



Excellence in short stay surgery

Day Case and Short Stay Surgery

2

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GUIDELINES

Day case and short stay surgery: 2

Association of Anaesthetists of Great Britain and Ireland British Association of Day Surgery

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Summary

- 1 Day surgery is a continually evolving speciality performed in a range of ways across different units.
- 2 In recent years, the complexity of procedures has increased with a wider range of patients now considered suitable for day surgery.
- 3 Effective pre-operative preparation and protocol-driven, nurse-led discharge are fundamental to safe and effective day and short stay surgery.
- 4 Fitness for a procedure should relate to the patient's health as determined at pre-operative preparation and not limited by arbitrary limits such as ASA status, age or body mass index.
- 5 Patients presenting with acute conditions requiring urgent surgery can be efficiently and effectively treated as day cases via a semi-elective pathway.
- 6 Central neuraxial blockade and a range of regional anaesthetic techniques, including brachial plexus and paravertebral blocks, can be used effectively for day surgery.

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- 7 Each anaesthetist should develop techniques that permit the patient to undergo the surgical procedure with minimum stress and maximum comfort, and optimise his/her chance of early discharge.
- 8 Every day surgery unit must have a Clinical Lead with specific interest in day surgery and whose remit includes the development of local policies, guidelines and clinical governance.
- 9 Good quality advice leaflets, assessment forms and protocols are in use in many centres and are available to other units.
- 10 Effective audit is an essential component of good care in all aspects of day and short stay surgery.
- 11 Enhanced recovery is based on established day surgery principles and is aimed at improving the quality of recovery after inpatient surgery such that the patient is well enough to go home earlier and healthier.

The definition of day surgery in the UK and Ireland is clear: the patient must be admitted and discharged on the same day, with day surgery as the intended management. Although still counted as inpatient treatment (except in the US), 23-h and short stay surgery apply the same principles of care outlined in this document and can improve the quality of patient care whilst reducing length of stay.

Since the previous guideline was published in 2005, the complexity of procedures has increased with a wider range of patients now considered suitable for day surgery. Despite these advances, the overall rates of day surgery remain variable across the UK. Whereas the target of 75% of elective surgery to be performed as day cases from the NHS plan remains [1], the true picture is difficult to determine, since the only nationally reported data are limited to 25 procedures [2]. Ten years on, the advancement of minimally invasive surgery is allowing more procedures to be performed as day surgery and even higher rates should be possible.

There was a major drive to promote day surgery around the turn of this century, but the political focus moved on before all of the lessons learned were fully implemented [3]. Nevertheless, the recent drive to reduce length of stay and improve the quality of postoperative recovery has ensured that day surgery principles are fundamental to modern patient care. Shortened hospital stays and earlier mobilisation also reduce the risk of hospital-acquired infections and venous thromboembolism (VTE).

Recent reports

The NHS Modernisation Agency produced an operational guide detailing the facilities available in, and the management of, day units [4]. This was further refined in the *Ten High Impact Changes* document in which the principle of treating day surgery as the default option for elective surgery was set out [3]. The NHS Institute for Innovation and Improvement has also produced a document focusing on day case laparoscopic cholecystectomy [5]. Whereas this document is specific to one procedure, many aspects of the ideal patient pathway are equally applicable to a wide range of day surgery procedures.

Effective pre-operative assessment and preparation with protocol-driven, nurse-led discharge are fundamental to safe and effective day and short stay surgery. Several recent publications provide useful advice on the establishment and running of both services [6–10].

The British Association of Day Surgery has produced a directory of procedures that provides targets for day and short stay surgery rates for over 200 different procedures [11]. These procedure-specific targets serve as a focus for clinicians and managers in the planning and provision of short stay elective surgery and illustrate the high quality of service achievable in appropriate circumstances.

In March 2010, the Department of Health published the enhanced recovery guide that extends day surgery principles to inpatient surgery [12].

Selection of patients

Patients may be referred for day surgery from outpatient clinics, accident and emergency departments or primary care.

Recent advances in surgical and anaesthetic techniques, as well as the publication of successful outcomes in patients with multiple comorbidities, have changed the emphasis in day surgery patient selection. It is now accepted that the majority of patients are appropriate for day surgery unless there is a valid reason why an overnight stay would be to their benefit. If inpatient surgery is being considered it is important to question whether any strategies could be employed to enable the patient to be treated as a day case.

Full-term infants over 1 month are usually appropriate to undergo day surgery. A higher age limit is advisable for ex-premature infants (60 weeks post-conceptual age). The significant risk posed by postoperative apnoea must be considered and infants with recent apnoea episodes, cardiac or respiratory disease, family history of sudden infant death syndrome and

adverse social circumstances should be considered for overnight admission and close monitoring. Day surgery units should not perform surgery on children unless they have suitable staff and facilities.

It is recommended that a multidisciplinary approach, with agreed protocols for patient assessment including inclusion and exclusion criteria for day surgery, should be agreed locally with the anaesthetic department. Patient assessment for day surgery falls into three main categories:

Social factors

- (a) The patient must understand the planned procedure and postoperative care and consent to day surgery.
- (b) Following most procedures under general anaesthesia, a responsible adult should escort the patient home and provide support for the first 24 h.
- (c) The patient's domestic circumstances should be appropriate for postoperative care.

