SYLLABUS

620-URO: Urogynecology
Professional Education Information

Target Audience
This educational activity is developed to meet the needs of surgical gynecologists in practice and in training, as well as other healthcare professionals in the field of gynecology.

Accreditation
AAGL is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The AAGL designates this live activity for a maximum of 2.50 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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620-URO: Urogynecology

Co-Chairs: Revas Botchorishvili and Amy J. Park

Faculty: Leonardo Bezerra, Jonathon Solnik, Johnny Yi

This course will review the principles and techniques underlying minimally invasive pelvic floor reconstruction for urinary incontinence and pelvic organ prolapse. This comprehensive course will review relevant pelvic anatomy, and laparoscopic and vaginal techniques to perform hysteropexy, how to optimize laparoscopic surgery for stress urinary incontinence, and how to prevent and manage complications of laparoscopic pelvic organ prolapse surgery.

Learning Objectives: At the conclusion of this course, the participants will be able to: 1) Recognize with the relevant anatomy to perform surgery for urinary incontinence and pelvic organ prolapse; 2) review minimally invasive techniques to perform hysteropexy, and urinary incontinence and pelvic organ prolapse surgery; and 3) to review how to prevent and treat complications of laparoscopic prolapse surgery.

COURSE OUTLINE

2:30 pm   Welcome, Introduction and Course Overview
2:35 pm   Laparoscopic Anatomy for the Pelvic Surgeon   J. Solnik
3:00 pm   Hysteropexy   A. Park
3:25 pm   Complications of Laparoscopic POP Surgery: Prevention and Treatment   R. Botchorishvili
3:50 pm   Tips & Tricks in Laparoscopic Surgery for Stress Urinary Incontinence   L. Bezerra
4:15 pm   Adopting Single Port robotics for Sacrocolpopexy   J. Yi
4:40 pm   Questions & Answers
5:00 pm   Adjourn
PLANNER DISCLOSURE
The following members of AAGL have been involved in the educational planning of this workshop (listed in alphabetical order by last name).
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Erin T. Carey, MD, MSCR
Honorarium: Teleflex Medical, MedIQ
Mark W. Dassel, MD
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Other: Unrestricted educational grant to support NC FPMRS Fellow Cadaver Lab: Boston Scientific Corp. Inc.
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FACULTY DISCLOSURE
The following have agreed to provide verbal disclosure of their relationships prior to their presentations. They have also agreed to support their presentations and clinical recommendations with the “best available evidence” from medical literature (in alphabetical order by last name).
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Jonathon Solnik, MD
Consultant: Medtronic, Olympus, AbbVie
Options: Felix
Stock Owner: Field Trip Inc
Johnny Yi, MD*
Content Reviewers have nothing to disclose.
Asterisk (*) denotes no financial relationships to disclose.

All relevant financial relationships noted have been mitigated.
Laparoscopic Anatomy for the Pelvic Surgeon: It's kinda important
M Jonathon Solnik, MD FACOG FACS
Associate Professor of Obstetrics & Gynaecology
Head of Gynaecology & Minimally Invasive Surgery

Disclosures
- Consultant: Medtronic, Olympus, Hologic
- Advisory Board: Abbvie
- Stock Options: Felix Health
- Stock: Field Trip

Learning Objectives

The Mother of surgery is Anatomy
The Father is Exposure

Define

common and critical anatomic landmarks needed to perform reconstructive surgery

Identify

pelvic structures at risk of injury during surgery

Provide an overview of the important anatomic landmarks and relationships pertinent to gynecologic procedures

Implement

strategies to overcome unexpected abnormal anatomy

Port Placement

Do n’t standardize!

Objective

Vessels

Previous surgery

Obesity

Sites of pain

The Basics

Large Vessel Injuries Can Happen
Pelvic Sidewall

Retropubic Anatomy

Corona Mortis

Collateral circulation between the External Iliac Artery (inf epigastric) and the Internal Iliac Artery (obturator artery)

Basic Neuroanatomy

know it, sleep it and dream it

Pelvic Neuroanatomy Video

identify the anatomy

Example: Uterosacral Suspension
Example: Presacral Dissection

Understanding Abnormal Anatomy

Procedural Cost Offsets for Clinical Measures

Age, Gender & Operative Mortality

Tenets of Complex Benign Surgery

Points of Discussion

- The fundamentals of surgery requires a solid awareness of pelvic and neuroanatomy.
- Complex pelvic surgery should not be based on ‘procedures’, rather a use of the patient’s anatomy to replace structures as they once were.
- Spatial awareness can help mitigate risk of inadvertent surgical complications.
- Predict abnormal anatomy before surgery.

