

# AMBULATORY SURGERY

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



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# AMBULATORY SURGERY

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**133**



# IAAS 11th Congress on Ambulatory Surgery

## Oral Free Papers

### Surgery

#### NEW 3D MESH FOR INGUINAL HERNIA – PRELIMINARY RESULTS OF AN INTERNATIONAL MULTICENTER CLINICAL TRIAL

*Juan Marín; Ana Maria Matos Azevedo; José Antonio Fatás Cabeza; Cristóbal Zaragoza-Fernández; Francis Navarro*

**Introduction:** We present the preliminary results after the first year of follow up of a new dynamic 3D mesh for inguinal hernioplasty.

**Methods:** The results of the first 100 male patients of the ongoing clinical trial were analysed. Primary parameters included duration of implantation, perioperative complications, foreign body sensation, and post operative pain. Secondary parameters included complications identified on the first year of follow-up, hernia recurrence, activity and pain during sexual intercourse, and global patient satisfaction. Follow-up assessment was completed at 1, 6 and 12 months postoperatively.

**Results:** Patients' had an average of 58.6 years old, and presented a median BMI index of 26.8. 98% of implantations were performed in ambulatory, with more than 50% under local or regional anesthesia. Average total operative time was  $38 \pm 7$  minutes, with  $8.7 \pm 4.2$  minutes dedicated to implantation. Over 90% of assessed patients resumed daily activity in under 5 days.

Concerning postoperative pain, 63% of the patients declared no oral intake of analgesics. No foreign body sensation were reported during the first year of follow-up. All sexually active patients reported absence of pain or restrictive conditions. Concerning patients' satisfaction level, at 1 month follow-up 78% were very satisfied, 19% were satisfied and 3% were dissatisfied. At 6 months reported satisfaction levels increased to 82% very satisfied, 17% satisfied and 1% dissatisfied. At 1 year postoperatively, increased satisfaction was observed with 89% of assessed patients declaring to be very satisfied and the remaining 11% satisfied.

**Conclusions:** The mesh is easy to deploy, and adequately reconstructs the anatomy of the inguinal region without any fixation methods. The reduced demand for postoperative analgesia, the lack of enduring foreign body sensation, and the early resume of daily and sexual normal activity indicate that its use presents superior benefits for patients.

#### OUTPATIENT NECK ENDOCRINE SURGERY: INITIAL EXPERIENCE IN A THIRD LEVEL HOSPITAL

*Cesar Pablo Ramírez Plaza; Fernando Docobo Durántez; Mercedes Rubio Manzanares-Dorado; Daniel Aparicio Sánchez; Juan Manuel Martos Martínez; Francisco Javier Padillo Ruiz*

**Introduction:** the concept of short stay and outpatient thyroidectomy was first introduced in the 1990s and a growing number of papers showed its feasibility. Nonetheless, its development has not been universally accepted neither been so progressive as the major ambulatory surgery (MAS) itself during the last three decades. In this abstract we report the initial experience in a third level Hospital in Spain into a well implemented MAS programme.

**Methods:** all the patients recorded in our database of MAS who underwent partial thyroidectomy or thyroglossal duct cyst (TDC) resection from November 2012 to November 2014 were included in this retrospective, descriptive and observational study. Outcomes of interest included surgical and medical complications, reoperation, mortality, and readmission.

**Results:** in total, 31 patients were identified to have undergone an outpatient surgery for a thyroid node (partial thyroidectomy,  $n=26$ ) or TDC (complete resection by Sistrunk's procedure,  $n=5$ ). Overall 30-day mortality was nule with only 3 patients experiencing any perioperative minor morbidity (one superficial surgical site infection, one subcutaneous fat hematoma not needing drainage and one transient dysphonia). No patient needed readmission within 30 days of the operation.

**Conclusions:** Our initial experience performing neck endocrine surgery in an outpatient basis is satisfactory and supports its feasibility. As we will go on progressing, we will considere expanding the inclusion criteria for MAS to selected cases of total thyroidectomy in order th make specific Endocrine Surgery Units more efficient.

## OUTPATIENT LAPAROSCOPIC ADRENALECTOMY

César Pablo Ramírez Plaza; Francisco Javier Moreno Ruiz; Ignacio Machado Romero

**Introduction:** Laparoscopic surgery has become the "gold standard" approach for treatment of surgical adrenal benign diseases. An increasing technical refinement and a growing number of papers reporting positive experiences in the laparoscopic treatment of different abdominal diseases without hospital admission (specially gallbladder and gastro-esophageal reflux) has led us to consider its application in adrenalectomy.

**Methods:** An observational, descriptive and retrospective study of a personal series of 33 patients undergoing laparoscopic adrenalectomy in a outpatient basis during a 6 years period is presented. Demographics, operative time, indications for surgery, morbidity, need of hospital admission and time to complete recovery has been the main outcomes analyzed.

**Results:** Mean age was 47.3 years (median 48.6; range 28-65) and 19 were female sex (57.5%). No patients required conversion to laparotomy and the mean duration of surgery was 59 minutes. Indications for surgery were adrenal incidentaloma and primary hyperaldosteronism (42.4% for each one). Eight patients slept at home the day of the surgery and the 25 remaining spent the night in the hospital and discharged early the morning after with less than 23 hours of hospital stay. No patients needed readmission and only 4 (12.1%) had minor morbidity. Eight patients had analgesic pills for more than one week and, finally, 23 patients returned to their working activities in less than 2 weeks with only the 4 patients who experienced any complication having a delay of more than 4 weeks to incorporate to their normal lives.

**Conclusions:** When strict selection criteria and a proper protocol are applied, laparoscopic adrenalectomy is a safe procedure which can be performed in a major ambulatory surgery program.

## OUTPATIENT LAPAROSCOPIC ADRENALECTOMY: IS IT REALLY FEASIBLE?

César Pablo Ramírez Plaza; Francisco Javier Moreno Ruiz; Ignacio Machado Romero

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# SLOFT(SUBMUCOSAL LIGATION OF FISTULA TRACT) A NEW MINIMALLY INVASIVE DAY CARE TREATMENT OF FISTULA IN ANO.

*Dilip Pathak*

Various ways are mentioned for the treatment of Fistula in ano like Fistulotomy, seton, Fistula plug, VAAFT and LIFT.

SLOFT is modified LIFT. It is ligation of the tract in a submucous plane near the internal opening under low spinal or regional block anaesthesia. Gentle probing is done and endo anal incision made near the internal opening where the tract is superficial and easily found. It is ligated and transacted. The external tract is cored out. Patient is admitted as day care. He goes to job in 2-3 days.

Our recurrence rate is less than 10%, without incontinence.

This method is less painful than fistulotomy or seton, more economical than Plug, easier and more reproducible than LIFT with all the advantages of ligation of the tract like LIFT.

## AMBULATORY LAPAROSCOPIC CHOLECYSTECTOMY. INITIAL RESULTS IN THE MUNICIPAL HOSPITAL OF BADALONA (SPAIN)

*Francisco Martínez Ródenas; José Enrique Moreno Solórzano; Raquel Hernández Borlán; Gemma Torres Soberano; Raquel Mansilla Folgado; José Ramón Llopart López*

**Introduction:** Ambulatory Laparoscopic Cholecystectomy (ALC) project was implemented in our hospital in April 2013 with the aim of improving healthcare quality and adapt our surgical services to the new sanitary standards. The initial results are analysed.

**Material and Methods:** Prospective, observational and descriptive study of patients with symptomatic cholelithiasis and preoperative selection criteria of ALC that accepted to be included in the project. We studied the reasons for refusal to participate, the causes of intra-operative and post-operative exclusion, the morbidity and the level of patient satisfaction. The period of study finished in October 2014.

**Results:** Fifty patients were selected. Ten of them refused to participate (20%). The lack of family support was the main reason for not accepting. Forty patients were included initially in the study, but four of them were excluded for not fulfilling intra-operative selection criteria and one for failing to comply with post-operative. Thus, 35 patients (87,5%) met pre, intra and post-operative criteria. Of these 35 patients, 34 (97,1%) did not have any incidence at home and one patient (2.9%) was readmitted for pain. The average length of hospital stay was 360 min. Postoperative pain was the main adverse effect in the first patients and it was solved changing the analgesic guideline ( $p < 0.01$ ). The results of opinion surveys among the patients showed a high degree of satisfaction.

**Conclusions:** Providing comprehensive preoperative information is essential to obtain the acceptance of the ALC.

- In our series, 87.5% of patients with criteria for ALC are discharged on the same day of surgery.
- The ALC is safe if pre, intra and post-operative selection criteria are met strictly.
- Prescribing an effective analgesic guideline and achieving its fulfilment is essential for optimal results.
- The degree of patient satisfaction has been high.

## DIABETIC FOOT AS DAY CASE

*Naresh T. Row*

**Aim:** Diabetic foot as Day Case is a possibility in selected cases.

**Introduction:** Presenting a retrospective analysis of 65 Diabetic foot cases. Invariably lands up in a limb amputation. To save a limb, it requires time, money and patience.

**Material:** Data collected over 7 years, from May 2007 to April 2014, were analysed retrospectively. Procedures carried out at One Day Surgery Centre, a Multi-speciality Day Surgery Centre in Mumbai. Total number of cases were 197. Patients of diabetic gangrene of different stages and patients requiring secondary suturing and skin grafting were tabulated. 75 patients required hospitalisation and 122 were treated as Day Case. Out of which, 16 patients required secondary suturing, 13 patients underwent skin grafting, Finger/Toe Amputation was done for 5 patients and below knee amputation was performed on 5 patient.

**Method:** Associated sequel to DM like severe paraesthesia and compromised vascularity, works to our advantage in these patient. The Centre works on Manuals and Standard Operative created specifically for Day Surgery. Complications were explained to the patient along with post procedure instructions. Regular follow up was recommended.

**Conclusion:** No readmissions were observed so far in these patient, some of them with almost 1 year of follow-up, have been free from any further progression of disease. With the little data that we have, we now can say that, with proper case selection, we can treat Diabetic foot as Day Case.

## EXCISION AND PRIMARY CLOSURE OF PILONIDAL SINUS AS DAY CASE

*Naresh T. Row*

Pilonidal Sinus, as the name suggests, is a 'Nest of Hair', found in the natal cleft (Sacroccocygeal region) of young adults. A total of 56 patients underwent Excision and Primary closure as Day Case. Data analyzed is over a period of 7 years, from May, 2007 to April 2014, at One Day Surgery Center, Mumbai, India. Protocols laid down by The Indian Association of Day Surgery were used in case selection and discharge. There was a male predominance in our study, with a recurrence rate of 0.62%. We conclude that, this procedure is simple and safe to perform as Day Care Surgery.



## IS DAY STAY LAPAROSCOPIC CHOLECYSTECTOMY FEASIBLE IN A PROVINCIAL HOSPITAL? RESULTS AT THE HOSPITAL UNIVERSITARI DE VIC, SPAIN

*Maria Saladich Cubero; Jordi De Cózar Duch; Xavier Quer Valls; Josep Roca Closa; Jordi Serrat Puyol; Enric De Caralt Mestres*

**Introduction:** The first ambulatory laparoscopic cholecystectomy was performed in 1990, but it was not implemented uniformly in Spain due to the surgeon's fear of complications such as bleeding and bile leakage. Nowadays, there is enough evidence of the safety and effectiveness of this procedure to start implementation at Regional Hospitals.

**Methods:** The objective is to convert cholecystectomy without bile duct exploration (for symptomatic non-complicated cholelithiasis) in an ambulatory procedure. For its completion a multidisciplinary team was arranged, a roadmap was designed and inclusion and exclusion criteria were defined. A prospective register from July 2013 to January 2015 was conducted. The analyzed data included both intraoperative and postoperative variables, as well as the perceived quality through customer satisfaction surveys.

**Results:** Among the 225 cholecystectomies carried out in this period, 71 were selected for ambulatory surgery. Of these 71, 62 were discharged successfully. That ranks the replacement rate of our group in the 31.5%. 9 patients required unplanned overnight admission (1 case for intraoperative cholecystitis, 2 due to poor selection, 6 to control postoperative pain). There was 1 readmission for pain/vomiting control.

No serious complications were presented in the form of bleeding or injury to the bile duct in these series. Nor wound complications at 30 days postoperative had been encountered. Satisfaction surveys were performed in 90% of cases; 80% did not suffer pain; 85% would recommend the method for future interventions; 80% thought the patient information pre-post intervention was very good.

**Conclusions:** The ambulatory laparoscopic cholecystectomy is a safe and reliable procedure that can be implemented in a Provincial Hospital by following strict standards. It requires a multidisciplinary team, actions based on evidence and patient's involvement. We exceeded our replacement rates comparison group but there is still room for improvement.

## HEMORRHOID ARTERY LIGATION WITH RECTO-ANAL REPAIR (HAL-RAR): A NEW ALTERNATIVE FOR THE AMBULATORY TREATMENT OF GRADE III-IV HEMORRHOIDS

*Fernando Carvajal López; Daniel Troyano Escribano; Montserrat Juvany Gómez; Antoni Martrat Macià; Jordi Ardid Brito; Carlos Hoyuela Alonso*

**Introduction:** The classic surgical treatment of hemorrhoidal disease grade III-IV is the excisional hemorrhoidectomy, that consist in the surgical removal of one or more hemorrhoidal cushions, it is considered a safe, radical and definitive treatment; however, it is not exempt of complications and the postoperative pain is considerable. The HAL-RAR technique does not involve the destruction of tissue and if the sutures are performed carefully above the dentate line, it is conceptually painless.

**Patients and methods:** Retrospective study of 38 cases that HAL-RAR was performed between June 2012 and January 2015. It includes 16 women and 22 men with a mean age of 51.5 (21-75 years), diagnosed with hemorrhoids grade III in 31 cases and grade IV in 7 cases. Mean operative time was 41.4 min (26-60 min) and an average of 6.9 HAL (4-10) and 2.9 RAR (1-4) was performed. Postoperative pain was assessed using a visual analogue scale from 0 to 10 (VAS), mean postoperative pain at 6 hours was 3.7 points.

Postoperative complications occurred in 7 cases, acute urinary retention 4 patients (10.5%), VSA > 8 points in 2 cases (5.2%) and one case of necrosis of a hemorrhoidal cushion that required urgent hemorrhoidectomy. Mean follow-up was 17 months (1-32 months) with a control of hemorrhoidal symptoms in 94% of cases. No recurrences were detected.

The procedure was performed on an outpatient basis in 24 patients (63.1%), the reason for admission of the remaining patients was the presence of postoperative complications (5 cases), our learning curve (5 cases), lack of social support (1 case), private surgery (1 case) and pain >8 VSA (2 cases).

**Conclusion:** Due to good results in terms of postoperative pain and acceptable complication rate, we consider the treatment of grade III-IV hemorrhoids can be performed safely by HAL-RAR on an outpatient basis.

# LUMBAR DISCAL HERNIA: WHAT ORGANIZATION TO MOVE FROM INPATIENT SURGERY TO OUTPATIENT SURGERY AND FIRST RESULTS

*Asselineau Molina Veronique; Court Charles; Gagey Olivier*

In the United States the first outpatient on lumbar hernia discal goes back to 1985, while in France, only 44 lumbar hernias were operated in ambulatory surgery in 2013.

In our hospital, we have worked on the addition of this intervention in ambulatory surgery. We work in a satellite site of ambulatory surgery. No backbone surgery had ever been performed in this unit. We therefore had to organize the staff's training and think through the patient steps before the first lumbar discal hernia surgery in our ambulatory unit.

There were several steps in the training of the unit's nurses and caregivers. First, a class on discal hernia including the surgical steps, the monitoring and the postoperative complications. Then there were two practical sessions for the positioning of the patient in the knee-chest position: one during the training session and the second a few days before the first discal hernia. Finally, the kinesiologists trained the staff concerning the first postoperative lift.

Twelve patients were operated in one day surgery. The average age is 42 years. The discal hernias did not require laminectomies. There was one failure with an overnight hospitalization with the first operated patient, who suffered a vasovagal response on her discharge from the hospital. The eleven other patients were seen with a mean follow up of 5 months. There was no calling of a doctor during post operation and no hospitalization. All the patients would recommend ambulatory surgery for a discal hernia to a relative. There were no post operational complications nor any revision surgery.

These first results are encouraging. They show that the organization put into place is efficient. Currently, contraindications set aside, patients with discal hernia are operated in one day surgery.

## DAY SURGERY IN HONG KONG

*Che Yung Kenny Wong*

While Hong Kong (HK) is a renowned international city in Asia, Day Surgery (DS) development remains lack-lustre as compared to most Western countries. It is understandable that the uptake of a particular form of healthcare system and medical practice is highly influenced not only by the expertise in medical knowledge and skill, but also the social structure, the culture, and the economy status, amidst possible direction by political coercion and health insurance policy. Strategic development of DS within the Hospital Authority (HA) actually dated back to 1998 when a multi-disciplinary and multi-specialty Central Steering Group (CSG) on DS Development was commissioned, comprising of representatives from Central Coordinating Committees for Anesthesia, Otorhinolaryngology, Obstetrics & Gynecology, Ophthalmology, Orthopedics & Traumatology, Surgery, and Nursing. The objective was to develop DS in HA with specific reference to quality, choice, convenience and savings. The Group Internal Audit (GIA) unit of

HA had subsequently done its first audit of DS usage in 2001. Some of the results were reported in the World Wide DS Activity 2003 IAAS Survey of Ambulatory Surgery, published in Ambulatory Surgery Vol 13.1, March 2007. After the last GIA report in 2006 detailing then the prevailing DS rates for selected procedures, and a detailed table of dedicated DS facilities, the CSG became inactive. Only in early 2013 with the collaboration of RWK Healthcare Consultancy from UK was the formal second internal audit report of DS within the HA finally produced. The main finding was that the DS percentage of all selected elective surgery remained in general low, rising only from about 41% in 2007 to 46% in 2011. The gap has widened over the last decade with most other comparable countries. Some plausible reasons and directions would be discussed.

# HYSTEROSCOPIC TUBAL OCCLUSION (ESSURE® METHOD) AS A GYNAECOLOGICAL OFFICE-BASED SURGERY

*Pere Deulofeu; Julio F. Garrido; Margarita Gatell; Milagrosa Blanca; Antoni Sicras Mainar*

The permanent hysteroscopic tubal occlusion with Essure® fulfills the appropriate conditions, such as minimally invasive method, to be performed in the outpatient minor surgery program or office-based surgery (cma). We commenced to use this female sterilization procedure in July 2006 and we present the results until now.

We started to practice this operation in the ambulatory surgery program (CMA), but we incorporate it soon to the cma program. At the beginning of the series, the procedure was performed with speculum, tenaculum and paracervical blockade, but at the end just with vaginoscopy without anesthesia. We study the successes, failures and incidents in this series. We assess the acceptance of the method among patients using the self-administered questionnaire Spielberg or State-Trait-Anxiety-Inventory (STAI) in two categories, both trait anxiety (STAI-R) and state anxiety (STAI-E) and we elaborate a satisfaction survey too.

From July 2006 to December 2014 (8.5 years) we operated 244 patients. We had 90% success rate and 10% were failures. Most of these failures were because of tubal spasm (5.6%), and the rest of them because of anatomical defects and pain.

We had to perform verification of the occlusion by hysterosalpingography in 15% of cases, 3 of them had tubal patency and one of them had a pregnancy with term delivery. In the last 2 years the average surgery time was 7 minutes 35 seconds. During this period the satisfaction level was between quite satisfied and a lot satisfied.

This procedure is deceptively simple, because even having experience in operative hysteroscopy, it requires a learning curve that can be excessively lengthened according to the frequency that it is performed. It also requires practicing a minimum number of monthly procedures in order to be carried out successfully.

# SHORT-STAY HOSPITALISATION FOR MALIGNANT THYROID SURGERY IN A DISTRICT GENERAL HOSPITAL: RETROSPECTIVE ANALYSIS A CONSECUTIVE SERIES OF 3882 CASES OVER A FIVE-YEARS PERIOD

*Huajie Luo; Jiping Li; Ping Li; Zhiqiang Yin; Jidong Zhang; Daxiang Wen*

**Objective:** Describe data from patients undergoing thyroid surgeries for malignant disease in a District General Hospital in Shanghai.

**Study Design:** Retrospective database search.

**Subjects and Methods:** Discharge data were collected from January 2010 to December 2014. Searching strategy was based on diagnosis of malignant thyroid disease and patients undergoing thyroid surgery .

**Results:** During the study period, 3882 thyroid cancer patient thyroidectomies were performed from our sample, 10.25% of patients (398 cases) stayed <24 hours, 32.99% of patients (1281 cases) stayed <48 hours, 56.75% stayed (2203 cases) ≥48 hours. Many complicating factors that contribute to length of stay (LOS) of the malignant thyroid surgery were analysed, medical economic parameters (drug cost, examine cost and medical disposable materials cost ,total cost) were also studied.

**Conclusion:** This is the first larger series reporting of Short-stay hospitalisation outcomes for malignant thyroid surgery from China. The duration of hospitalization of the malignant thyroid surgery should be determined in accordance with histological type, clinical staging, complication, and patient's physical status, the other associated pathologies. Short-stay hospitalisation for malignant thyroid surgery need for stricter patient selection criteria. Our results confirm that Short-stay hospitalisation model for malignant thyroid surgery is safe, cost-effective, and highly agreeable in patients .

# A COMPARISON OF THE COMPLICATION BETWEEN UNILATERAL AND BILATERAL VARICOSE VEIN SURGERY IN AMBULATORY DEPARTMENT

Zhoupeng Wu Ken

**Objective:** To compare the complication between unilateral and bilateral varicose vein surgery in ambulatory department, further to explore the feasibility of the two varicose veins surgery in ambulatory surgery.

**Methods:** Focusing on ambulatory surgery center in January 2011 - August 2013, 452 clearly diagnosised of varicose veins and the great saphenous vein for high ligation and varicose vein stripping between unilateral and bilateral varicose vein patients were retrospectively analyzed with postoperative 1 month comparison and analysis of related complications. Unilateral varicose vein patients were 294 (65%), 188 (35%) patients with bilateral varicose vein, limb total were 670, 56.1% of the total body of bilateral varicose vein, unilateral varicose vein was 43.9%.

**Results:** After 1 month follow-up, 294 patients with 16 (5.3%) for unilateral varicose vein patients and 15 (7.6%) in 188 patients for (7.6%) bilateral varicose vein developed wounds, knurl or infection symptoms, 38 (13%) in unilateral varicose vein patients and bilateral varicose vein limbs in 41 (22%) feel paraesthesia, 67 (24%) for unilateral varicose vein patients with lower limb pain compare to 71 (38%) in bilateral varicose vein patients. With unilateral varicose vein (2.6%) and bilateral varicose vein 10 (5.4%), for the residual varicose veins, 1 (0.3%) in patients with unilateral varicose vein patients and bilateral varicose vein (0.9%) in lower extremity DVT. By comparing the existing complications of the limbs, 43.2% of which is derived from the surgery, 45.2% comes from unilateral varicose vein patients surgery, comparing the incidence of complications do statistical analysis, no statistical difference ( $P > 0.05$ )

**Conclusion:** Complications following varicose vein surgery for unilateral and bilateral operations, no difference on the incidence of both in their respective operation, which make varicose vein surgery safe and effective in ambulatory department to promote more feasible.

# LASER PROCTOLOGY – WITH ALL THE ADVANTAGES OF THE DAY-CASE SURGERY

Norbert Vasas

In the period between 2012 and 2014— beside the “traditional” proctological procedures – we had operated on 208 patients suffering from haemorrhoidal disorders. In all cases we used laser technique (laser haemorrhoidoplasty: LHP, 131 cases, Fistula laser closure: FILAC, 45 cases and pilonidal sinus: laser pit sealing, 32 cases).

In the postoperative period we experienced significant advantages of laser technique compared to “traditional” haemorrhoidectomy in two areas: bleeding occurred only in 5 % of all cases and pain was perceptible following surgery for a maximum duration of 2 days, strength of the pain was in average of 3 on scale of 10. As a disadvantage, we detected residual haemorrhoids in 26 of the cases (20%), which were all removed during a second intervention.

Fistula laser closure also has many advantages: during the eradication of intra- or transsphincter fistulas, anal sphincter integrity and function could be damaged, but using FILAC this problem is treated securely and (when compared with the use of seton) immediately.

Beside of this, we realised complete remission after using FILAC only in 65 % of treatments, and after a second intervention the efficiency exceeded the 80 %.

Pilonidal sinus excision is not considered a simple procedure, although it is a day case surgical method. Postop. recovery is slow, the pain is relatively high and the risk of wound infection is increased. However, using minimal invasive laser closure of pilonidal cysts and fistulas is fast, with less pain and after 4-6 weeks can give total remission without recurrence when it is performed in simple cases.

After all, we could utilize these positive results of this minimal invasive technology in the day-case surgery pattern, because it has all of the advantages, which day-case surgery treatment facilitates: it is fast, exact, with minimal postop. pain and low complication-rate (bleeding) and short recovery period.

## IMPLEMENTATION AND PRELIMINARY RESULTS OF A PROGRAM OF OUTPATIENT LAPAROSCOPIC CHOLECYSTECTOMY ON A TERTIARY HOSPITAL

*Salustiano González-Vinagre; Mariana Loreto Brand; Francisco González Rodríguez; Jaime Rodríguez García; Francisco Barreiro Morandeira; Manuel Bustamante Montalvo*

**Introduction:** Day-case surgery has been established as a standard mechanism for treatment of surgical diseases such as hernia. Surgeons are refractory to perform ambulatory laparoscopic cholecystectomies. Our hospital has decided to include lapchol as an outpatient process.

**Objective:** Analysis of the implementation of a program of outpatient laparoscopic cholecystectomy on a tertiary hospital with an autonomous ambulatory surgery unit. Evaluation of the results. Prove the safety of the procedure to overcome the resistances. Assessment of the economic impact of this surgery. Follow the program from drafting and adoption of the protocol to the assessment of the process by our patients. Calculate the program costs.

**Material and methods:** Prospective study of 59 patients operated between January 2014 and February 2015, analysing age, sex, indication, complications, readmission rate and others. Information was recorded at the Servizo Galego de Saúde electronic medical records system (i.e. Ianus), a powerful medical tool used in all our hospitals.

**Results:** Patients were mostly women. Mean age was 48 years. The main indication for surgery was symptomatic gallstones (83%). 8 patients required postoperative hospital admission with an average stay of 2 days. No patient has been reoperated and none has needed open surgery conversion. One patient was readmitted after discharge. 90% of patients felt comfortable in the ambulatory setting and postoperative pain in a visual-analog pain scale was 5/10. Estimated cost savings was 59000 euros.

**Conclusions:** Our results support the implementation of outpatient laparoscopic cholecystectomy in tertiary hospitals in properly selected patients. Proper patient selection is key for getting a low rate of complications and for the success of the program. The high volume of patients in a referral centre allows rapid acquisition of experience to secure the management of these patients. In a global crisis environment, day-case laparoscopic cholecystectomy is particularly interesting given the associated cost savings.

## MINIMALLY INVASIVE PARATHYROIDECTOMY. A SHORT STAY PROCEDURE WHICH MAY BE PERFORMED ON MAJOR AMBULATORY SURGERY BASIS

*Rocio Soler Humanes; Elena Margarita Sanchíz Cárdenas; César Pablo Ramírez Plaza; Ignacio Machado Romero*

**Background:** The standard surgical approach to treat primary hyperparathyroidism has been cervical incision with bilateral exploration of all four parathyroid glands. Minimally invasive parathyroidectomy based in the accuracy of radiological exams has introduced a new scenario in which small incision (2 cm or less) have resulted in better cosmetic results, enhanced recovery and reduction in postoperative stay.

**Methods:** We have performed a retrospective review of patients who underwent laterally approached minimal invasive parathyroidectomy through a 2 cm incision between July 2010 and December 2014 at Quiron Hospital in Málaga (Spain). Demographics, surgery related data and postoperative evolution have been analyzed.

**Results:** A total of 16 patients with primary hyperparathyroidism were admitted for surgery. In 10 cases (62.5%) a minimal invasive approach was performed while the six remaining required an unilateral (n=5, because of synchronic thyroid pathology) or bilateral cervicotomy (n=1, being a patient with double adenoma). Ten patients (62.5%) were discharged in less than 24 hours after the surgery (70 % of the minimal invasive approach) and none of these patients had postoperative symptomatic hypocalcemia or readmission.

**Conclusion:** Patients with primary hyperparathyroidism and well-localized single gland disease usually discharged in less than 24 hours and have a very low rate of complications. Then, these patients can be operated on major ambulatory surgery basis with a very low rate of admission.

## THYROID SURGERY AS A SHORT STAY PROCEDURE IN A PRIVATE HOSPITAL. THE PREVIOUS STEP TO MAJOR AMBULATORY NECK ENDOCRINE SURGERY?

*Rocío Soler Humanes; Ignacio Machado Romero; Elena Margarita Sanchíz Cárdenas; César Pablo Ramírez Plaza*

**Introduction:** Day case thyroid surgery is feasible and has been considered in a growing number of publications as a safe procedure which may save individual hospitals the cost of the inpatient stay. However, the risk of airway compromising and life threatening postoperative bleeding remains a major concern since it is not possible to positively identify those patients most and least at risk of bleeding after thyroidectomy, but the most part of them happen in the first 6-8 hours. Then, a longer postoperative stay is necessary to identify potentially complications: bleeding, hypocalcemia and vocal cord palsy.

**Methods:** We present a retrospective review of patients who underwent hemithyroidectomy or total thyroidectomy between July-2010 and December-2014 at Hospital Quiron (Málaga, Spain) and analyzed the subgroup of patients discharging in less than 24 hours. Demographics, surgery related data and postoperative evolution have been analyzed.