Medical factors

- (a) Fitness for a procedure should relate to the patient's health as determined at pre-operative assessment and not limited by arbitrary limits such as ASA status, age or BMI [13–15].
- (b) 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.
- (c) Obesity per se is not a contraindication to day surgery as even morbidly obese patients can be safely managed in expert hands, with appropriate resources. The incidence of complications during the operation or in the early recovery phase increases with increasing BMI. However, these problems would still occur with inpatient care and have usually resolved or been successfully treated by the time a day case patient would be discharged. In addition, obese patients benefit from the short-duration anaesthetic techniques and early mobilisation associated with day surgery [16].

Surgical factors

- (a) The procedure should not carry a significant risk of serious complications requiring immediate medical attention (haemorrhage, cardiovascular instability).

- (b) Postoperative symptoms must be controllable by the use of a combination of oral medication and local anaesthetic techniques.
- (c) The procedure should not prohibit the patient from resuming oral intake within a few hours.
- (d) Patients should usually be able to mobilise before discharge although full mobilisation is not always essential.

Pre-operative preparation

Pre-operative preparation (formerly known as pre-operative assessment) has three essential components:

- 1 To educate patients and carers about day surgery pathways.
- 2 To impart information regarding planned procedures and postoperative care to help patients make informed decisions – important information should be provided in writing.
- 3 To identify medical risk factors, promote health and optimise the patient's condition.

All patients must be assessed by a member of the multidisciplinary team trained in pre-operative assessment for day surgery. Consultant-led and nurse-run clinics have proved very successful.

Pre-operative preparation is best performed within a self-contained day surgery facility, where available. This allows patients and their relatives the opportunity to familiarise themselves with the environment and to meet staff who will provide their peri-operative care [17]. One-stop clinics, where pre-operative preparation is performed on the same day as decision for surgery, offer significant advantages.

Screening questionnaires (Appendix 1), in conjunction with pre-set protocols, can offer guidance on appropriate investigations, as routine pre-operative investigations have no relevance in modern anaesthesia. Although the National Institute of Health and Clinical Excellence (NICE) guidance on pre-operative investigations [18] is widely used, one recent study showed no difference in the outcomes of day surgery patients even when all pre-operative investigations were omitted [19].

Pre-operative preparation clinics can improve efficiency by enabling early review of the notes of complex cases, ensuring appropriate investigations are carried out and that patients are referred for specialist opinion if deemed necessary.

Day surgery for urgent procedures

Patients presenting with acute conditions requiring urgent surgery can be efficiently and effectively treated as day cases via a semi-elective pathway [20]. After initial assessment many patients can be discharged home and return for surgery at an appropriate time, either on a day case list or as a scheduled patient on an emergency list, whereas others can be immediately transferred to the day surgery service. This reduces the likelihood of repeated postponement of surgery due to prioritisation of other cases. A robust day surgery process is key to the success of this service. Some of the procedures successfully managed in this manner are shown in Table 1 [21–25]. Essential components of an emergency day surgery pathway are:

- 1 Identification of appropriate procedures.
- 2 Identification of a theatre list that can reliably accommodate the procedure (e.g. a dedicated day surgery list or a flexibly run emergency theatre list).
- 3 There should be clear pathways for day surgery in place.
- 4 The condition must be safe to be left untreated for a day or two and manageable at home with oral analgesia (standardised analgesic pack for the patient to take home).
- 5 There should be provision of clear pre-operative patient information, ideally in writing.

Documentation

Detailed documentation is important within the day surgery environment as the patient's experience is often condensed into a few hours. All aspects

Table 1 Types of urgent surgery suitable for day case procedures.

General surgery	Gynaecology	Trauma	Maxillofacial
Incision and drainage of abscess	Evacuation of retained products of conception	Tendon repair	Manipulation of fractured nose
Laparoscopic cholecystectomy	Laparoscopic ectopic pregnancy	Manipulation of fractures	Repair of fractured mandible/zygoma
Laparoscopic appendicectomy		Plating of fractured clavicle	
Temporal artery biopsy			

of treatment and care must be recorded accurately to ensure that each patient follows an effective and safe pathway.

Documentation should be a continuum from pre-operative preparation to discharge and subsequent follow-up. Single care plans reflecting a multidisciplinary approach are favoured in many units. Variations for specific groups including children and patients undergoing procedures under local anaesthesia should be available. Procedure-specific care plans reflecting integrated care pathways may be used for more complex and challenging cases [26]. Such care plans are also useful for audit and evaluating outcome.

Patients should be provided with general as well as procedure-specific information. This should be given in advance of admission to allow time for questioning and preparation for same day surgery. Verbal comments should be reinforced with written material. General information should include practical details about attending the day surgery unit whereas procedure-specific information should include clinical information about the patient's condition and surgical procedure (Appendix 2). The anaesthetic information leaflets developed jointly between the AAGBI and the Royal College of Anaesthetists (RCoA) may also be used [27]. Information for children is also available [28].

Management and staffing

Every day surgery unit must have a Clinical Lead with specific interest in day surgery and whose remit includes the development of local policies, guidelines and clinical governance. A consultant anaesthetist with management experience is ideally suited to such a role and job plans must reflect this responsibility [4]. Day surgery must be represented at Board level [4].

The Clinical Lead should be supported by a day surgery manager who has responsibility for the day-to-day running of the unit. The manager will often have a nursing background and should have the knowledge and skills to make informed decisions and lead on all aspects of day surgery development.

Nurses, operating department practitioners, physicians' assistants (anaesthesia) (PA(A)s), and other ancillary staffing levels will depend on the design of the facility, casemix, workload and local preferences and ability to conform to national guidelines. Staff working in these

units should be specifically trained in day surgery care. Many units favour multiskilled staff who have the knowledge and skills to work within several different areas of the day surgery unit. Efficient use of resources is best achieved by a well-trained, flexible and multiskilled workforce [29].

