

MEDICAL GENETICS PRENATAL ROTATION

Overview: The Medical Genetics Prenatal Rotation (MGPR) is a required rotation for the Medical Genetics Residents/Fellows (hereafter referred to as the MGF). The MGPR is a six week rotation that occurs in a variety of prenatal settings including The University of Texas Prenatal Genetics Clinic at the University of Texas Professional Building, Prenatal Genetics Clinic at Lyndon Baines Johnson General Hospital (LBJGH), Prenatal Genetics Clinic at Memorial Hermann Hospitals-Southwest, Memorial City, Southeast, and Katy, , Prenatal Genetics Clinic at Memorial Hermann Hospital-Memorial City, Prenatal Genetics Clinic at St. Joseph's Hospital, Prenatal Genetics Consult Service at Memorial Hermann Hospital, and Prenatal Genetics Clinic held as part of our Prenatal Outreach Program at six city and county health clinics (Baytown, Antoine, Casa de Amigos, Northside, Westend and Lyons clinics). The MGF will be supervised on the rotation by the Prenatal Genetic Counselors on our faculty including: Claire Singletary, MS, Jennifer Sherrill MS, Kate Wilson, MS, Sarah J. Noblin, MS, Andrea Harbison, MS, Cathy Sullivan, MS, and Jennifer M. Hoskovec, MS. The MGF will attend five half days/week of clinics covering all sites over the course of the six weeks. The remaining five half days/week will be devoted to assigned reading, researching patient diagnoses, conferences and providing medical documentation (patient notes and follow-up letters to patients). By rotating at many different prenatal sites, the MGF will have exposure to prenatal patients from all socioeconomic classes as well as diverse racial/ethnic groups. Some of our Prenatal Clinics serve middle to upper class Caucasian patients while others serve women of lower SES who are members of minority populations. At some of our clinics, the majority of patients do not speak English. The ethnic/racial diversity of the greater Houston metropolitan area is well-represented in our Prenatal Clinics thus providing the MGF with exposure to different cultures. Certain genetic diseases are specific to certain groups (ie Southeast Asians are more likely to have thalassemias) providing the opportunity to learn about the different ethnically specific diseases. Another advantage to our broad cultural exposure is that it should aid our MGFs in developing cultural awareness and sensitivity as different cultures display different attitudes toward genetic information and counseling.

Conferences: It is required for the MGF to attend the Prenatal Ultrasound Conference held from 3-4 PM on select Thursdays (except for the summer months) while they are on the rotation. Jennifer Hoskovec, MS and Sarah Noblin, MS are the coordinators of the conference. While on the MGPR, when the MGF is free of prenatal duties they will attend the regular Genetics Clinical Conferences:

1. Genetics Journal Club 12-1 PM on Wednesdays
2. Genetics Sign-Out Conference 4-5 PM on Thursdays
3. Genetics Clinical Conference 12-1 PM on the second and fourth Fridays of each month.

General Rotation Schedule: Logistics for the MGPR are that the MGF will be assigned their schedule on a weekly basis by Jennifer Hoskovec, MS. The scheduling remains flexible in order to provide the MGF the best experience possible as prenatal scheduling and evaluation by definition is on a short time-line. There will be a mid-point evaluation after the first three weeks of the rotation and a final evaluation at the end of the rotation. The MGF will be required to tape record two sessions for purposes of evaluation. The GC Faculty will instruct them on the logistics of the tape recording. During the first three weeks of the rotation, the MGF will observe genetic counseling sessions. The MGF will prepare outlines for each of the following types of sessions:

1. Advanced Maternal Age (AMA): with information about chorionic villus sampling and amniocentesis.
2. Abnormal maternal serum screen –increased risk for Down syndrome
3. High MSAFP-increased risk for open neural tube defects

During the latter three weeks of the rotation, the MGF will conduct counseling sessions under supervision of GC faculty. In addition to genetic counseling, the MGF will observe procedures including first trimester screening (1-2/rotation), CVS (1-2/rotation), amniocentesis (3-5/rotation) and prenatal ultrasound (6-10/rotation). The procedures will be performed by the maternal-fetal medicine staff at the various sites. Adherence to the 80-hour work week is mandated. The MGF will be supervised by GC Faculty who are either Board Certified or Board-Eligible in Genetic Counseling.

