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### ***Female Pelvic Organ Prolapse***

Female pelvic organ prolapse (FPOP) is thought to affect 31% of women between the ages of 20 – 59 years. The incidence increases with age and is estimated to be responsible for 20% of women awaiting major gynaecological surgery (UK statistics). Women have an 11% lifetime risk of at undergoing least one operation for pelvic organ prolapse and the re-operation rate is about 30%.

The social and economic impact of FPOP makes it one of the most important, though least recognized ‘family’ of conditions that leads women to seek medical or surgical attention. Women who have sought help for advanced pelvic floor prolapse have been shown to suffer from decreased body image and quality of life.

Every organ/structure within the pelvis can detach from its original attachments and present lower within or even outside of the vagina. These include the uterus, cervix, vaginal walls, urethra, hymenal remnants and perineal body. Whilst the symptoms are generally not life threatening, the impact on an individual can be severe, interfering with an individual’s ability to participate in many life areas and having to deal with the associated stigma. Older women consistently report higher rates of FPOP than their younger counterparts with the aging of the population, the incidence of FPOP continues to rise and present a challenge in aspects of prevention and cure. FPOP have been demonstrated to affect an increasingly younger population of women and for many the symptoms begin during or after their first pregnancy.

There are a number of factors that have been associated with pelvic organ prolapse. These include increasing age and parity (number of children), big babies, menopause, obesity, occupations or illnesses that result in chronically raised intra-abdominal pressure, greater than one termination of pregnancy, home delivery and a family history. Childbirth is one of the strongest risk factors for FPOP. Evidence suggests that this is related to mechanical disruption of the pelvic floor tissues and denervation of the pelvic floor muscles.

During pregnancy a multitude of changes takes place within the woman's body. These generally facilitate the progress of the pregnancy towards a successful conclusion, the delivery of a healthy baby to a healthy mother. Just within the first 13 weeks of pregnancy (first trimester) the pregnant woman will experience dramatic alterations in emotion, hormonal status, physiological parameters and anatomical modifications. Many of these developments will take place before others note the 'bump' of pregnancy.

In order to accommodate the growing baby, relaxation of the muscles and connective tissue of the abdomen and pelvis needs to occur. The dimensions of the bony structures of the pelvis do not change, but the ability of the individual composite bones to move relative to the others does. Progesterone and Relaxin are two of the main hormones involved in this process. Without an increase in their concentrations and activity, the female abdomen and pelvis would remain restrictive and the growth of the baby compromised.

Thus, at a singular, very important level, the malleability of the female pelvic floor structures is what every woman contemplating a pregnancy would wish for. On the other hand, pregnancy and delivery are noted to be the primary causes of damage to the female pelvic floor. Note that pregnancy and delivery have been distinguished as separate processes. Not every pregnancy ends in delivery. Even in those that end as early miscarriages, the dramatic changes in hormonal status and connective tissue function have already begun to take place and some of these changes produce effects on the pelvic floor that contribute towards the panorama of pelvic floor dysfunction and FPOP in later years.

The mode of delivery impacts on the risk and degree of pelvic floor damage. The so-called 'normal vaginal delivery' occurs when the baby's head descends through the mother's birth canal and is delivered through the entrance to the vagina (introitus). 'Normal' it may be, but the head stretches, tears and disrupts muscle, connective tissue and ligaments as it passes through the pelvis. Other types of delivery that tend to cause even more damage include instrumental deliveries, in particular the forceps and ventouse (suction cup) delivery. These instruments are used in circumstances where a normal delivery has not been achieved or where there is a perception that allowing the delivery process to continue would place that baby at risk of reduced oxygen supply. Use of instruments, whilst facilitating delivery of the baby, increase the incidence of muscular, connective tissue and nerve to the pelvic floor. Lacerations, tears and the formation of scar tissue are more common. Outcome? Better for baby. Potential long-term damage to pelvic floor function and increased risk of FPOP for the mother.

Symptoms of damage to the pelvic floor may be noted during the first or subsequent pregnancy or several years after the last pregnancy. Most women, when closely questioned, will report symptoms of pelvic floor dysfunction following delivery of their first baby, but a combination of factors (problems manageable, didn't know anything could be done about it, putting the family first) results in many women not seeking medical attention until their symptoms become more confronting (leaking

urine when on the trampoline or playing sport, ongoing inability to have intercourse due to pain, elongated labia causing discomfort when wearing close fitting clothing or underwear) and a lump presenting from the vagina.

