



What's new in Gynaecology?

An update for General Practitioners

Female pelvic floor prolapse by Dr David Rosen

It is estimated that 1 in 10 women in the western world will suffer some form of genital prolapse requiring surgical correction by the age of 80, what Dr John De Lancey of Ann Arbor, Michigan calls:

"The hidden epidemic of pelvic floor dysfunction" because of the ageing of the population. Sadly, 1/3 of these patients will require repeat surgery at some stage because of failure or inappropriateness of the original surgery.

What causes prolapse?

The major factors associated with female pelvic floor prolapse are;

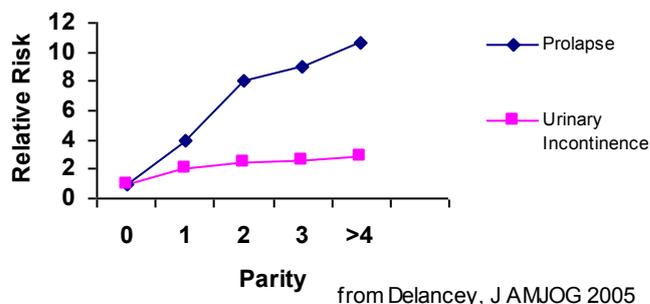
1. Pregnancy and childbirth injury
2. Postmenopausal loss of oestrogen
3. Chronic increase in intraabdominal pressure (cough, constipation, obesity)
4. Weakened Connective tissue

Whilst some of these are avoidable or may be affected by lifestyle changes or use of hormone replacement in the post menopausal years, some, such as an inherited weakness of connective tissue, are not. Furthermore, as seen by the graph above, pelvic organ prolapse is impacted much more significantly by increasing parity.

How does it present?

Pelvic floor dysfunction in the female presents in a number of ways, often in combination;

1. A bulge or lump felt vaginally especially worse after prolonged standing
2. Loss of urine with coughing, sneezing, exercise (stress incontinence)
3. Discomfort with intercourse either due to pain or embarrassment
4. Problems passing a stool or the need to manually push the vagina to pass stool, and in severe cases
5. Bleeding or ulceration of a chronically prolapsed uterus/vagina



Can it be treated?

The short answer is: Yes! Perhaps the better question is: Should it be treated? Prolapse is rarely if ever a life-threatening condition, however it is surprising how many women will cope with a degree of prolapse or stress incontinence either for fear of surgical intervention or because they believe "that is what happens when you have children, isn't it?" However as noted above, a large percentage of women know of someone in whom surgery failed or required re-operation down the track and are justifiably loathe to put themselves through the same experience. It is therefore vital that surgical correction be tailored to the specific problem with clear expectations of outcomes and possible complications.

What are the options?

Because of the increasing numbers of women presenting with some form of prolapse there has been a great deal of research into the management of these problems. Medically, vaginal pessaries still have a place for those women who are either unwilling or unable to have permanent surgical repair. They have the disadvantage of being associated with a chronic vaginal discharge and occasional bleeding and are not really consistent with sexual intercourse, but for many women they avoid potential surgery. In addition, the use of vaginal oestrogens and pelvic floor physiotherapy may provide short-term and in some cases long-term relief from symptoms. Furthermore, there is good evidence that pelvic floor physiotherapy has

Management options:

- **Vaginal pessaries**
- **Topical oestrogen**
- **Pelvic Floor physiotherapy**
- **Native tissue repair**
- **Vaginal mesh surgery**
- **Laparoscopic pelvic floor repair (including laparoscopic Burch Colposuspension, laparoscopic sacrocolpopexy)**
- **Abdominal sacrocolpopexy**

Traditionally, prolapse has been treated by gynaecologists with vaginal hysterectomy and repairs (*native tissue repairs*), and all practitioners will know of variable success in such patients. There remains a place for such procedures, perhaps as an adjunct to other methods of surgical repair, however the existence of these other techniques not to mention the experience of women is testament to the limited ability of such surgery to treat these problems long-term.

More recently, a large number of permanent *vaginal mesh* procedures have become available. These have the advantage of being performed vaginally and therefore reducing the post-operative recovery time as well as placing a permanent polypropylene mesh between the vagina and bladder (anterior) or rectum (posterior) often combined with a sub-urethral tape procedure for urinary stress incontinence and a procedure to address apical or vault prolapse. The disadvantages include possible erosion of the mesh through the vaginal wall with need for further surgery to cover this mesh because of bleeding, dyspareunia (pain with intercourse) or discharge. Such procedures are particularly useful for women who would not tolerate a general anaesthetic because of background health concerns or frailty, obesity or potential abdominal adhesions from previous laparotomy.

