Recent Advances in Endocrine Surgery

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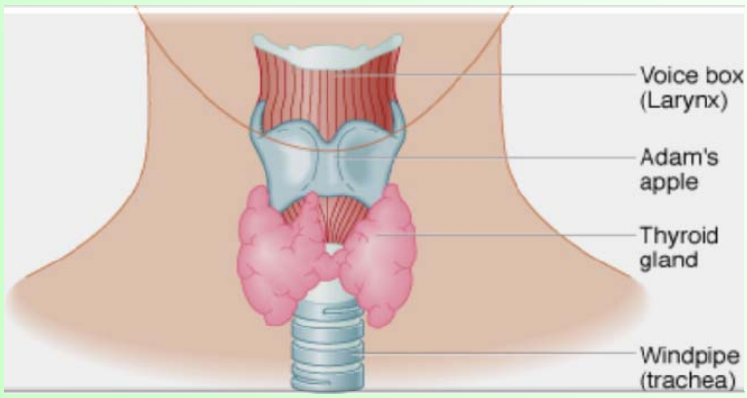


Thyroid hormone
After complete removal lifelong

Thyroidectomy

Levothyroxine replacement doses are affected by gender and weight, but not age Devdhar 2011

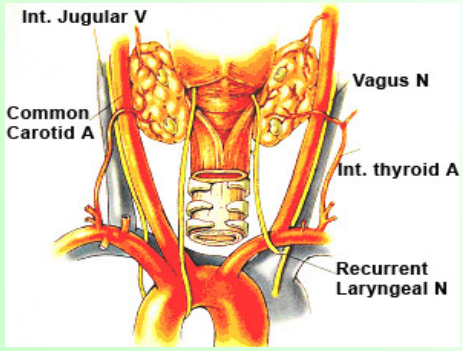
Weight changes in euthyroid patients undergoing thyroidectomy Jonklaas 2011

Do patients gain weight after thyroidectomy for thyroid cancer? Weinreb 2011

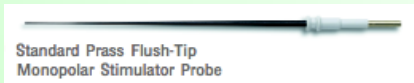
Devdhar – looked at records of patients treated for hypothyroidism whose thyroid hormone blood tests were normal, not on any other drugs and without chronic conditions. The authors report that apparent age related dose differences are secondary to weight and gender

Jonklaas – 120 Patients who had undergone thyroidectomy had their weight and thyroid hormone levels asessed and then one year later. Any changes were compared with age, height and weight, gender and menopausal status matched patients with no thyroid disease, patients on thyroxine for underactive thyroid and patients with thyroid cancer who were given high dose thyroxine as part of their treatment. Weight gain in thyroidectomised patients (about 3kg), especially post menopausal women, was significantly greater than in the other groups. Thyroid cancer patients about 1.2kg

Weinreb – Measured weights of patients before and after thyroidectomy for cancer treated with high or normal doses of thyroxine and those with thyroid nodules on follow up. There ws no significant difference in weight gain over time (7-8 years) in the thyroidectomy patients and those with normal thyroid blood tests and thyroid nodules


Int. Jugular V
Vagus N
Common
Carotid A
Int. thyroid A
Recurrent
Laryngeal N


EMG Reinforced Endotracheal Tube


Standard Prass Flush-Tip
Monopolar Stimulator Probe

Thyroidectomy

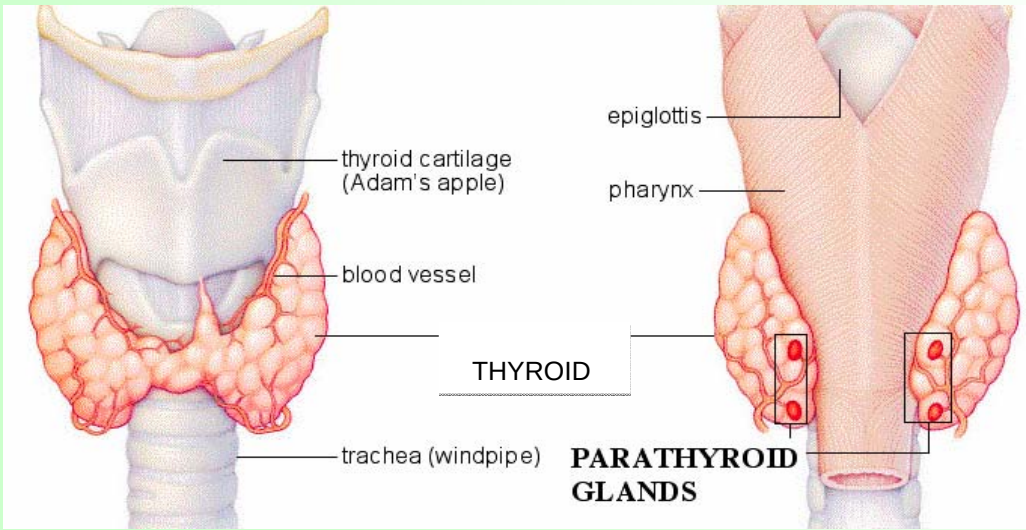
Randomized clinical trial of visualization *versus* neuromonitoring of recurrent laryngeal nerves during thyroidectomy