- Multiple prior surgeries
- Obesity
- Medical comorbidities
- Large uterus
- Pelvic mass
- Endometriosis

Table 1: Adjusted operative mortality of patients, by age and sex of surgeons

<table>
<thead>
<tr>
<th>Surgeon’s age, sex</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young</td>
<td>4.7 x DRG</td>
<td>0.9-2.5 x DRG</td>
</tr>
<tr>
<td>Old</td>
<td>4.7 x DRG</td>
<td>0.9-2.5 x DRG</td>
</tr>
</tbody>
</table>

Sources: Agency for Healthcare Research and Quality (AHRQ), National Premier Database, CMS Hospital Cost Information Support System, and study by V onlanthen, et al with validation from Precision Health Economics.
Acknowledgments

• Andrew Zakhari
• Bernard Taylor
• Nucello Lemos
Hysteropexy: Is there a role for uterine conserving surgery?

Amy Park MD
Section Head
Female Pelvic Medicine & Reconstructive Surgery
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Cleveland Clinic
Cleveland, OH

Objectives

• To review the indications and contraindications to hysteropexy
• To demonstrate vaginal and laparoscopic hysteropexy techniques

Hysterectomy

• Approximately 74,000 hysterectomies are done for prolapse in the US annually
• Performing hysterectomy alone to treat prolapse is associated with high recurrence rates – i.e. need a concomitant apical repair
• In some countries and ethnic groups, the women do not want a hysterectomy if at all possible (i.e., Middle East, South America)

Growing Interest in Uterine Preservation

• 31-60% keep uterus if equal outcomes Frick 2013, Korby 2013
• Hysterectomy: worsen mood, relationship, QOL, femininity, body image, lubrication, sex drive, weight gain
• Desire uterine conservation:
  • Some college education (OR 2.9)
  • US South (OR 0.17)

Hysterectomy for Prolapse: Historical Perspective

• Pre-1950: hysterectomy avoided if possible due to increased morbidity
• 1950-1990s: TVH standard partly to decrease cancer risk
• 1990s-Present: Rethinking old habits; better cancer screening; more focus on sexuality, autonomy, QOL

Disclosures

• Allergan: speaker
• UptoDate: royalties
Uterine Conservation vs. Hysterectomy

Why Conserve Uterus?
- Desires future fertility
- Belief that uterus affects sexual function or sense of identity
- Concern re: hysterectomy risks
- Cultural reasons (Middle East, South America)

Why Remove Uterus (Ovaries)?
- Fear of cancer
- Belief in better outcomes
- Concern re: more difficult hysterectomy (if needed)

Myth: Hysterectomy has no impact on function

Cohort = women aged 30 to 47 years undergoing hysterectomy without bilateral oophorectomy (n=406) and women with intact uteri (n=465).

Outcome: ovarian failure = FSH> 40 IU/dL

Women undergoing hysterectomy were at nearly a twofold increased risk for ovarian failure as compared with women with intact uteri (HR 1.92, 95% CI 1.29-2.86).

15% of women with hysterectomies experienced ovarian failure after 4 years of follow-up compared with 8.0% of the women.

- Risk for ovarian failure was greater for women who had a concomitant USO (HR 2.93, 95% CI 1.57-5.49)
- Ovarian failure risk also significantly increased for women who retained both ovaries (HR 1.74, 95% CI 1.14-2.65)

Hysterectomy associated with earlier menopause

- A planned secondary analysis of the same cohort (Trabuco)
  - Similar baseline levels of AMH
  - The hysterectomy group greater drop in levels, higher proportion with undetectable AMH
  - Menopause occurred 2 yrs earlier in the hyst cohort

Myth: Hysterectomy has no impact on function

- Pessary, Pessary, Pessary!!!!!
- Unclear if hysteropexy better:
  - Fertility
  - Pregnancy & delivery
  - Postpartum support & durability
- Failed pessary
  - Native tissue hysteropexy
  - Lap sacral hysteropexy posterior graft only (severe POP ± rectal prolapse)

