### Aims of course/workshop

This course is intended to update the reconstructive pelvic surgeon and all interested trainees on the pros and cons of modern surgical approaches in the management of pelvic organ prolapse. This interactive course will feature concise lectures on current debates with each approach, including robotic surgery. The course will include multiple surgical video clips, and provocative case discussions to enhance the interaction with the audience.
GOALS OF PROLAPSE REPAIR

Kimberly Kenton MD, MS
Professor, Obstetrics & Gynecology and Urology
Division Chief, Female Pelvic Medicine & Reconstructive Surgery

Know NORMAL Anatomy

497 women presenting for routine GYN care

Relationship: Anatomy & Symptoms

- Vaginal bulge = symptom that most strongly correlates with POP-Q
- Bulge at the hymen seem to be when patients notice it and become symptomatic
- Surgery for <+1 – likely not necessary

(Swift S et al 2003; Bradley CA et al 2005)

Normal Support

- Connective tissue
  - Uterosacral ligaments
  - Cardinal ligaments
- Muscle
  - Levator ani
- Upper 2/3 vagina
  - Horizontal
  - Lay on levators

Anterior Support

Cardinal & Uterosacral ligaments
- Parametrium
- Paracolpium
- Vesical fascia
- Vaginal fascia
- Levator ani
- Arcus tendineus
- Arcus tendineus

Delancey JOIL
Loss of Cardinal-US Ligament

Anterior Defects

- **Isolated anterior or posterior defects are** RARE
- 1997 Hospital Discharge Survey
  - Isolated cystocele or rectocele repairs
  - 18% POP surgery US
- REMEMBER APEX

Relationship: Anterior Vaginal Wall & Apex

- 354 Women with ≥ Stage II POP
  - Linear relationship: apex & anterior & posterior vaginal walls
  - Anterior or posterior vaginal wall is ≥ Stage II ⇒ Apex is within 2 cm hymen

MRI Relationship: Bladder & Apex

What About Other Factors?

<table>
<thead>
<tr>
<th>Element</th>
<th>R²</th>
<th>Added P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apical</td>
<td>.60</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Vaginal length</td>
<td>.77</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

77% cystocele size explained by apex and length

Clinical Implications

- Apical support is the **DOMINANT** factor in anterior vaginal wall support
- Surgically correcting apical descent is important in correcting anterior vaginal wall POP
- Necessity for concomitant anterior repairs unclear
Posterior Compartment

- Posterior repair
  - 149 Stage III-IV POP: isolated SCPKY

<table>
<thead>
<tr>
<th>Most prolapsed point</th>
<th>Pre-OP Mean+SD</th>
<th>1-Year Post-OP Mean+SD</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anterior vaginal wall (Ba)</td>
<td>3.5+2.7</td>
<td>-2+1</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Apex (C)</td>
<td>1+3.6</td>
<td>-9+2</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Posterior vaginal wall (Bp)</td>
<td>1+3.6</td>
<td>-2+1</td>
<td>&lt;.0005</td>
</tr>
<tr>
<td>Genital hiatus (Gh)</td>
<td>4+2</td>
<td>3+1</td>
<td>.001</td>
</tr>
</tbody>
</table>

Concomitant repairs typically not necessary.
Genital hiatus narrows with correction of apex
No need for concomitant anterior/posterior repair
Correction of apex corrects posterior and anterior vaginal wall defects

Guahi M et al

Anterior & Posterior Repairs

- 258 women underwent
  - ASC
  - ASC ± PR (worse pvw support and bowel symptoms preoperatively)
- No difference in anterior, apical or posterior POP-Q points postoperatively (3 mo, 1 year)

Kasar D et al 2012

What about the muscle?

Do women with levator ani muscle defects have a higher operative failure rate than those without?
Should we address the muscle surgically?

Major Levator Ani Defects:
Case-Control Study of Pelvic Organ Prolapse

Goals for POP Surgical Repair

- Understand each defect
  - Apical
  - Anterior
  - Posterior
- RARE to have anterior or posterior defect without APICAL defect as well
- If only going to fix one compartment, fix APEX

So, how should we select the best operation for prolapse repair?

