

Clinical Focus Topic:

Stage 1 Prolapse: is it an over-diagnosis?

INTRODUCTION – *the ethical dilemma of 'to give, or not to give' a diagnosis.*

As health professionals we are constantly faced with all manner of ethical dilemma when interacting with our patients. One of the more common of these is the dilemma we face when deciding whether to inform a person of an 'anatomical variation' we '*incidentally find*' during their physical examination.

There is no doubt that when given accurately and appropriately, the identification of a specific "diagnosis" can be extremely empowering for a patient who is in search of answers. It can be the first vital step in assisting the person to become educated about their body, understand their symptoms, and make appropriate life-changes to maximise their health. In contrast though, receiving a label or diagnosis can also have quite significant negative impacts, especially in terms of a person's self-image or psychological well-being.

Whilst the ability to diagnose is therefore important, equally important is the ability to not over-diagnose in the presence of what might simply be *normal human variation*. A question we should therefore always consider when making an assessment is 'Could this simply be an example of normal human variation rather than something that needs to be suggested to the patient as a condition or disease?'

An example of this could be the asymptomatic woman attending a day 1 postnatal education class who is found to have a 1-2cm rectus diastasis when examining her abdomen. Then there is the woman presenting purely with urinary incontinence, but who is found to have evidence of mild Stage I posterior vaginal wall descent when you perform her vaginal examination. In reality, neither of these 'anatomical variations' may be causing any significant symptoms. The women themselves may not even be aware of them except for the fact that you are now considering telling them!

The dilemma we all worry about though, is whether *not providing* the patient with information on their current physical status denies them their right to be fully informed and make informed life choices. In contrast however, over-diagnosing in the presence of what may be regard by some as '*normal human variation*' could result in unnecessary psychological distress. Even if the diagnosis may seem minor to us as physiotherapists, simply using a term like 'diastasis' or 'prolapse' can be quite distressing to the patient who is receiving this information about their own body and then going home and looking up the term on Google!

This is currently the topic of quite significant debate within the Urogynaecology setting, with many arguing whether the current definition of "Stage I Prolapse" is in fact an over-diagnosis of what may be normal human anatomy. To enter into this debate however, we must first consider our perception of "normal".

CONSIDERATION #1: THE CONCEPT OF 'NORMAL' – *are we being influenced by unrealistic textbooks??*

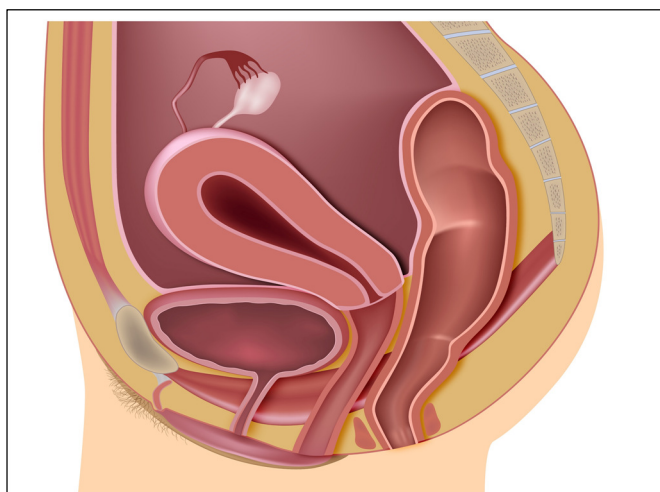
We are all aware that modern society's perception of 'normal female anatomy' is increasingly being influenced by the daily exposure to images in magazines and advertising that are being "*photo-shopped*". Magazines are now filled with images of women where wrinkles have been removed, stretch marks removed, cleavage enlarged, eyes brightened, hair colour enhanced and thighs trimmed down. Unfortunately this seems to be resulting in an ever increasing

incidence of low self-esteem amongst women who can no longer keep up with the barbie-doll like porcelain doll image which is being portrayed as "normal".