Barczyński 2009

Intraoperative Neuromonitoring does not Reduce the Incidence of Recurrent Laryngeal Nerve Palsy in Thyroid Reoperations: Results of a Retrospective Comparative Analysis

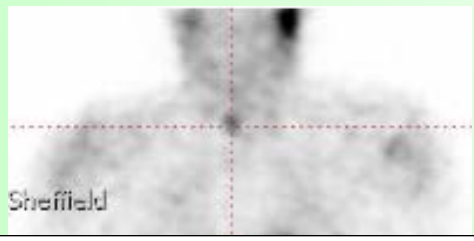
Alesina 2012

Alesina
A retrospective study involving 250 reoperations in 246 patients. Routine use of intraoperative neuromonitoring seems not to reduce the incidence of RLN during redo thyroid surgery, at least in the setting of a tertiary referral center.

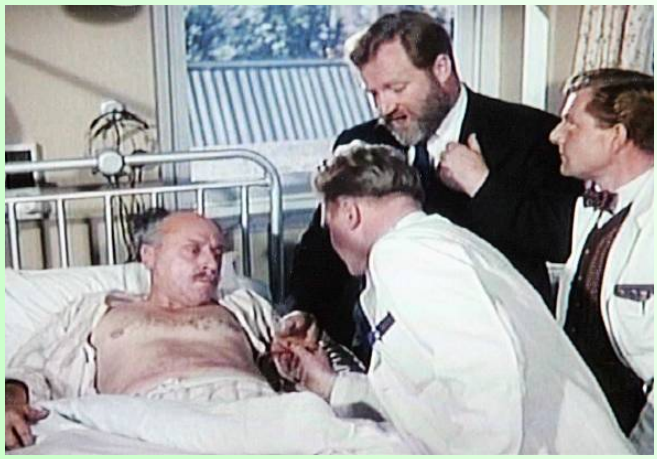


THYMUS
TRADITIONAL APPROACH

MIBI scans

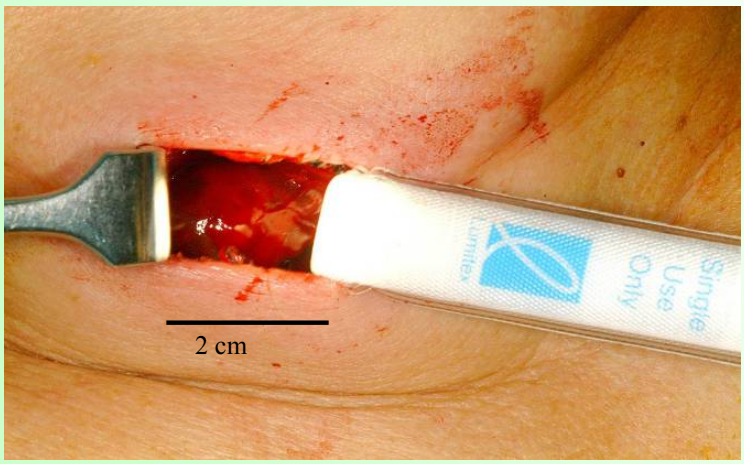


‘Keyhole’ Surgery



“……..rubbish boy – **KEYHOLE** surgery - …….”

