

ENDOCRINE SURGERY

ES001
NERVE STIMULATION DURING THYROID SURGERY: IS IT NECESSARY?

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Purpose The use of a nerve stimulator during thyroid surgery has been claimed by some to facilitate identification and reduce the risk of damage to both the recurrent laryngeal nerve (RLN) and external branch of the superior laryngeal nerve (EBSLN). The aim of this study was to investigate the role of the laryngeal palpation technique of nerve stimulation during thyroid surgery. **Methodology** 50 consecutive patients undergoing total thyroidectomy comprised the study group. Thus 100 consecutive RLN's were evaluated. Assessment of RLN function was by the technique of laryngeal palpation. Post-operative dysphagia was assessed with a VA-scale and compared to a control group. Nerve damage was assessed, at extubation, and by post-operative laryngoscopic examination.

Results All 100 RLN's were identified visually without the assistance of nerve stimulation. There was 1 temporary RLN neuropraxia which had recovered by 3 months. Intra-operative stimulation of that nerve confirmed absence of function.

A further 3 RLN's failed to demonstrate a twitch on nerve stimulation but had normal function on post-op laryngoscopy.

Conclusions In no case was nerve stimulation required to identify a RLN. Furthermore there was a significant false-positive rate for RLN nerve stimulation in predicting true neuropraxia as 3 of 4 had normal function at post-op laryngoscopy despite no twitch at stimulation. We conclude that the use of nerve stimulation during thyroid surgery is neither necessary nor cost-effective. The use of appropriate surgical technique by well-trained surgeons is the best safeguard of RLN function.

ES002
INTRA-OPERATIVE PARATHYROID HORMONE MEASUREMENT DURING MINIMALLY INVASIVE PARATHYROIDECTOMY: DOES IT 'VALUE ADD' TO DECISION MAKING?

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Purpose The use of intra-operative fall in parathyroid hormone levels (IOPTH) during minimally invasive parathyroidectomy (MIP) has been challenged because the test works best when least needed once a solitary adenoma has been resected, and is less accurate with multiple gland disease. It's also been shown not to be cost-effective. The aim of this study was to determine if IOPTH 'value-added' to decision making during MIP.

Methodology The study group comprised the last 500 consecutive patients undergoing MIP in our Unit from August 2000–September 2005. In a sub-group, consisting of 100 MIPs, blood was collected for PTH measurement pre-operatively, pre-excision, and 10, and 30 minutes post-removal.

Results The overall cure rate following MIP was 97%. In the sub-group, 98 patients were cured by MIP alone (98%). Two patients had persistent hyperparathyroidism, one of whom has been cured with a subsequent open re-exploration and removal of a second adenoma, whilst the second remains hypercalcemic despite further open neck exploration. In retrospect, only the first would have been cured by conversion based on IOPTH at the time of surgery. Thus, the 'value-added accuracy' of IOPTH was only 1%. In a further 9 patients, IOPTH at 10 minutes failed to fall more than 50% from the highest level, thus those patients (9%) would have been subjected to an unnecessary conversion on the basis of false negative results.

Conclusions IOPTH does not significantly 'value-add' to decision-making during MIP. Most patients will be cured regardless with appropriate selection for MIP based on pre-operative localization studies.

ES003
THE UTILITY OF SURGEON PERFORMED ULTRASOUND FOR FACILITATING MINIMALLY INVASIVE PARATHYROID SURGERY

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Purpose Minimally invasive parathyroidectomy (MIP) is now widely accepted where a single adenoma can be localized on a sestamibi scan with or without a concordant neck ultrasound. The purpose of this study was to examine the utility of surgeon performed ultrasound (SUS) in facilitating MIP.

Methodology This is a prospective study of patients who had a surgeon performed ultrasound prior to undergoing parathyroidectomy from April to December 2005 at the University of Sydney Endocrine Surgical Unit, Royal North Shore Hospital.

