Surgical Treatment of Incontinence and Menorrhagia

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Conflicts of interest

- Most of the clinical images in this presentation are from my own cases, but some images garnered from non copyrighted internet sites
- I am involved in honorary surgical preceptorships concerning suburethral slings, sacrospinous colpopexy and sacrospinous hysteropexy
- I have been involved in surgical trials involving some of the surgical techniques described today.

Incontinence

Today’s Presentation

- Working Classification of Incontinence & Menorrhagia
- Correct Diagnosis essential
- Treatment & Surgical Procedures
- Surgery generally is the last treatment option, but may be the only appropriate treatment option

AETIOLOGY of Incontinence

- PREGNANCY / PARTURITION / PROLAPSE
- MEDICATIONS
- OBESITY
- SMOKING
- MENOPAUSE
- MEDICAL CONDITIONS - CONNECTIVE TISSUE DISEASE
- NEUROLOGICAL - CNS AND SPINAL CONDITIONS
- AGE - REDUCED CAPACITY
- OBSTRUCTION - Prolapse
- SURGERY, INCLUDING HYSTERECTOMY
- De Novo
Exclude infection

Urgency and frequency may be oestrogen deficiency symptoms

A WORKING CLASSIFICATION OF INCONTINENCE

- GSI
- OAB
- MIXED INCONTINENCE
**DIAGNOSIS**

- **HISTORY**
- **INVESTIGATIONS** Pelvic +/- Renal U/S with residual volumes, urinary diary, urinalysis & exclusion of infection,
- Cystoscopy?, UDS?
- **CLINICAL FINDINGS** : neurological (CNS, PNS, commonly L-S spinal conditions), atrophic tissues
- Cystocele, urethrocele, rectocele, enterocoele, uterine or vault prolapse
- **Endopelvic fascial defect** : often evidenced by loss of vaginal rugosity, para vaginal sulci/defects, prolapses. Check for fistulae

**INITIAL TREATMENTS**

Initial treatment often involves:

- **Pelvic floor exercises**
- **Physiotherapy**
- **Medication(s) including local E2**

### Medication

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<tr>
<th>Treatment</th>
<th>Pros</th>
<th>Cons</th>
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<tr>
<td>Duloxetine</td>
<td>- Can improve stress incontinence in those who have not helped with previous treatment, and surgery is either not possible or not desired.</td>
<td>- Can be used alongside pelvic floor exercises for stress incontinence</td>
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<td>Antimuscarnics</td>
<td>- Can improve stress incontinence and urgency incontinence in some people.</td>
<td>- Not suitable for everyone, some people may experience dry mouth, constipation, or drowsiness</td>
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<td>Fludrocortisone</td>
<td>- Can help prevent the accidental wetting of clothes.</td>
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### Initial Treatments

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<td><strong>Lifestyle changes</strong></td>
<td>- Can help train the bladder and control the flow of urine.</td>
<td>- None</td>
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<td>Pelvic floor exercises</td>
<td>- Can improve symptoms of both stress and urge incontinence in women.</td>
<td>- Requires training with a specialist</td>
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<td>Bladder training</td>
<td>- Can improve urge and mixed incontinence.</td>
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<td>- Can be combined with pelvic floor exercises for mixed incontinence.</td>
<td>- You need to continue training for at least six weeks</td>
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<td><strong>Fludrocortisone</strong></td>
<td>- Can improve urge incontinence and incontinence due to poor bladder control (OAB).</td>
<td>- Not suitable for everyone, some people may experience dry mouth, constipation, or drowsiness</td>
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<td><strong>Antimuscarnics</strong></td>
<td>- Can improve stress incontinence and urgency incontinence, and surgery is either not possible or not desired.</td>
<td>- Can cause side effects in some people, including dry mouth, constipation, or drowsiness</td>
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<td><strong>Deampressen</strong></td>
<td>- Can improve blood pressure, and reduce the amount of urine you produce.</td>
<td>- Not suitable for everyone, some people may experience dry mouth, constipation, or drowsiness</td>
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**11/08/2015**
Do no harm!

