

RESIDENT EDUCATION IN UROGYNECOLOGY

OVERVIEW:

Resident education in Urogynecology will occur during the outpatient Urogynecology and the inpatient Gynecology rotations. Teaching will consist of both clinical care and didactic teaching sessions. During the two 2 week blocks of the third year Urogynecology rotation residents will gain experience with the ambulatory care of patients with Urogynecologic conditions. During the inpatient gynecology rotation, third and fourth year residents will gain experience with the surgical management of patients with these conditions.

In addition to hands on clinical care, learning will be facilitated through several didactic activities during the third year urogynecology rotation. Residents will participate in the fellowship lecture series every other Tuesday morning from 7:00 AM – 8:00 AM as well as the chart reviews every other Monday afternoon from 5:00-6:00. Because of the limited time actually on service and work hour restrictions, a significant amount of learning will occur through independent study in the evenings. To encourage and augment this self directed learning, residents will be given a reading list and participate in weekly review session with one of the urogynecology attendings. Throughout the entire rotation residents will be expected to demonstrate appropriate professional attitudes towards their learning, their patients and their interactions with hospital staff, nurses and attending physicians.

Following ACGME teaching guidelines, all teaching activities will focus on developing the six major competencies: patient care, medical knowledge, Practice-based learning and improvement, interpersonal and communication skills, professionalism and systems-based practice.

LEARNING OBJECTIVES:

MEDICAL KNOWLEDGE:

These topics have been derived from the 2005 CREOG objectives, 8th Ed (unit 4 gynecology sections II.F; II.G and VI.A).

By the end of the second two week rotation, the resident will be expected to:

- 1) Demonstrate basic knowledge of pelvic anatomy and embryology by:
 - a) Describing the normal development of the bladder, urethra, vulva, vagina rectum and anal canal.
 - b) Explaining the normal anatomic supports of the vagina, rectum, bladder, urethra and uterus (or vaginal cuff) including the bony pelvis, pelvic floor nerves and related musculature and connective tissue.
 - c) Describing the anatomy of the retropubic, paravaginal, pararectal and presacral spaces and identifying structures such as: Cooper's ligament, the obturator nerve, ureters, ischial spine, sacrospinous ligament, obturator foramen, middle sacral artery, bladder neck
- 2) Demonstrate basic understanding of the pathophysiology of female pelvic floor dysfunction by:

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- a) Describing the static and dynamic interrelationships and function of the pelvic organs and support mechanisms
 - b) Summarizing the normal function of the lower urinary tract during the filling and voiding phases and the mechanisms responsible for continence
 - c) Describing the principle etiologies of pelvic support defects, urinary incontinence and fecal incontinence, including the effects of pregnancy and delivery
 - d) Describing the symptoms that may be experienced by a patient with pelvic support defects, urinary incontinence or fecal incontinence.
 - e) Summarizing the potential psychological, social and sexual consequences of urogynecologic disorders
 - f) Identifying the anatomic defects associated with various aspects of pelvic support defects.
 - g) Characterizing the major types of urinary incontinence
 - h) Describing abnormal urethral conditions such as urethral syndrome, urethritis, and diverticula
 - i) Describing the pathophysiology related to urinary tract infections including:
 - i) Organisms in lower and upper tract infections
 - ii) Host factors affecting the risk of upper and lower tract disease
 - j) Describing the presenting symptoms, diagnostic strategies and treatment approaches for interstitial cystitis.
 - k) Characterizing and explaining the various types of urinary voiding disorders
 - l) Describing the etiologies, prevention, diagnostic techniques and approaches to repairing fistulae that may involve pelvic organs
- 3) Describing both a conservative and surgical treatment plan for patients with urogynecologic disorders and the appropriate follow-up.
 - 4) Summarizing and describing the risks, benefits and expected outcomes of different surgical and non-surgical approaches to the management of pelvic support and incontinence disorders.
 - 5) Describing the types of complications related to medical and surgical treatments of urogynecologic disorders and the approaches for managing them
 - 6) Distinguishing the diagnostic methods for and treatment of urinary tract infections including: bacteruria, urethritis, cystitis, pyelonephritis, Persistent UTI, Recurrent UTI

CLINICAL SKILLS:

- 1) By the end of the second two week rotation, the resident should have acquired the following ambulatory clinic skills:
 - a) Be able to perform a basic evaluation of a patient with all of the following:

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- i) Pelvic organ prolapse including:
 - (1) Elicit a pertinent history including pertinent positive and negative ROS
 - (2) Perform a focused physical exam and characterize pelvic support defects in the anterior, posterior and apical compartments and identify urethral hypermobility
- ii) Urinary/fecal incontinence, including:
 - (1) Elicit a pertinent history including pertinent positive and negative ROS
 - (2) Perform a focused physical exam and assess bladder and urethral support, perineal, levator and sphincter strength and neurologic status
- b) Perform and interpret the results of tests to characterize urinary incontinence including:
 - i) Assessment of residual urine volume
 - ii) Simple cystometry
 - iii) Q-tip test
 - iv) Urinalysis
 - v) Urine culture
- c) Describe the indication for and interpret the results of diagnostic tests including:
 - i) Cystourethoscopy
 - ii) Multichannel cystometry
 - iii) Uroflowmetry
 - iv) Radiologic tests
 - v) Electromyography
 - vi) Assessment of anal sphincter integrity (e.g. manometry, radiologic imaging, neurologic testing)
- 1) By the end of the resident's fourth year, the resident should have acquired the following surgical skills:
 - a) Demonstrate proper patient positioning
 - b) Demonstrate proper use of surgical instruments
 - c) Able to identify ureters by cystoscopy
 - d) Demonstrating appropriate post operative care with particular consideration for the elderly
 - e) Be able to perform or discuss in detail the surgical procedures listed below in the section describing operating room procedures

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RESIDENT RESPONSIBILITIES:

CLINICAL RESPONSIBILITIES:

OUTPATIENT CLINICAL RESPONSIBILITIES.

1) Faculty Urogynecology clinic sessions:

Teaching will be accomplished in a one on one hands-on teaching environment in the urogynecology outpatient clinics and the urodynamic laboratory. During this time residents will acquire skills in patient care and participate in practice based learning activities to gain greater understanding of disorders of the female pelvic floor. Residents are assigned to the service Monday through Thursday for the 4 weeks on Urogynecology rotation. Because the resident on service takes call at Highland Friday PM, the resident is excused from clinical responsibilities during the day. Residents should expect to be busy everyday with clinical and teaching activities. Each week they will spend 3 days in clinic seeing patients with the attendings, nurse practitioner or in the resident urogynecology clinic. The remaining day is reserved for the Thursday morning protected time for didactic teaching and the resident's continuity clinic.

Patients are seen daily at the 1815 South Clinton Ave office from about 8:15AM to 5:00 PM. **Residents are expected to be present unless they have other residency related conflicts that take priority.** In the clinic, residents will participate in the care of faculty private patients and will evaluate these patients together with one of the attending physicians, fellows and/or the nurse practitioner. During the first week of the rotation, the resident will see patients along side one of the attending physicians and/or the Urogynecology fellows so that the resident may learn how to take an effective history relative to common urogynecologic conditions and perform a directed urogynecological examination. After this initial week, resident are expected to see patients for the initial history and present the patient to the attending. It is during this time that residents can expect to hone their interpersonal and communication skills as they elicit a comprehensive history and exam of patients with pelvic floor disorders. The attending and resident together will then examine the patient and discuss the management plan. It is during this time that residents will be exposed to some of the system-based practice issues that affect the care of patients with pelvic floor disorders. This may include communication with primary care and referring physicians as well as arranging for appropriate follow-up evaluation and care for nursing home and other patients.

2) Resident Urogynecology clinic sessions:

The resident Urogynecology clinic session is currently Tuesday PM and consists of patients referred for evaluation and treatment of pelvic floor dysfunction. This clinic offers an opportunity for the resident to utilize their practice-based learning skills to care for these clinic patients. It is expected that the residents will view these patients as their own "private" patients and take charge of all aspects of their care under the supervision of the attending physician. Patients that require surgical intervention will be followed until they are admitted for surgery at which time they fall into the purview of the inpatient gynecologic team.