Extended roles facilitate job satisfaction and encourage personal development and staff retention. Many health care assistants in the day surgery unit are now able to perform duties traditionally only undertaken by qualified nurses [30–32]. Individual units should formulate a staffing structure that takes into consideration local needs.

Each unit should have a multidisciplinary operational group that oversees the day-to-day running of the unit, agrees policies and timetables, reviews operational problems and organises audit strategies.

Facilities

Day surgery should ideally be provided in a self-contained unit that is functionally and structurally separate from inpatient wards and theatres [33]. It should have its own reception, consulting rooms, ward, theatre and recovery areas, together with administrative facilities. The operating theatre and first stage recovery areas should be equipped and staffed to the same standards as an inpatient facility, with the exception of the use of trolleys rather than beds. Several patients per day can occupy the same trolley space, providing far greater efficiency than on wards where one day case may occupy a bed for a whole day. Car parking or short stay drop-off and pick-up areas should be provided adjacent to the unit.

An alternative to a purpose-built unit is the use of a day case ward with patients transferred to the main operating theatre. This model allows a more straightforward transition from overnight stay to day case for complex procedures as there is little impact on theatre equipment or staffing. However, day case beds dispersed around many wards do not achieve these efficiencies, nor do they provide the targeted service that is required to achieve good outcomes.

Typical day unit opening hours would be 07:00–20:00 Monday to Friday, but with the increasing complexity of surgery many units now open until about 22:00.

Many hospitals provide care for day surgery patients who require anaesthesia in specialised units, e.g. ophthalmology or dentistry. It may not be possible or appropriate to centralise these services; however, all such patients should receive the same high standards of selection, preparation, peri-operative care, discharge and follow-up as those attending dedicated day surgery facilities.

Facilities should ensure the maintenance of patients' privacy and dignity at all times. Side rooms are particularly useful when caring for patients requiring an increased level of sensitivity, or for those with special needs.

Children should be cared for in a facility that reflects their emotional and physical needs, separate from adult patients and conforming to the standards required by paediatric units. Nursing staff should be skilled in paediatric day surgical care. Parents and carers, wherever possible, should be involved in all aspects of care and appropriate facilities provided for them.

Anaesthetic management

Day surgery anaesthesia should be a consultant-led service. However, as day surgery becomes the norm for elective surgery, consideration should be given to education of trainees as recommended by the RCoA. This requires appropriate training and provision of senior cover, especially in stand-alone units. Staff grade and associate specialist anaesthetists who have an interest in day surgery should be encouraged to develop this as a specialist interest and take an important role in the management of the unit.

Appropriate selection and patient preparation is crucial for day surgery. National guidelines for patient monitoring and assistance for the anaesthetist should be followed [34, 35].

Anaesthetic techniques should ensure minimum stress and maximum comfort for the patients and should take into consideration the risks and benefits of the individual techniques. Analgesia is paramount and must be long acting but, as morbidity such as nausea and vomiting must be minimised, the indiscriminate use of opioids is discouraged (particularly morphine). Prophylactic oral analgesics with long-acting non-steroidal anti-inflammatory drugs (NSAIDs) should be given to all patients if not contraindicated. For certain procedures (e.g. laparoscopic cholecystectomy)

there is evidence that standardised anaesthesia protocols or techniques improve outcome. Anaesthetists should adhere to such clinical guidelines where they exist.

Although early mobilisation should be beneficial, extending the range and complexity of day surgery procedures may increase the risk of VTE. National guidelines for VTE risk assessment and prophylaxis should be followed.

Policies should exist for the management of postoperative nausea and vomiting (PONV) and discharge analgesia. Prophylactic antiemetics are only recommended in patients with a strong history of PONV, motion sickness and those undergoing certain procedures such as laparoscopic sterilisation/cholecystectomy or tonsillectomy. However, it is important that PONV is treated seriously once it occurs. Routine use of intravenous fluids can enhance the patients' feeling of wellbeing and further reduce PONV [36].

Regional anaesthesia

Local infiltration and nerve blocks can provide excellent anaesthesia and pain relief after day surgery. Patients may safely be discharged home with residual sensory or motor blockade, provided the limb is protected and appropriate support is available for the patient at home. The expected duration of the blockade must be explained and the patient must receive written instructions as to their conduct until normal power and sensation returns. Infusions of local anaesthesia may also have a place [37]. The use of ultrasound is increasingly gaining popularity, particularly in upper limb surgery, and is recognised as a useful tool in several areas of regional anaesthesia.

Central neuraxial blockade (spinal or caudal) can be useful in day surgery and is increasing in popularity, although residual blockade may cause postural hypotension or urinary retention despite the return of adequate motor and sensory function. These problems can be minimised by choosing an appropriate local anaesthetic agent or by the use of low-dose local anaesthetic/opioid mixtures [38]. Suggested criteria before attempting ambulation after neuraxial block include the return of sensation in the perianal area (S4-5), plantar flexion of the foot at pre-operative levels of strength and return of proprioception in the big toe [39].

Sedation is seldom needed but, if used, suggested discharge criteria should be met and the patient must receive an appropriate explanation.

Oral analgesics should be started before the local anaesthesia begins to wear off and also given subsequently on a regular basis.

