Introduction/Explanation of Manual

(The information contained in this Fellowship Program Manual pertains to all fellows in the department’s program.)

Welcome to the University of Minnesota and the Department of Obstetrics, Gynecology and Women’s Health. We are committed to meeting your educational needs and working with you to make your fellowship in Maternal-Fetal Medicine a rewarding experience.

The contents of this manual are provided to familiarize Maternal-Fetal Medicine Fellows with information that is pertinent to their training.

We ask for your full cooperation in abiding by the defined policies and procedures. If you have any questions or ideas for improving this manual, please contact the fellowship administrator.

This fellowship addendum outlines specific policies and procedures specific to your training program.
Please refer to the Residency Program Manual for further departmental policies and procedures.
Department and Fellowship Program Mission Statements

The Department of Obstetrics, Gynecology and Women’s Health is dedicated to solving women’s health problems through medical education, research and patient care with the ultimate goal of improving women’s lives.

The mission of the Department of Obstetrics, Gynecology and Women’s Health is to pursue excellence in teaching and research in an environment of superior clinical care.

The University of Minnesota was recently named a Center for Excellence in Women’s Health.

The fellowship is a full three year program. Upon completion, the fellow will be eligible for certification in the subspecialty of Maternal-Fetal Medicine.

Department Vision Statement

Define the standard of care for all women, today and tomorrow.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction/Explanation of Manual</td>
<td>i</td>
</tr>
<tr>
<td>Department and Program Mission Statement</td>
<td>ii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>1</td>
</tr>
<tr>
<td>Reference to Institution Policy Manual</td>
<td>2</td>
</tr>
<tr>
<td><strong>SECTION I - - STUDENT SERVICES</strong></td>
<td>3</td>
</tr>
<tr>
<td>E-mail and Internet Access</td>
<td>3</td>
</tr>
<tr>
<td>HIPAA Training</td>
<td>4</td>
</tr>
<tr>
<td>Mail – Campus</td>
<td>4</td>
</tr>
<tr>
<td>Notary Services</td>
<td>4</td>
</tr>
<tr>
<td>Office Location</td>
<td>4</td>
</tr>
<tr>
<td>Pagers</td>
<td>4</td>
</tr>
<tr>
<td>Protecting Human Subjects</td>
<td>4</td>
</tr>
<tr>
<td>Tuition and Fees</td>
<td>5</td>
</tr>
<tr>
<td><strong>SECTION II - - BENEFITS</strong></td>
<td>5</td>
</tr>
<tr>
<td>ACOG Membership</td>
<td>5</td>
</tr>
<tr>
<td>Clinic Coats</td>
<td>5</td>
</tr>
<tr>
<td>Department Laptop</td>
<td>5</td>
</tr>
<tr>
<td>Exercise Room (Resident/Fellow)</td>
<td>5</td>
</tr>
<tr>
<td>Fellow Administrative Stipend</td>
<td>6</td>
</tr>
<tr>
<td>Health and Dental Insurance</td>
<td>6</td>
</tr>
<tr>
<td>Insurance Coverage Changes</td>
<td>6</td>
</tr>
<tr>
<td>Laundry Service</td>
<td>6</td>
</tr>
<tr>
<td>Life Insurance and Voluntary Life Insurance</td>
<td>6</td>
</tr>
<tr>
<td>Long Term and Short Term Disability Insurance</td>
<td>7</td>
</tr>
<tr>
<td>Meals While on Call</td>
<td>7</td>
</tr>
<tr>
<td>Parking</td>
<td>7</td>
</tr>
<tr>
<td>Personal Time Off (PTO) Policy -- Vacation/Sick</td>
<td>8</td>
</tr>
<tr>
<td>Professional Liability Insurance</td>
<td>9</td>
</tr>
<tr>
<td>Stipends</td>
<td>9</td>
</tr>
<tr>
<td>Workers Compensation Program – Policies and Procedures</td>
<td>9</td>
</tr>
<tr>
<td><strong>SECTION III - - INSTITUTION RESPONSIBILITIES</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>SECTION IV - - DISCIPLINARY &amp; GRIEVANCE PROCEDURES</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>SECTION V - - GENERAL POLICIES AND PROCEDURES</strong></td>