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3) Outpatient Clinical Skills and Procedures:

Residents should expect to perform:

- a) Pessary fitting and follow-up care
- b) Simple cystometrograms

Residents will be given the opportunity to observe and, depending on the resident's skills and clinical case availability to perform:

- a) Urethral dilation
- b) Complex multi-channel urodynamics

INPATIENT RESPONSIBILITIES:

While on the Urogynecology rotation, residents will have no inpatient responsibilities. However, during their time on the inpatient gynecology service, third and fourth year residents should expect to participate in the perioperative and surgical care of patients on the urogynecology service.

1) Operating room:

Senior residents will have the opportunity to perform most of the basic pelvic reconstructive procedures listed below. They will also observe and assist in the more complex procedures, which, in general are performed by the fellow or attending. **While not formally on the urogynecology service, residents participating in surgical cases will be expected to have reviewed the patient's history and physical and some of the relevant literature about the management of the patient's problem.** Preoperatively and intra-operatively the attending will discuss with the resident the rationale for the management decisions.

2) Postoperative care:

It is expected that the resident assisting in the surgery will also participate in the postoperative care. In the care of these patients, residents will show an understanding of the appropriate postoperative management of this group of predominantly elderly patients who have very different requirements than younger postoperative patients often seen on the general gynecology service. Residents should recognize that the postoperative care of elderly patients is an important part of the surgical experience and **unless work requirements clearly preclude their participation**, residents are expected to round on these patients until discharge.

3) Operating Room Procedures:

These will occur during the resident's rotation on the inpatient gynecology service. Depending on the resident's skill level and the complexity of the case, residents can expect to perform or first assist many of the following procedures if they are performed during the rotation:

- a) Total vaginal hysterectomy
- b) Culdoplasty

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- c) Simple anterior and posterior repairs
- d) Perineoplasties
- e) Simple cystoscopy
- f) Cystotomy repairs
- g) Hydro distention
- h) Burch procedure (in part)
- i) Colpocleisis (in part)
- j) Minimally invasive sling (in part)

Residents should recognize that the patients seen on this service are complex and the resident will be the second assistant for the procedures listed below. In addition, individual residents may find themselves doing more or less of these procedures depending on their surgical skills and the progression of those skills while on the Gynecology service. Finally, operating room time constraints and patient stability may affect a resident's participation in a surgical case that he or she would ordinarily be allowed to execute. In all cases, the attending physician will determine the extent of an individual's participation in a case. Regardless of their level of participation in a case, residents need to be familiar with these techniques and procedures and will be expected to have read about them preoperatively:

- 1) Sacral colpopexy
- 2) Paravaginal repair (abdominal and vaginal)
- 3) Vesico- vaginal fistula repair
- 4) Urethral vaginal fistula repair
- 5) Urethral diverticulum repair
- 6) Placement of cadaveric grafts for complex colpoplastic repairs
- 7) Sacral spinous fixation
- 8) Uterosacral ligament suspension
- 9) Recto-vaginal fistula repair
- 10) Rectal sphincter repair
- 11) Minimally invasive slings (vaginal, abdominal and trans obturator approaches)
- 12) Urethral collagen injections
- 13) Bladder biopsies

On occasion, a resident may perform a part or all of one of these procedures. The decision to allow a resident will be made on a case-by-case basis depending on the nature of the surgical procedure, the condition of the patient, the skills of the individual resident and the availability of appropriate surgical assistants.

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DIDACTIC RESPONSIBILITIES:

1) Conferences:

In addition to the Thursday morning departmental teaching, didactic teaching will occur throughout the rotation. Not only are residents expected to increase their medical knowledge by direct patient interaction but there will be a significant emphasis on self direct learning. As part of the fellowship, the division has regular didactic sessions that the resident is expected to attend. Residents will attend the urogyn fellow lecture that occurs **every other Tuesday morning**. In addition, **every other Monday afternoon**, a chart review occurs at 1815 South Clinton beginning at the conclusion of the day's clinical care.

2) Independent study:

Besides these two scheduled lectures, residents will also be responsible for independent study. Residents are expected to actively review the literature on problems of female pelvic floor dysfunction that are seen during their time in clinic. It is expected that the resident read all of the reading materials on the reading list at the end of this summary. This reading list covers much of the learning that is required by ACGME. The reading is broken down by week and the materials should be available on the blackboard site or be given to you by the staff.

