



Resident Education Curriculum in Pediatric and Adolescent Gynecology: The Short Curriculum 3.0



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ABSTRACT

Exposure to pediatric and adolescent gynecology (PAG) varies across residency programs in obstetrics and gynecology, family medicine, and pediatrics, as well as fellowship programs in adolescent medicine. Nevertheless, these programs are responsible for training residents and fellows and providing opportunities within their programs to fulfill PAG learning objectives. To that end, the North American Society for Pediatric and Adolescent Gynecology has taken a leadership role in PAG education by creating and systematically updating the Short Curriculum. This curriculum outlines specific learning objectives that are central to PAG education and lists essential resources for learners' reference. This updated curriculum replaces the previous 2018 publication with added content, resources, and updated references.

Key Words: Pediatric and adolescent gynecology, Postgraduate medical education, Education curriculum, Resident education, Accreditation

Introduction

Resident Education Committee

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Pediatric and adolescent gynecology (PAG) is an important and required aspect of training in obstetrics and gynecology (Ob/Gyn), pediatrics, and adolescent medicine. There are specific PAG learning objectives for the Council on Resident Education in Obstetrics and Gynecology in the United States,¹ the American Board of Pediatrics,^{2,3} and the Royal College of Physicians and Surgeons of Canada.⁴ These objectives must be fulfilled so that postgraduate training programs can receive their accreditation and trainees can pass their board certification examinations.

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To date, the number of Ob/Gyn postgraduate residency training programs with PAG expertise in North America is limited. Furthermore, there are only 15 accredited PAG fellowship training programs in the United States and Canada. Residents have indicated that they do not believe they get enough exposure to PAG topics and have expressed a desire to learn more about this population during their training.⁵ Several US studies have documented that despite this desire to learn, most programs offer limited PAG exposure and training.^{6–8} A recent Canadian study supported these findings, concluding that PAG training across programs was variable and that a common barrier was lack of resources, as well as time to provide adequate PAG training.⁹ Thus, the degree of exposure might be insufficient to meet the PAG learning objectives in most training programs.

Pediatrics residency training programs, similarly, offer limited exposure to PAG topics. Although 1 month of adolescent medicine training is required of all pediatric residents in the United States, use of this time varies,¹⁰ and, despite this training, many US pediatric residents believe they are unprepared to provide sexual and reproductive health care.¹¹ Additionally, senior pediatric residents in Canada believe they are inadequately prepared to provide gynecologic care to adolescents.¹² Unmet reproductive health needs during the adolescent years might have lifelong consequences, including teen pregnancy, underscoring the need for provider comfort with and knowledge about PAG topics.

The mission of the North American Society for Pediatric and Adolescent Gynecology (NASPAG) is to provide multidisciplinary leadership in education, research, and gynecologic care to improve the reproductive health of youths.¹³ Two of its goals include the following: (1) to serve and be recognized as the lead provider in PAG education, research, and clinical care; and (2) to conduct and encourage multidisciplinary and interprofessional programs of medical education and research in PAG. In 2012, the NASPAG Resident Education Committee was created with the purpose of developing a curriculum and tools for the NASPAG membership to use for resident education in PAG. In 2014, the Short Curriculum was published as an article to ensure wider dissemination of this resident education curriculum. In 2017, the NASPAG Resident Education Committee published a description of the collaborative process of the creation of this committee as well as the drafting and dissemination of the Short Curriculum, Long Curriculum, and additional tools for resident education in PAG.¹⁴

After publication of the Short Curriculum, the committee completed a prospective study of its use in US Ob/Gyn residency programs without PAG faculty. This study showed that significant PAG deficiencies exist in these programs, and that the use of the Short Curriculum improved self-reported knowledge in PAG.¹⁵ A larger study using this curriculum in Ob/Gyn, pediatrics, and family practice residency programs was published in 2018. After completing the curriculum, self-reported knowledge improved in all 10 learning objectives, across all 3 specialties (47% [32/68] to 82% [56/68]; $P < .01$).¹⁶ In 2018, the NASPAG Resident Education Committee published an updated version of the Short

Curriculum, which included more emphasis on the needs of learners in pediatrics and adolescent medicine. To provide the most up-to-date educational resources, the curriculum is updated every 2–3 years. This is the most recent update to the Short Curriculum.

