CURRICULUM VITAE

Patrick J. Culligan, MD, FACOG, FACS

Director of Urogynecology and The Center for Female Pelvic Health Department of Urology Weill Cornell Medical College New York Presbyterian Weill Cornell Medical Center

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EDUCATION

BS	Industrial Management	Georgia Institute of Technology, Atlanta, Georgia
		1985 - 1989

MD Mercer University School of Medicine, Macon, Georgia 1989 - 1993

Postdoctoral Clinical Training

July, 1993 – June, 1997 **Residency** Department of Obstetrics & Gynecology Greenville Hospital System affiliated with The University of South Carolina Greenville, South Carolina

July, 1997 – June, 1999 Fellowship
 Urogynecology and Reconstructive Pelvic Surgery (i.e. FPMRS)
 Evanston Northwestern Healthcare
 Evanston Continence Center, Northwestern University Medical School, Evanston, IL

MEDICAL LICENSURE

Medical Licenses South Carolina (inactive #17447), Illinois (inactive #036095727) and Kentucky (inactive – #35188); New Jersey (ACTIVE - 25MA07802200); New York (ACTIVE 283756)

BOARD CERTIFICATION

Female Pelvic Medicine & Reconstructive Pelvic Surgery – June 2013

American Board of Obstetrics and Gynecology – January 2001

ACADEMIC AND PROFESSIONAL EXPERIENCE

2016 – Present	Director of Urogynecology & The Center for Female Pelvic Health Department of Urology Weill Cornell Medical College New York Presbyterian/Weill Cornell Medical Center New York, NY
2004 – 2016	Division Director & Fellowship Director - Division of Urogynecology & Reconstructive Pelvic Surgery – Atlantic health System
1999 - 2004	Full-time academic faculty Department of Obststeics, Gynecology & Women's Health University of Louisville Health Sciences Center, Louisville, KY

KEY LEADERSHIP ROLES AT UNIVERSITY OF LOUISVILLE (1999 – 2004):

- 2001 Promoted from Instructor to Assistant Professor
- 2003 Promoted from Assistant to Associate Professor (tenure track)
- 2003 2004 Division Director & Fellowship Director Urogynecology & Reconstructive Pelvic Surgery

- 2003 elected Managing Partner, University OB-GYN Associates, PSC (i.e. the "private practice" for all U of L OB/GYN faculty)
- 2001 elected Vice President, University OB-GYN Associates, PSC
- 2000 elected Treasurer, University OB-GYN Associates, PSC
- 2001 elected to Board of Directors, University OB-GYN Foundation, Inc.
- 2001 Co-founder of our 3-year ABOG approved Urogynecology fellowship program
- 2004 University of Louisville Medical School Finances Committee in preparation for LCME re-accreditation
- 1999 2004 Faculty for University of Louisville School of Nursing
- 1999 2004 Faculty for University of Louisville Geriatrics Fellowship
- 2002 2004 Thesis advisory committee for U of L MSPH candidates

KEY LEADERSHIP ROLES WITH ATLANTIC HEALTH SYSTEM (2004 – 2016)

- Founded the Division of Urogynecology & Reconstructive Pelvic Surgery
- Grew the clinical practice to include 3 Attendings and 2 Nurse Practitioners with a "primary catchment area" including NJ, NY, CT, PA, MD
- Founded and maintained an ABOG / ACGME approved 3-year Fellowship in Female Pelvic Medicine & Reconstructive Surgery (FPMRS)
- Developed a nationally renowned FPMRS clinical research program

Professional Organizations:

Diplomate, National Board of Medical Examiners Fellow, American College of Obstetricians & Gynecologists Fellow, American College of Surgeons Member, Society of Gynecologic Surgeons Member, International Urogynecologic Society Member, Society for Urodynamics and Female Urology Member **American Urogynecologic Society (AUGS)** 1997 – present <u>KEY ROLES WITH AUGS</u>

- 2000 Developed first patient-oriented clinical content for <u>www.augs.org</u>
- 2001 National Public Relations Committee
- 2002 AUGS Representative at NIDDK annual meeting
- 2005 Program Committee for Annual Scientific Meeting
- 2005 2015 Session Moderator during Annual Scientific Meetings
- 2006 2015 Course Director for numerous AUGS postgrad courses
- 2011 VP of AUGS Foundation
- 2013 elected to AUGS Board of Directors

Editorial Boards:

Obstetrics & Gynecology ("The Green Journal") 2007-2011 International Urogynecology Journal 2011 - present Journal of Minimally Invasive Gynecology 2014 - present The Female Patient 2009 – 2014

Ad Hoc Reviewer:

The American Journal of Obstetrics and Gynecology Obstetrics and Gynecology The International Journal of Urogynecology and Pelvic Floor Dysfunction Female Pelvic Medicine & Reconstructive Surgery Evidence Based Obstetrics & Gynecology The International Journal of Epidemiology Medical Science Monitor Journal of Urology Journal of the American Board of Family Practice Journal of Reproductive Medicine European Journal of General Practice McMaster Online Rating of Evidence (MORE)

Medical School Faculty Appointments

1999 – 2001	<i>Instructor</i> University of Louisville Health Sciences Center Department of Obstetrics, Gynecology and Women's Health
2001 – 2003	Assistant Professor (tenure track) University of Louisville Health Sciences Center Department of Obstetrics, Gynecology and Women's Health
2003 – 2004	<i>Associate Professor</i> (early promotion in tenure track) University of Louisville Health Sciences Center Department of Obstetrics, Gynecology and Women's Health
2006 – 2009	<i>Clinical Associate Professor</i> of Obstetrics and Gynecology UMDNJ Medical School, Newark NJ
2010 - 2016	Professor Icahn School of Medicine at Mount Sinai Department of Obstetrics, Gynecology & Reproductive Science New York, NY

Hospital Staff Appointments

1999 – 2004	University of Louisville Hospital, Louisville, KY
2000 - 2004	Norton Hospital, Louisville, KY
2000 - 2004	Baptist Hospital East, Louisville, KY
2003 - 2004	Jewish Hospital, Louisville, KY
2004 – 2016	AHS (Morristown & Overlook Hospital)
2016 – Present	New York Presbyterian/Weill Cornell Medical Center