Legend for Learning Activities

WH - Written Homework	M/DO - Modeling/Direct Observation	PUC–Prenatal Ultrasound Conference
FS – Faculty Supervision	ASR - Assigned Reading	DPC - Direct Patient Care
GSOC-Genetic Sign-Out Conference	GCC-Genetics Clinical Conference	GJC – Genetics Journal Club

Legend for Evaluation Methods for Residents

AE - Attending Evaluation	DO - Direct Observation
DSC- Directly Supervised Counseling	RWH - Review of Written Homework
CR - Chart Review	360° - Global Evaluation

Principal Educational Goals and Objectives by Relevant Competency

The principal educational goals for residents on this rotation are indicated for the relevant ACGME competencies. The tables below each goal list the corresponding educational objectives, the relevant learning activities, and the evaluation methods for each objective. The educational goals and objectives are applicable to Medical Genetics Residents/Fellows. The expected competency level demonstrated by the residents should reflect their respective level of experience.

Competency 1 – Patient Care. Provide clinical care in the area of Prenatal Medical Genetics to pregnant women and (when applicable) their partners.

GOAL: Provide genetic counseling as appropriate to pregnant women and (when applicable) their partners.

	Principal Educational Objectives	Learning Activities	Evaluation Methods
1.	Obtain and document a medical history that includes a detailed prenatal and family history with particular attention to ethnic background.	DPC, FS	AE, CR, DO
2.	Develop genetic counseling outlines for the following commonly encountered prenatal genetic conditions: 1. Advanced Maternal Age (AMA): CVS and amniocentesis	WH, FS	RWH, AE,

	<p>procedures</p> <ol style="list-style-type: none"> 2. Abnormal maternal serum screen-increased risk for Down syndrome 3. High MSAFP-increased risk for open neural tube defects 		
3.	Work effectively with the multidisciplinary team to provide prenatal genetic services to the patient/family.	DPC, FS	AE, CR, DO

GOAL: Develop empathy and understanding for pregnant women who have been determined to have a fetus with a genetic diagnosis and/or a congenital anomaly or anomalies.

	Principal Educational Objectives	Learning Activities	Evaluation Methods
1.	<p>Attend and participate in the following clinics a minimum of 4-6 times/site (#1-6 below) during the rotation to observe the genetic counselors in direct contact with pregnant women:</p> <ol style="list-style-type: none"> 1. Prenatal Genetics Clinic at UTPB, 2. Prenatal Clinic at Memorial Hermann Hospital-Southwest, 3. Prenatal Clinic at St. Joseph’s Hospital and 4. Prenatal Clinic at Memorial Hermann Hospital-Memorial City Under the supervision of Jennifer Hoskovec, MS; Claire Singletary, MS; Jennifer Sherrill, MS; Cathy Sullivan, MS; and Kate Wilson, MS 5. Prenatal Genetics Clinic at LBJGH under the supervision of Sarah Noblin, MS; and Andrea Harbison, MS 	DPC, FS, M/DO	AE, DO, DSC
2.	<p>Observe the following prenatal procedures:</p> <ol style="list-style-type: none"> 1. amniocentesis (3-5 times over the course of the rotation) 2. prenatal ultrasound (6-10 times over the course of the rotation) <p>Every attempt will be made to allow the MGF to observe the procedure on a patient for whom they have been involved with the counseling prior to the procedure</p>	DPC, FS	AE, DO

Competency 2 - Medical Knowledge. Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a Medical Geneticist; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.

GOAL: Demonstrate knowledge regarding the genetic conditions encountered in the prenatal setting.

	Principal Education Objectives	Learning Activities	Evaluation Methods
1.	Describe indications for and procedures for prenatal testing including maternal serum screen, amniocentesis and ultrasound.	ASR, GSOC, GCC, PUC	AE, RWH
2.	Compare a general (Level I) ultrasound with a targeted (Level II) ultrasound.	ASR, FS, PUC	AE
3.	Discuss the capabilities and limitations of prenatal testing.	ASR, FS, PUC	AE
4.	Discuss the difference between Level I, Level II and Level III mosaicism when identified in a karyotype from an amniocentesis and a karyotype from chorionic villus sampling (CVS).	ASR, WH, FS, PUC	AE, RWH

Competency 3 – Interpersonal and Communications Skills. Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.

