Heather van Raalte, MD

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PROFILE

Double Board-Certified in Ob/Gyn and Female Pelvic Medicine and Reconstructive Surgery.

Currently serving as the Medical Director of Princeton Urogynecology, Chairman of the Department of Ob/Gyn at UMPC, teaching faculty member in the Department of Urology at RWJ, volunteer fistula surgeon for Mercy Ships International and Chief Medical Office of Advanced Tactile Imaging, a diagnostic imaging company,.

EXPERIENCE

Princeton Urogynecology: Princeton, NJ

• Medical Director, 2008 to present

University Medical Center at Princeton: Princeton, NJ

- Chairman of the Department of Ob/Gyn: 2015 to present
- Medical Director of the Pelvic Wellness Center: 2015 to present
- Member of Leadership Team for Lifewings CREW Initiative: Ob/Gyn: 2016 to present
- Committees Involvement:
 - Hospital Performance Improvement Committee: 2015 to present
 - Perinatal Committee: 2015 to present
 - Initiative to advance Bloodless Medicine at UMPC: 2016 to present
 - Robotic Committee: 2010 to present
 - OR Committee: 2016 to present
- Medical Advisory Board Fitness and Wellness Center: 2009-2010 and 2015 to present
- Member of the Board of Trustees: 2016 to present
- Attending physician: July 2008 to present

The Institute for Female Pelvic Medicine and Reconstructive Surgery: 2008-2009

Attending physician.

St. Luke's Hospital and Health Network 2007-2009

· Assistant Director of the St. Luke's Pelvic Health Center

EDUCATION

The Institute for Female Pelvic Medicine and Reconstructive Surgery: Allentown, PA Program Directors: Vincent Lucente, MD and Miles Murphy, MD Urogynecology Fellowship July 2005- July 2008

SUNY- Stony Brook University Hospital: Stony Brook, NY Administrative Chief Resident, Residency in Ob-Gyn July 2001- June 2005

Vanderbilt University School of Medicine: Nashville, TN., M.D., August 1997- May 2001.

Vanderbilt University: Nashville, TN B.S. in Biology, Magna Cum Laude, Phi Beta Kappa, College Honors Scholar September 1992- May 1996

University of Leeds: Leeds, England Junior Year Abroad and Senior Research Project, September 1994- August 1995.

HONORS AND AWARDS

- · Innovation in Medicine Award, NJ Mercer County Medical Society: 2013
- · Golden Laparoscope Award: AAGL: 2007
- · Administrative Chief Resident: 2004-2005
- · Martin L. Stone Award: Resident of the Year: 2005
- Stony Brook University Resident Teacher of the Year Award: 2004
- Berlex Resident National Teaching Award: 2003
- Stony Brook Department of Obstetrics and Gynecology Teaching Award: 2002, 2003, 2004
- · Vanderbilt Community Scholars Program: 1998, 1999
- · Phi Beta Kappa: 1996
- · Howard Hughes Research Grant:: 1995-1996
- · Vanderbilt Honor Scholar: 1992-1996
- · Vanderbilt Dean's Select Scholar: 1992-1996

PROFESSIONAL ORGANIZATIONS

· AUGS: 2005- present

· IUGA: 2007- present

· ICS: 2012-present

· SGS: (Inducted Member) 2013-present

· MSNJ/ Mercer County Medical Association: 2008- present

· Fellows Pelvic Research Network 2007-2009

AAGL: 2007-presentACOG: 2001- present

Phi Beta Kappa Society: 1996- present

ACTIVE RESEARCH

Vaginal Tactile Imaging/VTI: (NIH Sponsored Trial) 2014 to present: Validating biomechanical vaginal imaging in a large cross section of patients, with a reproducibility arm undergoing numerous scans and a pre- and post-operative arm to assess the ability of the VTI to evaluated tissue property changes due to surgery. Completed the first trial of a laparoscopic application of tactile imaging. Evaluating observed mechanical changes through energy-based therapies for vaginal atrophy.

ATI (Sponsored trial): 2015 to present: Evaluate a newer probe head for vaginal tactile imaging to evaluate vaginal biomechanical properties in women with relationship to obstetrical trauma.

AMS (Anterior and Posterior Compartment) Vaginal Mesh Longitudinal Study: (522 Trial): 2014 to 2016: Evaluate and assess the efficacy, complications and measurable outcomes, including quality of life parameters, of patients undergoing pelvic reconstructive surgery with Elevate transvaginal mesh. Patients to be entered and followed through the national prolapse registry.

Coloplast (Anterior and Posterior Compartment) Vaginal Mesh Longitudinal Study: (522 Trial): 2014 to 2016: Evaluate and assess the efficacy, complications and measurable outcomes, including quality of life parameters, of patients undergoing pelvic reconstructive surgery with Exair transvaginal mesh. Patients to be entered and followed through the national prolapse registry.