Results Between April and December 2005, 96 patients underwent parathyroidectomy and after exclusion of 21 patients who had renal, familial or incidental hyperparathyroidism and those undergoing concomitant thyroidectomy, 75 patients with sporadic primary hyperparathyroidism were included in the analysis. Of these, 52 (69%) patients underwent MIP and 23 (31%) had an open procedure. SUS was correct in 48/74 (65%) patients and in 48/62 (77%) of patients with single gland disease. Sestamibi scan was correct in 55/75 (73%) patients. MIP was performed in 2/15 (13%) patients with a negative sestamibi scan but a positive SUS. 6/75 (8%) patients had MIP facilitated by use of SUS and 1 patient had a failed MIP as a consequence of SUS. Causes of incorrect interpretation of SUS included cystic degeneration in thyroid nodules, lymph nodes, retro-oesophageal location, ectopic and small glands.

Conclusion SUS is a useful adjunctive tool to sestamibi localisation for facilitating MIP. SUS not only allows anatomical confirmation of the sestamibi image but also facilitates placement of the neck incision in MIP.

ES004
MANAGEMENT OF ADRENOCORTICAL TUMOURS: THE ROYAL NORTH SHORE HOSPITAL EXPERIENCE

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Purpose Since its introduction in the early 1990's, laparoscopic adrenalectomy has become established as the gold standard for resection of benign adrenal tumours. The size limit for laparoscopic resection of adrenal tumours, however, is controversial. The aim of our paper was to compare our management of large (>6 cm) with small (<6 cm) adrenal tumours in the past 10 years.

Methodology A retrospective study of patients undergoing adrenalectomy at the Royal North Shore and associated private hospitals from 1995–2005 was undertaken.

Results 132 patients underwent a total of 135 adrenalectomies. 85% of the tumours were under 6 cm. The mean tumour size for the group <6 cm was 29 mm versus 92 mm for the group >6 cm. 20% of the >6 cm group had adrenocortical carcinoma, compared with 1% of the <6 cm group. For the tumours <6 cm, the percentage removed laparoscopically, open or laparoscopic converted to open were 88%, 9% and 3% respectively compared to 35%, 55%, and 10% respectively for tumours >6 cm. Dividing the data into 2 time periods (1995–2000 and 2001–2005), for the <6 cm group, the rate of laparoscopic adrenalectomy increased from 84% to 92% for the <6 cm group but remained similar (38% and 33%) for the >6 cm group between the earlier and later time periods. The complication rate was similar between the 2 groups.

Conclusion 15% of patients had adrenal tumours >6 cm. 20% of these patients had ACC. The majority of patients with tumours >6 cm underwent open adrenalectomy.

ES005 RE-OPERATIVE ADRENAL SURGERY – LESSONS LEARNT

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Introduction There is limited literature regarding re-operative adrenal surgery. We report a series of five patients who required a re-operative adrenalectomy, discuss the potential risk factors for recurrent disease and the considerations for the indication and approach of re-operative adrenalectomy.

Methods Patients who had a re-operative adrenalectomy between 1988 and 2005 were identified retrospectively from the University of Sydney adrenal database. Patient case notes, operative notes and pathology were reviewed.

Results A total of five patients were identified to have had a re-operative adrenalectomy of 244 cases performed in that time. Two of five patients had their initial surgery performed elsewhere. Three of five patients initially had a laparoscopic adrenalectomy and two patients initially had an open adrenalectomy. The indication for surgery in three patients was recurrent pheochromocytoma, and in two patients was for a functional adrenocortical carcinoma. Two of the pheochromocytoma patients had sporadic disease, and one was confirmed to have a Von Hippel Lindau mutation. One of the adrenocortical carcinoma patients required completion adrenalectomy due to an inadequate initial procedure, and the remaining adrenocortical carcinoma patient had a re-operative adrenalectomy for a significant symptomatic local recurrence with minimal distant disease. All five patients had successful macroscopic and microscopic clearance of recurrent local disease.

Conclusion In our experience, re-operative adrenal surgery is an uncommon occurrence. Adequate initial surgery mitigates against local recurrence and therefore the need for re-operative adrenalectomy.

ES006 ASSESSMENT OF EARLY POST-OPERATIVE PARATHYROID HORMONE LEVELS IN THYROID AND PARATHYROID SURGERY

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279 patients having total thyroidectomy ($n = 201$) or parathyroidectomy ($n = 78$) were studied prospectively.