The patient's hydration should be checked. Concerns about post-dural puncture headache (PDPH) have limited the use of spinals in day surgery patients in the past, but the use of smaller gauge (≥ 25 -G) and pencil-point needles has reduced the incidence to $< 1\%$. Information about PDPH and what to do if this occurs should be included in the patient's discharge instructions as well as the provision of alternative analgesics. Further information on the use of spinal anaesthesia in day surgery and examples of patient information leaflets can be found on the BADS website (<http://www.bads.co.uk>).

The current nationally agreed curriculum limits the scope of PA (A)s. On completion of training they are not qualified to undertake regional anaesthesia or regional blocks [40].

Postoperative recovery and discharge

Recovery from anaesthesia and surgery can be divided into three phases:

- 1 *First stage recovery* lasts until the patient is awake, protective reflexes have returned and pain is controlled. This should be undertaken in a recovery area with appropriate facilities and staffing [41]. Use of modern drugs and techniques may allow early recovery to be complete by the time the patient leaves the operating theatre, allowing some patients to bypass the first stage recovery area [42]. Most patients who undergo surgery with a local anaesthetic block can be fast-tracked in this manner.
- 2 *Second stage recovery* ends when the patient is ready for discharge from hospital. This should ideally be in an area adjacent to the day surgery theatre. It should be equipped and staffed to deal with common postoperative problems (PONV, pain) as well as emergencies (haemorrhage, cardiovascular events). The anaesthetist and surgeon (or a deputy) must be contactable to help deal with problems. Nurse-led discharge using agreed protocols is appropriate (Appendix 3). Some of the traditional discharge criteria such as tolerating fluids and passing urine are no longer enforced. Mandatory oral intake is not necessary and may

provoke nausea and vomiting and delay discharge. Voiding is also not always required, although it is important to identify and retain patients who are at particular risk of developing later problems, such as those who have experienced prolonged instrumentation or manipulation of the bladder [43]. Protocols may be adapted to allow low-risk patients to be discharged without fulfilling traditional criteria. Mild postoperative confusion in the elderly after surgery is common. This is usually insignificant and should not influence discharge provided social circumstances permit; in fact, the avoidance of hospitalisation after minor surgery is preferred [15, 44]. Patients and their carers should be provided with written information that includes warning signs of possible complications and where to seek help. Protocols should exist for the management of patients who require unscheduled admission, especially in a stand-alone unit.

- 3 *Late recovery* ends when the patient has made a full physiological and psychological recovery from the procedure. This may take several weeks or months and is beyond the scope of this document.

Postoperative instructions and discharge

All patients should receive verbal and written instructions on discharge and be warned of any symptoms that might be experienced. Wherever possible, these instructions should be given in the presence of the responsible person who is to escort and care for the patient at home.

Advice should be given not to drink alcohol, operate machinery or drive for 24 h after a general anaesthetic [45]. More importantly, patients should not drive until the pain or immobility from their operation allows them to control their car safely and perform an emergency stop. Procedure-specific recommendations regarding driving should be available.

All patients should be discharged with a supply of appropriate analgesics and instructions in their use. Analgesia protocols (Appendix 4) relating to day surgery case mix should be agreed with the pharmacy. Free pre-packaged take-home medications should be provided as they are convenient and prevent delays and unnecessary visits to the hospital pharmacy.

Discharge summary

It is essential to inform the patient's general practitioner promptly of the type of anaesthetic given, the surgical procedure performed and

postoperative instructions given. Patients should be given a copy of this discharge summary to have available should they require medical assistance overnight.

Day surgery units must agree with their local primary care teams how support is to be provided for patients in the event of postoperative problems. Best practice is a helpline for the first 24 h after discharge and to telephone the patient the next day. Telephone follow-up is highly rated by patients, provides support for any immediate complications, and is useful for auditing postoperative symptoms and patient satisfaction.

Audit

Effective audit is an essential component of assessing, monitoring and maintaining the efficiency and quality of patient care in day surgery units. Systems should be in place to ensure the routine collection of data regarding patient throughput and outcomes. There have been a variety of tools developed to determine patient outcomes. Questionnaires, which rely on the patients' completing documentation and returning them to the day unit, are notoriously inaccurate and response rates are often very low. The most successful units collect data electronically at all stages of the day surgery process.

The RCoA's compendium of audit recipes devotes a section to possible audits relevant to day surgery [46]. It must be stressed that the most reliable way of improving service is continuous audit and review of outcomes rather than one-off snapshots. Information regarding trends in the patients' outcomes should be widely distributed amongst the members of the team.

Audit of day surgery services relate primarily to quality of care and efficiency. Examples of day surgery processes amenable to audit that have some measurable outcomes are shown in Table 2.

Audit of patients' satisfaction should be carried out routinely. A robust database is helpful; however, the best databases fail to effect change unless the information is clearly displayed and freely disseminated to the day surgery users. Monthly graphs and figures detailing all outcomes and trends should be disseminated to everyone, particularly to key individuals empowered to influence change.

Table 2 Day surgery processes amenable to audit.

Component of process	Outcome measure
Booking process	Patients failing to attend for surgery/theatre utilisation
Pre-operative preparation	Patients cancelled on the day of surgery/patients failing to attend
Admission process	Theatre start times
Anaesthesia quality	Unplanned admission rates/postoperative symptoms
Surgery quality	Unplanned admission rates/postoperative symptoms
Recovery	Discharge times/unplanned admission rates/postoperative symptoms
Discharge process	Episodes of unplanned contact with primary care/out of hours health services
Postoperative follow-up	Episodes of unplanned contact with primary care/out of hours health services
Audit	Quality and efficiency improvements

Teaching and training

The RCoA has placed Day Surgery as a core module in all three components of anaesthetic training: Basic (year 1/2) [47], Intermediate (year 3/4) [48] and Higher (year 5/6/7) [49]. It also recommends day surgery as a specialty for advanced level training [50]. However, formal day surgery training programmes for anaesthetic (and surgical) trainees are rare.

