Patient selection for day case surgery

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Abstract

Day surgery provides many benefits to patients and trusts. Currently, almost all surgery should be performed as day case or very short stay and as such the criteria for suitability for day case surgery have been much expanded over recent decades. Social and medical criteria should rarely prevent successful day case surgery; we present suggestions whereby historic barriers to discharge can be overcome. We discuss the suitability of surgical procedures to be performed as a day case and explain how emergency pathways can be utilised to enable an additional cohort of patients be treated as a day case. These suggestions will permit the vast majority of patients to reap the benefits of undergoing their procedure as a day case.

Keywords Ambulatory surgical procedures; anaesthesia; patient discharge; patient selection

Royal College of Anaesthetists CPD Matrix: 2A03; 3A06

Learning objectives

After reading this article, you should be able to:

- describe the selection criteria for patients to undergo their treatment on a day case basis
- explain methods that you can employ to enable patients to receive their care as a day case
- identify procedures in your workplace that are suitable for day case care

Day surgery is the process whereby a surgical patient is admitted for a planned procedure requiring full operating theatre facilities and/or general anaesthesia and is discharged on the same calendar day. It is important to make the distinction from the American term of '23 hour surgery'; this involves a patient remaining in hospital for the first postoperative night and is hence inpatient, not day, surgery.

Day surgery has many benefits for patients. The ability to recuperate in their own home means that patient satisfaction with day surgery is excellent. Rates of hospital acquired infections and venous thromboembolism are reduced by shorter hospital stay and early mobilization. Day surgery offers shorter waiting times, a reduction in the likelihood of cancellation and reduced disruption to patients' daily routine. In addition, the financial benefits of day surgery to hospital trusts are well established; hospital costs are lower for day surgery than for the same procedure on an inpatient basis. In times of escalation when much inpatient activity is cancelled due to bed pressures, the day surgery unit can continue to operate, protecting a large proportion of surgical activity.

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In 1985, the Royal College of Surgeons produced guidelines for day case surgery. This suggested that patients would only be suitable for day case surgery if they met the following criteria:

- age <65 years
- American Society of Anesthesiologists Physical Status (ASA) I or II
- body mass index (BMI) $<30\,kg\,m^{-2}$
- maximum operating time of 60 minutes.

By the turn of the millennia, change was abound, and a default to day surgery was in progress; the 'NHS Plan' issued in 2000 specified that at least 75% of elective surgery should be performed on a day case basis. However, patients had started presenting for surgery with older age, higher BMIs and more co-morbidities. The Department of Health produced Day Surgery guidelines in 2002 recommending that patients should only be excluded from day surgery if a full preoperative assessment shows a contraindication. As such, the criteria for suitability for day case have been much expanded over recent decades. In this article, we will discuss current selection criteria for day case surgery.

When considering patient selection, we should ask ourselves:

- Are this patient's risks increased in any way by undergoing their treatment on a day stay basis?
- Will this patient's management be different if he/she is admitted as an inpatient?

If the answer to the above is 'no', then the patient is considered suitable for day case.

The criteria for selection of a patient to undergo their surgery as a day case can be broadly divided into social, medical and surgical factors.

Social criteria

Responsible adult

Following a procedure performed under general or regional anaesthesia, a responsible adult should escort the patient home in a private care, taxi or hospital transport; patients must not drive themselves home.

How long is a carer required?

Traditionally, a responsible adult has been required to stay with patients for 24 hours postoperatively. However, not all anaesthetics and surgeries are equal with regards to the support that patients require afterwards, and therefore a 'one size fits all' approach is not appropriate. Recent guidance from the Royal

College of Anaesthetists 'Guidelines for the Provision of Anaesthetic Services' (GPAS) document'[1] and the joint publication on day surgery produced by the Association of Anaesthetists and the British Association of Day Surgery[2] now specifically state that an overnight carer may not always be required. A carer at home may not be essential if there has been good recovery after brief, non-invasive procedures and where any postoperative haemorrhage is likely to be obvious and controllable with simple pressure.

In recent years, the Norfolk and Norwich University Hospital have introduced a policy whereby carefully selected patients who have not undergone airway or laparoscopic procedures are sent home despite no carer being present overnight, as long as they have identified at their preoperative assessment appointment that they are happy with this plan.

Who can provide care?