<td>10</td>
</tr>
<tr>
<td>ABOG Board Certification Process</td>
<td>10</td>
</tr>
<tr>
<td>ACGME Competencies</td>
<td>10</td>
</tr>
<tr>
<td>Autumn Seminar</td>
<td>10</td>
</tr>
<tr>
<td>Blood Borne Diseases Policy</td>
<td>11</td>
</tr>
<tr>
<td>Call Responsibility</td>
<td>11</td>
</tr>
<tr>
<td>Call Rooms</td>
<td>11</td>
</tr>
<tr>
<td>Conferences and Assigned Readings</td>
<td>11</td>
</tr>
<tr>
<td>Duty Hours, Evaluations, Conferences, and Curriculum in RMS</td>
<td>13</td>
</tr>
<tr>
<td>Duty Hours</td>
<td>13</td>
</tr>
<tr>
<td>Duty Hours Exceptions</td>
<td>14</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Duty Hours/On-call Schedules</td>
<td>14</td>
</tr>
<tr>
<td>Evaluation Process</td>
<td>14</td>
</tr>
<tr>
<td>Procedure Tracking</td>
<td>15</td>
</tr>
<tr>
<td>Conference View (RMS)</td>
<td>15</td>
</tr>
<tr>
<td>Curriculum – Viewing and Confirming</td>
<td>15</td>
</tr>
<tr>
<td>Faculty Advisors</td>
<td>16</td>
</tr>
<tr>
<td>Fairview University Staff Identification</td>
<td>16</td>
</tr>
<tr>
<td>Identification Badges for Other Rotation Sites</td>
<td>16</td>
</tr>
<tr>
<td>Graduate Courses</td>
<td>16</td>
</tr>
<tr>
<td>Laboratory/Pathology/Radiology Services</td>
<td>17</td>
</tr>
<tr>
<td>Lectures and Presentations</td>
<td>18</td>
</tr>
<tr>
<td>Licensure/Residency Permits</td>
<td>18</td>
</tr>
<tr>
<td>Medical Records</td>
<td>18</td>
</tr>
<tr>
<td>Moonlighting Policy</td>
<td>18</td>
</tr>
<tr>
<td>Monitoring of Fellow Well-Being</td>
<td>19</td>
</tr>
<tr>
<td>Program Curriculum</td>
<td>19</td>
</tr>
<tr>
<td>Program Goals and Objectives</td>
<td>20</td>
</tr>
<tr>
<td>Program Oversight</td>
<td>20</td>
</tr>
<tr>
<td>Fellow Responsibilities</td>
<td>20</td>
</tr>
<tr>
<td>Research Day</td>
<td>21</td>
</tr>
<tr>
<td>Research and Thesis Defense Meetings</td>
<td>21</td>
</tr>
<tr>
<td>Research Stipend</td>
<td>21</td>
</tr>
<tr>
<td>Travel and Policy Process</td>
<td>22</td>
</tr>
<tr>
<td>Traveling on University Business</td>
<td>22</td>
</tr>
<tr>
<td>Reimbursement</td>
<td>22</td>
</tr>
<tr>
<td>Rotations &amp; Rotation/Schedule Grids</td>
<td>22</td>
</tr>
<tr>
<td>MFM Educational Goals</td>
<td>27</td>
</tr>
<tr>
<td>Scholarship &amp; Research Funding Opportunities</td>
<td>49</td>
</tr>
<tr>
<td>Scientific Meetings</td>
<td>49</td>
</tr>
<tr>
<td>Security/Safety</td>
<td>49</td>
</tr>
<tr>
<td>Supervision of Fellows</td>
<td>49</td>
</tr>
<tr>
<td>Teaching Residents and Medical Students</td>
<td>49</td>
</tr>
<tr>
<td>Electronic Lecture to Medical Students</td>
<td>50</td>
</tr>
<tr>
<td>OBST 7500 Goals &amp; Objectives</td>
<td>50</td>
</tr>
<tr>
<td>U of MN Medical School Educational Program Objectives</td>
<td>51</td>
</tr>
</tbody>
</table>

**SECTION VI -- Administration**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Head</td>
<td>54</td>
</tr>
<tr>
<td>Fellowship Program Director and Assistant Program Director</td>
<td>54</td>
</tr>
<tr>
<td>Administrative Support</td>
<td>54</td>
</tr>
</tbody>
</table>

**SECTION VII - - ABOG Annual Report and Clinical Experience Log**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONFIRMATION OF RECEIPT</td>
<td>54</td>
</tr>
</tbody>
</table>

SECTION I - Student Services

**E-Mail & Internet Access**
The University provides an E-Mail account and internet access for all fellows. Fellows are required to access their E-Mail at least weekly. Those who wish to access the Internet at home may purchase software from Academic Distributing Computer Services for $6.00 (see details below).