Goals of the Short Curriculum 3.0

Postgraduate trainees must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of gynecologic problems in the pediatric and adolescent patient. The Short Curriculum is a 2-week “nuts and bolts” curriculum in PAG, using existing teaching resources that are accessible to trainees in Ob/Gyn, pediatrics, adolescent medicine, and family practice programs. The content is designed to be incorporated into existing rotations in which trainees have contact with pediatric and adolescent patients. It may be used during a portion of the required 4-week adolescent medicine rotation for pediatric residents. This curriculum does not cover all training objectives for PAG, but it highlights important aspects that learners might not otherwise encounter during training.

Target Audience

The target audience of the program comprises postgraduate trainees in Ob/Gyn, pediatrics, adolescent medicine and family medicine, especially from centers with limited clinical exposure to PAG are the target audience.

Educational Objectives

This program covers core knowledge determined to be essential for the provider encountering the PAG patient that might not be covered in other aspects of the learner's training. The learner will gain understanding of common PAG conditions; however, the Short Curriculum does not replace direct patient clinical experiences or surgical skills training.

The first section (4 days) is focused on the prepubertal pediatric patient. At the conclusion of this curriculum, the learner will:

- Identify the steps and approach to the genital examination of the prepubertal child;
- Describe the evaluation and management of the child with vulvovaginitis and vulvar skin disorders;
- Review the evaluation and management of vaginal bleeding of the prepubertal child; and
- Outline the evaluation and management of abnormal puberty.

The second section (8 days) is focused on the adolescent patient. At the conclusion, the learner will:

- Describe the importance of confidentiality, and review techniques to improve communication in the adolescent patient interview;
- Understand the evaluation and management of menstrual disorders;
- Understand the approach to pelvic pain in adolescents;

- Construct a differential diagnosis and recommend management for adnexal masses
- Understand the assessment and treatment of vaginitis and sexually transmitted infections among adolescents;
- Understand adolescent pregnancy and contraception counseling; and
- Understand the presentation and initial management of congenital anomalies of the female reproductive tract.

Time Requirement

The time requirement is approximately 12 days, with 1-3 hours of dedicated time per day.

Definitions

1. Reading assignments are resources recommended by the NASPAG Resident Education Committee on what trainees should read. We propose that training programs have these resources available for their trainees. The recommended textbook is: Emans SJ, Laufer MR, DiVasta AD: *Pediatric and Adolescent Gynecology*, 7th ed. Wolters Kluwer, Philadelphia, PA, 2020 (referred to herein as Emans and Laufer 7th edition).
2. Additional resources are suggested for learners who seek additional information or wish to access case-based or interactive learning materials:
 - a. PAGwebED.org: E learning center (<https://www.naspag.org/page/PAGWEBEDSignUp>; no charge for NASPAG members and their trainees)
 - b. Clinical Cases in Pediatric and Adolescent Gynecology by M.R. Laufer and L.S. Goldstein (NASPAG/American Congress of Obstetricians and Gynecologists [ACOG] CD-ROM; no longer available for purchase)
 - c. ASRM modules (<https://store.asrm.org/Learn/FindACourse>; courses are free for postgraduate trainees).
 - d. ACOG adolescent health care page (available at: <https://www.acog.org/topics/adolescent-health>)
 - e. Adolescent Reproductive and Sexual Health Education Program (ARSHEP), educational PowerPoint presentations by Physicians for Reproductive Choice (<https://prh.org/medical-education/available> free of charge online)
 - f. Pediatrics in Review articles. These are aligned with American Board of Pediatrics content specifications (pedsinreview.aappublications.org)
 - g. Journal of Pediatric & Adolescent Gynecology Clinical Recommendations (https://www.jpagonline.org/content/clinical_recommendations_collection)
 - h. Sanfilippo J, Lara-Torre E, Edmonds DK, Templeman C. *Clinical Pediatric and Adolescent Gynecology*, 2nd ed. London, Informa Healthcare, 2019.
 - i. Geyer J, Dietrich J. *NASPAG's Protocols for Pediatric and Adolescent Gynecology*. Springer Publishing, New York, 2020