When it is deemed that a carer *is* required postoperatively, this is often provided by a patient's friends or family. However, the lack of an appropriate relative as a carer does not mandate an inpatient stay.[3]

In Torbay Hospital, patients who are unable to arrange overnight care are offered a carer to stay with them for the first postoperative night. The patient therefore continues to benefit from the day surgery pathway. In addition, this is more financially viable for the trust as valuable inpatient beds are not filled with patients that would be suitable for day surgery, albeit for lack of carer.

Paediatric tonsillectomy: Children undergoing tonsillectomy who are returning home to a household with other children must have two responsible adults; in the event of postoperative haemorrhage one adult must be able to care for the other children while the other adult seeks help.

Distance from hospital

Patients are considered suitable for most day case surgery if the residence they are returning to postoperatively is less than a 1-hour drive from a treating hospital. A treating hospital is considered any hospital that is able to treat their condition, not necessarily the operating hospital. Even in the most rural parts of the country, such distance is rarely a problem.

However, there are some procedure-specific exceptions and for the following operations, patients should not be discharged home if home is more than a 30 minutes' drive from any treating hospital:

- tonsillectomy
- any operation associated with a risk of major haemorrhage.

Adequate housing conditions

Suitable housing for day surgery must have an inside toilet, telephone access, and heating if required.

In summary, the vast majority of patients meet the social criteria for day surgery, or can be enabled to do so with proactive management.

Medical criteria

Fitness for a day case procedure should not be restricted by arbitrary limits such as ASA, age and BMI.

ASA

Today, most stable medical conditions can be reasonably managed as a day case. If a patient presents for routine elective surgery with unstable medical comorbidities, they should be delayed and referred for optimization of their condition before listing. Once the medical condition has been optimized then it is usually appropriate to proceed on a day case basis. The exception to this is surgery for malignancy or urgent or emergency surgery; such urgent or emergency surgery in these patients with unstable disease may require inpatient stay if the surgery needs to proceed before medical optimization is achieved.

There is no statistically significant increase in the incidence of postoperative complications or admission rates of ASA III patients when compared with ASA I and II patients undergoing similar procedures.[4]

Age

Paediatrics: infants born at term are usually suitable for day surgery if they are aged over 1 month. Ex-premature infants are suitable for day surgery once they are considered medically fit and over 60 weeks of post-conception age. Infants with recent apnoeic episodes, or cardiac or respiratory disease, should be considered for overnight admission and close monitoring. Infants with a sibling who has experienced sudden infant death syndrome should only proceed as a day case if aged over one year.

Elderly: elderly patients are better managed in their own environment. Admitting an elderly patient to an inpatient bed is more likely to cause confusion and disorientation than returning them to their own familiar environment. Additionally, when treated as a day case, patients aged over 70 years have comparable rates of unplanned admission, postoperative symptoms and satisfaction as those aged less than 65 years.[5]

Obesity

There should be no restriction to treating a patient as a day case based on weight alone as most potential complications of obesity are limited to the intraoperative and immediate postoperative period. Even morbidly obese patients can be safely managed in expert hands with appropriate resources.

Obese patients benefit from the short duration anaesthetic techniques and early mobilization associated with day surgery. Unplanned admission and postoperative complications rates are no higher in obese patients than in non-obese patients, with no increase in unplanned usage of the community and hospital based services following discharge.[6] It must be remembered that experienced staff and specialist equipment may be required for the management of patients with morbid obesity; however, this should not preclude them from following a day surgery pathway.

Obese patients should be assessed for their risk of obstructive sleep apnoea (OSA). Supermorbidly obese patients should be assessed on an individual basis to ascertain whether more senior staff or additional equipment will be required. Morbidly obese patients may not be appropriate for surgery in an isolated day surgery environment; in this instance, their surgery could be performed on the main hospital site with subsequent transfer to the day surgery unit postoperatively to reap the benefits of the day surgery pathway.

Stable chronic disease

Patients with stable chronic disease such as diabetes, asthma or epilepsy are often better managed as day cases because of minimal disruption to their daily routine.

