

# AMBULATORY SURGERY

International Journal covering Surgery,  
Anaesthesiology, Nursing and  
Management Issues in Day Surgery



**IAAS 10th International  
Congress on  
Ambulatory Surgery  
5–8 May 2013  
Budapest, Hungary**

## Abstracts

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# AMBULATORY SURGERY

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**Editorial**

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IAAS 10th International Congress on Ambulatory Surgery  
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## 10th International Congress International Association For Ambulatory Surgery

On May 5–8, 2013, the International Association For Ambulatory Surgery will hold its 10th International Congress in Budapest, Hungary, led by IAAS President Carlo Castoro MD. Gamal Eldin Mohamed MD, PhD, President of the Hungarian Association for Ambulatory Surgery and President of this Congress, has organized an outstanding educational and social event. Prof. Beverly Philip will deliver the Nicoll Memorial Lecture, on “The Path of Ambulatory Surgery: Roots, Trees and Stars”. Other Keynote Plenary lectures will address “New High Tech Aspects in Day Surgery” and “Development & Expansion of Day Surgery in the World”.

The programme is designed for all physicians, nurses, administrators, and commercial parties who are interested

in this rapidly expanding field – whether you practice now or hope to in the future. Congress participants will be coming literally from across the globe to learn and teach about the breadth of ambulatory surgery, sharing their information and practical experience.

The International Scientific Organizing Committee led by Mária Janecskó MD has assembled a program of international experts. Abstracts of their lectures are presented in this edition of *Ambulatory Surgery*.

We hope you will be joining us in lovely Budapest.

**Beverly K. Philip MD**

Editor-in-Chief

## Development and expansion of AS in the world – An Australian Story

### **Wendy Adams**

Registered Nurse (MRCNA) Chair, Australian Day Surgery Council

Australia is a diverse country with a population of more than twenty two million people who live on the world's largest island, and an average of only 2.5 persons per square km.

Day surgery occurs in many types of centres including our stand alone facilities, acute public hospitals and private hospitals, totalling approximately 60% of all elective surgery.

This presentation will look at the changing face of ambulatory surgery in Australia with the introduction of the National Safety and Quality Health Service Standards from January 1st, 2013.

## The role of nurses in Day Surgery Development and expansion of AS in the world – An Australian Story

### **Wendy Adams**

Registered Nurse (MRCNA) Chair, Australian Day Surgery Council

Nurses have had a very important role over the years as day surgery has expanded throughout Australia as well as throughout the world.

Nurses have become more actively involved in assisting with preadmission assessment to ensure that the appropriate patients are being selected for day surgery. They are also involved with patient and carer education prior to admission and discharge, supporting patients and their carers throughout their episode of care, determining when the patient is ready

to be discharged and conduct post discharge follow up and support.

Nurses have also been able to have a voice with the many changes that are currently occurring in the healthcare industry throughout Australia.

This presentation will explore how the roles have changed and what they may be facing in the future as Ambulatory Surgery continues to expand through the world.

## Antimicrobial Stewardship in Ambulatory Surgery

### **Prepared by Terry McAuley**

STEAM Consulting, Australia.

RN Div I, MSc MDD (current); Cert Sterilization and Infection Control; Cert Perioperative Nursing; Cert Operating Suite Management; Grad Dip Education and Training; Cert IV A & WT; Cert Mgt Decontamination Reusable Medical Devices (UK); MACORN; MRCNA; MCN

### **Presented by Wendy Adams (MRCNA)**

Chair Australian Day Surgery Council

### **Aim**

The purpose of this presentation is to provide an overview of the role of antimicrobial stewardship in ambulatory surgery centres as a method to assist in minimising the risks of emergence of antibiotic resistance.

Emergence of antimicrobial resistance is a global issue and has become a focus of the World Health Organization in recent times.

The use of antibiotic prophylaxis and prescription of antibiotics for patients to take after discharge is widespread in ambulatory care centres. Therefore it is essential that the use of antimicrobials in ambulatory surgery settings is scrutinized in order to ensure that our practices are not contributing to the end of the 'antibiotic era'.

# Endovenous Laser Surgery – Experience of the first Five Years

**Imre Bihari MD, PhD**

Vein Center Budapest, Hungary

**Introduction:** During our first 29 cases only a mean 16 J/cm energy was employed to treat the GSV. In 4 cases recanalisations were seen during clinical and US examination (13.8 %). To improve our results we studied the methods of colleagues and increased the amount of energy delivered.

**Patients:** Treatments of GSV, SSV and AASV varicosities were performed in three periods: (1) laser surgery learning curve on 29 limbs, (2) 980 nm laser on 467 limbs, and (3) 1470 nm laser on 118 limbs. The age range was between 17 and 80 years. There were acute varicophlebitis in 16, CVI in 74 and crural ulcers in 27 legs. 8.6 % of varicosities were recurrent.

**Methods:** A mean 164 J/cm energy with a 980 nm laser and 104 J/cm with a 1470 nm laser was used. Cooled (3°C) tumescent solution was administered. Laser energy delivery began 1.0 cm below the SFJ. Manual pullback was employed. To remove side branches and perforator veins along the limb a saw-knife, Varady's hook and foam sclerotherapy was used. Heparin prophylaxis was not given in the first 216 cases but

after one slight pulmonary embolism without deep venous thrombosis, LMWH was administered in every subsequent case.

**Results:** Every treated vein occluded (100 %) and there was 7 (1.5 %) recurrent varicosity in the 980 nm but none in the 1470 nm group. In 53.1 % of cases, the SFJ occluded flush with the femoral vein. In 60 cases, a questionnaire was completed regarding post-operative complaints: 78 % of patients did not take any painkillers, and 2/3 of them were back at work within a week. There was some degree of suffusions in every case. Complications: one pulmonary embolism, and in 7.2 % of 980 nm and 0.8 % of 1470 nm laser treatment there were some minor and temporary neurological complaints in the region of the laser treatment.

**Conclusions.** According to our study, higher laser energy with cold tumescent local anaesthetic can achieve good early and mid-term occlusion results. This evoked few complaints and did not cause any more complications than other methods.

# Arthroscopy procedures; routines, pain treatment and recovery

**Metha Brattwall, MD**

Department of Anaesthesiology & Intensive care, Institution for clinical sciences, Sahlgrenska Academy, Gothenburg.

Arthroscopy procedures are increasing due to improved surgical technique. Cruciate ligament and complicated shoulder surgery are nowadays routines in day surgery. These patients need advanced care to manage pain and recovery at home.

The key functions to prevent are analgesia, alimention, alertness and ambulation.

Balanced multimodal analgesia methods are opioid sparing, leads to fewer side effects and less nausea. The use of acetaminophene, NSAID and local anaesthesia are the basal treatment. A combination of local (ropivacain), ketorolac and morphine into the joint seems effective. There have been discussions if bupivacaine into the joint can start chondromalacia. It has been shown in vitro and in rabbits, although ropivacaine has not yet been shown to be at risk. The use of interscalene or supraclavicular blockade preoperatively are wide spread for shoulder surgery.

The recovery process is of long duration. After arthroscopy procedures, it could last up to six months postoperatively. When looking at different typical day surgery procedures, using EQ5D questionnaires, pain and immobility are the main problems. At 4 week postoperatively, 40 % of patients are not recovered. At 3 months, 65% of patients and at 6 months 90 % are fully recovered.

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Preoperative information is a dual communication in order to improve patient safety and patients' satisfaction. Information can be exchanged by many means and written information is of value and commonly cost effective. Patient questionnaires are today commonly used to retrieve information around the patients' health [1]. Various forms of pre-prepared information such as brochures, videos, web-based information or just a standardized paper are techniques increasingly used in order to provide patients critical base information. The benefit being that it can be retrieved or visited repeatedly. There is an obvious limitation it cannot provide patient specific information nor "respond to unique questions".

Information around the surgical procedure and an informed consent is a must, and should be made by the surgeon responsible. Information around anaesthesia and postoperative care should also be provided, but can for the ASA 1-2 patient undergoing minor surgery, be done by a nurse.

Preoperative assessment centres have been found effective and providing high patients satisfaction. Providing the patient the opportunity to in advance meet and talk to surgeon, anaesthetist, and nursing personnel with special competence around the perioperative care, e.g. a dietician, stoma therapist

etc has been shown to improve patients' satisfaction and can reduce time to discharge [2].

More and more complex procedures and also elderly are today managed as ambulatory surgical patients increase the necessity of adequate information [3]. Including information around the early but importantly also around the more protracted postoperative course is of huge importance; the need for escort and having someone at home during the first day after surgery. Information around "self-care" at home; requiring understanding and willingness to handle pain medications, wound dressing basal hygiene etc. should be provided. Aspects on limitations of activities of daily living and eventual sick leave should be addressed in advance.

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## Reimbursement determines site of surgery

### **Jost Brökelmann**

Bonn, Germany

Ambulatory surgery (AS) is less costly than inpatient surgery especially considering total costs of treatment up to 4 weeks postoperatively. In 1989 and 1994 it was an advancement in gynaecology to perform vaginal (in 1989) and laparoscopic subtotal hysterectomies (in 1994) as strictly ambulatory procedures. Thereafter followed an increase in ambulatory hysterectomies in Germany.

Over the years reimbursement for AS became more and more restricted. Therefore surgeons calculated operating room costs per minute and found that they were losing more than 1000 € per hysterectomy. Therefore they attempted to achieve contracts with patients for private treatment. But this led to a law which forbade such contracts with members of the Social Health Insurance.

Eventually reimbursement dropped to a mean of 25% of inpatient fees (Paulo Lemos 2012).

Therefore surgeons of day clinics tried to gain contracts with sickness funds establishing package payment for hysterectomies and other larger procedures, or they cooperated with hospitals to perform hysterectomies in hospitals sharing DRG fees.

The existing situation can be summarized thus: Hospitals lack surgeons because of various reasons, and AS is 75% underpaid

both in hospitals and day clinics. As a result the number of hysterectomies as strictly ambulatory procedure decreased and inpatient procedures increased again.

This also holds true for other surgical procedures like e.g. herniotomy: Conventional herniotomies were underpaid and laparoscopic procedures were reimbursed better. As a result most herniotomies are treated by laparoscopy in Germany. This behaviour of surgeons contrasts with surveys that conventional herniotomy using local anaesthesia is the least expensive procedure (Kreckler et al. 2012).

From the economical point of view surgeons and hospitals react reasonably as they try to avoid losing money by underpaid services. From the point of view of public health policies, however, the goal is different: People should get a fairly good "second-best" treatment at costs that are affordable. Before spending more money on "best" medical treatment it first should be proven that the "best" method shows substantially better results than the "second-best" which costs much less. There obviously is a conflict of interest between surgeons and hospitals and public health authorities resulting in increased expenditures for the inpatient sector and the health system.

Public health aspects should be given adequate political weight to counteract other players in the health system.

# Influence of Religion on Ambulatory Surgery

## Jost Brökelmann

Bonn, Germany

Since the establishment of cities in the 4th millennium BC surgery was ambulatory until the advent of hospitals in medieval times. In prehistoric times trepanations successfully were performed and patients often survived. These surgical procedures were done by representatives of native religions (shamans, priests) as diseases were thought to be sent by spirits or gods who supposedly could be appeased by priests.

Thus in Egypt Imhotep, the well-known philosopher and chancellor of the Pharaoh Djoser, was priest and surgeon in one. Egyptian physicians were educated in temples.

In the 12th century the Christian church in Europe decided that clergymen and priests were not allowed to perform surgery any more. Thus surgery was banned from universities and became a professional field for barber-surgeons and their schools.

A little later Islamic religious groups ruling in Morocco also banned surgery. Up today to many Moslems cosmetic surgery is forbidden because of the shari'ah, the Islamic law.

In 2012 a German court ruled that circumcision of young boys violates human rights. This decision caused major political debates because both Jews and Moslems protested vehemently. Finally the German parliament passed a law that circumcision is allowed to be performed despite the fact that the procedure can violate human rights, and that circumcision also can be executed by non-medical personnel.

Religion still is a major part of each country's culture and therefore will continue to dominate substantial parts of medicine especially surgery.