ACell (Anterior and Posterior Compartment) Vaginal Biologic Graft Longitudinal Study: (522 Trial): 2014 to present: Evaluate and assess the efficacy, complications and measurable outcomes, including quality of life parameters, of patients undergoing pelvic reconstructive surgery with Acell Matristem Pelvic Floor Matrix transvaginal graft. Patients to be entered and followed through the national prolapse registry.

BARD Ajust Single-Incision Sling Trial: 2011 to 2016: 3-year follow-up of single incision pubovaginal slings for the treatment of stress urinary incontinence.

ADDITIONAL WORK EXPERIENCE

Volunteer Surgeon for Mercy Ships/ USAID Vesicovaginal Fistula Program: Attending physician since 2007

Pelvic Trauma Taskforce- St. Luke's Hospital & Health Network, 2007-2009.

Faculty Instructor for IMET Reconstructive Vaginal Surgery, April 2007 - present.

Faculty Attending at St. Luke's Hospital Department of Obstetrics and Gynecology at the Allentown and Bethlehem campuses providing routine inpatient and emergency obstetrical and gynecologic care, resident education through a monthly urogynecology lecture series and resident urogynecology clinics.

Voluntary Teaching Faculty for UMDNJ Department of Urology in female urology and reconstructive surgery. 2009 to present.

Medical Volunteer with Medcaps Expeditions on a medical mission trip serving remote villages along the Amazon River, Peru. 1999.

PUBLICATIONS AND PRESENTATIONS

van Raalte H, Lucente V, Murphy M, Egorov V, "Data Inerpretation for Vaginal Tactile Imaging", Oral presentation, IUGA Annual Conference, Vancouver, Canada 2017.

V. Egorov, **H. van Raalte**, V. Lucente, A. Sarvazyan, (2016). Biomechanical Characterization of the Pelvic Floor Using Tactile Imaging. Hoyte and Demaster, (Eds.), *Biomechanics of the Pelvic Floor* (pp. 317-348). London, England: Elsevier Publications.

van Raalte H, Lucente V, Ephraim S, Murphy M, Bhatia N, Egorov V, "Pelvic Organ Prolapse Surgery Characterization by Vaginal Tactile Imaging", Oral presentation, IUGA Annual Conference, Cape Town, Africa, August 2016.

van Raalte H, Bhatia N, Egorov V, "Is it all Just Smoke and Mirrors?: Vaginal Laser Therapy and its Assessment by Tactile Imaging", Oral presentation, IUGA Annual Conference, Cape Town, Africa, August 2016.

V Egorov, **H van Raalte**, V Lucente, A Sarvazyan, "Biomechanical Characterization of the Pelvic Floor Using Tactile Imaging," *Biomechanics of the Pelvic Floor*. L Hoyte, M Damaser, 2016. 317-345. Print.

van Raalte, Egorov. "Female Pelvic Floor Conditions by Tactile Imaging". Int Urogynecol J. 2015 Apr;26(4):607-9.

van Raalte, Egorov, "Imaging Markers to Characterize Female Pelvic Floor Conditions". Open J Obstet Gynecol. 2015 Aug;5(9):505-515.

Raalte H, Egorov V. "Characterizing Female Pelvic Floor Conditions by Tactile Imaging" Int Urogynecol J, Oct 2014

van Raalte H, Egorov V. "High definition manometry for intravaginal observation of pelvic floor muscle contractions", Oral presentation, ICS, Brazil 2014

"Incontinence: Tactile imaging for quantifying vaginal elasticity in prolapse". Nature Reviews Urology. 2012;9(2):60.

H van Raalte, V Egorov, V Lucente, "Tissue Elasticity of Pelvic Floor Support Structures: Ranges of Normality", Oral Presentation, Dublin, IUGA 2012

van Raalte H, Egorov V, Lucente V. Tissue elasticity as a marker of pelvic floor conditions: Clinical results. Proceedings of the 11th International Tissue Elasticity Conference, Deauville, France, October 2-5, 2012:46

Murphy M, Holzberg A, van Raalte H, Kohli N, Goldman HB, Lucente V; Pelvic Surgeons Network. "Time to rethink: an evidence-based response from pelvic surgeons to the FDA Safety Communication: "UPDATE on Serious Complications Associated with Transvaginal Placement of Surgical Mesh for Pelvic Organ Prolapse"." Int Urogynecol J. 2012 Jan;23(1):5-9.