HONORS / AWARDS

<u>Residency</u> - Thompson A Gailey award for academic acheivement – 1997

Fellowship - ACOG / 3M Research Award In Infectious Diseases- 1999

After Fellowship training

Berlex Foundation Faculty Development Award 2002 Young President's Organization – Bluegrass Chapter - 2003 Marquis Who's Who in America 2004 - 2015 SGS/AUGS Prize Paper Award for Outstanding Research in Gynecologic Surgery 2004 Prize Paper – 9th Annual Morristown Memorial Research Day – 2005 Castle Connelly" "Top Doctors of Metro New York" 2008 – 2016

BIBLIOGRAPHY

The following citations may also be found by clicking the following link to PubMed "My Bibliography" <u>http://www.ncbi.nlm.nih.gov/sites/myncbi/10EBw0ih9goQr/bibliography/50037439/public/?sort=date&direction=ascending</u>

Original research articles in professional peer-reviewed journals

- 1. **Culligan PJ**, Crane MM, Boone WR, Price TM, Allen T, Blauer KL. Validity and costeffectiveness of antisperm antibody testing before in vitro fertilization. *Fertility and Sterility*. 1998;69(5):894-898. PubMed PMID: 9591499
- Enzler M, Agins H, Kogan M, Kudurna J, Sand P, Wurtz R, Culligan PJ. Osteomyelitis of the pubis following suspension of the neck of the bladder with use of bone anchors. J Bone Joint Surg 1999;81-A(12):1736-40. PubMed PMID: 10608385.
- 3. Winkler HA, Sand PK, **Culligan PJ**, Middleton AW. Phase II trial of a valved urethral insert. *J Pelvic Surg* 1999;5(4):212-15.
- Sand PK, Winkler HA, Blackhurst DW, Culligan PJ. A prospective randomized study comparing modified Burch retropubic urethropexy and suburethral sling for treatment of genuine stress incontinence with low-pressure urethra. *Am J Obstet Gynecol*. 2000;1(1):30-34. PubMed PMID: 10649153.
- Culligan PJ, Rackley RA, Koduri S, Thomson RB, Schwabe L, Sand PK. Is it safe to reuse a syringe of glutaraldehyde cross-linked collagen – A microbiological study. *J Urol* 2000;164:1275-6. PubMed PMID: 10992379
- Sand PK, Koduri S, Lobel, R, Winkler, HA, Tomezsko J, Culligan, PJ, Goldberg R. Prospective randomized trial of polyglactin 910 mesh to prevent recurrence of cystoceles and rectoceles. *Am J Obstet Gynecol* 2001;184(7):1352-1356. PubMed PMID: 11408853
- Culligan PJ, Koduri S, Blackhurst DW, Sand PK. Comparison of microtransducer and fiberoptic catheters for urodynamic studies. *Obstet Gynecol* 2001;98(2):253-7. PubMed PMID: 11506841
- 8. Goldberg RP, Tomezsko JE, Winkler HA, Koduri S, **Culligan PJ**, Sand PK. Anterior or posterior sacrospinous vaginal vault suspension: long-term anatomic and functional evaluation. *Obstet Gynecol* 2001;98(2):199-204. PubMed PMID: 11506833
- Goldberg RP, Koduri S, Lobel RW, Culligan PJ, Tomezsko JE, Winkler HA, Sand PK. Protective effect of suburethral slings on postoperative cystocele recurrence after reconstructive pelvic operation. Am J Obstet Gynecol 2001;185(6):1307-13. PubMed PMID: 11744901

- 10. Major H, **Culligan PJ**, Heit M. Urethral sphincter morphology in women with detrusor instability. *Obstet Gynecol* 2002;99(1):63-68. PubMed PMID: 11777512
- 11. Heit M, **Culligan PJ**, Rosenquist C, Schott, S. Is pelvic organ prolapse a cause of pelvic or low back pain? *Obset Gynecol* 2002;99(1):23-28. PubMed PMID: 11777505
- 12. **Culligan PJ**, Koduri S, Heit MH, Rackley R, Thomson RB, Schwabe L, Goldberg RP, Bent AE, Nihira M, Sand PK. The safety of reusing injectable collagen: a multicenter microbiologic study. *Int Urogynecol J* 2002;13(4):232-5. PubMed PMID: 12189428
- Culligan PJ, Hill S, Heit M. Rupture of the symphysis pubis during vaginal delivery followed by two subsequent uneventful pregnancies. *Obstet Gynecol* 2002;100(5 part2):1114-5. PubMed PMID: 12423827
- Culligan PJ, Murphy M, Blackwell L, Hammons G, Graham C, Heit MH. Long-term success of abdominal sacral colpopexy using synthetic mesh. *Am J Obstet Gynecol* 2002;187(6):1473-82. PubMed PMID: 12501049
- 15. Culligan PJ, Goldberg R, Sand PK. A randomized controlled trial comparing a modified Burch procedure and suburethral sling: long-term follow-up. *Int Urogynecol J* 2003;14:229-233. PubMed PMID: 14530832.
- Culligan PJ, Miklos JR, Murphy M, Goldberg R, Graham CA, Moore R, Hainer M, Heit MH. The tensile strength and safety of uterosacral sutures: A comparison of the vaginal and laparoscopic techniques. *Obstet Gynecol* 2003;101(3):500-503. PubMed PMID: 12636953.
- Murphy M, Heit M, Fouts L, Graham C, Blackwell L, Culligan PJ. The effect of anaesthesia on voiding function after tension-free vaginal tape procedure. *Obstet Gynecol* 2003;101(4):666-670. PubMed PMID: 12681868
- Heit M, Rosenquist C, Culligan PJ, Graham C, Murphy M, & Shott S. Predicting treatment choice for patients with pelvic organ prolapse. *Obstet Gynecol* 2003;101(6):1279-1284. PubMed PMID: 12798537
- 19. Kwon CH, **Culligan PJ**, Koduri S, Goldberg RP, Sand PK. The development of pelvic organ prolapse following isolated Burch retropubic urethropexy. *Int Urogynecol J* 2003;14:321-325. PubMed PMID: 14618308.
- Culligan PJ, Heit MH, Blackwell L, Graham CA, Snyder J. Bacterial colony counts during vaginal surgery. *Infectious Disease OB-GYN* 2003;11(3)161-165. PubMed Central PMCID: PMC1852279