Section 1: Focus on the Prepubertal Child

Day 1: Anatomy and Examination of the Prepubertal Child

Reading Assignment

1. Chapter 1: Office evaluation of the child and adolescent (Emans and Laufer 7th edition).

Additional Resources

1. Jacobs AM, Alderman EM: Gynecologic examination of the prepubertal girl. *Pediatr Rev* 2014; 35:97.
2. Simulation using pelvic model to teach examination techniques, culture collection, vaginal lavage, and vaginoscopy:
 - a. Loveless MB, Finkenzeller D, Ibrahim S, et al: A simulation program for teaching obstetrics and gynecology residents the pediatric gynecology examination and procedures. *J Pediatr Adolesc Gynecol* 2011; 24:127
 - b. Dumont T, Hakim J, Black AY, et al: Enhancing postgraduate training in pediatric and adolescent gynecology: evaluation of an advanced pelvic simulation session. *J Pediatr Adolesc Gynecol* 2014; 27: 360

Day 2: Vulvovaginitis and Skin Conditions in the Prepubertal Girl

Reading Assignment

1. Chapter 14: (Emans and Laufer 7th edition)
2. Chapter 15: Vulvar dermatology (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 10 (Sexual abuse), 11 (Vaginal foreign body), 12 (Labial adhesion), 13 (Lichen sclerosis), and 16 (Vulvovaginitis)
2. Zuckerman A, Romano M. Clinical recommendation: vulvovaginitis. *J Pediatr Adolesc Gynecol* 2016; 29: 773
3. Bacon JL, Romano ME, Quint EH. Clinical Recommendation: Labial Adhesions. *J Pediatr Adolesc Gynecol* 2015; 28: 405-9.
4. Bercaw-Prat JL, Boardman LA, Simms-Cendan JS. Clinical recommendation: pediatric lichen sclerosis. *J Pediatr Adolesc Gynecol* 2014; 27:111
5. Sugar N, Graham E: Common gynecologic problems in prepubertal girls. *Pediatr Rev* 2006; 77:213
6. NASPAG/ACOG CD-ROM topic 2, cases 1, 3, 5, and 7
7. ASRM module, Pediatric gynecology (RES000)

Day 3: Prepubertal Vaginal Bleeding

Reading Assignment

1. Chapter 14: Vulvovaginal problems in the prepubertal child (Emans and Laufer 7th edition; same as day 2)
2. Chapter 16: Genital trauma (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 8 (Precocious puberty), 10 (Sexual abuse), 11 (Vaginal foreign body), 15 (Straddle injury), and 17 (Urethral prolapse)
2. Dwiggin M, Gomez-Lobo V: Current review of prepubertal vaginal bleeding. *Curr Opin Obstet Gynecol* 2017; 29:322

3. NASPAG/ACOG CD-ROM topic 2, cases 2, 6, and 10
4. ASRM module, Pediatric gynecology (RES000)

Day 4: Delayed Puberty and Precocious Puberty

Reading Assignment

1. Chapter 7: The physiology of puberty (Emans and Laufer 7th edition)
2. Chapter 21: Precocious puberty (Emans and Laufer 7th edition)
3. Chapter 22: Delayed puberty (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 8 (Precocious puberty), and 9 (Mayer-Rokitansky-Kuster-Hauser syndrome)
2. Appelbaum H, Malhotra S: A comprehensive approach to the spectrum of abnormal pubertal development. *Adolesc Med State Art Rev* 2012; 23:1
3. Long D: Precocious puberty. *Pediatr Rev* 2015; 36:319
4. NASPAG/ACOG CD-ROM topic 3, cases 1–2
5. ASRM module, Precocious puberty (RES001) and Delayed puberty (RES004)