**Results:** Forty-nine patients (37.9% of all thyroidectomies) were discharged in less than 24 hours being 38 (77.5%) lobectomies and the 22.5% remaining total thyroidectomies. No patients required readmission and only 2 patients were treated because of transient hypoparathyroidism, with no symptoms of inferior laryngeal nerve related.

**Conclusion:** There is in the literature on short-stay thyroid surgery a great deal of variability in definitions, inclusion criteria and results. As we have found a group of patients discharging satisfactory in less than 24 hours, we think that in selected patients a program of major ambulatory surgery in thyroid surgery is feasible and a protocol is being prepared.

## AMBULATORY ANORECTAL SURGERY: ANALYSIS OF RESULTS, COMPLICATIONS AND HOSPITAL ADMISSIONS

*Ana Navarro Barles; Guillermo Pola Bandres; Diego Fernández Pera; Marta Allué Cabañuz; Guillermo Millán Gallizo; Alfredo Jiménez Bernadó*

**Background:** Ambulatory anorectal surgery is safe and has low complication rates with a careful case selection. The aim of this prospective study is to analyze the results of this type of surgery in a multidisciplinary day surgery unit.

**Methods:** 1384 patients were selected to be operated on of anorectal pathologies from January 1995 to January 2015. Hospital admission, readmission after discharge, cancelled operations and complications were analyzed. Statistical analysis was performed with the database of the unit using Stat-View 5.1.0 software.

**Results:** Anorectal surgery represents 25,5 per cent of ambulatory general surgery procedures. Pilonidal sinus was the most frequent pathology with 629 patients (45,4 per cent), followed by anal fissure 294 patients (21,2 per cent), anal fistula 225 patients (16,25 percent) and hemorrhoids 116 patients (8,3

per cent). A 94,2 per cent of patients were discharged in time, 1,7 per cent required hospital admission and 0,5 per cent readmission. A total of 3,5 per cent of procedures were cancelled (19 pilonidal sinus, 15 fissures and 13 fistulas) mainly due to spontaneous remission of pathology. Pathologies requiring hospital admission more frequently were hemorrhoids 8 patients, fistula 6, pilonidal sinus 6 and fissure 4. Of 7 patients readmitted after discharge, 4 had been operated of hemorrhoids and 3 of pilonidal sinus. The most frequent complications were urinary retention, 11,7 per cent, wound infection, 3,6 per cent and wound healing delay, 2,4 per cent.

**Conclusion:** With a careful patient selection, optimal postoperative management, wound care and symptomatic treatment, anorectal surgery can be performed in an outpatient basis with good results, high patient satisfaction and low incidence of hospital admission.



# DAY SURGERY LAPAROSCOPIC CHOLECYSTECTOMY: ANALYSIS OF RESULTS

David Salazar Terceros

**Objective:** To analyze the safety of laparoscopic cholecystectomy (LC) as a day case procedure.

**Methods:** Descriptive prospective study of patients undergoing day surgery for symptomatic cholelithiasis from January 2012 to December 2014, selected according to the criteria of inclusion and operated by the same surgical team. A telephone interview was conducted within 24 h after discharge and again after 2 weeks outpatient visit.

**Results:** 107 consecutive patients were included in the study with a mean age of 46.9 years (20-79). 69.1% were female and 30.9% men. ASA I (56%), ASA II (43%) and 1% ASA III. The operative time was 45.2 min. (20-70) and average postoperative was 8.7 hrs, (7 to 10.5 hrs). Ninety-five percent of the patients were discharged the same day.

There was no conversion to laparotomy, surgical morbidity after 30 days was 2%; (1 wall hematoma and a reoperation by leakage at biliary tract). Postoperative telephone interviews identified high patient satisfaction with 86% of respondents recommending LC as a day-surgery procedure.

**Conclusion:** A day-surgery LC is safe and feasible with a high rate of patient discharge and a high patient satisfaction by the population interviewed.

# CLINICAL RESULTS OF SINGLE INCISION LAPAROSCOPIC TOTALLY EXTRAPERITONEAL INGUINAL HERNIA REPAIR UNDER LOCAL ANESTHESIA WITH OVERNIGHT STAY

Norihito Wada;Toshiharu Furukawa;Yuko Kitagawa

**Introduction:** Pneumoperitoneum during laparoscopic surgery requires muscle relaxation and general anesthesia which needs preoperative preparation and post-operative recovery process. On the other hand, open surgery for inguinal hernia, such as Lichtenstein repair, can be safely performed under local anesthesia and ensures early recovery and safety. We developed a novel minimally invasive technique of single-port laparoscopic totally extraperitoneal (TEP) inguinal hernioplasty under local anesthesia which is suitable for overnight hospital admission.

**Methods:** From January 2012 to February 2014, a consecutive group of 65 patients with bilateral inguinal hernia was included. Obese patients, patients with giant hernia or irreducible hernia were excluded. We used 0.5% lidocaine with epinephrine as local anesthesia. An incision of 30 mm in the lower abdomen was made and a wound protector with sealing silicon cap was placed. We used three 5-mm trocars and a 5-mm flexible laparoscope. A flat self-fixating mesh with resorbable microgrip was installed and spread over the myopectineal orifice. No tacking devices were used.

**Results:** The mean  $\pm$ SD age was  $67 \pm 10$  and male sex was 94%. The mean operating time was  $171 \pm 38$  minutes. Surgical complications were not observed except for 9 cases of minor seromas. Pneumoperitoneum due to peritoneal injury was occurred in 6 cases and managed by suturing the defect. During median follow-up of 12 months, we observed no hernia recurrence or complications other than seromas.

**Conclusions:** The short- to mid-term outcomes were similar to those of conventional TEP or open hernia repair. Surgical invasiveness of this technique was minimal because the area of dissection in the preperitoneal space is smaller than that of umbilical TEP. Postoperative recovery was rapid and patients can walk soon after surgery. This novel procedure may be feasible in ambulatory setting.

## ANTIBIOTIC PROPHYLAXIS FOR HERNIA REPAIR IN AMBULATORY SURGERY

*Diego Fernández Pera; Guillermo Pola Bandrés; Ana Navarro Barlés; Marta Allué Cabañuz; Guillermo Millán Gallizo*

**Background:** Hernia surgery is a common procedure in ambulatory surgery units. Our aim is to describe the use of antibiotic prophylaxis for hernia surgery and to analyze its relation with postoperative wound infection.

**Methods:** A total of 2606 patients were operated on of any hernia type in an ambulatory basis from January 1995 to January 2015. Groups were created according to use of prosthetic materials and age of patients. Chi square test was used to analyze the relation between antibiotic prophylaxis and wound infection, and relative risk was obtained. Analysis was performed with SPSS 21.

**Results:** Hernia repair surgery represents the 48.8 percent of procedures in this unit, inguinal being the most frequent (76,2 percent). Mesh repair accounts for 84.1 percent of procedures, prophylactic antibiotics were used in 35,6 percent (929 patients) and wound infection occurred in 2,7 percent.

Chi square test showed a 0,45 relative risk for infection when using antibiotic prophylaxis  $IC95\%(0.252-0.804)$   $p=0.005$ . Considering only mesh repair cases, relative risk using antibiotics was 0,513  $IC95\%(0.281-0.936)$   $p=0.026$ , with no significant difference in those repaired without prostheses.

Grouped by patient age, significant differences in wound infection were only demonstrated for mesh repair in the group over 65 years old with antibiotic prophylaxis,  $p=0.041$ , relative risk 0.243 but an  $IC95\%(0.055-1.072)$ .

**Conclusion:** Hernia surgery is one of the most common procedures in day surgery units, thus being mandatory a low complication rate. Antibiotic prophylaxis has showed to be a protective factor for wound infection in overall and mesh hernia repair analysis. For patients over 65 years old and mesh repair, significant association was found with a tendency to reduce the relative risk but would need further study to be confirmed

## NECK ENDOCRINE SURGERY: AN OCCASION FOR MAJOR AMBULATORY SURGERY IN TIME OF RECESSION

*Rocío Soler Humanes; Elena Sanchiz Cárdenas; César Pablo Ramírez Plaza; Ignacio Machado Romero*

**Introduction:** Thyroid and parathyroid surgery are considered safe procedures with minimal morbidity and nearly zero mortality. A potential serious and threatening complication as postoperative acute bleeding, occurring most frequently in the first 24 hour postoperatively, has been a strong argument favouring a hospital stay between 1-3 days. The development of highly specific teams of Endocrine Surgery, minimally invasive incisions and new technologies as vascular sealers have clearly shortened mean postoperative stays and improved postoperative course.

**Methods:** A retrospective review of patients who underwent thyroid and parathyroid surgery between July 2010 and December 2014 at Hospital Quiron Málaga (Spain) was performed. Demographics, indications for surgery, overall stay, complications and readmission rates has been analyzed.

**Results:** A total of 145 patients were admitted for elective thyroid or parathyroid surgery. Ninety percent (62.06%) had a total thyroidectomy, 39 (26.89%) hemithyroidectomy and 16 (11.03%) underwent surgery for primary hyperparathyroidism. We had only one case of bleeding requiring surgical exploration and the mean postoperative stay was 1.31 days, with 59 patients discharging in less than 24 hours after hospital admission. None of the patients of the short-stay group required readmission.

**Conclusions:** A group of patients undergoing neck endocrine surgery (40.68% in our series) can discharge in less than 24 hours without need for readmission or other problems. This fact is making us to consider the initiation of a program of major ambulatory surgery without the need of hospital stay-night, with the consequent benefit in economic implications and in the management of the surgical awaiting lists.



## CONTRIBUTION OF NEW APPROACHES S.I.L.S. AND N.O.T.E.S. TO THE OUTPATIENT MINIMALLY INVASIVE CHOLECYSTECTOMY

*Carla Navarro; José Noguera; Cristóbal Zaragoza; Marcos Bruna; Antonio Salvador; Antonio Melero*

**Introduction:** It has been postulated that the new approaches in minimally invasive surgery, NOTES and Single Incision Laparoscopic Surgery, may produce less pain and fewer problems in relation to the entry ports.

**Objective:** Assess whether new approaches, transvaginal and single umbilical incision, have a positive effect on outpatient cholecystectomy.

**Patients and methods:** Analysis of the results of a prospective clinical series of 120 patients comparing four groups with minimally invasive cholecystectomy (laparoscopy, minilaparoscopy, transvaginal with flexible endoscope and single umbilical incision with SILSTM device).

**Results:** The rate of out-patient shows no difference between the approaches. The conversion rate is similar in the groups, as well as intraoperative and perioperative early complications. The operating time is longer in the groups with transvaginal and transumbilical surgery, with respect to conventional laparoscopy, being similar in the group with minilaparoscopy.

**Conclusions:** The new minimally invasive approaches for cholecystectomy are a good choice for the outpatient programs. They are as safe and effective as conventional laparoscopy but require longer operating time and teams trained in these new approaches.

## EXPERIENCE OF AN AMBULATORY LAPAROSCOPIC CHOLECYSTECTOMY PROGRAM IN A THIRD LEVEL HOSPITAL

*Víctor Turrado Rodríguez; Ana Belén Martín Arnau; Gemma Cerdán Riart; José Antonio González López; Manuel Rodríguez Blanco; Maria Angels Gil de Bernabé; Vicenç Artigas Raventós; Manel Trias Folch*

**Introduction:** Nowadays, the laparoscopic approach to the gallbladder lithiasis (laparoscopic cholecystectomy: LC) has become the gold standard. Our objective was to evaluate the feasibility and safety of performing a LC in a regime of Ambulatory Surgery (AS), to describe the technical complications, the postoperative complications and the postoperative course.

**Methods:** We analyzed a series of consecutive patients that underwent LC in an AS program between January and August 2011. Inclusion criteria were age lower than 70 years, ASA I or II, and good social support. All patients were operated with a laparoscopic approach.

We analyzed the demographic data, the intraoperative variables (operative time, drainage, intraoperative complications), and postoperative variables (complications: pain, nausea, vomiting, fever, readmission, reoperation, length of stay, mortality).

**Results:** During the period of study 236 cholecystectomies were performed in our center, 87 of them in an ambulatory regime (37%). Of these, 14 (16%) had minor complications (wound haematoma, wound infection, postoperative pain) and 1 (1.1%) had a major complication (choleperitoneum) that required surgical treatment. The median hospital stay was 6 hours. There was neither mortality nor readmission. The estimated savings per patient on this AS program were 1000€ compared with patients with a 1 day postoperative hospitalization.

**Discussion:** The laparoscopic approach to the gallbladder in an ambulatory program is safe and feasible, with a low complication rate and without reinterventions. For the reproducibility of our results, the patients should be carefully selected by the surgical team. The ambulatory cholecystectomy program may help to reduce the hospitalary charges avoiding a hospitalization.

## THE USE OF NEW MATERIALS SUCH AS HISTOACRYL® MIGHT REDUCE POSTOPERATIVE PAIN AND PROMOTE AMBULATORY INGUINAL HERNIA REPAIR SURGERY

Montserrat Juvany; Luis Vega; Miguel Trias; Josep Camps; Carlos Hoyela; Xavier Feliu

**Introduction:** Inguinal pain is still a major problem for ambulatory inguinal hernia repair surgery. To minimise this pain might be a good way for discharging patients properly. Histoacryl® is a cyanoacrylate glue that enables surgeons to fix the mesh with a minimally invasive technique, reducing risk of contusing nerve structures and postoperative pain.

**Objective:** To analyse if fixing the mesh using Histoacryl® might reduce postoperative pain on comparison to Polypropylene.

**Materials and Methods:** From February 2014 to January 2015, 220 patients operated on elective and ambulatory inguinal hernia repair were prospectively randomised and included in a prospective double-blinded study. Postoperative pain using EVA scale was assessed at 8 (8H), 24 hours (24H), 7 (7D) and 30 days (30D). 111 patients were randomised in the Histoacryl® group (H) and compared to 109 patient in the Polypropylene group (P), using Lichtenstein technique.

**Results:** Both groups were comparable on terms of age, gender, BMI, ASA and type of anaesthesia. As it was expected, duration of surgery was shorter in H group than P group ( $34 \pm 9$  vs  $37 \pm 8$  minutes,  $p=0.009$ ). Although no statistically significant differences were observed between groups, postoperative pain was slightly lower in H group than P group in all postoperative times (8H:  $4.4 \pm 2.7$  vs  $5.0 \pm 2.5$ ,  $p=0.08$ ; 24H:  $3.9 \pm 2.7$  vs  $4.4 \pm 2.4$ ,  $p=0.15$ ; 7D:  $1.9 \pm 1.9$  vs  $2.2 \pm 2.5$ ,  $p=0.31$ ; 30D:  $0.6 \pm 0.6$  vs  $0.8 \pm 1.3$ ,  $p=0.14$ ; respectively). H group presented less haemorrhagic complications in comparison to P group (6 vs 40,  $p=0.02$ ).

**Conclusions:** Histoacryl® might help surgeons to minimize surgical invasive technique, reducing duration of surgery, postoperative pain and haemorrhagic complications. All together would subsequently promote ambulatory surgery of patients operated on elective inguinal hernia repair.

## CAN WE GO FURTHER ON AMBULATORY CHOLECYSTECTOMY? ONE-YEAR RETROSPECTIVE STUDY COMPARING AMBULATORY AND CONVENTIONAL LAPAROSCOPIC CHOLECYSTECTOMY

Charlene Viana; Hugo Rios; José Pedro Pinto; Nuno Morais; Vicente Vieira; Conceição Antunes

**Introduction:** Laparoscopic cholecystectomy (LC), the gold standard surgical procedure performed for the treatment of symptomatic gallstones, is associated with low morbi-mortality. Due to the lack of studies in this area, in Portugal, we decided to revise all cholecystectomies performed in our Hospital in 2014.

**Goal and Methods:** A retrospective study was designed to include all patients submitted to non-urgent LC over one-year period and compare the ambulatory (A) and the conventional (C) groups in terms of age, sex, surgeons' experience, duration of surgery, previous abdominal surgery and complications. We used SPSS software and the Chi2 and t student Tests.

**Results:** 314 elective cholecystectomies were performed in 2014 at Braga's Hospital, 60.2% in ambulatory (A = 189 patients) and 39.8% in conventional setting (C = 125 patients). In both groups, the majority of patients were women. Between the two groups, we didn't find any statistically significant difference in surgeons' experience and complication rate at 30 days postoperatively ( $p=0.163$  and  $p=0.883$ , respectively). On the other hand, there are significant differences in age (A - 46.95; B - 60.57); and on the mean duration of the surgery (A - 66 min; B - 72 min). Moreover, there seems to be more abdominal pathology and intraoperative events in conventional LC.

**Discussion:** More than 60% LC were performed in the ambulatory setting. The criteria for conventional LC are comorbidities or history of abdominal pathology. However, in

concern of peri-operative complications, our data shows that there is no real difference with statistical significance between the two groups. For the ambulatory LC, selection criteria should be extended.

This is a pilot study of a prospective multicenter study that we have already started in Portugal. We believe that we can broaden criteria for ambulatory LC and decrease the recovery room times, without compromising patient safety.

## LOCAL ANAESTHESIA FOR ANAL SURGERY: A SHORT VIDEO PRESENTATION

*Manmal Begani; Dheeraj Mulchandani*

A short video presentation on the technique of local anaesthesia for anal surgeries including Fistula in Ano, Fissure in Ano, Haemorrhoids, Stapler Haemorrhoidopexy and other minor anal procedures.

The video will showcase the techniques of ring block as well as pudendal nerve block anaesthesia.

Most procedures are possible with almost no sedation required in addition to the above mentioned blocks.

We use mild sedation at the time of injecting and then almost always do not need a top up for most of our procedures.

## POTENTIAL OF DAY CARE SURGERY IN INDIA

*Manmal Begani*

We would like to present on the potentials of day care surgery in India

With the costs of surgery escalating manifold, the choice of day care surgery especially in a country like India is the need of the hour

We are in the process of spreading awareness throughout the country with the aim of making the local doctors aware of the many cases that can now be done as day care surgeries expanding the possibilities of undertaking most general surgeries as ambulatory as opposed to in patient surgeries.

We explore the potential of day surgery in india via this small presentation.

## DAY SURGERY LAPAROSCOPIC CHOLECYSTECTOMY: ANALYSIS OF RESULTS

*Josep Camps Puigantell; David Salaza Terceros; Xavier Viñas Trullen; Pere Besora; Ramon Claveria Puig; Molinete Carrillo*

**Objective:** To analyze the safety of laparoscopic cholecystectomy (LC) as a day case procedure.

**Methods:** Descriptive prospective study of patients undergoing day surgery for symptomatic cholelithiasis from January 2012 to December 2014, selected according to the criteria of inclusion and operated by the same surgical team. A telephone interview was conducted within 24 h after discharge and again after 2 weeks outpatient visit.

**Results:** 107 consecutive patients were included in the study with a mean age of 46.9 years (20-79). 69.1% were female and 30.9% men. ASA I (56%), ASA II (43%) and 1% ASA III. The operative time was 45.2 min. (20-70) and average postoperative was 8.7 hrs, (7 to 10.5 hrs). Ninety-five percent of the patients were discharged the same day.

There was no conversion to laparotomy, surgical morbidity after 30 days was 2%; (1 wall hematoma and a reoperation by leakage at biliary tract ).

Postoperative telephone interviews identified high patient satisfaction with 86% of respondents recommending LC as a day-surgery procedure.

**Conclusion:** A day- surgery LC is safe and feasible with a high rate of patient discharge and a high patient satisfaction by the population interviewed.

## AMBULATORY THYROIDECTOMY. FOR AN EARLY DISCHARGE

*Isabelle Jacquier; Nadia Helmy; Corrine Vons*

**Introduction:** The time for discharge after ambulatory thyroidectomy has been widely described by authors, however it stays ill defined. In France, a 6-h postoperative observation period is usually recommended to detect cervical hemorrhage. The aim of this work was to evaluate the results of an undefined postoperative observation period after thyroidectomy in an ambulatory care setting.

**Patients and methods:** From 2009 to 2014, 147 patients out 780 had ambulatory thyroidectomy (19 %), by the same surgeon, in three hospitals in France. We conducted a retrospective study of the results obtained for these patients. Endpoints were complications, especially in the form of bleeding.

**Results:** There were 117 women (80%) and 30 men. Mean age was 46.6 years (range [21 - 84]). Operations included unilateral thyroidectomy (n=120), 2 with recurrent lymph node dissection, completion of total thyroidectomy (n=9), 1 with lymph node dissection, total thyroidectomy (n= 8), one with lymph node dissection and isthmectomy (n=10). Pathologies included: multi nodular goiter (n=111), toxic adenoma (n=23), papillary carcinoma (n=7), and Grave's disease (n=3).

Mean operative time was 40 min (range [20 min – 95 min]). 87 patients were operated before 12p.m. and 60 patients after 2p.m. Mean time for discharge after the end of the intervention was 4 hours (range [3h - 6h]).

Conversions from outpatient to inpatient occurred in two cases (1.3 %). Both were operated late in the afternoon.

No patients required emergency intervention for postoperative hemorrhage. Two patients had cervical hematoma which was diagnosed during postoperative visit and which spontaneously resolved. There were 5 unilateral recurrent laryngeal nerve injuries; 4 transient (2.7 %) and one permanent (0.7%). There was no hypocalcaemia.

**Conclusion:** Ambulatory thyroidectomy, in experienced hands, is safe whatever the pathology or the extent of the resection is. The fixed 6-h postoperative observation period is, in our opinion, unnecessary.

## TELESURGERY: A CLOSE FOLLOW-UP

*Juan José Segura-Sampedro; Inés Rivero-Belenchón; Verónica Pino-Díaz; Fernando Docobo-Duránte; Javier Padillo-Ruiz; Rosa María Jiménez-Rodríguez*

A pilot study was done to address the efficacy of a mobile phone-based telemedicine system used to improve follow-up after surgery.

The method involves sending images of surgical wounds from the patient's home, to assess local complications and avoid unnecessary hospital visits.

Fifteen (N = 15) patients were enrolled in the study. These images were sent via e-mail. And the patient was checked in the clinics as well with a high concordance index.

After the follow-up period, self-reported patient satisfaction was assessed by analyzing the replies to a questionnaire. With very good acceptance and results.

The telemedicine system proposed increases the efficiency of home follow-up to surgery, avoids unnecessary hospital visits, and clearly improves patient satisfaction.

# OUTPATIENT THYROIDAL SURGERY: SIX YEARS ANALYSIS

*Pere Clos; Natalia Morell; Guillem Picart; Javier Barja; Miquel Prats; Joan De La Cruz; Xavier Suñol*

**Introduction:** Thyroidal resections in Ambulatory Surgery Units (ASU) are controversial. This is not widely accepted procedure and, if performed, technical intraoperative conditions and immediate postoperative follow up should be strictly scheduled.

**Objective:** To analyze the experience in thyroidal surgical resections in the integrated ASU of a single institution.

**Material and method:** All patients operated on thyroid gland from February 2009 to December 2014 by Endocrine Surgery Unit of the Department of General Surgery were considered in the study. Conditions for inclusion in the ASU modality includes a signed informed consent, hemithyroidectomy as a surgical technique, residence on the hospital influence area and family support the first 48 postoperative hours.

Exclusion criteria were as follows: thyroid nodules over 50mm, hyperfunctioning nodules, bilateral lesions and suspected neoplasm at diagnosis.

**Results:** A total of 352 thyroidal resections were considered.

One hundred and six patients were included in the ASU program (ambulatory rate of 30.1%). 22 of 106 patients did not conclude the ambulatory procedure (unplanned admission index 20.7%). Overall stay of the patients in the ASU was always under 13 hours. Mean postoperative pain measured by Visual Analog Scale was 2 at discharge and 1 at 24h by phone call. There was any admission or consultation in emergency room after discharge. The main reasons for admission were patient rejection (8) 7.5%, wound hematoma (6) 5.6% and extended procedures not expected (4) 3.7%.

**Conclusions:** Thyroid surgery in the ASU is fully implemented in our Hospital. Previous experience in ambulatory surgery and good outcomes in thyroid surgery were essential for this success. Next step will be to increase thyroid surgery complexity in the ASU preserving patient's safety.

# SAFETY OF AMBULATORY THYROID SURGERY IN A UNITY WITH RESIDENTS: REVISION OF 74 CASES

*Picart G, Morell N, Ruiz N, Clos P, Hidalgo L, Sunol X*

**Introduction:** Ambulatory surgery (AS) has recently emerged as an alternative to conventional inpatient surgery. However, the practice of thyroid surgery in AS regime is not generalized due to complication fear.

Implication of residents in this field has not been analysed.

**Objective:** To describe the results observed in patients, initially proposed for thyroid AS, between February 2011 and November 2014, evaluating differences surgeon~dependent between specialist (S group) and resident surgeons (R group)

**Material and Methods:** Retrospective descriptive analysis of results evaluating main surgeon, indication, surgery performed, postoperative evolution, hospitalization rate and 1 year results.

**Results:** 74 patient were proposed for ambulatory thyroid surgery.

The R group performed 38 surgeries (51%): 26 (68%) Unilateral Total Thyroidectomy (UTT) and 9 (24%) Subtotal Unilateral Thyroidectomy (STUT), 1 isthmectomy and 2 SubTotal Bilateral Thyroidectomies (STBT). In the S group were performed 36 surgeries (49%): 22 UTT (61%), 5 STUT (14%), 7 TBT (19%) and 2 isthmectomies (6%). In our series there was one case of haematoma (1,4%) and was solved with immediate surgery. There were two cases of temporal recurrent laryngeal palsy. These complications occurred in the S group.

The hospitalization rate was 21.6%, 8 patients in each group. Causes were: administrative error in 4 cases (12.5% in R and 37.5% in S), wound ecchymosis in 3 patients (25% vs 12.5%), 1 patient in R (12.5%) presented oral intake intolerance, 2 patients in R had anaesthetic complication (25%), 5 patients opted for conventional hospitalization (25% vs 37.5%).

**Conclusion:** There have not been observed differences. Resident implication in thyroid surgery should not change the attitude towards the surgical regime, moreover, should not be an obstacle for the implementation of an AS program for thyroid surgery. For that purpose is necessary a full developed AS unit with a quality program that offers plenty security to patients.

## TOTALLY IMPLANTABLE VENOUS DEVICES;THE SAFEST TECHNIC - CUTDOWN

*Jorge Valverde; Margarida Vinagreiro; Emanuel Guerreiro*

**Introduction:** The use of totally implantable venous devices (TIVAD) has changed the care and quality of life for cancer patients, allowing for chemotherapy administration and permitting infusion of total parenteral nutrition, antibiotics and blood products. The surgical cutdown technic for TIVAD is the procedure of choice in our Institution because, as already proven by several studies, there are no immediate post-procedural life-threatening complications. The aim of this study was to review the procedures carried out during 1-year period in our institution, in the ambulatory care unit.

**Methods:** A retrospective data analysis study was conducted regarding the application of the surgical cutdown technic for TIVAD, through the cephalic vein, in the ambulatory care unit of Hospital Pedro Hispano – Matosinhos, between January and December 2014. The procedures were performed under local anaesthetic with sedation. The catheter tip position was always verified radiologically by using intraoperative fluoroscopy. Early and late complications were recorded.

**Results:** A total of 153 TIVAD were implanted using the surgical cutdown technic. All the procedures were performed by general surgeons and had a mean duration of 36 minutes. According to Caprini score, 58.7% and 38.1% of patients were at high or extremely high risk, respectively, of developing deep vein thrombosis. All the patients receiving TIVAD had malignant diseases (97.5% had solid tumors) except for one patient that needed total parenteral nutrition. There were no life-threatening complications. Seven complications required catheter removal - venous thrombosis was observed in five patients, malpositioning in one patient and one catheter rupture. There were no infections requiring catheter removal. All the patients were discharged the same day.

**Conclusion:** Day case implantation of TIVAD is feasible and safe. The surgical cutdown technic, through the cephalic vein, because of its safety, remains the best approach to avoid possible fatal immediate complications.

## DAY CARE LAPAROSCOPIC APPENDECTOMY

*Santosh Rawlani*

**Aims and Objectives:** To determine the ability to perform Laparoscopic appendectomy on day care basis.

**Design:** A prospective, nonrandomized study conducted at Vijay Day Care Surgery Centre, Chalisgaon and Santosh Day Care Surgery centre, Nashik.

**Material and Methods:** 600 consecutive patients with a clinical diagnosis of acute appendicitis were included. Duration of study was 66 months. (May 2009 to Oct 2014). The age group of patients was from 5 to 60 years. Diagnosis of appendicitis was done on clinical examination, ultrasonography of abdomen and laboratory tests. Cases of appendicular lump and perforation were excluded. Each patient underwent laparoscopic appendectomy under general anesthesia. Time of postoperative mobility, duration of hospital stay, and interview at time of follow up visit was recorded. Criteria for discharge were: stable vital signs, and ability to tolerate fluid/food without discomfort, no pain or minimal tolerable pain, accompanied by responsible care taker.

**Results:** Most patients were mobilized within 2 hours of surgery. Oral fluids were started within 2 hours of surgery. 220 of them left hospital within 6 hours of surgery. The average length of stay for the remaining patients was 16 hours. Follow-up was on the 9th postoperative day to remove stitches. There were no re-admissions or complications. All the patients were happy about early discharge.

**Conclusion:** Day care laparoscopic appendectomy is feasible and can be practiced in uncomplicated cases of appendicitis.



## COMPARISON OF SUB-TENON'S BLOCK AND TOPIC ANESTHESIA FOR CATARACT SURGERY

*Diogo Machado; Sandra Carneiro; Luisa Cruz*

Cataract surgery is the most common surgical procedure in the developed countries, with many different anesthetic techniques available. Recently, Topic Anesthesia (TA) has gained notoriety allowing better comfort to the patient with lower complications. However, recent systematic review proposes that Sub-Tenon's Block (STB) delivers more efficient analgesia than TA [1].