- 21. Slack M, Culligan PJ, Tracey M, Hunsicker K, Pate B, Sumeray M. The Relationship of Urethral Retro-resistance Pressure to Urodynamic Measurements and Incontinence Severity. Neurourol Urodyn 2004;23:109-114 PubMed PMID: 14983420
- 22. Goldberg RP, Tchetgen MB, Sand PK, Koduri S, Rackley R, Appell R, **Culligan PJ.** Incidence of pubic osteomyelitis following bladder neck suspension using bone anchors. Urology 2004;63(4):704-708 PubMed PMID: 15072885
- 23. Murphy M, **Culligan PJ**, Graham CA, Kubik K, Heit MH. Is the Leak Point Pressure Alone an accurate indicator of intrinsic sphincteric deficiency? Int J Urogyn 2004;15(5):294-297 PubMed PMID: 15278251.
- 24. Goldberg RP, Kwon C, Koduri S, Sand PK, Culligan PJ. The tensile strength of Cooper's ligament suturing: comparison of transvaginal versus abdominal techniques. Int J Urogyn 2004;15(6):425-428 PubMed PMID: 15278253
- Culligan PJ, Myers JA, Goldberg RP, Blackwell L, Gohmann SF, Abell TD Elective Cesarean Section to Prevent Anal Incontinence and Brachial Plexus Injuries Associated with Macrosomia – A Decision Analysis. Int J Urogyn 2005;16:19-28 PubMed PMID: 15647962
- 26. **Culligan PJ**, Kubik K, Blackwell L, Murphy M, Snyder J. A randomized trial that compared povidone iodine and chlorhexidine as antiseptics for vaginal hysterectomy. Am J Obstet Gynecol 2005;192:422-425 PubMed PMID: 15695981
- Culligan PJ, Blackwell L, Murphy M, Ziegler C, Heit MH. A randomized, double-blind, sham-controlled trial of postpartum extracorporeal magnetic innervation to restore pelvic muscle strength in primiparous patients. Am J Obstet Gynecol 2004;192:1578-1582 PubMed PMID: 15902161
- Murphy M, Culligan PJ, Arce CM, Graham CA, Blackwell L, Heit MH. Is cough-stress test necessary when placing the tension free vaginal tape? Obstet Gynecol 2005;105(2):319-324 PubMed PMID: 15684159
- 29. **Culligan PJ**, Blackwell L, Goldsmith LJ, Graham CA, Rogers A, Heit MH. A randomized controlled trial comparing fascia lata and synthetic mesh for sacral colpopexy. Obstet Gynecol 2005;106(1):29-37 PubMed PMID: 15994614
- Murphy M, Culligan PJ, Arce CM, Graham CA, Blackwell L, Heit MH. Construct validity of the incontinence severity index. Neurol urodynamics 2006:25(5);418-423 PubMed PMID: 16652379
- Mukai M, Aboujaoude R, Culligan PJ. Two cases illustrating a potential difference between transobturator and retropubic slings. Int J Urogyn. 2007;18(8):967-969 PubMed PMID: 17171506

- 32. Tate SB, **Culligan PJ**, Acland RD. Outside-in transobturator midurethral sling and the dorsal nerve of the clitoris. Int J Urogyn. 2009:20(11)1335-38 PubMed PMID: 19597714
- Culligan PJ, Lewis-Priestley J, Blackwell L, Tate SB. Can urethral retro-resistance pressures predict midurethral sling outcomes? J Repro Med 2010;55(3-4):103-107 PubMed PMID: 20506669
- 34. Culligan PJ, Scherer J, Dyer K, Priestley JL, Guingon-White G, Delvecchio D, Vangeli M. A randomized clinical trial comparing pelvic floor muscle training to a Pilates exercise program for improving pelvic muscle strength. Int J Urogyn 2010;21(4):401-408 PubMed PMID: 20094704
- 35. Culligan PJ, Littman PM, Salamon CG, Priestley JL, Shariati A. Evaluation of a transvaginal mesh delivery system for the correction of pelvic organ prolapsed: subjective and objective findings at least 1 year after surgery. AJOG 2010:203(5);506 PubMed PMID: 20817144
- Tate SB, Blackwell L, Lorenz DJ, Steptoe M, Culligan PJ. Randomized trial of fascia lata and polypropylene mesh for abdominal sacrocolpopexy: 5-year follow-up. Int J Urogyn. 2011;22(2):137-143 PubMed PMID: 20798922
- 37. Lewis CM, Salamon C, **Culligan PJ**. Uncomplicated vaginal delivery following midurethral sling. Female Pelvic Med & Recon Surg 2011;17(3):147-148 PubMed PMID: 22453788
- 38. Lewis CM, **Culligan PJ**. Sacrohysteropexy followed by successful pregnancy and eventual reoperation for prolapse. Int J Urogyn 2012;23(7):957-959 PubMed PMID: 22179338
- **39. Culligan PJ,** Salamon C, Priestley JL, Shariati A. Porcine dermis compared with polypropylene mesh for laparoscopic sacrocolpopexy. A randomized controlled trial. Obstet Gynecol 2013;121(1):143-151PubMed PMID: 23262939
- **40.** Salamon C, **Culligan P.** Subjective and objective outcomes 1 year after robotic-assisted laparoscopic sacrocolpopexy. J Robotic Surg 2013; 7:35–38PubMed PMID: 27000890
- Salamon CG, Lewis CM, Priestley JL, Gurshumov E, Culligan PJ. Prospective study of an ultra-lightweight polypropylene Y mesh for robotic sacrocolpopexy. Int J Urogyn 2013;24:1371-1375 PubMed PMID: 23296684.
- 42. **Culligan PJ**, Salamon CG, Lewis C, Abell TA. Cost-effectiveness analysis comparing robotic sacrocolpopexy to vaginal mesh hysteropexy for treatment of uterovaginal prolapse. Open J Obstet Gynecol 2013;3:613-620
- 43. **Culligan PJ,** Gurshumov E, Lewis C, Priestley JL, Komar J, Salamon C. Predictive validity of a training protocol utilizing a robotic surgery simulator. Female Pelvic Med & Recon Surg 2014;20(1):48-51PubMed PMID: 24368489.