# Supraglottic Devices in Ambulatory Surgery

## Dr Jose Manuel Cordero Lorenzo

Virgen del Rocio University Hospital, ambulatory unit. Seville, Spain

Ambulatory surgery and supraglottic devices have developed quite similarly. Inserting a supraglottic device is less aggressive for patients than intubation.

Dr. A Brain first invented LMA in 1981, since this time new devices have been developed and this allows for more and more successful usage. It is important to distinguish between basic and advanced procedures. The new devices can be used in advanced procedures. The advance uses must be done only by anaesthesiologists with experience in supraglottic devices usage.

### *What is the real problem anaesthesiologists face?*

Every year new devices appear in our clinic, some of them without any previous studies to their usage, and we have to decide which is the best for each ambulatory procedure.

We need to know how to test a new device, there are characteristics for an ideal device:

- Easy insertion
- High seal pressure
- Low mucosal pressure
- Separation alimentary tract from respiratory
- Not easy displacement
- Efficient
- Good surgical access

Another important aspect is a classification of the devices:

- |                |   |
|----------------|---|
| <b>Group 1</b> | Supraglottic devices with low seal pressure and absence of gastric drainage tube. (Classical LMA <sup>®</sup> , Reinforce LMA <sup>®</sup> , etc) |
| <b>Group 2</b> | Presence of gastric drainage tube. Proseal <sup>®</sup> , Supreme <sup>®</sup> , I gel <sup>®</sup> .   |
| <b>Group 3</b> | Designed to intubate patient. I Fastrach <sup>®</sup> , air Q <sup>®</sup> .  |
| <b>Group 4</b> | Oesophageal obturation, Combitube <sup>®</sup> .  |

In the daily practical clinic we are going to use the Groups 1 and 2.

### *How do we make the right choice?*

The choice of device depends on the patient's characteristic (Obesity etc.) and procedure (tonsillectomy, laparoscopy etc). For a tonsillectomy we should use a reinforced laryngeal mask (good surgical access and prevents displacement) and for laparoscopic colecistectomy (high airway pressure) a Proseal<sup>®</sup> or supreme<sup>®</sup>, for their high seal pressure, for example.

### *Conclusion*

The anaesthesiologist must know how to test a supraglottic device and make a decision and choose the most appropriate one, based on the patient, the surgical procedure and supraglottic device characteristics. Every year less patient are intubated in ambulatory surgery.

F. Docobo Durantez MD, Ph D, EQBS, FACS

## **Why laparoscopic approach in abdominal hernia?**

We considerer ventral and groin hernia.

**Ventral:** This procedure is based on the physics of Pascal's principle of hydrostatics. This approach is based on the open, preperitoneal repair. The minimally invasive approach embraces the concept that a retromuscular mesh repair may be more durable, other fundamental components is wide mesh overlap of the defect and fixation to secure the mesh. The use of prosthetics reduced recurrence rate have clearly been demonstrated for defects larger than 4 cm in diameter. The laparoscopic approach is an excellent choice for recurrent hernias.

**Mesh Fixation:** The most widespread technique in laparoscopic ventral hernia repair involves fixation of the mesh with tacks and transabdominal permanent sutures.

**Seroma Formation:** The mean incidence of seroma at a range of 4 to 8 weeks is 11.4%. The majority of patients form seromas postoperatively, but they typically resolve spontaneously without intervention.

**Persistent Pain:** The discomfort at the transabdominal fixation suture sites typically resolves within 6 to 8 weeks. A possible explanation may be that the transabdominal suture entraps an intercostal nerve as it courses through the abdominal muscles.

**Mesh Infection:** Remains a serious complication because many candidates presenting for laparoscopic ventral hernia repair are obese with substantial amount of preperitoneal fat.

**Type of Mesh:** Several types. DualMesh Plus (W.L. Gore and Associates), DualMesh (ePTFE; W.L. Gore and Associates), Marlex (polypropylene; C.R. Bard, Inc.), Composix (ePTFE and polypropylene), Surgisis (Cook, Surgical Inc.), and Allo Derm (Lifecell Corporation) Proceed (Ethicon) Composite mesh. No composite mesh.

## **Results**

Laparoscopic repair of incisional hernias results in a low rate of conversion to open surgery, a short hospital stay, and an acceptable overall complication rate, low risk of infection and a low risk of recurrence. The laparoscopic appears to be effective in complex patients, especially those who are obese and who have had relapses after open repairs. New meshes and fixation methods are developing to obtain better clinical results, with sufficient long-term follow-up to support the durability of the procedure, laparoscopic repair should be considered the standard procedure for ventral hernia.

**Inguinal:** Objectives: Sac and visceral reduction. Treatment of the sac. Reinforced posterior abdominal wall through a mesh in preperitoneal space. Types: IPOM 1992 Toy F.K., Fitzgibbons JR, Vogt. DM. Transabdominal approach and mesh on the hernia hole. No recommended nowadays because high relapse index. TAPP. Aguirre, 1992, trans abdominal preperitoneal approach. TEP. Laws. Duluq. Mc Kerman. Phillips. Total extraperitoneal approach

**Adhesion to Ehs Recommendations:** Operation technique (male adults) Primary unilateral. Primary bilateral and Recurrent inguinal hernia.

**TAPP or TEP?** Both techniques of laparoscopic repair of inguinal hernia have comparable long-term outcomes in terms of incidence of chronic groin pain, quality of life, and resumption of normal activities. Controversy: Type of mesh: LW mesh, MW or HW mesh. Fixation: Tackers, glues. Postoperative complications: Seroma, pain.

**Our Experience:** Indications: Inguinal primary hernias without contraindication general anesthesia, obesity, Bilateral inguinal hernias. Relapsed inguinal hernia by anterior approach.

**TEP.** Fixation tackers or glues. LW mesh. Elective procedure in our experience. TAPP: Women, obesity, possible incarceration, previous infraumbilical preperitoneal surgery approach, previous open approach with mesh.

**Teaching Programs Laparoscopic Hernia Approach:** Spanish surgical association was developed courses for teaching laparoscopic surgical procedures for abdominal and inguinal hernias.

*F. Docobo Durantez MD, Ph D, EQBS, FACS*

**Ancient period:** Surgical Practice Ambulatory: Ambulant doctors. Prehospitalary Hospitalary (Hospes = Huesped) Christian philosophic precepts Spiritual and material help poor person Home surgery : Powerful patients

In the Middle Ages, surgery was developed to a high degree in the Islamic world. Abulcasis (Abu al-Qasim Khalaf ibn al-Abbas Al-Zahrawi), an Andalusian-Arab physician and scientist who practised in the Zahra suburb of Córdoba, wrote medical texts that shaped European surgical procedures up until the Renaissance.

**Renaissance University surgical practice:** Early battlefield treatment The first record of ambulances being used for emergency purposes was the use by Queen Isabella in 1487.

**XVI century. Spanish Golden Ages:** Francisco de Arceo (1493–1571) Bartolome Hidalgo de Agüero (1530–1597) “Avisos de cirugía” Sevilla 1584 Dionisio Daza Chacon (1503–1596) Armed forces surgeon Carlos V and Felipe II “Práctica y Teoría de Cirugía”, 1580 Francisco Díaz (1555) Herniotomy with quelotomy in strangulated hernias. 1545 - First infirmary in Lima (Peru)

**Barroco surgery.** Andres de León (1605). Strangulated hernia treated with herniotomy with or without castration. Spanish Royal College of Surgery Cádiz 1748. Pedro Virgili (1699–1776) Barcelona 1764. Real Colegio de San Carlos. Madrid 1787. (Antonio de Gimbernat, (1734–1776) New method to operate femoral hernia”

**XX Century:** Beneficiency hospitals 1945 University hospitals. “Residencias Sanitarias S.O.E”. Technologic developing. Whole people attendance. Specialized Departments. Multidisciplinary Facilities. Operating waiting list was increase by open public offer. High costs not controlled by Public Sanitary System necessary grow up Private practice: Gynecology procedures 1980. DS

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(1997) Hospitals 144 DSU 45 Patients 143.000 Economic Analisis: Reduction inpatient beds (0.7%) 1999 Health Ministry change type of payment : From DS tax to Hospital Complexity United ( Same imput money for inpatient than outpatient) ASECMMA . IAAS Full Member – 11 National Congress and 9 Intercongress meetings from Barcelona 1992. Accreditation Committee: Guidelines of venous thromboembolic prevention in DS (2005), postoperative control in general medicine and postoperative pain in DS (2006), intraoperative control in general anesthesia in DS (2007), Practical recommendations for application face masks in DS (2007), Nurse in DS (2007), Guidelines for DS recommendations of Health Ministry ( 2008), security in surgical patient. Spanish Agency of Quality (2008) Journal of ASECMMA (from 1996) 4 numbers per year. DS is widely established in hole country, both private and public hospitals. Develop teaching programs in DS. Pregraduate (University). Postgraduate: Residents. Teach the teacher

Sustitucion national index in 37 basquet procedures > 66% (2011).

Ambulatorization national index 2007 : 39% . 2010: 43.04%.

Evolution 2004-07: 33.7% > 39% (+5.3%). Evolution 2007–10: 39% > 43.04% (+4.04%).

# Building and Running an Ambulatory Surgery Unit

## *Jan H Eshuis MD, Anaesthesiologist*

Medical Director Day Care Centre, Academic Medical Centre AMC,  
University of Amsterdam, The Netherlands

Starting a Day Surgery Unit (DSU) requires a thorough and meticulous preparation. Before a properly designed, staffed and organized DSU is running a number of issues has to be considered.

Depending on the type of facility (hospital integrated, hospital based but separate, freestanding or office based) this asks either close deliberation and cooperation with hospital authorities and resources or entrepreneurship and private financial involvement.

In every type facility however an initial collaboration between architects / designers, financial and governing personnel, and medical and nursing professionals is a prerequisite.

In the planning of a DSU the following phases could be discerned:

- 1 Initiative or idea-phase
- 2 Set of requirements / specifications
- 3 Designing
- 4 Detailed plan
- 5 Contract out
- 6 Realisation
- 7 After sale

Often the process is retarded because of the need for an official request to the government, containing a justification for the expensive new plans, including proposed timeschedule. This has to be written very accurately. In case of a private initiative financing with insurance companies is time consuming.

A Set of Requirements contains a description of all rooms, their areal surface, their relation to each other, technical,

environmental and electrical specifications. Also a description of all needed materials and their costs, as well as a detailed timeschedule is part of this Set. Of course it is connected to the planned type of care.

Several Task- and Study Groups deal with medical, nursing, financial, organizational, administrative and communication issues and make reports.

Eventually some representatives of these groups are selected to take the lead in the practical management of the DSU-care. Having been involved already during the construction phase with critical attention to building characteristics and details in the perspective of practical patient care they grow to a position as medical and nursing directors of the centre.

In my own department an anesthesiologist, a head nurse and a head operating nurse were asked to act as such.

Anesthesiologists are the medical specialists most appropriate to take the lead in managing a DSU. Of course not without close collaboration with financial and administrative personnel from the hospital they are the most constant present medical doctors in the process of DS. All other specialists are successively users of the DSU, while more often than not anesthesiologists are already involved with selection of patients, scheduling of patients, OR-management in general and have their close contacts with recovery nurses. Besides that they know their surgeons in their best and worst moments. Ideally they should also have good human relations skills.

I will show you just as an example the organization and pictures of my own DS-department as apart hospital-based unit in a large tertiary University Hospital and the way we run it.

# Role of the anesthesiologist in running and organizing a Day Care Center

## *Jan H Eshuis MD, Anaesthesiologist*

Medical Director Day Care Centre, Academic Medical Centre AMC,  
University of Amsterdam, The Netherlands

Day surgery today is largely carried out in one of four organizational models, as follows, with different levels of required management.

- Hospital-based facility – dedicated day-surgery beds in an inpatient facility, common operating theatres, recovery facilities, and medical and nursing personnel with the inpatient department.
- Self-contained unit in hospital – operating theatres and ward dedicated exclusively to day-case surgery and separate from the inpatient areas of the hospital. Nurses and administrative personnel dedicated to the day unit. Many surgical specialties working in the same unit share facilities and nonmedical personnel.
- Free-standing self-contained unit – apart from hospital site. Possibly more cost-effective than self-contained units on hospital sites. Free-standing units have the potential to provide day surgery near to where the patient lives. They need a back-up connection with a hospital.
- Office-based unit – small, self-contained surgical office in surgeon's consulting rooms.