Many types of pessaries available
Individualise to type of prolapse being treated
Beware of potential ulceration, particularly in the elderly
The basis of prolapse treatment is to make the pt comfortable c.f. incontinence treatment is to make them dry

AIM OF
(IN)CONTINENCE/PELVIC FLOOR SURGERY

- Correct anatomical problem/repair defect in the endopelvic fascia
- Relieve symptoms
- Restore function
- Support upper vagina/reduce the risk of recurrence

Surgery & Procedures

Anterior Colporrhaphy
(Repair)

- First perfected by Victor Bonney in early 20th century
- Still in use commonly because it works!
- Addresses cystocele, urethrocele
- Often in conjunction with vaginal hysterectomy
- Usually plicates tissue, which is often of poor quality
- Not site specific so recurrence rates higher in the anterior compartment
- Recurrences led to the development of Site Specific repair with native tissue, suture, polypropylene mesh or xenograft; i.e. the repair or augmentation of the fascial defect

Surgical Treatment of Incontinence

Vaginal oestrogen therapy often effective in the treatment of urgency and frequency & may improve QoL. Superior to oral therapy. Useful trial of therapy and pretreats tissues before surgery.
### Surgery & Procedures

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<td>Tape procedures</td>
<td>Surgery where a piece of artificial tape is inserted to support the urethra that carries urine from the bladder to outside the body</td>
<td>• Can be effective in women with stress incontinence • Problems that can occur afterwards include needing to go to the toilet more frequently and urgently, and being unable to completely empty the bladder • The tape can wear away or move over time and further surgery may be needed to adjust or remove it • Not suitable for men with urinary incontinence</td>
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**Arch Ital Urol Androl.** 2012 Sep;84(3):129-36.
Comparison of TVT, TVT-O/TOT and mini slings for the treatment of female stress urinary incontinence: 30 months follow up in 531 patients

**Stavros C**

**Author information**

**INTRODUCTION:** Although mid-urethral slings (MUS) have been extensively used for the treatment of female stress urinary incontinence (SUI), no published data exists for the efficiency and the complications of these methods in large patient series.

**METHODS:** This is a retrospective analysis of patients who underwent MUS surgery since 1999. 531 patients were studied and the results of preoperative assessment, perioperative, early postoperatively and each follow up were registered. Patients were classified in three groups according to the MUS used. Efficacy of each method was evaluated in terms of early postoperative course, late complications and patient's symptoms improvement based questioners, pad test, uroflowmetry, filling cystometry and ultrasonography. Evaluation took place at 7th and 30th postoperative day, 3rd and 12th month and then annually. Each patient was characterized as cured, improved or failed.

**RESULTS:** Trans Obturator (TO) group prevailed in efficiency with no significant differences between trans obturator route with inside-out (TVT-O) and outside-in (TOT). Success rate at 30th month evaluation, was higher in the TO group than in Tension-free Vaginal Tape (TVT) or Single-Incision Mini Slings (SIMS) group (93.4% vs 89.5%, 93.4% vs. 91.7%). None TVT patient required reoperation for remaining/reoccurring SUI, while 1.04% of TO group and 5.48% of SIMS group did. Patients of TVT group underwent reoperation for tape related complications in 2.25%, while 2.07% of TO group and none of SIMS group did. The potential limitation of the study is its retrospective character.

**CONCLUSIONS:** Even though TVT tapes and SIMS seem more efficient than TVT, they carry a risk of recurrence that must be weighed towards the risk of potential complications.
Repair and tape procedures may compliment or may be complimented by hysterectomy

Laparoscopic hysterectomy +/- pelvic floor repair
Vaginal hysterectomy
Repairs, tapes and hysterectomy are not mutually exclusive

### Surgery & Procedures

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<td>Sacral nerve stimulation</td>
<td>Surgery where a device is inserted into the base of your spine, and an electric current is passed through the device to affect the other nerves in this area.</td>
<td>Can be effective for urge incontinence caused by overactive bladder syndrome (OAB).</td>
</tr>
<tr>
<td>Tibial nerve stimulation</td>
<td>Where an electric current is passed through a needle in the posterior tibial nerve in the ankle, which stimulates the nerves around the bladder and pelvic floor.</td>
<td>Can be effective for urge incontinence caused by overactive bladder syndrome (OAB).</td>
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### Surgical Procedures

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<td>Urethral bulking agents</td>
<td>Substances injected into the walls of the urethra to increase its size and allow it to stay closed with more force.</td>
<td>Can be effective for women with stress incontinence. Very occasionally used to treat overactive bladder incontinence. Less invasive than other types of surgery as no incisions are made.</td>
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### Heroic Surgery!