- 44. **Culligan PJ,** Gurshumov E, Lewis C, Priestley JL, Shah NP, Komar J, Salamon C. Subjective and objective results 1 year after robotic sacrocolpopexy using a lightweight Y-mesh. Int J Urogyn 2014;25(6):731-735 PubMed Central PMCID: PMC4544463
- 45. Salamon CG, Lewis CM, Priestley J, **Culligan PJ.** Sexual function before and 1 year after laparoscopic sacrocolpopexy. Female Pelvic Med & Recon Surg 2014:20(1):44-47 PubMed PMID: 24368488
- C Lewis, C Salamon, J Priestley, E Gurshumov, P Culligan. Prospective Cohort Study of Bowel Function After Robotic Sacrocolpopexy. Female Pelvic Med & Recon Surg 2014:20 (2): 87-89 PubMed PMID: 24566211.
- Botros C, Lewis C, Culligan P, Salamon C. A prospective study of a single incision sling at the time of robotic sacrocolpopexy. Int J Urogyn 2014:25(11):1541-6 PubMed PMID: 24894202
- 48. Jirschele K, Seitz M, Zhou Y, Rosenblatt P, **Culligan P**, Sand P. A multicenter, prospective trial to evaluate mesh-augmented sacrospinous hysteropexy for uterovaginal prolapse. Int Urogynecol J. 2015 May;26(5):743-8. PubMed PMID: 25394892
- Mellgren A, Zutshi M, Lucente VR, <u>Culligan PJ</u>, Fenner D. A posterior anal sling for fecal incontinence: results of a 152-patient prospective multicenter study. Am J Obstet Gynecol 2016;214:349.e1-8. PubMed PMID: 26493933
- 50. St. Louis S, Scott R, Lewis C, Salamon C, Pagnillo J, Tref N, Taylor D, Culligan PJ. Genetic mutation that may contribute to failure of prolapse surgery in Caucasian women: A case-control study. J Min Invasive Gyn 2016. EPub ahead of print PubMed PMID: 26944198
- 51. Vallahb-Patel V, Saiz C, Salamon C, Francis A, Pagnillo J, Culligan PJ. Prevalence of occult pathology within morcellated specimens removed during laparoscopic sacrocolpopexy. FPMRS J 2016. ePub ahead of print. PubMed PMID: 26945272

Review Articles

- 52. **Culligan PJ**, Heit MH. Incontinence in women: evaluation and management. *Am Fam Physician* 2000;62(11):2433-44. PubMed PMID: 11130230
- 53. Heit M, Mudd K, **Culligan P**. Prevention of childbirth injuries to the pelvic floor. Curr Women's Health Rep. 2001 Aug;1(1):72-80. Review. PubMed PMID: 12112955
- 54. Murphy M, Heit MH, **Culligan PJ**. Evaluation and treatment of female urinary incontinence. Am J Med & Sports 2004;6(4):70-77
- 55. **Culligan PJ**. Surgical repair of the posterior compartment. Clin Obstet Gynecol. 2005 Sep;48(3):704-12. Review. PubMed PMID: 16012237

56. **Culligan PJ.** Non-surgical Management of Pelvic Organ Prolapse. Obstet Gynecol 2012;119(4):852-860 PubMed PMID: 22433350

TextBooks:

57. Urogynecology in Primary Care. **Culligan PJ**, Goldberg RP, editors. London: Springer-Verlag; 2006

Patents & Patent Applications:

Culligan PJ, Goldberg RP, Scherr DS. *Apparatus for housing a plurality of needles and method of use therefore* U.S. Patent 8,418,851 B2, issued August 8, 2013.

- Invented this device StitchKit[®] and received FDA 510(k) clearance
- Currently sold through Origami Surgical, LLC (Dr. Culligan Founder & CEO)
- <u>www.StitchKit.com</u>

Culligan PJ, Scott R. *Methods for diagnosing an increased risk of failure in a female pelvicorgan surgery. Also provided are devices and kits for detection of a SNP associated with increased risk of failure in a female pelvic organ surgery.* US Patent Pending – Application US20160017427A1

Chapters & Letters to the Editor:

- 58. **Culligan PJ**, Sand PK. Female Pelvic Medicine & Reconstructive Pelvic Surgery. Drutz HP, Herschorn S, Diamant NE, editors. Heidelberg, Germany: Springer-Verlag; 2002. Chapter 15, Cystoscopy, Urethroscopy and Dynamic Cystourethroscopy
- 59. **Culligan P**. TVT prevented stress incontinence after prolapse surgery better than endopelvic fascia plication. Evidence-based obstetrics and gynecology. 2005; 7:42-3
- 60. Lucente V, **Culligan PJ.** Atlas of Pelvic Anatomy & Gynecologic Surgery. Baggish M, Karram M, editors. New York: Saunders; 2012. The use of vaginal mesh for treatment of pelvic organ prolapse
- 61. Patel VV, **Culligan PJ**. Textbook of Female Urology & Urogynecology. 4th ed. Cardozo L, Staskin D, editors. Boca Raton, Florida: CRC Press; 2016. Laparoscopic and robotic approaches to apical and vaginal vault suspensions

- Slack M, Culligan PJ, Tracey M, Hunsicker K, Patel B, Sumeray M. Reply by authors, "Technique of urethral retro-resistance pressure measurements". Neurourol Urodyn 2005;24(1):96-97
- 63. **Culligan PJ**. Preoperative vaginal preps with chlorhexidine gluconate solution (reply letter to editor. AJOG 2006;195(2):624-625

Other (media, DVD's, etc.):