Egorov V, van Raalte H, Lucente V. "Quantifying vaginal tissue elasticity under normal and prolapse conditions by tactile imaging." Int Urogynecol J. 2012 Apr;23(4):459-66. van Raalte H, Egorov V, Lucente V. "Tactile imaging of pelvic floor changes with age and parity". American Urogynecologic Society: 32nd Annual Scientific Meeting. Female Pelvic Medicine & Reconstructive Surgery 2011;17(5)

van Raalte H, Lucente V, Egorov V. "3-D imaging and quantifying vaginal tissue elasticity under normal and prolapse conditions. International Urogynecological Association: 36th Annual Meeting". Urogynecology Journal 2011; 22(S1):183-4.

Murphy M, Shrestha R, Haff R, van Raalte H, Devakumar H, Lucente VR. "Vaginal hysterectomy at the — time of transvaginal mesh placement." Female Pelvic Med Reconstr Surg. 2010 Sep;16(5):272-7

Egorov V, van Raalte H, Sarvazyan AP. "<u>Vaginal tactile imaging</u>." IEEE Trans Biomed Eng. 2010 Jul;57(7):1736-44.

Ehsani, van Raalte, Lucente, et al: "Four Month and One Year Results of Transvaginal Mesh Placement (Prolift Procedure) in the Treatment of Pelvic Organ Prolapse" Oral Presentation, AAGL, Orlando, FL, Nov 2009.

The Science of What's Left Behind" Considerations for PFR & SUI Mesh Implants: AAGL Ethicon Sponsored Symposium, Faculty, Orlando, FL, Nov. 18th 2009

Lowenstein, Gamble, Sanses, van Raalte, et al: "Changes in Sexual Function after Treatment for Prolapse Are Related to the Improvement in Body Image Perception." J Sex Med. Nov 12 2009.

Optimizing Anatomic & Functional Outcomes of Transvaginal Mesh Placement; Sponsored Symposium: Faculty, Hollywood, FL, September 27th 2009.

Rhee, Murphy, van Raalte, Haff, Lucente: "Long Term Quality of Life and Anatomic Outcomes with total vaginal mesh reconstruction for Post-Hysterectomy Prolapse" Oral Presentation, AUGS Sept 2009.

Molden, Lucente, van Raalte, Haff, Murphy: "Quality of Life, Sexual Health and Anatomic Outcome One Year After Transvaginal Mesh Reconstruction" Oral Presentation, AUGS Sept 2009.

Lowenstein, Gamble, Sanses, van Raalte, et al: "Improvement In Sexual Function After Treatment for Prolapse is Related to the Improvement in Body Image Perception." Oral Presentation, AUGS Sept 2009.

Ehsani, Lucente, Murphy, van Raalte, et al: "A Randomized, Double Blind Placebo Controlled Trial of the Peri-Operative Use of Tolterodine in Women with Mixed Urinary Incontinence Undergoing Midurethral Sling Placement." Poster Presentation, AUGS Sept 2009.

Haff, Lucente, Murphy, van Raalte, Olson: "Validation of a New Post Surgical Quality of Life Tool: The Surgical Satisfaction Questionairre (SSQ8)." Poster Presentation, AUGS Sept 2009.

Lucente, Murphy, van Raalte: "The Key to Preventing Transvaginal mesh Erosion: Utilizing Hydrodistention During Proper Full-Thickness Dissection" Video Presentation, AUGS Sept 2009.

"Prolift +M" Webinar for Ethicon Women's Health: Faculty Presenter, June 2009.

Molden S, Lucente V, van Raalte H, Haff R, Murphy M. "Validated Measurements of QOL and Sexual Function in Women One Year After Transvaginal Mesh Reconstruction". IUGA. Lake Como, Italy. June 2009.

Molden S, van Raalte H, Haff R, Lucente V. "TVT Secur: One Year Outcomes." IUGA, Lake Como, Italy. June 2009.

Lucente V, van Raalte H, Haff R, Molden S, Ehsani N, Murphy M. "Validation of a New Post-Surgical Quality of Life Tool: The Surgical Satisfaction Questionnaire (SS-8)." IUGA, Lake Como, Italy. June 2009.

Ehsani N, Murphy M, van Raalte H, Molden S, Haff R, Lucente, V. "Four Month and One Year Results of Transvaginal Mesh Placement (Prolift) in the Treatment of Pelvic Organ Prolapse." IUGA, Lake Como, Italy. June 2009.

Lowenstein, Sanses, Gameble, van Raalte, et al: "Sexual Function is Related to Body Image Perception in Women with Pelvic Organ Prolapse" J Sex Med, Vol 6:8; June 2009.

Apical Support Meeting- Sponsored by Ethicon: Moderator, May 2009.

Molden S, Lucente V, van Raalte H, Lipetskaia L, Haff R, Murphy M. "Validated Measurements of QOL and Sexual Function in Women Undergoing Transvaginal Mesh Reconstruction." SUFU, Las Vegas, NV. Feb 2009.