The ideal day surgery service on a hospital site is a self-contained day which is functionally and structurally not mixed with the inpatient unit, having its own operating theatres, ward areas, entrance, reception, staff and management structure. Being a part of the clinical hospital it opens possibilities to perform more major surgery and take profit of more advanced clinical feedback if necessary.

With regard to Leadership: Each DSU should have a Medical Director who has a specific interest in day case surgery and who leads the development of local policies, guidelines, contacts within the hospital, reports with other specialists and Clinical Governance in this area.

A consultant anaesthetist with management experience is ideally suitable to such a post. Not a single medical specialist has a similar constant attendance in the logistic chain of Day Surgery. Not a single medical specialist is interacting with so many other doctors, supportive personnel in the OR, and is used to manage a list as the consultant anaesthesiologist. It is the leadership and management as well as staff members, and not the physical structure or the quality of the equipment, that determine the success of a day-surgery service. Success requires the implementation of policies that extend all of the advantages of day surgery to the patient, the health care professional and the community at large. Leadership is needed at all levels of the day-surgery unit. Leaders create a pathway for hospital administrators, physicians, nurse managers and staff in the coordination of their efforts to develop and maintain a day-surgery programme. The most effective organizational structure for a day-surgery unit involves the creation of a distinct service, led by an experienced manager, who has the day-to-day responsibility for providing efficient, effective and high-quality day-surgery services. Practically this means often a managing principal nurse together with a medical director, ideally an anesthesiologist. A critical success factor seems to be the maintenance of motivated colleagues, a high level of

communication between this managing medical team and the health professionals working in the facility. Day-surgery units tend to achieve maximum efficiency and effectiveness when management and staff are specific to that service, goal-oriented and innovative, enjoy the fast-paced environment and continually striving for perfection. Within this framework the whole team has to have a coherent goal directed spirit. Day surgery requires a multidisciplinary approach. For a successful outcome it requires active participation all day long by all players – managers, nurses, surgeons, anesthesiologists. There is a need for a flexibility, with regular re-evaluation of practice to provide a level of care that reflects individual patient needs.

How much staff is needed? In our Day Care Unit (5-6 OR with a 36 bed ward) we perform annually 8600 procedures in 7000 sessions and 1300 invasive pain treatments. We do this with 2 ward nurses per 1000 procedures and 2 operating assistants per 1000 procedures. Ward nurses also take the PACU (Recovery) on their behalf on rotation. This gives the nurses variety in their work. Some facilities even extend this to multiskilled nurses who work also in the OR as assistant or with the anesthesiologist. Administrative staff (planning and administration) takes 1,5-2 FTE. Because all are dedicated to the process of Day Surgery, there is a strong sense of solidarity, which has to be cultivated by common sessions and courses or periodically relaxing events (team building).

Day Surgery means largely logistics. It is vital that the patient has had a thorough pre-assessment well before, with short lines between the DSU and the outpatient preassessment department, and to communicate well in advance with patients (what is expected, about soberness, time of arrival, accompanying persons, travel, stay at home, medication). This is done by oral and written information and two contacts by phone, one day before and after the procedure.

In order to have efficient lists there should be a clear 4- week's schedule and transparent planning program, accessible for surgical specialisms. On the day of surgery two first patients per OR should be there in due time, prepared and brought to the OR. The second patient can be prepared and provided with an iv in the holding so that the interval time is virtually zero. So you can have high rates of net utilization time of the OR, early starting hours, minimal intervals.

Success in Day Surgery largely depends on the anesthetic technique used. No sedative premedication is advised; only analgesics like acetaminophen and a NSAID. Short acting, rapid cleared agents like Propofol, Sevoflurane, Desflurane, Remifentanyl or other short acting opioids, regional anesthesia like spinal anesthesia and ultrasound guided peripheral nerve blocks should be regular practice. Extra anti PONV treatment is permitted for the sake of successful discharge, as is aggressive analgesic treatment; peroperative Morphine given well before the end of surgery is no problem.

So the role of an anesthesiologist is both managing and professional and is directed to working well ahead during the day in Day Surgery, being vital for the success of Day Surgery practice.

## Opioid-free anaesthesia in day surgery

### Sven Felsby

Denmark

An opioid-free anaesthesia is based upon inhalational agents or remifentanyl. Although the latter is an opioid, the rapid elimination ensures that patients are spared for most opioid side effects. If applied to suitable cases, patients with concurrent diseases can benefit from this approach:

- Obesity
- COPD
- Sleep apnea
- Neuromuscular disorders

Adjuvant drugs needed to achieve this goal include

- NSAID
- Gabapentinoids
- $\alpha$ 2-agonists
- Ketamine
- Lidocaine i.v.

Of these drugs, NSAIDs are the most thoroughly studied.

Operations suited for this type of anaesthesia include transcervical hysteroscopic procedures, endoscopic urology procedures, orthopedic implant removals and operations with supplementary local anaesthesia.

## Day surgery (almost) without preoperative lab testing

### Sven Felsby

Denmark

Preoperative routine testing has been standard for decades, but is not supported by evidence. There is increasing consensus for a selective approach, where tests should only be performed if these are indicated also when no operation was planned.

Suggestions for relevant tests and diagnostic preoperative procedures:

S-creatinine	Suspected progression in renal disease
P-glucose	Insulin-treated diabetes
Hb	Clinical signs of anemia
Coagulation tests	History of coagulation disorder
ECG	Suspected rhythm disorder High risk vascular surgery baseline
Echocardiography	Suspected left ventricular failure Valvular disease
INR	On-site on the day of operation

## History of Surgery and Education of Surgeons

### Inge Glambek

Chief General Surgeon, Haraldsplass Deaconal Hospital, Bergen, Norway

As long as there has been man on earth, there have been surgeons. Surgery means “*work by hands*” and from the day men were able to help each other when sick or injured, the ones doing this may be described as surgeons. The first conditions to be treated were probably injuries like cuts and fractures, and abscesses. And from this the spectre of surgical procedures expanded together with the understanding of diseases.

The first proven surgical treatment of a disease, we know from a skull found in the south of France. This skull may date as far back as 15,000 BC, it has a hole on the top made by instruments, and the hole shows signs of healing. So we know the patient survived. This treatment intended to let out the evil spirits that was believed to cause disease. During history surgical treatment has depended on the understanding of disease. Paralell to this, injuries, burns, cronic wounds,

fractures and so on, mostly have been unchanged through the times.

The education of surgeons and the practice of surgery have had some main challenges. The first challenge was the understanding of the anatomy and function of the body. And as the surgery expanded, the next two challenges were pain and infection. These two enemies of surgeons were not solved until the last part of the 19th century. And before that, the anatomy and physiology were not understand until the 16th/17th century – mostly because cutting in dead bodies were strictly forbidden in most relegions.

I will try to present a short history of main surgical events, and focus on the educational problems in a historical perspective.

# It is not just a tonsillectomy –The child with Obstructive Sleep Apnea

**Raafat S. Hannallah MD**

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Division of Anesthesiology, Children's National Medical Center, Washington DC, USA

For over half a century, pediatric adenotonsillectomy (T&A) has been a common outpatient procedure. The usual indication was recurrent tonsillitis; and the most feared postoperative complications were bleeding and inadequate oral intake resulting in dehydration.

With today's modern surgical techniques, bleeding is uncommon, and if it occurs it is either very early when the child is still in the surgical facility or a week or so later when an overnight stay would not have changed the outcome. What has changed is that most young children undergoing T&A surgery today have some degree of obstructive sleep apnea (OSA). Children with mild OSA whose clinical diagnosis is loud snoring generally do well as outpatients. Children with moderate or severe OSA can have a stormy postoperative course that may include apnea and respiratory arrest and should be observed overnight in a monitored hospital environment. They are not appropriate outpatient candidates.

Diagnosis of severe OSA, and therefore determining that certain children are inappropriate candidates of outpatient T&A is rather complicated. History from an observant mother that a child snores very loud, often becomes apneic

at night and turns blue before waking up in distress is very suggestive. Polysomnography with an Apnea-Hypnea index  $>10$  is diagnostic. However the test is expensive, and not commonly available. Some centers use overnight oximetry as a simpler home-based test to detect children with severe obstruction that leads to severe overnight oxygen desaturation. A third level test of the severity of OSA (suggested by Lerman and Brown) is to use a test dose of a short acting opioid (e.g., fentanyl) to test the child's response. Children who have severe OSA that results in intermittent nocturnal hypoxemia are extremely sensitive to opioids and will become apneic or hypoventilate with even a 5-microgram dose of fentanyl.

Postoperative pain management of these children is also complicated. Even "normal" children with severe OSA are extremely sensitive to opioids. If they are discharged home on what is perceived to be a mild "opioid" analgesic such as codeine, some rapid metabolizers (2% of Hungarian children) may be subjected to an overdose of the morphine metabolite and have severe or fatal respiratory complications at home if a codeine-containing analgesic is prescribed.

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## Patient safety – How Information Technology can support

*Dr Ian Jackson*

UK

Dr Jackson will present an overview of why technology is essential in the provision of safer healthcare. He will explain some of the concepts around the development of safer processes using his own experience in the development and use of a computerised day surgery preoperative assessment system. The reliability (and hence safety) of organisations can be classified on 3 levels:

Level 1 work on training, vigilance and hard work – errors due to not following the system and so push training harder. However there is a ceiling on human performance.

Level 2 design their processes informed by reliability science and research in human factors. Use of decision aids, checklists, constraints making it easy to do the right thing

Level 3 do above but create process that highlights wrong decisions early – make failures visible. They attempt to build in mitigation i.e. systems to prevent harm even when failure occurs.

Most healthcare organisations are at Level 1 though some are now operating at Level 2. However we should strive to be Level 3 where our processes are highly reliable and failures are clearly visible.

## Patient safety – How to assess outcomes UK experience

*Dr Ian Jackson*

UK

Dr Jackson will provide an overview on the initiatives occurring in the UK to assess patient outcomes following surgery. In 2009 the Department of Health introduced a programme to assess Patient Reported Outcome Measures (PROMS). These were introduced for 4 procedures – hip replacement, knee replacement, hernia repair and varicose vein surgery. The Health and Social Care Information Centre is responsible for scoring and publishing of PROMS data and this is freely available online at <http://www.hscic.gov.uk/proms>.

All patients, irrespective of their condition, are asked to complete a common set of questions about their health status and this includes sections about the patient's circumstances, pre-existing conditions and the EQ-5D health questionnaire. Standardised measure of health status developed by the EuroQol Group <http://www.euroqol.org/>.

This looks at patients well being across 5 dimensions:

- Mobility
- Self-care, eg washing and dressing
- Usual activities, eg work, study, housework, family or leisure activities
- Pain/discomfort
- Anxiety/depression.

Other questions asked cover experience of complications after surgery and any history of readmission or further surgery.

The reports provide hospital level data so that hospital outcomes can be benchmarked. Dr Jackson will provide an overview of these and then will briefly outline the plans for patient involvement in the Revalidation process for UK doctors.

Košorok P, Gacic Štrotl M.

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Internal rectal prolapse is a serious problem in patients with constipation. One of the surgical methods is Delorme's intraanal mucosectomy. Thirty female patients with rectal prolapse (of all degrees) were treated; the procedure was done in epidural anesthesia. After the operation they were under observation for 5–9 hours and discharged. We followed them up for 1–24 months after surgery. We used questionnaire that included data on post-operative pain, bowel movements and associated pain, rectal bleeding, urination and other possible complications. Pain subsided in two weeks after the surgery. Four patients developed fecal incontinence. In 14 cases post-operative stenosis was found, additional surgical treatment was needed only in 2 of the cases. We noted one serious complication – anaerobic infection. Delorme's procedure is an effective surgical method for the treatment of internal rectal prolapse. It can be safely used in a day hospital setting.

**Key words:** constipation, day hospital, internal rectal prolapse, Delorme's mucosectomy.

## Patients and methods

In our day surgery unit, we treated thirty patients aged from 40 to 88 (the mean age 68.6 years) with various degrees of rectal prolapse. In four patients total prolapse was observed, other patients had internal prolapse, which was still held back by anal sphincter. The main problem reported was the feeling of incomplete evacuation, or the constipation with the feeling that the bowel emptying was not complete.