Section 2: Focus on the Adolescent

Day 1: Confidentiality and Communication in Adolescent Care

Reading Assignment

1. Chapter 2: Interviewing the adolescent: strategies that promote communication and foster resilience (Emans and Laufer 7th edition)
2. Klein DA, Goldenring JM, Adelman WP: HEEADSSS 3.0: The psychosocial interview for adolescent updated for a new century fueled by media. *Contemp Pediatr* 2014;1 (<https://www.contemporarypediatrics.com/view/heedsss-30-psychosocial-interview-adolescents-updated-new-century-fueled-media>)

Additional Resources

1. ARSHEP module: Providing confidential reproductive healthcare to adolescents (<https://prh.org/teen-reproductive-health/arshep-downloads/#confidential>)
2. ACOG Committee Opinion #803. Confidentiality in adolescent healthcare. *Obstet Gynecol*. 2020 April; 135(4): e171-177.
3. Guttmacher Institute overview of state policies and laws regarding confidential adolescent care and access to care (<https://www.guttmacher.org/state-policy/explore/overview-minors-consent-law>)
4. Maslyanskaya S, Alderman EM: Confidentiality and consent in the care of the adolescent patient. *Pediatr Rev* 2019; 40:508
5. Marcell AV, Burstein GR, Committee on Adolescence: Sexual and reproductive health services in the pediatric setting. *Pediatrics* 2017;140:e20172858

Day 2: Menstrual Disorders

Reading Assignment

1. Chapter 23: Amenorrhea in the adolescent (Emans and Laufer 7th edition)
2. Chapter 26: Abnormal vaginal bleeding in the adolescent (Emans and Laufer 7th edition)

3. Chapter 28: Androgen abnormalities in the adolescent (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 2 (Cervical agenesis), 5 (Polycystic ovary syndrome), 6 (Heavy menstrual bleeding/von Willebrand disease), and 3 (Endometriosis)
2. ACOG Committee opinion number 651: menstruation in girls and adolescents: using the menstrual cycle as a vital sign. *Obstet Gynecol* 2015; 126:e143
3. SOGC Clinical Practice Guideline No. 313. Menstrual suppression in special circumstances. *J Obstet Gynaecol Can* 2019; 41:E7
4. Rosenfield R: The diagnosis of polycystic ovary syndrome in adolescents. *Pediatrics* 2015; 136:1154
5. Gray SH: Menstrual disorders. *Pediatr Rev* 2013; 34:6
6. Haamid F, Sass A, Dietrich J. Heavy menstrual bleeding in adolescents. *J Pediatr Adolesc Gynecol* 2017; 30:335
7. NASPAG/ACOG CD-ROM topic 4
8. ASRM modules: Amenorrhea (Abnormal uterine bleeding [RES006] and Dysmenorrhea [RES005])

Day 3: Pelvic Pain

Reading Assignment

1. Chapter 31: Acute pelvic pain (Emans and Laufer 7th edition)
2. Chapter 32: Chronic pelvic pain (Emans and Laufer 7th edition)
3. Chapter 33: Pain management for the gynecologic patient (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 3 (Endometriosis) and 22 (Ovarian torsion)
2. SOGC Clinical Practice Guideline No. 345. Primary dysmenorrhea. *J Obstet Gynaecol Can* 2017; 39:585
3. Damle LF, Gomez-Lobo V: Pelvic pain in adolescents. *J Pediatr Adolesc Gynecol* 2011; 24:172
4. Laufer MR: Helping adult gynecologists diagnose and treat adolescent endometriosis: reflections on my 20 years of personal experience. *J Pediatr Adolesc Gynecol* 2011; 24:S13
5. Powell J: The approach to chronic pelvic pain in the adolescent. *Obstet Gynecol Clin North Am* 2014; 41:343
6. NASPAG/ACOG CD-ROM topic 10
7. ASRM module, Dysmenorrhea (RES005)

