

## Clinical Focus Topic:

# Should the POP-Q now be revised?

It was in 1996 that the Pelvic Organ Prolapse Quantification system (POP-Q) was first published as the newly recommended assessment tool for the evaluation of Pelvic Organ Prolapse (Bump et al 1996). Its introduction was quite significant, as it was the first time it was suggested that 6 different points throughout the vaginal canal should be analysed to accurately assess vaginal wall and apical compartment descent. Its development resulted from an 'exchange of ideas' and subcommittee meetings of experts between 1993 and 1996, utilising the most up to date research available at the time as well as the experts' own clinical experience.

Now, close to 20 years since its first publication, there is question regarding whether our ongoing knowledge and research on pelvic organ prolapse should facilitate an updating of the POP-Q assessment criteria.

### ***People are already unofficially changing.....***

The confusion surrounding the clinical relevance / non-relevance of Stage I pelvic organ prolapse (discussed in the previous section) has now led to many researchers already changing their definition of 'normal' or 'cured' when publishing data about prolapse occurrence or success rates of surgical POP procedures. An example of this is Buschbaum et al (2006), who state in the methodology section of their research project:

*"We considered stages 0 and 1 as normal support, and combined these stages in our analysis under 'no prolapse'."*

This has obviously brought about significant debate. On one hand it seems reasonable that Stage 1 descent be considered normal. On the other hand though, are we really comfortable suggesting that a woman whose cervix is sitting 2cm inside the vaginal entrance after a uterine suspension surgery should always be satisfied?

Dietz and Mann 2014 (IJU, vol 25, no. 4) believe that any debate attempting to create uniform agreement as to whether Stage I POP (as defined by the POP-Q) is abnormal or not is oversimplifying the situation. In their article in the IJU this year, Dietz and Mann suggest that a cervix at -2 is completely different to an anterior wall (Aa) point at -2, and therefore we may need to completely reconsider the current POP-Q assessment approach.

The importance with which this topic is being regarded within the gynaecology specialty is no better demonstrated than by the fact that the International Urogynaecology Association chose to publish 4 separate articles directly related to this topic in its April edition of the IJU earlier this year (vol 25, issue no.4). These included

### **AUTHOR(S)**

1. Riss and Dwyer
2. Bump
3. Toozs-Hobson and Swift
4. Hammanli

### **ARTICLE TITLE**

- POP-Q classification system: looking back and looking forward
- POP-Q system: two decades of progress and debate
- POP-Q stage 1 prolapse: is it time to alter our terminology?
- POP-Q 2.0: its time has come!

To fully understand these discussions though, we must first have a good understanding of the POP-Q and what it being debated.....

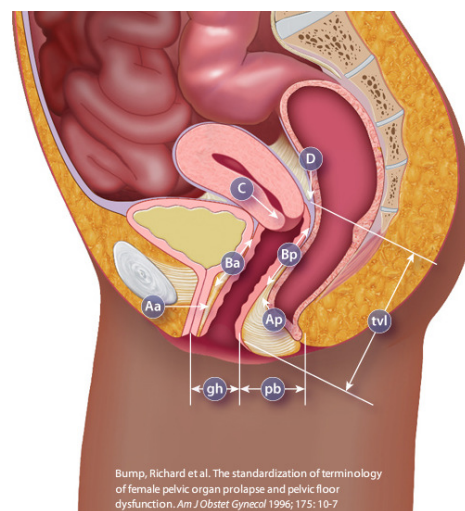
*(Note: the very next section below is provided for our up and coming new women's health physios ☺ who may be less familiar with the intricacies of the POP-Q ☺, feel free to skip to the following section if you are one of the 'old-girls' and very confident with the POP-Q already!!).*

## UNDERSTANDING THE CURRENT POP-Q: Points and Stages

### **THE POINTS: Aa, Ba, C, D, Ap, Bp**

The POP-Q utilises the individual assessment of 6 different points along the vaginal walls and apical compartment to gain an overall picture of vaginal wall and apical compartment positions.

There are two points assessed for the Anterior Wall (A<sub>a</sub> and B<sub>a</sub>), two points for the Posterior Wall (A<sub>p</sub>, B<sub>p</sub>) and two points for the apical compartment (C for cervix, D for Pouch of Douglas / Posterior Fornix).



*Image from the POP-Q app by Boston Scientific, available via iTunes.*

### ANTERIOR WALL POINTS:

Point 'Aa': A point located 3cm along the anterior vaginal wall: corresponds to the urethrovesical junction/bladder neck. Expected to sit at **-3** in a woman with normal anatomy, on maximal descent can distend to +3

Point 'Ba': An arbitrary point that simply reflects the point of the anterior wall that distends the greatest. (as point Aa is limited to +3 descent, point Ba allows for assessment of a greater degree of anterior wall prolapse)

### POSTERIOR WALL POINTS:

Point 'Ap': A point 3cm along the posterior vaginal wall. Expected to sit at **-3** in a woman with normal anatomy, on maximal descent can therefore distend to +3

Point 'Bp': An arbitrary point simply used to define the maximal point of descent of the posterior vaginal wall relative to the hymen.