The competencies required by the RCoA cover the entire day surgery process, not simply the anaesthetic component. It is essential to design a well-structured module that provides training in anaesthesia for all aspects of day surgery and exposure to the organisational challenges of running a day surgery unit. To facilitate this, it is recommended that advanced training should take place in a dedicated day surgery unit [50], yet few such units exist. It is important to remember that high quality day surgery requires the experience of senior anaesthetists (and surgeons) and that although the day surgery unit is an ideal environment for training junior medical staff, relying on them to deliver the service results in poorer quality patient outcomes and reduced efficiency [51, 52].

A list of topics that might be included in a day surgery module is shown in Appendix 5.

The training delivery should be audited; some suggestions for this are given in the RCoA audit compendium [46].

The day surgery unit is an excellent environment for surgical and nursing training and many of the aspects covered above are equally applicable to surgical and nursing colleagues.

Day surgery in special environments

A number of complex and highly specialist procedures are beginning to enter the day surgery arena. Awake craniotomy for tumour resection has been performed as a day case in the UK [53]. In the interventional X-ray suite, uterine artery embolisation is a day case procedure, whereas endovascular aneurysm stents and several other procedures are appropriate for a short stay approach. Optimal care for these procedures should be developed by those with expertise in day and short stay surgery, working in collaboration with specialists in the management of the specific procedure. Many of these procedures are undertaken in challenging environments, such as X-ray departments. All the accepted standards for delivery of anaesthesia, assistance for the anaesthetist, minimal monitoring and the availability of appropriate recovery (post-anaesthesia care unit (PACU)) facilities should be achieved.

Introducing new procedures to day surgery

The successful introduction of new procedures to day surgery depends on many factors, including the procedure itself and surgical, nursing and anaesthetic colleagues. It is important to evaluate the procedure while still performing it as an overnight stay and identify any steps in the process that require modification to enable it to be performed as a day case, e.g. timing of postoperative X-rays, modification of intravenous antibiotic regimens, physiotherapy input and analgesia protocols [54]. A multidisciplinary visit to another unit where the procedure is performed successfully as a day case can be very helpful. Initially limiting the procedure to a few colleagues (surgeons and anaesthetists) allows an opportunity to evaluate and optimise techniques and to implement step changes so that the patient can be discharged safely and with good analgesia. Support from community nursing can be helpful, especially in these early stages. Once the procedure has been successfully moved to the

day surgery setting it can be expanded to include other surgeons and anaesthetists as appropriate. Clear clinical protocols help to ensure that all the lessons learned during the evaluation phase are clearly passed on to colleagues.

Isolated day surgery units

Many day surgery facilities in the UK and Ireland are isolated and the number of these is increasing. Currently, there is no set absolute minimum distance between any stand-alone unit and the nearest acute or associated hospital, although large distances are uncommon. The commissioning of any new isolated stand-alone unit requires analysis of its suitability for the provision of intended services. These facilities may or may not be purpose-built and the Clinical Lead must be aware of this in managing any risk. Any association with a nearby acute unit should be reviewed regularly.

Remoteness is a factor to be considered in the delivery of a safe and efficient service. A minimum of two anaesthetists on site should be considered at any one time. Prolonged travel time may be an issue for visiting staff. On-call commitments must be taken into account so as to avoid accidents and fatigue either in theatre or when travelling.

The operational policy must agree clear management of certain key issues. These include:

- Management of patients who cannot be discharged home.
- Management of patients with problems after discharge.
- Appropriate cover for the service and patients until they are discharged.
- Appropriate patient screening and selection with availability of medical records.
- Management of medical emergencies, e.g. cardiac arrest and major haemorrhage, and the availability of materials and skilled personnel to deal with complications when the anaesthetist is in theatre.
- Transfer agreements with local hospitals and intensive care facilities
- Robust, tested communications between the stand-alone unit, the nearest acute hospital and the ambulance services.
- Teaching, training and supervision and opportunities for research.

This list is not meant to be exhaustive but gives guidance to some of the important areas that require consideration.

Short stay surgery and enhanced recovery

New approaches to the assessment and management of patients undergoing more complex surgery are being used to improve the quality of recovery, reduce the incidence of postoperative complications and reduce lengths of stay. Many of these techniques are based on the wider application of well-established day surgery principles and are aimed at improving the quality of recovery so that the patient is well enough to go home sooner. These strategies are variously called enhanced recovery, fast-track [55], accelerated or rapid recovery. For any surgical operation there is a large variation in average lengths of stay in hospitals across the UK and Ireland. Increasing numbers of hospitals are focusing on the short stay pathway and plan to manage the majority of their elective patients with stays of fewer than 72 h. To achieve the maximum benefit from this, hospitals are developing 24-h stay facilities (some as part of their existing day units) and are embracing these principles.

Principles of enhanced recovery

Enhanced recovery is the outcome of applying a range of multimodal strategies that are designed to prepare and optimise patients before, during and after surgery, ensuring prompt recovery and discharge [12]. Most of these principles are already well established in day surgery, which can be considered the ultimate example of enhanced recovery. Anaesthetic departments should play a major role in this as they can contribute extensively to all phases of the patients' management. Many of these interventions are derived from day surgery.