Computers are available for fellows use in the Litzenberg-Lund Library, Room 12-224 Moos Towers. Useful web sites include:

- Department: www.med.umn.edu/obgyn
- Medical School: www.med.umn.edu
- GME: www.med.umn.edu/gme

**To set up email account:**
Go to the website [https://www.umn.edu/initiate](https://www.umn.edu/initiate). Enter your University of Minnesota employee ID number, Social Security number, and Birthdate. You then need to set your Internet Account Password that must be at least eight characters long. Be sure to click on the SUBMIT button when you are finished.

**To access your email account:**
Any computer with Internet access can be used to access your email. The University email account is now Gmail. You may logon directly to your email at [www.gmail.com](http://www.gmail.com). Enter your entire email address (ie: smith333@umn.edu). This will direct you to the University secure server where you will enter you x.500 and login. Or you may access with the directions below:

1. Go to [http://www.mail.umn.edu](http://www.mail.umn.edu)
2. Enter your x.500 ID (NOT your FULL email address) and password. ([Example]: If your email address is smith333@umn.edu, your x.500 ID is smith333.)
3. Click on Gmail.

**Forwarding email and access from mobile devices:**
The email account ending in @umn.edu is your official email account and must be used for program business. The program, department, and institution regularly send important communications and announcements via email and we require that you log-on daily or you may miss important or timely information. You are responsible for knowing the information that is communicated to this email account.

Although emailing PHI is discouraged, the UMN and Google have created a business agreement that allows you to email PHI if necessary to accounts ending in @umn.edu, @fairview.org, or @umphysicians.org. If you plan to email PHI, make sure to review the Guidelines for Email and Protected Health Information.

If you plan to access your email on a mobile device, a device passcode is required for security. Additional information to assist in setting this function up is available under these AHC Google Apps FAQs ([http://hub.ahc.umn.edu/ahc-information-systems/google-apps](http://hub.ahc.umn.edu/ahc-information-systems/google-apps))

**IT @ UMN**
Faculty, staff, and students at the University of Minnesota can receive IT help and support for phones, computers, email and software purchases. More information on getting help with your technology questions or devices can be found at [http://it.umn.edu](http://it.umn.edu/).
HIPAA Training
The privacy and security training program consists of individual courses that University employees, students, and volunteers complete online. Individuals receive an e-mail notification containing detailed instructions about accessing the assigned training.

Training requirements
There are security courses that are required of all individuals, and privacy and security training courses that are appropriate only for some individuals. The particular training that each individual must complete depends in large part on job duties and responsibilities.

Campus Mail
Each Fellow is assigned a campus mailbox located in the Department of Obstetrics, Gynecology and Women’s Health, 12th Floor Moos Towers, Room 12-245, for the purpose of receiving internal and external mail. Important information, memoranda, and other materials will be distributed via your mailbox. Fellows are expected to empty their mailbox weekly. Fellows may place mail for campus delivery in the outgoing mail boxes in this room. The address for receiving mail at UMMC-University campus is:

Department of Obstetrics, Gynecology and Women’s Health  
MMC 395  
420 Delaware Street SE  
Minneapolis, MN 55455

Notary Services
Deb Egger-Smith  
Phone: 612.626.4939  
Office: 12-236 Moos Tower

Trisha Pederson  
Phone: 612.301.3417  
Office: Professional Building, 4th Floor, Riverside

Office Location
The fellows’ office is located at the Riverside Professional Building, 606 24th Avenue South, Suite 401, Minneapolis, MN 55454. Computers and reference material are available.

Pagers
Pagers are provided at no cost and will be distributed to incoming fellows during orientation. Fellows are required to replace lost beepers at their cost. Fellows are required to have their beeper on with a live battery at all times. If a pager is broken, please bring the pager to the main desk at the University of Minnesota Medical Center, Fairview for repair or replacement.

Protecting Human Subjects
Instruction in protecting human subjects is required by federal assurance with the Department of Health and Human Services for all investigators and research personnel regardless of the source of funding.

The basic level of instruction in protecting human subjects may be met in one of several ways: Review the online materials available through the Collaborative IRB Training Initiative (CITI) hosted by University of Miami Medical School server. After registration, chose either the Biomedical research group or the Social/Behavioral research group and then complete the required modules. Be sure to return to this page and report your completion below.