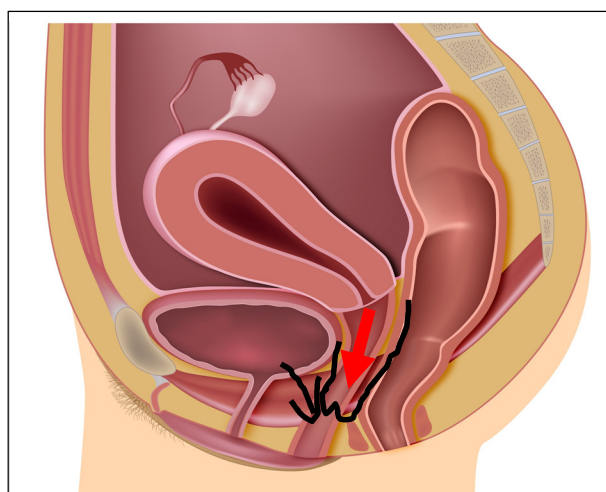
In more recent years, this photo-shop phenomenon has seemed to extend even further into the female genitalia. The use of photo-shop to 'enhance', 'trim-down' or 'even-up' the female labia on images contained within pornographic websites seems to have already begun altering the perception of what is 'normal female genitalia' amongst both young men and women. Consequently, we are now seeing a dramatic rise in labiaplasty rates by young women distressed about their 'abnormal genital appearance'. For example, between 2000 and 2011 the number of genital cosmetic surgeries in Victoria grew from 640 per year to 1,565 per year, with close to 100 of these in the 15-24 year age bracket! (Data from Women's Health Victoria 2013 Issue Paper.)

But whilst health professionals seem to feel quite within their right to criticise the advertising industry and pornographic industry for this exposure of women to unrealistic body images, are we as health professionals (*including myself!*) guilty of the same thing?

Every day in my clinic (like I am sure many of you also do), I use diagrams to explain pelvic floor anatomy to my patients. I tend to begin with a diagram of what I purport to be "Normal", then draw all over the image to explain the variation I have observed during the vaginal examination.



An example diagram that health professionals would often use to demonstrate "normal" pelvic anatomy.



A typical example of drawing on a diagram to represent Stage 1 Prolapse.

The question we must ask ourselves though, is whether the image on the left truly represents 'Normal' anatomy? Could it actually be an unrealistic ideal that actually rarely occurs in real life, and that the image on the right is in fact normal in a large percentage of the female population? If this is the case, suggesting that only the image on the left is 'normal' may result in a large number of women undergoing unnecessary surgery to correct their normal 'prolapse'.

So, could the previously defined stage 1 POP actually be a normal occurrence in the female population?

It is important to realise that for many years, the only clinical assessments of pelvic organ/vaginal wall position were being performed on symptomatic, parous women presenting to Urogynaecology clinics. In the absence of exposure to asymptomatic, nulliparous women, health professionals were able to continue to believe that 'normal' was equivalent

to that which is represented in diagrams within textbooks (similar to the diagram I gave previously). Recently however, studies on asymptomatic, nulliparous women have begun to significantly challenge our perception of what we should regard as normal, forcing us to re-think the unrealistic ideals we may be suggesting to our patients.

Buschbaum et al 2006 (Obstetrics & Gynaecology, vol 108, no. 6) compared 101 full biologic sister pairs – in which one sister was nulliparous and one sister was parous (with at least one vaginal delivery). Unfortunately the cohort only included subjects of white racial background, however the overall research methodology was good with the examiners blinded to the subjects' parity and sibling status.

Whilst the goal of this study was to look at the familial link for prolapse (which is not the focus of this discussion), the study does also provide us with some interesting statistics on the normal degree of organ descent found in 'normal' postmenopausal nulliparous women.

Data from the Nulliparous, Postmenopausal Women (n = 101):

BUSCHBAUM et al 2006	Anterior Wall	Apical (Uterine/Vault)	Posterior Wall
Stage 0	47%	83%	61%
Stage 1	43% Anterior	17% Apical	27% Posterior
Stage 2	9% POP	0% POP	12% POP
Stage 3	1% = 53%	0% = 17%	0% = 39%
Stage 2	0%	0%	0%

Interestingly, we can see that in terms of the anterior vaginal wall, **less than half the nulliparous, postmenopausal women actually demonstrated ideal support (ie Stage 0)**, with 43% demonstrating Stage I Anterior wall POP if utilising the current POP-Q criteria, and some demonstrating stage 2 or 3 descent.

It is important to remember that all women in this study were of a white racial background, making this not necessarily generalizable to the multicultural population we commonly encounter in our clinics. In addition, all women were post-menopausal, therefore we cannot necessarily assume this is representative of the pelvic organ support we would find in our younger women.

So what is the rate of POP in our younger women?

Two studies have published results in young nulliparous women. Unfortunately both involved women who were either currently involved in regular high impact activity (military women), or women who were about to participate in high intensity activity (college students about to start a summer military 'boot-camp').

1. O'Boyle et al 2002 – Active Duty Women

O'Boyle et al in 2002, published the prolapse assessment results of 42 active duty nulliparous women (within the American Military). All women were between the ages of 19 and 29 with n = 21 being *pregnant* nulliparous, and n = 21 being *non-pregnant* nulliparous.

Whilst the focus of the study was actually to compare the pregnant to the non-pregnant military women (which is beyond the scope of this review), the data from the 21 non-pregnant women provide us with the ability to look at normal pelvic organ support status in a cohort of young, nulliparous, active women.

