Prolapse-Using POP-Q and Understanding Pelvic Anatomy
Workshop 4
Monday 23 August 2010, 09:00 – 12:00

<table>
<thead>
<tr>
<th>Time</th>
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<th>Topic</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>09:00</td>
<td>09:05</td>
<td>Welcome</td>
<td>Wolfgang Umek</td>
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<tr>
<td>09:05</td>
<td>09:20</td>
<td>Lecture: Landmarks in Pelvic Floor Surgery</td>
<td>Paul Riss, Wolfgang Umek</td>
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<tr>
<td>09:20</td>
<td>10:30</td>
<td>Hands-on practice: Pelvic model</td>
<td>All</td>
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<td>10:30</td>
<td>10:45</td>
<td>Coffee-break</td>
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<tr>
<td>10:45</td>
<td>11:00</td>
<td>Lecture: Understanding the POP-Q-System</td>
<td>Andrea Dungl, Thomas Aigmueller</td>
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<td>11:00</td>
<td>12:00</td>
<td>Hands-on practice: Putting POP-Q into practise</td>
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<td>12:00</td>
<td>End of workshop</td>
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**Aims and Objectives:**
The workshop has 2 objectives:
Aim 1: To understand the POP-Q system and how to apply it in clinical practise
Aim 2: To gain and review knowledge of anatomic landmarks in the small pelvis and how they relate to prolapse- and reconstructive pelvic surgery

Objective: At the end of the workshops delegates will be able to:

1. Identify and reproduce all points of the POPQ system
2. Reconstruct a specific prolapse type on a model according to given points of the POPQ system
3. Apply the POPQ system to a specific prolapse
4. Identify the most important anatomical-surgical landmarks on a pelvic model
5. Describe the effect of the most common surgical procedures for anatomical structures in the small pelvis

**Educational Objectives**

In order to allow group interaction and hands-on training with models the number of delegates per table will be limited to 6 and the number of tables to 5. This allows for a total number of delegates to the workshop of 30.

The workshop is designed for trainees (residents, fellows) but urogynecologists are also welcome as long as they are willing to participate in the interactive sessions.

**Workshop Tutors:**
Johann Coetzee, South Africa
Linsey Hayward, New Zealand
Julia Kargl, Austria
Anatomical Landmarks in the Small Pelvis

Paul Riss
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Wolfgang Umek
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Workshop
Annual Meeting ICS / IUGA Toronto, August 23, 2010

Landmarks

- Ischial spine
- Sacro-spinous lig.
- Sacro-tuberal lig.
- Arcus tendineus

- Levator ani muscle
- Endopelvic fascia
- Utero-sacral lig.
- Pubo-urethral lig.

- Recto-vaginal septum
- Vesico-vaginal septum
- Perineal body
- Ischio-rectal fossa
Ligaments in the small pelvis

Symphysis

Arcus tendineus

Sacro-spinous lig

Ischial spine

Sacrum

Sacro-spinous lig.

Sacro-tuberal lig.
Vaginal sacro-spinous fixation

Sacro-spinous lig.
Sacral cavity
Coccygeus muscle
Sacro-spinous lig.
Arcus tendineus

Landmarks

- Ischial spine
- Sacro-spinous lig.
- Sacro-tuberal lig.
- Arcus tendineus
- Levator ani muscle
- Endopelvic fascia
- Utero-sacral lig.
- Pubo-urethral lig.
- Recto-vaginal septum
- Vesico-vaginal septum
- Perineal body
- Ischio-rectal fossa
Levator ani muscle

Arcus tendineus
Levator ani muscle

M. pubo-rectalis
M. pubo-coccygeus
M. ilio-coccygeus
Levator ani muscle

- M. pubo-rectalis
- M. pubo-cocygeus
- M. ilio-cocygeus
- Uro-genital hiatus
- Rectum

Endopelvic fascia
Paravaginal defect

Landmarks

- Ischial spine
- Sacro-spinous lig.
- Sacro-tuberal lig.
- Arcus tendineus
- Levator ani muscle
- Endopelvic fascia
  - Utero-sacral lig.
  - Pubo-urethral lig.
- Recto-vaginal septum
- Vesico-vaginal septum
- Perineal body
- Ischio-rectal fossa
Supine position