Parathyroid hormone (PTH) was measured between 12 and 20 hours post-operatively and compared with outcome measures of serum calcium, hypocalcaemic symptoms, hypocalcaemia treatment and length of stay (LOS). 72 patients (25.8%) had symptomatic hypocalcaemia following surgery. There was no significant difference between thyroid and parathyroid cases.

Low PTH was present in 72 patients (25.8%). 41 of these patients (56.9%) had symptomatic hypocalcaemia (Chi square $P < 0.001$). 77 patients (27.6%) had low or very low post-operative serum calcium. 55 of these patients (71.4%) had symptomatic hypocalcaemia ($P < 0.001$). 104 patients required oral calcium supplementation post-operatively.

Low post-operative serum calcium (< 2.10 mmol/L) and low post-operative PTH levels were predictors of hypocalcaemia treatment (68.2% and 45.1% respectively). The presence of bone disease ($n = 49$) in the parathyroidectomy subgroup ($n = 78$) was a predictor of calcium requirement post-operatively (57.1%; $P < 0.001$).

None of the factors appeared to influence length of stay, which was less than 48 hours in 80% of patients.

In conclusion, there was a highly significant association between low PTH and low calcium ($P < 0.001$). However, low calcium was a better predictor than low PTH of hypocalcaemic symptoms and treatment.

ES007 EARLY POST-OPERATIVE PTH LEVELS AS A PREDICTOR OF HYPOCALCEMIA AND FACILITATING SAFE EARLY DISCHARGE AFTER TOTAL THYROIDECTOMY

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Purpose Hypocalcemia after total or completion thyroidectomy has traditionally required 48 hours or longer inpatient monitoring of serum calcium levels. The use of parathyroid hormone (PTH) levels to predict postoperative hypocalcemia is well established. This study aims to measure the impact of a management plan based on postoperative PTH on achieving safe early discharge and avoiding the symptoms of hypoparathyroidism.

Methodology A prospective cohort study of 80 patients undergoing total or completion thyroidectomy was performed. Serum PTH was measured 4–12 hours postoperatively and used to stratify patients into three groups: Normal (> 12 pg/ml), Undetectable (< 3 pg/ml) and Intermediate (4–11 pg/ml). After 12 months (52 patients) observational study, management decisions were determined by the PTH level; patients in the Normal Group (22 patients) were aimed to be discharged on Day 1. Immediate calcium and vitamin D supplementation was instituted for the Undetectable Group to avoid symptoms of hypocalcemia manifesting.

Results 75% of eligible patients were successfully discharged on Day 1 with no complications or readmissions occurring. 21% of patients had intermediate or undetectable PTH levels and were monitored for 48 hours. No patient required intravenous calcium and no patient suffered permanent hypoparathyroidism.

Conclusions A single PTH measurement at 4–12 hours postoperatively allows for accurate prediction of patients at risk of hypocalcemia. This facilitates safe early discharge of patients not at risk of hypocalcemia and allows for early treatment of at risk patients avoiding distressing symptoms of hypocalcemia.

ES008 REOPERATIVE PARATHYROID SURGERY

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Surgery for hyperparathyroidism (HPT) is usually curative but there is a need for re-operation in some patients with persistent or recurrent disease.

In a series of 50 patients re-operated over a 12 year period, 98% were successfully treated.

58% of patients with persistent primary HPT were initially operated elsewhere.

Multiglandular disease was frequent (62% of primary HPT) as was ectopic location of pathological glands (52% of all cases).

Sites of ectopic glands were: intrathyroidal 10 (20% of all cases), intrathyroidal 9 (18%), deep mediastinal 4 (8%), base of skull 2 (4%) and carotid sheath 1 (2%). There were 5 cases of supernumerary 5th or 6th glands.

Pre-operative localization was positive in 28 of 43 sestamibi scans (65%), 14 of 34 ultrasound scans (41%), 10 of 24 CT scans (42%) and 11 of 13 selective venous samplings for PTH (85%).

Some failures of initial surgery are unavoidable because of ectopic locations and some recurrences are inevitable because of multiglandular disease.