2. Larsen and Yavorek 2007 – College Students

Larsen and Yavorek also assessed young, nulliparous women, but these were college students about to attend a training program at a United States military academy over their summer break. N = 116 women completed the study, having an assessment both pre and post the summer training program, with a subgroup of n = 37 undergoing additional paratrooper training (jumping out of a plane). Whilst the goal of this study was to assess the impact of summer military training and paratrooper training on pelvic organ support (which is also beyond the scope of this review), the pre-training results do provide us with another cohort of young, nulliparous women to review their baseline pelvic organ prolapse status.

RESULTS DATA	O’BOYLE et al 2002		LARSEN & YAVOREK 2007	
PROLAPSE STAGE	Young Nulliparous (non-pregnant) N = 21, avg age = 22.2		Young Nulliparous (non-pregnant) N = 116, avg age = 20.7	
Stage 0	43%	Total	52%	Total
Stage 1	57%	POP	46%	POP
Stage 2	0%	= 57%	2%	= 48%
Stage 3	0%	(military)	0%	(college)

Unfortunately, you can see from the table that the prolapse stage is not split by compartment. This unfortunately was a limitation of both these studies. In neither publication did the Authors publish prolapse stage by compartment. Rather, they simply listed the worst prolapse stage in any of the compartments. Therefore it is impossible to determine whether these stages were predominantly anterior / posterior wall prolapses or apical prolapse.

A second limitation of these studies is the fact that all these women were either involved in training with the American Military, or had a desire to attend summer military training. This therefore does not necessarily represent the POP status of sedentary women of the same age.

CONSIDERATIONS FROM THE ABOVE DATA

When looking at these high rates of Stage 1 Prolapse in asymptomatic, nulliparous women, we do start to question whether this should in fact be regarded as prolapse at all. Interestingly, in an article titled “POP-Q 2.0: it’s time has come” published in the International Urogynaecology Journal this year (vol 25, pp 447-449), Harmanli suggests that the current POP-Q criteria of Stage 1 as a form of prolapse may in fact be a gross over-diagnosis, with its inclusion making POP a diagnosis in up to 76% of parous women:

“The POP-Q system was arbitrarily derived and has limited clinical relevance: there has to be something inherently wrong about a classification system that designates only 24% of the general adult female population as completely normal (stage 0), when only about 6% of community-dwelling women express that they have any symptoms attributable to this condition”

Dietz and Mann in their 2014 article also in the International Urogynaecology Journal (vol 25, p 451) hold a similar view:

“Stages 0-4 [of the POP-Q] were defined based on expert opinion, not on an objective evaluation of the association between examination findings and symptoms. It has since become clear that stage 1 prolapse of the anterior and posterior vaginal wall are so common as to likely be part of the normal range.....It seems to make little sense to define something as stage 1 or 2 of a disease process that is very common, benign, and not predictive of symptoms or progression”.

Interestingly, both these authors make the point that stage 1 prolapse is not only extremely common, but it is also usually asymptomatic. Dietz and Mann also suggest that Stage 1 Prolapse is not predictive of prolapse progression, or more symptomatic prolapse in the future. If this is true, it does seem unusual to label someone with a diagnosis when it may have no impact on quality of life, health, or survival.

CONSIDERATION #2: Does Stage 1 Pelvic Organ / Vaginal wall descent pose a problem?

Interestingly, if the research is to be believed, for most people it does appear that Stage 1 'Prolapse' is usually asymptomatic and doesn't necessarily progress.

Buschbaum et al (2006) who reviewed the 101 post-menopausal sister pairs found that none of the women with Stage 1 Prolapse (in either the nulliparous or parous cohorts) were symptomatic. They go on to state: *"this supports the idea that stage 1 support is a normal finding and should not be considered prolapse"*.

In terms of progression, Tegerstedt et al in 2005 (IJU vol 16) analysed the incidence of symptomatic POP across age cohorts and found that this may be an unsubstantiated concern, particularly in post-menopausal women. In their study of 5,489 women they found that the incidence of symptomatic prolapse does increase with age during younger adulthood, but levelled off after age 50.

AGE	Prevalence of SYMPTOMATIC Prolapse
30-39	4.1%
40-49	6.2%
50-59	11.8%
60-69	12.2%
70-79	11.0%

Analysing their data, Tegerstedt et al 2005 suggest that

'once a woman reaches the age of 50-60, the risk of developing new symptomatic prolapse is very small..... Asymptomatic stage 1 POP at the time of menopause is very unlikely to develop into clinically significant symptomatic disease'.