Pre-operative factors

Pre-operative preparation of the patient plays a crucial role and identifies additional risk factors and ensures that their medical condition is optimised. Cardiopulmonary exercise testing provides further information to enable anaesthetists to discuss these risks with their patients and ensure that high-risk patients are counselled appropriately. An appropriate level of intensive or high dependency care can also be put in place if necessary. Patients and their carers should receive a careful explanation about the procedure and what will happen to them at every stage of the peri-operative pathway. This includes resumption of food, drink, mobilisation and information about discharge and when this is likely

to take place. As with day surgery, the provision of written information is vital.

Patients should usually be admitted on the day of surgery with minimal starvation times (i.e. 3 h for fluids) and consideration given to the use of oral carbohydrate loading. Analgesia with paracetamol and NSAIDs should be started pre-operatively if not contraindicated, and hypothermia avoided.

Intra-operative factors

Minimally invasive surgery should be combined with use of regional anaesthesia where possible. Thoracic epidurals or other regional anaesthetic techniques should normally be used for abdominal surgery in patients likely to require more than oral analgesia postoperatively. Long acting opioids, nasogastric tubes and surgical drains should be avoided. Intra-operative fluid therapy should be goal directed to avoid sodium/fluid overload and attention should be paid to maintaining normothermia. Anaesthetic techniques are otherwise similar to day surgery with the expectation that patients will mobilise and eat/drink later in the day.

Postoperative factors

Effective analgesia that minimises the risk of PONV and allows early mobilisation plays a vital role in enhanced recovery. Systemic opioids should be avoided where possible and regular oral (or intravenous) analgesia with simple analgesics (paracetamol and NSAIDs) should be used. For more invasive procedures, epidural analgesia should be maintained in the postoperative period. Hydration should be maintained with intravenous fluids but discontinued as soon as the patient returns to oral fluids, and PONV should be treated aggressively using a multimodal approach to therapy.

The patient should be mobilised within 24 h. They should be aware and encouraged to meet milestones for mobilisation, drinking and eating. This requires active involvement from both the medical and nursing teams in the immediate postoperative period. The provision of a specified dining room, with access to high calorie drinks and where meals can be taken, encourages the patient to mobilise.

There should be a target discharge date set for which the staff, patients and relatives should aim, and as in day surgery the discharge should be a nurse-led process and not dependent on consultant review.

The patient's perspective

A Mayo Clinic study in 2006 showed that patients want their doctors to be confident, empathetic, humane, personal, forthright, respectful and thorough [56]. Interestingly, there was no mention of competence, implying that patients inherently believe their doctors to be competent. A survey carried out by MORI on behalf of the RCoA in May 2000 found that 35% of the general public did not believe that anaesthetists were medically qualified doctors [57]. Hence, there is a credibility gap that anaesthetists need to address. It is important to ensure that patients are made aware that anaesthetists are highly qualified professional doctors. The patient information leaflets produced by the AAGBI and the RCoA can be useful in this regard.

It is important to realise that to most patients, anaesthesia means *general* anaesthesia with loss of consciousness during the procedure, and the patient sees this as ceding total control to someone else. Nobody is really completely comfortable with this. The psychology of surrendering control can result in patient attitudes that may not be explicitly communicated to the anaesthetist. This can cause a lot of stress and anxiety. Patients are therefore worried about:

- Never waking up.
- Dying during an operation.
- Waking up during surgery.
- Feeling pain and possibly not being able to make anyone else aware.

In a recent study [58], the top three were identified as being of most concern to day case patients. The same study highlighted that the factor that alleviated most anxiety was the presence of a partner or friend, especially during recovery. Importantly, patients were more receptive to anaesthetists' visiting and giving information about the procedure than to information provided by the nursing staff.

Other concerns that are relatively common to patients having a general anaesthetic are also associated with loss of control:

- Embarrassment about perceived loss of control of bodily functions e.g. wetting the bed, or saying something inappropriate while still drowsy.
- Nausea and vomiting.

It is important for the anaesthetist to offer reassurances, as this has the greatest impact compared with delegating this responsibility to the nursing staff. Apprehensive patients don't easily absorb big words. Explanations should be given in simple terms, avoiding jargon and not using emotive

language. This is particularly important in helping children understand the planned procedure and what is to follow. Information provided in writing before the day of surgery also helps.

A patient about to undergo elective surgery often has contradicting feelings. On the one hand they are glad that the surgery will cure their medical problem and provide a life enhancing experience. On the other hand they are riddled with innumerable anxieties and although it might seem routine and straightforward to the doctor, the patient will inevitably view it all very differently. No patient expects surgery to be actually enjoyable, but what is most appreciated is information delivered by a respected, highly trained professional, who is empathetic and regards the patient as a person and not merely as a statistic.

An information leaflet designed to help patients prepare themselves for day surgery is available on the BADS website [59].

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Appendix 1

Sample screening questionnaire for use in day surgery. University Hospital of North Staffordshire, with permission.