ES009 CLINICAL ULTRASOUND OF THE NECK

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Clinical ultrasound aids assessment of the thyroid, parotid, lymph nodes and parathyroids.

Surgeons are ideally suited because of their knowledge of anatomy, pathology and operative surgery to use this modality.

For the thyroid, size and number of nodules, and whether cystic, solid or mixed can be evaluated. Calcification, coarse or punctate is seen.

Isthmus thickness indicates degree of thyroid enlargement. Ultrasound is useful to follow nodule size.

Ultrasound assesses internal jugular lymphadenopathy in cancer patients. Ultrasound demonstrates previous subtotal versus total thyroid lobectomy. Enlarged parathyroid glands are hypoechoic and situated posteriorly on the thyroid. They have a polar vessel compared to lymph nodes with hilar vessels.

Characteristics of benign compared to malignant lymph nodes are seen.

Normal anatomy, such as the oesophagus and longus colli posteriorly should not be confused with abnormal masses.

Real time scanning allows assessment of anatomy, e.g. vocal cord movement.

The neck is best examined using a high frequency probe, at least 7.5 MHz for greater resolution of anatomical detail. The higher frequency probe, the lower the degree of penetration.

Ultrasound guided FNAC is increasingly used and lowers the non-diagnostic rate.

Portability, ease of use, speed, ability to use without a detailed knowledge of physics, reproducibility, and a technique which is well regarded by patients make it attractive for surgeons to use.

A report on the ultrasound should be generated and copies of the image kept. Ultrasound is a valuable adjunct for surgeons in clinical assessment and is increasingly part of surgical practice.

ES010 ULTRASOUND FOR SURGEONS: WHAT IS AVAILABLE?

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Purpose To trial the available office ultrasound systems with particular emphasis on suitability to endocrine and breast surgery.

Methodology Representatives from four commercially available office ultrasound systems were contacted and invited to take part in the study. Two surgeons and one radiologist assessed the systems. Each system was scored on image quality, functions, cost, portability, service and backup. Each parameter received an equal weighting. The same patient with thyroid pathology was used as the test subject for each system.

Results The various systems tested each had particular strengths in the five categories evaluated. The best performing product in each category will be discussed. The overall best performer as judged in this trial will be highlighted.

Conclusions Office ultrasounds offer high quality and user-friendly technology for endocrine and breast surgeons. The most appropriate system will depend on the individual needs of each surgeon.

ES011 GENETICS IN FAMILIAL HYPERCALCAEMIC STATES

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Managing hyperparathyroidism (HPT) in the familial setting differs between the specific underlying syndromes and the underlying disease predisposes patients to persistent and recurrent HPT. The underlying genetics behind the familial disorders of Multiple Endocrine Neoplasia type 1 (MEN1), familial hypocalcaemic hypercalcaemia (FHH), familial isolated hyperparathyroidism (FIHP), and hyperparathyroidism-jaw tumour syndrome (HPT-JT) will be covered (MEN2 will be covered in a separate talk). The clinical implications and proper investigations needed, such as genetic testing, will be discussed.

ES012 TOTAL THYROIDECTOMY FOR THE TREATMENT OF GRAVES' DISEASE

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Background Total thyroidectomy is now the preferred surgical treatment of Graves' Disease. The aim of this study was to assess the indications and

outcomes of surgery for Graves' Disease in a specialized Endocrine Surgery Unit.

Methods Information was obtained from a single surgeon's endocrine surgery database over the period 1991 to October 2005. Of a total of 1405 patients in the database, 32 patients with Graves' Disease were treated surgically.

Results The indications for surgery were: goitre size in 7 patients (21.9%), resistance to medical therapy in all patients; inability to have radio-iodine in 17 patients (53.1%) and concern about significant Graves' ophthalmopathy in 17 patients (53.1%). 29 patients with Graves' Disease underwent a total thyroidectomy. Three subtotal thyroidectomies were performed early in the series but the unit policy now is to perform a total thyroidectomy. Temporary symptomatic hypocalcaemia occurred in 7 patients (21.9%), temporary asymptomatic hypocalcaemia in 4 patients (12.5%) and permanent hypocalcaemia in 1 patient (3.1%). One patient had a post-operative haematoma requiring drainage. All patients were cured of Graves' Disease and had no recurrent thyrotoxicosis or progression of their eye disease.

