Discipline of Obstetrics & Gynecology

Reproductive Endocrinology and Infertility
Rotation Objectives

Reproductive Endocrinology and Infertility Specialists

Terry O’Grady M.D., FRCSC
Sarah Healey M.D., FRCSC
Deanna Murphy M.D., FRCSC
Sean Murphy M.D., FRCSC

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Reproductive Endocrinology and Infertility Objectives (CanMEDS Format)

1. **Medical Expert / Clinical Decision-Maker**

A trainee within in the Department of Obstetrics and Gynecology at Memorial University upon completion of their training should function as an effective consultant utilizing all of the CanMEDS Roles to provide optimal, ethical and patient-centered medical care within the area of reproductive endocrinology and infertility.

1.1. **General Objectives**

1.1.1. Complete a complete consultation, which includes a well-documented evaluation with recommendations in a written and/or verbal communication to another health care professional

1.1.2. Perform an appropriate and focused physical exam for the patient presenting for reproductive endocrinology and infertility consultation

1.1.3. Demonstrate appropriate use of diagnostic tests within reproductive endocrinology

1.1.4. Recognize personal limitations in patient care and utilize expertise of other health care providers in patient care

1.1.5. Recognize and properly respond to relevant reproductive ethical issues within patient care

1.1.6. Exhibit compassionate and practice patient centered care

1.1.7. Display the ability delegate and prioritize duties when faced with multiple patients and problems

1.1.8. Display the ability to communicate a care plan with the patient and family

1.2. **Specific Learning Objectives**

The resident must demonstrate both knowledge and technical ability in the management of patients within the practice of reproductive endocrinology and infertility (REI).
The resident should display knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Gynecologic Reproductive Endocrinology & Infertility, including (but not limited to):

An **extensive level** of knowledge is required for the following:

1.2.1 Embryology, anatomy, histology, physiology and genetics of the male and female reproductive tracts
1.2.2 Anatomy, histology, and physiology of the hypothalamic pituitary-gonadal axis and related endocrine functions throughout life
1.2.3 Mechanisms of reproductive hormone action and endocrine pharmacology
1.2.4 Endocrinology and immunology of pregnancy and the feto-placental unit
1.2.5 Physiology of gametogenesis, gamete transport, fertilization, embryo development, implantation and early pregnancy development
1.2.6 Reproduction and Endocrine Disorders
   1.2.6.1 Normal reproductive physiology
   1.2.6.2 Disorders of function and physiology of the hypothalamic pituitary

The pathophysiology, investigation, diagnosis, and/or management of:

1.2.6.3 Menstrual irregularity
1.2.6.4 Primary Ovarian insufficiency
1.2.6.5 Amenorrhea both primary and secondary
1.2.6.6 Dysfunctional uterine bleeding
1.2.6.7 Galactorrhea
1.2.6.8 Hirsuitism
1.2.6.9 Polycystic ovarian disease
1.2.6.10 Premenstrual syndrome
1.2.6.11 Menopause and urogenital aging, including but limited to the risk and benefits of hormonal, and/or non-hormonal treatment

1.2.7 Infertility
   1.2.7.1 Etiologies and complexity of infertility
   1.2.7.2 Indications for and interpretation of tests and procedures, including but not limited to: hormonal evaluation, semen analysis, basal body temperature charting, ovulation prediction, endometrial biopsy, hysterosalpingography, sonohysterography, MRI, 3D ultrasound, ultrasound monitoring of fertility treatments and both hysteroscopy and laparoscopy
1.2.7.3 Effectiveness and complications of current standard treatments for infertility, and appropriate indications for subspecialty referral
1.2.7.4 Etiology and management of ovulatory disorders, including the role of clomiphene citrate, aromatase inhibitors, and oral hypoglycemic agents

1.2.8 Pregnancy Loss
   The pathophysiology, investigation, diagnosis, and/or management of:
   1.2.8.1 Spontaneous abortion in the first trimester
   1.2.8.2 Ectopic pregnancy
   1.2.8.3 Recurrent pregnancy loss

1.2.9 Therapeutic Donor Insemination for same sex couples and single women

A working level of knowledge is required for the following:

1.2.10 Infertility
   1.2.10.1 Regimens for ovulation induction in hypothalamic amenorrhea
   1.2.10.2 Assisted reproductive technologies currently available, including intrauterine insemination (IUI), in vitro fertilization (IVF), ICSI (intracytoplasmic sperm injection), and controlled ovulation hyperstimulation (COH) including their comparative success and complication profiles
   1.2.10.3 Appropriate indications for referral for such technologies
   1.2.10.4 Options for fertility preservation for patients undergoing fertility reducing treatments or surgeries as well as those at risk for early ovarian failure
1.2.11 Medical disorders that may have an effect on or be affected by the female reproductive system, including hypothalamic and pituitary disease, thyroid disease, osteoporosis, diabetes, cardiovascular disease, respiratory disease, renal disease, and transplantation

1.3 Procedural skills

Demonstrate an understanding of the indications, risks and benefits, limitations and role of the following investigative techniques specific to the practice of Obstetrics and Gynecology. Demonstrate appropriate effective and timely performance as well as recognition of pathology during the following diagnostic/investigative procedures:

1.3.1 Diagnostic procedures
   1.3.1.1 Hysterosalpingography
   1.3.1.2 Basic ultrasound imaging for identification of an intrauterine pregnancy, presence of fetal heart and number of fetuses present.
   1.3.1.3 Diagnostic Hysteroscopy
   1.3.1.4 Dilatation and curettage
   1.3.1.5 Diagnostic Laparoscopy
1.3.1.5.1 Assessment of tubal patency

1.3.2 Operative Procedures
1.3.2.1 Salpingo-oophorectomy
1.3.2.2 Oophorectomy
1.3.2.3 Ovarian cystectomy
1.3.2.4 Hysteroscopic endometrial sampling and polyp removal
1.3.2.5 Laparoscopic lysis of adhesions
1.3.2.6 Laser ablation or cautery of endometriosis, stages 1 and 2
1.3.2.7 Laparoscopic ovarian cystectomy and salpingo-oophorectomy

The resident should demonstrate an understand and be able to perform the following procedures under supervision

1.3.3 Diagnostic Procedures
1.3.3.1 Saline infusion sonogram
1.3.3.2 Transvaginal ultrasound for monitoring of ovulation stimulation and identification of uterine fibroids, polyps or ovarian abnormalities

1.3.4 Operative Procedures
1.3.4.1 Operative hysteroscopy: lysis of synechiae, resection of submucous leiomyomata, resection of uterine septum
1.3.4.2 Operative laparoscopy for tubo-ovarian abscess or stage 3 endometriosis

The fully trained resident in Obstetrics and Gynecology will be able to describe the principles of the following procedures, the indications for referral, and the perioperative management and complications. He/she will not be expected to be able to perform these procedures.

1.3.5 Tubal reanastomosis
1.3.6 Tubal cannulation and tubal repair
1.3.7 Reproductive technologies
1.3.7.1 Oocyte collection
1.3.7.2 Embryo transfer
1.3.7.3 Preimplantation genetic diagnosis
1.3.7.4 ICSI, TESA, PESA

2. Communicator
Resident should recognize that effective communication is a core clinical skill for physicians, and that effective physician-patient communication can foster patient satisfaction, patient adherence, improved clinical outcomes and physician satisfaction

2.1 Demonstrate effective communication skills
2.2 Listens effectively
2.3 Establishes effective therapeutic relationship with patient/family/others
2.4 Obtain and synthesize relevant history
2.5 Present management plan
2.6 Demonstrate the ability to counsel and educate patient/family/parents regarding infertility and reproductive endocrinology diagnoses and their treatment plan

3. Collaborator

3.1 Identification and use of other physicians/health care professional
   o Other consultant physicians
   o Family physicians
   o Nurses
   o Psychology
   o Dietician
   o Embryology
   o Lab personnel
3.2 Involves patient/family in decision making
3.3 Contributes to interdisciplinary activities and meetings regarding patient care

4. Manager

4.1 Ability to prioritize and designate tasks
4.2 Utilizes resources appropriately
4.3 Understands structure, funds health care organization and works effectively /efficiently in it
4.4 Effective utilization IT
4.5 Optimize patient care, life-long learning and other activities
4.6 Balances work/study and personal lives
4.7 Functions in administrative capacity

5. Health advocate

5.1 Identifies determinants of health that affect patient
   (psychological/economic/biologic/gender/age/cultural)
5.2 Recognized and responds to issues where advocacy is appropriate
5.3 Access to information/public education
   - Infertility treatment and evaluation, Adoption, Surrogacy
   - Procedural information
   - Diagnostic information
     - Unexplained infertility
     - PCOS
     - Male factor infertility
     - Tubal disease
     - endometriosis
   - Lifestyle management
     - Weight loss/gain
     - Alcohol
     - Smoking
     - Caffeine
   - Access to treatment/care
   - Social services
   - Support
     - Medication
     - Housing
     - Transportation

6. Scholar

6.1 Demonstrates evidence based medicine to manage patient/problem based learning (see topics of clinical application)

6.2 Applies critical appraisal to medical information (see topics of clinical application)
6.3 Implements learning portfolio to develop continuing education strategy
6.4 Participation in research
6.5 Facilitates learning of patients, students and other personnel
7. Professional

7.1 Exhibits appropriate personal/interpersonal behaviors
7.2 Practically ethically consistent with obligations of a physician
7.3 Delivers high quality care with integrity, honesty and compassion, sensitive to equity issues, legal issues

Resident evaluation

Will be completed as group by Dr. Deanna Murphy, Dr. Sean Murphy, Dr. Sarah Healey and Dr. Terry O'Grady.

This will be based on the resident’s performance during their REI block as well through formal evaluation through OSCE and written sessions throughout their residency training.

A. OSCE/structured oral

- Evaluation of infertile couple
- Treatment of:
  - Unexplained infertility
  - Anovulatory infertility
  - Male factor infertility
  - Tubal disease infertility
- Amenorrhea
- Dysfunctional uterine bleeding
- Hirsuitism
- Galactorrhea
- Menopause
- Premature ovarian failure

B. Written questions

- Short answers
- MCQ