

REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY ROTATION FOR PGY3, PGY4 AND PGY5

This mandatory rotation will take place over 3 blocks:

- 2 blocks will take place at the Ottawa Fertility Centre (REI OFC)
- 1 block will take place at CHEO and affiliated sites (REI CHEO)

The clinical rotation objectives are as follows:

- Participate in the ambulatory (office) assessment of patients with clinical issues in reproductive endocrinology, infertility and pediatric and adolescent gynecology and obstetrics
- Participate in the in-hospital care of patients with clinical issues in reproductive endocrinology (if applicable) and pediatric and adolescent gynecology and obstetrics
- Assist in the surgical assessment/treatment of pediatric and adolescent gynecology and obstetrics
- Attend Departmental and Divisional rounds (journal club and chart review)
- Participate in divisional learning activities
- Participate and present at journal club and/or divisional rounds
- Participate in the resident on-call schedule and share the on-call schedule during the working day with the divisional scheduling coordinator

REI OFC OBJECTIVES

Introduction

The Gynecologic Reproductive Endocrinology and Infertility rotation at the University of Ottawa is an 8 week rotation.

The attending physicians the resident will work with may include:

1. Dr. Delani Kotarba MD FRCSC
2. Dr. Doron Shmorgun MD FRCSC
3. Dr. Tannys Vause, MD, FRCSC - REI Division Head
4. Dr. Aaron Jackson, MD FRCSC- REI Fellowship Program Director
5. Dr. Bryden Magee MD FRCSC- REI Resident Rotation Supervisor
6. Dr. Jenna Gale MD FRCSC
7. Dr. Matt Roberts MD FRCSC

The resident will also work with GREI fellows and the dedicated interdisciplinary staff at the Ottawa Fertility Centre. The resident will work with general gynecologists from the TOH Civic Site and MIS surgeons in the operating room.

Objectives will be attained via ambulatory clinical experiences. These experiences are held at The Ottawa Fertility Centre

Required reading for this rotation can be found in the "UofO Resident Reading List Sign Off" (see appendix)

Recommended textbooks include *Speroff's Clinical Gynecologic Endocrinology and Infertility* and *Yen and Jaffe's Reproductive Endocrinology*.

Residents are also encouraged to read current clinical practice guidelines developed by the SOGC and ASRM (American Society of Reproductive Medicine).

Female Reproductive Cycle

Terminal Objectives

The resident should demonstrate knowledge of the physiology of the female reproductive cycle.

Enabling Objectives

- Define ovarian and menstrual cycles
- Describe the neuroendocrine control of ovarian function
- Describe the gross relation between brain and pituitary gland, including blood supply
- Graph the relative concentrations of follicle-stimulating hormone (FSH) and luteinizing hormone (LH) through an ovulatory cycle
- Graph the relative serum concentrations of 17-beta estradiol and progesterone through the menstrual cycle
- Describe the normal ovarian androgen secretion, its relationship to the normal ovarian cycle, and its aberrations
- Discuss the hormonal interrelationships of follicle development and ovulation
- Describe the intracellular receptor mechanisms for steroids and other mechanisms whereby steroids may exert effects (e.g. Changes in blood flow via prostaglandins)
- Describe the membrane receptor mechanisms for peptides and the subsequent involvement of cyclic adenosine monophosphate (cAMP) as the second messenger
- Describe the effects of dopamine, serotonin, steroids, and endorphins as transmitting substances within the hypothalamus
- Describe the structural organization of the ovary, the maturation of follicles and the formation of the corpus luteum
- Identify histologically the various cells and tissues that form the ovary
- Correlate the structural changes in the ovary during a normal menstrual cycle with hormonal production by the ovary, as influenced by the secretory products of the hypothalamus and pituitary
- Describe the histologic appearance of the various portions of the oviduct
- Describe the roles of the fimbriae of the infundibulum and of the ciliated cells, as well as the muscular activity, in tubal transport of ova
- Describe the general histological organization of endometrium and myometrium
- Describe the microscopic appearance of endometrial glands, stroma, and vessels on days 8, 12, 21, and 27 of the normal 28-day cycle

- Describe the microscopic structure of the cervix and the changes in the endocervix during the menstrual cycle
- Describe the estrogen and progesterone receptors in the normal endometrial cycle and their relationship in normal and abnormal endometria
- Describe the microscopic structure of the vagina and the changes in the epithelium under various hormonal conditions
- Define the effects of estrogen and progesterone on the vagina, the breast, and the endometrium
- Describe the histologic structure of the mammary gland and the responses of its components to pubertal, menstrual, pregnant, and the postmenopausal states

Abnormal Menstruation

Terminal Objectives

Given a 39 year-old woman with regular cycles put profuse and prolonged vaginal bleeding, a 29 year-old woman with prolonged and infrequent menses from six months postpartum, and a 24 year-old woman with acyclic irregular bleeding variable in duration and amount, all with normal physical findings on pelvic examination, the resident should be able to carry out a diagnosis appraisal and apply appropriate therapy.