Review the Office of Human Research Protections' CD-ROM entitled "Investigator 101". Request an individual copy of the CD-ROM from the IRB or by emailing rcr@umn.edu. Be sure to return to this page and report your completion below.
If you need to describe your training to a funding agency, please use the following description:

"Instruction in Protecting Human Subjects included the definition of human subjects in research; the responsibilities of the investigator; authority, composition, and procedures of IRBs; ethical principles; risk and benefits; the elements and process of informed consent; how to prepare an application and consent document; inclusion and recruitment of vulnerable populations; adherence to study protocol; and continuing review."

You must report your completion of the instruction either by following one of the links below or by calling the IRB Office at 612.626.5654. The links below require an Internet Login using your University of Minnesota internet ID (x.500). **Please note:** By signing in with your University internet ID (x.500), you will be certifying that you have read and reviewed the web materials thereby completing the electronic course.

1. Report Completion of the CITI - Biomedical Materials
2. Report Completion of the CITI – Social/Behavioral Materials
3. Report Completion of the OHRP Investigator 101 CD-ROM Materials

If you have any problems accessing or reporting any of these materials, would like us to update your record centrally, if you have updated your record incorrectly or need any assistance please contact the IRB Office at 612.626.5654 or email irb@umn.edu.

If you have any questions about IRB requirements or applications, please contact the IRB Office at 612.626.5654 or email irb@umn.edu.

**Tuition and Fees (for Resident/Fellow Student Status)**
Residents and fellows at the University of Minnesota are enrolled as students. The tuition and fees are being waived at this time. Please note: residents and fellows enrolled in Graduate School pay tuition and fees (please refer to Section V – Graduate Courses) for additional information.

**SECTION II - Benefits**

**ACOG Membership**
Membership dues for the American College of Obstetrics and Gynecology Junior Fellowship Program are paid for through the fellow’s administrative stipend.

**Clinic Coats**
The fellowship program provides each fellow with three (3) lab coats at orientation during the first year of training.

**Department Laptop**
The Obstetrics, Gynecology and Women’s Health Department will provide a laptop for your use while you are in the fellowship program. Please contact the Maternal-Fetal Medicine Fellowship Administrator to obtain one at 612.626.3503 or egger016@umn.edu.

**Exercise Room**
The UMMC/F Medical Executive Committee has provided an exercise facility for use by University of Minnesota residents and fellows. The space also includes a small kitchenette area with refrigerator, microwave, coffeemaker and hot/cold water dispenser.

**Location:** Room C-496 Mayo Memorial Building (Locker rooms/showers are located directly across the hall)

**Hours:** The facility is open 24 hours a day, 7 days a week
Fellow Administrative Stipend
When funds are available each fellow will be given $1,200 per year for costs such as licenses, memberships and other such fees. These will be available July 1 each year. Balances do not carry forward and overdrafts are not allowed. This stipend may be used to help pay for research or conference travel if research stipend funds are not available.

Health and Dental Insurance
The Office of Student Health Benefits (OSHB) at the University of Minnesota administers health benefits and enrollment for Medical School residents and fellows.

Medical Insurance Provider: HealthPartners
Dental Insurance Provider: Delta Dental of MN

For more information, please visit the OSHB website designated for Medical School Residents and Fellows:

http://www.shb.umn.edu/twincities/residents-fellows-interns/med-school/index.htm

Office of Student Health Benefits
University of Minnesota
410 Church Street SE, N323
Minneapolis, MN 55455

Phone: 612-624-0627 or 1-800-232-9017
Fax: 612-626-5183 or 1-800-624-9881
Email: umshbo@umn.edu

Insurance Coverage Changes
Please refer to the Office of Student Health Benefits (OSHB) website designated for Medical School Residents and Fellows:

http://www.shb.umn.edu/twincities/residents-fellows-interns/med-school/index.htm

Laundry Service
Laundering of scrub suits and coats are provided for Fellows. Soiled coats may be placed in the laundry bin across from the Moos Tower Research Lab, Room 12 - 135. Make sure that your lab coat is labeled “OB/GYN Dept”.

Life Insurance and Voluntary Life Insurance
Medical School Residents and Fellows are automatically enrolled in a standard life insurance policy provided by Minnesota Life. Enrollment is no cost to residents and fellows, as it is paid for by your department. In addition to the standard plan, residents and fellows have the option to purchase voluntary life insurance at low group rates through Minnesota Life.

For more information, please visit the OSHB website designated for Medical School Residents and Fellows:

http://www.shb.umn.edu/twincities/residents-fellows-interns/med-school/index.htm

Minnesota Life
Phone: 651-665-3789 or 1-800-392-7295
http://www.lifeworks.com
Long Term and Short Term Disability Insurance
Guardian Life Insurance Company provides long and short term disability insurance for Medical School Residents and Fellows. Enrollment is no cost to residents and fellows, as it is paid for by your department. Guardian offers residents and fellows up to $10,000 per month of individual coverage. In addition, Guardian offers a Student Loan Payoff benefit effective if you become disabled while you are a resident or fellow.

