (either due to it being a complex version of a 'basket' procedure, or due to the lack of available surgical expertise for that procedure.

What patients are suitable?

Appropriate selection of patients improves outcome and efficiency by reducing delays and cancellations, helping control waiting lists and increasing staff and patient satisfaction. To assess how well a unit functions, only three performance markers need be measured.

- Did the patient turn up at the right place, right time, and ready for the procedure? (This indicates effective preassessment and patient information.)
- Was the planned procedure performed? (This shows that surgical planning and preassessment are working correctly.)
- Did the patient go home afterwards? (This is a measure of social assessment, and the quality of anaesthetic and surgical care.)

Effective, thorough preassessment therefore underpins all three markers of quality.

National Audit Committee basket of 25 procedures

- Orchidopexy
- Circumcision
- Inguinal hernia repair
- Excision of breast lump
- Anal fissure dilatation or excision
- Haemorrhoidectomy
- Laparoscopic cholecystectomy
- Varicose vein stripping or ligation
- Transurethral resection of bladder tumour
- Excision of Dupuytren's contracture
- Carpal tunnel decompression
- Excision of ganglion
- Arthroscopy
- Bunion operations
- Removal of metalware
- Extraction of cataract with/without implant
- Correction of squint
- Myringotomy
- Tonsillectomy
- Sub-mucous resection
- Reduction of nasal fracture
- Operation for bat ears
- Dilatation and curettage/ hysteroscopy
- Termination of pregnancy

Table 1

British Association of Day Surgery trolley of procedures

- Laparoscopic hernia repair
- Thoracic sympathectomy
- Submandibular gland excision
- Partial thyrodectomy
- Superficial parotidectomy
- Wide excision of breast lump with axillary clearance
- Urethrotomy
- Bladder neck excision
- LASER prostatectomy
- Transcervical resection of endometrium
- Eyelid surgery
- Arthroscopic menisectomy
- Arthroscopic shoulder decompression
- Subcutaneous mastectomy
- Rhinoplasty
- Dento-alveolar surgery
- Tympanoplasty

Table 2

Preassessment is a process that ensures the patient is medically fit for surgery and anaesthesia, and understands the proposed procedure and the pathway (Figure 1).

It comprises:

- confirmation of the patient's wishes to proceed (consent)
- assessment of patient suitability for the planned surgical procedure
- assessment of the patient's fitness to undergo surgery and anaesthesia
- provision of patient education, oral and written with regards to the procedure and the day case pathway
- identification of any social, cultural or communication needs
- assessment of home support and requirements for safe discharge.

Preoperative clinics should be consultant-led in conjunction with dedicated preoperative assessment teams using protocols or pathways to assist them. Assessment should take place as soon after surgical listing as possible to allow preoperative investigation and, where required, referral for specialist anaesthetic or medical review; ideally it should be between 2 and 6 weeks before the date of surgery.

The location of preoperative assessment is a topic for debate; on the one hand, assessment may be performed by a GP, practice nurse, or over the telephone. On the other hand, holding preassessment on the day surgery unit itself allows the opportunity for familiarization with the environment and, ideally, the opportunity to meet staff involved in their care.

Medical assessment

Selection criteria are based on the patient's state of health at the time of assessment, avoiding use of age, weight or preformatted health categories (that is ASA) as rigid determinants. The goal is to identify patients who will have a good level of postoperative function, and who will be able to eat and drink soon after surgery with minimal postoperative nausea and vomiting.

However, many preassessment clinics use crude health categorizations for the sake of simplicity and ease of use. For example, the American Society of Anaesthesiologists (ASA) classification is often used because it has historical merit, familiarity, and The Royal College of Nursing and Department of Health both suggest using it. In general, patients with ASA scores of I–III are suitable for day case surgery unless there is specific contraindication (see Table 3).