The goal of this study is to compare the efficacy and complications of TA versus the STB.

This was a randomized retrospective study in 80 patients submitted to phacoemulsification of the crystalline lens and implantation of an intraocular lens, in 2014, 40 with TA and 40 with STB. Mean patient's age was 72.5  $\pm$  11.7 years, with 63.7% female patients, and 56.25% ASA I-II. Cataract morphology was classified as nuclear, cortical, corticonuclear, or subcapsular.

For the two groups we compared the needs for sedation, analgesia, antiemetics and antihypertensives, as well as surgical and anesthetic complications in the preoperative period. The STB was performed by the anesthesiologist, with injection of ropivacaine 1% (3-4 ml)

with Stevens' cannula, followed by compression with Honan balloon for 10-20 minutes. The TA was performed using ropivacaine 1% and oxybuprocaine 0.4% drops.

Statistical analysis was performed using Pearson's chi-square,  $P=0.05$ .

From data analysis, we verified that STB was the most frequent technique in patients  $>65$  years old; with worst physical status (ASA III-IV). Less sedation was needed in the STB compared with TA. There was no statistical difference between the two groups in relation to the needs for analgesia, antihypertensives or surgical/anesthetic complications in the perioperative period.

Differences found suggests that STB is superior to AT in relation to efficacy, specially in the older patients, and with more comorbidities, as it was suggested by their needs for less sedation with the same analgesic efficacy, without and increase of complications.

### Reference:

[1] Cochrane Database Syst Rev. 2007 Jul 18;(3).

## POSTOPERATIVE PAIN CONTROL WITH ENDOVENOUS ELASTOMERIC PUMPS IN AMBULATORY SURGERY (AS)

*Laura Ricol Lainez; Magdalena Serra Dominguez; Josep Planell Piqueras; Anna Rodriguez Pont; Xavier Morales Garcia; Andrea Vallejo Tarrat; Carme Colilles Calvet*

The advantages in ambulatory surgery (AS) are well known, therefore it occupies a more relevant place in many hospitals. The postoperative analgesia requires a detailed monitoring. The elastomeric pumps are a very useful tool although their use is not widespread so far.

**Goals:** The goal of the study was to do a postoperative monitoring with endovenous elastomeric pumps in different AS to improve postoperative analgesia.

**Methods:** In 2010 our Center started a postoperative monitoring protocol for patients who underwent AS and received postoperative analgesia by endovenous elastomeric pumps, containing 5 different regimens of tramadol, dexketoprofen and haloperidol. Patients were monitored by phone call and face-to-face control by a nursing team. Data collected were: gender; ASA level; antiemetic or analgesic pretreatment; type of surgery; anesthetic technique; patient's satisfaction; pain scale; side effects; rescue treatment; need to revisit.

**Results:** Until 2015, we collected 1355 patients. Most of the procedures were orthopaedics (83%), mostly foot surgery

(38.9%). General and digestive surgery included 15.6% (10.8% proctological). Anesthetic management was: 12.7% general anesthesia, 8.6% neuraxial blocks, 43.6% peripheral blocks (foot block 53.9%), the rest combinations. During the treatment, patients referred a good postoperative pain control, with a very positive (99.8%) opinion about these devices. Postoperative nausea and vomiting was present at 3%, 12% complained of sleepiness and 2% of pruritus. The analgesic rescue treatment was not necessary in 84.6%. Only 3% of patients revisited for any reason, but in any case because of bad pain control.

**Conclusions:** A multimodal analgesia makes possible a better pain control. The endovenous elastomeric pumps are safe and easy to use. Both patients and involved professionals have well-accepted this protocol.

### References:

1. Ganapathy S et al. *Anesthesiology Clinics*, 2011;**29.2**:329–42.
2. Prabhakar et al. *Best Practice & Research: Clinical Anaesthesiology*, 2014;**28.2**:105–15.

## AMBULATORY ANESTHESIA FOR OFFICE-BASED LIPOSUCTION: A REVIEW OF 785 CONSECUTIVE CASES

*Agustín Ramos Zabala; Trinidad Dorado-Díaz; Marta San José Santos; María Manzanero Arroyo; Beatriz Prada De las Heras; José Ángel Palomo Ruiz*

**Background and Goal of Study:** Evaluate the efficiency of an anesthetic technique for office-based liposuction. There are several techniques for liposuction procedures and an international patient safety advisory (ASPS). We assessed intravenous sedation for tumescent liposuction (aspiration of subcutaneous fat after tumescent infiltrate solution) in outpatients.

**Material and methods:** Prospective study about patients scheduled from June 2007 to January 2015. Inclusion criteria: patients ASA I-II, < 55 years, liposuction < 3,500 cc and organizing criteria. The anesthetic technique selected is the combination of local tumescent anesthesia (solution of lidocaine 0,08% and epinephrine 1:1.000.000), and intravenous conscious sedation (remifentanyl-propofol). Premedication with bromazepam, hidroxycina and ranitidine. Antiemetic prophylaxis with ondansetron and dexamethasone.

**Results and discussion:** 785 patients were selected to ambulatory liposuction surgery (78% females, 22% males). The main areas were abdomen and thighs, besides treatment of gynecomastia in males. Laser-assisted liposuction was performed 30%. The mean duration was 101 minutes; the mean time to discharge was 3.2 hours. The mean volume of fat aspirate was 2,100 cc. The procedure was well tolerated by the patients with a degree of sedation of 2-3 in Ramsay Sedation Score (15% need more sedation occasionally). The evaluation of pain was < 2 VAS in 95% of cases. The patient collaboration in postural changes was efficient in 95% of cases. All of the patients would choose this anesthetic technique again. The side effects more frequent were sickness (12%) and PONV (11%). One patient was taken to the hospital in the postoperative period because of bleeding complication that needed blood transfusion. It was a secondary abdominal surgery in a male who was discharged the following day.

**Conclusion:** Office-based liposuction can be performed in safety conditions if adequate patient selection criteria are considered, including the anticipated liposuction volume. Intravenous sedation is a good ambulatory anesthesia technique.

## AMBULATORY ANESTHESIA FOR OBESITY ENDOSCOPY PROCEDURES (INTRAGASTRIC BALLOON): A REVIEW OF 2,231 CONSECUTIVE CASES

*Agustín Ramos Zabala; Trinidad Dorado-Díaz; Beatriz Prada De las Heras; Marta San José Santos; María Manzanero Arroyo; Jose Ángel Palomo Ruiz*

**Background and Goal of Study:** Analyze the safety of outpatient anesthesia for endoscopy obesity treatment with intragastric balloon (IGB).

**Material and Methods:** Prospective study about the patients underwent treatment with IGB from June 2007 to January 2015. The patients were selected according to endoscopic-digestives criteria, psychological, medical, organizing and related to the patient criteria (BMI <46Kg/m<sup>2</sup>, age < 60). The IGB is removed after 6 months. 2 pre-anesthesia evaluations are done (IGB insertion and IGB removal). The patients are undergone a multidisciplinary medical program for 2 years. The IGB insertion is performed under sedation, and at the end, an exploratory laryngoscopy is done (to value difficult airway).

**Results:** 2,231 endoscopic procedures were scheduled. 1,126 patients were included: 76% females, 24% males; mean BMI 36.8 kg/m<sup>2</sup>; mean age 37; mean weight loss 23 kg. The IGB insertion (1,126) was carried out by conscious sedation; the procedure was well tolerated by all patients; the mean time of insertion was 8 minutes; mean time of discharge 31 minutes. 27 patients (1,2%) with digestive symptoms needed diagnostic endoscopies. 1,078 general anesthetics were performed to remove the IGB; the mean time was 22 minutes; the mean time of discharge 48 minutes; 9 IGB removal procedures were emergency because of complications, 1 bleeding (0,1%), 1 balloon deflation (0,1) and 7 intolerance symptoms (0.6%). Fiberscope-guided intubation was carried out in 38 patients with difficult airway management criteria (3%). The most frequent complications were: sickness (3%), sore throat (4%), nausea (4%). One patient had to take to the hospital due to she needed a laparoscopy surgery to remove the IGB in order to avoid esophagus damage (0,1%).

**Conclusion:** An adequate multidisciplinary organization permit to carry out IGB obesity treatments under outpatient anesthesia with safety and comfort to the patient, without mortality and with very low morbidity rates.



# OUTPATIENT PLASTIC SURGERY AND OBESITY ENDOSCOPY PROCEDURES IN PATIENTS WHO LIVE MORE THAN 200 KILOMETERS FAR AWAY: A REVIEW OF 381 CONSECUTIVE CASES

*Agustín Ramos Zabala; Trinidad Dorado-Díaz; Beatriz Prada De las Heras; Marta San José Santos; María Manzanero Arroyo; Jose Angel Palomo Ruiz*

**Background:** To evaluate the efficiency of the management of ambulatory procedures (plastic surgeries or intragastric balloon (IGB) endoscopy obesity procedures) in outpatients who live over 200 kilometers far away from the Office-based Anesthesia (OBA). The patients visit the plastic surgeon or the nutrition physician in a satellite clinic (SC) in a city 200 kilometers far from the OBA. The aim of our study is to assess the safety and efficacy of a phone preanesthesia evaluation.

**Material and methods:** The surgeon or the physician from the SC performs the procedure indication in the OBA (according to ambulatory protocols). The preanesthesia evaluation is carried out from the OBA in 2 phases: the previous week by phone (afterward sending pre-anesthesia documentation) and on the same day of procedure (evaluation of airway and preanesthesia checklist). The patients are operated in the OBA and after the discharge spend a night in a hotel; the next day they return home (after a medical checkup). The patients for IGB were selected according to medical multidisciplinary criteria ( $BMI < 46 \text{ Kg/m}^2$ ).

**Results:** 381 were performed in the OBA (ambulatory rate (AR) 92%); 284 plastic surgeries (89% AR) and 97 IGB procedures. Ambulatory surgeries: 127 breast surgeries (45%), 48 liposuctions (17%), 30 rhinoseptoplasties (11%), 33 blepharoplasties (12%), 33 otoplasties (12%). 201 general anesthesia (GA) (53%); 180 local anaesthesia-sedation procedures (47%). Mean duration of surgeries 88 minutes; mean time discharge 3 hours. Complications: pain (10%), sickness (6%), nausea/vomiting (3%). The IGB insertion was performed under sedation and was removed under GA. Mean duration of IGB 15 minutes; mean time discharge 40 minutes. 6 patients with difficult airway were detected (fiberscope-guided intubation). No hospital admissions. 2 surgeries were postponed after the second preanesthesia evaluation (0.7%).

**Conclusion:** The appropriate organization permits to make ambulatory anesthesia with safety and comfort to patients from other provinces.

# Management and Quality

## THE SERVICE PROCESS REENGINEERING AND OPTIMIZING OF THE DAY SURGERY IN CHINA

*Xue Bai; Hong-Shen Ma; Yan Dai*

There are many differences between China and other countries in the day surgery definition, development mode and management processes. Even in China, day surgery management pattern also reflect the diversity in different regions. Now there are three management models, which include "centralized management mode", "decentralized management mode" and "mixed management mode"; The centralized mode establishes a management platform for all the day surgeries in the hospital, multidisciplinary patient pool to the day surgery center with the standardized appointment and follow-up process; The second mode is the different clinical department has their own beds for the day patients which has different service processes; The last mode is a new mode base on the former two, in large medical institutions, mixed management mode not only can meet the development of the day surgery in the hospital beds constraints, but also improve

the utilization efficiency of the medical resources. Through the centralized appointment, the patient will be assigned to the day surgery center or the day surgery ward of the different department. This mode rebuilds the whole bed resources management process of the hospital, while increase the difficulty of management. Considering the medical environment of China and exploring the day surgery mode by taking the Day Surgery Center of the West China Hospital for example, then focus on reconstructing and optimizing the day surgery management mode to provide the better management process. At last, we compare the patient waiting time, hospital service efficiency and the management cost etc. in the different management modes base on the data analysis and provide decision-making reference for the day surgery manager.

## THE RISK FACTORS FOR INFLUENCING RECOVERY OF PATIENTS UNDERGOING ELECTIVE GASTROINTESTINAL SURGERY

*Yangyang Wang; Xiao Wang*

**Objective:** Many gastrointestinal surgeries are processed every year. To find the risk factors for influencing recovery of patients undergoing elective gastrointestinal surgery.

**Methods:** We performed a retrospective clinical study using data from January 2013 to March 2013 in West China hospital, Sichuan University. We selected the patients undergoing elective gastrointestinal surgery, and according the length of stay after surgery we divided them into two groups. Group A included the patients discharged from hospital in average days ( $\leq 9$  days). The patients in Group B stayed in hospital more than average days ( $> 9$  days) after the surgery. We used descriptive statistics, cross-tabulation, to describe patient characteristics. And logistic regression was used to identify risk factors for influencing recovery after surgery.

**Results:** Among many potential risk factors, we found that weight loss (OR=3.243; CI, 1.321-7.902,  $P=0.01$ ); hypokalemia (OR=0.172; CI, 0.031-0.967,  $P=0.046$ ); long operation time 4-5 hours (OR=24.425; CI, 2.832-210.686,  $P=0.004$ ); postoperative infection (OR=5.396; CI, 1-29.121,  $P=0.05$ ); fasting after surgery (Exp (B)=1.824, CI=1.496-2.224) and the heart rate changes (OR=4.635; CI, 1.465-14.663,  $P=0.009$ ) influence recovery after surgery.

**Conclusions:** Recovery after surgery is a complex outcome influenced by multiple factors. Weight loss, hypokalemia, long operation time, postoperative infection, fasting after surgery and the heart rate changes are risk factors for influencing recovery after surgery.

## TRANSPARENCY CONCERNING QUALITY OF CARE: A BLESSING OR A CURSE?

*Kenneth Coenye*

In Belgium, Federal and Regional Governments are imposing hospitals not only to work harder on patient safety and quality of care, but also to be transparent about their results and quality indicators.

However other countries have been imposing this kind of transparency for many years now, hospital staff and surgeons fear the effects transparency might have on patients' choice of care providers.

We will look at the results of the governmental audit of our day care centre and focus on according to what principles these results were made public and how staff and patients reacted.

## SAFETY AND EFFICACY IN AN OFFICE-BASED ANESTHESIA ACCREDITED FOR OUTPATIENT PLASTIC SURGERY AND OBESITY ENDOSCOPY PROCEDURES: A REVIEW OF 5,757 CONSECUTIVE CASES

*Agustín Ramos Zabala; Trinidad Dorado-Díaz; Marta San José; María Manzanero; Beatriz Prada; Jose Ángel Palomo*

**Background and Goal of Study:** Evaluate the efficiency of an Office-based Anesthesia (OBA) accredited for Outpatient plastic aesthetic Surgery and obesity endoscopy procedures (OEP).

**Material and methods:** Patients scheduled from June 2007 to January 2015 were included in a prospective study. The inclusion criteria in OBA applied, were related to the patient, surgical criteria and organizing criteria. The obesity treatment was the intragastric balloon (IGB), adding specific criteria as body mass index (BMI) < 46Kg/m<sup>2</sup>.

**Results:** 6,054 treatments were scheduled, 5,767 were performed at the Ambulatory Surgery Unit (ambulatory index (AI): 95%); 3,536 plastic-aesthetic surgeries (AI: 93%) and 2,231 obesity endoscopy procedures (AI: 99%). The ambulatory surgeries were: 1,792 breast implant (mastopexy included) (51%), 676 liposuction (19%), 243 rhinoplasty (7%), 281 blepharoplasty (8%), 191 otoplasty (5%), 109 gynecomastia (3%), 72 other breast surgery (2%), and other surgeries 172 (5%). 3,152 general anesthesia were performed (GA 55%), 2,586 local anesthesia/

sedation (45%), and 29 local anesthesia (0.5%). All GA were based on intravenous techniques (propofol and remifentanyl), with laryngeal mask (except rhinoplasty and IGB removal). The physicians implicated were plastic surgeons (12), other physicians (7) and anesthesiologists (10). The IGB placement was performed under sedation and was removed under GA. The mean duration of surgeries was 87 minutes and the mean time to discharge was 3.1 hours. The most frequent complications were sickness (8%), pain >3 at pain numeric scale (12%), nausea/vomiting (3.5%). The number of hospital admissions was 10 patients (0.17%), all of them were discharged the following day, but one needed a laparoscopy surgery to remove the IGB.

**Conclusion:** The appropriate organization permit to do OBA for plastic surgeries and OEP as an outpatient with safety and comfort to the patient, improving the efficiency of health resources, in spite of the fact there were a lot of different physicians implicated.

# THE IMPACT OF HOME HOSPITALIZATION ON AMBULATORY SURGERY

*Rafael Villalobos; Carmen Mias; Jorge Juan Olsina; Cristina Gas; Jordi Escoll*

**Introduction:** Ambulatory surgery is a very important procedure in a surgery department but sometimes there are patients that need hospital admission because of unexpected situations that we cannot foresee.

We present our experience on home hospitalization (HH) in some patients undergoing ambulatory surgery that required hospital admission for any circumstances.

**Material and Methods:** A retrospective observational study on ambulatory surgery patients admitted to the home hospitalization unit since 2010 up to 2014. We analyze demographics variables, surgical procedures, admission reason, nursery procedures at home, physician visits, nursery visits, complications, readmissions and HH stay.

Statistical quantitative and qualitative variables were analyzed to assess changes produced over the years.

**Results:** We admitted 1597 patients to the HH unit in this period of 5 years and 4,2% proceeded from outpatient surgery. The reasons for HH admission were: drainage control (58%); complex cures (30%); blood analysis control (9%); physician control (12%), IV antibiotics treatment (1,5%), associated morbidity (6%)

The resulting surgical procedures were: umbilical hernioplasties (31%), pylonidal cyst resection (30%), abdominal wall tumors resections (12%), thyroidectomies (7%), parathyroidectomies (6%), inguinal hernioplasties (4,5%), suppurative hidrosadenitis (3%), others (3%) . 36% of patients had a mean HH stay of 1 day and 9% more than 5 days. 16% required physician visit and 1,5% readmission.

**Conclusions:** The home hospitalization unit is a very strong tool to help patients that need hospital admission for any reasons after ambulatory surgery. We can save costs keeping efficiency and quality of care. Although the selection of outpatient surgery is suitable sometimes we have complications surgery or patient related so we consider that a HH unit is very important to improve postoperative cares.

# QUALITY ASSESSMENT OF AS BY INDICATORS AND PATIENT QUESTIONNAIRES. 15 YEARS EXPERIENCE

*Jost Brökelmann; Klaus Bäcker*

An instrument for quality assessment AQS1 exists since 2000. It uses 17 indicators to prospectively monitor process quality and safety of medical and organisational measures in ambulatory surgery (AS).

Quality assessment is analysed by 3 questionnaires – by surgeon, anaesthetist and patient. Until now, the questionnaires of 1.293.613 doctors and 557.966 patients out of more than 500 surgical units were evaluated. The return rate over 15 years was 44 %. Patient questionnaires are anonymous, filled out 2 weeks after surgery, and then sent to medicaltex institute.

The following clinical indicators were most helpful:

- Unplanned hospitalization within 14 days
- OR blocking time (from arrival of patient in the OR until leaving)
- Time period in the recovery area
- Inability to work (in days) after surgery
- 

- Intensity of wound pain on the first postoperative day
- Intensity of nausea on the first postoperative day
- Possibility to reach the surgeon or anaesthetist at any time
- Necessity after discharge to see another doctor as an emergency case
- Sufficient pain medication on the day of surgery (pain scale)
- Complication "wound infection" requiring treatment
- Complication "postoperative bleeding" requiring treatment
- Patient satisfaction with this ambulatory procedure

**Results:** 98% of the answering patients are satisfied with AS and would again choose AS. Complication rates for frequent surgical procedures are quite low and can be investigated on [www.patientenallee.de](http://www.patientenallee.de). It could be shown that different types of anaesthesia (local or general) correlate with a) time until discharge from surgical unit and b) time out of work. In a recent publication postoperative patient satisfaction is significantly related to preoperative information by surgeon and anaesthetist. Thus the preoperative information is the most important indicator for overall quality outcome. The costs for processing one case are 1.49€ per case.

## TOTAL QUALITY MANAGEMENT IN DAY CASE LAPAROSCOPIC CHOLECYSTECTOMY. PERCEIVED AND TECHNICAL QUALITY ASSESSMENT

*Manuel Planells Roig; Consuelo Arnal Bertomeu; Rafael Garcia Espinosa; Maria Cervera Delgado*

**Objective:** Prospective analysis of 400 consecutive patients undergoing ambulatory laparoscopic cholecystectomy (ALC).

**Methods:** Postoperative questionnaire filled by patients at the end of the first postop review in the office, between 3 and 5 days after the procedure).

**Results:** Questions related to perioperative and postoperative experience on ALC were included in the questionnaire. The most relevant questions in terms of acceptance of the procedure were as follows:

Evaluation of same day discharge: Very Good/Good 37.4% / 32.2%; Bad/Very Bad: 14.1% / 9.9%

Did you feel ALC as an unsafe procedure?: Yes 31.9% / No: 62.4%

Did you feel hospital stay was too short?: Yes 38.9% / No: 55.4%

Did you need to contact the emergency department? Yes: 2.2% / No: 97.5%

**Conclusions:** Although ALC is clearly a safe procedure with better quality results, it is well accepted by patients but a feeling of unsafety and too short observation period is still in patients culture. Educational interventions to avoid dominant culture of inpatient procedures may increase results in terms of perceived quality by patients.

## CLAIMS IN SURGERY AND AMBULATORY SURGERY DUE TO WRONG SIDE, WRONG PERSON OR WRONG SITE: A STUDY BASED ON SHAM INSURANCE DATA

*Alexandre Theissen; Frederic Fuz; Alain Follet; Mohamed Bouregba; Isabelle Rouquette-Vincenti; Patrick Niccolai*

**Introduction:** Wrong-side or site surgery is an event that should never even happen particularly since the recent implementation of the World Health Organization (WHO) checklist. In the few published economic studies the incidence is 1/50000 or 100000 surgeries. SHAM insurances are the biggest French provider of medical liability insurances (50 % of the market).

**Material and methods:** The aim of this study was to analyze the claim rate related to wrong side, person or site (or organ) during surgery, and to analyse if the claim occurred during ambulatory surgery. We did a retrospective study on insurance claims provided by SHAM insurances over a five years period (2007-2011).

**Results:** On the study period, out of a total of 29565 registered claims, 125 (0.42%) originated from wrong side, person or site during surgery and 68 were on ambulatory surgery.

The average amount of compensation respectively of 10223€ amicably and 19837€ by a court. The medical specialties concerned are primarily orthopedic surgery (n=46), neurosurgery (n=18), stomatology (n=13), ENT (ear, nose and throat) surgery (n=8) and visceral surgery (n=7).

**Conclusion:** The claim rate due to wrong site, side or person is rare but with a relatively large amount of compensations. A majority of these cases was happening during ambulatory surgery. The file review shows that the causes are mainly related to human errors in a multifactorial context: emergency surgery, significant number of caregivers, non-team communication, excessive workload, no procedure verification (checklist).

These data should help strengthen quality approach in the operating room and shows the importance of the systematic use of the WHO checklist. The majority of claims occurred after January 2010, when the use of this checklist became compulsory in France.

## THE FOLLOW-UP PHONE CALL BY DAY SURGERY NURSES. EXPERIENCE OF A MULTIDISCIPLINARY UNIT

*Inés Pérez Irache; Patricia Barcelona; María Ángeles Luengo; María Jesús Pemán; Carmen Algora; Alfredo Jiménez Bernadó*

**Introduction:** Patient control at home after discharge is essential in Day Surgery (DS). A phone questionnaire carried out the day after surgery by a trained nurse is an excellent tool to obtain information about the postoperative recovery.

**Objective:** The aim of this study is to know the most frequent postoperative complaints in patients operated on in a multidisciplinary DS unit during 16 years.

**Methods:** This retrospective study has been done with the phone calls made to the patients operated on between March 1999 and February 2015. Each patient was phoned one, two or three days after surgery by a DS nurse. Patients or their caregivers were asked about 10 different items. Information was registered and processed in a database created with Stat-View 5.1.0 software. Statistical comparisons were made with contingency tables and chi square test. Significance was defined as  $p < 0.05$ .

**Results:** A total of 21890 call phone were made. The most frequent procedures were cataract surgery, 39,5 per cent, hernia repair, 8,9 per cent, varicose veins excision, 7,2% and fascia-tendon surgery, 5,4 per cent. A 86.3 per cent of patients reported excellent condition and only 0,9 per cent were in a regular or bad condition. Bad pain control was detected in 7.9 per cent of patients, stained dressing in 5.1 per cent, nausea in 2 per cent, vomiting in 1.4 per cent and fever in 0.2 per cent. Uncontrolled pain mainly was related to hallux valgus correction, 39,9 per cent, knee arthroscopy, 13,8 per cent and anal surgery, 12,5 per cent.

**Conclusion:** 1. The phone call of the day after is an excellent instrument for recovery control increasing patient and caregivers satisfaction. 2. Bad pain control is the most frequent complaint and it is mainly related to orthopedic surgery, hallux valgus correction and knee arthroscopy.

## THE NURSING ANALYSIS OF 71 PATIENTS WITH ADVERSE REACTIONS AFTER LAPAROSCOPIC CHOLECYSTECTOMY IN AMBULATORY SURGERY WARD

*Yan Dai; Yu Yin*

**Objective:** Explore the nursing intervention for reducing the adverse reactions of ambulatory surgery patients.

**Method:** We adopt corresponding nursing measures by analyzing the adverse reactions' reason of 503 patients after laparoscopic cholecystectomy in Ambulatory surgery ward between December 2013 and October 2014.

**Result:** The adverse reactions: 6.36% Postoperative pain, 3.37% nausea and vomiting, 1.78% urinary retention, 1.78% wound bleeding and 0.59% placed drainage tube. The patients discharge from hospital on time for corresponding nursing measures.

**Conclusion:** The nursing intervention can reduce postoperative adverse reactions and improve patients' experience in hospital.



## NEW APPLICATIONS FOR THE NEW THORACIC WALL ULTRASOUND GUIDED BLOCKS. THE RECENTLY DESCRIBED BLOCKS CAN BE USE FOR MORE PROCEDURES APPART FROM BREAST SURGERY

*Patricia Alfaro; Mario Fajardo Pérez; Monir Kabiri Sacramento, María López Gómez*

**Background and Aims:** In the last years there have been described some new regional blocks of the thoracic wall for breast surgery. They are still in development but their easiness performing make it possible to use them for a great variety of procedures.

**Methods:** We present 7 cases of patients (previous informed consent obtained) in which one of this block was used in peculiar conditions. CASE 1: 40 year-old female scheduled for brachytherapy for breast cancer treatment under the serrato-intercostal block;

CASE 2: 31 year-old male with shoulder chronic pain relieved after alcohol neurolysis of the medial pectoral nerve ultrasound-guided;

CASE 3: 20 year-old female scheduled for sentinel node excision;

CASE 4: breast cancer lumpectomy in a 49 year-old female with catamenial pneumothorax for breast cancer lumpectomy without general anesthesia;

CASE 5: 71 year-old female with a LVEF 26% and dilated myocardiopathy who underwent for a radical mastectomy without general anesthesia.

CASE 6: 31 year-old male, with community-acquired pneumonia complicated with multiorganic failure and respiratory distress. A pleural fistula generated a bilateral pneumothorax aggravating his management.

CASE 7: 60 year-old male (BMI>50) needed ICU admission after a 4th floor fall. He presented multiple rib fractures: 3th-11th in the right hemi-thorax and 3th-12th in the left.

**Results:** In all cases the block was successfully performed and also provided the expected results of pain relief, analgesia or anesthesia in each case. No adverse effects were reported.

**Conclusions:** We have long experience performing the thoracic wall blocks for breast surgery and we used it for these patients in order give them the best clinical management because of their added pathologies or special conditions. We hope these techniques become a popular regional block when more clinical trials are published and give them enough evidence.

## ARTHROSCOPIC KNEE SURGERY IN A DAY SURGERY UNIT

*Berta Jiménez Salas; Marta Miñana Barrios; Francisco Javier Ramiro García; Alfredo Jiménez Bernadó; Belén Seral García; Jorge Albareda Albereda*

**Introduction:** Knee arthroscopy is one of the most common procedures performed in Day Surgery Units (DSU) within Orthopedics. The aim of this study is to evaluate this procedure in our multidisciplinary unit.

**Methods:** This is an observational study of 867 patients selected for knee arthroscopy in DSU in 20 years. Mean age of patients, 47 years old, 61% men. The most common diagnosis were: Menisopathies 82%, gonarthrosis 4,6%, patellar chondropathy 3,3%, femoral chondropathy 3% and gonalgia 1,2%. Statistical analysis was performed with the data base of the unit using Stat-View 5.1.0 software .

**Results:** Knee arthroscopy represents the 3% of the surgical procedures operated on in our DSU from the beginning of its activity and the 21.3% of those performed by orthopedic surgeons. The 94% of the arthroscopies were therapeutic (partial meniscectomy and a few cases of arthroscopic ACL reconstruction). Spinal anesthesia was the most common, 89,4%, followed by general anesthesia, 10,6%. Mean duration of operations was 50 minutes. There were no major complications. The minor complications were: urinary retention after spinal

anesthesia 19,7%, inadequate post-operative pain control 5,6%, hemarthrosis 1,3%, wound bleeding 1,1%. Hospital admission was necessary in 2,4% of cases due to dizziness or wound bleeding and readmission was 0,1%, due to wound infection.

