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DAY SURGERY IN THE UK

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The National profile for Day Surgery in the UK has increased over the last 2- 3 years.

The NHS Plan states access will improve and waiting times will be reduced year on year.

National waiting time targets include:

- All emergency patients will be seen, treated and either admitted or discharged within within 4 hours
- 24 hour waiting time to see a primary care healthcare professional
- Maximum 3 month waiting time for out-patient consultation (max 2 weeks for suspected cancer)
- 6 month maximum waiting time for elective in-patient treatment
- 12 week maximum waiting time from GP referral to hospital treatment by 2008

The Government set a target of 75% of elective surgery to be undertaken on a day case basis and has published a tool for service improvement and delivery – ‘10 High Impact Changes’. Number 1 of the changes is ‘Treat day Surgery (rather than in-patient surgery) as the norm for elective surgery. The Modernisation Agency (aligned to the Department of Health) was an organisation that supported a national day surgery programme. This aimed to drive day surgery rates up and at the same time enable other targets to be more easily achieved. Clinical champions were assigned to each Strategic Health Authority to help develop day surgery strategy at local level. Some of the successes of this programme will be shared.

Patients will be offered choice about where they wish to be treated including the private healthcare sector where it is estimated up to 15% of the high volume surgical procedures may be undertaken. ‘Payment by results’ will enforce a national tariff for each procedure that will provide an incentive to reduce patient length of stay in hospital and perform higher rates of elective surgery as day case rather than in-patient.

The Healthcare Commission (formerly The Audit Commission) is an independent organisation which reviews key service areas or issues of concern, to use data to bring about benefits for patients, staff and public. ‘The acute hospital portfolio’ plays an important role in the assessment and improvement of services provided by acute and specialist Trusts. Day surgery performance was one of the first areas to be assessed in 1990 when a basket of 25 common elective surgical procedures were looked at. Audits took place in 2000 and again in 2004 allowing assessment of progress made in the intervening years.

This presentation will demonstrate variation of day surgery practice in the UK (despite the political drivers) and some of the reasons why.

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PARALLEL SESSION 5

UPDATE ON ORGANIZATIONS OF AMBULATORY SURGERY FACILITIES

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BEST PRACTICES IN AMBULATORY SURGERY. QUALITY AND COST CONSIDERATIONS IN MANAGING PREOPERATIVE EVALUATION

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There are many components of a comprehensive multidisciplinary preoperative system (Surgical Procedure Selection, Surgical Teaching, Medical Diagnosis & Optimization, Anesthesia Evaluation & Teaching, Post Op Pain Management Planning, Insurance Verification & Registration.

In the past, an approach has been utilized that looks at a true "full service", one-stop clearance clinic. Here, the history and physical, as well as clearance for anesthesia are completed, along with surgical consent, nursing assessment, EKG,

Chest x-ray, Laboratories, etc. This is optimal if it is truly "under one roof", but it is difficult to do this in many facilities, since the reimbursed surgeons fee covers the history & physical and surgical teaching. Also, most radiology departments wish to perform the chest x-ray in a central location, and many cardiology departments take a similar approach to the EKG. Most institutions opt to have laboratory tests in a central blood drawing area. The clarification of administrative issues relative to facility registration and financial verification also tend to occur in centralized locations. Finally, there is no separate anesthesia fee that covers the usual anesthesia perioperative evaluation.

We at the Cleveland Clinic Foundation have decided to perform the preparation of the surgical patient by subdividing each of the steps in different physical locations. This may not be ideal in many practices, but it works well in our large, tertiary institution. Each of the "players" in this process is given certain responsibilities. The surgeon is told to state the exact surgical diagnosis and clarify the extent of the procedure, as well as performing the history & physical or referring that task to a general internal medicine clinic. The medical consultant then is asked to optimize the patient by defining precise medical diagnoses, clarifying the severity of any medical pathology, and stabilizing and medically optimizing all disease processes.

Anesthesia clearance clinic (PACE – Preoperative Anesthesia Consultation and Evaluation) then will see appropriate patients that require anesthesia clearance and address concerns unique to anesthesia. These may be malignant hypothermia, latex allergy, and any other anesthetic drug allergies. Detailed airway assessment is performed as well as an explanation of the need for fiberoptic intubation. Fears of anesthesia are addressed as well as discussion of alternative techniques that are appropriate and a complete review of the patient's questions relating to post op pain control. A discussion of the expected patient awareness level as well as recovery time and the treatment of nausea and vomiting is performed in this clinic. And finally the requirements for NPO status and the type of transportation and accompaniment required for patient's going home on the same day as their surgery.