Apps for iPad & iPhone

2008 - POP-Q: Pelvic Organ Prolapse – An Interactive Guide

- Developed by Dr. Culligan made available for free by CR BARD
- Patient Education tool with per-patient custom animations of disease state
- iPad, iPhone and web-based application
- Highly popular among FPMRS practitioners worldwide
- 2011 Interactive Pelvic Organ Prolapse Quantification System (POP-Q) Program
 - Developed by Dr. Culligan made available for free by Boston Scientific
 - Patient Education tool with per-patient custom animations as well as a "build a surgery" feature that illustrates all surgical options
 - iPad and Web-based application
 - Highly popular among FPMRS practitioners worldwide

YouTube Video

 "POP-Q Application Tutorial - Overview (Part 1 of 6)" 2011 <u>https://youtu.be/LplpznnhDmU</u> This video is widely viewed by people who want to learn the POP-Q system for measuring pelvic organ prolapse objectively

Invited Publications:

- **64. Culligan PJ.** Poor agreement between the microtip and double-lumen perfusion catheters for urethral pressure profilometry. *Evidence-based Obstet Gynecol* 2002;4(4):198-97.
- 65. **Culligan PJ.** TVT prevented stress incontinence after prolapse surgery better than endopelvic fascia plication. Evidence-based Obstet gynecol 2005;7:42-43
- 66. **Culligan PJ**. 4 Steps to evaluation of asymptomatic microscopic hematuria. Contemporary OB/GYN 2006; 51(9):72-76
- 67. Shariati A, **Culligan PJ**. Robotic-Assisted Laparoscopic Sacrocolpopexy. The Female Patient 2008;33(4):112-120

- 68. **Culligan PJ**. The impact of pelvic floor dysfunction on sexuality: how should we counsel our patients? Obstet Gynecol. 2008 May;111(5):1037-8. PubMed PMID: 18448731
- 69. Littman P, **Culligan PJ**. The rapid evolution of vaginal mesh delivery systems for the correction of pelvic organ prolapse, Part 1: Clinical Data. The Female Patient 2009;34(4):32-38
- 70. Littman P, **Culligan PJ**. The rapid evolution of vaginal mesh delivery systems for the correction of pelvic organ prolapse, Part 2: Clinical Recommendations. The Female Patient 2009;34(5):23-24
- 71. Lewis CM, **Culligan PJ**. Gynecologic surgical site infections: Simple strategies for prevention. The Female Patient 2011;36:14-

Abstracts (Presented at National and/or International Scientific Meetings)

- Winkler HA, Culligan PJ, Middleton AW, Sand PK. Preliminary Report of the Efficacy and Safety of an Intraurethral Magnetic Catheter. Presented at the 24th Scientific Meeting of The Society of Gynecologic Surgeons. Orlando, Florida, March 4, 1998.
- Enzler M, Agins H, Culligan PJ, Wurtz R. *Pelvic osteomyelistis following bladder suspension using bone anchors*. Presented at the Eighth Annual Scientific Meeting for the Society for Healthcare Epidemiology of America, Orlando, FL, April 5-7, 1998.
- Culligan PJ, Winkler HA, Sand PK. A prospective randomized study of modified Burch retropubic urethropexy and suburethral sling for genuine stress incontinence. Presented at the American Urogynecologic Society 19th Annual Scientific Meeting, Washington, D.C., November 12-15, 1998.
- 4. **Culligan PJ**, Koduri S, Blackhurst DW, Sand PK. *A comparison of microtransducer and fiberoptic transducer catheters for urethral pressure profilometry and leak point pressure assessment*. Presented at the International Continence Society annual meeting, Denver, CO, August 23-26, 1999.
- Culligan PJ, Rackley RA, Koduri S, Thompson RB, Schwabe L, Sand PK. *Is it safe to reuse a syringe of GAX collagen?* A microbiologic study. Presented at the American Urogynecologic Society Meeting 20th Annual Scientific Meeting, San Diego, CA, October 14-16, 1999.
- Koduri S, Culligan PJ, Winkler HA, Sand PK. Outcomes analysis of vaginal patch sling with and without bone anchors for low pressure urethra. Presented at the American Urogynecologic Society 20th Annual Scientific Meeting, San Diego, CA, October 14-16, 1999
- 7. Goldberg R, Sand P, Koduri S, **Culligan P**. A prospective randomized study comparing modified Burch retropubic urethropexy and suburethral sling: Long term follow-up.

Presented at the American Urogynecologic Society 21st Annual Scientific Meeting, Orlando, FL, October 26-28, 2000.

- Goldberg R, Culligan P, Tchetgen M, Koduri S, Rackley R, Appell R, Sand P. Incidence of pubic osteomyelitis following bladder neck suspension using bone anchors. Presented at the American Urogynecologic Society 21st Annual Scientific Meeting, Orlando, FL, October 26-28, 2000.
- Heit M, Rosenquist P, Culligan P. Predictors of treatment choice for patients with pelvic organ prolapse. Presented at the American Urogynecologic Society 21st Annual Scientific Meeting, Orlando, FL, October 26-28, 2000.
- Culligan P, Koduri S, Heit M, Rackley R, Nihira M, Thompson R, Bent A, Sand P. *Is it safe to reuse a syringe of GAX collagen? A multicenter microbiologic study.* Presented at the American Urogynecologic Society 21st Annual Scientific Meeting, Orlando, FL, October 26-28, 2000.
- Heit M, Rosenquist C, Culligan P. Is pelvic organ prolapse a cause of chronic pelvic/ low back pain? Presented at the American Urogynecologic Society 21st Annual Scientific Meeting, Orlando, FL, October 26-28, 2000.
- Culligan P, Hammons G, Heit M. The use of acellular dermal grafts in reconstructive pelvic surgery. Presented at the American Urogynecologic Society 21st Annual Scientific Meeting, Orlando, FL, October 26-28, 2000.
- Goldberg R, Koduri S, Lobel R, Winkler H, Tomezsko J, Culligan P, Sand P. The protective effect of suburethral slings on postoperative cystocele recurrence following pelvic reconstructive surgery. Presented at the Society of Gynecologic Surgeons 27th Scientific Meeting, Lake Buena Vista, FL, March 5-7, 2001.
- Goldberg R, Culligan P, Koduri S, Sand P. The tensile strength of Cooper's ligament suturing: comparison of transvaginal versus abdominal techniques. Presented at the Society of Gynecologic Surgeons 27th Scientific Meeting, Lake Buena Vista, FL, March 5-7, 2001.
- Culligan PJ, Murphy M, Blackwell L, Hammons G, Graham C, Heit M. Long-term success of sacral colpopexy using synthetic mesh. Presented at the Society of Gynecologic Surgeons 28th Scientific Meeting, Dallas Texas, March 4 – 6, 2002
- 16. Goldberg R, Culligan P, Miklos J, Koduri S, Kwon C, Sand P. The tensile strength of Cooper's ligament suturing: comparison of "open" abdominal, laparoscopic and transvaginal techniques. Presented at the American Urogynecologic Society 22nd Annual Scientific Meeting, Chicago, II, October 25-27, 2001.

