

W24: Approaches to Pelvic Organ Prolapse Surgery

Workshop Chair: Philippe Zimmern, United States

16 September 2016 09:05 - 12:00

Start	End	Topic	Speakers
09:05	09:35	Goals of Repair and Anatomical Principles	Beri Ridgeway
09:35	10:05	Vaginal Repairs	Philippe Zimmern
10:05	10:35	Laparoscopic Repair & Use of Mesh	Beri Ridgeway
10:35	11:00	Break	None
11:00	11:20	Robotic Repairs	Philippe Zimmern
11:20	11:40	Assessment of Outcomes	Philippe Zimmern
11:40	12:00	Questions	All

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.

Learning Objectives

After this workshop participants should be able to:

- Understand key anatomical landmarks and indications for each described procedure
- Review surgical techniques to repair all compartment prolapses, including robotic and meshes (except for transvaginal mesh kits)
- Discuss goals of repair and current outcome measures as they relate to published results

Learning Outcomes

After the course, the student will be able to:

- Recall key anatomic principles in regards to specific prolapse operations
- Explain importance of knowing patient goals/symptoms
- Relate why addressing the apex at the time of prolapse repair is critically important
- Compare and contrast the vaginal vs. abdominal surgical routes of repair, and risk profiles for each

Target Audience

This course is intended to update the reconstructive pelvic surgeon and all interested trainees on the pros and cons of surgical approaches in the modern management of pelvic organ prolapse. Videoclips and case discussions will make it lively.

Advanced/Basic

Advanced

Suggested Reading

- Haylen BT, Maher CF, Barber MD, et al: An International Urogynecological Association (IUGA) / International Continence Society (ICS) Joint Report on the Terminology for Female Pelvic Organ Prolapse (POP). *Neurourology and Urodynamics* 35: 137-168, 2016
- Toozs-Hobson P, Freeman R, Barber M, et al: An International Urogynecological Association (IUGA) / International Continence Society (ICS) Joint Report on the Terminology for Reporting Outcomes of Surgical Procedures for Pelvic Organ Prolapse. *Neurourology and Urodynamics* 31: 415-421, 2012.
- Belsante M, Murray S, Dillon B, Zimmern PE: Mid term outcome of robotic mesh sacrocolpopexy. *Can J Urol* 20(1): 6656-6661, 2013.
- Maldonado PA, Wai CY. Pelvic Organ Prolapse: New Concepts in Pelvic Floor Anatomy. *Obstet Gynecol Clin North Am.* 2016 Mar; 43(1):15-26.
- Elliott CS, Yeh J, Comiter CV, Chen B, Sokol ER. The predictive value of a cystocele for concomitant vaginal apical prolapse. *J Urol.* 2013 Jan; 189(1):200-3.
- Detollenaere RJ, den Boon J, Stekelenburg J, IntHout J, Vierhout ME, Kluivers KB, van Eijndhoven HW. Sacrospinous hysteropexy versus vaginal hysterectomy with suspension of the uterosacral ligaments in women with uterine prolapse stage 2 or higher: multicentre randomised non-inferiority trial. *BMJ.* 2015 Jul 23; 351:h3717. OR Ridgeway BM. Does prolapse equal hysterectomy? The role of uterine conservation in women with uterovaginal prolapse. *Am J Obstet Gynecol.* 2015 Dec; 213(6):802-9.
- Maher C, Feiner B, Baessler K, Schmid C. Surgical management of pelvic organ prolapse in women. *Cochrane Database Syst Rev.* 2013