Admission assessment

Admission date

Pre-operative patient questionnaire

(- complete with patient, or copy information from questionnaire completed in outpatients)

Will you:-

PLEASE TICK THE CORRECT BOX

be able to be driven home by private car?..	YES	NO	DATE COMPLETED / / Patient Signature
have someone to take you home?..	YES	NO	
have a telephone at home?..	YES	NO	
have someone at home to look after you for 24 hours?..	YES	NO	

Have you ever suffered from any of the following?:-

heart attack...	YES	NO	→ If so, when? _____
angina (chest pain on exercise, at rest or at night)...	YES	NO	
breathlessness (shortness of breath)...	YES	NO	→ If yes, answer the following: a. do you feel breathless: at rest YES NO on lying flat YES NO on exertion YES NO on climbing stairs YES NO b. how far can you walk before breathlessness stops you _____ yard → If yes, is it: diet controlled _____ tablet controlled _____ insulin controlled _____
asthma...	YES	NO	
bronchitis...	YES	NO	
high blood pressure...	YES	NO	
heart murmur...	YES	NO	
rheumatic fever...	YES	NO	
convulsions or fits...	YES	NO	
kidney or urinary trouble...	YES	NO	
anaemia or other blood problem...	YES	NO	
excessive bleeding or bruising...	YES	NO	
hepatitis...	YES	NO	
severe indigestion or heartburn...	YES	NO	
diabetes...	YES	NO	
arthritis...	YES	NO	
muscle disease (e.g., muscular dystrophy) or weakness...	YES	NO	
deep vein thrombosis or blood clot in lungs (PE)...	YES	NO	
swollen ankles...	YES	NO	
Do you have a pacemaker?...	YES	NO	
Do you have sickle cell disease or trait?...	YES	NO	

Has the patient ever been notified that they are a risk of CJD or vCJD for public health purposes?

(Please tick as appropriate) Yes If yes, complete CJD pre-assessment. No

Does your bladder or bowel ever cause you embarrassment, pain or concern?

Yes Complete continence questionnaire. No

What is your Height?.....Blood pressure.....SPO₂.....
(To be completed by nurse)

What is your Weight?.....Heart rate.....
(To be completed by nurse)

Have you ever had a serious illness (if yes please name it).....

ALLERGY or reaction to medicines, elastoplast, latex, etc.....

If a woman, are you pregnant or taking the "pill" or HRT?.....
(PLEASE NOTE YOUR SURGEON MAY ASK YOU TO BE OFF THE PILL FOR AT LEAST FOUR WEEKS BEFORE CERTAIN OPERATIONS)

Do you have any of the following (please circle)

Dentures Crowned teeth Contact lenses Hearing aid Pacemaker

Appendix 2

Sample patient information sheet for use in day surgery. Royal Surrey County Hospital NHS Foundation Trust, with permission.

Avoid contact with anyone who has a cold, cough or other infection, Avoid smoky, crowded atmospheres, and do not smoke yourself, for two weeks following the procedure. You will be particularly susceptible to infection and cigarette smoke heightens this risk.

Driving

You must not drive for at least 24 hours following a general anaesthetic. You may resume driving when you feel able, this may take several days.

Follow-up appointment

If you require a follow-up appointment at the hospital, it will be forwarded to you by post.

Further information

www.surgerydoor.co.uk

www.bupa.co.uk/health_information

In an emergency

If you require urgent medical advice or attention, telephone Clandon Ward on **01483 464067** for advice, or attend the A & E Department.

Any complaints or comments?

If you have any complaints or comments please contact the Doctors or Nurses straight away. If this does not solve the problem please contact the Day Surgery Unit Manager on 01483 406732 or write to the Day Surgery Unit, The Royal Surrey County Hospital, Egerton Road, Guildford, Surrey GU2 7XX. Similarly if you have any other comments about the service provided we would also like to hear from you.

**These notes will not cover everything.
If you want to know more, please ask.**

For further information or advice, contact the Day Surgery Unit

01483 406783

Monday - Friday

8am - 6pm

Pre-assessment Clinic

01483 464152

NHS Direct

08454647

www.nhsdirect.nhs.uk

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What are tonsils?

The tonsils are two oval lumps of tissue that sit at the back of the throat, behind the tongue. They are made of tissue specially designed to help fight infection. However, they are not essential to health as this type of tissue is found in many other areas of the body.

The tonsils can become infected with bacteria or viruses, making them swollen and painful; this is known as tonsillitis.

What is a tonsillectomy?

The tonsils are removed either by cutting and stitching with dissolving stitches, diathermy (removing and cauterising tissue using heat) or by using a laser. The procedure is performed under general anaesthetic.

Why do I need a tonsillectomy?

Surgery is normally recommended for adults and children who have had repeated bouts of tonsillitis with symptoms that affect daily life (e.g. frequently requiring days off work or school).

What are the alternatives?

Tonsillitis can be treated with antibiotics, either by short courses to treat individual infections, or by long-term low doses to prevent infections. However, as many bouts of tonsillitis are caused by viruses, antibiotics are not always effective.

Surgically removing the tonsils is the only effective way of preventing further infections. However, as the procedure carries its own risks, particularly in adulthood, it will only be considered if the infections cannot be managed satisfactorily by other methods i.e. antibiotics.

Potential risks and complications

Possible complications of this procedure include:

- **Bleeding** – see the section on bleeding inside this leaflet.
- **Infection** – if you experience a nasty taste at the back of your throat, increasing pain, or are otherwise concerned, contact the Unit, Clandon Ward (01483 464067) or see your own GP for advice.

After the operation

Will it hurt?

After the procedure it is common to have a very sore throat, and aching around the ears and jaw. The Unit will provide you with painkillers as necessary to control this discomfort. You will also be provided with painkillers to take home; please take these regularly, as advised by nursing staff, for several days. The pain may get worse 5-7 days after surgery, and may continue for up to 10 days.

Any medication to take home will carry a prescription charge, unless an overnight stay in hospital is required. Please tell nursing staff if you are exempt from prescription charges.

Eating and drinking

You may experience nausea and vomiting after your anaesthetic. This may be a side effect of the anaesthetic itself, or due to blood swallowed during the procedure. Medication can be provided to keep these symptoms to a minimum.