Laparoscopic pelvic floor repair is another means of addressing prolapse. The advan-

tages are magnified view of the involved tissues and precise anatomical dissection. Thus laparoscopic surgery has advanced our understanding and management of female pelvic floor prolapse allowing precise dissection of the anterior and posterior paravaginal spaces, areas rarely seen by gynaecologists at open surgery in the past. (See Fig, 1 and 2 opposite)

After a recent study at the Sydney Women's Endosurgery centre, laparoscopic hysterectomy is now often combined with laparoscopic prolapse surgery to achieve the best possible outcome for our patients. Surgery for prolapse may therefore involve any combination of:

- Laparoscopic posterior compartment repair
- Laparoscopic paravaginal repair
- Laparoscopic colposuspension
- Total Laparoscopic Hysterectomy
- Vaginal repairs

What's coming up at SWEC?

The Sydney Women's Endosurgery Centre, in conjunction with the Australasian Gynaecological Society (AGES), is mounting a trial of prolapse following laparoscopic hysterectomy, the PULL-APEX study. Whilst keyhole hysterectomy has been associated with significant reductions in pain and inpatient stay, there is no definitive answer as to whether this form of hysterectomy is associated with future risk of prolapse, and whether prophylactic uterosacral ligament supporting sutures at the time of hysterectomy provide benefit to future risk of prolapse.

Patients will be recruited through the private rooms and outpatient clinics of the SWEC surgeons and is scheduled to last 12-24 months until results are ready for publication.

Other events;

- 17 presentations at the AGES Annual Scientific Meeting, May 2010
- The next SWEC workshop in minimally invasive surgery, St George Hospital campus, March 28—April 1, 2011

Unfortunately no procedure is perfect. Laparoscopic surgery does require a slightly longer stay in hospital compared to vaginal surgery (2 vs 1 day) and a slightly longer recovery time (2-3 weeks). Furthermore, approximately 1 in 5 women will require a secondary, smaller procedure 12-24 months after the original surgery to complete the entire prolapse repair, usually in a compartment other than the one originally operated upon, due to a change in the forces exerted upon the vagina following repairs.

Recently, a lot of attention has focused on the combination of mesh with laparoscopic surgery. In particular, the *laparoscopic sacrocolpopexy*. This procedure combines the advantages of laparoscopic or *keyhole* surgery with a procedure usually performed by laparotomy and thought to be one of the most effective procedures for the correction of vaginal vault prolapse, especially after previous hysterectomy. A number of units around the world are publishing their experience with this procedure and SWEC is amongst the leading centres in Australia performing this global repair.

The ***laparoscopic mesh sacrocolpopexy*** involves dissection between the rectum and vagina (the rectovaginal septum) allowing placement of a permanent monofilament mesh between these organs fixed laterally to the pelvic floor muscles. It is then sutured to the back of the vagina and a separate mesh arm fixed to the anterior vaginal wall. After laparoscopic suturing of the two mesh arms together, an incision

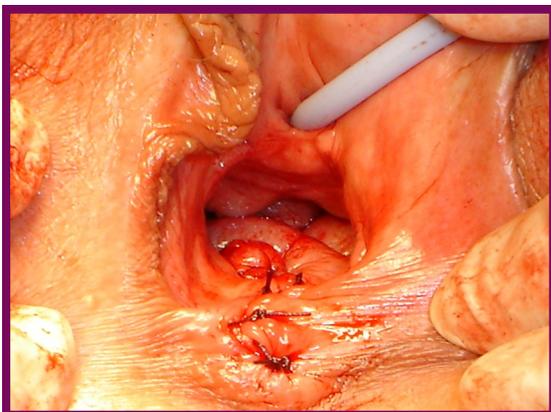


Fig 1. Vagina following laparoscopic pelvic floor repair



Fig 2. Pre-operative patient with complete procidentia including anterior and posterior vaginal compartment defects.

over the sacral promontory exposes the longitudinal sacral ligaments and the mesh is then fixed using Titanium tacks. This provides permanent support of the vaginal apex and posterior vaginal wall prolapse in one procedure, and often corrects prolapse of the anterior wall as well. If needed, a *laparoscopic paravaginal repair +/- Burch colposuspension* for urinary stress incontinence is then added. Finally, a vaginal repair of residual perineal laxity can be added to complete the entire procedure.

A lot of surgery, but a complete prolapse repair in one go with lower risk of recurrence in the future. The surgeons at SWEC have been performing the mesh sacrocolpopexy since 2008 and have now successfully completed over 200 cases with outstanding success rates. Patients are still able to be discharged on Day 2 with return to normal activities within 2-3 weeks. It is usually combined with laparoscopic hysterectomy as studies here at SWEC and elsewhere have shown a 20% risk of cervical prolapse if the cervix is left in situ, however the *laparoscopic mesh sacrohysteropexy* can be performed for those women wishing to retain their uterus, especially if future childbearing is desired.

Furthermore, mesh placed laparoscopically, rather than vaginally, has a minimal risk of future vaginal erosion, as the vaginal epithelium is not breached during the surgery.