Diabetes: patients with diabetes are usually suitable for day case surgery if they meet other day case criteria. These patients are often much better at managing their own diabetic care than we are, and removing them from their normal regime can simply serve to disrupt their diabetes. Recent guidelines from the Joint British Diabetes Societies state that all patients with diabetes should be considered for day surgery care as long as the surgery is appropriate.[7]

The following guidelines should be observed for patients with diabetes:

- They should be placed early on the morning or afternoon list.
- They should be starved for the minimum possible time.
- Protocols should be in place for management of perioperative diabetic medication.
- Their Hba1c within the last 3 months should be <69 mmol mol^{-1} prior to proceeding with elective surgery. If it is >69 mmol mol^{-1}, the patient should be referred to their general practitioner or diabetic team for optimisation prior to listing, unless surgery is urgent.

OSA: the presence of OSA is not a contraindication to day case surgery. Patients with OSA may require continuous positive airway pressure (CPAP) postoperatively and if patents have their own home CPAP machine they are more likely to receive this at home than in hospital.

Strong opiates in the presence of OSA are a cause for concern; regional anaesthesia should supplement any anaesthetic technique if possible to reduce opiate intake and increase the likeliness of successful discharge.

Significant OSA in patients undergoing tonsillectomy is a contraindication to day case surgery.

Surgical criteria

Nearly all surgery should be day case or very short stay. The British Association of Day Surgery (BADS) Directory of Procedures provides recommendations on which procedures are suitable for day case, and includes surgery which has traditionally been considered to necessitate inpatient stay.

Patients are considered suitable for day case surgery if the surgical procedure meets the following criteria:

- The patient is expected to manage oral nutrition within a few hours. This does not necessitate solid food, the ability to manage liquid food supplements will suffice.
- The pain of the procedure can be managed by simple oral analgesia supplemented by regional anaesthetic techniques.
- There is a low risk of significant immediate postoperative complications such as catastrophic bleeding or airway compromise.
- The patient is expected to mobilise into their house postoperatively. Full independent mobilization is not a requirement; the ability to mobilize into the house with aid will suffice. Additionally, the ability to mobilise up stairs is not a strict requirement and additional facilities, such as commodes, can be provided if it would otherwise prevent same day discharge.

Length of operating time

Traditionally, the duration of surgery suitable for the day case setting has been limited to procedures lasting less than 90 minutes. However, surgical procedures lasting up to four hours are now routinely performed on an ambulatory basis. There is no difference in unplanned admission rates between patients undergoing surgery with operating times of less than one hour compared with those over an hour.

Emergency surgery

Emergency ambulatory pathways can be used to effectively treat patients requiring urgent surgery as a day case. Patients can be assessed on presentation to hospital and discharged home to return for surgery at an appropriate time on a day case emergency list. The proviso is that the surgical condition must be safe for the patient to manage at home prior to surgery, and that the procedure is suitable for same day discharge. Many of these conditions can be managed by implementing pathways such that patients are discharged from the emergency department with instructions to return the following morning, or in some cases a few days later, for management of their surgical procedure in a semi-elective manner on an ambulatory basis.

Examples of these include:

- incision and drainage of abscess
- evacuation of retained products of conception
- hand trauma procedures
- laparoscopic cholecystectomy for acute cholecystitis
- appendicectomy
- laparoscopic management of ectopic pregnancy
- repair of fractured mandible
- suturing of facial lacerations.

In addition to these pathways, other emergency patients can be transferred to a day case pathway postoperatively; even if they have been admitted to hospital for preoperative investigations and diagnosis, once surgery is scheduled they can be discharged on a day case basis. Implementation of emergency ambulatory pathways results in a variety of benefits for the patient and the Trust. The patient is not waiting on a busy surgical ward with no idea of when, or even if, their surgery will proceed. Often these patients are low priority and are repeatedly cancelled as more pressing emergencies present. The Trust benefits from saving inpatient bed days previously used to accommodate these patients. In addition, patients who require truly emergency surgery get their slot in the emergency theatre sooner. These reductions in delays for patients awaiting emergency surgery have been shown to reduce length of stay for the more complex emergency patients.

In summary

When following the above suggestions, social and medical problems rarely present a barrier to successful day case surgery. With regards to the suitability of specific procedures to be performed as a day case, we advocate reviewing the BADS Directory of Procedures. Additionally, we encourage clinicians to embrace emergency day surgery pathways to enable an

additional cohort of patients to reap the benefits of undergoing their procedure as a day case. ◆

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FURTHER READING

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