- Unger CA, Paraiso MF, Jelovsek JE, Barber MD, Ridgeway B. Perioperative adverse events after minimally invasive abdominal sacrocolpopexy. *Am J Obstet Gynecol.* 2014 Nov; 211(5):547.e1-8.
- Mueller MG, Jacobs KM, Mueller ER, Abernethy MG, Kenton KS. Outcomes in 450 Women After Minimally Invasive Abdominal Sacrocolpopexy for Pelvic Organ Prolapse. *Female Pelvic Med Reconstr Surg.* 2016 Apr 6.
- Maher C, Feiner B, Baessler K, Christmann-Schmid C, Haya N, Marjoribanks J. Transvaginal mesh or grafts compared with native tissue repair for vaginal prolapse. *Cochrane Database Syst Rev.* Feb 9 2016; 2:CD012079. Doi: 10.002/14651858.CD012079. Review. PMID 26858090.
- Siff LN, Barber MD. Native Tissue Prolapse Repairs: Comparative Effectiveness Trials. *Obstet Gynecol Clin North Am.* 2016 Mar; 43(1):69-81.
- Lee U, Raz S. Emerging concepts for pelvic organ prolapse surgery: What is cure? *Curr Urol Rep.* 2011 Feb; 12(1):62-7.
- Barber MD, Brubaker L, Nygaard I, Wheeler TL 2nd, Schaffer J, Chen Z, Spino C; Pelvic Floor Disorders Network. Defining success after surgery for pelvic organ prolapse. *Obstet Gynecol.* 2009 Sep; 114(3):600-9.

GOALS OF REPAIR ANATOMIC PRINCIPLES

Pelvic organ prolapse is a common condition in women. Many women are living longer and have a high expectation for quality of life beyond menopause including an active life-style and the capacity for sexual activity. Pelvic organ prolapse can result when defective genital support responds to normal intraabdominal pressure or when normal pelvic organ supports are subjected chronically to high intraabdominal pressure. Individual structures can lose support singly or in combination, resulting in various degrees and combinations of pelvic organ prolapse. This loss of support occurs as a result of damage to any of the pelvic supportive systems. These systems include the bony pelvis, to which the soft tissues ultimately attach; the sub peritoneal retinaculum and smooth muscle component of the endopelvic fascia (the cardinal and uterosacral ligament complex); the pelvic diaphragm, with the levator ani muscles and their fibromuscular attachments to the pelvic organs; and the perineal membrane. The perineal body and the walls of the vagina can also lose tone and weaken from pathologic stretching from childbirth, attenuating changes of aging and menopause, and from genetic and other factors. The diagnosis of pelvic organ prolapse is made using a combination of history and physical examination. Because a majority of women, especially those who are parous, have some degree of pelvic relaxation, it is vital to decipher if women who have prolapse are symptomatic. Additionally, a thorough physical examination for prolapse should be conducted including the pelvic organ prolapse quantitation (POP-Q) examination (Bump et al 1996) which is validated, has been studied extensively, and allows accurate communication between providers and in research protocols. To accomplish the goals of pelvic reconstruction, the surgeon must thoroughly understand normal anatomic support and physiologic function of the pelvic musculature, vagina, bladder, and rectum. The goals of reconstructive pelvic surgery are to restore anatomy, maintain or restore normal bowel and bladder function, and maintain vaginal capacity for sexual intercourse. It is imperative to know the patient's goals prior to surgery in order to have an optimal outcome. When planning an operation to treat pelvic organ prolapse, addressing the vaginal apex is key. Studies validate the role that apical support plays in overall normal pelvic anatomy and successful surgical outcomes. Additionally, screening and testing patients for other pelvic floor disorders (urinary incontinence, fecal incontinence, difficulty defecating) are critical prior to surgical treatment. Uterine-sparing procedures are becoming more popular and encouraging data are supporting their role in reconstructive pelvic surgery. Though there are many options, the vaginal sacrospinous hysteropexy and abdominal sacrohysteropexy are the best studied operations. *Having a firm grasp of pertinent anatomy prevents complications, optimizes anatomical outcomes, allowing patients to meet treatment goals.*

TRADITIONAL ANTERIOR, POSTERIOR, AND APICAL COMPARTMENT REPAIRS A TECHNIQUE BASED REVIEW

Traditional (suture based) repairs for vaginal prolapse do show tremendous durability especially when using more applicable outcomes criteria. One should consider cure based on anatomic and functional improvement as well as lack of complications. When all of this is taken together, the traditional approaches do have advantages over mesh augmented repairs. Still one should address apical descent as part of consideration of optimal prolapse repair, for a poorly supported apex, most anterior and/or posterior repairs are destined to fail. *Solid support of the vaginal apex is the cornerstone of a good prolapse repair.*