The operation was always done in epidural anesthesia and gynecological position. Anoskop was inserted and fixed with individual stitches on the skin around the anus. Mucosa was separated from the muscle layer after having infiltrated submucosal saline solution with the dilution of adrenaline. Mucous layer was peeling gradually by electrocautery and with utmost care to ensure hemostasis. Mucosectomy started 2 cm from anocutaneous line up to the depth of 10–12 cm.

Muscle layer was plicated with Vicryl stitches, so that mucosa was sewn end to end at the same time. In some cases, the mucosal peeling was more difficult because of previous anorectal interventions (rubber band ligations). Scarred adhesions following the interventions made it difficult to dissect the submucosal layer. Sometimes the orientation was difficult because of varying degrees of prolapse, particularly in patients with bigger rectocele. We followed the patients from one to twenty-four months.

Patients remained in the post-operative care for 5–9 hours. We carefully followed their healing at home (questionnaire, which contains information about pain, discharge, pain and bleeding after discharge, urination and some other possible complications). The pain was often irrelevant. Painkillers such as Nalgesin in combination with paracetamol were sufficient. After the first week the pain became tolerable, except in some patients after defecation. Mostly the pain

disappeared in two weeks after surgery. Four patients with total prolapse and patulous anus were incontinent after the surgery. The situation has slowly improved. In one patient (age 88 years), we made additional subcutaneous Tiersch sling. Total Wexner score in incontinent patients was 18, but it fell in six weeks. In two patients we observed an acceptable value (under 10) even after three months. One of those patients with serious incontinence had a history of severe laceration of birth. Endoanal ultrasound showed a defect of external anal sphincter. Since the problems were tolerable, we didn't decide to performe anooplasty.

In fourteen cases, we observed a greater or lesser stenosis, as described by other authors. The use of dilators was sufficient for the treatment, only in two cases we had to do incision or dilatation stenosis under anesthesia.

Among our patients only one serious complication occurred: anaerobic infection developed in patient with concomitant sarcoidosis. Medical checking before the operation suggested that intervention can be performed. Later it also turned out that the patient developed plasmocytoma (myeloma).

## Conclusions

Delorme procedure is safe and effective surgical method for the treatment for total or internal rectal prolapse. The method can be used in a day hospital for patients who have a well-managed and other diseases even at a relatively advanced age. Special attention is needed for those patients who have had any kind of interventions on the anorectal mucosa (rubber band ligations, sclerotherapy), where adhesions and scaring of sub mucosa prevents an easy mucosal peeling. Attention is also needed in patients with bigger rectocele, since in these cases the surgeon may be misled by the uneven prolapse. It is supposed that in day surgery this method is most appropriate. There is no need or danger of opening the abdominal cavity. In all other procedures (STARR, Altmeier) the peritoneal layer (e.g. Douglas pouch) is disconnected. Those patients obviously need post-operative supervision in the hospital setting.

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## Technical Advances in Proctological Day Surgery Procedures

**Krivokapic Z., Petrovic J.**

Department for Coloproctology, 1st Surgical clinic, Clinical Centre of Serbia

It has been a while since proctology proved itself as a suitable branch of surgery for ambulatory procedures. Apart from giving more hospital space for patients with more complex colorectal pathology, it showed that proctology patients find more comfortable to spend the recovery period at their home. This convenience has been analyzed in many western countries and proved the advantage of this approach.

As we should also consider the safety of our patients, we must minimize the complications by prevention. One day surgery

facility must be a separate department of a surgical clinic, in order to prevent any further damage and have a ready team in case anything goes wrong. The staff must be organized during 24 hours, so that the patient can have an easy access in a case of emergency and must be followed during a certain period according to the procedure performed. The proper selection and preparation of patients is crucial. Apart from that, good organization and modern equipment are something that would lead to the efficiency of the department and safety of our patients and costs less than any complications.

## Extended indications for spinal day surgery based on 1500 operations

**L. Lazar**

Degenerative spinal disorders belong to the most widespread human diseases: practically 80% of human population requires medical consultation once in life.

There are controversies both in conservative and surgical treatment. High incidence of surgical candidates resulted significant progress in operative techniques and instruments, but there are no doubt about priority of suggested minimal invasive solutions with excellent anesthesiological cooperation.

As a result of microsurgery the indications of day surgery-with advised prolongation to 36 hours hospitalization-could be extended even for multisegmental, severe cases and those, who required fixation due to proven instability.

Experiences of 1500 operations will be demonstrated with minimal rate of complications, very good results of social recovery, based on seven years follow up.

## How Is Day Surgery Financially Promoted all over the World?

**Paulo Lemos MD**

Clinical Chief of Anaesthesiology at Hospital Geral Santo António, Porto, Portugal

Financing day surgery activity is critical for the development of day surgery programmes all over the world. Economic disincentives can play an important role and create effective barriers to the development of this surgical regimen. Block funding of hospitals unrelated to the number of patients treated and the number and type of procedures undertaken, which still persists to a greater or lesser extent in some countries today, as well as low reimbursement for procedures undertaken on a day basis when compared to inpatient treatment, which leads to financial losses for the day surgery (DS) setting, both slow the change towards DS.

A questionnaire on economical issues was sent to several countries of the world, especially, to those countries that are members of the International Association for Ambulatory Surgery (IAAS).

The questionnaire asked for general information about financing national health services (NHS), costs of current needs, costs of labour and health staff, and the reimbursement system for a list of common surgical procedures undertaken on a day surgery basis, whatever the surgical regimen used.

Eighteen out of twenty nine countries (62.1%) answered the questionnaire, representing four continents: America (Brazil and Peru), Asia (India), Europe (Belgium, Denmark, Finland, France, Germany, Hungary, Italy, Norway, Portugal, Romania, Spain, Sweden, The Netherlands, and United Kingdom – UK), and Oceania (Australia). However, Australia and Belgium

only presented results related to cost of living and healthcare, because the reimbursement rates negotiated between payers and caregivers are not public, and for that reason they were not included in the project.

There was a great heterogeneity in the wealth and the economic potential of the countries involved. However, usually the countries do maintain their relative position for different purposes: those that are wealthier have increased costs, but do reimburse better the surgical activity than those countries that are poorer.

More importantly, those countries that have a strong financial incentive (e.g., Denmark, United Kingdom, etc) achieve a high percentage of day surgery activity compared to other countries where there is no financial incentive at all towards this surgical regimen, as in Germany. Countries like Portugal, France, Spain or Hungary are using this strategy of financial incentives to promote more and more DS. There are significant potential savings among other advantages when NHS maximise day surgery practice through financial incentives, especially the opportunity to reduce overall costs with surgical practice when transferring surgery from the inpatient to the DS setting, such as the UK reimbursement policy in recent years.

\* paper published in: Lemos P. Financing Day Surgery – an International Perspective. *Ambulatory Surgery Journal*, 2012; 18(2);29-38.

## Quality Issues and Indicators for Day Surgery

### **Paulo Lemos MD**

Clinical Chief of Anaesthesiology at Hospital Geral Santo António, Porto, Portugal

There is growing recognition that a capacity to evaluate and report on quality is a critical building block for system wide improvement of health care delivery and patient outcomes. Health care organisations are frequently being requested to provide data on many aspects of their activity. Clinical indicators results provide valuable information in assessing the performance of health services. This focus on performance management has emerged through increased competition, a more recent focus on quality improvement and safety and an increase demand for evidence of performance.

Except for the work developed by the Australian Council on Healthcare Standards (ACHS) since 1989, clinical indicators are not yet worldwide routine tools for the evaluation of quality performance.

The popularity of ambulatory surgery (AS) is continuously increasing because of the associated clinical, economic and social advantages. The low rate of adverse events or complications during the intra-operative or immediate post-operative period further justifies the rapid growth of AS. Nevertheless, these surgical programmes should be continuously monitored in order to guarantee that high quality services are provided for the population. Clinical indicators, and especially outcomes measures, should therefore

be implemented to ensure a safe, effective and efficiency environment in our day surgery programmes.

The identification of universally acceptable clinical indicators of outcome for quality assurance in AS is one of the most important goals of the International Association for Ambulatory Surgery (IAAS) and its materialization is one of the major achievements in ensuring those high standards of care that we persuade for AS.

IAAS developed recently a European project financed by the European Commission aimed to identify and validate a set of indicators and to develop the information systems on DS in Europe. This project proposes also to analyse DS data and health indicators both at international organization and member states level.

Being considered the best option for over 80% of elective surgical operations, DS represents an innovative tool for health system reform in Europe and in the World, contributing to several common objectives such as improving quality of care, controlling cost, enhancing efficiency and possibly equity. Only with feasible information systems will be possible to gather data and implement a set of valid indicators in order to monitor quality in DS programmes.

## Risk Assessment and Routines for Day Surgery

### **Paulo Lemos MD**

Clinical Chief of Anaesthesiology at Hospital Geral Santo António, Porto, Portugal

In 1999, the Medicine Institute of US published the book "To Err Is Human", after a study developed by the Harvard University in several US hospitals on death related to err in healthcare. The numbers published shocked governments, Institutions, Media, and Health Professionals, by showing and quantifying the huge dimension of this problem, and open a door for a major awareness for issues related to patient safety.

Those numbers were and are, an alarming reference for governments and health professional, that led all to seek support and knowledge in other scientific fields in order to minimize those events and their consequences. Industry, Aviation and Nuclear Engineering are among others fine examples of imported practices to improve patient safety in healthcare.

Clinical governance is a process by which healthcare organizations commit themselves in quality continuous improvement of their services, involving all members in a teamwork effort. Risk management is one of the pillars of

clinical governance, and many initiatives has been undertaken by several Institutions (European Union, WHO, ...) in order to increase patient safety (SImpatIE – safety improvement for patients in Europe, EUNetPaS – European Union Network for Patient Safety, etc).

WHO itself beyond all known campaigns, like the clean hands and the surgical check-list, launched in 2009 the curriculum guide for medical schools to make sure that issues related to patient safety would be thought with the same weight and importance as the rest of the medical teaching.

Several studies report values of 10% of adverse events, 40% of them were considered avoidable.

The National Quality Forum (NQF) non profit American company defined in 2008 what would be a NEVER EVENT, that is, an event that should never occurred in healthcare. Never events can occur and do occur in our institutions, unless we develop safe procedures to avoid them...

# Management of patients with diabetes in day surgery units

## Dr Anna Lipp

Clinical lead for day surgery and pre-operative assessment, Norfolk and Norwich University Hospital, Norwich, UK

Diabetes is a common condition affecting 5% of UK population and increasing in incidence rapidly. Approximately 10% of patients presenting for surgery have diabetes and many surgical procedures will be suitable for day surgery management. However managing patients with diabetes through day surgery units is not yet routine in all areas of UK; 25% of Day surgery units stated that they do not manage patients with type 1 diabetes in 2012 [1]. National Guidelines [2] have been developed in UK to guide peri-operative management of patients with diabetes and their use can facilitate management of patients in day surgery units [3].

Standard day surgery management provides ideal care for a patient with diabetes as it enables patients to manage their own diabetes and return to their usual routine more quickly than if they are an in-patient. Patients with diabetes state that they do not like to be admitted to hospital [4] and there are organisational and financial advantages to day surgery management.

- Pre-operative assessment is an opportunity to assess diabetic control (HbA1C < 69 mmol/mol) and if necessary refer for expert advice prior to surgery
- Pre-operative planning ensures patient has clear, written instructions explaining which drugs or insulin doses should be given on the day of surgery
- Adjusting usual diabetes treatment appropriately avoids hypo or hyperglycaemia, aiming for blood sugar between 5 and 10 mmol/l

- List scheduling ensures patient is first on the operating list and fasting period minimised
- Choice of anaesthetic technique reduces risk of nausea and vomiting
- Early oral intake minimises fasting period and enables patient to resume usual diabetes treatment
- Rapid recovery enables patient to manage their own diabetes as soon as possible
- Discharge instructions should include advice about managing hypo or hyperglycaemia, nausea and vomiting and contact number for diabetes advice.