Conclusion Total thyroidectomy is a safe treatment for a select group of patients who require surgery for Graves' Disease.

ES013 SURGERY VS RADIOIODINE THERAPY AS DEFINITIVE MANAGEMENT FOR GRAVES' DISEASE: THE ROLE OF PATIENT PREFERENCE

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Background Options for the definitive management of Graves' Disease include long-term antithyroid medication, radioiodine ablation and thyroidectomy. Whilst there are significant geographic differences in treatment preferences, a number of absolute and relative indications are generally accepted throughout Australia. The aim of this study was to examine the role of patient preference by comparing the given reasons for selecting surgery as definitive treatment with accepted indications.

Patients and Methods The study group ($n = 63$) comprised all patients presenting to a single surgeon for surgery for Graves' Disease over a 3 year period from Jan 2003 to Dec 2005. Given reasons for surgery as documented in the patient file were then compared to accepted indications.

Results The most frequent absolute indication was the presence of a large goitre ($n = 7$; 11%) or an associated thyroid nodule ($n = 6$; 10%). Patients with ophthalmopathy, a relative indication, comprised the largest single group overall ($n = 17$; 27%). However a significant number of patients elected surgery in the absence of a recognised indication, with reasons given including a personal preference to avoid radioiodine ($n = 12$; 19%) or the desire for an early pregnancy ($n = 6$; 10%). There were two patients whose choice was influenced solely by career prospects in the Armed Forces and one whose reason given was cosmesis.

Conclusions Despite the need for hospitalisation, a surgical scar, and the inherent risks of thyroidectomy, one third of all patients electing surgery as definitive management of Graves Disease do so in the absence of a specific indication, based on personal preference or social reasons.

ES014 5-ALA IN PARATHYROID/THYROID SURGERY

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Background During parathyroid surgery, parathyroid tissue must be identified, to avoid leaving pathological parathyroid lesions, and during thyroid surgery, to preserve the normal parathyroid. Here we explored the feasibility of giving oral 5-aminolevulinic acid (5-ALA) to patients, which accumulates in the parathyroid, and exploiting the presence of 5-ALA's fluorescent metabolite, protoporphyrin IX, to label the parathyroid gland so that it could be easily identified during neck surgery.

Methods We gave three patients scheduled for parathyroid or thyroid surgery oral 5-ALA. Five ALA is a naturally occurring substance in the human body, it is non-toxic, and has no known side effects. To see its fluorescent metabolite, PpIX, we used blue light to excite, and viewed the red fluorescence through an optical filter.

Results In each of the three cases, the fluorescent parathyroid glands were unmistakable and clearly defined. In two cases of pathological parathyroid tissue, we were able to use the fluorescence to identify and remove all the diseased tissue, leaving no residual lesions. In the one case of thyroid disease, we easily removed the diseased tissue without disturbing the parathyroid, which was clearly labeled.

Conclusion Treatment with 5-ALA clearly labeled the parathyroid tissue, making it readily identifiable and permitting its clean or its preservation, depending on the surgery. This method is extremely promising as a simple, benign technique for identifying the parathyroid during neck surgery.

ES015 LONG TERM RESULTS OF ADRENALECTOMY FOR MANAGEMENT OF PRIMARY HYPERALDOSTERONISM

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Purpose Primary hyperaldosteronism (HA) is a common cause of surgically correctable hypertension (HT), accounting for 6–12% of cases of resistant hypertension. Adrenalectomy is the procedure of choice for patients with unilateral aldosterone excess. The aim of this study is to assess the long term success rate of surgery in controlling blood pressure in HA.

Methodology This study represents a prospective case series of all patients undergoing adrenalectomy for HA within one Endocrine Surgical Unit. Data were obtained from a surgical database and supplemented with a patient questionnaire. Supine blood pressure, serum aldosterone, plasma renin activity and antihypertensive medications were recorded preoperatively and at final follow up.