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<td>Augmentation cystoplasty</td>
<td>Surgery where the bladder is made larger by adding a piece of tissue from the bowel.</td>
<td>Can be effective for urge incontinence. Can affect your ability to pass urine and you may need a catheter and flexible tube to drain urine from your bladder, which may increase your risk of developing recurrent urinary tract infections (UTIs). You may need lifelong follow-up.</td>
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### Other Treatments

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<td>Botox injections</td>
<td>Injections of botulinum toxin A into the side of the bladder.</td>
<td>Can treat urge incontinence and overactive bladder. Effect can last several months.</td>
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<td>Urinary diversion</td>
<td>Surgery where the tubes from the kidneys are redirected to the outside of the body so urine is collected without flowing to the bladder first.</td>
<td>Can be effective for urge incontinence. Can be considered if all other treatments have not been successful or are not suitable.</td>
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### Surgery & Procedures

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<tr>
<td>Clean intermittent catheterisation (CIC)</td>
<td>- Can be used for overflow incontinence</td>
<td>- Using a catheter can feel a bit painful/uncomfortable at first. UTIs are more common among people who use a catheter. You will need to be taught how to insert the catheter yourself.</td>
</tr>
<tr>
<td>Indwelling catheterisation</td>
<td>- Can be used for overflow incontinence if CIC does not work or is not suitable</td>
<td>- Urinary tract infections are more common among people who use a catheter.</td>
</tr>
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### The Diagnosis & Surgical Treatment of Abnormal Uterine Bleeding

#### MENARCHE
- **AVERAGE AGE 12.65 YEARS**
- **RANGE 9-16 YEARS**
- **THELARCHE preceeds ADRENARCHE then MENARCHE**
- **CRITICAL FAT:LEAN RATIO**
- **RECRUITMENT OF FOLLICLES**
- **CONCEPT OF ATRETIC FOLLICLES**

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#### C MENSTRUATION AFTER PREGNANCY
- **ABORTION** - ovulation usually takes place within 4 weeks of a spontaneous or therapeutic abortion and menses follow 2 weeks later.
- **TERM DELIVERY** - first menses usually 3 to 10 weeks postpartum (anovulatory) Ovulation rare in first 6 weeks post partum, even in absence of breast feeding. (NB Bromocryptine) If lactation continued, ovulation maybe delayed indefinitely.
- **Lochia** - may persist for significantly longer than 6 weeks
- **Differential diagnoses** - Consider RPOC / mole or endometritis, before assuming anovulatory / AUB
**Follicular Phase**
- Thin endometrium (4-6mm)
- Single hypoechogenic line produced by opposed walls of the endometrial cavity.

**Periovulatory Phase**
- Triple line appearance - glands, oedema, opposed walls
- 8-10 mm (less than 7, pregnancy unlikely)
- Ideally >10mm, with triple line

**Midluteal Phase**
- 14mm plus

**ABNORMAL ENDOMETRIAL PROLIFERATION**
- Simple endometrial hyperplasia
- Complex endometrial hyperplasia with or without atypia
- Atypical endometrial hyperplasia - EIN
- Endometrial carcinoma - Grades 1, 2 & 3
- Note: Problems with interpretation of endometrial cytology, endometrial biopsy may not be representative of the histology the entire endometrial cavity
- U/S, Hysteroscopy & curettage helpful

**ACOG recommendations re Tamoxifen**
- The Breast Cancer Prevention Trial (BCPT) and other studies have shown that women using tamoxifen have 2-3 times the risk of developing uterine endometrial cancer.
- Tamoxifen has an antiestrogenic effect on the breast tissue but has an estrogen stimulation-like effect on the endometrium. Consequently, the premenopausal woman on tamoxifen may experience changes in her usual menstruation, such as irregular cycles or heavy flow, or she may even skip menstrual periods altogether or cease menstruation.
- Any bleeding that is noted by the postmenopausal woman should be considered serious and must be evaluated since there is no condition that exists in which postmenopausal uterine bleeding would be expected.
- The utility of performing endometrial biopsies (EMB) and/or transvaginal sonography (TVS) as a screening test in asymptomatic women on tamoxifen has been closely investigated. The outcome of these studies has shown that as screening tests, EMB and TVS show little value in detecting endometrial cancer.
- The prevailing recommendation is that women with a history of breast cancer who take tamoxifen face regular annual pelvic and physical exams. There is a need for more specific screening tests.
ABNORMAL ENDOMETRIAL PROLIFERATION