- Determine outcomes meaningful to patients
  - Know individual patient’s goals
  - Know procedures

- Understand each woman’s symptoms and treatment goals
- Select surgical procedure that optimizes those goals anatomically and functionally

- Optimize
  - Patient satisfaction
  - Patient outcomes
  - Patient quality of life

- Minimize
  - Complication
  - Recovery
Traditional Anterior, Posterior, and Apical Compartment Repairs  
A Technique Based Review  

Sandip Vasavada, MD  
Center for Female Urology and Pelvic Reconstructive Surgery  
The Glickman Urological and Kidney Institute  
The Cleveland Clinic

"Traditional repairs vs Augmented repairs"  

- Should we abandon "traditional repairs"?  
- If no, then what situations to use  
  - First time occurrence of prolapse  
  - Thin tissues, atrophic  
  - Sexually active patients?  
- Constant need to "innovate" or "keep up"  
- Is this because traditional repairs are doomed to failure.......

Challenges in Vaginal Prolapse Surgery  

- Anterior Vaginal Wall Prolapse  
- Apical Prolapse  
  - At time of hysterectomy  
  - Post-hysterectomy  
- Posterior Vaginal Wall Prolapse

Anterior Vaginal Wall Prolapse

Four Defects of Anterior Vaginal Wall Prolapse  

- Repair of central defect  
  - re-approximation of widened pubocervical fascia  
- Repair of lateral defect  
  - Suspension/support of bladder base and apex  
- Urethra and BN support  
  - Vaginal sling (if necessary), same or separate incision  
- Cardinal ligament repair/Bladder base/Apex  
  - Dissection and approximation to midline

Anterior Vaginal Wall Prolapse  

- Identify and correct all defects  
- Central and lateral defects if possible...  
- Evaluate potential other coexistent defects of pelvic organ support (e.g. enterocele, rectocele, vault mobility)  
- Assess and selectively address potential urethral incompetence (OPUS Trial Data 2012)
Traditional Cystocele Repair

Anterior Colporraphy+/- Absorbable Mesh

- 105/114 patients underwent ant colporraphy 3 techniques
  - Standard
  - Standard + mesh (polyglycin)
  - Ultralateral colporraphy
- Evaluated by POP-Q
- Median follow up was 23.3 months.
- 7% stage I preop, 37% stage II preop, 54% stage III preop, 2% stage IV
- 39% satisfactory outcomes after standard colporraphy alone, 42% standard + mesh, and 46% ultralateral colporraphy
- VAS symptom severity improved overall (6.0 +/- 2.7 to 1.1 +/- 0.5)
- Addition of mesh did not seem to make a difference

Anterior Colporraphy

Sand, PK et al. (Am J Obstet Gyn, June 2001)
- Prospective randomized trial of stage 2 cystocele with and without vicryl mesh
- Follow up at 2,6,12,52 weeks postop
- 80 with mesh, 80 none
- Technique: mesh reduction of prolapse only
- After 1 yr, 43% patients without mesh and 25% with mesh had recurrence to mid vaginal plane (p = 0.2), concurrent slings may be protective as well
- Mesh does make a difference

Conclusions

- The success rate of anterior colporraphy varies considerably depending upon the definition of treatment success used.
- When strict anatomic criteria are used, the success rate is low.
- When more clinically relevant criteria are used, treatment success is better with only 10% developing anatomic recurrence beyond the hymen, 5% developing symptomatic recurrence and 1% undergoing retreatment during the study follow-up.
Vaginal Vault Suspensions

Objectives of Vaginal Vault Surgery
- Preserve normal vaginal axis
- Minimize complication rates, blood loss, postoperative discomfort, and cost
- Repair all coexistent pelvic floor defects
- Attempt to restore
  - Vaginal anatomy
  - Visceral function
  - Sexual function
  - Quality of life

Vaginal Vault Suspension
- Many patients with significant prolapse have vault support weakness
- Many subsequent failures due to lack of vault suspension
- Resuspension of the vault anchors the anterior/posterior repair
- Why don’t many repair vault?
  - Not properly diagnosed
  - Lack of adequate training
  - Time-consuming, complex procedures

Solid Support of the Vaginal Apex is the Cornerstone of a Good Vaginal Prolapse Repair

Transvaginal Procedures for Vaginal Vault Prolapse
- Modified McCall’s Culdoplasty
- Iliococcygeus Vaginal Vault Suspension
- Levator Myorraphy
- Sacrospinous Ligament Fixation (SSLF)
- High Uterosacral Vaginal Vault Suspension (USVVS)
- Total Vaginal Mesh Apical Suspension
- Colpocleisis
Abdominal Repairs for Vaginal Vault Prolapse