Enabling Objectives

- Describe the vascular phenomena associated with normal menstrual bleeding and the variation in its duration and amount
- List and define the terms used to describe abnormal menstruation, and discuss the limitations of such terms
- Discuss anovulatory bleeding in terms of ovarian secretion, follicular development, and endometrial development, including hyperplasia and adenocarcinoma
- List entities known to be associated with anovulatory bleeding
- Describe techniques for confirming ovulation
- Describe pharmacological techniques, including drug dosages, for the medical management of anovulatory bleeding
- Define and discuss “dysfunctional uterine bleeding”
- List those pathologic entities known to be associated with abnormal bleeding despite ovulation
- Discuss the pathophysiology, investigation, diagnosis and management of polycystic ovary syndrome.
- Discuss the relationship among obesity, anovulation, and endometrial hyperplasia
- Discuss the relationship between exercise and menstrual function
- List the indications for surgical management of these problems, and describe the appropriate surgical procedures

Secondary Amenorrhea

Terminal Objectives

Given an 18 year-old woman with menarche at age 12 and periodic but irregular menses until 6 months earlier, the resident should be able to state the goals of evaluation, carry out the appropriate diagnostic steps, explain them to the patient, and institute the appropriate therapy.

Enabling Objectives

- Describe the features of the history and physical examination that deserve special emphasis in evaluation of secondary amenorrhea
- Discuss the role of separation from family and from parental controls and routines in the generation of secondary amenorrhea
- List the disorders of the hypothalamus, anterior pituitary, ovaries, thyroid, and adrenal known to produce secondary amenorrhea
- List the laboratory investigations essential for initial assessment of secondary amenorrhea
- Describe the usefulness of progesterone withdrawal in evaluation, including drug dosage, and the significance of failure of withdrawal bleeding
- Discuss the usefulness of karyotypic analysis, hystero-graphy, laparoscopy, and ovarian biopsy in diagnosis
- List indications for measurement of serum gonadotropin activity and the significance of high or low concentrations
- Describe the endometrial obliteration syndrome (Ashermans), and give a typical history for such a disorder
- List indications for measurement of serum cortisol, 17-hydroxyprogesterone, and androgens in evaluating secondary amenorrhea
- Define polycystic ovary syndrome (PCOS), and discuss theories of pathogenesis, pharmacologic and surgical management, and probabilities of success in establishing menses and fertility
- Describe indications and content of a drug regimen capable of stimulating normal ovarian cycles, as well as methods of monitoring therapy
- Define hypothalamic anovulation, its pathogenesis, and its relationship to this complaint, and give possible management protocols
- Define premature ovarian insufficiency, definition, pathophysiology, diagnosis and management.
- Define anorexia nervosa, state its pathogenic relationship to secondary amenorrhea, and outline the therapy of this condition
- Discuss the role of nutritional and social service consultation in management
- Discuss the role of depression and psychotropic drugs in secondary amenorrhea
- Discuss the occurrence of secondary amenorrhea in runners and ballet dancers

Hirsutism

Terminal Objectives

Given a 23 year-old obese nulligravida with excessive facial hair, the resident should be able to evaluate her status, explain the pathophysiology of her condition, support her feminine identity, and carry out specific therapy when indicated.