- Pubo-urethral lig.
- Urethra
- Cervix
- Utero-sacral lig.
Standing position

Pubo-urethral ligament
Landmarks

- Ischial spine
- Sacro-spinous lig.
- Sacro-tuberal lig.
- Arcus tendineus
- Levator ani muscle
- Endopelvic fascia
- Utero-sacral lig.
- Pubo-urethral lig.
- Recto-vaginal septum
- Vesico-vaginal septum
- Perineal body
- Ischio-rectal fossa
Septum between bladder and vagina

Bladder

x) Septo-vesical space

Vesico-vaginal septum

xx) Septo-vaginal space

Vagina

Septum between vagina and rectum

Vagina

x) Septo-vaginal space

Recto-vaginal septum

xx) Septo-rectal space

Rectum
Landmarks

- Ischial spine
- Sacro-spinous lig.
- Sacro-tuberal lig.
- Arcus tendineus
- Levator ani muscle
- Endopelvic fascia
- Utero-sacral lig.
- Pubo-urethral lig.
- Recto-vaginal septum
- Vesico-vaginal septum
- Perineal body
- Ischio-rectal fossa

Perineal body
Perineal body

1. Bulbospongiosus m.
2. External anal sphincter m.
3. Transverse perineal m.

IV° Tear – No Perineal Body
Ischio-rectal fossa
POP – Q

Pelvic Organ Prolapse - Quantification

Andrea Dungl | Thomas Aigmueller
workshop ICS / IUGA Toronto 2010

Standardisation of terminology

- ICS (International Continence Society)
- AUGS (American Urogynecologic Society)
- SGS (Society of Gynecologic Surgeons)
Why?

- Quantification of prolapse
- Compare outcome of surgical repair
- Interindividual reliability
- Standards in written publications and scientific presentations

Different

- Measurements: centimeters
- Hymen fixed point of reference
  - Plane of hymen defined as „zero“
  - above = negative number
  - below = positive number
6 points
- anterior: Aa, Ba
- Apex: C, D
- posterior: Ap, Bp

3 measurements
- gh - genital hiatus
- pb - perineal body
- tvl - total vaginal length
POINT A

- Anatomical defined
- Midline of anterior/posterior vaginal wall
- 3 cm proximal to external urethral meatus urethrae or hymen
- Range of position = -3 to +3

Hypomochlion Meatus urethrae ext.

- -3
- +3

Hymen as reference
Aa (=anterior) / Ap (=posterior)

Defined points

- Midline anterior vaginal wall, 3cm above external urethral meatus, approximate location of urethrovesical junction
- Midline posterior vaginal wall, 3cm proximal to the hymen

POINT B

- Dynamic / variable point
- Most distal position of any upper vaginal wall between the anterior fornix or cuff and A
- Value –3 cm in absence of prolapse
Ba (=anterior) / Bp (=posterior)

- Dynamic or variable points
- Most distal point of any part of anterior or posterior vaginal wall from the vaginal cuff or cervix to point A
Why do we need A and B?

- Urethrovesical junction
- Which portion of vaginal wall is most distal?

Position of A and B?
C = Cervix, Cuff

Most distal edge of the cervix or Leading edge of the vaginal cuff (hysterectomy scar)
D = Douglas

Posterior fornix or Pouch of Douglas

Represents the level of uterosacral ligament attachment to the posterior cervix

(Diff.: Suspensory failure/cervix elongation)

No cervix = no „D“!

gh = genital hiatus

Middle of external urethral meatus to the posterior hymen
\[ pb = \text{perineal body} \]

Posterior margin of genital hiatus to midanal opening

\[ tvl = \text{total vaginal length} \]

- Greatest depth of the vagina in centimeters
- C and D in normal position

Measurement without straining!
The GRID

Stages of pelvic organ prolapse

- Stage 0  = no prolapse
  - Aa, Ba, Ap, Bp are all at –3
  - C or D between tvl and < tvl –2cm
- Stage I  = most distal portion>1cm above the level of hymen
- Stage II = <1cm proximal to or distal to the plane of hymen
- Stage III = >1cm below the plane of the hymen
- Stage IV = complete eversion, distal portion at least (tvl -2 cm)
Physical examination technique

- Position of subject
- Type of vaginal specula
- Straining or coughing
- Bladder empty?
- Method of quantitative measurements

Physical examination technique

- Protrusion of vaginal wall during straining
- Traction causes no further descent
- Subject confirms the size of prolapse
- Standing straining examination confirms full extent of prolapse
Measurement - tape

Missing

DD: Rectocele vs. Enterocele
DD: lateral vs. central defect

Thank you for your attention!