

Where are the limits for day stay surgery?

David J Wilkinson*

* Emeritus Consultant Anaesthetist, Boyle Department of Anaesthesia, St. Bartholomew's Hospital, London EC1A 7BE, UK.

INTRODUCTION

Day stay surgery has now become the accepted normal way of surgical and anaesthetic practice for a huge proportion of elective procedures. This move from inpatient care to day stay has been predominantly driven by financial considerations as it is obviously much cheaper to send patients home rather than care for them in a hospital. This saving is only realized if complete wards are closed as a result of performing more day stay work. There is almost no science to back up this change in practice. There are no randomized trials of day care against inpatient care and such trials are now almost impossible because of the change in everyday practice. But, by the same token, there is no overwhelming evidence that patients are doing any worse than they were as inpatients but all who practice in this field should bear these concepts in mind. Almost all day stay care is a management driven cost saving exercise that may or may not be beneficial to our patients.

EARLY LIMITS

Although several pioneers in UK⁽¹⁾ and USA⁽²⁾ developed very early models of day stay practice, for the majority of surgery inpatient care was the normal method of practice until the 1960s.

Originally day stay care was based on minor surgery with occasional intermediate procedures being attempted. Superficial «lumps and bumps» were easily removed, teeth could be extracted, biopsies taken and most gastrointestinal and urological endoscopy was straightforward. Anaesthesia tended to be intravenous induction with a short acting barbiturate, like methohexitone, and anaesthesia was maintained with the patient breathing spontaneously, usually halothane in an oxygen-nitrous oxide mixture, via a facemask. Gastrointestinal endoscopy was usually performed in a separate suite to the operating theatres under

«sedation» with diazepam with minimal monitoring and rarely any anaesthesia supervision or advice.

Postoperative analgesia was minimal as procedures usually involved small incisions and oral paracetamol was a routine medication. Patients were usually street fit within a short period of time although nausea and vomiting remained a significant problem for a persistent number of patients.

INTERMEDIATE PHASE

In the mid 1960's the USA led the way with a series of ambulatory programmes that extended the scope and practice of this type of work. Special facilities were built and the range of surgery extended dramatically. Both surgical and anaesthesia professionals, and their nursing counterparts, started to specialize in these areas as there were specific challenges in relation to patient preparation, pain management and discharge from hospital that required specialist skills. However despite occasional day wards being developed in UK and some European hospitals the rest of the world lagged behind.

In the forefront of many anaesthetists' mind was the lack of drugs with really short half-lives together with a instilled belief in the importance of bed rest and quiet after surgery. With more and more emphasis being placed on the potential financial savings of day care by managers then so clinicians started to reappraise the situation. Etomidate, propofol and althesin were introduced into clinical practice and their very short duration of action made the process seem more feasible and a series of reports in the UK suggested potential cases that could be performed on a day stay basis. An original «basket of 20 cases» of 1990 (which included inguinal hernia, orchidopexy and varicose vein surgery) was extended to a «trolley of 40 cases» by 2000 in the UK and started to include major surgery like laparoscopic cholecystectomy.

The major impetus for the development of this type of surgery in the late 1980s was the introduction of propofol

and the laryngeal mask airway both of which simplified the anaesthesia process while at the same time permitted a rapid clear headed emergence from anaesthesia. At the same time national and international groups started to form specific specialist societies, to publish specific journals and hold scientific meetings that focused solely on this type of care.

CURRENT PHASE

In many countries now day stay care accounts for over 80% of all elective surgery. This has resulted in a huge reduction in inpatient beds with equivalent major savings. The scope of surgery continues to increase with more and more centres attempting to perform increasingly complex surgery and yet still have the patient leave the hospital within the working day. Newer analgesics, local anaesthetics, inhalational agents and working practices have facilitated this process and it is timely to consider what the limits of this type of practice might be.

PATIENT SELECTION AND PREPARATION

The art of good day stay care begins at the moment that a patient is notified that surgery is required. Everything must then be focused on the fact that the patient is going to be able to come in and go home on the same day and be well and supported afterwards at home. Not every patient will be appropriate for this type of care but in reality as long as they are fit enough to undergo surgery there are very few patients who cannot have day care. Patients used to be excluded if they had any chronic illness but if the illness is well controlled they should not be excluded. This applies to insulin dependent diabetics, asthmatics and patients with ischaemic heart disease etc. The question that needs to be asked is what care EXACTLY would this patient be receiving if they were in hospital that they need so badly that they are unable to go home?

Patients should receive detailed preoperative and postoperative instructions at the time their surgery is booked which should be both verbally and written so that they can refer to again once they go home. This information may have to be in many languages and can be available on a website. They should have the opportunity to visit the facility where their care will be provided so that they can understand the process that they will experience and have the opportunity to discuss this with the staff so that anxieties can be allayed.