Enabling Objectives

- Define hirsutism, hypertrichosis, defeminization, and virilization
- List those racial and national groups in which hirsutism is relatively common
- Discuss sexual dimorphism in adults and its relationship to hormone concentration and end-organ sensitivity
- Indicate the relative frequency of constitutional hirsutism among women with this complaint
- List elements of the history and physical findings that deserve emphasis in appraising this complaint
- Given a unilateral adnexal mass 6cm in diameter in this patient, list the neoplasms that may be present and describe the important gross and microscopic features of each
- Discuss the relationship of hirsutism to polycystic ovary syndrome
- Differentiate adrenal from ovarian excessive androgen production, assuming no malignant neoplasm
- Give the drug and dosage for a satisfactory adrenal suppression test and state the implication of the following
 - No reduction of elevated levels of dehydroepiandrosterone-sulphate (DHEA-S) and 17-hydroxysteroids
 - Partial reduction of a moderately elevated excretion of urinary DHEA-S and 17-hydroxysteroids
 - Elevated morning serum cortisol concentration
- Discuss the relationship of hirsutism to Cushing syndrome, describing the possible pathologic entities and criteria for diagnosis
- Differentiate congenital from acquired adrenal hyperplasia in terms of etiology, genital morphology, general metabolic effects, and treatment
- Discuss the effectiveness of the treatment of hirsutism by hormonal therapy and electrolysis, and discuss spontaneous regression

Galactorrhea

Terminal Objectives

Given a 24 year-old woman with amenorrhea for 4 months and galactorrhea following oral contraceptive therapy, the resident should be able to evaluate the patient's condition, establish a diagnosis, explain the condition and its treatment to the patient, and provide adequate management.

Enabling Objectives

- Define galactorrhea as a clinical pathologic entity

- List history and physical findings that are diagnostic of hyperprolactinemia
- Define the normal and abnormal circulating levels of prolactin in non-pregnant, pregnant, and lactating women; discuss the neuroendocrine control of the prolactin level, including releasing and inhibiting factors
- Describe the tests needed to evaluate abnormal prolactin secretion
- Discuss the medical and surgical management of hyperprolactinemia in both pregnant and non-pregnant patients with and without an identifiable pituitary tumour
- Discuss the mode of action, indications, dosage and side effects of bromocriptine and cabergoline

Infertility

Terminal Objectives

Given a patient who has been trying to become pregnant for 18 months without success, the resident should be able to discuss the implications, explain the evaluation procedure to the patient and her partner, carry out the diagnostic steps necessary, and provide appropriate counselling and therapy.

Enabling Objectives

- Discuss indications for subspecialty referral in a patient or couple's presenting with infertility
- Describe the features of the history and physical examination of each partner for infertility
- Describe the potential etiologies for infertility
- Distinguish between interstitial (Leydig) cells, supporting (Sertoli) cells, and germ cells
- Describe the relation between tunica albuginea, rete testis and hilus
- Describe the histologic appearance of the male accessory structures
- Describe the components of the spermatic cord
- Describe the hormonal mechanisms involved in the regulation of androgen production and spermatogenesis
- Distinguish between mitosis and meiosis, and state the stage of gametogenesis during which meiosis is complete in male and female
- Describe the various cellular stages in follicular maturation and ovulation
- Describe the various cellular stages in the maturation of a male sex cell from spermatogonium to mature spermatozoon
- Describe the events that occur during fertilization between sperm penetration and syngamy
- Describe the morphologic events in the ovum and their sequence from fertilization to implantation
- Describe the difference between male and female gonadotropin release with respect to cyclicity
- Discuss the technique of basal body temperature recording, its biochemical basis, and its usefulness in infertility appraisal

- Define and describe the usefulness of analyzing cervical mucus with respect to volume, fluidity, spinnbarkeit, and ferning
- List techniques for establishing the time of ovulation, and explain the limitations of each
- Understand methods available to assess tubal patency status including hysterosalpingography, hysterosalpingogram and diagnostic laparoscopy with tubal insufflation
- Discuss the effects of, uterine leiomyomas and adenomyosis on fertility
- Discuss the effects of postabortal and gonococcal salpingitis on fertility
- List norms of ejaculate volume, sperm concentration, motility and morphology, recognizing the problems of comparing individual data with aggregate statistics
- Describe the evaluation of azoospermia
- List laboratory determinations essential to analysis of infertility in couples
- Discuss pharmacologic agents used in the induction of ovulation with respect to their pharmacologic effects, availability, administration, indications, costs, and hazards
- Discuss the use of ultrasound techniques for monitoring ovulation induction
- Describe the surgical procedures available for tubal occlusion and the probable post-operative conception rates
- Discuss luteal phase defects, and treatment options
- Discuss the effect of unilateral salpingectomy or oophorectomy on fertility
- List indications for intrauterine insemination using partner semen. Discuss the appropriate techniques for obtaining the specimen and inseminating the patient for each indication
- List indications for intrauterine insemination using donor semen. Discuss the important features of obtaining donor semen and counselling the patient/couple taking into account the legal implications
- List indications, success rates and risks for the following procedures:
 - Superovulation with intrauterine insemination
 - In-vitro fertilization (IVF),
 - Intracytoplasmic sperm injection (ICSI)
- List the indications, success rates and risks for surgical sperm retrieval techniques including percutaneous epididymal sperm aspiration (PESA), testicular sperm extraction (TESE) and microsurgical testicular sperm extraction (microTESE)
- Describe the indications for PGT-A and PGT-M and have a basic understanding of the process, limitations and outcomes.
- Discuss indications for egg donor treatment and use of a gestational surrogate
- Discuss the more common psychological effects of prolonged infertility on both male and female partners
- Define the possible bases for ambivalence and conflict between couples with infertility
- Describe the effects of advanced maternal and paternal age on fertility.
- Demonstrate knowledge of the basic legal and ethical issues encountered with reproductive technologies
- Discuss the pathophysiology, investigation, diagnosis and management of recurrent pregnancy loss.