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# Optimisation of pre-operative assessment services

## Dr Anna Lipp

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Optimising pre-operative assessment services should always be our aim but the optimal service may be different depending on whether it is based on the needs of the patients, the medical staff or the hospital administration. I will consider the following issues:

- priorities for a pre-assessment service for patients, medical staff and hospital administration
- different models for pre-operative assessment
- timing of pre-operative assessments
- location of pre-operative assessments
- staffing for pre-operative assessments
- measuring effectiveness of pre-operative assessment

# Laparoscopic Inguinal Hernia Repair in Day Surgery

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## Introduction

Inguinal hernia repair is the most frequently performed operation in general surgery. The improvement and widespread use of the tension-free mesh contributed to the better quality of outcomes on hernia surgery.

Laparoscopic hernia repairs have several advantages (lower incidence of wound infection, haematoma formation, chronic pain/numbness and an earlier return to normal daily activities or work) over the conventional open methods and permitted the benefits of minimal invasive surgery techniques and its applicability in Day Surgery Units.

Inguinal hernia surgery as day surgery is as safe and effective as that in an inpatient setting, and more cost-effective.

## Methods

We present the experience of Unidade de Cirurgia Ambulatório (UCA) – Hospital Santo António – Centro Hospitalar do Porto, in laparoscopic hernia repair. Data from all patients undergoing laparoscopic hernia repair were collected from January 2007 to December 2012.

## Results

During this period 167 patients underwent laparoscopic hernia repair, in a total of 283 hernias (131 patients with bilateral hernia), from which 15,8% were recurrent hernias. The distribution of the laparoscopic treatment was: TEP – 90%, TAPP - 10% in which was also performed in 6 patients (2%) a laparoscopic cholecistectomy.

In the post operative period, 8% of the patients registered some kind of minor complication and all of them left hospital until 7 p.m. of the same day of surgery, after it were guaranteed the discharge criteria from UCA (PADSS). All patients were evaluated in 1st week, 1st month and 6th month.

The medium needs of analgesia was 2 days, the morbidity rate was 9,8% and recurrence was 3% (8 cases). The medium recovery for normal daily activities was 4 days and for labour activities was 10 days. The results for the telephone inquiry after one year of post operative didn't registered major complications, all patients classified its pain as absent or medium and 98% of them were satisfied with the surgical intervention.

## Conclusion

Laparoscopic hernia repair as Day Surgery, is a procedure that must be considered in the surgical indications of the different Ambulatory Surgical Units in Portugal, since there are created the best conditions for its applicability.

**Kathryn E. McGoldrick MD**

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The elderly are a rapidly expanding demographic subset who require surgery much more commonly than their younger counterparts. Moreover, perioperative morbidity and mortality rates, especially in the presence of coexisting disease, remain higher than in younger patients. With advanced age, the functional capacity of organs declines leading to reduced reserve and ability to tolerate stress. Euvolemia, for example, is critical for geriatric patients owing to their increased reliance on the Frank-Starling mechanism for cardiac output. The elderly are also highly dependent on atrial “kick,” yet they are predisposed to postoperative atrial fibrillation, which can cause hypotension, embolic complications, and stroke. With advancing age, renal and hepatic function decline. It is not surprising, therefore, that age alters both the pharmacokinetic and pharmacodynamic aspects of anesthetic management. Many of the apparent pharmacologic vagaries of senior citizens can be explained by the fact that they have increased body fat and reduced total body water, as well as decreased muscle mass, hepatic blood flow, and renal function. Hence, hydrophilic drugs will yield a higher plasma concentration than in younger patients; lipid-soluble drugs will have a greater volume of distribution, thereby retarding their elimination. Although specific age-related changes in albumin have not been identified, albumin levels are reduced in malnutrition, which is prevalent in the elderly, so drugs that are highly protein bound may be affected. The reduced hepatic blood flow characteristic of the elderly has important implications for high-extraction drugs such as fentanyl, sufentanil, meperidine, morphine sulfate, ketamine, and lidocaine. Thus, appropriate reductions in drug dosage must be made. The admonition to “Start low and go slow” is sage advice for geriatric anesthesiologists. In addition to paying meticulous attention to proper selection and titration of drugs, anesthesiologists must be cognizant of the synergistic, rather than merely additive, effects of drugs in the elderly.

The many challenges associated with anesthetizing an elderly outpatient are not confined to general anesthesia. Regional anesthesia, despite its many benefits, also has its own unique potential pitfalls. Although peripheral nerve blocks are appealing, especially in terms of postoperative pain control, they may be associated with an enhanced risk of persistent numbness, palsies, and other complications. Central neuraxial blockade is associated with a greater incidence and degree of hypotension and bradycardia than in younger patients, and postoperative urinary retention can be problematic.

Adequate postoperative analgesia is vitally important because pain has been implicated as a contributing factor in the development of postoperative delirium and other complications in the elderly. Unfortunately, our senior citizens are vulnerable to postoperative delirium (POD) and postoperative cognitive dysfunction (POCD), probably related in part to the diminution in functional reserve characteristic of the aged brain. Elderly patients with pre-existing mild cognitive impairment (MCI) may be especially vulnerable to developing these complications.<sup>8-10</sup> With regard to POD, it typically develops after a few days in the hospital, and is relatively common after urgent repair of a hip fracture and relatively rare after cataract surgery. The etiologies of POD and POCD appear to be multifactorial, and they represent areas when considerably more research is needed.

With appropriate attention to detail, the outpatient setting offers many potential advantages for geriatric patients requiring elective surgery. These include financial savings to the health care system and reduced risk of nosocomial infections. Importantly, in view of the difficulty that many senior citizens have in adjusting to unfamiliar environments, it is likely that the opportunity for elderly patients to recover in their familiar home environment with minimal disruption of their usual routine offers therapeutic advantages.

# The History of Ambulatory Anesthesia

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The history of ambulatory anesthesia is as old as the history of anesthesia. Outpatient surgery and attempts at anesthesia go back to mankind's ancient attempts to treat illness invasively. Drawings from 3500 BCE depict skull trephination and amputations conducted in primitive surroundings long before hospitals existed. The ancients believed that application of physical forces to the body in several ways produced effective pain relief for surgery. In addition, opium, cannabis, and mandragora were popular in former times. Some ancient drugs could be inhaled when they were volatilized by placing them on a fire or otherwise heating them. When we "fast forward" several millennia, we know that Crawford Long, Horace Wells, and William T.G. Morton all administered anesthesia in office settings in the 1840s. James Nicoll in Scotland and Ralph M. Waters in the United States gave outpatient anesthesia in the early years of the 20th century. However, ambulatory anesthesia grew little in the United States until the 1960s, increasing thereafter to the point where it represented 34% of all surgical cases in the mid-1980s, and 75% to 80% of all procedures today.

Medical and economic forces combined to translocate patients from hospitals to freestanding ambulatory centers and offices. Concern about increased health care expenditures led to changes in the Medicare program that facilitated the expansion of ambulatory surgery. In the early 1980s, Medicare began to reimburse for care in ambulatory surgery centers, and adopted a prospective payment system based on diagnostic-related groups for hospital inpatient care. These adjustments generated financial incentives for hospitals to shift less complex surgery to outpatient settings. The medical advances enabling this translocation included improvements in anesthesia allowing patients to regain consciousness more quickly, with fewer complications, and the development of better anti-emetics, analgesics, and techniques for relief of postoperative pain. In addition, minimally invasive and noninvasive procedures, such as laparoscopy, laser surgery, and endoscopy, were developed and are being used with increasing regularity, thereby facilitating the movement from inpatient to ambulatory venues. Increasingly, hospitals are caring for only the most complex patients having highly invasive, complicated surgery.

## Overview of Emergency Day Surgery

**Doug McWhinnie**

UK

Emergency surgery performed on a day case basis follows three distinct pathways:

1. True emergency day surgery : The patient is admitted as an emergency to the emergency ward, receives their operation and is discharged on the same day. This pathway is uncommon but can occur fortuitously when the admission is early in the day and there is no queue for the emergency theatre. Providing the patient is suffering a minor or moderate condition without evidence of sepsis, it is possible to discharge the patient the same day. Examples of conditions suitable for this pathway include laparoscopic appendicectomy and drainage of minor abscesses.
2. Day surgery on the emergency pathway : Strictly speaking, this pathway constitutes a day case from operation to discharge rather than admission to discharge. The patient is admitted as an emergency but operation is delayed either because there is a queue for theatre or there has been a wait for diagnostics. The patient undergoes their operation and is discharged on the same day. This pathway is possible for minor emergencies, laparoscopic appendicectomy and even laparoscopic cholecystectomy.
3. Planned emergency day surgery : Minor emergency procedures often experience a variable and unpredictable wait in the queue for emergency theatre, with ongoing pain and uncertainty for both patient and relatives. Long periods of fasting can be unrewarded as more urgent cases are prioritised ahead of the minor emergency. This situation unnecessarily prolongs the preoperative stay with the associated costs of extending the length of stay. One possible solution involves adding the minor emergency to a day case list. If the patient is an urgent rather than a true emergency, they may be sent home overnight, after appropriate assessment with a planned slot on the next day's day case list. This removes much of the pathway uncertainty for the patient and streamlines the pathway for the hospital. Procedures suitable for this emergency day case pathway include abscesses, irreducible hernias (provided they are not strangulated), open reduction and internal fixation in trauma cases, K-wiring, arthroscopy, and ERPC's.

All three pathways offer a better quality experience for the patient and reduce costs for the hospital by shortening the length of stay.

**Doug McWhinnie**

UK

The operating department is one of the high cost areas of any hospital and its efficiency is therefore closely scrutinised. However, operating departments' performance is dependent on events throughout the entire hospital patient pathway and is dictated by the least efficient component of that process. In the redesign of the pathway, resource is best allocated to the most inefficient component of the pathway. This, in turn will highlight the next rate limiting step and so on until all components have been redesigned . . .and the process starts again!

The rate limiting steps identified include :

- Patient criteria
- Preassessment
- Patient admission
- Operating department scheduling and efficiency
- Discharge process

Strict patient criteria for day surgery eligibility such as BMI and ASA status require constant updating. Old criteria will unnecessarily restrict the number of patients suitable for day surgery. Preassessment of all elective surgical patients should be based on a philosophy of exclusion rather than inclusion for day surgery ie all patients are considered to be day cases unless excluded on a medical or social basis. Patient admission should be streamlined with as much documentation as possible prepared. Ambulatory patients staying overnight should be admitted via a 'same-day admissions unit' to shorten the preoperative stay. Operating departments require appropriate scheduling to enable adequate recovery time for individual procedures to maximise day case throughput. Effective and appropriate discharge requires agreement on protocol-based discharge to avoid delayed discharge.

Redesign is an ongoing process. New procedures are constantly being added to the day surgery menu through advances in surgery and anaesthesia. The updating of our pathways ensures our patients receive the best quality experience and the best possible cost.

## The history of laparoscopy and laparoscopic surgery

**Gamal Eldin Mohamed MD**

In 1901, D.D. Ott, a famous gynecologist from Russia, performed the first laparoscopic examination, which he called Ventroscopy. He used a front head lamp and a speculum through an incision in the vagina (colpotomy) to detect the abdominal organs. The real father of laparoscopy was Georg Kelling, who gave a lecture at the Meeting of German Medical and Physiologic Association, which was held on 23 September 1901, Hamburg, Germany. He called his procedure Coelioscopy, and he gave an account about his laparoscopic examinations that he performed on dogs, and he showed his work in practical as well at the same Meeting. He was the first one who applied the technique of how to create the pneumoperitoneum.

Hans Christian Jacobeus from Stockholm, Sweden (1910), was the first who performed laparoscopy in a human, and his procedure was called laparoscopy. Beside this, in his manuscript he also argued the necessity of applying such an endoscopic technique in the pleural and pericardial spaces.

Roger Korbsch Jacobeus (1921 – 22) made the further developments in the equipment, and he used a telescope instead of the cystoscope, and also a special pneumoperitoneum needle. This was followed by the work of H. Kalk (1929), who routinely used the laparoscopic technique for diagnosis, and performed the first liver biopsy. In 1933 C. Fervers was the first to report about the laparoscopic adhesiolysis, and that was the beginning of interventional laparoscopic, which was followed by the famous invention of the Hungarian Veres János, the Veres Needle . . .