**Conclusions:** 1.Arthroscopy knee surgery represents almost the 25% of orthopedic day surgery.

2.Meniscal pathology is the most common indication for knee arthroscopy in day surgery.

3.Urinary retention was very frequent, in relation to spinal anesthesia, but was not a cause of unplanned hospital admission in any case.

4.The most common indicators in day surgery, unexpected hospital admissions and readmissions were comparable with standards.

5.These results should encourage the Orthopedic Department to incorporate more complex techniques such as ligamentoplasties, uncommonly performed in outpatient basis.

# ADHERENCE TO ASECMA THROMBOPROPHYLAXIS RECOMMENDATIONS IN ORTHOPEDIC AMBULATORY SURGERY

Berta Jiménez Salas; Marta Miñana Barrios; María Llorens Eizaguerri; Alfredo Jiménez Bernadó; Belén Seral García; Jorge Albareda Albareda

**Introduction:** ASECMA, the Spanish day surgery Association, updated in 2011 the guideline Recommendations about thromboprophylaxis in ambulatory surgery. Procedures and patients selected to be operated on in orthopedics day surgery often have low or moderate risk to develop a venous thromboembolism. The aim of this study is to assess the adherence to this guideline in our day surgery unit.

**Methods:** A total of 4062 orthopedic ambulatory patients were operated on in 20 years. ASECMA recommendations about thromboprophylaxis are based on surgical and patient risks and include mechanical methods as early ambulation and stockings and pharmacological prophylaxis with low molecular weight heparin (LMWH). The rate of compliance of the guideline was assessed analyzing the data base of the unit with the Stat-View 5.1.0 software.

**Results:** Applying the ASECMA guideline 2149 patients should have been prevented with early ambulation and LMWH during 10 days. Almost all of the patients, 97,3%, were discharged 3-6 hours after the operation complying with early ambulation. The rate of compliance with LMWH prevention was 56%. Analyzing the most frequent procedures, the adherence to guideline was 69,1% in knee arthroscopy, 50,8% in osteosynthesis implant removal and 79,7% in hallux valgus correction. There were no major complications or symptomatic deep venous thrombosis. Other complications that could be related with LMWH prevention as hematoma or wound bleeding only occurred in 0,63% and 0,59% of cases.

**Conclusions:** 1. There have been no venous thromboembolism events probably in relation to the moderate or low risk of patients and procedures included in orthopedic ambulatory surgery.

2. The rate of compliance of ASECMA guideline about thromboprophylaxis has been 56%, probably related to the ignorance of recommendations among clinicians.

3. Despite the zero incidences registered the severity of the complication force a better adherence to the recommendations of the ASECMA guidelines.

# TEN YEARS' EXPERIENCE OF DAY-CARE SURGERY IN PEDIATRICS

Gongbao Liu; Kuiran Dong; Hao Li; Shan Zheng

**Background/Purpose:** The report of day-care surgery in developing countries is few. The aim of the study is to introduce some experience in the development and application of day-care surgery in China.

**Methods and Materials:** The study was a retrospective analysis of 13408 patients with day-care surgery between January 2004 and December 2014, including 8732 males (65.1%) and 4676 females (34.9%). The mean age of study is  $40.30 \pm 28.36$  months. Day-care surgery had been applied to 12 kinds of disease. The most common disease was inguinal hernia ( $n=7657$ ), followed by phimosis ( $n=4057$ ). 1543 operations (11.6%) had local anesthesia while the others had general anesthesia.

**Results:** The mean interval of scheduled time is  $11.64 \pm 4.73$  days, which is much shorter than that of waiting for admission ( $35.63 \pm 14.24$  days,  $P < .05$ ). 52 patients (3.88 per thousand) had further observation over night. The severe complication of anesthesia is rare, of which 12 patients (1.0 per thousand) had convulsions and temporary hypoxia due to the toxicity of local anesthetic while one patient recovered his spontaneous breath two days after mechanical ventilation. Unstandardized procedure is the only factor of complication associated with anesthesia

by either univariate analyses or multivariate analyses ( $P < .05$ ). Nobody had convulsion or hypoxia when endotracheal anesthesia with sevoflurane was combined since 2012. The incidence of complication of operation is 8.9 per thousand, which is similar to that of routine admission (8.1 per thousand,  $P > .05$ ). The mean cost of day-care surgery is about 11.2% cheaper than that of routine admission. Insurance (95.1%), distance (87.6%) and traffic (82.4%) were three main aspects for parents' concerns about day-care surgery.

**Conclusions:** Day-care surgery is also effective in pediatrics. It can shorten the interval of waiting for operation as well as reduce the cost. The standard procedure is the keystone of avoiding complication of anesthesia.



### TISSUE TOLERANCE OF A NEW INGUINAL HERNIOPLASTY MESH: ENDOSCOPIC AND HISTOLOGICAL ANALYSIS ON PORCINE ANIMAL MODEL

*Ana María Matos-Azevedo; José Antonio Fatás Cabeza; Cristóbal Zaragoza-Fernández; Juan Marín; Francis Navarro; Francisco Miguel Sánchez-Margallo*

**Introduction:** In view of the current quest for the dynamic adaptation of meshes to the groin anatomy in order to reduce pain and foreign body reaction, we designed an experimental study to determine the tissue reaction to a new three dimensional implant for inguinal hernioplasty on a porcine animal model.

**Methods:** This study was divided in two-phases, the first designed to test the new 3D design, and the second to determine if we could further improve tissue inflammatory and foreign body reaction by using different materials. Implantation was carried out with a modified Lichtenstein technique on three (phase 1) and five (phase 2) porcine animal models. Follow-up for both study phases was of 40-days, after which the animals were anaesthetised for laparoscopic assessment of intra-abdominal lesions and macroscopic analysis, and for histological sample collection of the implantation site.

**Results:** All animals showed good tolerance of the surgical procedure, and the follow-up period was uneventful. Images obtained by laparoscopy showed no inflammatory lesions on the peritoneal surface around the internal inguinal ring. Macroscopic observation of implantation site revealed local fibrosis and tissue reorganisation, no signs of infection, and no changes on original implant positioning. Histological analysis of the obtained samples showed the deferent duct maintaining its central position and surrounded by vascular and nervous structures. Differences in inflammatory lesion score could be found between the different chosen materials in phase 2.

**Conclusion:** By experimentally implanting a new mesh designed with an inherent radial recoil, vertical buffering and friction, and delivered in a constrained state, we observed a very high tissue incorporation of the foreign material, without secondary deleterious effects forty days after implantation, and further improved by careful and comparative study of the most adequate material.

### THE NEW 3D MESH DIABOLO FOR INGUINAL HERNIOPLASTY – IDEAL IMPLANTATION TECHNIQUE

*José Antonio Fatás Cabeza; Cristóbal Zaragoza-Fernández; Ana María Matos-Azevedo; Juan Marín; Francis Navarro*

**Introduction:** This presentation is intended to demonstrate the ideal implantation technique for inguinal hernioplasty with a newly designed 3D polypropylene mesh, and its subjective assessment after the first 100 patients.

**Methods:** A transverse or oblique incision is performed at the level of the external inguinal ring. The oblique muscle's aponeurosis is incised parallel to its fibers respecting the regional nerves, followed by the anatomisation of the spermatic cord. The muscle fibers of the spermatic cord are transversely sectioned. The pre peritoneal space is dissected, in order to create a space for the inferior surface of the 3D mesh. Half of the implant is passed under the spermatic cord, leaving the cord in its anatomical position and surrounded by the implant. To facilitate its stability, two sutures can be placed on the cephalic extremities of both mesh surfaces. The inferior surface is then extended in the pre peritoneal space covering the hernia sac and unfolding behind the epigastric vessels. The superior surface of the mesh is extended over the inguinal canal. Once the 3D mesh is successfully deployed, all layers are sutured in conventional manner. Assessment of the mesh was determined by average implantation time and surgeons' subjective evaluation.

**Results:** The deployment of the newly designed 3D mesh was easy and intuitive, and highly favoured the anatomical adaptation to the inguinal region. Its stability did not advocate the placement of any additional fixing sutures to the elements of the inguinal floor. On the first series of patients, average implantation time was  $8.7 \pm 4.2$  minutes. **Conclusions:** The newly designed 3D mesh is intended to adapt to both left and right direct and indirect inguinal hernias, providing a fast and stable closure of the pre peritoneal space and an anatomical dynamic reconstruction of the inguinal region in both men and women.

## RESULTS OF THE IMPLEMENTATION OF HOME ELASTOMERIC PUMP AFTER HEMORRHOIDECTOMY IN ÉCIJA HIGH RESOLUTION HOSPITAL

*Concepcion Del Alamo Juzgado; Estela Romero Vargas; Evangelina Palacios Garcia; Francisco Muñoz Pozo; Luis Herrera Gutierrez; Juan Pastor Roldan Aviña*

**Introduction:** Postoperative pain in hemorrhoidectomy is a surgical defiance for multidisciplinary teams. It produces patient suffering and causes unscheduled admissions and readmissions. This study shows the impact of the implementation of home elastomeric pump (HEP) in Ecija High Resolution Hospital (HRH)

**Material and Methods:** Prospective study of 52 patients undergoing hemorrhoid during 2012-2014 is performed. 30 males and 22 females was included, (36 III level hemorrhoid-16 IV level) I. Technique: Milligan-Morgan with a vascular sealant. All were treated with HEP 100ml / 2ml during 50h. It is measured pain in the hospital: VAS(Visual Analogic Score), 24h: EDS, 72h: nursing consultation: VAS. Determined: HEP complications, % resolution rate CMA, % readmissions for pain HEP and after withdrawal, and the degree of satisfaction (GS)

**Results:** Pain registered: during hospital stay Pain 0: 15.62%, Mild: 81.25% Moderate: 3.12%, High: 0%. 24 h: Pain 0: 44.18% Mild: 44.18% Moderate: 11.62%, High: 0%. Following the pump's removal: Pain 0: 3.03% Mild: 36.36% Moderate: 60.60% High: 0%. HEP's Complication: 0. AMS% resolution rate: 98.07%. Unscheduled admissions for pain 1.92% . Readmissions with HEP: 0. After HEP's removing 7.6%. Satisfaction score: Very satisfied: 50% Satisfied: 50% Dissatisfied: 0%, Absolutely dissatisfied: 0%

**Conclusions:** HEP associated to multimodal analgesia is an effective method for pain control and it is safe and easy to use for patients. We have not already registered complications associated with it's use. Satisfaction rate is very high. It also reduces the number of unscheduled admissions. However, after removal, even applying oral analgesia, we have observed an increased moderate pain level at 72 h in a high percentage. This fact requires most studies to determine causes, which are not necessarily derived from the surgery (we suppose could be lack of adherence to treatment, constipation etc.), to evaluate this effect.

## POSTER PRESENTATION OF A NEW DAY CARE METHOD TO TREAT FISTULA IN ANO – SLOFT (SUBMUCOSAL LIGATION OF FISTULA TRACT)

*Dilip Pathak*

Pictorial display of the technique

1. Probing of fistula tract.
2. Incision near int opening and passing aneurism needle around the indwelling probe to take suture around the tract.
3. Probe out, Ligation and transaction of tract near internal opening.
4. Coring of external tract.
5. Closure of endo anal wound.

**Discussion:** Simpler way to close internal opening than Flap advancement or LIFT. Economical than VAAFT and Fistula Plug with same results. Less painful and morbid than Seton and fistulotomy.

Recurrence rate is less than 10% with no incontinence.

## TRANSURETHRAL RESECTION OF LOW RISK BLADDER TUMORS IN AMBULATORY SETTINGS. EXPERIENCE AND RESULTS

*Oriol Calaf Perisé; Roberto Martínez Rodríguez; Joan Areal Calama; Juan Camilo Pereira Barrios; Gemma García de Manuel; Mauro Sbriglio; Carles Castillo Pacheco; Luis Ibarz Servio*

**Objective:** To evaluate oncologic results of patents who underwent transurethral resection (TURB) of recurred bladder tumors in ambulatory settings.

**Materials and Method:** We studied the evolution of 44 patients subjected to 60 endoscopic ambulatory procedures, between January 2012 and May 2013. After anesthetic evaluation, patients are subjected to the procedure under anesthesia and discharged after 3-4 hours with or without urethral catheter, withdrawing it in 24 hours. We describe the patients' features (age, sex, ASA scale), anatomopathologic characteristics of the tumor, recurrence rate at 3 and 12 months, risk of progression depending on tumor grade.

**Results:** We performed 53 transurethral bladder resections and 7 multiple random biopsies in 44 patients, 32 male (72%) with 67.5 years of mean age. 46 had previous tumors (87%) with the following stages: 30Ta (65%), 9T1 (20%) and 7Tx (15%).

Patients showed a mean of 1.5 tumors with a mean size of 6.3mm. It was performed TURB to the tumors with the following stages: 22Ta (36,6%), 4T1 (6,6%), 18T0 (30%) and 15Tx (25%).

We include in this stage tumors less than 5mm that where fulgurated and electrocoagulation artifacts. In 4 of the patients (9.52%) high grade tumor was diagnosed, all of them with a T1 stage. The recurrence rate at 3 and 12 months was 13 and 15%.

There was 1 Grade III Clavien Dindo scale complication (1,6%) consisting in haematuria requiring surgical intervention. 10 patients (16,6%) presented a Grade I Clavien Dindo scale complication) consisting in bladder outlet obstruction.

31 patients (51,7%) where discharged without urethral catheter and in 29 (48,30%) it was withdrawn after 24 hours.

**Conclusion:** TURB in ambulatory settings for low risk tumors is an oncologically correct choice with low rate of immediate complications.

## ENDOSCOPIC TREATMENT OF LOWER URINARY TRACT STRICTURES IN AMBULATORY SETTINGS. DESCRIPTION, EXPERIENCE AND RESULTS

*Oriol Calaf Perisé; Roberto Martínez Rodríguez; Joan Areal Calama; Juan Camilo Pereira Barrios; Gemma García de Manuel; Mauro Sbriglio; Carles Castillo Pacheco; Luis Ibarz Servio*

**Introduction:** One of the most extended treatments of short lower urinary tract strictures is internal urethrotomy under direct vision. Although it's high recurrence rate it is often the first treatment applied. It can be performed under anesthesia in ambulatory regime.

**Materials and Methods:** We have retrospectively studied 22 patients with lower urinary tract stricture who have been performed an internal urethrotomy between may 2011 and may 2013. We describe: stricture characteristics (etiology, length, number and location), pre and postoperative flow, days of bladder catheter, postoperative complications according to adapted Clavien Dindo scale and recurrence rate at 12 months.

**Results:** All patients were males. 36% presented with two or more strictures with a mean length of 1.4cm [0,5-2,5cm]. The procedure was performed using Sachse's urethrotome using cold knife incision. 65% of the strictures were located in bulbar urethra, 10% in penile urethra, 3% in prostatic urethra and 22% in the urethrovesical anastomosis. 54% was iatrogenic due to a previous endoscopic procedure, 31% after radical prostatectomy and 13% was considered idiopathic.

27% had undergone a previous urethrotomy. Its global recurrence rate was 50%. In second urethrotomies the recurrence rate increased to 66%. The greatest rate was found in penile urethra strictures, with a 67%, whereas the lower was found in urethrotomies of urethrovesical anastomosis (0%). An urethral catheter was left for a mean of 19,5 days [7-54 days].

It's been found an increase of the postoperative urinary flow of 3,8ml/s [-1 to 7,7ml/s]. Postoperative complications: 4% urinary tract infection (Grade II of Clavien Dindo scale) and 10% bladder outlet obstruction (Grade I).

**Conclusions:** Direct vision internal urethrotomy in ambulatory settings is a procedure with low complication rate. The knowledge of the factors related to the recurrence can help to improve this technique results.

## EXPERIENCE IN LAPAROSCOPIC CHOLECYSTECTOMY ABOUT AMBULATORY SURGERY PROGRAM IN A HIGH RESOLUTION HOSPITAL

*Francisco Muñoz Pozo; Concepción del Álamo Juzgado; M<sup>a</sup> Estela Romero Vargas; Evangelina Palacios García; Luis Herrera Gutiérrez; Juan Pastor Roldán Aviña*

**Introduction:** Laparoscopic cholecystectomy has been progressively incorporated into the programs of ambulatory surgery due to a fast recovery provided by the laparoscopic approach. We present our five years experience with this technique with a stay below 24 hours.

**Patients:** From 2010 to 2014, both inclusive, 148 patients were operated by laparoscopic cholecystectomy in an ambulatory surgery program. We established inclusion and outcome criteria and a fast outcome protocol. Postoperative follow-up was performed by a schedule of reviews including phone call within 24 hours, nursing review in three days and surgeon review in a month.

**Results:** The success rate of this procedure in ambulatory surgery was 78.49%. A total of 25 patients required admission for some reasons (pain, bleeding, medical complications, laparotomy conversion and, especially, social causes). Six patients were readmitted due to fever, pain, bloating and bile peritonitis. A total 2.7% of reoperations were conversions to laparotomy. 24 hours call was performed in 100% of cases. A right nursing review on the third day has documented in 98.7% of patients. 94.2% of patients turn up to month surgeon review.

**Conclusions:** Laparoscopic cholecystectomy in ambulatory surgery program is a reliable procedure that offers safety and good results in patient's outcome.

## DAY SURGERY FOR PERITONEAL DIALYSIS CATHETER IMPLANTATION

*José Rebollar Sáenz; Eugenia Campo Cimarras; José Ignacio Minguela Pesquera; Jaione Sáez de Ugarte Sobron; Iñaki Martínez Rodríguez; Ysaac Angulo Revilla*

**Introduction:** Continuous ambulatory peritoneal dialysis is one of the main treatments for end-stage renal disease. The aim of our review is to describe the indications, outpatient surgical technique, income and readmissions, as well as complications, causes of catheter removed and survival of the same.

**Methods:** Between December 1996 and January 2014, 313 peritoneal dialysis catheters (Care-Cath B. Braun) were implanted in 253 patients (69% male, mean age 54 years). 80.6 % were implanted only one catheter, 15.4% two, 3.5% three and 0.4% four. 276 (88,2%) were performed in outpatient surgery.

The most frequent indication of peritoneal dialysis was chronic glomerulonephritis (24.9 %), followed by tubulointerstitial nephropathy (11.7%), polycystic kidney disease (11.7%), diabetic nephropathy (11.4%) and nephroangiosclerosis (9.3%).

We have used open surgery under local anesthesia and sedation. We performed a rectal muscle incision through which introduce the self-locating catheter, the outside of the catheter was externalized through a subcutaneous tunnel to try to reduce the possibility of infection and prevent movement. Antibiotic and antithrombotic prophylaxis was performed in all patients.

**Results:** One patient remained hospitalized and readmissions index was 2.23% (5 patients, two for pain and three surgical wound hematoma). Complications recorded were a bladder perforation and two hernias of the surgical wound. During the follow up occurred 22 dacron extrusions and 29 exit-site infections.

The average life of the catheters was 736 days. 10% still continue active, 50% was removed by the end of peritoneal dialysis, 15% by peritonitis, 3.9% by malposition of catheter and 2% by omental wrapping of catheter.

**Conclusions:** The implantation of peritoneal dialysis catheters with open surgery and ambulatory surgery is effective, efficient and entirely feasible.

## TRANSILIAC HERNIA AFTER BONE GRAFT

*Jorge Ord; Juan José Espert; Antonio de Lacy Fortuny*

Lumbar hernias are rare with approximately 300 cases described in the literature. The iliac crest is a common donor site for autogenous bone grafts. The hernia is a rare complication secondary to this procedure; the risk of incarceration is evaluated at 25% and that of strangulation 10%, therefore surgical management is indicated.

Transabdominal, retroperitoneal and laparoscopic approaches have been described for the repair of lumbar hernias. We describe a case of transiliac hernia containing a portion of colon after iliac crest bone graft harvest and medical report of two transabdominal

repairs failed. We perform a laparoscopic repair by apposition of a Dualmesh® affixed to the iliac and transverse muscles with resorbable tacks.

The laparoscopic approach has proven to be feasible, safe and associated with the advantages of minimally invasive and ambulatory surgery already known.

## BREAST CANCER IN AMBULATORY SURGERY PROGRAM: FEASIBILITY AND SAFETY

*M<sup>a</sup> Estela Romero; Concepción Del Álamo Juzgado; Eva Palacios García; Luís Herrera Gutierrez; Juan Pastor Roldán Aviña; Francisco Muñoz Pozo*

**Introduction:** Breast cancer is currently the second cause of general mortality among Spanish women and the leading cause of cancer mortality in this group. Surgical treatment is a traumatic experience for women with cancer, since the stress of the diagnosis of malignancy, fear of surgery and a hospital stay that destabilizes the usual family dynamics. The reduction of hospital stay less than 24 hours from surgery can be a psychological relief for the patient who would benefit from an early return to her home.

**Patients and Methods:** Cases of breast cancer in the Ecija High Resolution hospital who has been operated in Ambulatory Surgery program are presented. Patients were discharged within 24 hours after surgery, being trained in the use of drains at home, and scheduled in 48h to nursing review and removal of drains. The surgeon value patients in 15 days, they are informed of the final pathologic results and are referred to oncology. Complications and causes of income are registered when they happens.

**Results:** 100 patients with breast cancer operated in ambulatory surgery program are filled and presented. Demographics features, ASA risk and ambulatory resolution rates, complications and readmissions are presented and compared with published data on the papers.

**Conclusions:** Breast cancer can be treated in ambulatory surgery program safely, without an increase in complication rates, and with the clear psychological benefit of a short hospital stay for a malignant carrier.

## ANALYSIS OF THE CAUSES OF DELAY DISCHARGE PATIENTS AFTER DAY SURGERY

Yang Liu

**Objective:** Through the delay discharge causes of day surgery patients analysis, provides the basis for day surgery hospital management quality monitoring, to minimize the effects of patients are.

**Methods:** The clinical data of 14560 cases with day surgery patients from Apr. 2012 to Aug. 2014 in our hospital were analyzed retrospectively. Analysis the reason of day surgery of delay of discharged patients.

**Results:** There are 81 cases delay of discharged patients of 14560 cases with day surgery patients, delayed discharge rate 0.56%(81/14560). Male 36 cases, female 45 cases, age minimum 4 months, the biggest 73 years old, the average age of 42.6 years old. There are 37 cases delay of discharged patients back to the general ward, others 41 back to the community ward. Delayed

of discharged patients were mainly have gallbladder stones, varicose veins of lower extremity, gastrointestinal polyps, inguinal hernia and so on. The main reason is the operation indications of preoperative evaluation is not enough, the postoperative complications, narcotic factors and patient's condition four major categories.

**Conclusion:** We should strictly grasp the indications of anesthesia and operation in patients with day surgery, strengthen the patients admission, let patients psychological fully accept the day surgery. Early prevention of after surgery complications may arise, it can reduce the delay in discharge rate, so as to guarantee medical quality and safety in patients with daytime operation.

## AMBULATORY LAPAROSCOPIC CHOLECYSTECTOMY. ASSESSMENT OF THE BUDGETARY IMPACT VERSUS SHORT STAY

*Fernando Docobo Durántez; Julio Reguera-Rosal; Cesar Ramírez Plaza; José Luis Sánchez Arjona; Juan José Segura-Sampedro; Jesús Cañete-Gomez; Francisco Javier Padillo Ruiz*

**Introduction:** The aim of this study is to analyze the annual budgetary impact of performing laparoscopic cholecystectomy in an ambulatory program without stay from programs that generate hospitalizations, to confirm or rule out the hypothesis that ambulatory laparoscopic cholecystectomy (ALC) have less impact on annual cost and stays that laparoscopic cholecystectomy requiring admission (LC).

**Material and Methods:** We analyzed the production from 2010-2012 of the processes associated with ALC and LC programs performed in University Hospitals Virgen del Rocio, belonging to the Andalusian Public Health System, carrying out the same modeling, valuation of costs, annual economic impact and calculating the associated stays. The costs associated with these processes have been calculated in terms of cost of GRD and stays, including associated readmission rates.

**Results:** The average production of ALC has been 67.33 process / year and LC with income 314,33 processes / year. The ALC, within the Ambulatory Surgery Program (ASP), has brought benefits means 88,902 euros in the last three years. Given readmissions, we estimated the average stay of outpatient process in our environment is of 0.44 days / process, establishing a theoretical limit of effectiveness of 0.94 stays / process.

**Conclusions:** ALC into a well structured ASP has less impact on annual cost and stays that laparoscopic surgery that requires admission. Readmissions after ALC is the factor that most influences the budgetary impact against LC with income. However, the process under ASP continues to provide overall savings provided that the average stay of the process is less than the theoretical limit of the estimated effectiveness.



# LAH (LAPAROSCOPE ASSISTED HERNIOPLASTY) FOR AMBULATORY GROIN HERNIA OPERATION

*Hiroko Imazu;Yumi Imazu*

**Introduction:** I perform a LAH (laparoscope assisted hernioplasty) operation to use a laparoscope with local or epidural anesthesia for a ambulatory groin hernia operation from 2012. This method is combination conventional mesh repair and laparoscope, and it has the following some merits. 1, shortening of the wound, 2. It is more exact than the naked eye, because of expansion. 3. post operative pain is slight. 4. can go home in a short time.

**Method:** I diagnosed type of the hernia by ultrasonography before an operation and decided an operation method. I perform the Direct Kugel method for indirect hernia and perform the Kugel method in direct hernia from 1.5-2cm length wound. Until the handling of hernia sac, I perform both methods with used a magnifying glass (2.5 times expansion). After this processing, I detached as much as possible between peritoneum and preperitoneal fat tissue layer from a wound using laparoscopy. After detachment, I measure a detachment range and insert mesh of size as big as possible. The mesh which I insert it in preperitoneal fat tissue layer, and unfolded enough using laparoscope.

**Results:** I was operated on to 606 patients (640 lesions). Their sex ratio were 9:1 (males: females), with mean age of 56.6 years (range 18-88). The type of hernia was indirect hernia 493 lesions, direct hernia 123 lesions, femoral hernia 6 lesions and combine type 14 lesions. All cases average operation time were 49min (with in bilateral) and mean wound length was 1.7cm. All cases came home on same day (mean postoperative time was 37 min) and 8 recurrence and no severe complications.

**Conclusions:** There was not the case that a day surgery was not possible. The severe complications are not seen after operation, and the inguinal hernia day surgery is basically possible in all cases by LAH.

## THE KEY OF THE DAY SURGERY DEVELOPMENT

*Peiming Li; Xingpeng Wang*

One-year retrospective analysis from Nov. 2013 to Oct. 2014 displayed a day surgery management model conducted by Day Surgery Center of Shanghai General Hospital (North) to manage the day surgical patients and the clinic data effectively. We set up standard procedure and regulations, and recruited the specialized medical staffs to manage the Day-Surgery Center. All patients just only need to visit the hospital one time before the operation.

During that period, 5403 operations were performed, and patients were hospitalized for an average of 2.37days. The department of general surgery, obstetrics and gynecology and plastic operation are major players, which account for more than 73% day surgery operations. So we concluded the day surgery is an effective way to shorten patients' hospital stays, and the specialized medical staffs play important roles in management.

## UVULO-PALATO-PHARYNGOPLASTY: COMMON OTOLARYNGOLOGY TECHNIQUE PERFORMED AS AMBULATORY SURGERY

*Ana Mateo Monfort; Carlos Perez Megia*

Uvulo-palato-pharyngoplasty (UPP) is being performed in our Hospital as an ambulatory surgery (AS) since 2010. Previously it was an in-patient surgery, with a minimum one night stay. Outpatient surgery is a continually evolving speciality; our Viladecans hospital located in Barcelona has over 25 years experience in Ambulatory Surgery, and thus our Otolaryngology department has gradually incorporating new procedures to short stay procedures.

The introduction of new surgical techniques for UPP surgery and electrocautery dissection allow better control of standardized postoperative pain, less bleeding and complications. The development of surgical experience and knowledge of advance techniques and instruments, allowed us to obtain better results and so, do more outpatient surgery.

From 2009, 25 UPP were done under general anesthesia, only 5 were outpatient (20%). Nowadays we have improved our management and the substitution index (SI) from 0 to 33.33% in 2014. The patients had a mean age of 47.7 years; 44% had clinical improvement of their symptoms (11 patients) and 3 patients (12%) had complications: 2 admitted for hematoma and severe pain and 1 readmission for pain.

**Conclusions:** New surgical techniques, technologies and better management of postoperative control and anaesthesia coordinated units, with a careful selection of patients, allow UPP to be performed as ambulatory surgery extensively world wide.

## SATISFACTION AND CLINICAL IMPROVEMENT IN AMBULATORY SEPTOPLASTY

*Anna Mateo Monfort; Carlos Pérez; Hernandez Elena; Begoña Defrias; Ma Jose Rubio; Ma Pilar Rivas*

In the Hospital of Viladecans we are pioneers in ambulatory surgery, the otolaryngology service has over 25 years experience.

From March 1, 2009 to December 31, 2014 632 functional septoplasty were made, in some cases associated with radiofrequency turbinate reduction with a substitution rate of 99.5%. All were performed under general anesthesia and standardized postoperative.

We made a survey about postoperative satisfaction with a response rate of 80%. In operated patients the male/female ratio is 1.7/1. The age groups range from 16 to 69 years with a mean age of 40 years.

Concerning postoperative discomfort at home during the first 48h (subjective response from 0 to 10) patients were grouped into: great discomfort (from 8-10), enough discomfort (from 5-7) and little discomfort (0 to 4) with a percentage of 28.3%, 36.9% and 34.8% respectively.