3) Review sessions:

To encourage and augment this self-directed learning, every Thursday afternoon, the resident will meet with one of the Urogyn attendings for an oral review of the weeks required reading. Designed to enhance practice based learning and improvement, these sessions will be an oral review with the attendings asking the residents questions about the readings as well as about patients seen during the week.

4) Written report:

By the end of the first two week block the resident should select one topic for further in depth review. Prior to the end of the second two week block rotation the resident will submit an in-depth literature review of this topic. The organized resident will be sure to work on this project in the months between the rotations as there will be limited time available during the two weeks on service to complete this project and the other learning requirements. This paper will be submitted and discussed prior to the end of the rotation.

5) Written examination:

On the last Thursday afternoon, the resident will complete a 30 minute multiple choice examination. There will be a minimum passing grade.

EVALUATION:

At the end of the second 2 week block the resident will meet with the divisional director for verbal feedback. We expect the resident to also give us feedback on the rotation at this time and we welcome constructive criticism. In addition, the division members will complete the on-line evaluation forms. Grades will be based on the written report, written examination, performance during the oral review sessions and performance of

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clinical responsibilities on the Outpatient rotation only. Residents should understand the evaluations will be made on the following scale:

- 1) Unsatisfactory: The resident did not meet the requirements of the rotation
- 2) Satisfactory: The resident met all the requirements of the rotation.
- 3) Exceptional: the resident met and exceeded all the requirements of the rotation. Resident's attaining this score will have performed clearly over and above that seen for a resident at that level of training and approaching the level of a first year fellow. They will demonstrate a superior knowledge and understanding of pelvic floor disorders and demonstrate initiative in self directed learning and patient care.

Calendar

Below is a sample of how the resident might be assigned for the time on rotation. Actual assignments will vary depending on resident continuity clinic cases and attending vacation/conferences.

Week		Monday	Tuesday	Wednesday	Thursday
1	AM-teaching		Fellow lecture		Grand rounds
	AM	Duecy clinic	Buchsbaum clinic	Flynn Clinic	Resident lectures
	PM	Buchsbaum clinic	WHP urogyn clinic	Flynn Clinic	Continuity clinic
	PM-teaching				Review session w/ faculty-Buchsbaum
2	AM-teaching				Grand rounds
	AM	Duecy clinic	Buchsbaum clinic	Flynn Clinic	Resident lectures
	PM	Buchsbaum clinic	WHP urogyn clinic	Duecy clinic	Continuity clinic
	PM-teaching	Chart review			Review session w/ faculty - Flynn
3	AM-teaching		Fellow lecture		Grand rounds
	AM	Duecy clinic	Buchsbaum clinic	Flynn Clinic	Resident lectures
	PM	Buchsbaum clinic	WHP urogyn clinic	Flynn Clinic	Continuity clinic
	PM-teaching				Review session w/ faculty-Duecy
4	AM-teaching				Grand rounds
	AM	Duecy clinic	Buchsbaum clinic	Flynn Clinic	Resident lectures
	PM	Duecy clinic	WHP urogyn clinic	Duecy clinic	Continuity clinic
	PM-teaching	Chart review			Written Exam

Reading list

Week 1 - PELVIC ANATOMY & EPIDEMIOLOGY OF URINARY INCONTINENCE AND PELVIC ORGAN PROLAPSE – Dr. Buchsbaum

Required reading:

1. Atlas of Pelvic Anatomy and Gynecologic Surgery by MS Baggish and MM Karram:
 - a. Pp 34-43 Intra-abdominal Pelvic Anatomy
 - b. Pp 178-183 Anatomy of the Retropubic Space
 - c. Pp 232-235 Surgical Anatomy of the Bladder and Ureter
 - d. Pp 336-347 Anatomy of the Vagina
2. Clinical Manual of Incontinence in Women by P Abrams, W Artibani, L Cardozo, S Khouri, A Wein:
 - a. Pp 3-5 Basic Anatomy of the Lower Urinary Tract in Women
 - b. Pp 6-7 Innervation of the Lower Urinary Tract
3. Clinical Manual of Incontinence in Women by P Abrams, W Artibani, L Cardozo, S Khouri, A Wein:
 - a. Pp 20-28 Prevalence and Main Risk Factors
4. Rortveit G, Hannestad YS, Daltveit AK, Hunskaar S. Age- and type-dependent effects of parity on urinary incontinence: the Norwegian EPINCONT study. *Obstet Gynecol* 2001;98(6): 1004-10.
5. Buchsbaum GM, Duecy EE, Kerr LA, Huang LS, Guzick DS. Urinary Incontinence in Nulliparous Women and their Parous Sisters. *Obstet Gynecol*. 2005;106(6):1253-58.