For more information, please visit the OSHB website designated for Medical School Residents and Fellows:

http://www.shb.umn.edu/twincities/residents-fellows-interns/med-school/index.htm

Guardian Life Insurance Company
*With disability insurance questions, please refer to information posted on the OSHB website for specific contact information.
http://www.guardiandisabilitymnrf.com

Meals While On Call
Fellows on duty have access to adequate and appropriate food services during regular meal hours at all institutions. Fellows are to contact the Fellowship Administrator, at 612.626.3503 to obtain a meal card for use at Fairview cafeterias. Meal cards are also provided at Abbott-Northwestern Hospital and Hennepin County Medical Center. Site-specific meal card policies will be distributed at the beginning of each rotation.

Parking
Parking is provided to fellow at:

UMMC – Riverside
Parking Office is located on the lower level of the Riverside East Building
A $25.00 deposit is required along with an UMMC-Fairview staff card, both obtained at the Parking Office, MB 218 at the Riverside East Hospital. Upon graduation from the fellowship program, the fellow’s deposit will be refunded when the Fairview ID badge is returned.

Hennepin County Medical Center
Fellows will receive parking card information from Sylvia Lotz, Ob/Gyn Department Administrator at HCMC. Please make sure you park in the ramp location on the corner of 8th and Chicago.

Abbott-Northwestern Hospital
Parking is available for the fellow through the Internal Medicine residency program coordinator, Anne Klinkhammer at Abbott-Northwestern Hospital. Her phone number is 612-863-4649.

On the first day of the rotation, the fellow is instructed to enter the hospital campus from 28th Street, which is a one way going east. The parking ramps are on the right as you enter the campus. Enter the ramp labeled “General/Patient Discharge,” take a ticket, and then bring the ticket to Anne. Enter the hospital main entrance which is right across from where you exit the ramp. Turn left at the main hall after going through the lobby. Go through the first hall intersection and continue to the end of the hall. Turn left again and Anne’s office is the first door on the right, #1315.

University of Minnesota (To attend courses on campus and during research rotations)
A budget parking card for the Oak Street ramp is provided at no cost to Fellows. Cards must be returned to Deb Egger at the end of fellowship. For problems or issues with the card, please contact Deborah Egger-Smith at 612.626.3503 or egger016@umn.edu.
Personal Time Off (PTO) Policy (Vacation/Sick)
The Maternal-Fetal Medicine Fellowship offers Paid Time Off (PTO) for vacations, illnesses and personal business. Compared to traditional vacations and sick time programs, the PTO program provides fellows more choice in when and how to use time off. However, the program requires fellows to self-manage their time-off balance. PTO form should be completed and signed by Fellowship Director.

PTO Accrual:
Fellows will earn 20 days per academic year (years 1 and 2). Fellows will receive 25 PTO days during their 3rd year to allow for interviews. Fellows will be credited for their PTO on the first day of the academic year.

PTO is a benefit to be used while in the Fellowship, therefore, when a fellow leaves the Maternal-Fetal Medicine Fellowship Program, any unused PTO will not be paid out.

Per ABOG policy on vacation and leave [please refer to the ABOG General and Special Requirements for Graduate Education in the Subspecialty Areas of Gynecologic Oncology, Maternal-Fetal Medicine, and Reproductive Endocrinology and Infertility: http://www.abog.org/publications/3ssgenreq.pdf], the total of all PTO during the three-year training program must not exceed eight (8) weeks in each of the first two years, six (6) weeks in the third and final year, or a total of fifteen (15) weeks over the entire three years of fellowship. If the fellowship is four (4) years in duration, the total of all PTO must not exceed eight (8) weeks in each of the first three years, six (6) weeks in the fourth and final year, or a total of twenty (20) weeks over the entire four years of fellowship. If a fellow's leaves exceed the required maximums in the three (or four) years of fellowship, then the fellowship must be extended for the duration of time the individual was absent in excess of the maximum.

Using your PTO:
Your current PTO balance is available through the Fellowship Administrator. PTO can be used in ½ day increments.

Scheduled PTO:
For scheduled time off (e.g., vacations, personal business, interviews, etc.) fill out a time off request and obtain the necessary signatures. All scheduled PTO must be approved by the site supervisor and Program Director. Forms may be obtained by contacting Deborah Egger-Smith or on the RMS main page.