AUGS Webinar: "Avoidance and Management of Mesh Complications in SUI and Pelvic Floor Repair Surgery", Faculty, January 2009.

Molden, Lucente, Murphy, van Raalte. "TVT Secur Surgical Technique and Learning Tips and Tricks" Video presentation at IUGA, Taiwan, Sept. 2008.

van Raalte, Lucente, Molden, Rogerson, Haff, Murphy. "Anatomic and Functional Outcomes of a New Rectocele Repair Technique Incorporating the Transvaginal Plication

of the Rectal Muscularis Layer" Oral presentation at IUGA, Taiwan, Sept. 2008 and AUGS, Chicago, Sept. 2008.

van Raalte, Lucente, Lipetskia, Egorov. "Imaging: A New Technology to Measure Vaginal Biomechanical Properties" Oral presentation at IUGA, Taiwan, Sept. 2008 and AUGS, Chicago, Sept. 2008.

Murphy, Sternscuss, Haff, van Raalte, Saltz, Lucente: "Quality of life and surgical satisfaction following vaginal reconstructive versus obliterative surgery for the treatment of advanced pelvic organ prolapse" AJOG May 2008; 198(5):573.

van Raalte, Lucente, Saltz, Murphy: "One-year anatomic and quality of life outcomes following the Prolift procedure for treatment of post-hysterectomy prolapse." AJOG Nov 2008.

Saltz, Lucente, van Raalte, Murphy: "Surgical Revision of Midurethral Slings: Early versus Late Revision in Patients with Voiding Dysfunction." Oral Presentation SGS 2008.

Fellows Pelvic Research Network: "Sexual function is related to body image perception and prolapse symptoms but not to vaginal topography." Oral Presentation SGS 2008.

"Current Trends in Female Reconstructive Pelvic Surgery" UMDJ-RWJ Department of Urology, Grand Rounds, Jan 2008.

van Raalte, Lucente and Murphy: "Prolift: An Innovative Approach to Pelvic Reconstructive Surgery: Surgical Technique". JPMS Dec. 2007; 13: 351-360.

"The Use of Graft Materials in Pelvic Reconstructive Surgery" Stony Brook University Department of Obstetrics and Gynecology Grand Rounds, Oct. 2007.

Murphy, van Raalte, Mercurio, Haff, Wiseman, Lucente: "Incontinence-related quality of life and sexual function following the tension-free vaginal tape versus the "inside out" tension-free vaginal tape Obturator" Internat Urogyn J, Oct 2007.

"Vesicovaginal Fistula: Tales from Africa" St. Luke's Hospital Department of Obstetrics and Gynecology, Grand Rounds, Dec 2007.

Murphy, van Raalte, Mercurio, Haff, Wiseman, Lucente: "Quality of Life and Sexual Function Following Tension-Free Vaginal Tape Versus The"In-to-Out" Tension-Free Vaginal Tape Obturator." Oral presentation, SGS 2007, ICS 2007.

van Raalte, Lucente, Murphy, Haff, McCardell: "Short-Term Results of the Prolift Procedure in 350 Patients Used in the Treatment of Pelvic Organ Prolapse." Poster presentation, SGS 2007 and oral presentation, IUGA 2007.

van Raalte, H. AUGS Fellows Urogynecology Literature Review. "A Systematic Review of the Efficacy of Cesarean Section on the Preservation of Anal Continence." Nov-Dec, 2006. Posted at http://www.augs.org.

Lucente, McGehean, Raders: "A Laparoscopic Perspective from the Space of Retzius during Prolift Vaginal Mesh Placement" presented at ICS 2006, AAGL 2006. Golden Laparoscope Award, 2nd Place, AAGL 2006

McGehean, H. AUGS Fellows Urogynecology Literature Review. "Bothersome Lower Urinary Tract Symptoms 1 Year After First Delivery." July-August, 2006. Posted at http://www.augs.org.

McGehean, H. AUGS Fellows Urogynecology Literature Review. "Long Term Review of Laparoscopic Sacrocolpopexy." March-April, 2006. Posted at http://www.augs.org.

McGehean H, Quirk G: "The Impact of Episiotomy on Third and Fourth Degree Lacerations." Stony Brook Ob/Gyn Resident Presentation, June 2004.

McGehean H, Ogburn P: "The Effect of Mode of Delivery on Total CD4+ Cells in Cord Blood Collection: Cesarean Section versus Vaginal Delivery." Stony Brook Ob/Gyn Resident Presentation, June 2003.

Mcgehean H, Stork K, Barnes C: "The E.D.G.E. Program: An approach to Substance-Abuse Prevention Through Mentoring." Presented at: National AMSA Convention, Chicago, March 1999.and Vice President Gore's "Family Re-Union," a national conference addressing American families and public policy. Nashville, TN in Sept. 2000 and Los Angeles, CA in Jan. 2001