Additional (optional) reading:

1. Wei JT, Delancey JO. Functional anatomy of the pelvic floor and lower urinary tract. *Clin Obstet Gynecol* 2004;47(1):3-17.
2. Thom DH, van den Eeden SK, Brown JS. Evaluation of parturition and other reproductive variables as risk factors for urinary incontinence in later life. *Obstet Gynecol* 1997;90(6):983-9.

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3. Buchsbaum GM, Chin M, Glantz C, Guzick D. Prevalence of urinary incontinence and associated risk factors in a cohort of nuns. *Obstet Gynecol* 2002;100(2):226-9.
4. Hendrix SL, Clark A, Nygaard I, Aragaki A, Barnabei V, McTiernan A. Pelvic organ prolapse in the Women's Health Initiative: gravity and gravidity. *Am J Obstet Gynecol.* 2002;186(6):1160-6.

Week 2 – ASSESSMENT AND MANAGEMENT OF URINARY INCONTINENCE – Dr. Flynn

Required reading:

1. Cannon TW, Damaser M, Pathophysiology of the Lower Urinary Tract: Continence and Incontinence. *Clin Obstet Gynecol* 47 (1); 28–35, 2004.
2. Fine PM, Antonini TG, Appell RA. Clinical Evaluation of Women with Lower Urinary Tract Dysfunction. *Clin Obstet Gynecol* 47 (1); 44-52, 2004.
3. Nager CW, Albo ME. Testing In Women with Lower Urinary Tract Dysfunction. *Clin Obstet Gynecol* 47 (1); 53-69, 2004.
4. Nygaard IE, Kreder KJ. Pharmacologic Therapy of Lower Urinary Tract Dysfunction. *Clin Obstet Gynecol* 47 (1); 83-92, 2004.
5. Walters MD, Daneshgari F. Surgical Management of Stress Urinary Incontinence. *Clin Obstet Gynecol* 47 (1); 93-103, 2004.

Week 3 – ASSESSMENT AND MANAGEMENT OF PELVIC ORGAN PROLAPSE – Dr. Duecy

Required reading:

1. Swift S, Woodman P, O'Boyle A, Kahn M, Valley M, Bland D, Wang W, Schaffer J. Pelvic Organ Support Study (POSST): the distribution, clinical definition, and epidemiologic condition of pelvic organ support defects. *Am J Obstet Gynecol.* 2005;192(3):795-806.
2. Weber AM, Richter HE. Pelvic Organ Prolapse. *Obstet Gynecol* 2005;106(3):615-634.
3. Delancey JO. Anatomy and biomechanics of genital prolapse. *Clin Obstet Gynecol* 1993;36(4):897-909.

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4. Trowbridge ER, Fenner DE. Conservative management of pelvic organ prolapse. Clin Obstet Gynecol 2005;48(3):668-81.
5. Barber MD. Symptoms and outcome measures of pelvic organ prolapse. Clin Obstet Gynecol 2005;48(3):648-61.

Additional (optional) reading:

These articles provide additional information regarding systems used for classification and description of pelvic organ prolapse and standard terminology used in the evaluation and treatment of lower urinary tract dysfunction.

1. Mouritsen L. Classification and evaluation of prolapse. Best Prac Res Clin Obstet Gynecol 2005;19(6):895-911.
2. Bump RC, Mattiasson A, Bo K, Brubaker LP, DeLancey JO, et al. The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction. Am J Obstet Gynecol 1996;175:10-7.
3. Abrams P, Cardozo L, Fall M, Griffiths D, et al. The standardization of terminology of lower urinary tract function: report from the standardization sub-committee of the International Continence Society. Neurourol Urodyn 2002;21:167-178.