- Open Abdominal Sacrocolpopexy
- Open Uterosacral Ligament Suspension
- Laparoscopic Abdominal Sacrocolpopexy
- Robotic Sacrocolpopexy

Mayo/McCall culdoplasty

- Elevation of vaginal apex to high uterosacral ligament
- Proven efficacy in enterocoele repair
- Wide experience in specific centers
- Reported high success rates
- Usefulness in complete prolapse in question

Mayo Culdoplasty

- 660 patients, posthysterectomy vault prolapse (TVH - 43%, TAH - 49%)
- questionnaire and/or telephone contact
- follow-up 11-22 yrs.
- satisfaction - 82%
- complications: bladder/bowel entry (2.3%), ureteral damage (0.6%), hematoma (1.3%)
- subsequent repairs - 5.2% none - 71%
- "bulge" - 11.5% none - 61.2%


Iliococcygeus suspension

- Transmucosal sutures placed to coccygeus fascia, bilaterally
  - inferior to white line, anterior to ischial spine
- Reported success rates similar to sacrospinous fixation
- Simplicity and decreased morbidity
- May allow for only 6-7 cm depth

**Levator Myorrhaphy**

- Transvaginal placement of sutures through levator complex and shelf towards midline to anchor upper vagina
- Similar in concept to Mayo Culdoplasty
- Uses #1 absorbable sutures thru neovaginal apex and into levator muscles bringing them towards the midline to contralateral side. Then, 2 purse string sutures to close enterocele sac

**Exposing peritoneal sac**

**Vault suspension sutures**

**Out of peritoneal sac**

1 cm from original entrance
Purse string sutures
Pre-rectal

Levator Myorrhaphy Results
- Lemack, GE et al (Eur Urol Dec 2001)
  - 35 patients (mean age 71, f/u 27.0 months)
  - 5 recurrent prolapse (3 ant enterocele, 1 vault)
  - 7/35 recurrent cystoceles (5 grade 1, 2 grade 2)
  - Satisfaction > 90% in 17/35
  - One ureteral injury

Sacropinous Ligament Fixation
- Objective success 73-97%
- Various definitions of success
- Sites of failure often not specified
- Prospective trials:
  - ASC vs SSLF
  - Abd better (Benson)
  - Maher (equivalent)

Uterosacral Vaginal Vault Suspension
- Placement of sutures through “normal” vaginal apical suspension points
- Thought to be more physiologic suspension of apex
- Addresses level I and II support continuity
- Low, but not insignificant complication of ureteral injuries as the ligament is close to the ureters especially distally

Uterosacral Vaginal Vault Suspension
Uterosacral VVS

Uterosacral VVS Results

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age</th>
<th>Follow-up</th>
<th>Evidence of apical defect</th>
<th>Amount of support in</th>
<th>Anatomic correction in</th>
<th>Retention of PVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient 1</td>
<td>50</td>
<td>2 years</td>
<td>Yes</td>
<td>50%</td>
<td>Yes</td>
<td>80%</td>
</tr>
<tr>
<td>Patient 2</td>
<td>55</td>
<td>1 year</td>
<td>Yes</td>
<td>30%</td>
<td>No</td>
<td>60%</td>
</tr>
<tr>
<td>Patient 3</td>
<td>60</td>
<td>3 years</td>
<td>No</td>
<td>20%</td>
<td>Yes</td>
<td>90%</td>
</tr>
</tbody>
</table>

Optimal Trial

- Goal: Compare SSLF and USVVS and perioperative PFMT
- 374 women randomized between 2008 and 2013
- Follow up for 2 years (84.5% completed)
- Primary Outcome:
  - no apical descent greater than 1/3 into vaginal canal or a/p descent beyond hymen
  - No bothersome bulge symptoms
  - No need for retreatment
- Results: SSLF 60.5% vs USVVS 59.2%, PFMT no changes in scores in UI, Prolapse or anatomic

Posterior Wall Prolapse

- May occur in up to 50% of patients with concomitant anterior and apical defects
- Rectocele
- Enterocele
- Sigmoidoceles
- Perineocele
Rectocele repairs when to do?

- Symptomatic
  - Defecatory dysfunction
  - Digital
  - Symptomatic bulge
- Asymptomatic: caution....
  - Size ??
  - Risks and benefits ?
  - Pain
  - Dyspareunia
- How about at time of sacrocolpopexy?