FPOP can result in pelvic floor dysfunction manifesting as urinary stress incontinence, voiding difficulty, faecal soiling and incomplete bowel evacuation, reduced sensation during intercourse, the impression of an open, patulous vagina and the passage of vaginal flatus. Many women, when closely questioned will admit to placing their finger within the vagina, within the rectum or on the perineum (so-called 'digital splinting') in order to achieve an empty rectum. One of the more common symptoms of FPOP is that of a dragging sensation within the pelvis. Predisposition towards FPOP may be a result of abnormal connective tissue resulting from abnormal collagen, imbalance between synthesis and degradation or an imbalance between collagen types.

One might be forgiven for thinking that the bigger the lump the greater the degree of discomfort. What is clear though is that except in the extremes, there is virtually no correlation between size of prolapse and symptoms. This can pose a problem for the woman seeking help for a symptomatic prolapse, because if the prolapse is not deemed to be sufficiently large by the examining doctor, the woman has a high chance of being dismissed with patronizing comments such as 'it's all part of being a woman' and 'come back if it gets bigger.' Women in this situation can find themselves pondering if their symptoms are real or imagined.

We do not fully understand the natural history of FPOP. Risk assessment is poorly performed and there are no effective strategies for primary prevention. That's the bad news. The good news is that interest in FPOP is increasing at a rapid rate. More doctors are developing a special interest and undergoing specialist training. Part of the impetus to a change in thinking has been driven by patients unwilling to accept a steady decline into poor function and reduced quality of life. Many have watched as their mothers' have suffered with determination that they will act for themselves before it becomes too late. The exponential growth of information on the internet has brought information more easily to patients but this is a double-edged sword as the information is often not vetted and it is often difficult to distinguish fact from fiction. Doctors are becoming more innovative taking into account the increasing life expectancy of women and the increased expectation of women to be fully functional human beings, as they get older. Women are slowly becoming more willing to share information and talk about their experiences, but still, are more likely to do this after they have sought help and completed a course of treatment.

The principles of pelvic floor rehabilitation include lifestyle interventions (maintaining normal weight, normalizing fluid intake to avoid restriction or overloading, a diet involving reduced caffeine intake as caffeine promotes overactivity of the bladder muscle, management of constipation and avoidance, where possible, of repeated high-impact physical activities that increase the risk of pelvic floor muscle avulsion). These interventions clearly need to take into account occupation. Pelvic floor retraining is often best done with a physiotherapist with a

special interest in pelvic floor function as they can assist in establishing the correct action of pelvic floor muscles. Persistence is required and may improve symptoms without further intervention. Starting sooner rather than later is likely to be of benefit given that the evidence clearly shows that FPOP increases in prevalence and severity with increasing age.

Prolapsed organs can be supported using a variety of 'pessaries' placed within the vagina. They need to be changed 3-4 times per year and the vaginal walls inspected each time to ensure that there is no tissue damage. These suit women who are either not ready for or are unfit for surgery.

Surgery is becoming more sophisticated. Minimal access procedures include but are not limited to laparoscopic ('key-hole') surgery. Trained surgeons, through small incisions in the abdomen using specialized instruments, now do many operations that were traditionally performed through an open abdominal approach.

Where there is a significant failure of connective tissue and pelvic floor supportive tissue, artificial materials (mesh) are being developed and used to re-enforce damaged native tissue. The surgical management of female pelvic floor dysfunction is at a relatively nascent but exciting stage. The possibilities are not endless, but they are increasing all the time. Women undergoing surgery are now being discharged faster from hospital and able to return to normal activities more quickly with reduction in pain and down time.

Many will be told or assume that these problems are part and parcel of being a woman. In the majority of cases this is simply not true. There are many options available for correcting these problems and thus giving back to women the quality of life that they would hope for and expect. The best advice that I can offer any woman reading this article is this; you are not alone. Get advice and don't allow yourself to be patronized.

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Dr Onuma is a tertiary level gynaecologist and pelvic reconstructive surgeon accepting direct referrals from primary care givers and complex referrals from other specialists in the areas of female urinary incontinence, female pelvic organ prolapse. He teaches trainees and specialists' minimal access incontinence and advanced laparoscopic gynaecological surgery. He acts as a preceptor for some international companies demonstrating and teaching products used for incontinence, pelvic floor reconstruction and female menstrual dysfunction.

Dr Onuma has lectured nationally and internationally on issues related to consent to treatment in the practice of medicine, the management of female urinary incontinence, pelvic organ prolapse, sexual function surgery and menstrual dysfunction. He is an invited participant and trainer on female pelvic floor and laparoscopic training meetings and provides urodynamics assessments and reports for his own patients and those of other specialists.

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