In the ideal preoperative process, we will deliver a favorable cost benefit ratio while simultaneously being convenient for the patient, yielding a plan for safe anesthesia and at a cost that is justified by its value. We have found that the general rule is that "the earlier the better" with regards to preoperative testing and evaluation. We expect that this is begun at the first patient phone contact with the surgeon's office when the patient can be queried if they have had any recent EKG's or laboratory studies and any recent complete history & physical performed by their referring physician. This is far superior to all this being done the "day before surgery".

Some sort of screening of patients into those being healthy "ASA Class I & II" and those that will require more extensive evaluation "ASA Class II & IV" can further concentrate resources where they are most needed. We use an approach that starts with a touch screen desktop computer workstation. An interactive series of approximately 120 questions yields a general summary of the patients' health status. Next, using a surgical classification system that Dr. Pasternak has developed, we decide the patients' surgical class, based on the invasiveness of the expected procedure as well as the expected blood loss. Knowing both the degree of underlying medical illness of the patient and the expected invasiveness of surgery, we can decide whether to route the patient through our anesthesia clearance clinic (PACE) well before the day of surgery. Those that are healthy are cleared on the day of surgery (express status).

Preoperative algorithms were developed and agreed upon by every member of the department of anesthesia. These were written after review of available published literature and assessment of the generally accepted practice patterns of our anesthesia group. Topics selected for algorithm development were taken from a review of the most frequent reasons for cancellation of surgical cases. These algorithms are published in their entirety in the 2004 Issue of the Anesthesiology Clinics of North America (Volume 22 pages 155-175).

When we initially reengineered the preoperative evaluation process, we had very poor history & physicals from our surgeons. In fact, half of all history & physicals had no vital signs. There was steadily increasing co-morbid disease severity, significant patient dissatisfaction, and patients with multi-organ system disease had to travel to multiple medical subspecialties for consultation. This left our anesthesia clearance clinic with little time to adequately deal with true anesthesia issues. With the cooperation of our general internists, we formed an internal medicine optimization clinic staffed by general internists for those patients with significant underlying medical disease (IMPACT - Internal Medicine Preoperative Assessment Consultation and Treatment). The growth within this clinic has been phenomenal, now approaching 1,000 patients per month. Surgical specialties that refer to this clinic most frequently are orthopedics, ophthalmology, and neurosurgery with general surgery referring the least. The benefits have been that one physician coordinates all medical optimization, thus giving better coordination of multi-organ system disease work ups. It has been a practice builder for our general internists and dovetails nicely with their in-hospital consultation service. The patient feels he has had a complete work up in addition to simply an operation or procedure and it allows the anesthesia preoperative evaluation clinic to concentrate on true anesthesia issues.

Those patients that are healthy are termed "expressed" and all unnecessary preoperative lab tests are eliminated. Protocols were developed by the Department of General Anesthesiology in consultation with Surgery and Medicine Departments and nationally published studies. For these "expressed" patients, final anesthesia clearance doesn't occur until the day of surgery, and thus concentrates the preoperative anesthesia clinic resources on the severely ill patients. Statistical analysis has shown that in spite of a steadily increasing surgical load, we have been able to keep our anesthesia clearance clinic's budget stable since only those truly needing to see an anesthesia provider pass through the clinic. Of course, this has meant that each individual patient arriving at the clinic is now more complex but the resources have been available to handle this. We have managed to keep our costs stable in spite of a steadily increasing surgical caseload. Ombudsman cases have been reduced significantly during the time that this system has been in place.

We next developed a detailed cancellation analysis looking at 8 key characteristics (lost medical record, incomplete medical record, patient, system, communication, nursing, anesthesia clearance, and process oversight). Each one of these key characteristics is further subdivided. The subdivisions for the "patient" area are cancelled self, got better without surgery, unstable or got sick, expired, no way to get home, late, ate, procedure done elsewhere, new unstable medical condition. The subdivisions for the "anesthesia clearance" area are abnormal EKG, abnormal labs, malignant hypothermia, infectious disease not noticed, overlooked serious health problems, pregnancy overlooked, inappropriate express status but followed algorithms. Reviewing 3 months of data, we have shown that over half of the cancellations are due to "patient" causes. The next most frequent area is "system" problems. Only 7% of the cancellations during this period of time were related to true anesthesia clearance issues. We have been able to track this data as we make changes in the preoperative process to see if the process is in control and if there is any true variation that would require intervention.

