Principles of organizing a surgical list

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Abstract

The principles of organizing a theatre list are based on a multidisciplinary, safety-centred approach to patient care and require a surgeon to have good organizational, communication and leadership skills.

It is important to understand the processes and protocols required to ensure patient safety and maintain theatre efficiency, as well as the various patient-specific and operation-specific factors that need to be considered when booking cases.

This article aims to cover the various steps through a patient's journey from the decision to treat through to aftercare, highlighting the factors that the surgeon should consider at each stage. They include the preoperative planning process from pre-assessment to booking cases, and embraces day-of-surgery issues from team briefing to the perioperative care of the patient's co-morbidities.

Preoperative planning is essential in the complexity of modern day surgery to ensure patient safety and maintain theatre efficiency. The contemporary surgeon should be prepared constantly to evolve processes and improve team skills to enhance their patient's experiences and outcomes. A thorough grasp of the principles behind running an operating list is vital for the maintenance of good surgical practice.

Keywords Communication; day surgery; operating list; patient safety; planning; pre-assessment; teamwork; theatre efficiency

Introduction

Good surgery is not only a matter of technical ability but is also based on foundations of good decision-making. There is an old surgical adage that goes 'choose well, cut well, get well', to which should be added 'prepare well'.

A well-organized operating list, be it a day surgery list, an inpatient elective list or an emergency surgical list, will result in an increase in theatre efficiency and improved patient experience and safety. The principles should be based on meticulous planning, excellent communication and be centred on a multidisciplinary approach to patient care.

The goal is to ensure that the right operation is performed on the correct patient by an appropriately skilled surgeon in a safe environment at the right time. This requires support from suitably experienced pre-assessment, anaesthetic and theatre staff, often requires the utilization of specialist equipment and will need the provision of correct aftercare to safeguard recovery. Added to this, surgeons should take responsibility for ensuring optimal utilization of theatre resources. This takes forethought, communication and teamwork, and depends on a number of systems and processes that should underpin the surgical patient's journey.

This article is based around a patient's journey along a surgical pathway. We aim to highlight the relevant factors at each step and, in turn, cover the principles of organizing a surgical list.

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Preoperative planning

Patient pathway

In organizing a theatre list it is important to understand the pathway a patient will take to surgery. This will vary from elective to emergency surgical patients, but the principles remain the same and should encompass four stages: referral, initial assessment, decision-making and preoperative assessment.

Generally, referral is initiated by another healthcare professional and often this will be the patient's general practitioner. The patient is then seen and assessed in the appropriate setting, either the surgical outpatient clinic or the surgical assessment unit.

An electronic-referral service is being pioneered and developed by the Health and Social Care Information Centre (HSCIC) as part of the Government's vision for the National Health Service to operate a completely paperless system by 2018.[1] Improvements to the efficiency of referrals will allow more timely organization of operating lists, which is important in the current target-rich culture of the NHS. Elective non-cancer operations are subject to an 18-week target from referral to first treatment and suspected cancer patients should be seen within 2 weeks. In order to avoid cancellations or under-utilized lists, whilst ensuring the availability of specialist equipment or staff, operating lists should be planned as far in advance as possible. The process of organization begins at the time of initial outpatient assessment and may require personalization of the pathway for individual patients.

The pilot questionnaire 'Had an operation?' conducted by The NHS Modernization Agency's Theatre Project, showed that patients principally want shorter waiting times and to undergo their operation on the agreed date, without cancellation. This study also showed that patients want a choice of dates for operations, adequate time to read consent forms, opportunities to ask questions, privacy for discussions, provision of written documents to explain the procedure or process and a named contact after discharge.

Booking of cases

Most hospitals operate a central booking or administrative office. Therefore complete and detailed information should be recorded at the time of booking to the waiting list. This will enable subsequent planning and help identify patients who may have requirements that are outside the norm or who may need the allocation of additional resources.