The evaluation form for this rotation is set up to evaluate the following CanMeds roles.

CANMEDS ROLES	CANMEDS KEY COMPETENCIES	Methods To Facilitate Achievement of Competency
Medical Expert	<p>Function effectively as consultants integrating all CanMEDS roles to provide optimal, ethical and patient-centered care.</p> <ul style="list-style-type: none"> ● Is able to perform a global evaluation of the infertile couple in the context of CanMEDS roles. 	<ul style="list-style-type: none"> ● Direct contact with infertile couples in the ambulatory setting.
	<p>Establish and maintain clinical knowledge skills and attitudes appropriate to practice.</p> <ul style="list-style-type: none"> ● Has adequate knowledge of basic reproductive physiology and applies it to clinical practice. ● Has a comprehensive understanding and knowledge of the common causes of infertility ● Uses an appropriate strategy to keep up to date and ensure life-long learning skills ● Practices evidence-based medicine 	<ul style="list-style-type: none"> ● Daily teaching in clinic ● Presentation at journal club ● Formal and informal teaching sessions
	<p>Performs a complete and appropriate assessment of the couple.</p> <ul style="list-style-type: none"> ● Obtain a thorough female and male history ● Perform a focused physical examination. ● Integrate all the available information to formulate an appropriate differential diagnosis ● Demonstrate adequate clinical judgment 	<ul style="list-style-type: none"> ● Direct encounter with patients and couples in the clinic
	<p>Use preventive and therapeutic interactions effectively.</p> <ul style="list-style-type: none"> ● Understands and applies preventive approaches in the context of pre-pregnancy counselling, disease prevention and screening. For example, folic acid intake, weight issues, medical problems in 	<ul style="list-style-type: none"> ● Attend weekly physician meetings to review patients ● Direct observation of faculty

pregnancy, immunization status, and smoking cessation.

- Ensures appropriate informed consent as related to various fertility treatments and surgeries.

Demonstrates proficient and appropriate use of procedural skills, both diagnostic and therapeutic.

- Understands the usefulness and limitations of diagnostic interventions such as hormonal profile, infectious disease testing, baseline ultrasound, sonoHSG and laparoscopy.
- Understands the indications for various fertility treatments such as ovulation induction, superovulation with intrauterine insemination, IVF +/- ICSI, PGT-A, PGT-M, PESA/TESE.
- Understands the effect of advanced reproductive age on fertility and treatment counseling.
- Appropriately documents therapies.
- Ensures adequate follow-up is organized for patient.

- Daily discussions with team and use of these approaches for patient care.
- Direct observation.
- Review of operative notes, IVF treatment summaries, dictations and discharge summaries.

Seek appropriate consultation from other health professionals, recognizing the limits of their expertise.

- Demonstrate insight into own limitations.
- Demonstrates timely and effective consultation with other health care professionals.
- Understands the importance of the multidisciplinary approach for the infertility couple.

- Direct observation and attendance/participation at weekly multidisciplinary rounds.

COMMUNICATOR

Develops ethical therapeutic relationships with a couple and their family.

- Respects patient confidentiality and autonomy.
- Listens effectively.

Elicits and synthesizes relevant information and perspectives of patients and families, colleagues and other professionals.

- Obtains information and understands the influence of patient's beliefs, concerns and expectations.
- Takes into account information from family and remainder of the infertility team as well as other consultants.

Conveys relevant information and explanations to patients, families, colleagues and other health professionals.