You will be encouraged to eat and drink as soon as possible after your procedure. A soft diet may

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Tonsillectomy

A Patient Information Leaflet

Patients 1st
Your voice. Our list.

Day Surgery Unit

be soothing, but more solid foods such as toast and apples will also be encouraged as chewing these aids healing. It is important to drink plenty of fluids, particularly after meals, and also to brush your teeth after meals to help prevent infection.

Bleeding

Tonsillectomy in adults carries a risk of bleeding. Bleeding requiring medical treatment is usually classified as spitting or swallowing 'more than a tablespoonful'. This may occur:

- **During the operation.** This will be dealt with immediately by the surgeons.
- **Within 24 hours of surgery.** If bleeding occurs after discharge from hospital, return to A&E as soon as possible for treatment. Occasionally this type of bleeding necessitates returning to the operating theatre to stop the bleeding.
- **At around 7-10 days after the procedure.** If you experience bleeding, contact Clandon Ward as soon as possible (see 'in an emergency' on the back of this leaflet), or attend the A&E department. This type of bleeding can usually be controlled without the need for another operation.

Bleeding can be prevented once you get home by sticking to a normal diet, avoiding hot baths or showers and avoiding any strenuous activity for about two weeks.

Work / Activity

It is advisable to take 10-14 days off work, especially if your job is manual or involves contact with several people. Ask the nurses for a certificate to cover time of work if required.

Appendix 3

Discharge checklist for day surgery. Reproduced from: British Association of Day Surgery. *Nurse Led Discharge*. London: BADS, 2009, with permission.

Criteria	Yes	No	N / A	Initials	Details
Vital signs stable					
Orientated to time, place & person					
Passed urine (if applicable)					
Able to dress & walk (where appropriate)					
Oral fluids tolerated (if applicable)					
Minimal pain					
Minimal bleeding					
Minimal nausea / vomiting					
Cannula removed					
Responsible escort present					
Has carer for 24-h post op					
Written & verbal post op instructions					
Knows who to contact in an emergency					
Follow up appointment					
Removal of sutures required?					
Referrals made					
Dressings supplied					
Patient copy of GP letter					
Carbon copy of consent					
Sick certificate					
Has take home medication					Next Dose:
Information leaflet for tablets					
Post op phone call required					

Discharged by: Nurse's Signature

Date / Time _____ Print Name

Appendix 4a

Acute pain protocol for adult surgery.

	Pain intensity	Discharge medication	Doctor's signature (sign one box only)
A	None	None	
B	Mild	Paracetamol 1 g qds	
C	Moderate	Paracetamol 1 g qds Plus Ibuprofen 600 mg qds	
C*	Moderate (NSAID intolerant)	Paracetamol 500 mg / codeine 30 mg 1–2 tabs qds	
D	Severe	Paracetamol 500 mg / codeine 30 mg 1–2 tabs qds Plus Ibuprofen 600 mg qds	
D*	Severe (NSAID intolerant)	Paracetamol 1 g qds Plus Oral morphine 20 mg qds	

Appendix 4b

Pain categories for common procedures in the day surgery unit, to be used in conjunction with the above.

A	B	C	D
EUA ears Cystoscopy Restorative dentistry	Cataract surgery Grommets / T-tube removal / insertion Prostate biopsy Sebaceous cyst surgery Sigmoidoscopy Skin lesion surgery Urethral surgery	Anal surgery Apicectomy Arthroscopy Axillary clearance Breast lumps Dupuytren's contracture Carpal tunnel decompression Cervical / vulval surgery Hysteroscopy / D&C Middle ear surgery MUA ± steroid injection Vaginal sling Varicose vein surgery Vasectomy Non-wisdom tooth extraction	ACL reconstruction Circumcision Endometrial ablation Laparoscopy Haemorrhoidectomy Hernia repair Joint fusions / osteotomy Shoulder surgery Squint surgery Testicular surgery Tonsillectomy Wisdom tooth extraction Dental clearance

EUA / MUA, examination / manipulation under anaesthesia; ACL, anterior cruciate ligament

Appendix 5

Suitable topics for a training module in day case anaesthesia.

1 Patient selection and preparation:

- The role of patient selection in day surgery
- Medical, social and surgical factors
- Unit protocols for patient selection
- The role of pre-operative preparation in day surgery
- Instructions for /preparation of patients for day surgery
- Management of patients with complex medical conditions
- Recognition of patients who are unsuitable for day surgery

2 Anaesthetic techniques for day surgery:

- General anaesthetic techniques
- Antiemetic therapy
- Analgesia including the role of nerve blockade
- Fluid therapy
- Airway management

3 Surgical techniques appropriate for day surgery:

- Surgical advances enabling procedures to transfer to day surgery
- Limitations of day surgery
- Risks / concerns

4 Recovery assessment and discharge criteria:

- Adequacy of analgesia
- Fitness for discharge
- Role of early intervention in prevention of unplanned admissions
- Instructions for patients
- Discharge medication

5 Postoperative follow up and audit:

- Value of postoperative follow-up to patients and the unit
- Use of information technology for audit of outcomes and service development

6 Team working:

- The day unit as a multidisciplinary team

7 Children in the day surgery unit:

- National Service Framework for Children's requirements for provision of children's services
- Preparation of children for surgery

8 Management of a day surgery unit:

- Role of day surgery managers
- Role of day surgery within the trust
- Government's agenda for day surgery
- Booking processes for day surgery
- Knowledge of local and national day surgery performance
- Advances and controversies in day surgery

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