Day 4: Ovarian Cysts and Masses

Reading Assignment

1. Chapter 34: Adnexal masses (Emans and Laufer 7th edition)
2. Chapter 36: Gynecological cancers in children and adolescents (Emans and Laufer 7th edition)
3. Chapter 39: Laparoscopy in the pediatric and adolescent gynecologic population (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 14 (Neonatal cyst) and 18 (Functional ovarian cysts)
2. ACOG Committee Opinion #783. Adnexal torsion in adolescents. *Obstet Gynecol* 2019; 134:e56

3. SOGC Clinical Practice Guideline No 341. Diagnosis of adnexal torsion in children, adolescents, and adults. *J Obstet Gynaecol Can* 2017; 39:82
4. Renaud EJ, Somme S, Islam S, et al: Ovarian masses in the child and adolescent: an American Pediatric Surgical Association Outcomes and Evidence-Based Practice Committee systematic review. *J Pediatr Surg* 2019; 54:369

Day 5: Assessment and Treatment of Vaginitis and Sexually Transmitted Infections

Reading Assignment

1. Chapter 17: Vulvovaginal complaints in the adolescent (Emans and Laufer, 7th edition)
2. Chapter 18: Sexually transmitted infections: chlamydia, gonorrhea, pelvic inflammatory disease, and syphilis (Emans and Laufer, 7th edition)
3. Chapter 19: Diagnosis, management and prevention of human immunodeficiency virus in young women (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 19 (Sexually transmitted infections)
2. Centers for Disease Control and Prevention: 2015 STD treatment guidelines (<https://www.cdc.gov/std/tg2015/default.htm>)
3. Canadian Guidelines on Sexually Transmitted Infections (<https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/sexually-transmitted-infections.html#toc>)
4. ACOG Committee Opinion No. 737. Expedited partner therapy. *Obstet Gynecol* 2018; 131:e190
5. National STD Curriculum (2017) (<http://www.std.uw.edu>)
6. Physicians for Reproductive Health: ARSHEP presentations & case videos, sexually transmitted infections: “STIs: epidemiology, testing, and treatment for adolescents,” “Human papilloma virus and adolescents,” and “Chlamydia and adolescent patients” (<https://prh.org/arshep-ppts>)
7. Preexposure prophylaxis for the prevention of HIV Infection in the United State–2017 Update. US Public Health Service Clinical Practice Guideline (<https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2017.pdf>)
8. NASPAG/ACOG CD-ROM Topic 5

Day 6: Contraception and Pregnancy in Adolescents

Reading Assignment

1. Chapter 41: General contraceptive care (Emans and Laufer 7th edition)
2. Chapter 42: Long active reversible contraception (Emans and Laufer 7th edition)
3. Chapter 43: Teen pregnancy and pregnancy options (Emans and Laufer 7th ed)

Additional Resources

1. PAGwebED.org cases: 20 (Contraception)
2. 2016 Updates to US Medical Eligibility Criteria for Contraceptive Use and Selected Practice Recommendations for Contraceptive Use: highlights for adolescent patients.