Effect of Hysterectomy With Ovarian Preservation on Ovarian Function

Objective: To prospectively evaluate the risk for earlier ovarian failure among women undergoing hysterectomy and oophorectomy (USO) vs. hysterectomy and contralateral oophorectomy (COO)

Methods: A prospective cohort study was conducted among women aged 45 to 55 years undergoing hysterectomy without bilateral oophorectomy (COO) and with bilateral oophorectomy (USO) in a tertiary center in Israel. All women completed 11-year follow-up. The outcomes were ovarian failure, defined as either estradiol levels below 30 pg/mL or follicle-stimulating hormone levels above 40 IU/L. The outcomes were compared with a group of age-matched healthy women.

Results: Ovarian failure occurred among 10% of the women with hysterectomies and 16% of the women in the control group. Women undergoing hysterectomy were at nearly a twofold increased risk of ovarian failure as compared with women with intact uteri (HR 1.92, 95% CI 1.29-2.86).

Risk for ovarian failure was greater for women who had a concomitant USO (HR 2.93, 95% CI 1.57-5.49). Ovarian failure risk also significantly increased for women who retained both ovaries (HR 1.74, 95% CI 1.14-2.65).

Hysterectomy is the most common nonobstetrical surgical procedure among women in the United States. Although the increasing number of procedures...
Overall risk of unanticipated pathology 2.6% (0.3% endometrial carcinoma)
- Premenopausal 0%
- Postmenopausal, no bleeding 2.6%
- Postmenopausal, bleeding 13.3%

These findings are supported by several other publications
- Retrospective analysis of 1196 cases, of whom 3 (0.3%) had a malignancy and an additional 7 (0.6%) were found to have endometrial hyperplasia
  - No sarcomas were discovered
- Retrospective analysis of 517 women who underwent a vaginal hysterectomy for prolapse, four cases of endometrial carcinoma were identified giving an incidence of 0.8%

Cervical Carcinoma
- Extrapolation from the studies on supracervical hysterectomy
- Case control study of 1104 women who underwent supracervical hysterectomy
  - Incidence of cervical carcinoma of 0.3% at 10 years
- Retrospective study of 2712 woman who underwent supracervical hysterectomy
  - Incidence of cervical carcinoma of 0.11%
Contraindications for Uterine Preservation

- Undiagnosed uterine bleeding
- Cervical or uterine pathology
- History of familial syndromes that put patient at risk of uterine/ovarian cancers
- Morbid obesity
- Tamoxifen use
- Cervical elongation (relative)
Outcomes

• Retrospective study of laparoscopic sacrohysteropexy vs. TLH with sacrocolpopexy
  • Similar anatomic cure between groups
  • Greater subjective cure and QOL improvement in the hysterectomy group at a mean follow-up of 33 months (100% vs. 92.3%)
• Sacrohysteropexy prospectively compared to Uphold
  • No differences between groups in regard to symptomatic, anatomic, and composite outcomes at 1 year
  • 95% of each group stating they were very much better or much better

Pan. IUJ 2016
Gutman. AJOG 2016

Advantages

Uterovaginal Prolapse in a Woman Desiring Surgery

- Reduction in surgical time and blood loss
- Maintenance of fertility
- Natural menopausal timing
- Avoidance of an unnecessary procedure
- Less invasive
- Association with a quicker recovery
- Decreased risk of mesh exposure
- Similar short-term outcomes
- Patient preference

Uterovaginal Prolapse in a Woman Desiring Surgery

Advantages
Uterovaginal Prolapse in a Woman Desiring Surgery

Disadvantages:

- Fewer surgical outcome data available
- Maintenance of fertility
- Small, ongoing risk for cervical or endometrial cancer
- Subsequent hysterectomy may be difficult
- Continuation of menses
- Ongoing surveillance of cervix and endometrium (which may be difficult)
- Colpexy may be easier for surgeon after hysterectomy

Abdominal hysteropexy

- Compared to hyst + mesh sacrocolpopexy
  - Sacrohysteropexy: mesh exposure, OR time, EBL, cost, no difference in prolapse recurrence
- Compared with TVH + USLS
  - Laparoscopic sacrohysteropexy improves the C, TVL, EBL, postop pain and functioning, hospital stay
  - Open abdominal sacrohysteropexy worsens bothersome urinary symptoms, OR time, QOL