LAPAROSCOPIC REPAIRS AND USE OF MESH

Sacrocolpopexy can be performed through a laparotomy or by laparoscopy or robot-assisted laparoscopy. Though the surgical approach may be different, the steps of the procedure should remain the same. Sacrocolpopexy, which is suspension of the vagina to the sacral promontory using a bridging graft via the abdominal approach is an effective treatment for uterovaginal and vaginal apex prolapse. Large pore light-weight polypropylene mesh is most commonly used and likely has fewer complications compared to other synthetics because of its monofilament and macroporous characteristics. Open abdominal sacrocolpopexy has encouraging composite results at 7 years and laparoscopic and open sacrocolpopexies have comparable clinical outcomes. Laparoscopic sacrocolpopexy requires longer operating time though hospital stay is significantly decreased. Regardless of the surgical route, steps of the operation are the same. Attention to all pertinent anatomy is key to avoid complications. Testing for and addressing stress urinary incontinence and potential stress urinary incontinence is important to achieve optimal quality of life outcomes. Additionally, evaluation and concomitant treatment of the distal posterior vaginal wall is critical. Large cohort studies demonstrate that serious complications are rare but that complications related to graft continue to present years after the index operation. *Sacrocolpopexy is an effective treatment for uterovaginal and vaginal apex prolapse and regardless of surgical route, steps of the operation are the same.*

ROBOTIC REPAIR

Use of robotic mesh sacrocolpopexy (MSC) has increased for the management of pelvic organ prolapse. Open MSC remains the gold standard with established long-term success rates. Laparoscopic approach has become a more attractive option, which has grown after the advent of the da Vinci robotic system. Like for open MSC, robotic MSC will take time to establish itself. For now, there is mounting long-term data, better appreciation of costs, and improvements in technique, all which contribute to a favourable outlook on this more modern approach. At a time when many urological procedures have benefited from the robotic approach, patients included, it is worthwhile considering this technology in your armamentarium. Robotics is a growing field which has seen many new developments, including possibly one day haptic feedback. It would not be surprising to see it completely supplant open surgery in the near future. This presentation will cover the technique of robotic MSC. We have favoured absorbable sutures to secure the mesh to the vaginal wall and retroperitonealization of the mesh, as well as minimal tensioning for the promontory fixation. The rationale for these technical steps will be discussed. A video of the procedure will also be presented. *The role of robotic mesh sacrocolpopexy is gaining traction as long-term and cost data are becoming available. Variability in techniques remain and the procedure has not been standardized.*

ASSESSMENT OF OUTCOMES OF PROLAPSE REPAIRS

The goals of prolapse repair have changed over the years. In the past it was a physician centred goal of “fixing the prolapse”. Modern concepts favour that one should realize that proper correction should include a patient’s expectations of the repair and considering complications and other aspects more than simply anatomic correction. Furthermore, a thorough discussion of the indications, risks and benefits of the repair in simple language terms is imperative as proper communication and appropriate initial and follow up goal attainment affects overall outcomes. *Vaginal surgery using native tissue repair remains the main first line therapy in the management of pelvic organ prolapse. Compared to mesh repair, these techniques produce lower surgical success rates but fewer complications like erosion, infection or dyspareunia.*

Take Home Messages

The major take home messages from the 3 lecturers are as follows:

1. Prolapse repair surgery entails a solid knowledge of pelvic anatomy
2. Traditional techniques are being challenged by vaginal repair using mesh, but the safety of these procedures, even with elaborate kits, is not certain. As pointed out by the FDA (October 2008 and July 2011), serious complications can occur and some are difficult to correct, especially pain, scarring, and dyspareunia.
3. Mesh sacrocolpopexy (open, laparoscopic, or robotic) has level I evidence for its safety and long-term effectiveness. Complications such as extrusion and failures, although rare, can occur.
4. Literature reviews, including Cochrane database, are helpful to discern the best procedures. Nonetheless, outcome measures are varied and there is regrettably no consensus in the field.