## Outpatient laparoscopic cholecystectomy, is it a safe and feasible procedure?

**Gamal Eldin Mohamed MD**

Laparoscopic cholecystectomy (LC) has now become the standard treatment for symptomatic gallstone disease. Advances in technology made it possible to go forward and refine the equipment of LC, and by now the single-incision Laparoscopic surgery (SILS) for cholecystectomy is a well established procedure and represents the next step in developing the concept of LC as an out patient procedure.

Primary aim of day care LC is to provide convenience to the patients by avoiding hospitalisation, but patient safety is the ultimate priority. Outpatient LC can be a safe day surgery

procedure if some safeguards are put in mind, like the suitable patient selection, correct preoperative evaluation and treatment of discovered common bile duct stones before the operation, safe operative techniques and early postoperative rehabilitation and home care are cautiously carried out.

Although in some countries like the United States and Canada the concept of day surgery LC has already been widely accepted since 1990, the treatment of symptomatic cholelithiasis on an outpatient basis is still infrequent in so many European countries.

## Anesthesia modality in day surgery – does the choice make any difference?

**Jorgen Nordentoft MD**

Master of Management, Senior consultant. Hvidovre Hospital, Copenhagen, Denmark

It is of great interest if the choice of anesthesia method has significant effect on medical outcome, patient safety and satisfaction, logistics and economy.

The lecture will shortly try to highlight and conclude on these entities.

The general safety according to survival and morbidity in daycare is documented. The focus in scientific papers on different entities in relation to comparing different outcomes in anesthesia is mentioned.

The pro and con of some of the different anaesthetic methods in day care and a comparison of primary inhalational and total intravenous methods are presented shortly.

An operating-list from a private ENT-clinic is presented.

The problem with compliance between international recommendations and daily practical approach is exemplified.

Some general conclusions and recommendations are presented.

## Organising and building new DS unit in Denmark (according to high recommendations also by IAAS)

**Jorgen Nordentoft MD**

Master of Management, Senior consultant. Hvidovre Hospital, Copenhagen, Denmark

Short presentation of the status of day-surgery in Denmark in medical, political and organizational aspects. Day-surgery is due to increasing focus in Denmark. The combination of improved volume in treatment with lesser use of resources and with high safety is a perfect concept in times of shortage and economic crisis.

Then focusing on the new day-care department in Hvidovre, Copenhagen opened in November 2012.

A photo-round-trip in the department and finally presentation of some management, medical and logistic features – hopefully inspiring.

## A Healthcare Partnership Going Global: Accreditation and Quality

### **John Olsen MD**

Chair, AAAHC International Accreditation Association for Ambulatory Health Care, Skokie, IL USA

Accreditation is a voluntary process in which organizations undergo independent third-party evaluation of patient care delivery and the environment of care. International accreditation assesses care at the provider and patient level, assuring and promoting compliance with internationally-recognized standards of excellence, professionalism and patient

safety in ambulatory settings. The panelist will also discuss the benefits of accreditation, the types of organizations that may wish to seek accreditation, what attributes to look for in seeking an accreditor and what to expect if you choose to undergo accreditation.

## Ambulatory approach in proctology

### **Jelena Petrovic, Velimir Markovic, Ivan Dimitrijevic, Zoran Krivokapic**

III department, I Surgical Clinic, Clinical Centre of Serbia

During the period 2009/2011 at the 3rd department of The First Surgical Clinic at Clinical Centre of Serbia we have performed an impressive number of interventions as office day procedures. Our department deals with coloproctology and was not designed in ambulatory surgery manner. Revision

of our results and experiences of our colleagues from other countries has lead us to an idea to organize a separate department that would deal with specific, well defined, proctologic conditions that would be safe to conduct in ambulatory conditions.

## Centers for Disease Control: USA Regulations for Infection Prevention

### **Beverly K. Philip MD**

Professor of Anaesthesia, Harvard Medical School  
Founding Director, Day Surgery Unit, Brigham and Women's Hospital, Boston, MA, USA

The USA Centers for Disease Control and Prevention (CDC) works with numerous partners to conduct a range of activities to improve injection safety and prevent transmission of blood borne pathogens and other infectious diseases. Below are links to some of CDC's current safety activities and publications.

- Promotion of Safe Injection Practices
- Development of Infection Control Guidelines
- Improved Basic Infection Control through Collaborations with CMS
- Improved Safety through Collaborations with FDA
- Improved Healthcare Personnel Protections from Sharps Injuries
- Responding to Outbreaks in Healthcare Settings
- Identification and Promotion of Best Practices for Patient Notification
- Efforts to Improve Injection Safety through Collaborations with Industry
- Improved Capacity in State Health Departments
- Expansion of the HHS Action Plan to Prevent HAIs in Outpatient Healthcare Settings
- Public Health Collaboration Models for Infection Prevention in Licensed Healthcare Settings: A Focus on Ambulatory Surgical Centers (ASCs) – October 20, 2010
- Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care
- Complete *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings 2007*

## **Beverly K. Philip MD**

Professor of Anaesthesia, Harvard Medical School

Founding Director, Day Surgery Unit, Brigham and Women's Hospital, Boston, MA, USA

### **Hospital Outpatient Quality Reporting (OQR) Program**

The Hospital Outpatient Quality Reporting (OQR) Program is a quality data reporting program implemented by the Centers for Medicare & Medicaid Services (CMS) for outpatient hospital services. Under this program, hospitals report data using standardized measures of care to receive the full annual update to their Outpatient Prospective Payment System (OPPS) payment rate, effective for payments beginning in 2009. To meet Hospital OQR requirements and receive the full Annual Payment Update under the OPPS, hospitals must submit data for 23 outpatient quality measures; four of them relate to outpatient surgery.

- Timing of antibiotic prophylaxis
- Antibiotic selection
- Safe surgery checklist use
- Volume of selected outpatient surgical procedures

Participating hospitals agree that they will allow CMS to publicly report data for the quality measures.

### **Ambulatory Surgical Centers Quality Reporting (ASCQR) Program**

The Ambulatory Surgical Center Quality Reporting (ASCQR) Program promotes higher quality, more efficient health care for Medicare beneficiaries through quality of care measurement, starting in September 2012. To meet Ambulatory Surgical Center Quality Reporting program requirements and receive the full Annual Payment Update, ASCs must submit data for seven quality measures.

- Burn prior to discharge
- Fall within the facility
- Wrong site /side /patient /procedure /implant event
- Hospital transfer or hospital admission upon discharge from the facility
- Timing of antibiotic prophylaxis
- Safe surgery checklist use
- Volume of selected surgical procedures

ASCs that do not meet the reporting requirements, including allowing the data to be publicly available, may incur a 2.0% reduction to any annual increase provided under the revised ASC payment system for that year.

<http://www.qualitynet.org/>

<http://www.cms.gov> >Medicare>Quality Initiatives

## The Preventable Catastrophe – Intraop Fires

**James H Philip ME(E), MD, CCE**

Professor of Anaesthesia, Harvard Medical School  
Anesthesiologist, Brigham and Women's Hospital, Boston, MA, USA

Intraoperative fires are a catastrophe and most are preventable. In USA Operating Rooms there are approximately 600 fires per year.

The "Fire Triangle" states the factors necessary for a fire to occur. They **fuel**, **heat**, and **oxygen** and arise from the following. Fuel is usually skin prep solution or surgical drapes, under the control of the Nurse. **Heat** is from cautery (electrical, thermal, plasma) or LASER, under the control of the surgeon or other operator. **Oxygen** is from delivered breathing gases, under the control of the anesthesia care provider.

Each member of the team and the team as a whole are collectively responsible to reduce the chance of a fire. Often great teamwork is required.

**Nurses** select and use drapes and prep solutions that are safest. If alcohol-based prep solutions are used they must be allowed to dry before surgery begins.

**Surgeons and other operators** can use therapeutic techniques that result in less heat at the surgical site. This is especially necessary when surgery is close to the face, commonly specified as T-5 or above.

**Anesthesia care providers** can restrict their use of oxygen to supplement air. Most safety and administrative authorities recommend reducing the oxygen fraction in gases delivered ( $F_D$ ) near the operating environment to 30% ( $F_D < 30\%$ ). Anesthesiologists must recognize that the flow of 100% oxygen to the patient's nose or face via nasal prongs or loose mask results in the possibility of 100% oxygen in the surgical field. This is often accompanied by inspired oxygen fraction ( $F_I O_2$ ) of less than 30%. Thus, 30% oxygen delivered with an effective system can provide as much benefit as 100% by nasal prongs or loose mask. A  $F_D$  of 30% is easily accomplished using the Anesthesia Machine as a blender. Thirty percent oxygen can then be delivered in high flow using a short length of standard circuit hose and a close-fitting face mask. If this mask has a swivel connector and two sampling gas ports then surgery can be performed on either side of the neck or chest while inspired and expired gases can be monitored. In situations where this is not possible, gas delivery via tracheal tube or possibly LMA may be necessary.

# Job satisfaction, stress and burnout in anaesthesia: relevant topics for anaesthesiologists and healthcare managers

**Pablo Rama-Maceiras**

Department of Anaesthesiology and Perioperative Medicine. C.H.U A Coruña

Job satisfaction is defined as an employee's positive reaction towards his/her work. Changes in health policies, which are seen as a threat to the autonomy of health workers, are associated with an increase in work related stress, a decrease in satisfaction levels, and an increase in burnout among physicians, all of them leading to impairment in the quality and safety of care.

All the different theories about job satisfaction and stress at work can be summarized in two big groups. Those suggesting the relevance of personal-employee related factors, and those suggesting the relevance of job characteristics.

Physicians working in inadequate environments (demanding jobs, steep hierarchical organizations, larger sized teams and jobs with few opportunities for reward) are more prone to job dissatisfaction. We can add overcommitted employees with high expectations, and lack of social support networks. Other important risk factors are interference with the home-work balance, poor control over workload, lack of resources and lower levels of experience.

The work environment of anaesthesiologists includes stressful areas such as the operating theatre, the intensive care unit, and the emergency setting. These areas have been linked to higher levels of stress and lower satisfaction. Besides, we frequently lack the feedback of patients and even our colleagues despite usually working within a team. Nevertheless, job satisfaction and burnout rates in anaesthesia are similar to other specialties.

The most relevant factors in job satisfaction are worker autonomy, control of the working environment, recognition of our value, professional relationships, leadership and

organisational justice. Whilst these can be manipulated for good or otherwise, there are additional, less malleable factors such as personality, expectations and motivation of the employee, that play a part.

Within organisations there needs to be the will to evaluate employees' satisfaction, to improve their work environment and to develop strategies and coping mechanisms for professional stress. Personal wellness should also be nurtured, since a satisfactory work-life balance and an adequate social support network might act as a buffer for dissatisfaction and burnout. Improvement in satisfaction might create a positive work climate that would benefit the safety of our patients.

Summarizing, the promotion of job satisfaction could help our organisations. We should try to achieve job satisfaction by attention to three areas: improving job characteristics, managing stress and developing personal wellness.

Job characteristics can be improved creating an adequate environment that fosters communication, increasing participation and autonomy of the employees, promoting control over work to avoid overload, and trying to recognize the achievements of the workers, making them feel secure, needed and appreciated.

Employees should not moan continually about every shortcoming, and even if they believe that the system is never going to change, they should try to make change themselves. Employees' sense of wellbeing can be achieved by learning how to manage stress better, how to balance personal and professional goals, how to develop personal wellness strategies or simply finding reward in the gratitude of patients.

# Ambulatory Spine Neurosurgery: Treatment in day surgery of lumbar and cervical disc pathology

Rui Rangel MD

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## Purpose

The Neurosurgery as recently incorporated in the ambulatory surgery some pathologies and procedures that in the past were done only with hospital admission. Recent advances in anaesthesia and surgical techniques, as well as observation of patients progress after the procedure, has led to the believe that some neurosurgical procedures could be done as outpatient or one day hospital patient, without compromise patients satisfaction, outcome or complications. Techniques like microsurgery, new medical devices with minimally invasive surgery are now being use, turned spine surgery less aggressive and so with rapid recovery. Also the fantastic evolution of modern neuroradiology with better images, like computerized axial tomography and magnetic resonance consent spinnable surgery programmes and better selection of the patients. The appropriate patient selection is as important as surgical technique in ensuring good outcome.