On the scale of subjective clinical improvement nowadays (subjective response from 0 to 10) patients were grouped into: significant improvement (from 8-10), moderate improvement (from 5-7) and little improvement (from 0-4) with a percentage of 35.9%, 43.5% and 20.6% respectively.

Although all patients receive a telephone check-up during the immediate postoperative period in 13% of cases medical assistance was necessary due to discomfort or possible complications.



# ANALYSIS OF THE TOLERATION AND SUCCESS WITH ESSURE HYSTEROSCOPIC STERILIZATION

*Cristina Ruiz Dastis; Miguel Calvo Rubio*

**Objective:** The purpose is to evaluate the toleration and success of the Essure procedure in a cohort of women at Écija Hospital.

**Methods:** We evaluate 185 women who underwent the Essure procedure since January 2009 to December 2014 in an out-patient setting at Écija Hospital (Sevilla, Spain). All procedures were performed by one hysteroscopist (M.C.R.). Women were proposed to this technique if they desired permanent sterilisation and had normal gynaecological physical examination and pelvic sonography. Women were asked to use oral contraceptives for the duration of at least 1 month prior to the procedure. This was performed to improve visualisation of the ostia, induce endometrial atrophy, and thereby allowing for the insertion of the device on any day of the menstrual cycle. Women received diazepam 10 mg and ibuprofen 600 mg an hour prior to the procedure. Women didn't receive any anaesthesia.

**Results:** We Evaluate The Mean Age Of The Women Recruited. We Assess How Many Were Successful Insertions. We Analyze If The Insertions Of The Devices Were Made At The First Attempt, Or At The Second Attempt, And How Many Were Impossible. The Process Was Not Interrupted In Any Case For Lack Of Tolerance Of The Patients. However, We Evaluate How Many Patients Had Pain During The Procedure Or Immediately After, And How Many Reported Chronic Pain Or Further Bleeding. We Check How Many Women Had Vagal Reactions During Insertion. Finally, At The 3 Months Follow-Up Evaluation, We Quantify How Many Devices Were Considered Properly Inserted By Pelvic X-Ray Or Transvaginal Ecography And How Many Needed A Hysterosalpingography To Confirm It.

**Conclusion:** Essure Tubal Sterilisation Is A Favourable Replacement For Laparoscopic Tubal Occlusion As It Is Minimally Invasive, Can Be Performed Without Hospital Admission And Has A Low Rate Of Failure And Complications.

## PREGNANCY AFTER ESSURE PLACEMENT

*Cristina Ruiz Dastis; Miguel Calvo Rubio*

**Objective:** Essure is 99.8% effective, making it the most effective form of permanent birth control on the market. However, there have been some cases in the literature of pregnancy, most due to patient and/or physician noncompliance (inappropriate follow-up, misinterpreted radiology or hysterosalpingography [HSG], or preprocedure pregnancies). The purpose of this article is to analyze 3 unintended pregnancies in patients who had undergone hysteroscopic sterilization in our hospital and to provide recommendations for avoiding postprocedure pregnancies.

**Methods:** 3 pregnancies out of 185 procedures have been reported in our hospital, all of them in the first year after device insertion (the cases reported in the literature also occurred more frequently in the first year after insertion). When first starting the procedure we monitored it by transvaginal ultrasound or by abdominal radiography at 3 months, at the discretion of the physician. HSG was reserved only for women with incorrect insertion or remaining uncertainty following plain radiological imaging.

**Results:** We have noticed, that all the pregnancies occurred at the beginning of starting the procedure in our hospital, and all of them were performed ultrasound follow-up. There has been no pregnancy in our hospital after monitoring by radiography.

**Conclusions:** We conclude that fewer failures occur when there is more experience with the procedure, and that determine the exact position of the coil within the proximal fallopian tube by ultrasound is more difficult than with radiography, and must have a longer learning curve. Nowadays, in our hospital we prefer follow up by radiography.

## PRESENTATION OF A PROGRAM OF MINOR OUTPATIENT SURGERY IN A PRIVATE HOSPITAL

*Ignacio Machado Romero; Rocío Soler Humenes; Elena Sanchiz Cárdenas; César Pablo Ramírez Plaza*

**Introduction:** Outpatient surgery is the one which doesn't require being in hospital and allows the patient's recovery at home. These procedures have been traditionally carried out in the hospital outpatient's department or in the casualty wards but the laws for the regulation of this sector are becoming more strict and there is a tendency to perform these treatments in specific surgical areas.

**Methods:** We have analysed the patients who underwent Minor Outpatient Surgery in 2014. The registry was done in a retrospective, observation and descriptive way.

We also described the procedure in our Hospital.

**Results:** The patients' average age was of 54,3 years (+/- 21,2) with a light predominance of women (56,2%). The waiting time between the diagnosis visit and the operation was an average of 7 days (+/- 3 days). The time of the operation never exceeded the 30 minutes, being the average duration of all the operations of 17 minutes. The concordance with Pathological Anatomy was of 91%. Among these injuries the most frequent were sebaceous cysts (53,45%), lipomas (21,02%) and skin injuries (6%). In the survey carried out we didn't detect any remarkable complications among the patients who went under this program. It was only detected 9 infected injuries and 1 spontaneous hemorrhage.

**Conclusions:** The setting up of a unit of this kind is always something hard and requires a great effort by professionals who take part in it. Minor operations which were carried out until now in a couch can be performed in a surgical setting, with the right quality controls and with the possibility of anesthesia or sedation.

## SCIATIC HERNIA BY AMBULATORY SURGERY

*Ma Verónica Alonso Avilez; Óscar Barril; Trinitat Cremades; Miguel Ruiz; Lucía Catot; Sergio López; Miguel Angel Morales; Martha Toapanta; Josep Ma Puigcercos*

**Introduction:** Hernias of the pelvic floor are extremely rare and often present diagnostic and therapeutic dilemmas. Three main types of pelvic floor hernias have been described including, in order of decreasing frequency, obturator, perineal and sciatic. Sciatic hernias are considered the rarest, with a very limited number of published reports worldwide. The sciatic hernia was first described by Papen in 1750. These hernias are of three types: Type 1 (suprapiriform) is the most common (60%), followed by subpiriform, type 2 (30%), while type 3 (subspinous—through the lesser sciatic foramen) is the least common.

**Case Report:** We present the case of a 38-year-old woman. No relevant medical history. She refers tumor at the right buttock 4 months of evolution, not painful, which increases with effort. On physical examination: soft tumor at the right buttock, reluctant to touch, approx. 6cm and when standing is felt fine, recumbent disappears, but with Valsalva becomes apparent.

Ultrasound reports: ischial hernia partially reducible, containing omental, hernial orifice is approx. 20mm and the bag is around 6cm.

We surgically intervened by gluteal via, corroborating ischial hernia containing omentum, which was dried. We put biologic mesh at greater sciatic ring level and above this, a polypropylene mesh. Patient was discharged after 8hrs of surgery intervention, under the regime of Ambulatory Surgery without incident. After 9 months of surgery intervention there's no hernia recurrence.

**Discussion:** Sciatic hernia is unusual, and can present the physician with diagnostic and treatment dilemmas. The hernia may present with obscure pelvic pain, intestinal obstruction, life threatening gluteal sepsis, or as an asymptomatic, reducible mass that distorts the gluteal fold. Small sciatic hernia can remain hidden behind the gluteus maximus muscle. The diagnosis requires imaging studies in such cases. Treatment of sciatic hernia is always surgical and requires prosthetic reinforcement for the best result.

## CONTINUOUS INFUSION OF LOCAL OPTIMAL ANESTHETICS FOR POST OPERATIVE PAIN CONTROL FOLLOWING HEMORRHOIDECTOMY

*Lucia Catot; Sergio López; Veronica Alonso; Trinitat Cremades; Miguel Ruiz; Miguel Ángel Morales; Marta Toapanta; Josep M<sup>a</sup> Puigercos*

**Introduction:** Over the past decade, continuous wound infiltration systems have been introduced to treat a variety of post-surgical pain. These systems, commonly by patients referred to pain pumps, possess a catheter (s) attached to a reservoir of local ANESTHETICS that infused directly into the surgical site to provide local pain control. Thus, it is avoiding the common and less desirable systemic effects of oral narcotic pain medication.

**Material and Methods:** The investigators hope to evaluate the effectiveness of these pain pumps as an outpatient hemorrhoidectomy following modality for pain management patients.

Each infusion pump is placed below the lining of the rectum. Continuous infusion of bupivacaine 0.25% pumping 4ml/hr for 3 to 4 days.

**Results:** 53 Patients had grade III and 3 packages. We evaluated the visual analog pain scale (VAS) at discharge from the ambulatory surgery unit, the 3rd, 6th and the day after surgery and results have been very satisfactory. In the immediate postoperative period, this is the evening of surgery, pain was absent in most patients. In the control of the 24 hours half of patients required rescue, all those VAS claimed > 3 and half of those with VAS < 3. At 72 hours, control where and could be assessed pain after defecation in the majority of patients, 66% of them needed rescue, as in previous ones, all VAS > 3 and half of those who claimed VAS < 3. At day 6 the rescue again exceeded 60%, as in the previous case they were all presented VAS > 3 and that half the VAS claimed < 3.

**Conclusions:** The use of a local anesthetic elastomeric pump for 6 days in the post-operative haemorrhoidectomy Milligan Morgan appears to be an effective method of pain control.

## SIMPLE METHOD FOR COMPLEX ANAL FISTULA TREATMENT IN THE DAY-SURGERY UNIT: LIFT TECHNIQUE

*Luis Antonio Hidalgo Grau; Neus Ruiz Edo; Óscar Estrada Ferrer; Adolfo Heredia Budó; Eva Garcia Torralbo; Marta Del Bas Rubia; Xavier Suñol*

**Introduction:** The aim of the anal fistula treatment is healing the fistula tract, avoiding aggressive approaches that can lead to faecal continence disturbances. We present the postoperative results of LIFT procedure (ligation intersphincteric fistula tract), a surgical technique for complex fistuli, both simple and suitable to be performed in a Day Surgery Unit (DSU).

**Objective:** To analyse the immediate postoperative results of LIFT technique performed in an ambulatory basis.

**Material and methods:** From January 2011 to December 2014 we performed 53 LIFT procedures for the treatment of perianal fistula -29 men and 24 women, mean age 50,1 years (range 16–79 years)-. Fistuli were mainly transphincteric (42/53). Thirteen patients (24,5%) had received a previous drainage operation -7 fistulectomy, 2 fibrin glue injection, 3 previous LIFT procedure, 1 mucocutaneous flap), so that LIFT procedure was a primary therapeutic indication in 40 patients. Patients were all them operated on under spinal anaesthesia in a lithotomy position. General rules of DSU were applied pre and postoperatively.

**Results:** Follow-up at 3 months from intervention revealed 47,2% (25/53) of patients being asymptomatic. From the symptomatic ones, the matter of complain was soiling and pain in 25 and 2 patients, respectively. Ten patients needed a reintervention -another LIFT procedure in 4 patients, a flap in 2 and a fistulectomy in 4-. We did not have any postoperative complication except for an early postoperative abscess treated 3 days after operation in the emergency department. Quality indicators are in the range of those admitted in our DSU (postoperative pain over 3 < 0.5%, reoperation rate < 0.5%, Emergency Department consultations < 5% and admissions < 0.5%).

**Conclusions:** LIFT procedure for treatment of anal fistula is a suitable technique to be performed in a DSU.

# ONE DAY SURGERY OF STAPLED MUCOSAL ANOPEXY IN THE TREATMENT OF HEMORRHOIDS: RANDOMIZED STUDY OF THE INFLUENCE OF STAPLED LINE HEIGHT

Luis Antonio Hidalgo Grau; Adolfo Heredia Budó; Oscar Estrada Ferrer; Neus Ruiz Edo; Sara Llorca Cardeñosa; Marta Del Bas Rubia; Eva García Torralbo

**Introduction:** Stapled anopexy (SA) offers a more comfortable postoperative period over excisional techniques for symptomatic hemorrhoids surgical treatment. The SA advantages are related to a stapled line height over the dentate line, far away from the anoderm sensitive pain receptors. Standard recommendations of the height of operative "purse-string" sutures and stapling ranges between 2 and 6 cm above the dentate line.

**Objective:** To evaluate the influence of the height of stapled line from anal verge in the postoperative pain and rectal disturbances after SA.

**Material and method:** Between September 2004 and December 2009, a total of 119 patients with the diagnosis of symptomatic third and fourth grade haemorrhoids were included in the study. Patients were randomized in two groups with different SA heights. Group A: distance of stapling 6 cm from external anal verge and Group B: 4,5 cm. All the procedures were performed by two experienced in SA colorectal surgeons. Both groups were comparable in mean age (A 48.4; B 47.1), gender (men/women A 37/24; B 37/21), haemorrhoidal grade (III/IV A 34/27; B 34/24), operative time (A 15.8; B 18.7 min) and resected mucosal area (A 49.4; B 53 cm<sup>2</sup>). A blind observer evaluated the patients 1 week after surgery.

**Results:** The mean rate of hemostatic stitches was higher in group B (3) vs A (1.8). The presence of rectal tenesmus (A 33; B 36), defecatory urgency (A 26; B 37 patients) incontinence (A 11; B 11 patients) and bleeding (no patients) did not showed significant differences. Postoperative pain measured with VAS was 3.2 in group A and 4.0 in group B (p=ns).

**Conclusions:** Performing stapled line 4 cm from the anal verge does not increase neither postoperative pain nor rectal disturbances in SA.

# LAPAROSCOPIC INGUINAL HERNIOPLASTY TEP TYPE IS THE ELECTION PROCEDURE IN SINGLE OR COMBINED SPIEGEL HERNIA

Úrsula Ponce Villar; Manuel Vicente Planells Roig; Ángela Bañuls Matoses; Fabian Peiró Monzó; José María Bolufer Cano; Federico Caro Pérez

**Objective:** The aim is to describe and assess the best suited surgery for synchronous repair of bilateral inguinal hernia (relapsed on the left) along with a symptomatic right Spiegel hernia, this being unfrequent in our daily clinical situation.

**Material and Method:** We present the case of a 60-year-old patient, operated in 2012 for left inguinal Lichtenstein hernioplasty, now relapsed, plus a contralateral inguinal hernia (right side) with a very symptomatic right Spiegel hernia as well. It is decided to perform a laparoscopic Tep type ambulatory hernioplasty.

**Results:** We decided to start with the right side that is the symptomatic one, in case that a possible non-noticed laceration of the peritoneum during the repair of the left side (recurrent and potentially more complex) could make impossible for us to continue the laparoscopic repair of the symptomatic right side. Step by step TEP repair is shown reviewing the anatomy of the

region: Spiegel hernia, containing preperitoneal fat tissue (not detectable by TAPP) is reduced. Direct right inguinal hernia with another paramedian defect is evidenced, reducing both and fixing them by placing a large subfunicular retroepigastric mesh, covering the three hernias at the same time. The mesh is fixed with metal tackers that will guide us in the radiological control. On the left side, indirect inguinal hernia is reduced by removing the plug from the previous repair, and a mesh is placed similarly.

**Conclusion:** TEP laparoscopic repair technique offers us a vision that can fix all fascial defects in the abdominal wall, even those that could not be identified in clinical or other techniques like TAPP or open surgery. It also allows a simultaneous repair of multiple orifices with a single mesh, considering this the best option.

## BILATERAL INGUINAL HERNIOPLASTY EXPERIENCE IN A PERIOD OF 5 YEARS IN A LOCAL HOSPITAL

Úrsula Ponce Villar; Manuel Vicente Plannells Roig; Fabián Peiró Monzó; José María Bolufer Cano; Ángela Bañuls Matoses; Federico Caro Pérez

**Objective:** The aim of this study is to review the casuistry of common pathology such as the inguinal hernia, focusing on bilateral ones and analyze our experience in the past 5 years.

**Material and Method:** A retrospective study of patients operated between January 2010 and December 2014 was performed with 1347 inguinal hernias operated either open or laparoscopic, of which 186 were bilateral and 60 of them laparoscopic. All the patients were men except 7 women.

**Results:** Of the 186 bilateral hernias, 60 were operated as outpatients and 126 admitted. The majority is performed under general anesthesia (124) against a minority that were made under regional anesthesia (62), with an increasing trend towards general anesthesia as we approach today because of increasing cases done by laparoscopic repair. The evolution of laparoscopic hernioplasty in reference to bilateralism was as follows:

Year	Total	inguinal hernias	LapBilH(TEP)
LichBilH			
2014	327	26	24
2013	284	17	20
2012	236	7	31
2011	249	10	23
2010	251	2	26

**Conclusion:** Despite the difficulties we found in a community hospital in terms of daily care activities (short number of surgeons who practice a laparoscopic surgery, weekly schedule, waiting list, economic resources, learning curve, etc) laparoscopy under general anesthesia can be incorporated into the usual practice methods for an intervention such as the bilateral inguinal hernia repair in programs without income.

## MAJOR AMBULATORY SURGERY PROGRAM FOR BREAST CANCER: ANALYSIS OF THE RESULTS IN OUR CENTER

Elisabet Julià I Verdaguer; Maribel Nieto Lopez; Cristina Serra Serra; Ángela Pérez Plantado; Josep María Gubern Nogués

**Introduction:** Over the last decades, breast cancer treatment has evolved to a less invasive surgery, therefore, adequate for ambulatory programs. Such ambulatory program was initiated in our center in 2009.

**Objectives:** To study the number of patients treated in the major ambulatory surgery (MAS) program, the substitution index evolution (SI) of breast cancer surgical treatment, the surgical procedures performed, the satisfaction index, the inpatient rate and its causes in patients initially accepted for MAS and the causes for not including patients in the MAS protocol despite their adequacy regarding to the surgical procedure.

**Methods:** Retrospective review of all patients undergoing breast cancer surgery within MAS program from January 2009 to December 2014. Inclusion criteria: all patients that fulfill the criteria of the MAS program and do not need aspirative drains.

**Results:** During this period, 729 patients underwent breast cancer surgery, from which 213 were included in the MAS program. Global SI was 29.2%, being 6.5% in 2009 and reaching 45.2% in 2014. The inpatient rate in the MAS program was 12.33% (29 patients) being the main cause the axilar lymph node dissection due to the positivity of the sentinel lymph node biopsy (10%, 21 patients), the medical and anesthetic causes represented 2.8% (6 patients). Since the full implementation of the MAS program in our center in 2012, 222 patients were selected as candidates, nonetheless, only 162 were included. Patients not included in the program represented up to 17.1% of the candidates, being comorbidities (50%, 19 patients) and need for other surgical procedures (15.8%) the main reasons not to include them.

**Conclusions:** The SI in our center has improved during the last few years, being, last year, the procedures included in the MAS program almost half of the total and having as a result an acceptable inpatients rate and satisfaction index.



## PROCTOLOGIC AMBULATORY SURGERY: EXPERIENCE AND RESULTS

*Sergio López; Lucia Catot; Verónica Alonso; Miguel Ruiz; Martha Genoveva Toapanta; Josep Maria Puigcercós*

**Aim:** Proctologic surgery takes up an important volume of the activity of a general surgery department. Benefits in ambulatory surgery can be applied in proctologic surgery, but it is necessary to monitor assistance quality according to safety and presence of complications.

The aim of this report is to analyse our results in proctologic ambulatory surgery.

**Methods:** A descriptive analysis of proctologic surgery in our hospital between 2010 and 2014 is performed. Different general variables (gender, age, surgical procedure) and quality indexes in ambulatory surgery are evaluated: substitution index, non-planned admissions, postoperative pain control, readmissions, and visits to the emergency room.

**Results:** 540 proctologic surgeries were carried out. 491 interventions (90.93%) were performed on ambulatory regime: 299 haemorrhoidectomies (60.90%), 105 sphincterotomies (21.38%), and 87 fistulectomies (17.72%). 55.7% of patients were males, and 44.26% were females, with a mean age of 49.75 years old (sd  $\pm 14.33$ ). Substitution index remains over 85-90% during the last three years. Non-planned admissions index is lower than 4%. Immediate postoperative pain control has been improved during the last year, remaining less than 15%, as well as pain management at home.

However, bad control of pain at home is moderately higher than expected. Although there's no readmissions registered, from February 2012 to February 2014, 14.3% of patients who underwent proctologic ambulatory surgery, was visited in emergency room (35 of 245 patients), half of them due to bad pain management, and 17% due to bleeding without surgery or readmission requirements.

**Conclusions:** Proctologic surgery is feasible in terms of safety, with high scores in quality indexes. Probably, multimodal approach to pain management, including continuous local anaesthetic instilling in anal canal (by means of an elastomeric pump) performed in our hospital, has allowed pain relief improvement. However, more efforts are needed in postoperative pain management.

## SHORT-TERM SAFETY AND EFFICACY IN THE SHORT-TERM OF ENDOVASCULAR LASER FOR THE TREATMENT OF CHRONIC VENOUS INSUFFICIENCY OF LOWER LIMBS

*Juan José Segura-Sampedro; Virginia Duran-Muñoz-Cruzado; Jose manuel Machuca-Casanova; Manuel Bustos-Jiménez; Javier Padillo-Ruiz; Fernando Docobo Durántez*

Venous insufficiency of the lower limbs is a common problem, with an incidence of 28-35%. Endovascular radiofrequency or laser ablation has proven to be more effective than conservative measures. Its fast postoperative recovery and its low morbidity make the endovascular ablation an ideal procedure for the ambulatory regime.

The aim of our study was to evaluate safety and efficacy in the short-term of endovascular laser for the treatment of chronic venous insufficiency.

**Material and Methods:** A prospective observational study was performed from January 2013 to June 2014. Only patients between 18-65 years old treated with endovascular laser diode 940 nm for the treatment of varices grade II-III were included. Preoperative diagnosis was made by doppler ultrasound or venography. Lymphedema, occlusive arterial disease, morbid obesity, pregnancy and comorbidity were excluded. Immediate postoperative monitoring was completed by phone call at 24:00

am and with a visit to the clinics 48 hours after the procedure and another one a month after it.

**Results:** 122 patients were included, 74 females and 48 males. The mean age was 42 (23-61) years-old. 33.3% were ASA I and 67.7% were ASA II. All patients started oral intake and ambulation right after the procedure. 24 hours after the intervention, there were no patients with fever and postoperative pain was 2 (1-3) on the VAS scale. 48 hours after the treatment no incidents occurred. One month after the intervention, there were no signs of recurrence. There were two cases of surgical wound seroma and superficial burn in the laser path which were solved without incidents.

**Conclusions:** Endovascular laser ablation appears to be a safe and effective treatment for venous insufficiency of the lower limbs. It can be performed as a 1 day procedure. However, long-term comparative studies involving a larger number of patients are needed in order to establish the efficacy of this treatment.



## THE IMPLEMENTATION OF A PROTOCOL IN THE CONTEXT OF AN OUTPATIENT SURGERY PROGRAM

*Esther Raga Carceller; Marta París Sans; Luisa Piñana Campón; Antonio Sánchez Marín; Fátima Sabench Pereferer; Daniel Del Castillo Déjardin*

**Introduction:** The implementation of laparoscopic cholecystectomy using the multimodal system "Outpatient Surgery" is currently a controversial practice because of possible postoperative complications and a poor control of pain. Surgical experience and advances in anesthetic management have improved the morbidity of this procedure, offering the benefits that generate an outpatient surgery program. For its implementation, is required a methodology involving all the professionals such as surgeons, anesthetists and nurses.

**Methods:** After an exhaustive review of the literature, we proposed a jointly protocol to the Ambulatory Surgery's Committee of our center, adapted to Surgery, Anesthesia and Nursing Services in order to start the program ensuring an adequate multimodal circuit. The key points of the protocol are: a strict selection of patients, an uncomplicated surgical technique, the use of intraperitoneal, local or regional anesthetic in order to minimize the postoperative pain, a fast elimination of anesthetic drugs with minimal emetic effects, an early introduction of food tolerance and walking. The standardization of specific criteria for planned discharge include delivering documents with recommendations and a telephonic control during the first 24h, 7 days (satisfaction survey), 1 month (analytical control) and 6 months. All patient data, findings during surgery, postoperative complications and the need for admission are collected, as well as a satisfaction surveys.

**Results:** Preliminary results are reported in our center since the implementation of the protocol during the first year, with a 93% of planned hospital discharges at the moment.

**Conclusions:** The implementation of this protocol has been possible thanks to the multidisciplinary participation of surgeons, anesthesiologists, surgical nurses (special dedication) and Admissions Service. The multimodal circuit has optimized the quality offered to patients, being even better than provided to patients with a short income program (24h). According to the results obtained, we could improve the patients' selection in order to optimize the outpatient surgery program.

## THE USE OF A HEMOSTATIC AND THE DECREASE OF SEROMAS IN COMPLEX EVENTRATIONS. PRELIMINARY STUDY

*Maria Jesus Tamayo Lopez; Jorge Dominguez-Rodiño Ruano; Juan Antonio Martin Cartes; Manuel Bustos Jiminez; Fernando Docobo Durantez; Francisco Javier Padillo Ruiz*

**Introduction:** The presence of seromas is a common complication of prosthetic implants in the abdominal wall. For years, many techniques have been employed to decrease seroma of large detachments in the reconstruction of the abdominal wall. We propose the use of hemostatic Perclot, his great absorbing power decreases the amount of seromas.

**Objective:** To check that Perclot, used as a hemostatic, decreases the number of days of drainage. It decreases seromas in hernias, reduces days of admission and decreases the complications of secondary seromas.

**Material and Methods:** Retrospective study of patients operated in MAS and abdominal wall units between 2011 and 2014 with complex ventral hernias of more than 10 cm and/or more than one hole, with or without previous mesh with a large detachment. In this patients a mesh placement was performed with fixing staples or sutures and the use of a hemostatic plant type with great absorbency.

We valued the days of drainage, patients are reviewed on 7 days, a month and a year after the surgery. We evaluate the presence of hematoma, seroma and wound complications.

**Results:** We checked a total of 27 patients and we found a reduction of 3-5 days with drainage. No seromas, hematomas or hernia recurrence in controls were observed.

**Conclusion:** Wide dissection in the abdominal wall with prosthesis implantation benefits from the application of absorbent materials. The absorbent capacity of Perclot used as hemostatic allowed us to reduce the formation of seromas, hematomas and complications. It gives us safer outcome of the procedure.

## RESULTS OF PERITONEAL DIALYSIS CATHETERS PLACEMENT IN OUR UNIT

*Maria Jesus Tamayo Lopez; Jorge Dominguez-Rodiño Ruano; Juan Antonio Martin Cartes; Manuel Bustos Jiminez; Fernando Docobo Durantez; Francisco Javier Padillo Ruiz*

**Introduction:** Peritoneal dialysis catheters give few complications in terms of positioning and duration.

**Objectives:** To analyze in our MAS and abdominal wall unit the evolution of peritoneal dialysis catheters implanted.

**Material and Methods:** We analyze peritoneal dialysis catheters placed from 2007 to 2014 at the MAS and Abdominal wall unit. We checked the total number, causes of chronic renal failure that led to the dialysis, catheter spare time, causes of catheter removal and complications after implantation.

**Results:** 125 implanted catheters. 40 catheters were removed: 5 were removed from leaks, 4 after renal transplantation, 2 from hemodialysis step, 5 from peritonitis, 8 from malfunctions, 14 from unknown cause, one hydrothorax and one hernia pericatheter. Complications in the first week from a total of 116 catheters: 3 fever, 1 vomiting, 1 peritonitis. 1 peritonitis in the first month, 4 in 3 months and 5 after 3 months. 7 leak 3 in the first week, 2 in 1 month, 2 in 3 months. Pain suffer in 11 patients, 7 wound infection, 6 hematoma, 1 ileus and 6 malfunction.

**Conclusions:** The placement of peritoneal dialysis catheter makes life easier for patients who do not have to be hospitalized for dialysis. However, this procedure can have complications.

## PROFITABILITY OF MUSCLE BIOPSY IN OUR MAS AND ABDOMINAL WALL UNITS

*María Jesús Tamayo López; Jorge Domínguez-Rodiño Ruano; Juan Antonio Martín Cartes; Manuel Bustos Jiménez; Fernando Docobo Durantez; Francisco Javier Padillo Ruiz*

**Introduction:** Muscle biopsy is needed to establish the diagnosis in muscular pathologies, to determine the prognosis and to assess response to treatment or evaluate the evolution of the disease process. It is a quick and effective procedure that lasts about 30 minutes. You need a correct choice of the muscle and a trained pathologist.

**Objective:** To determine the profitability by analyzing the results of our patients.

**Material and Methods:** biopsies performed in MAS with local anesthesia were analyzed in our service.

**Results:** 65 muscle biopsies were performed between 2009 and 2014. The patients don't have to interrupt their daily lives more than 24 hours. The scar is small in all cases. No presence of major complications.

**Conclusion:** It allows immediate individualized treatment if the diagnosis is reached. However, the high percentage of negative results force us to review the indications, location or other factors in an attempt to improve this invasive diagnostic procedure.

## LYMPH NODE BIOPSY IN OUR MAS AND ABDOMINAL WALL UNITS. IMPROVEMENT PLAN

*Maria Jesus Tamayo Lopez; Jorge Dominguez-Rodiño Ruano; Juan Antonio Martin Cartes; Manuel Bustos Jiminez; Fernando Docobo Durantez; Francisco Javier Padillo Ruiz*

**Introduction:** The biopsy of the lymph nodes is a process that takes about 30 minutes of operating room occupancy. It is required for the diagnosis and personalized treatment on all the different types of lymphomas.

**Objective:** To determine the profitability by analyzing the results of our patients. We suggest an improvement plan consisting of core needle biopsy without surgery, using the interventional radiology service and only use surgery for negative results and intraabominal ones.