A good social history is crucial for this type of work. It may be that home surroundings and family support is not adequate to provide the postoperative care that is needed for the patient. Such care then may be possible in a hotel/hostel facility where the patient can stay for one or two days

postoperatively until they are ready for home care. Alternatively medical and nursing support may be provided in the patient's own home again depending on the circumstances.

In the multicultural urban scenario, languages can be a huge challenge. Even if the patient is fluent in a particular language they may be unable to read their given instructions and this may apply to other family members who will be providing postoperative support. Even in the most affluent areas many people are unable to read and are able to hide this deficit with great skill.

Many day stay units have audio-visual aids that they hand out to patients to help with these processes.

More emphasis nowadays is being given to the concept of getting patients fit for their surgery in advance rather than trying to «catch-up» with their problems postoperatively. Extensive preoperative physiotherapy for example can facilitate much faster postoperative mobilization and recovery following orthopaedic procedures although long term follow up for major joint replacement shows little benefit of this preoperative intervention. Most chronic diseases can be «fine-tuned» prior to surgery.

Obviously an inability for a unit to take up some of these aspects of preparation will start to limit the surgery they can provide on a day stay basis.

FACILITIES

Day stay care can be provided in any surgical/anaesthesia space provided the motivation is there to perform the work well. Purpose built facilities with dedicated staff and equipment often create a much better atmosphere which can enhance the patient's perception of the whole experience. These facilities can be stand alone or attached to an existing hospital. Purpose built postoperative wards, hotels or hostels can increase the throughput of a day stay facility by permitting much more extensive and complex surgical procedures to occur and also to alleviate many local social problems. Admitting patients to a day stay facility, performing radical surgery and then discharging them to another hospital ward with epidural catheters in place together with central lines, drips etc is not really what day surgery is all about!

DAY STAY ANAESTHESIA

Despite the plethora of books and papers, lectures and whole congresses on this topic the essence of day stay care is very simple. All anaesthetists should continue to do what they do best! It is sensible to use sedative drugs that have minimal half lives and to use long acting analgesics where appropriate. More recently introduced drugs tend to have such a profile but also tend to be the most expensive. When used

by skilled hands it is often very difficult to differentiate in the postoperative period between patients given different drug combinations intra-operatively. What is always obvious is when patients are not comfortable, nauseous, vomiting or unable to ambulate. No individual anaesthetist will always be able to get every case «perfect». Patients should be warned of the side effects of the drugs used as well as the operative procedure.

There are several «factions» within anaesthesia who believe better results can be obtained for all cases by using either TIVA or inhalational agents; to date this is not supported by good evidence. In the same way those who are expert at local anaesthesia blocks tend to claim better outcomes. What is certain is that a bad general anaesthetic is worse than a good local technique and vice-versa. It is normally better to use a technique with which you are highly proficient and not start to try new things in this area of practice.

There is no reason to withhold the use of tracheal tubes, muscle relaxants, IPPV etc on day stay patients. The technique should be appropriate for the surgical case and not «specially adapted» to what might be considered an unsafe method just because a patient is going home post operatively.

It is apparent that many anaesthetists have a special affinity for this type of care and they should be encouraged to do more and teach a great deal. Those without an interest in this sub-specialization should not be «forced» to perform this type of work as their results will probably not be good.

DAY STAY SURGERY

Anaesthetists tend to believe that it is what they do that makes all the difference for day stay work. While this may be partly true, the real maker or breaker of day stay practice is the surgeon. Gentle hands that are quick and careful make

the anaesthetic part very much easier. A skin to skin laparoscopic cholecystectomy that takes under 15 minutes with no post-operative problems is going to have better results in the postoperative ward than the surgeon who takes 90 minutes or longer.

The surgical case mix should be made after interdisciplinary discussion. Just because one group of surgeons and anaesthetists can perform a thyroidectomy or a prostatectomy as a day case procedure does not mean that all teams can do the same. Many of these «cutting edge» innovations require extensive community support that may not be available everywhere.

It is not normally wise to perform surgery that requires a lengthy period of intravenous fluid replacement due to nil by mouth restrictions as a day procedure although many do this and discharge the patient to a hotel/hostel facility for post operative care and claim it is day stay surgery.

FOLLOW UP AND AUDIT

Whatever work is undertaken there should be comprehensive systems of follow up for the patients. This is often through paper questionnaires which are associated with poor return rates and it is often difficult to correlate the anaesthesia and surgical sequences with the returned questionnaire as notes will have moved on. Telephone questionnaires the day after surgery have proved very successful as have telephone lines to qualified staff that can «trouble shoot» problems as they arise in the post-operative period. There is a need to be able to demonstrate that patients are experiencing a quality of care after day stay surgery. Many audits focus on the incidence of re-admission or pain scores or nausea levels in the post operative period. These are all useful measures and should be at a very low level if a good quality of care is being provided.

REFERENCES

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