Most recently we have critically examined our intraoperative quality indicators (IQI). The results for cardiac related events was extensively analyzed. This data shows that when our system of IMPACT/ PACE is used there are less cardiac events than if the surgeon does the entire preop. Prior to July of 1997 many patients seen on the day before surgery could not be cleared. This caused great patient dissatisfaction and disruption in the operating rooms. This is obviously not as bad as canceling on the day of surgery, but still was a problem we wanted to address. We had found that 60% of our patients still arrived for clearance at our clinic the day prior to surgery, and this could not really be changed with multiple attempts. Thus we

instituted our internal medicine "IMPACT" clinic which would optimize patients a week or two prior to surgery. After a 3 month roll out, the very next month the "not yet cleared patients" were already 3 Sigma below the mean and below the lower control limit using a statistical process control chart. This indicates by statistical analysis that this finding could have only occurred by chance in 3 in 1,000 instances. Thus, our conclusion was that we definitely made an improvement in the process. We continued to follow this data for the next 12 months and still found the process stayed within the new upper and lower control limits with a mean of 34.8 patients not yet cleared per month.

Many of the challenges in preoperative evaluation we have faced at The Cleveland Clinic Foundation are different at smaller facilities. Similarly the resources at our disposal are also quite different. But many of the principles can be applied to any size anesthesia practice:

1. Detail data driven analysis of the weak spots of the existing preoperative process.
2. Attaching monetary benefits to correction inefficiency. Publication as widely as possible throughout the institution of the monetary gains will increase the credibility of the re-engineering of this very important process.
3. Recognition of the needs of each "customer" in the preoperative process: patient, surgeon, surgical office staff, OR scheduler, OR nursing, anesthesiologist, hospital administrator, and internist.
4. Increased inclusion of practitioners who have historically been only consultants to the preoperative process.
5. Early screening to triage the relatively well patient who needs little preoperative testing and clearance on the day of surgery. Identification of the multi organ system disease patient for specific focus testing, diagnosis, and optimization by appropriate medical consultants.
6. Agreement on written and easily accessed disease specific algorithms to enhance communication of what is required of surgeons, internists, and anesthesiologists so as to avoid cancellations on the day of surgery.
7. Continued commitment of all key players to constantly review, update, and approve the process.

ROLE OF EXTENDED RECOVERY CENTERS AND LIMITED CARE ACCOMODATION (MEDI MOTEL) IN AMBULATORY SURGERY

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Ambulatory surgery has expanded rapidly in many countries over the past 20 years, although much more so in some countries than in others. At present some countries report ambulatory surgery rates of 60% of all procedures, however there is potential for this to increase to 75%-80%.

Already, many major operations are carried out in ambulatory surgery centres raising concerns regarding safety and quality of treatment where these patients are discharged on the same day.

Extended (overnight) recovery after ambulatory surgery and Limited Care Accomodation Facilities (Medi motels) will allow these patients more prolonged recovery under nursing supervision and, where appropriate, several days immediate post discharge convalescence under continuous observation.

A model ambulatory surgery centre design including extended (overnight) recovery services and limited care accomodation will be presented and illustrated by an existing facility. The patient and cost advantages of these services compared to acute bed hospital services will be shown.

The importance of governments and health care insurers to support these initiatives, which have the added advantages of 'freeing up' acute hospital beds and reducing their waiting lists/times, will be emphasised.

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EFFICIENT FACILITY DESIGN OF AN AMBULATORY SURGERY CENTER-KEYS TO A SUCCESSFUL PROJECT

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INTRODUCTION

A well-planned facility will impact the success of your surgery project.

Key aspects of delivering an appropriate facility include:

- Project planning.
- Facility location.
- Facility size determination.
- Facility design.

With effective execution, there are measurable operational outcomes affected by facility planning and design that will contribute to maximizing project success. Specific areas that benefit include the centers financial performance, service levels to patients and, potentially, quality of care provided to patients.

PROJECT PLANNING

Key variables of ambulatory surgery center projects that impact facility design and development include annual patient volume, rate of annual growth, surgery case specialty mix, and patient demographics. These variables should impact the average length of surgery time, whether general or local anesthesia is used, the length of patient post-surgical recovery prior to discharge, equipment, instrument and supply needs.