The central aim of this work is to prove that this ambulatory spine surgery is safe for the patient and the gold-standard for spine surgery.

## Method

The author revised all spine cases operated in is ambulatory center : 1) lumbar herniated disk ( 146 cases) - lumbar microdiscectomy is an effective and time-tested neurosurgical procedure at outpatient surgery. Different reports say that microdiscectomy, that remains the gold-standard procedure for herniated disc surgery, can be performed safely and effectively as an outpatient procedure in the majority of patients. Coexisting lumbar spinal stenosis or osteophytes spurs may complicate the procedure and so this pathology must be avoided for outpatient but may well be done as one day surgery. 2) cervical herniated disk ( 34 cases ; 52 levels)-outpatient surgical treatment of cervical spine disease can be safely provided in selected patients. The outcomes are similar to the inpatient surgical management of these individuals. Meticulous microsurgical technique is essential to avoid any complication. The anterolateral cervical approach proven to be the most efficacious. Fusion of disc space were done in all cases with PEEK cages ("Medcomtech-Alleutian"). The author recommend a one day stay in hospital in these cases. 3) recess lumbar syndrome, lumbar stenosis and synovial cysts - the surgical technique is similar of that of microdiscectomy and even simpler because we only decompress nerve route in the recess. In very degenerative spine we most do it in one day surgery basis because of multilevel disease and so more time surgery consumption. The lumbar synovial cysts are a rare cause of lumbar radiculopathy and back pain. Surgical treatment is remove the cyst and decompress the root with the use of the microscope. 4) Lumbar spondylolistesis and instability (3 cases) - recently is possible and safe to do posterior lumbar fixation in one day ambulatory surgery. With minimally invasive approach utilizing percutaneous screw placement and the ability to distract throughout the procedure, is possible to do it in one day bases. 5) vertebroplasty for spinal compression fractures - this is an ambulatory procedure and very good in cases of osteoporosis fractures. 6) intradiscal thermo ablation and chemonucleolysis for disk back pain

## Results

The results observed in this series are very good. There was no complication related with the procedures done in this way.

## Conclusion

We recommend in selective patients and pathologies to preform spine surgery in clinics built and prepare for ambulatory surgery.

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# The History of Surgery in the Mirror of Art

**Jacky Reydelet**

Germany

Beginning in the caves our prehistoric colleagues, in antic Persia and South America also ubiquitous all over the world the current surgery is leaning on the experience our predecessors and is building the future our art.

Its development has the roots in a time between 4500–2000 years before Christ a period called neolithicum (the new Stone Age). The primitive documentation of the first steps of the procedures is rare. Whatever the prehistoric “operations” were required for any reason cannot understand. If they were made for medical or religious reasons, is speculation, and remains controversial.

Anyway it is certain that our surgical way was since the origin accompanied by reports issued by the artists and writers at the time also the currently. Not rare was the confrontation between theurgists, religions and atheists and, incited by the thirst and the basic curiosity of the human, scholarship a barrier to the

evolution in this way. Also the researches and the motion have suffered by this situation.

The transmission of the knowledge about anatomy and surgical techniques was a long time residing exclusively in painting and sculpture. It is an excellent attendance and the iconography gives us a good appreciation of the changing through the centuries. Not only this information but also the amelioration of the communication with e.g. the printing, the progress in the medical technology, the improvement from the antic to the current surgical devices and medical items, show us the refinement in our surgical art.

Considering dig’s documents also the current situation gives us the lecture in the mirror of the art the opportunity to follow the evolution our own surgical art through the age from the origin till our current times.

# Protection of SSI in DS in Germany, a long effort

**Jacky Reydelet**

Germany

The aim of all hygiene measures in medicine is the prevention of nosocomial infections in patients and care providers.

“Nosokomien” were called to the premises in the health resorts in the ancient Greece, in which patients using a Hypnotherapy were treated. According to CDC definition, postoperative infections as nosocomial are mapped to. They are called here surgical site infections (SSI).

The nosocomial infections are extremely serious both medical as well as human, business and economy. Statistically approximately 1.4 million people suffer from constant infections that have pulled to them in a hospital, so WHO. 5%-10% of all patients of who are admitted in the hospital, get a hospital-acquired infection. Cost in the United States are summed by 4.5 to 5.7 billion \$ per year.

The European Centre for disease prevention and control (ECDC) estimates in its reports (at least 2011) three million hospital-acquired infections with 50,000 attributable deaths per year in Europe.

In surgery, the incidence of postoperative wound infection rate (SSI) is directly proportional with length of preoperative stay in the hospital. Therefore, the efforts to reduce the downtime and demand the outpatient surgery, are not only economic but also infection epidemiologisch of great importance. The development of fast-track surgery goes in the same direction.

The efforts of the German Ministry of Health to reduce the incidence of SSI (according to § 137a SGBV – Inter-sectoral quality assurance in health care) through the prevention of nosocomial infection get in 2011 – 2012 with the project “prevention against nosocomial infections: Surgical Site Infections” would be concretised. The definition of indicators has arrived at the final stage. A statement about the current situation serves the aim of the lecture.

## Development & Expansion Day Surgery in India

### **Dr.T. Naresh Row**

President, The Indian Association of Day Surgery

Since the inception of The Indian Association of Day Surgery in 2003, Day Care Surgery, as it is popularly known in India, has come a long way.

Briefly, Day Surgery is now slowly getting organized. It is now a recognized form of delivering surgical care in India. The Indian Association of Day Surgery, through its National Conferences, Journal and News letter, have been spreading the good word on Day Surgery.

Insurance Companies have now created separate category for Day Surgery cases funding. Mind you, only about 5% of Indian patients have medical insurance cover. Out-of-pocket expenses for health is as high as 85%.

Now, we see several Day Surgery Centers across several cities, still the numbers are minimal.

We are now looking at Accreditation of these centers to create a uniform or minimum standards. We would like to call it 'ABCD' – Accreditation Board for Certification of DSC. Protocols recommended by The Association, will be used and SOP's will

be created, implemented by ISO 9001-2008 standards and / or an associate organization of QCI (Quality Council of India). The emphasis will be in sensitization of Day Care Centers towards importance of quality healthcare services; active involvement of their staff for improving the quality of services for the patient; review, develop and implement, policies and procedures for an effective Quality Management System.

Category of Minimum, Optimum and Excellent, have been recommended, pertaining to the basic achievable requirements in these centers. They involve standards for OT, Wards, Record keeping, Infection control and Staff, to name a few. For example, Staff: a well mannered and well trained staff will get you a 'Minimum' tag; along with this, if they are trained in Protocols that are to be followed, you go to 'Optimum' category; and Training in bio-medical waste management and Nursing audit/yearly evaluation, will fetch you an 'Excellent' category.

We have put the wheels in motion, we will get there.

## Quality issues for DS in India

### **Dr.T. Naresh Row**

President, The Indian Association of Day Surgery

Health care in India is majorly managed by smaller hospitals or Nursing homes; this has been the tradition so far. It would not be difficult to state that at least 50% of population prefers to go to these smaller set-ups for various reasons.

Most importantly, the individual attention by the treating physician, and cost effectiveness, makes it more attractive. As a result, these smaller hospitals, especially in a large city with space crunch, spring up in residential buildings. Though there have always been rules and regulations governing these treatment centers, they have never been strictly implemented or followed. This, leads to quality issues at different stages. For example, the rules clearly states that, the hospital should be on the ground or first floor of a commercial building or with permission from the Resident society. These buildings do not have elevators large enough to carry a wheel chair or stretcher. Which is another rule, but, they are bent or overlooked.

Then there are quality issues regarding the staff, most have very minimal qualification or none at all and have been trained over the years by the doctor. Thus, lack basic comprehension. This is cost cutting at a cost.

Communication, level of literacy, or lack of it, makes it very difficult in getting across to the patient and their relatives, leading to breakdown in following instructions, again causing concerns in quality.

We have recommended protocols and standards, necessary in train the staff (who handles these patients) in the local language, who then become proficient in explaining to the patients. Instructions are written down, explained and handed over to patients on discharge.

## Peri and postoperative analgesia in Ambulatory Surgery

Sarmiento P; Fonseca C; Marques M; Marcos A; Lemos P; Vieira V

Control of Acute Postoperative Pain is one of the most important aspects to getting quality results in the field of outpatient surgery. Despite all the technological and pharmacological advances, pain, remains the postoperative symptom most often referred to, being the first cause of readmission after ambulatory surgery, and may also represent an obstacle to the expansion of the CA when you equate the inclusion of surgical procedures more complex.

The management of postoperative pain is important because it relieves suffering, allows earlier mobilization, return to daily activities and employment, shortened hospital stay and reduced hospital costs. Also increases patient satisfaction and credibility of the population to the institution.

Pain management in the perioperative setting refers to actions before, during and after a procedure that are intended to reduce or eliminate postoperative pain before discharge.

To achieve this goal is important to have: institutional policies and procedures for providing perioperative pain management, preoperative evaluation and preparation of the patient (the pain control plan should be included in the anesthetic preoperative evaluation) and an aggressive multimodal perioperative analgesic regimen that provides effective pain relief, has minimal side-effects, is intrinsically safe, and can be managed by the patient and their family members away from the a hospital or Surgical Center.

*Multimodal analgesia* is an approach to preventing postoperative pain that involves administering a combination of opioid and nonopioid analgesics that act at different sites within the central and peripheral nervous systems in an effort to improve pain control while eliminating opioid-related side-effect

The strategy for postoperative analgesia involves a multidisciplinary team approach, surgeons, anesthetists and nurses, so the education to all staff involved in this area needs to be enhanced to improve outcome and patients satisfaction.

The authors present the Portuguese Recommendation, that result of joint work of 17 Portuguese Anesthesiologists, from hospitals with different realities in the practice of ambulatory surgery. They result from subsequent analysis performed and detailed discussion of the subject, always using the latest scientific evidence published.

The conclusions of the various meetings were later released and again discussed in meetings most comprehensive, particularly in Iberian Congress of APCA (Portuguese Association of Ambulatory Surgery).

The aim of this work is to make these recommendations an application tool simple and practical to use and tailored to each Unit Outpatient Surgery, in order to increase the efficiency of this scheme surgical and patient satisfaction.

**Keywords:** postoperative acute pain, multimodal analgesia, perioperative analgesia, ambulatory surgery, recommendations.

## Modern Education Techniques and Simulation Training

Marlies P. Schijven MD PhD MHSc

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'Simulation in Healthcare' may be defined as a setting of dynamic and tailored training strategies allowing health professionals to grow and become better professionals. Quite simply, it relates to gaining professional proficiency whilst avoiding harm to patients in the process of doing so.

Hospitals have to choose strategically in terms of selecting modern education solutions for training their health care professionals. It is known that simulation training for medical professionals using simulation and 'Serious Gaming' saves time and shortens learning curves. But how to choose?. There are simulation systems and settings for just about every health care professional available, from developing manual skill to complex communication skills, in a variety of low-end to

more costly high-end solutions. Serious gaming, web-based education and Mhealth applications are 'booming', but how to control the quality and validity of these developments, and how to develop a solution that is actually used?.

In the near future, expansion and maturation of all these applications and settings is to be expected, as technology develops rapidly and public interest like. It is our professional duty to embed these educational methods validly and wisely.

This presentation provides an overview of gaining proficiency through virtual reality simulation and serious gaming solutions for health care professionals. Latest developments are outlined and visually supported.

## Algorithms for risk assessment of PONV

### Dr Mark Skues

Consultant Anaesthetist, Countess of Chester Hospital NHS Foundation Trust, UK  
President, British Association of Day Surgery

This presentation will review the current literature on methods of assessing the risk of postoperative nausea and vomiting in ambulatory surgical care. Current guidelines for management of emetic sequelae emphasise the value of risk stratification [1] and a number of assessment algorithms based upon patient and surgical demographics exist for this process. The accuracy of such algorithms and their applicability to ambulatory surgery compared with inpatient care has been a subject of some debate in recent years, and a recent metaanalysis [2] has helped to elucidate relevant predictive risk factors. Similarly, a specific scoring system evaluating the risk of post discharge nausea and vomiting after ambulatory care was published in 2012 [3]. While such systems appear to have been validated in a number of countries across the world,

their applicability and accuracy do appear to be more limited in relation to typical day surgery practice in the United Kingdom, suggesting that perhaps either our anaesthetic management is different, or British ambulatory patients are more 'resilient' than their international comparators. It would seem that there may be value in evaluating such published algorithms in local patient populations before adopting them as a presumed accurate system for evaluation of emetic risk.