The following criteria apply to Scheduled PTO:
- No more than one week PTO can be requested from any single rotation.
- PTO weeks will include 2 weekend days per 5 days PTO time.
- Fellows covering the service must notify MFM Service of PTO time taken.

Unscheduled PTO:
In the case of unexpected illness, injury or other emergency, fellows may use unscheduled PTO to provide compensation for their absence. Unscheduled PTO should be a rare occurrence and must only be used to cover an unexpected illness, injury or other emergency.

If the fellow’s unscheduled absence will extend longer than one day, a note from their physician documenting the illness or injury must be provided upon return. If a fellow has more than two unscheduled PTO absences in one academic year, a physician’s note will be required for any future unscheduled PTO absence, even if it is just one day. Extended periods of time requested off due to
fellow illness, injury or to care for a dependent child, spouse/significant other or first degree relative are
covered under Personal Leave Policy.

**Institutional Leave Policies and Procedures:**
Please see section III – Institution Responsibilities for information on holiday, military, parental or
professional leave.

**Professional Liability Insurance**
Professional liability insurance is provided by the Regents of the University of Minnesota. The
insurance carrier is RUMINO Limited. Coverage limits are $1,000,000 each claim/$3,000,000 each
occurrence and form of insurance is claims made. “Tail” coverage is automatically provided. The
policy number is RUM-1005-14.

Coverage is in effect only while acting within the scope of your duties as a trainee. Claims arising out
of extracurricular professional activities (i.e. internal or external moonlighting) are not covered.
Coverage is not provided during unpaid leaves of absence.
For more information, please refer to the University of Minnesota Medical School Institutional Policy
Manual, Benefits: Professional Liability Insurance:


**Stipends**
Fellow base stipends proposed by Graduate Medical Education for Academic Year 2014/2015 are as
follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-5</td>
<td>$59,081</td>
</tr>
<tr>
<td>G-6</td>
<td>$61,155</td>
</tr>
<tr>
<td>G-7</td>
<td>$63,111</td>
</tr>
<tr>
<td>G-8</td>
<td>$65,130</td>
</tr>
</tbody>
</table>

Payroll questions should be addressed to Deb Slavin at 612.626.6910 or slavi002@umn.edu.

**Workers Compensation Program – Policies and Procedures**
The University is committed to providing trainees with comprehensive medical care for on-the-job
injuries. Under Minnesota statute, Medical trainees are considered employees of the University of
Minnesota for Workers’ Compensation insurance purposes. When a trainee is injured during training,
they must take immediate steps to report the injury to the University.

*The University cannot pay bills for trainee treatment unless an injury report is on file.*

For links to the Office of Risk Management’s current policy and procedure regarding reporting Workers’
Compensation injuries:

[http://www.policy.umn.edu/Policies/hr/Benefits/WORKERSCOMP.html](http://www.policy.umn.edu/Policies/hr/Benefits/WORKERSCOMP.html)

[http://www.policy.umn.edu/Policies/hr/Benefits/WORKERSCOMP_PROC01.html](http://www.policy.umn.edu/Policies/hr/Benefits/WORKERSCOMP_PROC01.html)
SECTION III – Institution Responsibilities
The Institution Policy Manual is designed to provide residents/fellows, program directors and administrators with the most up to date information on student services, benefits, disciplinary procedures, policies/procedures and administrative contact information. Any time a policy is created or updated an e-mail notification will be sent out and the Institution Policy Manual will be updated on the web site as well as in PDF. The web-based manual has been broken down by Section which will allow quick access to the specific information you need.


SECTION IV - Disciplinary and Grievance Procedures
The Maternal-Fetal Medicine fellowship program defers to the Institution Policy Manual for Medical School Policies on the following: Discipline/Dismissal/Nonrenewal; Conflict Resolution Process for Student Academic Complaints; University Senate on Sexual Harassment Policy; Sexual Harassment and Discrimination Reporting; Sexual Assault Victim’s Rights Policy; Dispute Resolution Policy.


SECTION V - General Policies And Procedures

ABOG Board Certification in Maternal-Fetal Medicine
For information refer to the Annual American Board of Obstetrics and Gynecology annual brochure or consult their website at www.abog.org.

ACGME Competencies
All University of Minnesota Medical School Fellowship training programs define the specific knowledge, skills, attitudes, and educational experiences to ensure its fellows demonstrate the following:

- Patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
- Medical knowledge about established and evolving biomedical, clinical, and cognate (eg, epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
- Interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
- Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
- Systems-based practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system for health care and the ability to effectively call on system resources to provide care that is of optimal value.