FACILITY LOCATION

Some fundamentals need to be considered regarding facility location. In the U.S., the most important feature related to location is convenience to surgeons. Patients are willing to travel a reasonable distance, but surgeons are not. Also, area population should be in excess of 100,000.

Consideration should be given to a ground-up construction of a new building, or renovating an existing building. In the U.S., new construction takes about 18 to 22 months, and a tenant improvement in an existing building takes approximately 14 months. Locating the surgery center on a hospital campus is ideal. Locating the center between two hospitals may prove worthwhile, but the closer (within 3 miles) to each hospital the better.

FACILITY SIZE

The most common mistake made in the United States is overbuilding. Less than 10% of the ambulatory surgery centers in the U.S. operate at or near capacity. A good approach is to assume that your facility will reach its "likely" maximum surgery volume by the end of the fifth year of operation, and build the facility size to match that volume. The facility and site improvements should be designed to accommodate future expansion of the facility. Other features that might impact facility size would be the need for overnight stay verses purely day surgery (may need to be larger), an abnormally large number of GI cases and/or pain management cases (may need to be smaller), severe weather may require covered parking or covered patient entrance or egress. Remember, if you can operate the facility at capacity, your fixed

costs per case are as low as they can get. Anything less, your fixed cost-per-case go up.

In the United States, the average size of a day-case surgery facility serving 6,000 patients annually in four (4) operating theatres and one (1) minor procedures room is 14,000 square feet. Planning data would suggest the following: 1) 1,200 to 1,500 annual cases per operating room; 2) and 1.5 preoperative bays per operating room; and 3) 2.5 recovery bays per operating room. These data should be adjusted depending on specialty mix and anticipated average length of case.

FACILITY DESIGN

Facility space plans include a waiting room sufficient to seat patients and family members throughout the day, administrative space to support the center, patient admissions area, anesthesia service support area, operating theatres, patient post-surgical recovery, equipment and supply storage, central sterilization clean and dirty workrooms, and other non-usable ?? space. The layout and way each of these functional areas related impacts productivity, cost of care, service levels and financial success.

Operational objectives to guide facility design should include efficient patient flow, patient privacy, shared staff for pre-operative admissions and patient post-surgical recovery, easy access to sterile supplies from operating theaters, and central storage that can be accessed easily for external supply deliveries as well as by staff, and outgoing disposables and trash. These areas represent common mistakes made in the U.S.

FACILITY COSTS

Obviously, the overall costs of a project will depend on the location.

Land costs, labor costs, materials and equipment costs, financing costs, regulatory requirements and other things will create variation in total project costs. Assuming a multi-specialty ASC with four operating rooms and one minor procedure room, in a 14,000 square foot facility, the average cost breakdown of a tenant improvement project in an existing US building in the United States would be:

Building cost for tenant improvements at \$150 per square foot \$2,100,000
Fixed and moveable equipment and instrumentation 2,000,000.

Consulting support-legal, building, operations and finance 450,000.

Soft costs-operations start-up, staff hiring and training, etc. 250,000
Information technology, furniture, fixtures and art work. 250,000
Total Project Costs \$5,050,000 *In addition, projects require working capital to fund accounts receivable. The amount ranges from \$450,000 to \$750,000.

DEVELOPMENT OF HOSPITAL HOTELS IN NORWAY

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Ideally, all ambulatory patients should go home the day of surgery after recovery, with a responsible escort to home. At home a capable adult should be with the patient all the time for 24 hrs and facilities for communication out to dedicated health personnel should be present. Even with a "worst case" scenario of post-discharge problems, there should be backup systems appropriate for the individual patient and type of surgery; either by some service served to the patient at home or appropriate transferral to a health institution. When these criteria are not fulfilled, the patient will traditionally be admitted for in-patient stay instead.

A hospital hotel is usually defined as a hotel situated very close to the hospital, where the patients is supposed to have the same facilities and staffing as in an ordinary hotel, but where there are somewhat better facilities for handling unanticipated medical problems. The role of the hospital hotel in ambulatory surgery will be to take care of some of the patients who otherwise would have been transferred to inpatient care. The most important differences between home and a hotel will be on two issues: For a hospital hotel no travelling is needed after discharge and, in case of problems, the medical backup is much closer, both in terms of diversity and time-delay.