### APICAL POINTS:

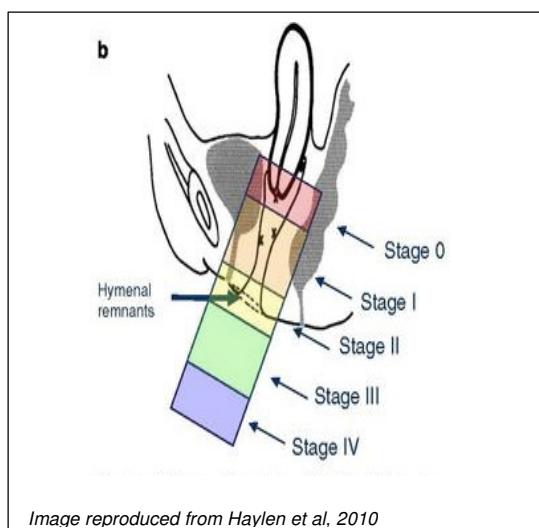
Point 'C': The **Cervix** (or vaginal cuff in a woman who has had a hysterectomy) Expected to sit **8-10cm** above the hymen (ie -8 to -10), on maximal descent can distend to +10 to +12

Point 'D': The Posterior Fornix (behind the cervix), representing the Pouch of **Douglas**. Expected to be located a few cm higher than the cervix at **-10 to -12**, can fully evert to +10.

The position of each point was designed to be assessed relative to the level of the hymenal remnants, with maintenance of position above the hymen being assessed with negative values and descent beyond the hymen being given positive values. eg if the cervix (designated as point C) remains 6 cm above the hymen in a patient performing a Valsalva it would be given a score of C = -6, however if the cervix descends to 2cm outside the vagina on Valsalva it would be scored as C = +2. (note: all assessments are performed on full Valsalva).

## THE STAGES:

With the publication of the POP-Q not only came a new approach by assessing the 6 different points, but also a new criteria for the overall staging of pelvic organ prolapse. Stage 1 was now regarded as descent of any of the points to a position no further than -1 (1cm inside vagina) with Stage 2 prolapse defined as descent of any of the points to a position between -1 and +1. Interestingly though, these criteria for stage 2 prolapse were the same whether we were talking about movement of the Aa point or the C point.



### CRITERIA FOR POP STAGES RELATIVE TO HYMEN

*Stage 0:* No prolapse is demonstrated. (Aa: -3, Ap: -3, C: -9)

*Stage I:* Most distal portion of the prolapse is more than 1cm above the level of the hymen. (<-1)

*Stage II:* Most distal portion of the prolapse is 1 cm or less proximal to or distal to the plane of the hymen. (-1 to +1)

*Stage III:* The most distal portion of the prolapse is more than 1cm below the plane of the hymen. (>+1)

*Stage IV:* Complete eversion / procidentia

## The Confusion Around Stage 1: Should we alter the POP-Q?

Utilising the expected points above, we can already see a discrepancy in defining Stage 2 prolapse equally in all compartments. For the anterior and posterior compartments Point Aa and Ap only need to descend 2 cm to reach -1 (1cm inside the hymen) and classify as Stage 2, whilst the uterus would need to descend 7-8cm before it would reach a -1 position.

Is a 1cm movement of the Aa point from -3 to -2, really the same as a 7-8cm movement of the Uterus to -2?

To address this issue, Dietz and Mann researched the issue of whether apical prolapse becomes symptomatic at a different level to when anterior or posterior wall descent becomes asymptomatic.....

Diets HP and Mann KP 2014, What is clinically relevant prolapse? An attempt at defining cutoffs for the clinical assessment of pelvic organ descent. *International Urogynaecology Journal*, vol 25, no. 4, pp 451 – 455.

## Purpose of Research Study

To investigate the relationship between symptoms of prolapse and the ICS Pelvic Organ Prolapse Quantification measurements in order to establish optimal cut-offs for predicting prolapse symptoms.

## Methods

N = 764 data sets were reviewed comparing the degree of maximal descent of the anterior compartment (Ba), posterior compartment (Bp) or Cervix/Vaginal Cuff (C) to the presence or absence of prolapse symptoms.

Patient age, BMI, previous hysterectomy or incontinence/prolapse surgery, as well as vaginal parity were tested to control for confounding effects on the relationship between POP-Q measurements and symptoms of prolapse.

## Results:

Correlation analysis between the level of descent and the commencement of prolapse symptoms found that most patients became symptomatic of prolapse at a different stage for the apical compartment than for the anterior or posterior compartments.

	Cut-Off Level at which Descent is most likely to become Symptomatic	Sensitivity	Specificity
Anterior Compartment (Ba)	-0.5	69%	71%
Posterior Compartment (Bp)	-0.5	63%	62%
Apical Compartment (C)	-4	67%	64%

In other words, any descent of the cervix to a position lower than -4 was found to be likely to cause symptoms in a woman. This makes a cervix sitting at -2 (traditionally classified as stage 1) likely to be symptomatic. In contrast, an anterior wall descending to -1 (mild stage 2) is commonly asymptomatic.

## Conclusion of the Authors:

*'Our findings suggest that the ICS POP-Q staging system requires revision. Prolapse of the anterior and posterior vaginal wall of <-1 should probably be regarded as normal. On the other hand, stage 1 uterine prolapse as currently defined seems highly relevant.'*

## **SUMMARY: THE THREE IMPORTANT TAKE HOME MESSAGES FROM THIS MONTH'S FOCUS TOPIC**

1. It is important to reassure women that stage 1 descent occurs in at least 50% of all women, and this rate applies even to those who haven't had children!
2. Having Stage 1 POP does not necessarily mean that it will get worse. We need to look at other risk factors if we want to determine risk of worsening prolapse (eg family history of POP surgery, levator hiatus size, BMI etc)
3. Apical compartment prolapse should be considered differently to anterior and posterior wall prolapse as women are likely to become symptomatic at -4 position (stage 1), whereas anterior and posterior is often not until -0.5.