Autumn Seminar
Over the past 40 years, the Department of Obstetrics and Gynecology has hosted a CME course in Obstetrics and Gynecology. All fellows are invited to attend the conference and they may be asked to present a topic in gynecologic oncology. The Fellowship Administrator will provide more information regarding this event.

Blood Borne Pathogen Exposure
This policy relates to medical students and residents who are infected with one or more of the following blood-borne diseases: Hepatitis C Virus and who are antibody positive, (HCV); Hepatitis B Virus and
who are surface antigen positive, (HBV); or Human Immunodeficiency Virus (HIV). It is premised on the understanding that the medical, scientific and legal principles of blood-borne infections are still evolving, and that the University of Minnesota Medical School will respond to the challenges presented by these infections with sensitivity, flexibility, and the best current medical, scientific, and legal information available.

**Protocol for Exposure to Blood-Borne Pathogens During Educational Experiences**

- Perform basic first aid and wash exposed area.
- Clean the wound, skin or mucous membrane immediately with soap and running water. Allow blood to flow freely from the wound. Do not attempt to squeeze or “milk” blood from the wound.
- If exposure is to the eyes, flush eyes with water or normal saline solution for several minutes.
- Report the needle stick to your supervising preceptor or designated person and proceed to the recommended facility for an assessment of the exposure.
- Secure information about the source patient with the help of your preceptor and/or the recommended facility.
- Use the institution’s standard procedures to assess the source patient.
- If assessments indicate a high risk of infectious disease, seek prophylactic medication treatment within two hours of exposure. Your immediate supervisor will suggest a site for initial treatment.
- Whatever the risk assessment, every resident or fellow with a needle stick must complete a follow-up exam within 72 hours of exposure.
- Contact your training program coordinator to file a worker’s compensation claim.

If infected with HCV, HBV, or HIV, you must report this infection to the Blood-Borne Infectious Disease Review Panel by contacting the Associate Dean for Graduate Medical Education at 612-626-4009. This report is not only a professional responsibility; in cases of HIV and HBV, it is also required by state law.

Please see GME Institutional Policy Manual for further information.


**Call Responsibility**

Fellows can participate in general Ob/Gyn night and weekend call.

**Call Rooms**

Fellows will have use of on-call rooms when in-house call is required.

**Conferences and Assigned Readings**

*Maternal-Fetal Medicine and Neonatology Joint Conference*
*Maternal-Fetal Medicine: Chapter Review and Case Presentations*
*Maternal-Fetal Medicine Didactic Lecture Series*

Fellows are also encouraged to view the Society for Maternal-Fetal Medicine’s web-based Fellow Lecture Series scheduled on the first and third Wednesday of each month at 11 a.m. CST. For more information, please check the SMFM website at [www.smfm.org](http://www.smfm.org).

Weekly lectures are given by either the Maternal-Fetal Medicine, Neonatal, or Anesthesia faculty (or other invited faculty). Topics include, but are not limited to:

1. Active Management of Labor
2. Hypertensive Disorders in Pregnancy
3. Asthma in Pregnancy
4. Substance Abuse in Pregnancy
5. Preterm Premature Rupture of Membranes
6. Preterm Labor: Corticosteroids & Tocolytics
7. Critical Care Obstetrics
8. Thyroid Disease in Pregnancy
9. Prenatal Diagnosis: Amniocentesis, CVS, PUBS
10. Regional Anesthesia in the High-Risk Obstetric Patient
11. Drugs in Pregnancy and Teratology
12. Diabetes in Pregnancy
13. IVH, NEC, and RDS
14. Placental Pathology
15. Survival and Morbidity of the VLBW Infant
16. Autoimmune Disease in Pregnancy
17. Intrauterine Fetal Demise: Etiology and Management
18. Endocrinology of Pregnancy
19. Fluid and Electrolytes in Pregnancy
20. Pulmonary Disease in Pregnancy
21. Cardiac Disease in Pregnancy
22. Renal Disease in Pregnancy
23. GI Disease in Pregnancy
24. Incompetent Cervix
25. Doppler velocimetry in Obstetrics
26. Non-immune Hydrops
27. Isoimmunization
28. Prenatal Diagnosis
29. Cytogenetics
30. Neurologic Diseases in Pregnancy
31. Psychiatric Disorders in Pregnancy
32. Recurrent Pregnancy Loss
33. Intrauterine Growth Restriction
34. Multiple Gestations
35. Bleeding Disorders in Pregnancy
36. Legal and Ethical Issues in Pregnancy
37. Cancer Genetics for the Ob/Gyn
38. Cancer in Pregnancy
39. Common aneuploides
40. Prenatal genetic screening
41. Fetal Urinary tract malformations – obstructive
42. Fetal urinary tract malformations - non obstructive
43. Fetal GI malformations
44. Periviability
45. Preconception Issues
46. Fetal skeletal dysplasias
47. Fetal structural cardiac malformations
48. Fetal CNS malformations
49. Troubles with twins (issues in monochorionic twins)
50. Immunology of Pregnancy
51. Use of Antibiotics in Obstetrics
52. HIV in Pregnancy
53. TORCH Infections
54. Urinary Tract Infections in Pregnancy
55. Hematologic Disease in Pregnancy
56. STDs in Pregnancy
57. Bacterial Vaginosis and Pregnancy Outcome
58. Intraamniotic Infections
59. Viral Infections in Pregnancy
60. Thrombophilias in Pregnancy