- Hoopes AJ, Simmons KB, Godfrey EM, et al: *J Pediatr Adolesc Gynecol* 2017; 30:149
3. ACOG Committee Opinion #735. Adolescents and long acting contraception. Implants and intrauterine devices. *Obstet Gynecol* 2018; 131:e130
4. ACOG Committee Opinion #710. Counseling adolescents about contraception. *Obstet Gynecol* 2017; 130:e74
5. SOGC Clinical Practice Guideline No. 327. Adolescent pregnancy guidelines. *J Obstet Gynaecol Can* 2015; 37:740
6. SOGC Clinical Practice Guideline No. 329. Canadian Contraception Consensus Chapters 1-9. *J Obstet Gynaecol Can* 2015-2017
7. Committee on Adolescence: Contraception for adolescents. *Pediatrics* 2014; 134:e1244
8. Society for Adolescent Health and Medicine: Emergency contraception for adolescents and young adults: guidance for healthcare professionals. *J Adolesc Health* 2016; 58:245
9. Francis JK, Gold MA: Long-acting reversible contraception for adolescents: a review. *JAMA Pediatr* 2017; 171:694
10. CDC Medical Eligibility Criteria for Contraceptive Use. (https://www.cdc.gov/reproductivehealth/unintendedpregnancy/pdf/legal_summary-chart_english_final_tag508.pdf)
11. ACOG Practice Bulletin #152. Emergency contraception. *Obstet Gynecol* 2015; 115:1100
12. Physicians for Reproductive Health: ARSHEP Presentations & Case Videos: “Pregnancy options counseling with adolescents,” “Abortion and adolescents,” “Caring for pregnant and parenting adolescents,” and “Adoption and adolescents” (<https://prh.org/arshep-ppts>)
13. NASPAG/ACOG CD-ROM Topic 7, Case 2.

Day 7-8: Congenital Anomalies of the Reproductive System

Reading Assignment

1. Chapter 11: Structural abnormalities of the female reproductive tract (Emans and Laufer 7th edition)

Additional Resources

1. PAGwebED.org cases: 1 (Obstructed hemivagina ipsilateral renal agenesis syndrome), 2 (Cervical agenesis), 7 (Noncommunicating hemivagina), 9 (Mayer-Rokitansky-Küster-Hauser syndrome), and 21 (Imperforate hymen)
2. Consortium on the Management of Disorders of Sex Development: Clinical guidelines for the management of disorders of sex development in childhood. (<http://www.dsdguidelines.org/files/clinical.pdf>)
3. ACOG Committee Opinion #728. Mullerian agenesis: diagnosis, management and treatment. *Obstet Gynecol* 2018; 131:e35
4. Dietrich JE, Millar DM, Quint EH: Obstructive reproductive tract anomalies. *J Pediatr Adolesc Gynecol* 2014; 27:396
5. Dietrich JE, Millar DM, Quint EH: Non-obstructive mullerian anomalies. *J Pediatr Adolesc Gynecol* 2014; 27:386
6. Patel V, Gomez-Lobo V: Obstructive anomalies of the gynecologic tract. *Curr Opin Obstet Gynecol* 2016; 28:339

7. Skinner B, Quint EH: Reproductive tract anomalies: a review of surgical management. *J Minim Invasive Gynecol* 2017; 24:901
8. NASPAG/ACOG CD-ROM topic 1 (4 cases)
9. ASRM module: Developmental disorders of the urogenital tract (RES002)

Conclusion

The degree of exposure to PAG varies across academic programs in Ob/Gyn, adolescent medicine, pediatrics, and family practice in North America. Nevertheless, these programs are responsible for training residents and fellows, for providing opportunities within their programs to fulfill PAG learning objectives and to provide the best quality of care for adolescents and young girls. To this end, NASPAG has taken a leadership role in PAG education by disseminating the Short Curriculum. One of NASPAG's primary objectives is to enhance education in PAG by providing a structured didactic curriculum that all training programs can incorporate into their teaching curriculum. The benefits of this Short Curriculum are to provide specific learning objectives and a list of high-quality, updated, essential resources covering key PAG concepts. Consequently, this Short Curriculum serves as an adjunct to the existing PAG teaching established in various postgraduate medical education programs. Finally, we hope to imbue trainee interest in PAG, and thus facilitate growth of our discipline.

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