- Heit M, Major H, Culligan P. Urethral sphincter morphology in women with detrusor instability. Presented at the American Urogynecologic Society 22nd Annual Scientific Meeting, Chicago, II, October 25-27, 2001.
- 18. Kwon C, **Culligan P**, Koduri S, Goldberg R, Sand P. *Development of pelvic organ prolapse following burch retropubic urethropexy.* Presented at the American Urogynecologic Society 22nd Annual Scientific Meeting, Chicago, II, October 25-27, 2001.
- Goldberg RP, Koduri S, Lobel RW, Culligan PJ, Tomezsko JE, Winkler HA, Sand PK. Long-term effects of three different anti-incontinence procedures on the posterior compartment. Presented at the American Urogynecologic Society 22nd Annual Scientific Meeting, Chicago, II, October 25-27, 2001.
- Murphy M, Heit M, Fouts L, Graham C, Blackwell L, Culligan PJ. The effect of anesthesia on voiding function following tension-free vaginal tape. Presented at the American Urogynecologic Society 23rd Annual Scientific Meeting, San Francisco, CA, October 17 – 19, 2002.
- 21. Culligan PJ, Murphy M, Goldberg R, Graham C, Moore R, Hainer M, Heit M, Miklos J. Tensile strength of uterosacral ligament suturing: A comparison of the vaginal and laparoscopic techniques. Presented at the American Urogynecologic Society 23rd Annual Scientific Meeting, San Francisco, CA, October 17 – 19, 2002.
- Culligan PJ, Heit MH, Blackwell L, Murphy M, Graham CA, Snyder J. Bacterial colony counts during vaginal surgery. Presented at the Society of Gynecologic Surgeons' 29th Annual Scientific Meeting. Anaheim, CA, March 5-7, 2003.
- 23. Culligan PJ, Myers JA, Heit MH, Goldberg RP, Blackwell L, Gohmann SF, Murphy M, Graham CA, Abell TD Elective Cesarean Section to Prevent Anal Incontinence and Brachial Plexus Injuries Associated with Macrosomia A Decision Analysis. Presented at The American Urogynecologic Society 24th Annual Scientific Meeting, Hollywood, Fla, September 11, 2003
- 24. Culligan PJ, Habib F, Heit MH, Blackwell L, Murphy M, Kubik K, Graham CA, Abell Elective Cesarean Section to Prevent Anal Incontinence among Women with a History of Anal Sphincter Disruption during a Prior Vaginal Delivery– A Decision Analysis Presented at The American Urogynecologic Society 24th Annual Scientific Meeting, Hollywood, Fla, September 11, 2003
- 25. Murphy M, Culligan PJ, Graham CA, Kubik K, Attum O, Heit MH. Is the leak point pressure alone always an accurate indicator of intrinsic sphincter deficiency? Presented at The American Urogynecologic Society 24th Annual Scientific Meeting, Hollywood, Fla, September 11, 2003
- 26. **Culligan PJ**, Kubik K, Murphy M, Blackwell L, Snyder J. A randomized controlled trial comparing povidone-iodine and chlorhexidine to prepare the vaginal field for vaginal

hysterectomy. Presented at The American Urogynecologic Society 25th Annual Scientific Meeting, San Diego, CA, July 27-29, 2004

- 27. Culligan PJ, Blackwell L, Murphy M, Ziegler C, Heit MH. A blinded, sham-controlled trial of postpartum extracorporeal magnetic innervation to restore pelvic muscle strength in primiparous patients. Presented at The American Urogynecologic Society 25th Annual Scientific Meeting, San Diego, CA, July 27-29, 2004
- 28. Culligan PJ, Blackwell L, Goldsmith LJ, Rogers A, Heit MH. A double blind, randomized controlled trial comparing solvent dehydrated cadaveric fascia lata and polypropylene mesh for sacral colpopexy. Presented at The American Urogynecologic Society 25th Annual Scientific Meeting, San Diego, CA, July 27-29, 2004 (PRIZE PAPER FOR OUTSTANDING RESEARCH IN GYNECOLOGIC SURGERY)
- 29. Murphy M, **Culligan PJ**, Arce CM, Graham CA, Blackwell L, Heit MH. Is the cough stress test necessary when placing the tension free vaginal tape? Presented at The American Urogynecologic Society 25th Annual Scientific Meeting, San Diego, CA, July 27-29, 2004
- 30. Murphy M, Culligan PJ, Arce CM, Graham CA, Blackwell L, Heit MH. Construct validity of the incontinence severity index. Presented at The American Urogynecologic Society 25th Annual Scientific Meeting, San Diego, CA, July 27-29, 2004 Presented at The American Urogynecologic Society 25th Annual Scientific Meeting, San Diego, CA, July 27-29, 2004
- Culligan PJ, Goldsmith LJ, Blackwell L, Tate SB. Prolapse symptom severity, defecation, urinary continence, pain and overall quality of life after sacral colpopexy. Presented at the American Urogynecologic Society Meeting 26th Annual Scientific Meeting, Atlanta, GA Sept 15-17, 2005
- Culligan PJ, Goldsmith LJ, Blackwell L, Tate SB. Sexual satisfaction before and after sacral colpopexy. Presented at the American Urogynecologic Society 26th Annual Scientific Meeting, Atlanta, GA Sept 15-17, 2005
- 33. Culligan PJ, Priestley JL, Blackwell L. Can urethral retro resistance pressure predict success or failure following sub-urethral sling placement? Presented at the American Urogynecologic Society 27th Annual Scientific Meeting; Palm Springs, CA Oct 16-18, 2006
- 34. Culligan PJ, J Scherer, K Dyer, J Priestley, G Guingon-White, D DelVecchio, M Vangeli. A randomized controlled trial comparing traditional pelvic floor muscle training to a Pilates exercise program. AUGS 29th annual Scientific Meeting, Chicago IL Sept 4, 2008
- 35. **Culligan PJ,** Scherer J, Salamon C, Priestley JL, Shariati A. A blinded randomized clinical trial comparing synthetic mesh to porcine dermis for laparoscopic sacrocolpopexy. AUGS 31st annual Scientific Meeting. Long Beach CA, Sept 30, 2010
- 36. Salamon C, Shariati A, **Culligan PJ**. Sexual function before and one year after laparoscopic sacrocolpopexy. AUGS 31st annual Scientific Meeting. Long Beach CA, Sept 30, 2010