Vaginal approach

- Transvaginal uterosacral or sacrospinous hysteropexy or the Manchester procedure compared with TVH+ native tissue repair
  - Improved OR time, EBL
  - No worsening of prolapse outcomes

Summary

- Uterine conservation reasonable / not standard of care
- Similar anatomic outcomes
- Sacral HP higher reoperation but lower mesh exposure risk (mesh configuration?)
- Mesh exposure \(\geq 3-5\) fold with total hyst
- Proper patient selection critical
- Subsequent hysterectomy challenging?
- Limited long-term data

Pearls from Clinical Experience

- Women with stage IV uterovaginal prolapse with POP-Q C measurements of \(\geq 8\) – 10 cm are not ideal hysteropexy candidates
  - The areas targeted for suspension may be above the planned point of attachment
- I rarely offer vaginal hysteropexy (uterosacral or sacrospinous) in late stage III and stage IV prolapse due to studies demonstrating a high rate of recurrence in these women
Women with severe anterior wall prolapse or recurrent anterior wall prolapse may not be ideal hysteropexy candidates

- Though hysteropexy suspends the apex well, it doesn’t always lift the anterior apex quite as much
- I perform an aggressive anterior repair with most vaginal hysteropexy techniques
- I don’t believe this nuance is a reason to not perform hysteropexy, especially in light of recent randomized controlled trials, but is something of which to be aware

Future Questions

- Will the durability of the prolapse repair will be as good as (or better than) vaginal vault suspension at > 1 year follow-up?
- Will these repairs reliably hold up to the strains related to pregnancy, labor, and delivery?
- How often will reoperations related to uterine pathology be required?
- Who is the ideal candidate to undergo hysteropexy?

Conclusions

- Hysteropexy is safe, feasible
  - Comparable outcomes
  - Sacrospinous ligament hysteropexy is best studied
  - ↓ OR time, EBL, recovery
- Patient should understand
  - Future possibility of uterine or cervical pathology, or of pregnancy if fertile
  - Limited data regarding longevity and complications of procedure

References

Disclosures

- Consultant: Promedon
SINGLE PORT ROBOTIC SACROCOLPOPEXY
ADOPTING INTO PRACTICE - TIPS AND TRICKS
Johnny Yi MD FACOG
Assistant Professor OB/GYN
Urogynecologist
Mayo Clinic Arizona
AAGL/AUGS Webinar
August 17, 2021

DISCLOSURES
• I have no financial relationships to disclose.
• I will be discussing the use of the Single Port Robotic platform which is not FDA approved for gynecologic surgery.

LEARNING OBJECTIVE
• Review modalities of MIS-SCP
• Identify the role of novel robotic technology for pelvic reconstructive surgery.
• Strategize safe approach to learning curve
• Differentiate multi-port and single-port robotic techniques - pros/cons

PELVIC ORGAN PROLAPSE - CLINICAL OUTCOMES
• Abdominal sacrocolpopexy "gold standard" - less reoperation for prolapse, less recurrence of prolapse, but increased morbidity and risk due to abdominal procedure as compared to vaginal procedure. Also risk of mesh erosions

MINIMALLY INVASIVE - SCP
Open Laparoscopy
Multipor Robotics
Single Incision Surgery

TERMINOLOGY
ROBOTIC SINGLE INCISION SURGERY
Single Site Robotics
• Utilized 3 arms of the Si or Xi platform
• 2.5 cm incision, gelpoint with curved metal trocars inserted intra-abdominal.
• Only 1 articulated instrument - needle driver

Single Port Robotics
• Novel platform approved 2019 for certain urologic and ENT procedures.
• 1 arm with up to 3 instruments and 1 articulating camera.
• 2 from incision, metal trocar can be placed directly in the abdomen or through separate gelpoint (air docking)
• Modified articulation for all instruments
Docking directly in umbilical incision.
Requires +1 for bedside assistant.

Air docking allows more distance from target organ and assistant instrumentation through the single incision.