- Communicates information to couple in a clear and concise way.
- Encourages discussions and participation in decision-making.
- Writes clear, well synthesized notes, reports and consultation documents.

Develops a common understanding of patient issues to develop a shared plan of care.

- Gathers appropriate information from patients and encourages their participation in the plan of care.
- Seeks expertise from other consultants and remainder of the infertility team. Understands each team member's role in the overall care of the patient.
- Develops appropriate and useful approaches in the delivery of bad news and/or in dealing with misunderstandings or conflicts with the patient and/or the rest of the team.

Conveys effective oral and written information about a medical encounter.

- Direct observation and direct interaction with patient and family.
- Perform patient counseling.
- Direct observation of interactions with patients, other consultants and other team members.
- Patient counseling.
- Daily interactions with other consultants, social workers, psychologists, and nurses.
- Direct observation of interactions with patients, other consultants and other team members.
- Patient counseling.
- Direct observation and direct interaction with patient and family,

	<ul style="list-style-type: none"> ● Maintains clear and thorough daily clinical notes of inpatients. ● Consistently provides clear and regular notes on patients. ● Dictates concise but complete discharge summaries. ● Effectively presents verbal reports on patient encounters. 	<p>other consultants and rest of the team.</p> <ul style="list-style-type: none"> ● Patient counseling. ● Daily interactions with other consultants.
Collaborator	<p>Participates effectively with interprofessional healthcare team.</p> <ul style="list-style-type: none"> ● Understands his/her role in the fertility team and can describe the responsibilities of other members including psychologist, nurse and sonographer. ● Works effectively with the rest of the team to optimize patient care. ● Demonstrates leadership in the team while respecting other professionals' roles and responsibilities. 	<ul style="list-style-type: none"> ● Direct observation. ● Direct interaction with rest of team.
	<p>Effectively works with other health care professionals to prevent, negotiate and resolve inter-professional conflict</p> <ul style="list-style-type: none"> ● Respects other members of the fertility team. ● Works with rest of team to avoid/prevent conflict and manage/resolve it when it occurs. 	<ul style="list-style-type: none"> ● Direct observation. ● Direct interaction with rest of team.
Leader	<p>Participates in activities that contribute to the effectiveness of their health care organizations and systems.</p> <ul style="list-style-type: none"> ● Participates in quality assurance activities. For example, reviews of patient outcomes, etc. ● Has basic understanding of infertility treatments and their limitations. 	<ul style="list-style-type: none"> ● Participation at patient discussions.
	<p>Manage their practice and career effectively.</p> <ul style="list-style-type: none"> ● Sets appropriate priorities to balance all activities. ● Can manage human resources on team by directing/helping medical students and junior residents. 	<ul style="list-style-type: none"> ● Direct team management on day-to-day practice.

Health Advocate

Allocate healthcare resources appropriately.

- Practices in cost-effective manner.
- Prioritizes resources utilization appropriately to optimize maternal-fetal outcome.

- Direct team management on day-to-day practice

Serve in administration/leadership roles.

- Participates in regular team meetings.
- Is able to apply new knowledge to improve maternal-fetal health by suggesting and implementing change.

- Direct team management on day-to-day practice

Respond to individual patient health needs and issues.

- Identify health needs of the couple and understands possible interaction and/or conflicts.
- Is an advocate for patient's health promotion before, during and after a fertility treatment.

- Participation in clinics.

Respond to health needs of the community.

- Identifies opportunities to advocate for maternal health promotion and disease prevention in the community.

- Participation in public meetings, article preparations for lay journals.

Identify the determinants of health in population served.

- Identify determinants of health and barriers to healthcare such as geography (e.g., Baffin Island), lack of education or resources.
- Identifies approaches which can be used to improve access to infertility care.

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Scholar

Maintains and enhances professional activities through on-going learning.

- Understands importance of maintenance of competence and need for implementation of life-long knowledge management plan.
- Knows appropriate and sound sources of information for Reproductive Medicine.
- Identifies questions of interest to Reproductive Medicine and is able to obtain and interpret the information gathered and apply it clinically.

- Direct observation of faculty.
- Review of cases..
- Discussions in clinic.
- Presentation at journal club

Critically evaluate medical information and apply to practice decision.

- Knows principles of critical appraisal.
- Can integrate knowledge into care of high risk patients.

Facilitate learning of patients, families, students, residents, public, and other health care professionals.

- Identify learning needs of any of the above and can address needs effectively and appropriately depending on the individual.