**Material and Methods:** Two blocks biopsies were analyzed from 2011-12 and after the implementation of the improvement plan of 2013-14 made in the service

**Results:** The patient doesn't have to interrupt their daily lives more than 24 hours. The scar is small. There is almost any presence of complications. Most were performed under local anesthesia, except retroperitoneal or intraabdominal ones, wich were performed under general anesthesia. In 2011-12, 95 biopsies were performed with a median time of 33 days from receipt of the request. 88 of them were performed by open surgery and 9 by laparoscopy. After the implementation of the improvement plan there has been performed 32 biopsies in 2013 and 21 in 2014.

**Conclusion:** In addition to diagnosis, biopsy serves to establish prognosis, response to therapy and evolution of the disease. In our center the proposed action with core needle biopsy, performed by interventional radiology service, has achieved very positive results coming to surgery less than 10% of patients

## ULTRASOUND GUIDED BLOCK FOR NON- RECONSTRUCTIVE BREAST SURGERY. PECTO-INTERCOSTAL AND SERRATO-INTERCOSTAL BLOCKS OF THE THORACIC WALL IN AMBULATORY BREAST SURGERY

*Patricia Alfaro; Mario Fajardo; Monir Kabiri; Servando López; Paula Diéguez; Federico Boeris*

**Background and Aims:** provide a good post-operative analgesia quality in non-reconstructive breast surgery procedures is one of the keys included in our protocol for ambulatory patients.

**Methods:** We evaluated prospectively 102 women scheduled for breast surgery in this descriptive observational study. All the patients give her consent to the block. The pecto-intercostal block was performed when the injury was located in the medial quadrants of the mammary gland, the serrate-intercostal block when the lesion was in the lateral quadrants and both when the incision included the nipple. Post-operative pain was scored at their arrival at PACU, at 30, 60, 120 minutes after, before discharge and the next day through a numeric scale from 0 to 10. We also evaluated adverse events.

**Results:** When arrived at PACU the 97'96% of the sample scored their pain less than or equal 3. At discharge and 24 hours after no patient presented moderated either severe pain. Any patient suffered any adverse event or complication and finally 97 patients described the experience as excellent.

**Conclusions:** Our clinic results indicate that the ultrasound-guided block of the cutaneous branches of the intercostal nerves could be an effective alternative for the neuro-axial block in non-reconstructive breast surgery. With these blocks, we could be able to avoid opioids use and also have an alternative regional block when paravertebral or epidural blocks are contraindicated. Randomized clinical trials are still needed for these novel techniques.

## SHORT MESSAGE SERVICE (SMS) CAN ENHANCE COMPLIANCE AND REDUCE CANCELLATIONS IN A SEDATION GASTROINTESTINAL ENDOSCOPY CENTER: A PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

*Tao Zhu; Xiaoqian Deng*

Many outpatients who were inadequately prepared for the procedure were cancelled on the day of the examination for various reasons. The aim of study was to investigate whether short message service (SMS) can improve patients' compliance and reduce cancellation rates.

Outpatients scheduled for sedation gastrointestinal endoscopy were randomly assigned to mobile phone SMS group or control group. Patients in the control group received a leaflet on preparation instructions, while patients in the SMS group received SMS reminders after making an appointment. A total of 1786 patients were analyzed. There was a significant reduction in the rate of cancellations for patients in the SMS group (4.8 %) compared with patients in the control group (8.0 %) ( $P < 0.001$ ). Patients in the SMS group were 40 % less likely to be cancelled by medical staff

than patients in the control group. The compliance score of the two groups based on demographic and clinic characteristic distribution showed that for both male and female patients, the compliance score was higher in the SMS group than that in the control group ( $P = 0.023$ ,  $P < 0.001$ , respectively). Additionally, the compliance score was also significantly higher in the SMS group among patients who were under 50 years old, less than an undergraduate education level, experiencing their first time for procedure, or whose procedures were gastroscopy, waiting time was between 4 and 15 days, and schedules were in morning ( $P \leq 0.032$ ).

SMS reminders can be considered a complement to conventional preparation instructions, which could help improve the compliance of outpatients and reduce the rate of cancellations.

## SYSTEMIC TOXICITY LOCAL ANESTHETIC, AFTER PLEXUS BLOCK IN AMBULATORY SURGERY – CASE STUDY

*Igor Manuel Pereira Alves Dos Santos Neto; Nidia Goncalves; Mario Caldeira; Falcao Cunha*

The locoregional anesthesia, including the blocks of plexus has been increasing for its clinically proven benefits(1) and may be associated with an increased potential for complications including systemic toxicity, according to authors about 1:1000 blocks(2)

Female, 38, 55kg, ASA II, with hypertension, diagnosed with Carpal Tunnel Syndrome.

This was a brachial plexus block through the axilla with neurostimulation and administered lidocaine without adrenaline a total dose 300mg. injection of the drug was done gradually, with frequent aspirations. 5 minutes after administration, starts a clinical picture of incoherent speech, restlessness, myoclonus followed seizure.

Adequate oxygenation and ventilation was assured, midazolam and propofol, with reversal of symptoms. Remained hemodynamically stable, and there was no recurrence of neurological symptoms. The surgery was postponed.

Been under observation 6 hours and was discharged home. At discharge had complete reversal of the blockade.

In the telephone call set at 24 hours there was no complications.

Systemic toxicity associated with the blocks can be potentially fatal. Thus, its prevention and early detection are key (2). The event must be notified to the patient and recorded.

Despite the ultrasound enable visualization of the needle and there is no evidence demonstrated by comparing with the neurostimulation in relation to the risk of intravascular injection. Intermittent aspiration is recommended as a preventive measure of TS. In this patient preferred to use lidocaine by the rapid onset of action and pharmacological profile (lower cardiac toxicity).

The patient was discharged justified by early detection, rapid reversal, absence of refractory systemic toxicity to therapy and lack of cardiotoxicity.

The increase in blocks in the clinic may be associated with an increased potential for adverse effects, including TS. The potentially fatal consequences require that the anesthesiologists are familiar with operations protocol, and it is available where their use is frequent.

## PROPOFOL AND REMIFENTANIL SEDATION WITH PARACERVICAL BLOCKADE FOR HYSTEROSCOPIC PROCEDURES IN DAY SURGERY. AN ALTERNATIVE TO GENERAL ANESTHESIA

*Jens Engbaek*

Remifentanyl sedation with paracervical blockade causes significant more perioperative nausea compared to general anesthesia (TIVA).

**Objectives:** To assess PONV and postoperative pain in a sedation/paracervical block (SPB) regimen of both remifentanyl, propofol and preoperative PONV prophylaxis with dexametazone.

**Methods:** In our day surgery unit, patients are routinely scheduled to SPB for hysteroscopic procedures unless the patient or the surgeon favors TIVA. We compared retrospectively SPB (propofol 2-2.5 mg/min, remifentanyl 10 – 12 µg/min, mepivacaine/adrenaline paracervical block) in 53 patients to TIVA with propofol and remifentanyl (58 patients). All patients received preoperative paracetamol and NSAID. Patients in SPB group and patients in the TIVA group with a disposition to PONV received dexametazone 4 mg. Postoperative nausea/vomiting and pain were assessed by the need for medication. Data was obtained from a period of 4 months.

**Results:** In the MAC and SPB groups, respectively, 8% and 5% of the patients received ondansetron postoperatively (NS) and 15% and 19% received opioids (NS) while 23% and 25% received paracetamol or NSAID (NS). Patients receiving postoperative opioids in the SPB group were more likely to develop PONV than those in the TIVA group ( $P < 0.05$ ). Mean time to discharge was 81.7 min in the SPB group compared to 106.3 min in the TIVA group ( $P < 0.05$ ). In 5 cases (9%) SPB was changed to TIVA during the operation due to discomfort to the patient. Mean discharge time for these patients was 192.8 min.

**Conclusion:** With the use of routine PONV prophylaxis and addition of propofol to a remifentanyl sedation regimen, the incidence of postoperative nausea/vomiting and pain is similar to that of TIVA after hysteroscopic procedure but time to discharge is shorter after SPB. Change from SPB to TIVA during the operation prolongs the time to discharge. The SPB regimen is suitable for day surgical hysteroscopic procedures.

## UNEXPECTED DIFFICULT AIRWAY IN AMBULATORY SURGERY FAR FROM THE SURGICAL BLOCK: OUR TROJAN HORSE

*María Del Mar Carbonell Soto; Mónica Sanjuan Álvarez; Fernando Asensio Merino; Concepción Rodríguez Bertos*

**Introduction:** The Declaration of Helsinki for Patient Care and Safety establishes that patient care during the preoperative period is the direct responsibility of the designated anesthesiologist. In addition, it establishes the need to create protocols to direct and manage patient safety during the entire period. One particular aspect of the Declaration considers patient pre-operative management and preparation leading to surgery.

**Clinical Case:** We present the case of a 51 years old woman. No allergies and was a regular smoker {an average 20 cigarettes/day}. In her medical history we found reported of a small oropharyngeal tumor development and supraclavicular lymph nodes. A biopsy of the patient's supraclavicular lymph nodes was ordered and it was duly scheduled by the Interventional Radiology Unit. The biopsy will be performed under local anesthesia as an ambulatory procedure.

Despite having administered local anesthetic twice the patient continued reporting pain. We proceeded to administer mild sedation, after which she progressively began to lose oxygen blood level progressively up to 88%, in spite to assist her with a facial mask.

We then requested the radiologist stop the procedure in order to provide the patient with oxygen through the facial mask by placing a Guedel cannula and positive pressure but, any way, O<sub>2</sub> blood level went down to 58%. We proceeded to request the presence of an additional anesthesiologist and the difficult airway devices.

Various secretions were inhaled consisting of primarily hematic content. We assumed Guedel's cannula and proceeded to provide oxygen to the patient with a facial mask, four hands and high oxygen flows. The patient recovered spontaneous breathing, thus recovering the oxygen blood level to 100 % suspending finally the procedure.

## DAY PROCEDURE SURVEY: SELF CARE POST DISCHARGE AT THE NORFOLK AND NORWICH UNIVERSITY HOSPITAL (NNUH)

*Katie Allan; Rachel Morris; Anna Lipp*

**Editor's Note:** An abstract describing identical work was accepted as an oral presentation in June 2015 and published in the *Journal of One Day Surgery* 2015;26.3(supplement):A20.

In line with established practice the NNUH require patients being discharged after a day procedure to be accompanied by a responsible adult for 24 hours. Recent RCOA guidelines<sup>1</sup> now state, that this is not essential for every patient having a general anaesthetic (GA).

**Objectives:** 1. Evaluate whether patients felt they needed a carer present for 24 hours post-operatively

2. Develop a policy to enable selected patients to be discharged home after day surgery under GA without a carer present if they wish

**Methods:** After audit project approval and a small pilot study, a survey was sent postoperatively to a total of 100 randomly selected day procedure patients deemed suitable for discharge without carer (laparoscopic or airway surgery excluded), over a 3-week period.

**Results:** 64 forms were returned. 8 people were excluded (unplanned overnight stays or laparoscopic procedures). 56 responses were analysed (28 female and 28 male). Of the 56, 23 (6 females and 17 males, 41%) stated they did not require a carer for 24 hours post-operatively. Of the 5 males that lived alone only 1 required assistance.

**Conclusion:** The majority of patients wish to have a carer after discharge and are able to arrange this. Some patients, who usually live alone, may not wish to have a carer or may not be able to arrange one and this means a hospital admission.

As a result a policy has been developed to allow certain patients having particular procedures to be unsupervised at home post discharge. Patients who would prefer care but are unable to arrange, will be offered an overnight bed. 5 patients in our survey lived alone and in future would be allowed to go home avoiding a hospital admission. The new policy has been introduced and is being evaluated.

### Reference:

1. Guidelines for the Provision of Anaesthetic Services. RCOA. GPAS 2014.



## CLINICAL EXPERIENCE WITH A NEW BRONCHIAL BLOCKER DEVICE EZ BLOCKER IN OUTPATIENTS FOR THORACIC SYMPATHECTOMY BY VIDEO ASSISTED THOROSCOPIC SURGERY

*Manuela Faria*

**Introduction:** The majority of surgical thoracic procedures require lung isolation (LI) and one lung ventilation (OLV). The Double lumen tube (DLT) is the most widely used device.

A Bronchial blocker has also been used for OLV but the new EZ-Blocker (EZ-B), introduced in clinical practice since 2010, had improve the disadvantages of BB/DLT's use.

Ez-B is a unique Y-shaped device minimally invasive and atraumatic with a 7Fr central lumen and two distal ends both with a colour-code inflatable cuff.

**Objective:** In this setting we evaluated Ez-B's clinical performance/effectiveness in young/adult outpatients' underlying bilateral thoracic sympathectomy by video assisted thoroscopic surgery (VATS) for hyperhydrosis's treatment.

**Methods:** Data was obtained from 20 (16-45 yr) outpatients without significant comorbidities physical status (ASA 1,2) requiring elective OLV/BTS by VATS in sitting position, enrolled from planning surgical list (September-December 2014). Demographic and clinical parameters were recorded by operating room nurses and clinically evaluated in order to assess EZ-B's quality/clinical performance. Ez-B has been safely inserted through a single lumen tube  $\geq 7$ mm and advanced onto carina where both ends expand into both main bronchus.

**Results/Conclusions:** Comparing EZ-B trial with our previous DLT skill we obtained: easier intubation; quicker intubating time; quicker evacuation of pulmonary residual air; equally efficacious in pulmonary collapse quality; easier bronchial secretions suction; low airway resistance.

Ez-B combines all off DLT/BB's advantages in OLV/BTS, presenting low trauma/hemorrhage probability of vocal cords/larynx/trachea, minimizing difficulties in airways management problems that are usually related to lesser expertise or untrained anaesthesiologists such as: impossible DLT placement, inappropriate tube size, malposition and dislocation.

In this clinical trial we achieved at hospital discharge time: painless recovery, no sore throat pain, hoarseness or cough; early return to daily routine. Results obtained with EZ-B leads us to conclude its use was advantageous and a DLT alternative in this clinical context.

## QUALITY OF THE INTERSCALENE BRACHIAL PLEXUS BLOCK IN AMBULATORY SHOULDER SURGERY.THE PATIENTS' PERSPECTIVE

*Julie Therese Wiis; Jens Engbaek*

In ambulatory shoulder surgery, the use of the interscalene brachial plexus block (ISBPB) is becoming more common as post-operative pain-management. Knowledge of the patients' experiences of the block and its duration is poor.

**Objectives:** To examine patients' experience of post-operative pain-management, including ISBPB (Ropivacaine 0.75%, 8-10 ml) after ambulatory shoulder surgery.

**Methods:** Patients were included consecutively to participate in this diary-based project. The ISBPB was established after induction of general anesthesia. The patients received a 7-days questionnaire diary and instructions on per oral pain-management upon discharge. The questions were about VAS, the need for weak and stronger analgesia, the need for practical help in the days after surgery and questions on possible adverse side effects of the ISBPB, patient positioning during surgery and general anesthesia. After the 7-days period, a staff nurse contacted the patients by phone and retrieved the data. Patients were divided into minor surgery (gr 1) and intermediate surgery (gr 2).

**Results:** We included 52 patients. Most of the patients (96%) would accept ISBPB in case of new shoulder surgery. The duration of block was 16 hours and maximum VAS was observed on day 2 (5.3 and 6.0 in gr 1 and 2 respectively). The need for strong analgesia was 2.3 and 1.5 times a day, gr 1 and gr 2 respectively, and the time to first administration of analgetics was 10 and 12 hours. After surgery 96% and 58% of the patients were in need for help to daily doings on day 1 and 7, respectively and 38% had to contact their general practioner for more analgetics.

**Conclusion:** Our results points to a need for better post-operative pain management, after the ISBPB has ceased to work. Focus must be on making 7 days standard pain packages for our ambulatory patient to take home at discharge.

# ANKLE BLOCK AS FIRST-CHOICE ANESTHESIA TECHNIQUE FOR FOREFOOT AMBULATORY SURGERY

*Magdalena Arance García; Fernando Docobo Durántez; María Del Carmen Pérez Torres; Cristina Suan Rodríguez*

**Introduction:** Minimal invasive surgery has permitted that Hallux valgus surgery has been included in ambulatory surgery programmes for the last few years. Less incidence of post-operative surgical and anesthetics complications were important factors in its quick acceptance for outpatient surgery among both clinicians and patients.

Ankle block could be the most adequate choice due to its good pain control, less post-anesthetics outcomes, no affectation of motor function, added to its less learning curve which compensate its most relevant inconvenient, a significant upper latency.

The aim of this research is to present ankle block as the first choice due to the low incidence of peri-operative complications and inpatients in ambulatory surgery.

**Material and methods:** This research was done in the Ambulatory Surgery Unit located in Duque del Infantado Hospital (Virgen del Rocío hospital, Seville), where specific ambulatory surgical staff develop clinical activity from 8:00 until 20:00.

For one year, clinical information was recorded from patients scheduled for forefoot surgery under ankle block as first-choice anesthetic technique. Cancellations, postoperative outcomes, or inpatients were noted. Modified Chung Scale was established for discharge, all patients were contacted within 24 or 48 hours after surgery.

**Results:** 326 patients were enrolled, 315 (96,6%) were operated under ankle block. All the patients were ASA I/II, 54,2% were older than sixty. 16,25% of patients had IMC 35-39,9 and 7,3% has IMC over 40. All the patients were discharged after 2'17 h +/-35 min, we registered a single inpatient due to social reasons. Any cancellations or inpatients after discharge were recorded. Five complications were detected into immediate postoperative home recovery, all were solved on the phone.

**Conclusions:** Our results show ankle blockade as a suitable technique for forefoot ambulatory surgery. Low risks associated, good results in pain control and easy accessibility make this anesthetic technique suitable for especial situations such as obesity or elderly patients.

## CASE REPORT: UNDERESTIMATED BLOOD LOSS, A PITFALL IN HYSTEROSCOPIC SURGERY?

*Verdoort Hans*

Hysteroscopic resection of polyps and fibromas is a daily occurrence in same-day surgery. Fluid overload is a common complication. To avoid this, distension fluid balance is regularly monitored. We report here a case illustrating the limitations of such monitoring.

A 47-years old woman, with meno-metrorrhagia, underwent an ambulatory resection of a 64x57mm fibroma by hysteroscopy. An interadnexial hysterectomy was advised but refused by the patient. No other medical problem was noted. Preoperative hemoglobin concentration (Hb) was 12 g/dL.

ECG, non-invasive blood pressure and O<sub>2</sub> saturation were monitored. A 20-gauge IV line was placed. The patient was placed in lithotomy position after induction of anesthesia. A hemorrhage of the fibroma's pedicle occurred 15 min. after the beginning of the surgery. The patient received 1L of colloids to compensate for blood loss. Blood pressure and heart rate remained stable and within normal ranges. The surgery was completed after three hours. Blood loss was estimated around 1.5L from distension fluid balance: a total of 32.5L of saline was infused and about 34L of fluids were collected in the surgical aspiration. The anesthesiologist observed patient's paleness at emergence of anesthesia. A venous blood gas analysis revealed a Hb of 6.5 g/dL. The patient was

awakened, with no sign of fluid overload. No other symptoms than nausea were observed. Transfusion of 2 red blood cells units was associated with an increase in Hb to 9.6 g/dL. The patient remained hospitalized for 1 day and was discharged without any complication with a Hb of 8.2 g/dL.

The severe intraoperative drop in Hb can only be explained by absorption of the distension fluid, bleeding or a combination of both. Monitoring of the fluid balance was not sufficient to assess the importance of the hemorrhage. Therefore, in prolonged procedures, hemoglobin levels should be checked regularly.

# IDENTIFYING PREDICTIVE FACTORS FOR POSTOPERATIVE COMPLICATIONS IN TONSILLECTOMY SURGERY – A RETROSPECTIVE STUDY OVER A YEAR

*Gustavo Pereira; José Abreu Ivo Airoso; Cristina Gomes; Vicente Vieira*

**Introduction:** Tonsillectomies are common surgical procedures, particularly in children but also in adults. The outpatient setting allows for cost reduction and resource optimization. Common complications include post-operative nausea and vomiting (PONV), moderate to severe pain and bleeding. In our study, we sought to determine if these complications were related to surgical setting (outpatient vs. inpatient), age (adults vs. children) or surgical complexity (tonsillectomy vs. tonsillectomy with adenoidectomy).

**Methods:** Retrospective analysis of 369 procedures performed between January and December 2014 at our hospital. Statistical analysis using the chi-square test.

**Results:** Incidence of postoperative major bleeding requiring surgical revision was 0.8%. The incidence of PONV was 6.77% and of postoperative moderate to severe pain was 10.5%. There was a trend towards a higher incidence of PONV in children (7.83% vs. 3.41%;  $p > 0.05$ ), and in tonsillectomy with adenoidectomy (8.24% vs. 2.94%;  $p > 0.05$ ). Surgical setting did not influence the incidence of PONV. We observed a higher incidence of moderate to severe postoperative pain in adults (28.41% vs. 4.98%;  $p < 0.05$ ), on an outpatient basis (19.2% vs. 4.59%;  $p < 0.05$ ) and in tonsillectomy without adenoidectomy (25.49% vs. 4.87%;  $p < 0.05$ ).

**Conclusions:** The low incidence of postoperative bleeding was comparable to that described in previous studies. The higher incidence of PONV in children and in tonsillectomies with adenoidectomy, although not statistically significant, may suggest a need for more aggressive prophylaxis in this group. The significantly higher incidence of moderate to severe pain in adults undergoing tonsillectomy as outpatients can be explained by greater surgical complexity in the adult population. Another possible explanation is that we have a more accurate record of pain in the outpatient recovery area (patients stay there longer; discharge only with minimum pain score). This may suggest the need for better pain management in this population.

# ADVANTAGES OF BIER BLOCK IN AMBULATORY SURGERY-CASE REPORT

*Inês Baltazar; Paula Ribeiro*

**Introduction:** Surgical excision remains the gold standard for treatment of ganglion cysts, undertaken many times in ambulatory regimen. Intravenous (IV) regional anesthesia is a technique involving administration of a local anesthetic into a region where venous return is mechanically impeded. It was introduced in 1908 by the German surgeon August Gustav Bier, hence the more common term "Bier block". It provides a safe, effective and easy to perform anesthesia for short surgeries involving the upper and lower limbs, in alternative to general anesthesia.

**Case report:** Male patient, 80 years old, arterial hypertension badly controlled, type 2 diabetes mellitus with retinopathy, obesity and double antiaggregant therapy, submitted to excision of a voluminous synovial wrist cyst. A 22 gauge distal cannula was placed, exsanguination was made with Esmarch band and the proximal cuff was inflated. 40ml of 0,75% lidocaine were slowly injected through the cannula. After 20 minutes, well tolerated by the patient, the distal cuff was inflated and the proximal cuff was deflated. Total tourniquet time was 58 minutes. Fentanyl, paracetamol and ketorolac IV were given intraoperatively, with no need for additional analgesia until discharged home.

**Conclusions:** Bier block is ideal for short surgeries of the hand and lower arm in ambulatory patients because it allows effective anesthesia, following all security measures and providing an exsanguine surgical field. It is a safe and low cost alternative to general anesthesia, allowing faster discharge home with lower incidence of nausea and vomiting in patients with little requirement for further analgesia.

## ANAESTHETIC MANAGEMENT OF SPECIAL NEEDS IN AMBULATORY DENTAL SURGERY

*Francisco Gouveia; Luísa Coimbra; Andreia Fernandes; Paula Serôdio; Leonor Amaro*

People with congenital or acquired disability are patients with special needs<sup>1</sup>. These disabilities usually interfere with a successful collaboration and often require General Anesthesia (GA) for dental procedures. Ambulatory surgery for these patients is the best approach with less aggressiveness, avoidance of nosocomial infections and reduction of the economical costs and waiting time.

The aim of this study was to compare length of anaesthesia and attendance at hospital urgent services within 30 days after surgery among patients with special needs.

A retrospective study conducted between January 2012 and February 2015 included all patients submitted to dental ambulatory surgery at Centro Hospitalar de Vila Nova de Gaia-Espinho, Oporto, Portugal. Gender, age, ASA Physical Status Classification (ASA), type of anaesthesia, non-predicted difficult airway, length of anaesthesia and attendance at hospital urgent services within 30 days after surgery.

Data were analyzed using statistic software SPSS, version 21 for Windows (IBM Chicago, IL). Significance level was defined as  $p < 0.05$ . Student's t test and Chi-square test were performed accordingly.

The study included 160 patients, 52,5% males, mean age 17 years old (range 2-80). There were 103 patients in control group and 57 in special care group, where cerebral palsy (26%), and psychomotor delay (19%) were the most prevalent diagnosis. Among control group, 59% were ASA type I and among special care patients 51% were type III.

In both groups, balanced general anaesthesia with orotracheal intubation was the preferred technique. Non-predicted difficult airway was rare though successfully managed.

Length of anaesthesia was independent of surgical procedure and there were no differences between special care patients and control group ( $p = 0.353$ ). Attendance at hospital urgent services within 30 days after surgery was not statistically different between these two groups ( $p = 0.211$ ). Anaesthetic management of special needs patients requiring dental ambulatory surgery was not different from the remaining population.

## UPPER TRUNK BLOCK FOR ARTHROSCOPIC SHOULDER SURGERY PREVENTS PHRENIC NERVE PALSY

*Laura Tobos; Ana María Suárez Sánchez; Anna López; Xavier Sala-Blanch*

The incidence of phrenic nerve palsy related to interscalene block still occurs despite the reduction in anesthetic volume as well as variations in the position of the needle using ultrasound guided techniques. We compared the incidence of phrenic nerve palsy between two approaches: interscalene between C5 and C6 (C5-6G) y upper trunk, between the anterior and posterior division at supraclavicular level (UTG).

**Methods:** Nineteen adult patients undergoing arthroscopic shoulder surgery, under ultrasound guided brachial plexus block were included. The approach was chosen according to ultrasound view and 10 ml of Ropivacaine 0.2% were provided in all patients. Spirometry and ultrasound assessment of diaphragm displacement was performed at baseline and 15 minutes after the block. Phrenic nerve palsy was defined as a decrease in FVC and FEV1 and a reduction in diaphragmatic excursion over 25 %.

**Results:** Ten patients were included in the C5-6G and 9 patients in the UTG, blocks were successful in all patients within 15 minutes. The Phrenic nerve palsy criteria were found in 3 patients, all included in the C5-6G (30%;  $p = 0.2$ ). Seven patients (70%) of the C5-6G had a reduction in ultrasound diaphragmatic excursion and 1 patient (11%) in the UTG ( $p = 0.02$ ).

**Conclusion:** This preliminary report suggests that selective block of the upper trunk with 10 ml of local anesthetic prevents the diaphragmatic paresis.

## REGRESSION OF THE QRS WIDENING INDUCED BY BUPIVACAINE AFTER INTRALIPID

Matilde Zaballo; Raúl Sevilla; David Callejo; Ramiro López-Menchaca; Paula Medina, Juan José Cironcha

**Objective:** Regional anesthesia has an important role in ambulatory surgery. However the risk of systemic toxicity of the local anesthetics should always be considered. The principal mechanism of cardiac toxicity of bupivacaine relates to the blockade of myocardial sodium channels, which leads to an increase in the QRS duration. Experimental studies suggest that Intralipid is effective in reversing bupivacaine cardiac toxicity. We aimed to evaluate the evolution of the QRS widening induced by bupivacaine with the Intralipid administration.

**Material and methods:** Twelve pigs were anesthetized with sodium thiopental 5 mg.kg<sup>-1</sup> and sevoflurane 1 MAC (2.6%). Femoral artery and vein were cannalized for invasive monitoring and blood analysis. After instrumentation, a bupivacaine bolus of 4-6 mg.kg<sup>-1</sup> was administered. The pigs were randomized into two groups: Group IL received 1.5 mL.kg<sup>-1</sup> of IL over 1 minute followed by an infusion of 0.25 mL.kg.min<sup>-1</sup>; Group control (C) received same volume of saline solution. Electrocardiographic parameters were recorded after bupivacaine and 1, 5, 10 and 30 minutes after Intralipid/saline administration.

**Results:** Bupivacaine ( $4.33 \pm 0.81$  mg/kg in IL group and  $4.66 \pm 1.15$  mg/kg in C group) induced similar electrocardiographic changes; mean maximal percent increase in QRS interval was  $184 \pm 62\%$  in IL group, and  $230 \pm 56\%$  in control group (NS). IL reversed the QRS enlargement previously impaired by bupivacaine, after ten minutes of the administration of IL, the mean QRS interval decreased  $132 \pm 56\%$  vs.  $15 \pm 76\%$  relative to the maximum enlargement induced by bupivacaine, in IL and C group respectively.

**Conclusion:** Intralipid reversed the lengthening of QRS interval induced by bupivacaine. Time to normalization can last more than 10 min. While phenomena of cardiac toxicity persist, adequate monitoring should be continued until adequate heart conduction parameters were restored. These considerations are especially relevant in the context of day surgery for the safe discharge of the patients.

## PERIOPERATIVE MANAGEMENT OF DIRECT ORAL ANTICOAGULANTS IN AMBULATORY SURGERY

Antoni Pérez García

Atrial Fibrillation is the most usual arrhythmia in population over 75 years. The incidence in Spain is 4.8% and in Europe is over 6,000,000 patients. Prophylaxis of complications was based in oral anticoagulation (warfarin) just to the recent introduction of the Direct Oral Anticoagulants (rivaroxaban, dabigatran, apixaban) without regular controls and feed interactions.

Perioperative management in Ambulatory Surgery has not been established for the inexistence of strong evidence that draws a clinical pathway.