Pelvic floor repair

Perineal incision

Dissection and excision

Posterior vaginal triangle

PELVIC FLOOR REPAIR

Traditional

- Rectocele repair by plication of prerectal and pararectal fascia
- Narrowing the levator hiatus by approximation of levator fascia
- Perineal repair by approximation of bulbocavernous, transverse perineum and anal sphincter

** One need not do all of these in all patients **
PELVIC FLOOR REPAIR

- **Rectocele repair** by plication of prerectal and pararectal fascia
- **Narrowing the levator hiatus** by approximation of levator fascia
- **Perineal repair** by approximation of bulbocavernous, transverse perineum and anal sphincter

Pelvic Floor Repair
Steps as Necessary

- **Rectocele repair** by plication of prerectal and pararectal fascia
- **Appropriately narrowing the levator hiatus** by approximation of levator fascia
- **Perineal repair** by approximation of bulbocavernous, transverse perineum and anal sphincter
Conclusions

- Prolapse is an ever changing field
- Address apex if at all possible
- Mesh use data suggests better anatomic outcomes but are they using same "success criteria"?
- Traditional cystocele repairs probably “work” better than we give credit for
- Use rectocele repairs as necessary but maybe tide has changed in “prophylactic repairs”: use symptoms instead
LAPAROSCOPIC SACROCOLOPPESY

Kimberly Kenton MD, MS
Professor, Obstetrics & Gynecology and Urology
Division Chief, Female Pelvic Medicine & Reconstructive Surgery

LSC vs Robotic ASC

Paraizo, OG 2011;18
N=78 (R=40, L=38) vault prolapse
• Robotics Longer
  • Incision to closure [67 min (43-89 min)]
  • Anesthesia, room time, suturing

Anger JT, et al
N=78 (R 40, L 38) SCH (60%)/ vault
• Robotics Longer (21 mins, p<0.03)

Minimally Invasive ASC

Laparoscopic vs Robotic ASC: 1 RCT
• Anatomic & functional outcomes similar
• Robotic
  – Longer OR time
  – ↑ post-operative pain

Paraizo M et al 2010

Open vs Robotic ASC

Expert Opinions – 4 Important Tips
Nygaard L, Obstet Gynecol 2004;104:805-23

-Use graft rather than direct sacral affixation of the vagina, but avoid playing synthetic graft on a denuded vaginal apex
-Spread vaginal sutures over to spread out tension (anterior and posterior), rather than simple fixation at the apex
-Avoid excessive tension on the anterior vaginal graft to minimize the SUI risk
-Decrease presacral hemorrhage risk by suture placement thru anterior longitudinal ligament closer to the promontory, rather than at S3-4

Case-series
N=178: 73 robot & 105 open
• 6-weeks
  – Anatomic outcomes
good and similar (POP-Q)
• Robotic
  – Longer OR times
  – Less blood loss
  – Shorter hospital stay


N=28: 89%, 1-year follow-up
• Validated Measures
• Pelvic floor symptoms
  improved
• Sexual function
  improved
• 100% anatomic cure
Positioning: Steep Trendelenberg

- Keep bowels out of pelvis
- Access pre-sacral space
  - Low bed
  - Trendelenberg
  - Slippage
  - Stirrups

Trendelenburg

- Remember that patient may slide towards head of bed
- Must use material to prevent sliding:
  - Gel mat, bean bag
  - Shoulder supports
  - Taping patient to table
- Lower extremities move closer to surgical site
  - Must be re-positioned to a "Neutro" position

Patient Positioning

- Arms tucked & pronated
- Hands & bony prominences protected
- Feet resting on heels in supportive stirrups
  - No pressure on popliteal fossa, lateral incision

Positioning

- 2 Options
  - Shoulder Pads

Port Placement

- 8 mm accessory port
  - Pass suture
- 2, 5 mm ports
  - Sewing
- 5 mm umbilical port
  - 10 mm if morcellating
Positioning: Low-rise stir-ups

Soft Polypropylene Mesh
- 2 Strips vs “Y”
- Anterior
  - Several centimeters
- Posterior
  - Rectal reflection
- NO concomitant vaginal repair

Lucite Stent

Below Promontory
- 73 MRIs
  - 73% - Disc
  - 27% - Superior S1

Pre-Sacral Dissection

Posterior Dissection
### Lessons Learned

- Minimal mesh (dose effect)
- Fixation of mesh
  - 2 separate pieces
  - Posterior first
- Don’t over-correct anterior wall - “loose”
- Evaluate pre-sacral space early
- Lyse most adhesions after docking robot

---

**Thank you for your attention!**
4. ROBOTIC REPAIR

Pelvic organ prolapse (POP) will occur in over 11% of women who are post-hysterectomy and there is a lifetime risk of 19% in the general female population for undergoing a surgical procedure for POP\textsuperscript{1}. There are numerous proven surgical options for women with POP including trans-vaginal repair with or without mesh interposition, and mesh sacrocolpopexy (MSC) using either an open or a laparoscopic approach. Open MSC is considered the gold standard surgical technique for correction of POP with long term success rates approaching 78-100\%\textsuperscript{2}.