Open minimally invasive parathyroidectomy



Parathyroidectomy

Bilateral neck exploration for all parathyroid patients is an operation for the history books

… old- school techniques … —a procedure that should be behind us...
…. unnecessarily extensive for 90% or more of patients.…

Denham 2003

5,000 parathyroid operations without frozen section or PTH assays: measuring individual parathyroid gland hormone production in real time

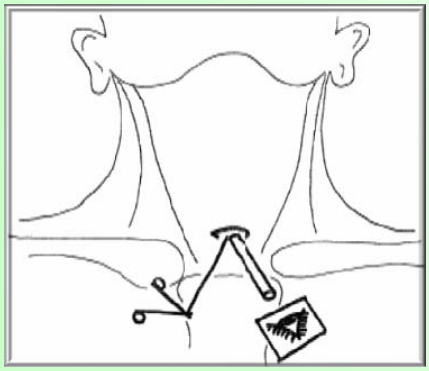
Norman 2009

Abandoning unilateral parathyroidectomy: why we reversed our position after 15,000 parathyroid operations

Norman 2012

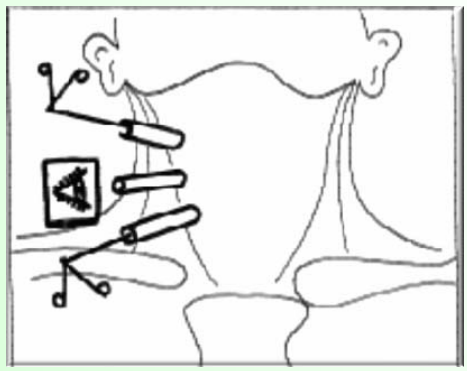
Norman 2009 – 99% cure rate average op time of 19 minutes 60% had all four parathyroid glands evaluated

Norman 2012 - cure rate 99%. Unilateral parathyroidectomy will carry a 1-year failure rate of 3% to 5% and a 10-year recurrence rate of 4% to 6%



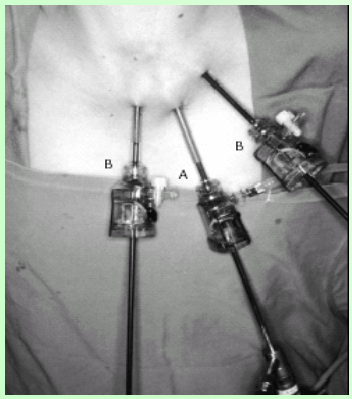
Miccoli – PISA 1997

MIVAP



Henry – MARSEILLE 1998

MIVP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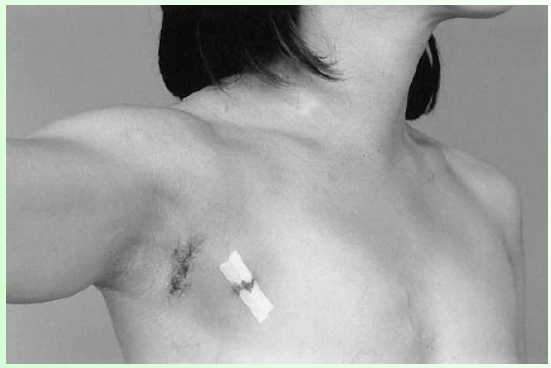


Video Assisted Parathyroidectomy (VAP)

Case-controlled comparison of video-assisted and conventional minimally invasive parathyroidectomy

Melck 2012

VAP was possible in 18% of patients undergoing initial parathyroid exploration……the rate of conversion from VAP to minimally invasive surgery was 14%

VAP is a safe surgical option for selected patients … offering improved cosmesis with operative times comparable to conventional minimally invasive surgery.

Over a 5 year implementation period comparing 125 VA patients and 95 MI patients operating time , pain killer requirements and complications were no different between the two groups of patients. ? Shorter hospital stay
But parathyroid glands removed by the small cut technique had larger glands and more risk of dying in the longer term

Parathyroidectomy in MEN1

Surgical management of MEN-1 and -2: state of the art
Akerstrom 2009

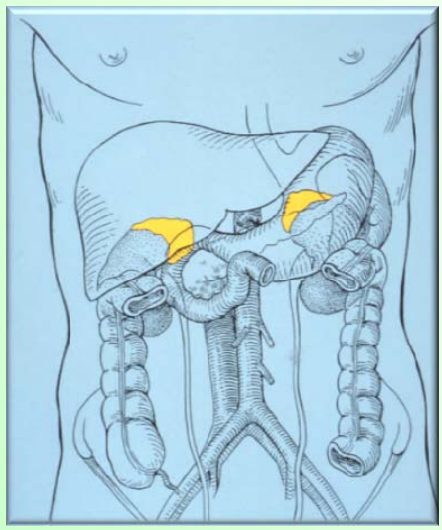
Preoperative Localizing Studies for Initial Parathyroidectomy in MEN1 Syndrome: Is There Any Benefit? Nilubol 2012