Booking information will include details that are specific to the operation planned and also those specific to the patient (Table 1). Certain co-morbid conditions and medications will

Please cite this article in press as: Lin Z, Moore TJ, Principles of organizing a surgical list, Surgery (2017), http://dx.doi.org/10.1016/j.mpsur.2017.01.012

Important information to be recorded at the time of booking

Operation specific	Procedure and technique (e.g. laparoscopic or open)
	Laterality (if applicable)
	Location (day surgery/main theatres)
	Type of anaesthetic
	Urgency
	Special equipment (e.g. fluoroscopy for cholangiogram)
	Predicted duration
Patient specific	High body mass index
	Diabetes mellitus
	Severe cardiopulmonary disease
	Anticoagulant/antiplatelet medications
	Active infections/colonization
	Severe pathology — necessitating extra operating time

Table 1

require additional perioperative consideration and these are discussed in more detail later in this article.

Day surgery

It is well recognized that day surgery is an efficient use of hospital resources and generally offers a popular patient experience. There is a growing drive, led by the Department of Health, towards increasing the number of patients being treated in dedicated day surgery lists.

This is based on the premise that day surgery offers benefits to all involved:[2]

- patients are able to recover in their own home
- cancellation of surgery due to emergency pressures in a dedicated day surgery unit is unlikely and burden on inpatient beds is reduced
- the risk of hospital-acquired infection is reduced
- trusts improve their throughput of patients and reduce waiting lists
- commissioning care groups (CCGs) can commission cost-effective healthcare.

The Audit Commission produced a list of 'basket' cases that should be performed on day surgery lists in 1990, which they updated in 2001 under the guidance of the British Association of Day Surgery. However, with the improvement of modern surgical techniques and anaesthesia it is now possible to perform more procedures using this model, and most elective operations should now be considered for day surgery. Variations on this theme, such as overnight stay and enhanced recovery programmes, are pushing the surgical pathways away from prolonged inpatient stays.

Other advantages of dedicated day surgery lists include greater efficiency and operative predictability through repetition and streamlining. For example, the same weekly list may be staffed by the same team members (surgeon, anaesthetist and theatre staff), have the same start and finish time, use similar equipment and comprise a predicted case mix. This generates familiarity and increases knowledge and speed through repetition, with benefits to both throughput and safety.

Inpatient elective surgery

Not all patients or operations are suitable for day surgery and will require inpatient surgical lists. These lists should be reserved for the complex major cases and the patients with complex comorbid conditions that mean they will require inpatient aftercare. Time managing these lists is difficult as the predictability of major cases or medically complex patients is not easy. But every effort should be made to optimize the list by careful preoperative planning and sensible safe booking. Careful planning will minimize the risk of over-run and potential cancellation, as well as improving patient outcomes.

Children

Day surgery is ideal for children, as overnight admission is often the most distressing part of visiting hospital for them. Children should be treated on dedicated lists or, at the very least, the first part of lists and separated from adults. They should be nursed in paediatric areas, with play facilities available. Operations should be performed by surgeons and anaesthetists with appropriate experience in the care of children. Registered children's nurses should be available to care for children in day surgery.

Preoperative assessment

The purpose of preoperative assessment is to ensure that the patient is optimized medically and psychologically for the planned procedure. It is a continuous process, which begins at the first outpatient appointment, but it has also become synonymous with a formal visit to a 'pre-assessment clinic' that typically occurs a few weeks in advance of a planned procedure.

Pre-assessment clinics vary between units and may be led by nurses, surgeons or anaesthetists. The function is to address and identify any patient-specific issues that may impact on the safe delivery of the planned procedure, within a timeframe such that the patient's condition is not expected to significantly change prior to the planned admission date, but which allows the instigation of any pre-optimization that may be required.

A risk assessment for the proposed surgery and anaesthetic method is carried out, taking into account the patient's concurrent medical problems. A thorough protocol-based history and examination are performed, not only to determine the current fitness level of the patient, but also to screen for potential, and often commonly occult, medical conditions such as diabetes, cardiovascular or respiratory problems. This is also the optimal time to address issues such as the management of perioperative anticoagulants or antiplatelet drugs, diabetic medications and cardiovascular medications. Final decisions will vary depending on individual patients, but in general terms it is usually safe to stop anticoagulants and antiplatelets (for 2 and 5 days, respectively) in the preoperative period. Diet- or tablet-controlled diabetic patients should omit their medications on the morning of the operation and be placed early on the list. Insulin-dependent diabetic patients should omit their insulin on the morning of the procedure, be placed on an intra-venous dextrose and insulin infusion and be operated on early in the list. It is generally safe for patients to take their routine cardiovascular medications on the morning of

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