- Shariati A, Salamon C, Culligan PJ. Bowel function and defecation before and one year after laparoscopic sacrocolpopexy, AUGS 31st annual Scientific Meeting. Long Beach CA, Sept 30, 2010
- Salamon C, Lewis CM, Shariati A, Priestley JL, Gurshumov E, Culligan P. Prospective cohort study of robotic sacrocolpopexy using lightweight polypropylene Y-mesh. AAGL 40th Global Congress, Hollywood FL, Nov 2011
- Culligan PJ, Salamon C, Lewis CM, Abell T. Cost-effectiveness comparison of the Uphold vaginal support systemversus robotic-assisted laparoscopic sacrocolpopexy. AAGL 40th Global Congress, Hollywood FL, Nov, 2011
- 40. Gurshumov E, Lewis CM, **Culligan PJ**. VIDEO "Robotic-assisted laparoscopic supracervical hysterectomy. AAGL 40th Global Congress. Hollywood FL. Nov, 2011
- 41. P. Culligan, C. Lewis, S. St. Louis, J. Komar, J. Pagnillo, C. Salamon, N. Treff, D. Taylor, H. Garnsey, R. Scott. Potential Genetic Basis For Failure of Laparoscopic Sacrocolpopexy. AUGS 35th Annual Scientific Meeting. Washington, DC, Jul, 2014
- St. Louis, P. Culligan, C. Lewis, J. Komar, J. Pagnillo, C. Salamon, N. Treff, D. Taylor, C. Bohrer, R. Scott. Potential Genetic Basis for Failure of Laparoscopic Sacrocolpopexy: a missense mutation in the ZFYVE16 gene. AAGL 43rd Global Congress. Vancouver BC, Nov, 2014
- 43. V Vallabh-Patel, CM Saiz, A Francis, J Pagnillo, C Salamon, **PJ Culligan**. Prevalence of occult pathology within morcellated uteri removed during concomitant sacrocolpopexy. AUGS 36th Annual Scientific Meeting, Seattle, WA 2015
- 44. N Mushonga, C Salamon, C Lewis, J Pagnillo, S St.Louis, PJ Culligan. Long-Term results of robotic sacrocolpopexy using lightweight Y mesh. AUGS 36th Annual Scientific Meeting, Seattle, WA 2015

NATIONAL / INTERNATIONAL PRESENTATIONS

- 1. "What procedure should be done to correct GSI complicated by low pressure urethra?" in: Advances in Urogynecology and Reconstructive Pelvic Surgery. Chicago, IL, April 16-18, 1998
- "Diagnosing Genuine Stress Incontinence: Urethral Pressure Profiles and Leak Point Pressures" in: Advances in Urogynecology, Reconstructive Pelvic Surgery and Office Therapy. Chicago, IL, April15-17, 1999
- 3. Faculty AAGL sponsored "Advanced Workshop on Gynecologic Laparoscopic Anatomy and Surgery on Unembalmed Female Cadavers". Louisville, KY, August 11-12, 2000

- 4. **Course Director** Urogynecology for Primary Care Providers (9.75 hours CME), New York, NY, June 24 26, 2005
- 5. **Course Director** Urogynecology for Primary Care Providers (9.75 hours CME), New York, NY, June 23 25, 2006
- 6. "Robotic Assisted Laparoscopic Sacral Colpopexy" AAGL , Las Vegas NV, Nov 8th 2006
- Course Director Office Based Urogynecology (10 hours CME), New York, NY, October 27 28, 2007
- 8. "Robotics in Urogynecology" AAGLGlobal Congress of Minimally Invasive Gynecology, Washington D.C. November 13, 2007
- "Applications of Robotics in Gynecologic Surgery", 12th Annual Update in Gynecologic Urology, St Maarten, January 24-26, 2008
- 10. Postgraduate Course: Minimally invasive urogynecology: Robotic surgery, laparoscopy, and new mesh delivery systems. AUGS 29th annual Scientific Meeting Sept 3, 2008
- 11. Live Telesurgery broadcast from NJ to Las Vegas to AAGL World Congress, Las Vegas 2008 Robotic Sacrocolpopexy
- 12. Moderator and Speaker World Robotic Gynecology Congress, (jointly sponsored by University of Michigan, The Mayo Clinic and UNC School of Medicine) May 7-9, 2009
- 13. **Course Director** Office-Based Urogynecology (10.5 hours CME), New York, NY, June 6-7, 2009
- 14. Postgrad Course Faculty: Minimally Invasive Urogynecology. AUGS 29th Annual Scientific Meeting, Chicago, IL. 2008
- 15. **Co-Course Director** "Laparoscopic Sacrocolpopexy" IUGA Annual Scientific Meeting, Lake Como Italy, June 2009
- 16. **Course Director** Complications in Robotic and/or trans-vaginal surgery for prolapse. Postgraduate course in conjunction with AUGS annual meeting, Hollywood FL. Sept 26, 2009
- 17. Workshop Director Laparoscopic and Robotic Sacrocolpopexy: International Urogynecological Association Annual Scientific Meeting, Lake Como, Italy 2009
- Course Faculty "Robotic Sacrocolpopexy" at The Miami Robotics Symposium, Miami FL October 16, 2010