The main drawback of open MSC when compared with a trans-vaginal repair is peri-operative morbidity secondary to the large incision necessary for completion of the procedure. Laparoscopic approach has become a more attractive option, especially after the advent of the da Vinci\textsuperscript{®} robotic system which allows for improved ease of maneuvering and intra-corporeal suturing. The number of series reported in the literature has gradually increased over the past 2-3 years and the follow-up has moved from short to mid-term data. Long-term data is still awaited.

In addition, one systematic review and meta-analysis of comparative study was recently published in European Urology\textsuperscript{3} and concluded that “From the findings available in the literature, robotic assisted mesh sacrocolpopexy (RASC) seems to be an efficient and reliable surgical option to repair apical vaginal prolapse with few intra- and post-operative complications”. In one study randomizing between laparoscopy and robotic approaches\textsuperscript{4}, RASC was found to be more costly because of purchase costs and robot maintenance. The results at 6 months were similar in both groups.

We will present our current technique by video and have included a step-by-step description of this procedure.\textsuperscript{5} Key features include side-docking, use of a marlex-type mesh, pre-placed absorbable sutures over a Y-shaped mesh, cervical preservation when indicated, minimal tensioning, retroperitonealization of the mesh, and cystoscopy at the end.
RASC Technique

The RASC is performed using the da Vinci® robot (a). This system utilizes two robotic arms on the left, a camera arm at or above the umbilicus, and, on the right side, a fourth robotic arm and an assistant port. We have done several single-incision (SILS) RASC but these cases are very challenging and should be considered very selectively. The video on SILS is available upon request.

The bladder is drained with a 16 French foley catheter. An EEA clamp is placed in the vagina at the beginning of the procedure to aid with prolapse dissection. After gaining pneumoperitoneum and in maximum Trendelenburg position (b), the camera is inserted through a 12 mm port at the umbilicus, with the robotic arms inserted following a “W” shape configuration as previously described6. An assistant port is placed laterally on the right side, for a total of 5 ports.

Docking the robot was done initially at the foot of the bed, however more recently we have evolved to docking from the side in order to maintain access to the vagina (c). Any abdominal adhesions are taken down as necessary to free the pelvic cavity (d). At this point small intestines, omentum and left colon are retracted into the upper abdomen, sometimes aided by the Endo Paddle® (a laparoscopic retracting device).

Once the pelvis is fully exposed, the trajectory of the right ureter is identified as well as the area of the promontory. Next, the peritoneum is opened at the back wall of the vaginal cuff transversely in order to gain access to the recto-vaginal space. Then, the dissection is continued anteriorly between the vaginal cuff and the base of the bladder when an anterior compartment prolapse is involved. The anterior dissection is carried distally to just above the level of the trigone (3-5 cm distal to the vaginal apex). Posteriorly, the dissection is carried down as distally as possible. The peritoneum over the vaginal cuff is left intact whenever possible to diminish the risk of vaginotomy and of secondary erosion by thinning out
the vaginal wall in that area. The peritoneum is then incised from the bottom of the enterocele sac to the sacral promontory on the right side of the rectosigmoid. At this point, the anterior vertebral ligament is exposed. Next, on the back table the anterior and posterior components of the mesh are sutured together in a Y-shape fashion and are measured, trimmed and secured with 2-0 polyglactin sutures at each extremity (e). The prepared mesh is introduced into the abdomen through the assistant port. The mesh is secured as distally as possible over the posterior vaginal wall with the preplaced absorbable sutures (f). Additional sutures are placed more proximally and bilaterally over the posterior vaginal wall near the vaginal apex. Because these sutures are absorbable, there is no concern about possibly transfixing the vagina and obtaining a strong vaginal purchase. The anterior portion of the mesh is then secured to the anterior vaginal wall in a similar fashion. Once secured to the vagina, the mesh is then laid in its prepared peritoneal groove extending up to the anterior vertebral ligament. The mesh is secured to the anterior vertebral ligament using two, 2-0 Ethibond® non-absorbable, sutures (g1 and 2). The mesh is positioned to follow the concavity of the sacrum, under no tension to ensure vaginal cuff support in a normal anatomic configuration. The peritoneum is then closed over the mesh using 2-0 polyglactin sutures (h). A pack is placed in the vagina for 24 hours. The robot is undocked and the port sites are closed in a standard fashion. After IV injection of indigo carmine, cystoscopy is performed to confirm no bladder or ureteral injury.
References