Contributes to development, dissemination and translation of new knowledge and practices.

- Understands principles of research and ethics in the context of maternal-fetal health
- Can effectively search for evidence to help address scholarly questions and disseminates knowledge.

Professional

Demonstrates a commitment to patient's profession and society through ethical practice.

- Practices with integrity, honesty, commitment, compassion, respect and altruism.
- Recognizes and addresses ethical issues raised in caring for the infertility couple
- Respects confidentiality.

Demonstrates a commitment to patients, profession and society through participation in profession-led regulation.

- Demonstrates professional and ethical practice.
- Is accountable to regulating body (Royal College of Physicians and Surgeons of Canada).
- Addresses other's unprofessional behaviors.

Demonstrate a commitment to physician's health and sustainable practice.

- Balance personal and professional priorities.
- Maintains insight.

- Attending and presenting at MFM journal club.

- Daily patient teaching in clinics.
- Daily teaching of medical students.

- Attends ethics seminars and research meetings.

- Direct observation.

- Direct observation.

- Direct observation.

NOTE: CBD Curriculum Map and EPAs - <https://med.uottawa.ca/obs-gyne/postgraduate-education/residency-training-program/competency-based-medical-education>

Last Revised: September 2020

REI CHEO OBJECTIVES

Introduction

The REI CHEO Rotation at the University of Ottawa is 4 week mandatory rotation. The attending physicians the resident will work with at CHEO may include:

1. Nathalie Fleming, MD, FRCSC
2. Amanda Black, MD, MPH, FRCSC
3. Tania Dumont, MD, FRCSC - Rotation Supervisor
4. Helene Gagne, MD, FRCSC
5. Maria Kielly, MD, FRCSC

The resident will also work with the Pediatric and Adolescent Gynecology (PAG) fellow and the rest of our team including our dedicated nurses and administrative assistants. They will also have the opportunity to interact with Pediatric Endocrinologists and Hematologists during their clinics at CHEO.

The Rotation will focus on the diagnosis and management of common clinical presentations as per the Objectives of Training in the Specialty of Obstetrics and Gynecology, Version 2.1 (with further details in the Medical Expert section below):

1. Pediatric and Adolescent Gynecology
 - a. Developmental anomalies
 - b. Precocious and Delayed Puberty
 - c. Abnormal vaginal discharge and bleeding in the child or adolescent
 - d. Vulvar disorders
 - e. Sexual abuse
 - f. Contraception
 - g. Adolescent Pregnancy
2. Reproduction and endocrine disorders
 - a. Normal reproductive physiology
 - b. Hirsutism
 - c. Menstrual irregularity
 - d. Amenorrhea, primary and secondary
 - e. Dysfunctional uterine bleeding
 - f. Galactorrhea
 - g. Polycystic ovarian syndrome
 - h. Premenstrual syndrome

The objectives will be obtained via ambulatory clinical, surgical, in-patient and on-call experiences. These experiences are held at CHEO, the Riverside Campus of the Ottawa Hospital and St. Mary's Home's Young Parent Outreach Centre.

The resident is expected to develop the knowledge and skills appropriate to a level consistent with "core discipline" in the following roles:

1. Medical expert
2. Communicator
3. Collaborator

4. Leader
5. Health Advocate
6. Scholar
7. Professional

The evaluation form for this rotation is thus set up in the same manner to facilitate feedback. Each Specific Objective is graded as one of the following: Unsatisfactory, Requires Attention, Meets Objectives, Area of Strength and Medical Expert (with details to help choose the correct grading)

The residents are provided with both the North American Society of Pediatric and Adolescent Gynecology's (NASPAG) Short and Long Curriculums which include detailed objectives for each pathology pertaining to this rotation as well as the recommended readings to achieve these objectives and additional reading resources.