- 19. Course Faculty "Pills Patches, Creams...making sense of the various bladder drugs" Female Pelvic Medicine for the Office-Based Practitioner. AUGS-sponsored CME course. Chicago, IL October 23-26
- 20. Course Faculty "Modern use of the pessary" & "The Business of Urogynecology" both at the AUGS-sponsored CME course Female Pelvic Medicine for the Office-Based Practitioner, Chicago IL Oct 22-25, 2012
- 21. Postgrad Course Faculty -Robotic and Traditional Laparoscopic Sacrocolpopexy. AUGS 34th Annual Scientific Meeting, Las Vegas, NV, 2013
- 22. **Course Director** "Robotic and Laparoscopic Sacrocolpoexy". AUGS / IUGA Joint Scientific Meeting, Washington, DC 2014
- 23. Course Faculty AUGS Annual FPMRS Comprehensive Board Review Course, Dallas TX 2015
- 24. Live Telesurgery broadcast from NJ to Seattle, "Robotic Sacrocolpopexy with minimal need for assistance" AUGS Annual Scientific Meeting, Seattle WA, 2015
- 25. **Course Director** "Laparoscopic & Robotic Sacrocolpopexy: Tips and Tricks. Postgrad Course at AUGS Annual Scientific Meeting, Seattle, WA 2015
- 26. **Course Faculty** "Hands-on Cadaveric Workshop on Urogynecologic Surgery" 44th Annual AAGL World Congress, Las Vegas, NV 2015
- 27. Course Faculty AUGS Annual FPMRS Comprehensive Review Board Course, Dallas TX, 2016
- Course Director AUGS (formerly SGS) sponsored "Fellows' course in robotic sacrocolpopexy" 2007 - 2016

RESEARCH GRANTS / AWARDS

- 1. 1992 <u>Principle Investigator</u>: (\$500) American Cancer Society Medical Student Research Grant for: "Adhesion prevention in a rat model"
- 1999 <u>Principle Investigator</u>: (\$15,000) ACOG/3M Pharmaceuticals Research Award for: "At what point during vaginal surgery does the surgical field become contaminated?" Project completed 2004 and published in AJOG
- 2000 <u>Principle Investigator</u>: (\$114,000) Neotonus, Inc. Research Grant (Investigator initiated) for: "Extracorporeal Magnetic Innervation to Restore Pelvic Floor Integrity after Vaginal Childbirth." Projected completed 2004 and published in AJOG

- 2001 <u>Principle Investigator</u>: (\$131,591) Mentor Corporation Research Grant (Investigator initiated) for: "A Randomized Study of Synthetic Versus Organic Allograft for Sacral Colpopexy." Projected completed in 2004 and published in Obstet Gynecol
- 5. 2001 <u>Principle Investigator</u>: **(\$4,000)** University of Louisville Intramural Grant for "The tensile strength and safety of uterosacral ligament suturing: Comparing vaginal and laparoscopic approaches". Project completed 2001 and published in Obstet Gynecol
- 2003 <u>Principle Investigator</u>: (\$43,000) Gynecare (a Division of Ethicon) initiated multicenter study: "Use of the Monitorr device for urodynamic studies". Project completed 2003 and published in Neurol and Urodyn
- 2004- <u>Principal Investigator</u>: (\$79,130) Gynecare (a Division of Ethicon) sponsored, investigator-initiated study: "Predicting surgical success with pre-operative URP studies" Project completed 2005. Published in J Repro Med 2009
- 8. 2005 <u>Principal Investigator</u>: **(\$198,000)** CR Bard sponsored, investigator-initiated study: "A Randomized Trial Comparing Porcine Dermis and Synthetic Mesh for Laparoscopic Sacral Colpopexy" Project completed 2011. Published in Obstet Gynecol 2014
- 9. 2006 <u>Principal Investigator</u>: **(\$65,400).** Investigator-initiated study: "Pilates versus Pelvic Floor Muscle Training an RCT" Completed Published in Int J Urogyn 2009
- 2006 <u>Principal Investigator</u> (\$60,000). A multi-center evaluation of the Attenuex device for female stress urinary incontinence – An FDA pre-market pivotal trial. Completed enrollment 2009. Anticipated publication 2010.
- 11. 2009- <u>Principal Investigator</u>: **(\$55,000)** Evanston Hospital sponsored, investigator-initiated study "Sacrohysteropexy with synthetic mesh for uterovaginal prolapse". Completed 2013, Pubished in Int J Urogyn 2014
- 12. 2009 <u>Principal Investigator</u>: **(\$150,000)** Mpathy Medical sponsored investigator-initiated study "Prospective cohort study of Restorelle[™] mesh for robotic sacrocolpoepxy". Completed 2012, Published in Int J Urogyn 2013
- 13. 2010 <u>Principle Investigator</u>: (\$187,500) AMS-sponsored An investigation of the Treatment of fecAl Incontinence using the TOPAS sling system FOR woMen (TRANSFORM). FDA protocol WC0807. Published AJOG 2015
- 2010 <u>Principle Investigator</u>: (\$80,000) Boston Scientific sponsored Investigator initiated. A decision analysis study comparing cost-effectiveness of the UPHOLD procedure to roboticassisted laparoscopic sacrocolpopexy. Completed and Published 2014
- 15. 2010 <u>Principle Investigator</u>: (\$135,000) CR BARD sponsored Investigator initiated.
 "Prospective cohort study of Alyte™ Y-mesh for robotic sacrocolpopexy". Completed and published in Iny J Urogyn 2014

16. 2011 – <u>Principal Investigator:</u> (\$30,000) Intuitive Surgical sponsored - Investigator initiated "Validation of a robotic surgery simulator in the training of new gynecologic – robotic surgeons." Completed and published in FPMRS 2013