Is focused minimally invasive parathyroidectomy appropriate for patients with familial primary hyperparathyroidism? Prichard 2012

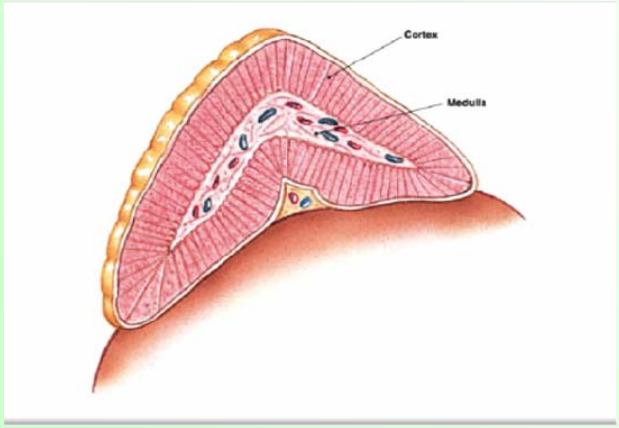
Nilubol US Bethesda - retrospective review of 60 patients initially treated with subtotal parathyroidectomy and 90% thymectomy

38% of Glands in the wrong place were found on the scans
No supernumary glands were found on preop studies
Scans did not alter the surgical approach in over 90% of patients

PRICHARD 2012
34 of 1652 pts with a single gland on imaging had a family hsitory of HPT - cure rate at 6 months 97%
At a mean of 39m after surgery RR in FH pts was 8.8% vs 1.1%

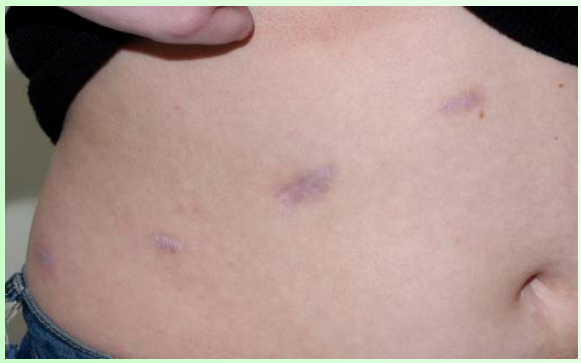


Adrenal Gland

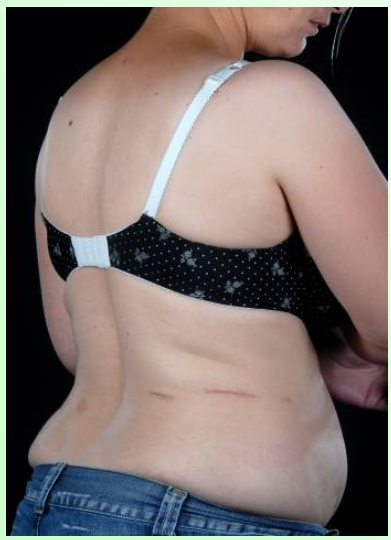


Traditional surgery
Steroid replacement if both taken
Cortex sparing

Transperitoneal Laparoscopic Adrenalectomy



Retroperitoneal videoscopic adrenalectomy



Adrenal Disease

Minimally invasive cortical-sparing surgery for bilateral pheochromocytomas

Alesina 2012

Unilateral subtotal adrenalectomy for pheochromocytoma in MEN2 patients: a feasible surgical strategy

Scholten 2011

Outcomes and timing for intervention of partial adrenalectomy in patients with a solitary adrenal remnant and history of bilateral phaeochromocytomas

Sanford 2011

Alesina – 66 patients with bilateral phaeo between 96 & 2011. At 4 median year follow up – 91% steroid free. One recurrence.