We are presenting our perioperative clinical pathway, for managing patients taking DOA, based in 4 parameters:

1. Thrombotic risk measured with the CHADS2 score
2. Hemorrhagic risk measured with the HAS-BLED score
3. Surgical intervention scheduled
4. Anesthesia technique

The results will be integrated in the database " Registro ACOD " promoted by INCLIVA (Institut Clínic de València) with the leadership of Raquel Ferrandis, MD

# HEMORROIDECTOMY IN AS: WHICH IS THE BEST ANAESTHESIA TECHNIQUE REGARDING PATIENT DISCHARGE, PATIENT SATISFACTION AND PAIN CONTROL?

Azahara Espinosa; Marta Lozano; Marta Martín Lozano; Paloma Santiago; Maribel García Vega

Severe pain after hemorrhoidectomy, despite the surgical technique used, is the main reason to prevent this procedure to discharge patients to home after the surgery. In our experience, the combination of general anaesthesia plus pudendus nerve block associated with transcutaneous fentanyl and antiinflammatory drugs is the perfect technique to allow this surgery to be done in the ambulatory setting.

**Method:** Observational study, evaluating retrospectively, our database of hemorrhoidectomies done in our unit in 2014.

**Objective:** Evaluation of pain in the recovery area 1, before discharge, 24hours after discharge, necessity of other opioids in the unit, effectivity with and without transcutaneous fentanyl and patient satisfaction.

**Results:** Bilateral nerve pudendus block asociated with transcutaneous fentanyl is statistically significant associated with a better pain control in all the steps, being the EVA score about 3 at 24hs of discharge, while is about 7 in patients without nerve block neither transcutaneous fentanyl. There is strong evidence that transcutaneous fentanyl is better to control the pain at home, though is not statistically significant. Moreover, no constipation, nausea o inestability was refered by our patients with transcutaneous fentanyl in comparison with those with oral tramadol.

**Summary:** General anaesthesia plus pudendus block associated with transcutaneous fentanyl is a good technique to allow hemorrhoidectomy to be done in AS and to discharge patients home in about 5 hours with good pain control at home, EVA score about 3, and great patient satisfaction

# INHALATION INDUCTION FOR OBESE PATIENTS IN AMBULATORY SURGERY

Joana Baldo Gosálvez; Pablo Rodríguez Gimillo; Juan Viñoles Pérez; Ana Martínez; Julia Martín Jaramago; José De Andros; José Carreras

**Introduction:** Operative hysteroscopy is a procedure often performed in ambulatory surgery (1), with obesity being independent risk factor for the development of endometrial polyps (2). In these patients, management of the airway may present difficulties. Inhalation induction can maintain spontaneous ventilation in a high percentage of patients (3). Two cases of inhalation induction in obese patients undergoing operative hysteroscopy are presented.

## Case Reports:

In both cases, after premedication with midazolam 1 mg, inhalation induction with sevoflurane 8% tidal volume and iv remifentanyl (0.05 ug / kg / min) was performed.

After reaching the optimum jaw relaxation and the loss of corneal reflex, LMA Supreme® was inserted without difficulty.

	Age (yr)	Weight (kg)	BMI	Time (sec)
Case 1	57	113	45,27	267
Case 2	49	98	42,98	345

In both cases LMA was inserted maintaining spontaneous ventilation. Anesthetic maintenance was performed with sevoflurane 2% spontaneous ventilation in one case and volume controlled ventilation in the other case. No complications occurred.

**Discussion:** Maintaining spontaneous ventilation is recommended for the management of patients with potential difficult airway in ambulatory surgery (4). Inhalation induction has shown a lower rate of apneas than other agents (5).

**Conclusion:** Inhalation anesthesia allowed the insertion of laryngeal mask with spontaneous ventilation in obese patients.

## References:

1. Murdoch JA, Gan TJ. *Anesthesiol Clin North America*. 2001 Mar; **19**(1):125–40.
2. Serhat E, Cogendez E, Selcuk S. *Arch Gynecol Obstet*. 2014 Nov; **290**(5):937–41.
3. Nathan N, Bazin JE, Cros AM. *Ann Fr Anesth Reanim*. 2004 Sep; **23**(9):884–99.
4. Oberer C, Frei FJ, Erb TO. *Anesth Analg* 2005; **100**:1204–9.
5. García-Aguado R, Charco P, Cortiñas J. *Rev Esp Anesthesiol Reanim* 2010; **57**:439–53.



## CREUTZFELDT-JAKOB DISEASE: RISK MANAGEMENT IN DAY PROCEDURE FACILITY

*Lillian Stibbs*

Creutzfeldt-Jakob Disease (CJD) is a rare degenerative prion protein brain disease of humans which is always fatal. It is highly unlikely that health professionals will ever come into contact with any CJD cases and often have limited knowledge of the disease and its management. Likewise, the possibility of transmission of CJD in a health facility is rare, yet remains a possibility. The potential impact of this disease; the ramifications for the patient and their family should there be a contamination issue and the implications for the healthcare facility can be devastating.

Prior to 2014, the San Day Surgery Hornsby had few CJD management processes in place. The majority of the staff had minimal understanding of the disease or how to manage the associated risks. Following disclosure of a CJD related event at another hospital, it was determined that an improved system was essential and staff education vital.

This poster presentation outlines the risk management process undertaken in response to the identified needs of the facility. Best practice information on CJD management was sourced. Appropriate strategies to minimise risks associated with this disease in a healthcare facility, specifically a Day Procedure Unit were then developed in conjunction with a staff education program.

## USEFULNESS OF QUESTIONNAIRE SURVEYS FOR NURSES IN OUTPATIENT SURGERY. 15 YEARS' EXPERIENCE

*Patricia Barcelona; Inés Pérez; María Angeles Luengo; Carmen Algora; Maria Jesús Pemán; Alfredo Jiménez; Maria Jesus Pemán*

**Introduction:** Questionnaire surveys in ambulatory surgery allow to know patients satisfaction. This information must be interesting for nurses in order to identify complaints and areas of improvement.

**Methods:** At the time of discharge an anonymous questionnaire with 25 scaled close-ended items and 6 demographic variables was given to 27805 patients operated on from April 1999 to February 2015. Questions were grouped in 5 areas and answers were transformed into a score system with a maximum of 20 points per area and 100 points per questionnaire. Statistical analyses were performed using Stat-View 5.1.0 software.

**Results:** A total of 11398 patients (41 per cent) responded (49 per cent men, mean age 60 years). Eighty-three per cent of patients were satisfied with the day surgery unit and 95.3 per cent of them would choose the unit again if necessary. The mean total score was 84.4. The analysis of areas showed complaints about the time on the waiting list, the anxiety of the night before the operation, the control of postoperative pain and also about the possibility to give opinions about their cares. Demographic variables allowed comparisons among patients finding that the highest scores were related to patients between 41 and 65 years old, male, married, high level education ( $p < 0.0001$ ) and workers ( $p < 0.04$ ) and the lowest scores to patients below 40-year-old, female, widowed, patients without studies and housewives. There were no differences related to either rural / urban habitat ( $p = 0.98$ ).

**Conclusions:** 1. Excessive time on the waiting list is the main complaint of responders. 2. Nurses can contribute to solve complaints registered in questionnaires by providing the necessary explanations about self-care, allowing patients to clarify their doubts and banishing their fears. 3. Communication is the cornerstone of the nurse-patient relationship and the focus of this communication is the patient's needs.

## COMPARATIVE STUDY OF TWO PROTOCOLS OF HEALING AFTER RESECTION OF PILONIDAL CYST BY OPEN METHOD

*Yolanda Galafate Andrades; Raquel Contreras Farinas; Luis López Rodríguez; Elvira García Márquez; Ana Mreno Verduga; Montserrat Cordero Ponce*

**Introduction:** The care of the wound once a pilonidal sinus has been surgically removed to heal by secondary intention, represents a great challenge for nurses due to its characteristics, being a cavitated and slow-healing wound. Most of professionals have a certain knowledge to manage this type of wounds, based mainly on their experience, but it should be pointed out that there is variability in their approach, being more evident between hospital and primary care.

This variability coincides with the scarcity of scientific studies that support the use of a specific wound treatment. This implies the need to investigate about the most effective protocols for healing the wound in pilonidal sinus by secondary intention.

**Objective:** To compare the technique of "dry treatment" versus "moist wound healing" to achieve healing by secondary intention, for which an intervention study with a control group arises.

**Methodology:** Experimental, open, prospective longitudinal study. The study population, comprises patients with pilonidal sinus undergone with open surgery in our hospital between 2013-2015, who meet the defined inclusion criteria. We are expected to reach 224 experimental units in the study. We consider "pattern of cure" as independent variable.

As dependent and control variables: Time and Evolution of healing, relapse rate and infection, pain, nursing time and costs.

**Results:** After two years of patient recruitment, we have gathered 82 experimental units. At the congress, we will provide data regarding the two techniques:

- Time healing average
- Evolution of healing
- Rate of relapse
- Rate of infections
- Pain reported by the patient
- Nurse time employed by
- Cost

**Conclusion:** The practical application of the results will allow us to reduce variability and improve the quality of care being more efficient in our interventions.

## TOURNIQUET INFLATION PRESSURE FOR ARTHROSCOPIC CRUCIATE LIGAMENT REPAIR CAN BE SUBSTANTIALLY REDUCED BY US MEASUREMENT OF ARTERIAL OCCLUSION PRESSURE

*Miriam Morato; Isabel López; Ana Ma López; Sergi Sastre; Dragos Popescu; Xavier Sala-Blanch*

**Background:** Common tourniquet inflation pressure used for knee arthroscopy is 250 mmHg. Individual measurement of the arterial occlusion pressure (AOP) by Doppler ultrasound allows for adjusting the lowest inflation pressure to obtain a similar operation conditions. We set the tourniquet inflation pressure according to the measured AOP and evaluated the quality of the surgical field obtained in patients undergoing anterior cruciate ligament (LCA) arthroscopic repair.

**Methods:** Forty patients undergoing ACL repair under general anesthesia were included. The AOP was measured in the posterior tibial artery by increasing the tourniquet pressure until the Doppler ultrasound wave completely disappeared. To account for intraoperative blood pressure variability, the inflation pressure was adjusted 30 mmHg above the measured AOP. The surgeon, blinded to that value, indicated the empirical inflation pressure for each patient and graded the quality of the surgical field view.

**Results:** Mean systolic pressure was  $122 \pm 6$  mmHg at baseline and  $104 \pm 1$  mmHg during the measurement of the AOP, showing a maximal intraoperative variation of  $13 \pm 5$  mmHg. The AOP was  $114 \pm 6$  mmHg and the adjusted tourniquet inflation pressure was significantly lower than that recommended by the surgeon ( $145 \pm 12$  vs 250 mmHg;  $p < 0.0001$ ). Mean duration of ischemia was  $89 \pm 23$  min for. The quality of the surgical field was graded as optimal in all patients except one assessed as adequate.

**Conclusions:** Individual measurement of AOP allowed for a consistent reduction of 100 mmHg in the tourniquet inflation pressure commonly used for long lasting arthroscopic knee surgery without impairment of the surgical field quality.

### *Hoekstra Carla; Roos Ans*

Day treatment and the need to wait for micturition

In most hospitals patients in day treatment will only be sent home after micturition in case of a spinal anaesthesia. Medisch Centrum Alkmaar, one of the largest general hospitals in the Netherlands, wondered if it is safe to skip this protocol. Research shows that when patients receive clear instructions they can return home safely before they have urinated.

This new insight means that patients in day treatment can leave the hospital quicker which leads to a more productive use of beds. And not unimportant: more satisfied patients.

## IMPLEMENTATION AND FOLLOW-UP CARE HOME-BASED ANALGESIA INVASIVE PROCEDURES WITH A HIGH LEVEL OF POSTOPERATIVE PAIN

*Fina Alcaraz Busqueta; Eva Ángeles Sánchez Martos; Neus Ninou Llnares; Montserrat Masip Barrafon; Marta Fernández Ros; Magdalena Serra Domínguez*

**Introduction:** The implementation of invasive home analgesia by means of elastomeric pump began with results obtained during telephone follow-up after surgery. Poorly controlled severe postoperative pain (SPP) was one of the most common factors requested at Emergency Care Service. Anesthesiology service together with Hospital at Home Service (HaH) was responsible to manage admissions, in collaboration with nursing, pharmacy and professionals from different services involved.

Technical procedures suitable to Invasive Analgesia: Hallux valgus, LCA, Bankart, DAS, metacarpal arthrodesis, hemorrhoidectomy.

**Objectives:** Elastomeric Pump implantation and an appropriate follow-up care between Day Surgery Unit (DSU) and HaH areas improves patient's comfort, reduces his/her level of anxiety and reduces hospital admissions when severe postoperative pain procedures are applied.

**Material and Methods:** At DSU: Coordination between HaH & DSU areas. Elastomeric pump Weekly forecast supply from pharmacy. Information for patients and caregivers. Elastomeric device implantation. HaH nursing staff introduction before discharge.

**At HaH:** Assessment of candidate patient's characteristics. Assistance Information from HaH side. Collecting patient's data. Control and removal of invasive analgesic device.

**Results:** The level of pain after intravenous analgesia implementation has decreased during the first 48h.-96h. together with oral analgesia ruled pattern.

The number of procedures with a high level of postoperative pain has been maintained and even increased in a satisfactorily way.

**Conclusions:** The role of the nurse in pain control is basic in order to implement this procedure. We achieved surgery with less emotional impact involved, with similar results to those of conventional surgery, with the same level of satisfaction or even higher without reducing quality and safety.

## APPROACH NURSE THE PATIENT UNDERGOING OUTPATIENT ARTHROSCOPIC KNEE SURGERY

*Isabel Fonseca González; Virtudes Navarro García; Antonia Campos Letran; Montserrat Cordero Ponce; Yolanda Galafate Andrade; Eva Romero Cabeza*

**Introduction:** To provide the best patient care possible, using the most modern anesthetic and surgical techniques, and the most appropriate perioperative care, it's something innately present in the minds of all health care professionals.

Nurses working in Ambulatory Surgery Units (ASU) have adapted to the many changes that generate certain ambulatory surgical procedures, patient care has been standardized in order to improve the outcomes, all of which have been conducted by offering the patient a human care and quality.

**Objectives:** Description of the nurse's role profile and nursing plays in the Ambulatory Surgery Unit from the patient to intervene knee arthroscopy entering the unit the same day of surgery until discharge home.

Avoid variability and diversification Nursing interventions made on those patient

**Method:** Review of the functions carried Nursing in different areas of patient care and interventions performed for achieving them and their registration.

Analysis of the specific characteristics of the ASU and the specific requirements of patients who attend to it to undergo knee arthroscopy.

**Results:** The role of nursing in the ASU condition monitoring and proper resolution of the process that leads the patient to undergo surgery for knee arthroscopy. The staff of profile working as dynamic as specific units and operating rooms, is defined by the needs of patients.

Working with appropriate records facilitates communication between professionals, helps improve attendance and allows a data source for research.

**Conclusions:** Working with protocols ensures the unification of nursing activities and quality of the tasks performed. The surgical outpatient, general and which is operated knee arthroscopy in particular, require a number of specific nursing care which necessitating continuous training and selection of staff working with them. The existence of protocols and appropriate training of staff contributes positively on patient safety, reducing the incidence of adverse events during their stay in hospital.

# Management and Quality

## THE PATIENTS PERSPECTIVE: 'IT'S NOT WHAT YOU DO IT'S THE WAY THAT YOU DO IT'; EXPERIENCE FROM A UK DISTRICT GENERAL HOSPITAL

*Moira Wattie*

**Objective:** To improve the patient experience by moving the day surgery service away from the hot site of the Trust to the cold site.

For 4 years we have followed up every day surgery patient by telephone the day after their surgery. Asking nine questions about wellbeing, pain etc. Finally, What did we do well? What could we improve? Then rate us on a scale of 0-10 and if they score us 6 or less Matron rings back to apologise and rectify.

Our first audit focussed on pain and nausea. (1) revealing that we had acceptable pain and nausea. We noticed patients rated our service according to the experience on the day not outcome. Our second large audit of 1,143 patients focussed on patient experience and how to improve it (2). Reduced waiting times and minor improvements of facilities achieved a 50% reduction in negative comments. Complaints halved.

To further improve patient experience the day surgery service moved in entirety to the cold site.

**Results:** Comparing the feedback of 541 patients with previous audits.

After consolidating both day surgery units in our trust from two sites to one cold site:

- The number of patients rating us 6 or less dropped from monthly average of 3.6 to 2.3
- Patients rating us 9-10/10 rose from 76% to 85%.
- The percentage of patients suggesting an improvement fell from 31% to 25%

The common complaints were

- waiting time from admission to surgery. 41 patients (7.5%)
- facilities 14 (2.5%)
- communication 20 (3.6%)

The less people have to wait the less they complain about the facilities and the communication.

### References:

1. In pursuit of happiness – what really matters to patients AAGBI 2011.
2. Implementing Patient feedback: Will the friends and family test work? AAGBI WSM 2013.

## SHORT MESSAGE SERVICE (SMS) CAN ENHANCE COMPLIANCE AND REDUCE CANCELLATIONS IN A SEDATION GASTROINTESTINAL ENDOSCOPY CENTER: A PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

*Xiaoqian Deng*

Many outpatients who inadequately prepared for the procedure were cancelled on the day of the examination for various reasons. The aim of study was to investigate whether short message service (SMS) can improve patients' compliance and reduce cancellation rates.

Outpatients scheduled for sedation gastrointestinal endoscopy were randomly assigned to mobile phone SMS group or control group. Patients in the control group received a leaflet on preparation instructions, while patients in the SMS group received SMS reminders after making an appointment. A total of 1786 patients were analyzed. There was a significant reduction in the rate of cancellations for patients in the SMS group (4.8 %) compared with patients in the control group (8.0 %) ( $P < 0.001$ ). Patients in the SMS group were 40 % less likely to be cancelled by medical staff than patients in the control group. The compliance score of the two groups based on demographic and clinic characteristic

distribution showed that for both male and female patients, the compliance score was higher in the SMS group than that in the control group ( $P = 0.023$ ,  $P < 0.001$ , respectively). Additionally, the compliance score was also significantly higher in the SMS group among patients who were under 50 years old, less than an undergraduate education level, experiencing their first time for procedure, or whose procedures were gastroscopy, waiting time was between 4 and 15 days, and schedules were in morning ( $P \leq 0.032$ ).

SMS reminders can be considered a complement to conventional preparation instructions, which could help improve the compliance of outpatients and reduce the rate of cancellations.

## TEN YEARS' EXPERIENCE ON CATARACT AMBULATORY SURGERY MANAGEMENT

*Yixin Wang*

The article presents a summary of ten years' experience on cataract ambulatory surgery management from August 2004 to August 2014. It includes: 1) rigorously master the indications and contraindications of cataract ambulatory surgery, 2) formulate

risk prevention and risk treatment of cataract ambulatory surgery, and 3) emphasize the management details on cataract ambulatory surgery.

## IDENTIFICATION OF BARRIERS TO IMPLEMENTATION OF "SAFE SURGERY" IN DAY SURGERY

*Linda Bech Oerving*

The concept of 'Safe surgery saves lives' was launched by WHO in 2008 to reduce perioperative mortality and morbidity. The use of checklists for quality assurance in surgical and anesthetic practice is part of the strategy in the Danish National Quality Model for safe surgery.

**Objective:** This study focus on the conduct and documentation of three perioperative phases: 'Check-in', 'Time-out' and 'Check-out' as presented in the Danish Quality model after implementation of checklists for safe surgery in a day surgical unit.

**Methods:** Phase 1 was an audit on data drawn from existing checklist records of 50 random chosen operations in 5 days representing 3 surgical specialties. As the target of 100% for all of the three indicators (Check-in, Time-out, Check-out) was not achieved, a second phase with semi structured observations was conducted to further identify the causes of these findings. Observations were completed among 8 random chosen operations on a single day.



## IS AN ADULT COMPANION MANDATORY AT HOME AFTER DISCHARGE FROM DAY SURGERY?

*Sine Islin; Jens Engbaek*

It is common practice to require an adult companion at home after discharge from day surgery. The evidence for this is poor and our experience of many years of postoperative telephone interviews strongly indicate, that this procedure may be unnecessary. In our unit including general surgery, orthopaedics, gynaecology, mamma surgery and urology we have changed common practice and since 2010 we have allowed patients to stay at home alone unless potential postoperative complications are suspected.

**Objectives:** To detect the frequency and seriousness of any incidences happening between discharge and the next morning among patients not having an adult companion at home after discharge from day surgery.

**Methods:** In our day surgery unit all patients are offered a telephone call on the day after surgery. In addition to this structured telephone interview, we have for the last 3 ½ years asked all the patients being alone if they had been in need of any help, the problems experienced and how they were solved. Data were registered in our local data base.

**Results:** So far, 1087 patients have been contacted. 970 patients did not experience any problems and they did not find it difficult being alone at all. 117 patients had experienced different problems. Of those, only 89 patients felt they were in need of an adult companion: in 46 patients, the need of an adult companion was due to the feeling of being insecure and in 43 patients the problems were with bandages, medication, PONV or daily doings. All problems were solved by the patient, or by telephone contact to the hospital or to their general practitioner.

**Conclusion:** This new practice appears to be safe but calls for further monitoring to make definite future recommendation.

## AMBULATORY SURGERY: EXPERIENCE FROM SHANGHAI MUNICIPAL HOSPITALS

*Jianping Chen; Jiechun Gao; Rong Zhao; Li Yang; Jun Liu; Jiahong Yang*

Until 2014, ambulatory surgery (AS) have been carried out in 28 municipal hospitals in Shanghai, which leads in China for the amount of ambulatory surgery centers (ASCs) and surgical procedure volume. These ambulatory surgery centers treated more than one hundred thousand cases in 2014, which covered over five hundreds diagnoses. From our practice and survey since 2006, obvious advantages have been presented in some diseases. Many ASCs have demonstrative performance in management and results. At same time, there are significant discrepancy in terms of the practice scale, management pattern, disease scope, quality control system and the operation procedure among ASCs. Concerned with Shanghai municipal hospitals medical care characteristics, international commonsense and our practice for AS, appropriate AS definition and scope of practice are necessary

for improvement. We compared the difference of AS definition, scope of disease access and standard of patient access of AS between China and international experience respectively. Combined with AS management practitioner interview, concerns of patient security, efficiency improvement and function of ASCs in Shanghai, we introduced the definition of AS as an operation, excluding an office surgery or outpatient operation, where the patient is discharged in same working day or extended to 48 hours. The recommendation AS procedures are listed in 10 specialties, including general surgery, urology, orthopedics, plastic surgery, vascular surgery, obstetrics & gynecology, ophthalmology, ENT and oral & maxillofacial surgery. Patient safety is priority when patient access and scope of procedure access issued or updated in any ASCs.

## SAFETY AND QUALITY IN AMBULATORY LAPAROSCOPIC CHOLECYSTECTOMY

César Botana Sicilia; Inmaculada Vives Llorente; Candy Semeraro Odds; Olivi González De Vera; Dolores Mateo Arzo; Mireia Tarin Gonell; Inmaculada Salgado Algaba; Ana Herrera Cantero

Ambulatory cholecystectomy is widely performed in many hospitals. The Helsinki Declaration on Patient Safety in Anesthesiology insists on the importance of "safe surgery". The goal of this communication is to show that protocoling preoperative, operative and postoperative patient management has helped guarantee safe and quality ambulatory laparoscopic cholecystectomy in our unit.

After the surgical indication for ambulatory cholecystectomy is made, preoperative anesthesia assessment is the first step. We have operated on more than 225 patients, physical status ASA I-II, aged under 60, Body Mass Index <30. Exclusion criteria included: obstructive sleep apnea/hypoapnea syndrome, unstable ischemic cardiopathy, coagulation disorders, or mental disorders.

Surgical procedure: The same expert surgeon and surgical nurse (with wide experience in laparoscopic surgery) performed all the surgeries, ideally in less than 90 minutes, using low intra-abdominal pressure with wall suspension device

Postoperative care: Good post-operative analgesia was achieved with the help of a sub-hepatic multiperforated catheter and bolus of local anesthetic (10 ml of ropivacaine 0.5 %) every 90 min (3-4 bolus each patient), control of nausea and vomiting, venous thromboembolism prophylaxis. Average stay of patients in our unit once the surgery is performed was five hours and thirty seven minutes

**Results:** Only 2 patients had to be hospitalized, and all due to minor complications (failure to control vomiting). No major complications occurred nor need to convert to laparotomy in order to finish cholecystectomy. Pain control was excellent in most of the cases. Patient satisfaction was very good. Mostly of the patients would accept to be operated following our ambulatory protocol for laparoscopic cholecystectomy

## THE APPLICATION ANALYSIS OF FAST-TRACK SURGERY IN PAIN MANAGEMENT FOR PATIENTS WITH DAY-SURGERY LAPAROSCOPIC CHOLECYSTECTOMY

Zhi-Chao Li; Hong-Sheng Ma

**Objective:** To explore the role of Fast-track surgery (FTS) in Day-surgery laparoscopic cholecystectomy pain management.

**Methods:** Used bidirectional cohort study to investigate the patients undergoing Day-surgery laparoscopic cholecystectomy who admitted to our department of day-surgery center, between April 2014 and September 2014 admission by tradition routine pain management as control group, between October and January 2015 by FTS pain management as FTS group. Postoperative pain, early ambulation, pain affect sleep, and patient satisfaction were compared.

**Results:** Patient of FTS group postoperative 0-0.5h, 0.5-6h, 6-12h, 12 h-24h pain scores were significantly lower than in the control group ( $P < 0.05$ ). The proportion of FTS group of patients with early postoperative ambulation and patient satisfaction is significantly higher than control group ( $P < 0.05$ ).

**Conclusions:** Based on the concept of FTS pain standardization management model could make the postoperation pain level effectively reduce after DLC, accelerate the patients postoperative rehabilitation, and increase patients satisfaction.

## COMPARATIVE STUDY OF THE SATISFACTION LEVEL IN PATIENTS WHO UNDERWENT FOR LAPAROSCOPIC VERSUS HYSTEROSCOPIC TUBAL OCCLUSION (ESSURE® METHOD)

*Julio F. Garrido Corchón; Milagrosa Blanca; Pere Deulofeu Quintana; Antoni Sicras; María; Ángeles Fernández López; Margarita Gatell*

Our usual procedure for female sterilization has been tubal occlusion by laparoscopy under general anesthesia in Ambulatory Surgery. Since eight years ago, we have incorporated hysteroscopy (Essure® method) without anesthesia as an office-based surgery. Patients can choose freely between the two methods. We have compared the patients' satisfaction level in both procedures.

During the years 2013 and 2014 we delivered to patients an anxiety questionnaire and a satisfaction survey before surgery. The first one is the Spielberg self-administered questionnaire or State-Trait-Anxiety-Inventory (STAI) in two categories, both trait anxiety (STAI-R) and state anxiety (STAI-E), and the survey consists of 10 items (scale 0 to 3).

60 patients operated by laparoscopy and 30 operated by hysteroscopy answered to the survey. Incomplete questionnaires were removed, and 83 were obtained at the end. In both groups the average level of overall satisfaction of the sample was 2.7, which corresponds between enough and very satisfied. We observed a statistically significant correlation between satisfaction and prior level of anxiety, being lower satisfaction in the most anxious patients, although no patient was clearly dissatisfied in any case. There was a correlation between trait of anxiety and the type of intervention, being the anxiety traits much lower in patients who opted for the Essure® method ( $p < 0.05$ ).

As we didn't find any significative differences in satisfaction level between the two groups, when the type of surgery has to be chosen, we must consider the economic costs (direct and indirect) of each procedure, beside personal factors.

## SUMMARY OF CATARACT AMBULATORY SURGERY

*Jing Fu; Wenbin Wei; Zhangfang Ma*

There are some problems with traditional open-clinic cataract surgery, such as insufficient preparation time, disordered situation on surgery day, delayed management of operation complications. After application of ambulatory surgery, these problems are improved. Pre-surgery education are well-organized, preparation work is more elaborated, situation on surgery day are more

ordered, short-term surgery complications are treated in time, and perioperative period safety is improved. Otherwise, some problems still exist, such as increased costs for hospitals and insufficient charge pathway, complicated medical procedures, and unsolved long waiting time for hospitalization. Extension of day surgeries should consider the real situations of hospitals and diseases.

## SCHEDULING SURGICAL OPERATIONS IN A LARGE CHINESE HOSPITAL: MODELS, ALGORITHMS AND APPLICATIONS

*Liwei Zhong; Guohua Wan; Shoucheng Luo; Ying Yang*

In this paper, we study the surgical operations scheduling problem in a large hospital in China. We carefully analyze the problem and construct mathematical models to solve it in two stages. In the first stage, assuming the processing time is deterministic, we model the problem as a multi-machine scheduling problem, where a surgical operation is regarded as a job that requires the joint processing of various machines (surgeons, anesthesiologists, nurses, and expensive surgical equipment). The objective is to minimize the

makespan as well as the total cost of the schedule. In the second stage, given the sequence of jobs generated in the first stage and assuming random job processing times, we model the problem as an appointment scheduling problem. The models and the algorithms are built in a real scheduling system. The results from system running in practice show that, compared with the traditional way of scheduling before the system running, the scheduling performance has been improved significantly.

# SCHEDULING SURGICAL OPERATIONS IN A LARGE CHINESE HOSPITAL: MODELS, ALGORITHMS AND APPLICATIONS

Liwei Zhong; Guohua Wan; Shoucheng Luo; Ying Yang; Guochun Tang

**Editor's Note.** A copy of this abstract was submitted for poster presentation and reproduced previously.

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expensive surgical equipment). The objective is to minimize the makespan as well as the total cost of the schedule. In the second stage, given the sequence of jobs generated in the first stage and assuming random job processing times, we model the problem as an appointment scheduling problem. The models and the algorithms are built in a real scheduling system. The results from system running in practice show that, compared with the traditional way of scheduling before the system running, the scheduling performance has been improved significantly.