Although Norway is a wealthy country, there is a high pressure on cutting health care costs; mainly because these have increased heavily throughout the years. High costs on all kind of labour, including health care professionals, have been one of the driving forces as to transfer in-patient care to ambulatory care whenever possible. From 1990 to 2000 the fraction of ambulatory surgery increased from 20% to 55% for all elective surgery pooled together. However, Norway is also a country when half of the population live out of towns, many places with long travel distance to nearest hospital. Further, especially in wintertime, transportation may be unreliable due to heavy snow blocking mountain main roads or strong wind obstructing communication with people living at islands or poorly accessible places along the coast. Although a well developed medical helicopter service is provided, this is not always accessible in bad weather. Thus, there is a rationale for offering hospital-hotel to some ambulatory surgery patients; both because of strenuous home travel or unsatisfactory health care backup when home. Further, there is an increased specialization

PARALLEL SESSION 6

THE SCOPE OF MINIMALLY INVASIVE TECHNIQUES

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of surgery in different ambulatory units and patients have a legal right to choose to have their surgery done in any institution they prefer. For this reason there is an increased tendency of patients being operated in ambulatory units not being close to home. Having a good hotel facility seems to become a good argument for getting more patients to a specific unit.

However, organized and formally established hotels for ambulatory surgery patients did not appear in Norway until 1999 and 2000 when the university hospitals in Bergen and Oslo opened their hotels. Since then there has been a rapid increase in hotel establishment with most of the bigger hospitals. Many smaller hospitals have made agreements with a local tourist hotel for using some rooms or a part of the hotel as a hospital hotel.

The organization of these hotels has been to have rooms designed for a patient and an adult accompany in a separate bed. Patients have access to a restaurant or room service as in any other well equipped hotel. The rooms have been spacious; with minibar, bathroom, TV and easy communication with a 24 hrs staffed reception desk. In some places the reception desk have been staffed with medical skilled personnel, in others not. The intention is not to have medical facilities and personnel standby in the hotel, but rather to have good logistics for bringing them rapidly in when needed. The hospitals hotels are mostly run by private hotel organizations on a contract and surveillance of the hospital.

To have an adult escort staying together with them have been a mandatory requirement for ambulatory patients for going to the hospital hotel. Further, the patients should not have ongoing infections, dressings needing special care or other issues known to be in need of professional health care assistance when they are discharged to the hotel.

So far, the experience with this system is good; no mortality has been reported from these hospital hotels and serious problems are very rare. These units have an increasing popularity and their number is expected to increase further. Many places the hotels are also used for other than ambulatory patients: post-delivery women, cancer patients on chemotherapy, elective patients admitted for tests or diagnostic procedures, as well as being used as an all-purpose place to host guests, short-term employees or students at the hospital. There is an ongoing discussion on how running these hotels should be financed, and also if there should be an option to include active medical treatment from health personnel into parts of the hotel.

SELECTION CRITERIA FOR LAPAROSCOPIC DAY SURGERY

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Laparoscopic surgery is the most significant advancement in the field of surgery over the past 15 years. This minimal access approach has been widely embraced and adopted to many common operations. Demonstrated benefits include decreased post-op pain, shorter lengths of inpatient hospitalization, increased patient acceptance, and a more rapid return at work.

Day Surgery procedures, are the most important "revolution" of these last years in surgery. This type of approach, extended to most of all general surgery's interventions, can be adapted, with specific consideration, to the Laparoscopic Surgery.

According with the Quality Health Outcomes Model developed by Mitchell, we have to take care about surgical intervention that we can approach with Laparoscopic model, and, consequently, selection criteria for patients candidates to that intervention.

We made this criteria based on cross-selection of Day Surgery inclusion criteria and Laparoscopic Surgery inclusion criteria.

It is the sequents:

- Good condition of health or in steady state pathologic and therapeutic phase (ASA) first two classes are considered ideal candidates.
- The age (the limit is not absolute).
- The weight, just like traditional surgery, is an important factor and so it has to be carefully evaluated.
- Associated pathologic conditions, like cardiopathy, BPCO, coagulopathies.

With laparoscopic approach, we can made most of general surgery's procedures like inguinal hernia repair, appendectomy, colecistectomy, adhesiolysis, hiatal hernia repair (fundoplication) and obesity surgery (gastric banding).

The aim of the Laparoscopic approach in Day Surgery is not the simple reduction of hospitalization, but is the sensible reduction of patient's discomfort.