Endometrial polyp-LS

Endometrial polyp-TS

Endometrial Hyperplasia Measures 36mm

ABNORMAL ENDOMETRIAL PROLIFERATION

Simple Hyperplasia

Atypical Hyperplasia

ENDOMETRIAL POLYPS

COMPLEX HYPERPLASIA

COMPLEX HYPERPLASIA
MENOPAUSE
- Median age of menopause (final menses) is 50.8 years.
- Premature menopause is defined as cessation of the menses with elevation of FSH before the age of 40.(35).
- 6 months amenorrhea will result from menopause in 45% of women aged 45-49, 65% of women aged 50-52 and >70% of women aged 53 or more.
- Anovulatory cycles a common cause of AUB at both ends of reproductive life

TREATMENT REGIMENS
- Expectant
- NSAIDS
- Thrombolytic inhibitors
- Progestagens
- OCP’s
- LARCS
- Surgery (including HClUD)

SURGICAL OPTIONS
- Depends on diagnosis and associated pathologies
- Diagnostic Hysteroscopy, Dilatation & Curettage
- Polypectomy - Cervical or Endometrial
- Mirena IUCD - D&C + tight cervix, previous surgery, anxiety, some nullips & multiphs
- Myomectomy - Hysteroscopic, Laparoscopic or Laparotomy
- Endometrial Ablation
- Hysterectomy - Vaginal, Laparoscopic, Abdominal: Subtotal or Total: with or without salpingectomy or oophorectomy

Oral Contraceptives/ Hormones
- Poor or no follicular development
- Lower dosage pills: concept of minimal inhibitory dose of E2: 20mgm
- Luteal phase progesterone
- When to increase E2 or Prog dosage in OCP?
  Compliance: Nuva-Ring, LARCS, MPA may overcome these issues
**Why I hate the Mirena IUD**

- **Safe**, reliable, contraceptive; useful treatment or adjunct for AUB and other pathologies: Fibroids, endometriosis
- Many misconceptions: a legacy of problems with IUD’s in the past, the concept of a foreign body, and social media/Dr Google!

- Appropriately prescribed a Mirena IUD is well tolerated by 80% of women in time
- Time is the essence, but be available to discuss concerns and provide interim therapy as needed
- If problems not readily resolved, remove & move on to other treatments
- To persevere unnecessarily or for too long is counterproductive

**OTHER SURGICAL OPTIONS**
- Polypectomy
- Myomectomy
- Hysterectomy
- Endometrial Ablation
Resection of Polyps and Fibroids

Techniques used to perform Endometrial Ablation

- Electrical or Electrocautery - Wire loop or roller ball to cauterise the tissue - most dangerous
- Yag Laser - really an expensive form of cautery! No longer in use.
- Balloon Catheter - 85 deg.C. Higher failure rates with a thermal balloon
- Microwave ablation - Microsulis off market
- Cryoablation - not used in Australia
- Radiofrequency Ablation, Novasure 70% of ablations world wide.
- Long term results much the same

WHAT IS THE SUCCESS OF ENDOMETRIAL ABLATION?

- No need for further treatment or surgery, the ideal outcome
- Complete elimination of periods is the desire
- Patient satisfaction the aim
- 90% of women report being satisfied with the procedure. 50% of women will have no periods at all and about 40% will have light periods.
- 90% of women will not require further treatment.
- Endometrial ablations fail in about 10% of cases. Most of these women have a hysterectomy within 5 years.
- Laparoscopic or robotic hysterectomy often because of perceived or real bleeding issues, pain (adenomyosis) or to eliminate serious potential pathologies, e.g. recurrent unbiopsied PMB

Complications of Endometrial Ablation

- Uterine perforation - serious consequences if procedure performed & not detected. Most devices have built in safety mechanisms that check uterine integrity
- Haemorrhage, more common with resection procedures
- Infection
- Occur in 1:200 cases, usually easily treated without serious consequences
- Severe pregnancy complications- good contraception imperative.
- Concomitant procedure (T/L, tubal occlusive procedure)
- Regenerative powers of the endometrium in younger women

Need for Major Surgery

- Failed conservative treatment(s)
- Failed minor surgery
- Concomitant pathologies - e.g. Endometriosis, U.V. prolapse, GSI, BRCA, cervical dysplasia
- Malignancy
- Indications may be relative or absolute
- May be an endoscopic procedure or a laparotomy
Conclusion

- Think about your patient - do no harm!
- Be sure your patient is fully aware of the potential risks and complications of any procedure, as well as its benefits
- Treatment & surgical procedures based on correct diagnosis.
- Surgery generally is the last treatment option.
- In some cases surgery may be the only appropriate treatment option

Thank you for your attention

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