The interesting information from this study is that the number of women with any degree of symptomatic prolapse did not seem to increase after age 50. This statistic may seem difficult to believe for those of us who see an increasing number of women present for treatment of prolapse with increasing age. However, to make sense of this it is important to realise that there is a difference between analysing the risk that a symptomatic woman's prolapse may become more symptomatic, to the risk of developing a new symptomatic prolapse.

Let's Consider and Example

Amongst a random sample of n = 1000 50year old women in 2010 it is found that 100 of them have symptomatic stage II prolapse with an average bothersome score of 3-4/10. This would mean that the incidence of symptomatic prolapse at age 50 is ~10%. However, even though 10% of these women have symptomatic prolapse, possibly only 1-2% will consider surgery as their 'bother' is fairly low.

Let's than pretend it is ten years later.... It is now found that amongst the same cohort of n = 1000 60 year old women there are still 100 women with symptomatic prolapse but it is now more bothersome for them (bothersome score 7/10) and objectively assessed as Stage III. There is still the same incidence of symptomatic prolapse ie 10% of the cohort has symptomatic prolapse, but we are likely to see more of them in clinic due to its increased severity.

This Tegerstedt study was looking at the *change in incidence* of symptomatic prolapse. Incidence only changes if *asymptomatic women become symptomatic* (this is most likely to occur if a woman with stage 0 or 1 develops stage 2 or 3 prolapse and becomes symptomatic). Therefore, the fact that the incidence didn't change after age 50 doesn't mean that women who already have symptomatic prolapse don't progressively get worse, it simply implies that there were very few new cases of symptomatic prolapse amongst the previously asymptomatic women above age 50.

The authors therefore suggested that for women with observed Stage 1 Prolapse at age 50, this could simply be 'normal' for them, and is not necessarily the start of a progressive disorder.

Interestingly, if we re-look at the three previous studies on the incidence of prolapse in nulliparous women.....and then compare these incidences with the rates of Stage 1 prolapse amongst the older women in the Buschbaum et al 2006 study, we see that the rate of Stage 1 prolapse is not significantly different between the young nulliparous cohorts and the older nulliparous cohorts (using anterior compartment figures).

PROLAPSE STAGE	EARLY ADULTHOOD		LATER ADULTHOOD	
	O'BOYLE et al 2002	LARSEN & YAVOREK 2007	BUSCHBAUM et al 2006 (anterior data)	BUSCHBAUM et al 2006 (anterior data)
	Nulliparous avg age = 22.2	Nulliparous avg age = 20.7	Nulliparous avg age = 60.5yrs	Parous avg age = 60.2
Stage 0	43%	52%	43%	15.8%
Stage 1	57% Stage 1	46% Stage 1	49% Stage 1	42.6% Stage 1
Stage 2	0% = 57%	2% = 48%	1% = 49%	29.7% = 43%
Stage 3	0%	0%	0%	7.9%
Stage 4	0%	0%	0%	4%

This seems consistent with the thought that there may be a certain percentage of nulliparous women (~50%) who simply have stage 1 positioning of their pelvic organs / vaginal wall throughout their entire life, without it ever progressing.

STAGE 1 PROLAPSE – *does that mean it never progresses???*

Obviously no..... In fact, the most difficult group to predict is the parous women. In terms of the increased incidence of stage II, III and IV prolapse we see in the older parous women (final column in the table above), we cannot know whether this reflects the women who were originally Stage 1 not changing, and the Stage 0 women changing to Stage II-IV, or if there is a generalised worsening for all women where Stage 0 → Stage 1, Stage 1 → Stage 2 etc

Obviously, to determine this we will need long term studies following the same cohort of women over decades!!!

STAGE 1 PROLAPSE – *should we therefore no longer use the word 'Prolapse' for this type of descent?*

As a result of all this debate, Tooze-Hobson and Swift (2014) published a paper earlier this year in the IUJ titled "POP-Q Stage I Prolapse: is it time to alter our terminology?". In their paper they state their dilemma with the current POP-Q descriptors:

'we currently have a prolapse classification system that defines even small movement in the vaginal position as at least a stage I prolapse, regardless of symptoms'.



It seems that the debate now has multiple components, with various questions needing to be answered:

- Should we actually change the POP-Q staging criteria and redefine Stage 1 and Stage 2?
- Should we simply change our terminology to eliminate the inferred implications that come with a term like 'Prolapse'. eg should we talk about Stage 0 and Stage 1 'Support', and reserve the term prolapse for Stage 2 and beyond?
- Should we eliminate the stages completely, and simply describe the position relative to the hymen so as to eliminate the misinterpretation altogether of stages eg simply use anterior wall -2, cervix -4, posterior wall +1?

This leads me to the next section of this newsletter.....