Results Between November 1992 to August 2005, 62 patients (29 males, 33 females) underwent adrenalectomy for HA. Mean follow-up interval was 93 months (CI: 53–133). Mean tumour diameter was 17.4 mm (CI: 15.1–19.7). Following surgery there was a significant fall in systolic blood pressure of 14mmHg and the mean number of antihypertensive medications dropped from 2.8 to 1 ($P < 0.0001$). Serum aldosterone levels were significantly lower at 3 months (1129 pg/ml vs 4 pg/ml ($P < 0.05$)). Overall 40% of patients had HT cured and were off all medications and a further 25% of patients had improved HT control with fewer medications at final follow up.

Conclusions In appropriately selected patients with HA, adrenalectomy results in significant reductions in systolic blood pressure and serum aldosterone. The majority of patients are cured or have improved HT control.

ES016 THE DIAGNOSIS AND TREATMENT OF THYROID CANCER

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Purpose Thyroid cancer is rare. The aims of this study were to examine the incidence, diagnosis and outcomes of thyroid cancer in a localised geographic population; and to assess the role of synoptic cytology and frozen section in management.

Methodology All patients with thyroid cancer from 1991–2005 were reviewed, from a prospectively collected single surgeon, Endocrine Surgery Database.

Results From a total series of 1377 referrals and 789 operations, 77 patients with thyroid cancer were identified. There were 50 papillary (65%), 19 Follicular (25%), 7 Medullary (9%) and 1 Anaplastic (1%) cancers. Synoptic Cytology reporting correctly indicated surgery in 64/68 (94%) and intra-operative frozen section allowed 10 conversions to total thyroidectomy. 92% of patients had a total thyroidectomy, 58% as a one stage operation. All patients with papillary or follicular thyroid cancer received post-operative radio-iodine (except small incidentally discovered papillary cancers). Two of the follicular cancers presented with bone metastases and one has subsequently developed a bone metastasis. Of the 7 medullary cancers, 6 required modified radical neck dissection. To date there has been no loco-regional recurrence, but 2 of the patients with medullary cancer have died of metastatic disease. The current overall mortality from all types of thyroid cancer is 2/77 (2.6%), for medullary cancer 29%, but zero in the papillary and follicular groups.

Conclusions Thyroid cancer is rare, but has an excellent prognosis when appropriately treated. Cytology is highly sensitive in detecting thyroid cancers, especially combined with synoptic reporting and frozen section allowing one stage total thyroidectomy.

ES017 DOES SURGERY HAVE ANY ROLE IN THE MANAGEMENT OF LYMPHOMA OF THE THYROID?

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Background Lymphoma arising in the thyroid gland is now primarily treated with chemotherapy with or without external beam radiotherapy. The aim of this study was to review the current role, if any, of surgery in the management of thyroid lymphoma.

Methods The study group comprised all patients undergoing surgery in the Unit from January 1970 to December 2004 where the final pathological diagnosis was that of lymphoma. Data were obtained from the University of Sydney Endocrine Surgical Unit database, and included the procedure type, complications, and outcomes of surgery.

Results 53 patients had surgery for thyroid lymphoma over the study period. The modal year for frequency of surgical procedures was 1977, with declining numbers of patients undergoing surgery since that time. This was in contrast to surgery for papillary thyroid carcinoma where a progressive increase in numbers was observed over the same time period. The other significant change related to the type of procedure, with total thyroidectomy being most commonly performed early in the series, with more recent procedures being confined to local excision or diagnostic open biopsy. The principal indication for surgery in the past decade was for a progressively increasing mass where fine needle biopsy had been unable to differentiate lymphoma from undifferentiated or anaplastic thyroid carcinoma, or for the relief of life-threatening obstruction whilst awaiting chemoradiotherapy.

Conclusions While surgery generally now has no role in the primary management of thyroid lymphoma other than for the purposes of diagnosis, some patients may still present management challenges requiring surgical intervention.