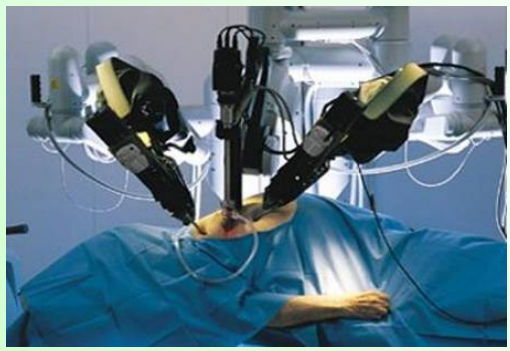
Scholten – recurrence in similar number of patients who had total (30 or subtotal resection 3/7 at 4 or more years out

Sanford – 21 patients – 50% needed steroids at discharge but this was discontinued in 4/10. Better result in patients with phaeo <4cm

Adrenal Disease

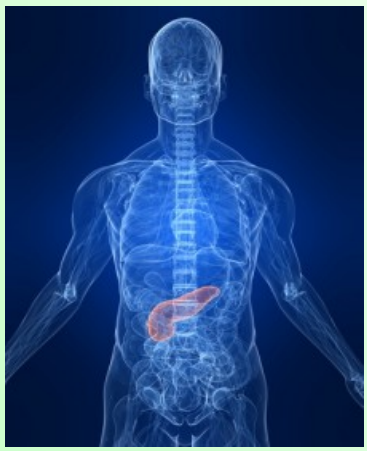
Advances in Robotic Adrenalectomy

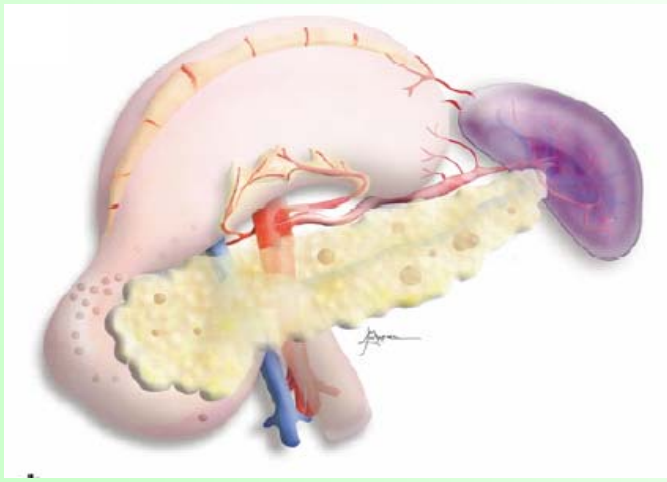
Morris & Perrier 2012



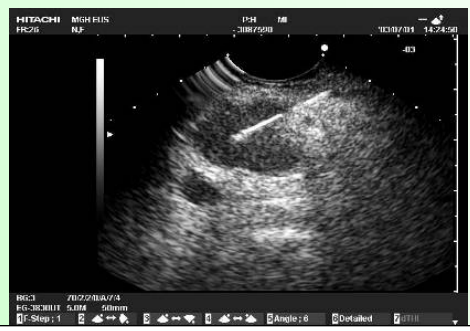
Learning curve at least 20 cases even when prior extensive experience
Why is t necessary but may be useful in patients having retroperitoneal or cortex sparing surgery

Pancreas and MEN1





Endoscopic Ultrasound



Pancreas and MEN1

Screening of pancreaticoduodenal endocrine tumours in patients with MEN 1: multidetector-row CT vs. endoscopic ultrasound

Camera 2011

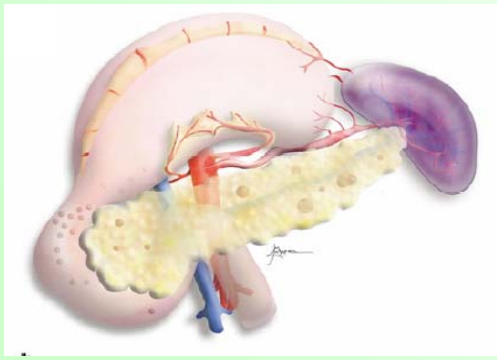
Preoperative Assessment of the Pancreas in Multiple Endocrine Neoplasia Type 1 Lewis 2012

Camera – 14 patients with MEN1 comparing ultrasound and CT ITALIAN study
CT 25 tumours in 9 patients from 3-18mm including 9 in the duodenum
EUS found 3 additional lesions 2-18mm in 11 patients higher radiation dose versus better resolution

Lewis – 52 patients Mayo Clinic compared imaging with CT / radionuclide scanning and eus with post operative results – EUS most sensitive (100%) 3 mm lesions seen CT 77%

Biochemically curative surgery for gastrinoma in MEN1 patients

Imamura 2011



pD to enucleation duodenectomy
Biochemical cure of gastrinoma in 14 of 16 patients
7 pts had pptd
Osaka Japan


Change is
GOOD
You go First