**Pitfalls**
- Camera control
- Limited workspace
  - Retraction is limited medial/lateral
  - Improved retraction cephalad/caudal
- May need suture-pexy of rectum for presacral dissection
- Uterine/vaginal manipulator is essential
- Limited instruments
  - Bipolar, scissors, and needle driver
- Modified articulation
  - Elbows instead of wrists

**Case Selection**
- Low BMI
- Able to convert to straight stick laparoscopy
- Minimal surgical history
- Primary repair (with hysterectomy- easier anterior dissection)
- Informed consent
CONCLUSION

• Novel robotics platform allows for single incision robotics surgery.
• Sacrocolpopexy is feasible with this platform.
• Future studies are needed to develop learning curve, and potential benefits of this approach.
CULTURAL AND LINGUISTIC COMPETENCY

Assembly Bill 1195 was signed into law on July 1, 2006 requiring local CME providers, such as the AAGL, to assist in enhancing the cultural and linguistic competency of California’s physicians (researchers and doctors without patient contact are exempt). This mandate follows the federal Civil Rights Act of 1964, Executive Order 13166 (2000) and the Dymally-Alatorre Bilingual Services Act (1973), all of which recognize, as confirmed by the US Census Bureau, that substantial numbers of patients possess limited English proficiency (LEP). It is the intent of the Legislature to encourage physicians and surgeons, continuing medical education providers located in California, and the Accreditation Council for Continuing Medical Education to meet the cultural and linguistic concerns of a diverse patient population through appropriate professional development.

Linguistic Competence: Providing readily available, culturally appropriate oral and written language services to limited English proficiency (LEP) members through such means as bilingual/bicultural staff, trained medical interpreters, and qualified translators.

Cultural Competence: A set of congruent behaviors, attitudes, and policies that come together in a system or agency or among professionals that enables effective interactions in a cross-cultural framework.1

Cultural and Linguistic Competence: The ability of health care providers and health care organizations to understand and respond effectively to the cultural and linguistic needs brought by the patient to the health care encounter.

Cultural competence requires organizations and their personnel to:
- Value diversity.
- Assess themselves.
- Manage the dynamics of difference.
- Acquire and institutionalize cultural knowledge.
- Adapt to diversity and the cultural contexts of individuals and communities served.

California Business & Professions Code §2190.1(c)(3) states that associations that accredit continuing medical education courses shall develop standards before July 1, 2006, for compliance with the cultural competency requirements. The associations may update these standards, as needed, in conjunction with an advisory group that has expertise in cultural and linguistic competency issues. Cultural competency means a set of integrated attitudes, knowledge, and skills that enables a health care professional or organization to care effectively for patients from diverse cultures, groups, and communities. At a minimum, cultural competency is recommended to include the following: (A) Applying linguistic skills to communicate effectively with the target population. (B) Utilizing cultural information to establish therapeutic relationships. (C) Eliciting and incorporating pertinent cultural data in diagnosis and treatment. (D) Understanding and applying cultural and ethnic data to the process of clinical care, including, as appropriate, information pertinent to the appropriate treatment of, and provision of care to, the lesbian, gay, bisexual, transgender, and intersex communities.

Title VI of the Civil Rights Act of 1964 prohibits recipients of federal financial assistance from discriminating against or otherwise excluding individuals on the basis of race, color, or national origin in any of their activities. In 1974, the US Supreme Court recognized LEP individuals as potential victims of national origin discrimination. In all situations, federal agencies are required to assess the number or proportion of LEP individuals in the eligible service population, the frequency with which they come into contact with the program, the importance of the services, and the resources available to the recipient, including the mix of oral and written language services. Additional details may be found in the Department of Justice Policy Guidance Document: Enforcement of Title VI of the Civil Rights Act of 1964 http://www.usdoj.gov/crt/cor/pubs.htm.

Executive Order 13166, “Improving Access to Services for Persons with Limited English Proficiency”, signed by the President on August 11, 2000 http://www.usdoj.gov/crt/cor/13166.htm was the genesis of the Guidance Document mentioned above. The Executive Order requires all federal agencies, including those which provide federal financial assistance, to examine the services they provide, identify any need for services to LEP individuals, and develop and implement a system to provide those services so LEP persons can have meaningful access.

Dymally-Alatorre Bilingual Services Act (Assembly Bill 305) requires that state agencies that serve a substantial number of non-English-speaking people employ a sufficient amount of bilingual persons in order to provide certain information and render certain services in a language other than English.