## TONSILLECTOMY IN CHILDREN, ALL INFORMATION AT A "CLICK"

Magdalena Arance García; Ana Rodríguez Archilla; Wilfredo López Jimeno; Fernando Docobo Durántez; Pablo Eugenio Fernández Jiménez

**Introduction:** The quick and easy access to mobile technology nowadays is a great opportunity to create a new communication channel between patients and health institutions. This fact is specially useful in ambulatory surgery, where a fluent communication with patients is necessary for the success of surgical procedure since patient participation is an elementary factor in out-patient surgery.

Tonsillectomy in children under fourteen was introduced in our Ambulatory Surgery Unit fifteen years ago. Making a complete, comprehensible, and clear information available for patients is indispensable in order to guarantee same standards of quality and safety as for in-patient surgery. Health institutions should spare no efforts and resources for that. Apps for mobiles could be a useful tool to contribute to patient access to information about ambulatory tonsillectomy.

Our main goal is to create a mobile application which includes necessary perioperative information about ambulatory tonsillectomy as an optional, free, and quick communication channel.

**Methods:** An ambulatory surgery App has been developed in at the Ambulatory Surgery Unit of Duques del Infantado Hospital (Virgen de Rocío University Hospital (Seville, Spain) in collaboration (in agreement, in cooperation) with the Andalusian Regional Health Ministry.

**Results:** A new section was created and incorporated into the Official Software Application of the Andalusian Public Health System in agreement with the Andalusian Regional Health Ministry. Practitioners highly experienced in children's ambulatory tonsillectomy selected and summarised necessary information from the preoperative period until total recovery. Information was structured in a compatible mobile model. At this moment, free access into "Salud Responde" App for mobile, tablet or computer with internet connection is available.

**Conclusions:** Developing mobile Apps which provide patients with complete information about ambulatory tonsillectomy could be an improvement in information access for a population more and more used to consulting new information technologies.

## EVALUATING THE SAFETY AND QUALITY OF 5520 CASES IN AMBULATORY SURGERY

*Hong-Sheng Ma;Yang Liu*

**Objective:** Evaluating the safety and quality of patients in ambulatory surgery ward of West China hospital.

**Methods:** Collect patients' character and follow-up data of the ambulatory surgery patients between March 2014 and October 2014. Analyze incidence of complications, delayed discharge rate, the rate of readmission to the hospital, satisfaction, and so on.

**Results:** Collecting and following up of 5520 ambulatory surgery patients, including 519 cases of LC, 465 cases of hernia repair surgery, 336 cases of vocal cord polyps resection, 907

cases of breast minimally invasive surgery, 146 cases of great saphenous varicose veins surgery, 573 cases of LCTD, 1474 cases of gastrointestinal polyps resection and the other 1100 cases. Lost rate of follow up is zero. There are 40% of wound pain and 0.5% of PONV in the complications. Unplanned reoperation rate is zero, delayed discharge rate is 0.616%, the mortality rate is zero, the rate of readmission to the hospital was 0.49% and the satisfaction is 98.89%.

**Conclusion:** Ambulatory surgery is a safe and effective mode.

## ANALYSIS OF THE CAUSES OF DAY SURGERY PATIENTS WITH POSTOPERATIVE UNPLANNED READMISSION

*Xiao-Cheng Wang; Hong-Sheng Ma*

**Objective:** We aim to find out the reason why day-surgery patients were unplanned readmission and to give preventive measures.

**Methods:** Through the telephone follow-up of day-surgery patients after surgery 28 days, we collected information of day-surgery patients with unplanned readmission and their treatment from February to September of 2014 in our hospital. Results Telephone follow-up 3927 cases, 20 cases of day-surgery patients after surgery 28 days with unplanned readmission.

**Results:** Readmission rate was 0.51%. 8 of them got postoperative infection (incision/urinary/lung), 5 of them had Postoperative bleeding, 3 of them had secondary pancreatitis, 2 of them had residual bile duct stones, 2 of them had postoperative pain. 3 of them had surgical treatment, 17 of them had conservative treatment. 19 of them had recovered, 1 of them was discharged with a better health condition.

**Conclusion:** Postoperative infection and hemorrhage are the main reasons for day-surgery patients with unplanned readmission. In order to effectively protect the day-surgery patient safety, they should give quality control strictly, strengthen postoperative health education, adhere to the system of postoperative follow-up, and have early detection complications.

## RELATIONSHIP BETWEEN ASA CLASSIFICATION AND PERIOPERATIVE COMPLICATIONS IN A DAY SURGERY UNIT

Ana Navarro Barles; Guillermo Pola Bandrés; Diego Fernández Pera; Guillermo Millan Gallizo; Marta Allue Cabañuz; Alfredo Jiménez Bernadó

**Background:** In the majority of day surgery units ASA I, II and stable class III patients are eligible for this type of surgery. The aim of this study is to analyze the influence of patients' physical status in indicators such as hospital admission or readmission and the most frequent complications.

**Methods:** In a period of 20 years, 31083 patients from seven different surgical specialities were scheduled to be operated on in a multidisciplinary surgery unit. Patients were grouped in ASA I 29,7 per cent, ASA II 49,7 per cent and ASA III stable 20,5 per cent. Complications and principal quality indicators were obtained from the database of the unit using StatView 5.0.1 program.

**Results:** The rate of hospital admission, readmission, bad postoperative pain control, wound infection and wound bleeding were 1,9 per cent, 0,4 per cent, 2,2 per cent, 1,2 per cent and 0,4 per cent, respectively, in ASA I patients, 1,3 per cent, 0,2 per cent, 1,9 per cent, 1 per cent and 0,4 per cent in ASA II patients and 1,7 per cent, 0,2 per cent, 1,3 per cent, 0,5 per cent and 0,3 per cent in ASA III patients. The comparison between these percentages shows statistically significant differences. However, contrary to expectations, these differences are due to the higher percentage of ASA I patients.

**Conclusions:** Physical status must be taken into account in patient selection for day surgery. Patients ASA I, II and III stable are suitable to be operated on in ambulatory basis. The results of this extensive casuistry demonstrate that ASA III patients can even show similar or better indicators than those who have a better physical condition.

## CANCELLATIONS IN DAY SURGERY: TWENTY YEARS' EXPERIENCE IN A MULTIDISCIPLINARY UNIT

Guillermo Pola Bandrés; Ana Navarro Barlés; Diego Fernández Pera; Guillermo Millán Gallizo; Marta Allue Cabañuz; Alfredo Jiménez Bernadó

**Introduction:** Patient selection is mandatory in day surgery. However the percentage of cancelled operations is not negligible and it remains as an indicator widely used in this type of surgery. The aim of this study is to analyze main causes of cancelled procedures in a multidisciplinary day surgery unit during 20 years.

**Methods:** A total of 31188 patients were scheduled to be operated on in the ambulatory unit at the studied period. Patient selection was done by surgeons of 7 different surgical specialties and anesthesiologists according to clinical history, physical examination and appropriate preoperative tests. Data have been obtained from the clinical database of the unit created with StatView 5.0.1

**Results:** A total of 622 procedures were cancelled, 2 per cent (range from 0,5 percent in 1997 to 3,3 percent in 2002). Considering surgical specialties, the overall highest rate was related with General Surgery (2,3 percent) and the lowest with Gynecology (0,9 percent). The most frequent cancellation causes were inadequate patient preparation 16,1 percent, spontaneous resolution of pathology 13 percent, health workers on strike 8,4 percent, respiratory disease 8,2 percent and wrong selection 7,1 percent. Grouping the causes of cancellation 35,2 percent were related to patients, 20 percent to pathology and 44,7 percent with organization.

**Conclusions:** 1. About half of the cases of cancellation could have been prevented. 2. Implementation of guidelines for preoperative assessment and patients preparation should reduce cancellations related to wrong selection or inadequate preparation. 3. Patient related to cancellations may decrease with public campaigns based on real cost of health system and the limits of economic resources.



# ANALYSIS AND EVOLUTION OF THE AMBULATORY SURGERY UNIT AT FUNDACIÓN JIMÉNEZ DÍAZ UNIVERSITY HOSPITAL IN THE LAST TWENTY YEARS

*Adela María Gómez Valdazo; María Luisa Sánchez De Molina Rampérez; María Enriqueta Bernal Sánchez; María Isabel García Vega; Ángel Celdrán Uriarte; Damián García Olmo*

**Introduction:** The Ambulatory Surgery Unit (ASU) at Fundación Jiménez Díaz (FJDH) Hospital provides safe and efficient care and it is, since its opening in 1996, an essential pillar in the development of the surgical activity, with an average annual growth of 14% and more than 10.200 surgeries performed during 2014.

**Objectives:** To present the evolution of the activity in the FJD ASU in the last twenty years and the controls implemented for its evaluation and their progress over time.

**Methods:** The constant growth of the ASU since its creation makes indispensable the application of control mechanisms that guarantee the excellence of the service provided and enables, in addition, the improvement of the assistance. In this line, the following objective quality indicators are assessed on an annual basis and for every surgical speciality: patient's satisfaction and cancellation, unplanned admission and substitution indexes.

**Results:** As shown in the graphs, the substitution index has increased over the last twenty years. This fact has determined a large impact in avoidable stays, which has led to a concurrent decrease of the average length of stay in the hospital. Furthermore, the analysis shows that the unplanned admission index has remained under 1,9%, being the pain and the presence of nausea/vomiting the main clinical causes for it. In the case of General Surgery, the average annual growth has been of 13%; and the increase in surgical interventions has been three times the amount of total surgeries as a whole.

**Conclusion:** FJD Hospital has progressed in the design and implementation of organizational models by developing protocols that make ASU independent to the inpatient surgical activity. A systematic evaluation of the above mentioned quality indicators helps us to guarantee a high quality care and continuously improve our results to achieve the performance levels set out in international standards.

# CLAIMS IN AMBULATORY SURGERY: A STUDY BASED ON FRENCH INSURANCE DATA (SHAM)

*Alexandre Thiessen; Frederic Fuz; Tristan Lascar; Isabelle Rouquette-Vincenti; Marc Beauissier; Patrick Niccolai*

**Introduction:** Claims specifically associated with the practice of ambulatory surgery is still not well studied whereas the anesthetist is at the core of the organization and the realization of this type of surgery. SHAM insurances are the biggest French provider of medical liability insurances (50 % of the market), insuring 80 % of public and 27% of private hospitals.

**Material and methods:** The aim of this study was to compare the claim rate related to ambulatory surgery with surgery in general.

We did a retrospective study on insurance claims provided by SHAM insurances over a five years period (2007-2011) enabling the comparison of the claim rate related to ambulatory surgery with surgery in general.

**Results:** On the study period, out of a total of 29565 registered claims, 467 (1.6%) originated from ambulatory surgery and 16716 from non ambulatory surgery. December 31, 2013, 312 cases have been closed of which 107 without indemnification, 71 with amiable compensation, 111 have been settled by a Regional Commissions for Conciliation and compensation for medical accidents and 23 have been settled by a court. The average amount of compensation per claim was 18265 € for ambulatory surgery and was 31000 € for all types of surgery. The main causes are a surgical error (n=297) or an infection (n=124). The anaesthesia is involved only in 4 cases : urinary retention (medical hazard), nerve damage (wrong position during surgery), pneumothorax occurring at extubation (by defect of the valve ballon) and blindness after cataract with peribulbar anaesthesia (technical fault). The medical specialties concerned are ophthalmology (n=221), orthopedic surgery (n=102) and visceral surgery (n=71).

**Conclusion:** The claim rate in ambulatory surgery is proportionally less frequent with compensations three times less and were related to the most frequent type of surgery done in ambulatory settings.

## SURGERY – THE BEGINNING OF A NEW ERA

*José Pinto; André Goulart; Charlenne Viana; Hugo Rios; Pedro Leão; Conceição Antunes*

Ambulatory surgery is probably the surgical field with bigger progresses in the past few years. The main objective of ambulatory surgery isn't changing or developing any surgical procedures, but the improvement of healthcare efficiency. The social and economic impacts of this model are well established and are linked with higher quality in healthcare and reduction of costs.

In ambulatory surgery, patients are discharged in less than 24 hours, despite the nursing guidance, fears and unanswered questions related to procedure and recovery period. This may become a problem if patients are not well instructed.

Trying to link the new technologies in communication and ambulatory surgery, we developed an app for android smartphones with clinical guidelines for the postoperative period. With this app the patient select the procedure that have been submitted and navigate in frequent asked questions related to the surgical procedure and usual alterations that normally happen in the recovery period. For example, the patient can verify that small scrotal hematoma is common after inguinal hernia repair and, if not associated with severe edema or pain, doesn't need to ask for emergent consultation. This app also provided a visual analogic pain scale that offers the patient the possibility of scoring their own pain and be advised according to the classification. Furthermore, the application identifies alert signs that required an immediate communication with healthcare personal and permit direct phone calls with a specialized nurse or surgeon.

We truly believe that this app will improve the quality of ambulatory surgery. In order to verify this belief, we are conducting a prospective study to validate this app.

## EXCESS OF COSTS RELATED TO CLINICAL VARIABILITY IN PREOPERATIVE TESTING FOR MAJOR OUTPATIENT SURGERY

*Matilde Zaballos; Christian Gil-Borrelli; Salome Agusti; Rosa Pla; Alicia Díaz; Ramiro Lopez Menchaca*

**Background:** With the purpose of decrease the existing variability in the criteria of preoperative evaluation and facilitate the clinical decision-making process, the hospital owns a protocol of preoperative tests to use with ASA I and II patients. The aim of the study was to calculate the economic impact caused by clinicians' non-adherence to the protocol for the anaesthesiology evaluation of ASA I and ASA II.

**Methods:** A retrospective costs study with a random sample of 353 patients that were seen in the consultation of anaesthesiology for the period of one year. Aspects related to the costs, patient's profiles and specialities were analysed, according to the degree of fulfillment of the protocol.

**Results:** The lack of adherence found in the protocol was 70 %. 130 chest x-rays and 218 ECG were practised without indication. This generated an excess of costs of 34€ per patient. Taking into account the expenses of both tests, the attended population in Major Outpatient Surgery for the studied period of one year, this led to an excess spending for the hospital between 69.164€-83.312€.

**Conclusions:** It is required to enhance the preparation of health professionals, the reduction of the clinical variation and the creation of synergies between the different services in order to adjust health care costs and to improve the quality of patient care.

# A SUCCESSFUL INTEGRATED EMERGENCY DAY SURGERY PATHWAY IN A DISTRICT HOSPITAL IN THE UNITED KINGDOM

*John O'Callaghan; Grant Coleman; Andrew Hotchen; Doug McWhinnie*

**Introduction:** An emergency day surgery pathway was implemented to streamline the assessment, treatment and discharge of acute surgical referrals. This new pathway required the rapid assessment of the patient by a senior clinician, and the ready availability of diagnostic services and operating facilities. Patients undergoing day case emergency surgery were all discharged on the day of surgery. Patients assessed with minor surgical problems were sent home with a planned return the following morning for an emergency day surgery procedure. Others already admitted, had their surgery planned and implemented early the following day to facilitate discharge on the day of surgery.

**Methods:** A 5 month audit was performed during 2014 in a district general hospital in the United Kingdom. The pathway incorporated an Advanced Nurse Practitioner, who triaged patients independently and immediately. Two general surgery consultant-led teams were available, one to manage the emergency list while the other team reviewed and discharged patients.

**Results:** During the inclusion period there were 746 emergency referrals assessed, 281 (37%) of these underwent an operation. Seventy six procedures were performed on a day case basis (27% of all operated patients) with half of these performed as rapid cases (operated and discharged on the day of presentation). Operations included incision and drainage of abscesses, incarcerated hernia repairs and appendicectomies. The average length of stay decreased from five days to less than three days and median time to senior review was 30 minutes.

**Conclusions:** Emergency Day Case Surgery can be employed safely and effectively for unselected general surgery emergency admissions. Each of the patients treated this way reduced their length of stay by at least one night. We believe that a better quality service is offered to patients due to speed of assessment and treatment, while reducing the hospital costs of the emergency surgical service.

## ACTIVITY OF THE DEPARTMENT OF GENERAL SURGERY IN THE DAY-SURGERY UNIT: EVOLUTION OF QUALITY INDICATORS

*Luis Antonio Hidalgo Grau; Neus Ruiz Edo; Miquel Prats Maeso; Xavier Suñol Sala*

**Introduction:** Knowledge of quality indicators evolution favors to take corrective actions to improve quality levels. In our hospital, the Department of General Surgery (DGS) is one of the main patient purveyors to the Day Surgery Unit (DSU). The quality indicators related to DGS procedures influence the overall results of DSU.

**Objective:** To evaluate DGS quality indicators evolution and to compare it with overall DSU indicators in the period of time between 2003 and 2012.

**Material and method:** A descriptive analysis of the DSU of Mataró hospital quality indicators was done. The DGS provide 17% of all DSU patients. Quality indicators considered were as follows: Ambulatorization index (>60%), patients rejected for DSU (<1%), cancellations (<2%), reoperations (<0.5%), unplanned Emergency Department visits (<5%) and admissions (<0.5%). Percentages expressed in parenthesis are DSU objectives.

**Results:** In the period of study, ambulatorization index has increased from 58.3% to 66.4%, with a maximum of 67.7% in 2009. This index has increased for DGS from 40.9% to 55.1% as well. Patients rejected for DSU by Anesthesia Department were always under 1%, with improving results for DGS since 2007. Cancellations had been increasing until 2011 in both groups, but results were better for DGS group in 2012 (3.4%). The rate of reoperation was under 0.5% in both groups. The rate of Emergency Department unplanned visits was higher for GSD group (5.4%). Rate of admissions was low for both groups, 0.5% in GDS and 0.3% in DSU.

**Conclusions:** Despite dealing with more complex procedures, results of DGS are similar to those obtained by DSU in quality indicators.

## EVOLUTION OF QUALITY INDICATORS IN AN INTEGRATED AMBULATORY SURGERY UNIT: MORE THAN 20 YEARS EXPERIENCE

*Luis Antonio Hidalgo Grau; Asunción Martín López; Miquel Prats Maeso; Neus Ruiz Edo; Xavier Suñol Sala*

Prefixed quality indicators should be considered in all Ambulatory Surgery Units (ASU). The aim of our study is to evaluate the evolution of quality indicators since our ASU began its activity and point out its usefulness.

**Material and method:** Between 1994 and 2013, 73.775 surgical procedures were performed in our ASU. A progressive increment of ASU procedures from 21.7% to 67% from the total programmed activity was detected. We have considered the next quality indicators: cancellations (objective < 2%), reoperations (objective < 0.5%), postoperative pain measured by VAS (objective < 3 for < 5%), early admissions (< 2%) and late admissions (< 0.5%). All the indicators have been used along the period of time we studied.

**Results:** Since 2007 we have not been able to decrease cancellations under 2%, probably related to the structural and functional conditions of an integrated unit. However, rates of reoperations and early and late admissions were always under the objective. Postoperative pain was over the objective only in 2009 and 2010: in those years, potential painful procedures were included in our basket. The knowledge of that incidence allowed us to do corrective mechanisms (analgesia).

**Conclusions:** Monitoring quality indicators in the (ASU) is essential for its management and daily activity.

## IMPACT OF A NEW MODALITY OF SURGICAL PROCESS MANAGEMENT: THE SURGEONS-LED PRE-OPERATIVE ASSESSMENT CLINIC NEAR TO THE AMBULATORY SURGERY DAY. IT SAVES COSTS AND IMPROVES QUALITY BECAUSE OPTIMIZES PATIENT'S HEALTH STATUS, SAFETY AND SATISFACTION

*Eva Palacios García; Estela Romero Vargas; Concepción Del Alamo Juzgado; Francisco Muñoz Pozo; Elena Gómez Barrios; Luis Herrera Gutiérrez; Juan Pastor Roldán Aviña*

**Introduction:** The patient candidate to an elective ambulatory surgical procedure, remains a variable time on the waiting list and during the same, some personal or health events might happen that could modify the indication or the most suitable moment for performing it. For this reason, a surgeons-led pre-operative assessment clinic has been established, in three to five days prior to the intervention by the surgeons in charge of it. The semiannual audit of this activity, allows us confirming that this activity reduces surgical case cancellations and improves the patient's safety and satisfaction, optimizes the use of operating room and reduces costs.

**Objective:** We aim to ensure the existence of optimal conditions for the patient's intervention, establish the necessary corrective measures, if necessary, in time and if not possible, assign the appointment to another patient if fulfilled.

**Method:** In order that all specialists unify criteria and actions, a standard operating procedure where all aspects to be evaluated is entered designed: review of documentation, compliance, resolving doubts and / or patient anxiety, background checks and medication reconciliation, current health status, detection and correction of intercurrent processes, reviewing the report and recommendations anesthetic, and physical rescan to confirm indication and procedure.

This standard operating procedure is evaluated evaluated semiannually against indicators identified for this purpose, which allows for continuous improvement measures.

We also have calculated the cost saved by avoiding case cancellations.

**Results:** The implementation of that evaluation has avoided suspension surgery, improved safety and satisfaction of all patients evaluated.

**Conclusions:** Initially designed to prevent the suspensions in the operating room, has proved beneficial in many aspects: ensuring that patients come to surgery in the best physical and psychological conditions and minimizes the likelihood of unanticipated events during surgery and in the postoperative period and is an important cost savings.

## ORTHOPAEDIC DAY SURGERY. CLINICAL EVALUATION

*Berta Jiménez Salas; Marta Miñana Barrios; Lucía López Sagasta; Alfredo Jiménez Bernadó; Belén Seral García; Jorge Albareda Albareda*

**Introduction:** Orthopaedic surgery has a wide range of procedures that can be performed in outpatient basis. Knee arthroscopy, wrist/hand surgery and foot surgery are the most frequent. The aim of this study is to know our results in order to introduce more complex procedures in the future.

**Methods:** Observational study of 4116 orthopaedic patients operated on in a multidisciplinary day surgery unit (DSU) in 20 years. Mean age, 52 years old, 60 per cent women. The most frequent diagnosis were: Carpal tunnel syndrome 24,2 per cent, meniscopathy 17,4 per cent, hallux valgus 14,7 per cent and osteosynthesis material removal 10,5 per cent. Statistical analysis was performed with the database of the unit using Stat-View 5.1.0 software.

**Results:** According to their ASA status more than 50 per cent of patients were ASA II. Spinal anesthesia was the most common 40.8 per cent, followed by intravenous regional 25.4 per cent, local 14.6 per cent, general 13.3 per cent and plexus block 5.7 per cent. The most frequent operations were: fascia and tendons surgery 34.6 per cent, knee arthroscopy 20.6 per cent and hallux valgus correction 15 per cent. The average duration of these operations was 37 minutes.

There were no major complications. The most frequent minor complications were: urinary retention 8.3 per cent, inadequate post-operative pain control 4.8 per cent and wound infection 1.4 per cent. Hospital admission was necessary in 1.4 per cent of cases due to inadequate pain control, complexity of surgical technique, dizziness and wound bleeding. Readmission after discharge was needed in 0.3 per cent, due to wound infection.

### Conclusions:

1. Routine orthopaedic surgical procedures can be safely and efficiently performed in DSU.
2. Due to these good results we have recently implemented the anterior cruciate ligament reconstruction and the shoulder arthroscopy as ambulatory procedures in selected patients.

## POSTOPERATIVE COMPLICATIONS AFTER HALLUX VALGUS CORRECTION IN DSU

*Berta Jiménez Salas; Marta Miñana Barrios; Lucía López Sagasta; Alfredo Jiménez Bernadó; Belén Seral García; Jorge Albareda Albareda*

**Introduction:** Foot operations and specially Hallux Valgus correction are considered as surgical procedures which can be performed safely in ambulatory basis.

**Methods:** Observational study of 607 patients selected for hallux valgus correction in a multidisciplinary day surgery unit (DSU) in 20 years. Mean age, 60 years old, 92.5 per cent women. Diagnoses included were: Unilateral hallux valgus (500 cases), bilateral hallux valgus (60 cases) and unilateral hallux valgus with one or more claw toes (47 cases). Statistical analysis was performed with the database of the unit using Stat-View 5.1.0 software.

**Results:** Hallux valgus surgery has registered a significant increase from 4 procedures in 1995 to 79 in 2014. According to their ASA status 66 per cent of patients were ASA II. Spinal anaesthesia was used in the 82 per cent of cases. The average duration of these operations was 54 minutes. The most common procedures performed were metatarsophalangeal joint arthroplasty unilateral or bilateral (75%), osteotomy (15%), sesamoidectomy (5%) and toe arthrodesis in those associating claw toes (7.7%). There were no major complications. The most frequent minor complications

were: urinary retention 17.7 per cent, inadequate post-operative pain control 11 per cent and wound infection 4.6 per cent. Hospital admission was necessary in 3 per cent of cases due to inadequate pain control, complexity of surgical technique, dizziness and headache. Readmission after discharge was needed in 1 per cent, due to wound infection.

### Conclusions:

1. Hallux Valgus surgery represents the 15 per cent of orthopedic day surgery.
2. Inadequate pain control is the most important complication because one in eight patients with this adverse event needed hospital admission.
3. Good results obtained should have improved the substitution index of this pathology. However, there has been a slight fall of it due to extra surgery sessions created to reduce waiting lists.

## THE POSITIVE CONTRIBUTIONS OF AMBULATORY SURGERY MODEL TO PUBLIC HOSPITAL REFORM IN A CLASS A TERTIARY HOSPITAL OF CHINA

*Fangping Chen; Feizhou Huang; Zili Fan; Xuebin Yan; Yuxiong Du; Liai Peng*

In the ongoing public hospital reform in China, one of most pivotal goals is how to reduce the medical cost. To assess the health cost containment effect of ambulatory surgery, 50 cases hospitalized in the department of ophthalmology of a class A tertiary hospital in Changsha during October 2014 were enrolled into this study. All cases were divided into ambulatory surgery group and inpatient surgery group, 25 cases of each group. The inpatient surgery group had the same type of operation with ambulatory surgery group, and two groups with no statistical difference in age, disease course and clinical symptoms. Descriptive analysis and two-sample t-test were applied. The averages of hospitalization days, total medical cost, drug expenses, drug proportion, bed fee, examination fee, nursing fee, radiation fee, consulting fee, anesthesia fee, chemical examination fee, and operation fee were analyzed. There were significant differences of the averages of hospitalization days ( $1.00$

$\pm 0.25$  vs.  $6.64 \pm 6.16$ ), total medical cost ( $1777.61 \pm 539.18$  vs.  $9433.87 \pm 7189.59$ ), drug expenses ( $311.45 \pm 183.29$  vs.  $2480.14 \pm 2844.10$ ), and drug proportion ( $0.17 \pm 0.09$  vs.  $0.26 \pm 0.14$ ) in ambulatory surgery group and inpatient surgery group. The averages of other costs (including bed fee, examination fee, and so on) of ambulatory surgery group were significantly lower than those of inpatient surgery group too. Medical cost reductions of ambulatory surgery were also observed in other departments in despite of less cases. Meanwhile, ambulatory surgery can effectively reduce the hospitalization days; improve the utilization rate of hospital bed. So populations of ambulatory surgery in the China may improve to get out of troubles in the ongoing Chinese public hospital reform. Further researches need to evaluate the roles of ambulatory surgery on the public hospital reform accompany with the continuous development and standardization in China.

## AMBULATORY LAPAROSCOPIC CHOLECYSTECTOMY – HOW WE DID IT IN 2014

*Hugo Palma Rios; Charlène Viana; José Pedro Pinto; Nuno Morais; Vicente Vieira; Conceição Antunes*

**Introduction:** Laparoscopic cholecystectomy is the gold standard surgical procedure for the treatment of symptomatic gallstones. As it is a minimally invasive surgery, it has been done with safety in the ambulatory setting. In Hospital de Braga, almost every patient stays overnight after this procedure.

**Goal and Methods:** We perform a descriptive study to analyze our activity during 2014, which permits evaluate our criteria to ambulatory surgery – demographic characteristics, previous abdominal pathology and complications. We used SPSS software for statistical analysis.

**Results:** For a total of 314 elective cholecystectomies, 60.2% were performed in ambulatory. The ambulatory group is younger (mean 46,95 years) and with less previous abdominal pathology (40,8% without). Women were prevalent in both groups and no differences were seen in operative time. The rate of intraoperative complications were 8,5% ( $n=16$ ), with 2 cases of conversion to laparotomy, 1 case of reoperation and 10 cases of conversion to conventional setting. In the 30 days after surgery, we registered a complication rate of 10,1% ( $n=19$ ), most of them were surgical infection site, without need of reoperation.

**Discussion:** Our center already performs most of cholecystectomies in ambulatory setting and with low morbidity associated. Most of cases which needed to stay in hospital more than 24 hours were because uncontrolled pain, abdominal drainage or conversion to laparotomy. Nowadays, almost every patients stay overnight. Our future goal is to prove that there is no greater complications rate with discharge after just a few hours of vigilance.





## **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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Anaesthetic papers should be sent to Mark Skues 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.

#### **Doug McWhinnie**

Division of Surgery, Milton Keynes Hospital,  
Standing Way, Milton Keynes,  
Buckinghamshire MK6 5LD, UK  
*Email:* dougmcwhinnie@uk2.net

#### **Mark Skues**

Department of Anaesthesia, Countess of Chester  
Hospital NHS Foundation Trust, Liverpool Road,  
Chester, Cheshire CH2 1UL, UK  
*Email:* Mark@Skuesie.wanadoo.co.uk