The recommended textbook, Pediatric and Adolescent Gynecology by S. J. Emans and M. R. Laufer, is provided to the resident during their rotation (electronic version or paper copy). The residents are also granted access to PAGwebED.org: E learning center. Desilva R, Dietrich JE, Young A, Editors. 2014 NASPAG:

<https://pagwebed.bridgeapp.com> which is filled with over 20 cases pertaining to the objectives of this rotation. Also, the SOGC via JOGC has many Clinical Practice Guidelines that are pertinent to the PAG rotation. These include but are not limited to:

- No. 313-Menstrual Suppression in Special Circumstances
- No. 360-Induced Abortion: Surgical Abortion and Second Trimester Medical Methods
- No. 345-Primary Dysmenorrhea Consensus Guideline
- No. 341-Diagnosis and Management of Adnexal Torsion in Children, Adolescents, and Adults
- No. 329-Canadian Contraception Consensus Chapters 1-9

1. Medical Expert

General Objectives

- Demonstrate diagnostic and therapeutic skills
- Access and apply relevant information to clinical practice
- Demonstrate effective consultation services

Specific Objectives

- Knowledge of Anatomy/ Physiology/Pathophysiology: The resident will develop an understanding of reproductive anatomy including:
 - Normal embryology of the female and male reproductive tract
 - Maturation changes in the reproductive tract from infancy to maturity
 - Relation of congenital anomalies to embryology
- Understand the effect of endocrinology and common endocrinology dysfunction on reproductive maturation including: Thyroid abnormalities

- o Normal maturation and regulation of hypothalamic pituitary axis from infancy through puberty
 - o Adrenal steroidogenesis and enzyme deficiencies associated with congenital adrenal hyperplasia
- Data Gathering
 - o Be able to obtain a complete history from a child and or parent including developmental, social and medical assessment.
 - o Be able to conduct the physical assessment including growth, development (Tanner Staging) and reproductive tract (age dependent technique) and draw appropriate conclusions from the clinical examination.
 - o Be able to obtain an obstetrical history and antenatal and postpartum examination of an adolescent patient in order to identify pregnancy risks specific to this population.
- Clinical Reasoning, Management and Judgement
 - o Be able to interpret clinical findings consistently and accurately.
 - o Be able to order investigations with purpose.
- Diagnostic and Therapeutic Planning: The Resident should manage common and uncommon pediatric and adolescent gynecology disorders as they present:
 - o Abdominal / pelvic pain
 - o Abnormal genital bleeding
 - o Adolescent obstetrics – antepartum and postpartum care
 - o Adolescent sexuality
 - o Ambiguous genitalia
 - o Amenorrhea
 - o Congenital anomalies of the reproductive tract (Mullerian anomalies and disorders of sex development)
 - o Contraception (including compliance; medically complex patients)
 - o Delayed puberty
 - o Dysmenorrhea
 - o Endometriosis
 - o Gender identity/dysphoria and transgender health
 - o Genital injuries
 - o Gonadal dysgenesis
 - o Gynecological malignancies in this population
 - o Heavy menstrual bleeding
 - o Hirsutism
 - o Labial adhesions
 - o Menstrual suppression in girls with developmental delays
 - o Pelvic or abdominal mass (benign and malignant)
 - o Pediatric and adolescent gynaecological malignancies
 - o Precocious puberty / adrenarche / thelarche
 - o Prepubertal vulvovaginitis
 - o Prescribing to the pediatric population (pharmacodynamics of children)
 - o Sexually transmitted infections
 - o Vaginal agenesis

- o Vulvar disorders
- o Vulvar traumas and straddle injuries
- Procedural skills: During the rotation, the resident may be exposed to a variety of surgical cases. They will be expected to monitor the patient postoperatively with the attending staff and/or fellow.
 - o The resident may participate in surgical procedures necessary for surgical reconstruction of the genital tract as it pertains to congenital reproductive anomalies in the pediatric and adolescent age group and genital trauma.
 - o The resident may participate in surgical therapy of the pediatric and adolescent gynaecologic malignancies.
 - o The resident may participate in the operative laparoscopic management of benign ovarian cysts, adnexal torsions, endometriosis, gonadectomy and diagnostic procedures.
 - o At the conclusion of this rotation, the resident may be able to independently perform an examination under anesthesia including vaginoscopy +/- cystoscopy in the pediatric and adolescent population.
- Performance under stress
 - o The resident should demonstrate the ability to delegate tasks and mobilize resources without compromising the care of pediatric patients.

2. Communicator

General Objectives

- Establish therapeutic relationships with patients/families
- Obtain and synthesize relevant history from patients/families and communities
- Listen effectively, discuss appropriate information with patients/families and health care team

Specific Objectives

- Physician/Patient Relationship
 - o The resident should demonstrate the ability to elicit the trust and cooperation of the child and her family during his/her interactions in ambulatory care settings, the emergency department, in-house consultations and perioperatively.
- Verbal Communication Skills
 - o The resident should demonstrate appropriate communication skills when interacting with clinic administrative staff and other members of the multidisciplinary healthcare team.