Assessment of Outcomes of Prolapse Repairs

Sandip Vasavada, MD
Cleveland Clinic Glickman Urological Institute
Cleveland, Ohio

Outcomes Assessment

• What is best measure?
  - Symptoms
  - Bulge
  - Anatomic measurement (i.e. Baden-Walker or POP-Q)
  - Satisfaction
  - Physician assessment

Epidemiology of POP

Nearly half would not meet NIH definition for “optimal” or “satisfactory” anatomic outcome

POF-Q Staging: All women (n=497)

(Swift S et al, 2005)

Defining success

• Some degree of loss of anatomic support is normal
• Perfect anatomic support is associated w/ worse HRQoL (PFIQ 10pts worse for Stage 0 than Stage 1 or greater)
• Symptomatic cure is more clinically relevant than anatomic cure
• Definitions of anatomic success commonly used are too strict and often not clinically relevant

What is a failure after Prolapse surgery?

• Reoperation or retreatment?
• Complications?
• Recurrence of symptoms?
• Anatomic recurrence
  - Stage 2+?
  - Beyond hymen?
  - Stage 3+?

Outcomes at one year

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Ultrilateral</th>
<th>Mesh</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrence</td>
<td>-1.5 (3 to +3)</td>
<td>-1 (3 to +3)</td>
<td>-1 (3 to +3)</td>
<td>-1 (3 to +3)</td>
</tr>
<tr>
<td>Anatomic</td>
<td>-6 (10 to +10)</td>
<td>-6 (10 to +10)</td>
<td>-6 (10 to +10)</td>
<td>-6 (10 to +10)</td>
</tr>
<tr>
<td>Recurrence</td>
<td>-3 (3 to +3)</td>
<td>-2.5 (3 to +3)</td>
<td>-2.5 (3 to +3)</td>
<td>-2.5 (3 to +3)</td>
</tr>
<tr>
<td>Anatomic</td>
<td>15 (20 to +10)</td>
<td>15 (20 to +10)</td>
<td>15 (20 to +10)</td>
<td>15 (20 to +10)</td>
</tr>
</tbody>
</table>

Outcomes at one year

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>10th</th>
<th>90th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrence</td>
<td>25/28  (89%)</td>
<td>22/26 (85%)</td>
<td>22/23 (90%)</td>
</tr>
<tr>
<td>Anatomic</td>
<td>32/32  (100%)</td>
<td>27/29 (93%)</td>
<td>27/33 (91%)</td>
</tr>
<tr>
<td>Recurrence</td>
<td>32/32  (100%)</td>
<td>20/29 (100%)</td>
<td>27/33 (100%)</td>
</tr>
<tr>
<td>Anatomic</td>
<td>25/28  (89%)</td>
<td>21/27 (78%)</td>
<td>21/23 (91%)</td>
</tr>
</tbody>
</table>
A Few More Considerations...

- Just because bulge is gone, does not mean all is ok
  - Incontinence
  - Defecatory dysfunction
  - Sexual dysfunction
  - Mesh complication
- Re-assess patient outcomes and goals and expectations

Outcomes Assessment

- Anatomy: should use POP-Q and hymen as threshold for success
- Subjective: absence of vaginal bulge
- Functional: condition specific HRQOL instruments
- Sexual Function: validated prolapse specific (PISQ) or FSFI
- Assess repeat surgery/treatments, baseline pain and sexual function

Conclusions

- The success rate of anterior colporrhaphy varies considerably depending upon the definition of treatment success used.
- When strict anatomic criteria are used, the success rate is low.
- When more clinically relevant criteria are used, treatment success is better with only 10% developing anatomic recurrence beyond the hymen, 5% developing symptomatic recurrence and 1% undergoing retreatment during the study follow-up.
- Patient outcomes and expectations should be reviewed