Patient selection for day surgery

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Abstract

Day surgery is a planned pathway delivered by a multidisciplinary team and is perhaps better described as 'same day surgery'. In 2000 the NHS set a target of performing 75% of operations as same day surgery but practice varies widely; an assessment of 10 procedures easily performed as same day surgery showed rates varying from 19% to 90% by procedure and the potential day case rate was not being reached for any procedure. There is a move to 'treat day surgery as the norm' in an effort to increase rates of day surgery so this article describes patient selection and procedures for day surgery, and discusses techniques which can be employed by anaesthetists and surgeons to achieve the reduced surgical trauma, rapid recovery and minimal complications necessary for successful day surgery.

Keywords Anaesthetic technique; day surgery; patient selection; regional anaesthesia; same day surgery; short stay surgery

Royal College of Anaesthetists CPD Matrix: 3A06

Learning objectives

After reading this article you should be able to:

- define and describe the day surgery pathway
- explain the advantages of day surgery
- outline surgical procedures and techniques suited to day surgery
- judge patient suitability for day surgery
- justify contraindications to day surgery
- discuss patient options for day surgery anaesthesia

Introduction/background

The definition of day surgery in the UK and Ireland is admission to hospital for a planned surgical procedure and return home within the same day. 'True day surgery' patients are day case patients who require full theatre facilities and/or a general anaesthetic, so this does not include procedures performed in outpatient or endoscopy departments.

Previously definitions have included 'in hospital stay of less than 24 hours'. Although counted as inpatient treatment (except in the USA), 23-hour and short stay surgery apply the same principles of care as same day surgery and improve quality.

The NHS Plan (2000) stated that '…around three quarters of operations will be carried out on a day case basis with no overnight stay required…'. Advances in surgical and anaesthetic technique allow increasingly complex surgery to be performed on a day case basis, but, whilst overall rates are difficult to measure, available data suggest they are highly variable. The NHS Institute worked with clinicians to identify 10 procedures which were deemed achievable as day cases and found day case rates from 19% to over 90% based on data from 2002/2003 (Table 1). No hospital is performing at uniformly high levels across all specialities and there remains scope to increase rates of day surgery.

Day surgery is a planned pathway, ideally delivered in a specific self-contained unit by staff with training in day surgery care and with a clinical lead who has a specific interest in day surgery. Effective preoperative preparation, encompassing selection and assessment, and protocol-driven, nurse-led discharge are fundamental to the pathway.

Benefits of day surgery

Day surgery has benefits to the patient, clinician, and hospital which include:

- patients receive hospital treatment suited to their needs, but recover at home
- early mobilization
- lower risk of nosocomial infection
- lower risk of venous thromboembolism (VTE)
- lower risk of cancellation
- sparing overnight beds for major surgical cases
- faster throughput, easier booking and reduced waiting lists
- cost-effective commissioning.

Surgical selection

The Audit Commission listed a 'basket' of 25 procedures for day surgery in 1990 which was revised in 2001 (Table 2). Since 2001, advances in surgical and anaesthetic techniques have meant that more complex procedures, and a wider range of patients, can be considered for day surgery, so the British Association of Day Surgery widened the 'basket' by publishing a 'trolley' of procedures and have since increased scope by publishing a directory of over 200 procedures which should be considered for short stay elective surgery; these range from 'procedure room' to under 72-hour stay cases. Rather than asking 'is this case suitable for day surgery', we should now ask 'is there any justification for admitting this patient?'

The principles of surgical selection include:

- abdominal and thoracic surgery should use minimally invasive techniques
- the degree of surgical trauma is more important than its duration
- postoperative pain should be manageable using local anaesthesia and oral analgesia
- there should be low risk of postoperative complications: no continuing blood loss or need for fluid therapy
- no specialist postoperative care or observation should be needed
- patients should be able to mobilize before discharge

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Ten procedures that can easily be performed as day cases

Procedure	National day case rate, %
Inguinal hernia	47.5
Varicose veins	54.4
Termination of pregnancy	89.0
Cataract	90.6
Sub-mucous resection (nasal cartilage)	22.9
Extraction of wisdom teeth	87.9
Cystoscopy/transurethral resection of bladder tumour	19.1
Arthroscopy meniscectomy	73.1
Excision of Dupuytren's contracture	41.7
Myringotomy/grommets	85.0

NHS Institute (Hospital Episode Statistics, 2002/2003)

Table 1

- the operating surgeon must have sufficient experience and a low complication rate in the procedure.

Patients presenting for urgent surgery can be treated as day cases via a 'planned acute' pathway. After assessment, patients can be discharged and return for surgery at an appropriate time. This reduces repeated postponement of surgery on emergency lists due to prioritization of more serious cases, but a rigorous pathway with the following components is needed:

- identification of appropriate procedures: conditions which can be safely left untreated for a day or two, and manageable with oral analgesia
- identification of lists that can reliably accommodate cases
- clear pathways for day surgery
- clear preoperative patient information and post-discharge instruction in printed form.

Patient selection

There are very few absolute contraindications to day surgery. The majority of patients are appropriate unless there is a valid reason why overnight stay would be to their benefit. In making such a decision, both social and medical factors must be considered.

Patient selection – social

Patients (and/or their carers) must understand (and consent to) day surgery and postoperative care. Following procedures under general anaesthesia or sedation, a responsible person must escort the patient home and provide postoperative care of varying duration. The patient's home circumstances must be suitable for postoperative care. This includes access to a telephone, and a location within reasonable journey time to emergency care in case of the need to attend. The siting of a lavatory and availability of central heating may need to be considered in some geographical locations.

Patient selection – medical

Selection is based on assessment of patient's functional status rather than arbitrary limits such as age, American Society of Anesthesiologists (ASA) status or body mass index (BMI) and exercise tolerance is a more useful indicator than examination findings or preoperative testing. If the patient copes well at home preoperatively, and surgery should not affect functional status, then day surgery is appropriate. In all cases pre-existing co-morbidities should be assessed and optimized, but their presence may support the use of day surgery rather than present a contraindication.

Cardiovascular disease

Cardiovascular contraindications to day surgery are:

- severe angina (at rest or on minimal exertion)
- myocardial infarction or revascularization within the last 3 months
- heart failure with an exercise tolerance of less than 4 metabolic equivalents (METs)

Exercise tolerance is a useful component of preoperative assessment. The ability to climb a flight of stairs (approximately 4 METs) is a predictor of good outcome.

Hypertension should be well controlled before surgery and medication continued perioperatively. Although there is no evidence of increased risk when urgent surgery has been undertaken in uncontrolled hypertension, and measures to reduce hypertension rapidly before urgent surgery such as sublingual nifedipine or sedation have not been shown to reduce complications, the use of cardio-stable techniques are sensible.

Respiratory disease and obstructive sleep apnoea

Adverse respiratory events are more common perioperatively in smokers, and those with asthma or chronic obstructive pulmonary disease. Although these rarely prolong recovery room stay, good preoperative control should be confirmed. Exercise tolerance is a more useful predictor than spirometry, and recent respiratory symptoms are predictive of complications so should delay surgery, but local or regional techniques can be always considered to permit day surgery in symptomatic patients.

'Basket' of day case procedures

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

(Audit Commission, 2001)

Table 2