GOAL: To participate in/provide prenatal genetic counseling to the pregnant women and (when appropriate) her partner.

	Principal Educational Objectives	Learning Activities	Evaluation Methods
1.	Participate in/provide prenatal genetic counseling sessions for the following commonly encountered prenatal genetic conditions: <ol style="list-style-type: none"> 1. Advanced Maternal Age (AMA) 2. Abnormal triple screen-increased risk for Down syndrome 3. High MSAFP-increased risk for open neural tube defects 4. Abnormal Ultrasounds 	M/DO, DPC, FS	AE, DSC, CR
2.	To write prenatal genetic counseling letters to the family after participation in-provision of the prenatal genetic counseling session.	WH, DPC	RWH, AE, CR
3.	Talk to the patient and partner (as appropriate) about sensitive issues that relate to the potential/detected fetal anomalies/genetic condition, e.g., coping with the patients and partner's psychosocial needs relating to the prenatal diagnosis and recurrence risk information.	DPC, FS, M.DO	AE, CR, DO
4.	Communicate effectively with genetic counselors, physicians, other health professionals, and health related agencies to create and sustain information exchange and team work for patient care.	DPC, FS, PUC, GSOC	AE, CR, DO
5.	Maintain accurate, legible, timely and legally appropriate medical records for the Prenatal Genetics patients in the outpatient and inpatient setting.	DPC, FS	AE, CR, DO

Competency 4 – Practice-based Learning and Improvement. Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.

	Principal Educational Objectives	Learning Activities	Evaluation Methods
1.	Develop strategies to learn about future advances in the understanding of prenatal genetic conditions in order to incorporate into one's practice improved screening, identification, counseling and management of these disorders.	ASR, FS, PUC, GCC, GSOC	DO, AE
2.	Identify the indicators in a pregnancy that would indicate the need for a prenatal genetic consultation.	DPC, PUC, GSOC, FS	AE, CSR
3.	Identify personal learning needs, systematically organize relevant information resources for future reference, and plan for continuing data acquisition if appropriate.	DPC, FS, M/DO	AE, CR, DO, CSR

Competency 5 – Professionalism. Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.

	Principal Educational Objectives	Learning Activities	Evaluation Methods
1.	Discuss the ethical, legal, financial and social issues involved in prenatal genetic testing including both screening and diagnostic testing.	DPC, GSOC, PUC	AE, DO
2.	Demonstrate personal accountability to the well being of all patients,	DPC, AR,	AE, DO

	even when other physicians are primarily responsible for their care, for example, by following up on lab results, writing comprehensive notes, seeking answers to difficult patient care questions, and communicating with primary care physicians.	ASR, M/DO	
3.	Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical and legal principles, and sensitivity to diversity while providing care to pregnant women and their partners who either have a fetus with an anomaly or genetic disease or who are at risk for having a fetus with an anomaly and/or genetic disease.	DPC, AR, ASR, M/DO	AE, DO

Competency 6 - Systems-Based Practice. Understand how to practice quality health care and advocate for patients within the context of the health care system.

	Principal Educational Objectives	Learning Activities	Evaluation Methods
1.	Identify written and internet resources to aid in counseling pregnant women and their partners when appropriate who have or at risk for having a fetus with an anomaly or genetic disease including availability of research studies in which the patients/families might wish to participate.	DPC, FS, ASR	AE, CR, RWH
2.	Demonstrate sensitivity to the costs of clinical care in prenatal medical genetics and take steps to minimize costs without compromising quality.	DPC, FS, ASR	AE, CR, RWH
3.	Recognize the limits of one’s knowledge and expertise and take steps to avoid medical errors.	DPC	AE
4.	Understand key aspects of health care systems as they apply to care of pregnant women and their families, including cost control, billing and reimbursement.	DPC	AE
5.	Recognize and advocate for pregnant women who need assistance to deal with systems complexities, such as lack of insurance, multiple medication refills, multiple appointments with long transport times, or inconvenient hours of service.	DPC	AE