3. Collaborator

General Objectives

- Consult effectively with other physicians and health care professionals
- Contribute effectively to the interdisciplinary team activities

Specific Objectives

- Team relations
 - The resident should demonstrate the ability to collaborate with the team in the evaluation of patients in the PAG and related clinics, disorders of sex development multidisciplinary meetings, etc.

4. Leader

General Objectives

- Utilize resources effectively, allocate finite health care resources wisely
- Work effectively and efficiently in a healthcare organization

Specific Objectives

- Time Management
 - The resident should demonstrate an ability to assess patients in an efficient manner in the ambulatory clinics. The resident is expected to see requested consultations (inpatient consults and emergency room consults) in a timely fashion and review with the attending/fellow. When on the rotation, the resident will be the first point of contact for CHEO consults/patient care issues Monday to Friday (“day call”) with the exception of post-call days or while on approved leave. In order to enhance their learning opportunities, residents may choose to attend emergency surgeries when they occur outside of “day call”.
- Resources and Allocation
 - The resident should be able to discuss the cost-effective plan for investigation and management of pediatric and gynecology disorders. The resident should be able to determine the appropriate setting for patient management (ambulatory clinic or inpatient care) of pediatric and adolescent gynecology disorders.
- Administrative Skills
 - The resident should demonstrate the ability to coordinate ambulatory patient care including communication with consulting services, follow up of investigations, responding to patient / family queries and timely completion of health records.

5. Health Advocate

General Objectives

- Identify the important determinants of health affecting patients
- Contribute effectively to improved health of patients and communities
- Recognize and respond to those issues where advocacy is appropriate

Specific Objectives

- Determinants of Health / Health Advocacy
 - The resident should be able to appreciate the unique developmental and social pressures that affect pediatric and adolescent patients and their families including:
 - Cultural influences on puberty, sexuality, contraception and pregnancy

- o Social and psychological development through childhood and adolescence and how this affects care and counseling
- o Identify opportunities to be a health advocate at both the individual patient level as well as at the societal level

6. Scholar

General Objectives

- Develop, implement and monitor a personal continuing education strategy
- Critically appraise sources of medical information
- Facilitate learning of patients, house staff/students and other health professionals

Specific Objectives

- Self Directed Learning
 - The resident should use the provided resources (NASPAG short and long curriculum 2.0, PAGWebEd Online Cases, SOGC Guidelines, etc) to guide their learning throughout the rotation.
- Critical appraisal skills
 - The resident should develop a critical approach to the literature regarding investigation, therapeutics and health care delivery with respect to pediatric and adolescent gynecologic care.
- Teaching skills
 - The resident will demonstrate the ability to impart new information in the clinical situation to pediatric/adolescent patients and their families.
 - The resident will work collaboratively with other medical trainees including students to enhance the learning environment and learning opportunities for all members of the team
 - The resident will present a 45min round, on a topic of their choice, to the PAG team and other colleagues.

7. Professional

General Objectives

- Delivers care with integrity, honesty and compassion
- Exhibit appropriate personal and interpersonal professional behavior
- Practice medicine ethically consistent with obligations of a physician

Specific Objectives

- Responsibility
 - The resident will be expected to be available to the administrative staff and health care team and to participate in the management of the pediatric and gynecology patients in the clinic, on the wards and in the emergency department in conjunction with the staff and clinic nurse.
- Self Assessment Skills / Insight
 - The resident should demonstrate the ability to communicate with attending staff and request assistance in the patient management when appropriate.

- The resident should consult ancillary services when required to enhance patient care.
- The resident should develop an individual learning plan with regards to pediatric and adolescent gynecology knowledge basis, with the assistance of the attending staff.
- Ethics
 - The resident should be aware of the medico-legal issues and ethical issues with respect to patient confidentiality.
 - The resident should be aware of the role of child and youth protective agencies with regards to sexual abuse.
 - The resident should be aware of the laws surrounding the age consent of sexual activity.
 - The resident should be aware of the laws surrounding sterilization procedures in patients with developmental delays.
- Written Skills and Record Keeping
 - The resident shall document interactions with patients and families in the ambulatory clinic setting, OR, in-patient setting, emergency room and in telephone interactions.
 - The resident shall complete Epic charting in a timely manner (<48 business hours post-encounter).

NOTE: CBD Curriculum Map and EPAs - <https://med.uottawa.ca/obs-gyne/postgraduate-education/residency-training-program/competency-based-medical-education>

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