### References

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## Compressive K-wire technique for the treatment of phalanx and metacarpal fractures

### Dr. Miklós Szokoly

Semmelweis University Department of Orthopaedics, Budapest, Hungary

The method and experience with compressive K-wire technique is reported. The percutaneous surgical technique is developed in order to achieve a safe and accurate solution for the treatment of small tubular bone fractures, such as metacarpal fractures, mallet fractures and distal phalangeal fractures. Review of 1.386 surgical interventions performed between 1990 and 2007 with this method on 1.316 patients

is presented. Mean age of the patients was 42 years, the mean follow up time was 14,5 years. This cost-effective percutaneous surgical technique prevents such complications as wire migration and wound infection. On the other hand it makes possible to avoid any splinting and makes early mobilisation possible. Key-words: phalanx fixation, K-wire technique, hand fracture, metacarpal injuries

## Development and expansion of AS in Europe

### Claus Toftgaard

Denmark

In Europe we think we are the navel of the world. This also includes Day Surgery: Nicolls from Scotland as the father of DS, first the European and then from 2006 the International Association of Ambulatory Surgery, EU projects for DS, European presidents of IAAS, and now repeating congresses in Europe. However, it was US and Canada who were the first real active actors in DS (even before IAAS was founded) and European countries were not very active in DS until mid nineties.

It was England and Belgium who were active in the beginning closely followed by the Scandinavian countries, the Netherlands, and parts of Italy. Since then Spain, Portugal, and partly Germany has been interested in developing DS, while the East European countries have been slower in the development. Now Hungary has speeded up and is a lighthouse for the other East European countries.

What has been the driver – and barriers – for the different countries? In the beginning it seems to be prime movers among doctors who could see the advantages in DS with inspiration from first of all US. Later it was hospital managers in countries where hospitals have a great part of self determination who could see the financial advantages and therefore closed surgical beds in order to move patients to DS – best if there were also a dedicated staff in dedicated rooms.

Now focus in the most developed countries is to change all surgery to DS – with the possibility to hospitalize patients with problems that cannot be undertaken I DS, and in the less developed countries to increase the activity towards the level of the most developed.

Examples of the activity in Europe will be presented.

## Is the longest pathway, the best? Surgical point of view

### **Dr. Luc van Outryve**

AZ St. Lucas-Volkskliniek, Ghent, Belgium

The surgical clinical pathway for day cases starts at the surgeons office. He is the decisionmaker and he is responsible for the good result of the surgery. He has to discuss with the patient about the pro's and the con's of the operation. When he decides that surgery is rather urgent (to do within a few days for example), and he decides the patient is fit enough to

undergo this surgery, he must have the possibility to plan an operation without preoperative anaesthesia consult and with only a routine preoperative check up. This in accordance with the anaesthesiologists and with the operating theatre planner (for postponing another already planned operation).

## New and old drugs and equipment in ambulatory anaesthesia – General vs Regional/local anaesthesia

### **Vicente Vieira**

Anesthesiologist, Braga Hospital, Portugal

Anesthesiology is an everyday changing science. Scientific knowledge is constantly bringing new evidence that sometimes radically shifts our professional attitudes. How frequently do we see myths from the past being questioned and sometimes completely abolished from our clinical practice?

Recent advances in pharmacology have made the drugs used both in general and regional anaesthesia “faster, cleaner and softer”.

Medical training with airway and imaging devices has turned the common Anesthesiologist into a highly differentiated and skilled technician capable of performing diagnostic and therapeutical medical acts formerly limited to only a few.

Ongoing evolution in surgical technique towards minimally invasive surgery has also put anesthesiologists under the pressure to keep up with such strategies.

Older, more obese patients, with more and more comorbidities has also played an important role in the

development of different drugs and equipment for adequate monitoring and safe delivery of anaesthesia either general or regional.

New LMAs and supraglottic devices, drugs like remifentanyl, sugammadex, or like the newest benzodiazepine remimazolam and etomidate analogs surely play a key role in the way we provide general anaesthesia today and in the future.

Ultrasound guided nerve blocks have certainly changed our way of performing regional anaesthesia making it safer but also more effective and efficient, not only in the operating room, but at home as well, when post-operative pain is an important issue to the overall success of the surgical procedure.

Choosing between General and Regional anaesthesia can, sometimes be a very difficult choice but we should start looking at this from a different angle: Why not both whenever possible?

# Portuguese guidelines for PONV prophylaxis and treatment in Ambulatory Surgery

**Vicente Vieira**

Anesthesiologist, Braga Hospital, Portugal

The main purpose of these guidelines was to give Portuguese Anesthesiologists a valuable tool to decreasing the incidence of post-operative nausea and vomiting in the ambulatory setting and increasing patients' satisfaction, thus making ambulatory surgery an even more efficient regimen.

These guidelines were published in January 2012 and are the final result of a National Consensus Meeting that took place in Lisbon in February 2011 and got together 32 portuguese Anesthesiologists that worked preferentially in Ambulatory surgery Units form all over the coutry. Together they studied "SAMBA's Guidelines for profilaxis and treatment of post-operative náusea and vomiting in ambulatory surgery", reviewed all the recent literature and decided which changes should be made based on recent scientific findings and locally available resources. The conclusions were then published online on the portuguese website ([www.apca.pt.com](http://www.apca.pt.com)) and all the portuguese medical community had the chance to coment

and add suggestions to the final algorithms of decision that were presented at the National Congresses of Portuguese Society of Anesthesiologists and Portuguese Association of Ambulatory Surgery.

These guidelines were then included in the portuguese Quality Assessment Programme (SINAS) and acted as an important item in the rating score of all the portuguese ambulatory surgery Units, thus acted as an important stimulus to the institution of PONV prophylaxis protocols in every ambulatory surgery programme.

We are now running a National Inquiry on the incidence of PONV, that we hope will demonstrate a reduction in PONV as well as in the number of unpredicted overnight stays at the hospital.

**Keywords:** nausea, vomiting, prophylaxis, ambulatory surgery, guidelines.

## Outpatient gastroplasty for morbid obesity: our 65 first patients

**Abdesslam Bouassria, Nada Helmy, Claude Polliand, Antonio Valenti, Christophe Barrat, Corine Vons**

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Laparoscopic adjustable gastric banding (LAGB) is less effective for morbid obesity than sleeve gastrectomy or gastric bypass, but it is a less invasive and safe treatment. Its realization as an outpatient surgery has only been done in USA. The aim of the study was to report our experience with this procedure in France.

### Material and methods

In November 2007, an ambulatory unit was created in our university hospital Jean Verdier (AP-HP). Ambulatory surgery was proposing to all eligible obese patients destined to have a gastroplasty. Specific contra-indications for outpatient surgery were: 1-sleep apnea, 2-massive morbid obesity (BMI >50) and 3- diabetes.

We retrospectively evaluated percentage of outpatients and its evolution with time, rate of unplanned admissions and their causes, and time taking.

### Results

Between November 207 and December 2012, 123 gastric gastroplasty for morbid obesity were performed in our hospital. Sixty five patients (53 %) were eligible this procedure in an outpatient setting. They were 9 men and 56

women. Mean age was 31 years (18-62 years). Causes for ineligibility were medical in 28 cases (48 %) and due to sleep apnea mostly (75 %). In 26 cases surgeon did not propose ambulatory surgery

Rate of eligibility increased from 7.7 % in 2007 to 82.9 % in 2009.

There were 7 unplanned admissions (10, 9 %). Causes of unplanned admissions were: 1- postoperative pain (n=4; 57 %); 2- nausea and vomiting (n=2; 14 %); 3- diabetes (n=1; 14 %).

Unplanned admissions were subsequently reduced recently.

Mean duration of stay in the ambulatory unit was 650 minutes. Optimal duration of stay was 366 minutes. We are actually working to reduce the length of stay in hospital to optimal duration.

### Conclusion

Gastric banding for the treatment of obesity can be safely performed in an outpatient setting. Surgeon conviction is necessary to increase rate of eligibility. Control of pain, nausea and vomiting decrease rate of unplanned admissions. Duration of stay can be limited to 366 minutes.

# Perioperative guidelines in the Netherlands. The great mystery: Why don't we do what we should do?

*André P. Wolff MD, PhD, Anesthesiologist*  
Netherlands

The most frequent hospital care associated injury to patients is related to the surgical patients. The perioperative mortality in Europe in elective surgery varies from 1.2 – 21.5% with a mean of 4%. More than 40% is supposed to be preventable. Incidents leading to patient harm are in 70-80% associated with human factors and in more than 20% to organisational aspects. Therefore redesign of the perioperative process with standardisation where possible, the use of 'stopmoments' and checklists, improved handovers and communication, can reduce avoidable patient harm and improve expediency. Furthermore bad teamwork is associated with a 5-fold higher risk for incidents and patient harm.

The Dutch Healthcare Inspectorate requested the Dutch healthcare professionals to develop and implement guidelines to improve the perioperative process and reduce risk.

All relevant medical and other stakeholder participated and agreed to implement the guidelines.

Compliance to perioperative guidelines improves probably quality and safety of care, but the expected effect from literature of the intervention is only 4-17%. Implementation meets barriers under individual professionals, healthcare teams, organisations, patients and in the wider environment. In this presentation barriers and facilitators from literature and implementation related studies, will be discussed

## Ambulatory surgery of abdominal wall hernias

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### **Aim**

The aim of this prospective study is to present the results of ambulatory surgery for abdominal wall hernias.

### **Material and methods**

This prospective study included 988 patients with abdominal wall hernias operated on in ambulatory settings between January 2003-January 2013. There were 801 patients with inguinal hernias (690 with unilateral, 111 with bilateral, 91 with recurrent after tension/tension-free repairs), 187 with ventral/incisional hernias (72 with umbilical, 34 with epigastric, 11 with spigelian, 28 with small incisional and 18 with combined umbilical, epigastric, spigelian or incisional hernias), and 24 with combined unilateral/bilateral inguinal and ventral/incisional hernias. Inguinal hernias were managed by Lichtenstein technique and ventral/incisional hernias by »the open preperitoneal flat mesh technique« under local

anesthesia. Excluding criteria were: patients of ASA IV score, patients with hernial defect larger than 9 cm, and patients with incarcerated or strangulated hernia.

Results The mean stay at day surgery unit was 2.5 (2-8) hours. During a mean follow-up of 41 months (1-108) 23(2,33%) hematoma, 6 (0,61%) seroma, 9 (0,91%) wound infection, 15(1,52%) pain and 6 (0,61%) recurrence occurred. There were 6 reoperations due to complications.

### **Conclusion**

Lichtenstein technique for inguinal and "the open preperitoneal flat mesh technique" for ventral/incisional hernias performed under local anesthesia provides good results in ambulatory settings. Simultaneous mesh repair of abdominal wall hernias at different sites is feasible, safe and effective as a "day case".

## **Ambulatory Surgery is the official clinical journal for the International Association for Ambulatory Surgery.**

Ambulatory Surgery provides a multidisciplinary international forum for all health care professionals involved in day care surgery. The editors welcome reviews, original articles, case reports, short communications and letters relating to the practice and management of ambulatory surgery. Topics covered include basic and clinical research, surgery, anaesthesia, nursing; administrative issues, facility development, management, policy issues, reimbursement; perioperative care, patient and procedure selection, discharge criteria, home care. The journal also publishes book reviews and a calendar of forthcoming events.

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All papers should be submitted by e-mail as a Word document to one of the Editors-in-Chief. Anaesthetic papers should be sent to **Beverly K. Philip** and surgical papers to **Doug McWhinnie**. Nursing, management and general papers may be sent to either Editor.

Electronic submissions should be accompanied, on a separate page, by a declaration naming the paper and its authors, that the paper has not been published or submitted for consideration for publication elsewhere. The same declaration signed by all the authors must also be posted to the appropriate Editor-in-Chief.

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