ES018 DEVELOPMENT OF A THYROID CANCER MULTIDISCIPLINARY TEAM: THE ST. VINCENT'S HOSPITAL MELBOURNE EXPERIENCE

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Thyroid cancer is the most common endocrine cancer and accounts for around 1% of all non-cutaneous malignancies. Treatment of thyroid cancer remains controversial, even amongst thyroid experts. Prospective, randomized data is absent for the treatment of thyroid cancer due to the relative rarity of the condition, the length of follow up necessary and the infrequency of cancer related mortality. Over recent years attempts have been made to standardize treatment in the hopes of achieving better patient outcomes. The establishment of a multidisciplinary team (MDT) in the management of thyroid cancer is fundamental to the development of best practice by encouraging pooling of knowledge and expertise. Both The British Thyroid Association and the American Association of Clinical Endocrinologists together with the American Association of Endocrine Surgeons have developed guidelines for clinical practice for the management of thyroid cancer. We present the St. Vincent's Hospital Melbourne experience in establishing a thyroid cancer MDT. A dedicated, prospective thyroid cancer database has been developed to keep records of treatment, outcomes and follow-up. The group has also developed management guidelines for the diagnosis and treatment of thyroid cancer. The MDT is open to any clinician with an interest in the management of patients with thyroid cancer and encourages referrals from outside clinicians for advice. The MDT encourages best practice at the hospital and meaningful audit will allow review of outcomes and development of future practices to maintain world's best practice. This paper outlines some of the salient issues in developing a thyroid cancer MDT.

ES019P
THE INTER-CRICOthyROID PARATHYROID ADENOMA

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Parathyroid adenomas lying directly on the cricothyroid muscle, truly medial to the superior thyroid pole are a rare but recognized entity. This 'inter-cricothyroid' location for ectopic superior parathyroid glands is only rarely reported in the literature. There is no reference to this position in popular endocrine surgical texts nor in classical anatomical cadaver studies. A normal parathyroid gland is occasionally encountered during the final stages of thyroidectomy as the thyroid gland is being dissected from the larynx, adjacent to the insertion of the recurrent laryngeal nerve. Accurate pre-operative localization of an inter-cricothyroid parathyroid adenoma leading to a focused surgical approach and discussion is presented.

ES020P
THYROID FINE NEEDLE ASPIRATION CYTOLOGY (FNAC) REPORTING: VARIATION IN REPORTING AND THE NEED FOR A STANDARDIZED APPROACH

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Aim To highlight the variation in pathology reporting of thyroid FNAC prior to trialing synoptic reporting.

Methods We analyzed 100 thyroid FNAs performed between 2003 and 2005 from a single Sydney endocrine surgeon's database. We looked at 28 fields perceived to be important in an FNAC report.

Results There were 26 different pathologists in 14 laboratories across 11 locations throughout NSW. Most patients had a history of neck swelling with an image proven thyroid nodule. The majority of reports commented on slide preparation (97%), colloid presence (80%), follicle cell number (64%) and architecture (66%), and other descriptive features (55%). Fewer commented on foamy macrophages (46%), presence of malignant or atypical cells (35%), thickness of colloid (32%) and smear adequacy (14%). Cell block yielded added information in only 2% of reports. The most frequent conclusion was clearly benign (38%), followed by inadequate (17%), atypical (11%), and clearly malignant (1%). Ambiguous conclusions were given in 33% of reports. Few (28%) offered differential diagnosis, and 48% gave further recommendations, with 32% of these suggesting repeat FNAB within 12 months.

Conclusion Many FNAC reports do not clearly identify inadequate, benign, suspicious and malignant sub-groups or comment on important features of clinical significance. There is no objective reporting of smear adequacy. Patient management may benefit from a standardized approach to the reporting of FNAC for thyroid disease.

ES021P
RUPTURED ECTOPIC PHAEOCHROMOCYTOMA MASQUERADING AS ACUTE PANCREATITIS

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Ruptured ectopic phaeochromocytoma is a rare cause of the acute abdomen. We report an unusual case of an acutely ruptured ectopic phaeochromocytoma masquerading as acute pancreatitis.

The interesting feature of this case is the radiological appearance of the retroperitoneum, being entirely concordant with the diagnosis of pancreatitis, along with clinical findings of hyperamylasaemia and pulmonary oedema. It was not until laparotomy that the correct diagnosis was considered.