The textbooks for the assigned reading are the following:
Maternal Fetal Medicine/Neonatology Joint Conference
The 2nd year MFM fellow works with the 2nd year Neonatology fellow to set up quarterly conferences. Conference is held on Thursday afternoons from 3:30-4:40 pm. Lectures will rotate between neonatology and maternal-fetal medicine topic and faculty.

Department Grand Rounds
Grand Rounds are held on the 3rd Tuesday of each month, 7-8a.m. at the Brennan Center, Second Floor, Riverside East Hospital. Fellows attend Grand Rounds as their interest and time permits.

New Innovations Residency Management Suite (RMS)
RMS is used to track duty hours, complete evaluations and view results, view a conference calendar, track procedures and review/confirm curriculum or goals and objectives for rotations. The system is Internet based. You will need a UserID and Password to access the system, which is distributed during onboarding of new fellows. If you need to have your password reset, or have difficulty with access, you may contact the Fellowship Administrator.

Training in RMS can be arranged if you need assistance in any of the following procedures: 1) login to RMS, 2) Enter Duty Hours, 3) Complete Evaluations and Review Results, 4) View the Conference Calendar, 5) View and Confirm Curriculum (Goals and Objectives for Rotations), and 6) Log procedures.

Use of the New Innovations Residency Management Suite (RMS)
Logging into RMS:
- Use your browser to go to www.new-innov.com/login. Note: Internet Explorer is the preferred browser.
- Enter MMCGME for the Institution ID.
- Enter your User Name and Password in the appropriate boxes.
- Make sure that you have arrived at your Welcome Page. You should see your Department name in the upper left section of the screen, and your User Name will be listed just below that.

Duty Hours
- Duty hours are defined as all clinical and academic activities related to the fellowship program, i.e., patient care (both inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities and scheduled academic activities such as research and conferences. Duty hours do not include reading and preparation time spent away from duty site.
- Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.
- Fellows must be provided with one (1) day in seven (7) from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational and administrative activities.
- Adequate time for rest and personal activities must be provided. This should consist for a ten-hour time period provided between all daily duty periods and after in-house call.
- If duty hours exceed 80 hours per week the Fellowship Administrator must be notified both verbally and in writing.
The hours and activities entered by Fellows into RMS are used to document and reconcile Medicare payments with the institutions where the Fellows rotate. Per the University of Minnesota Medical School policy Fellows are required to enter RMS daily to enter their duty hours, excluding PTO which is entered by the Fellowship Administrator. Maintaining your duty hours is not only a GME requirement; it is also a requirement for the completion of your degree.

Hours must be fully entered, and approved if necessary, by the end of every month. The Fellowship Program Administrator works with you to ensure hours are entered each month by reviewing duty hour entry reports.

Note: Failure to ensure accuracy of your rotation activities will be considered an act of Medicare fraud.

**Duty Hour Exceptions**
The ABOG may grant exceptions for up to 10% of the 80-hour limit to individual programs based on a sound educational rationale. However, prior permission of the institution's GMEC and the ABOG is required.

**Duty Hours/On-Call Schedules**
The objective of on-call activities is to provide fellows with continuity of patient care experiences throughout a 24-hour period. In-house call is defined as those duty hours beyond the normal work day when fellows are required to be immediately available in the assigned institution.

- In-house call must occur no more frequently than every third night, averaged over four-week period.
- Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Fellows may remain on duty for up to six additional hours to participate in research, didactic activities, transfer care for patients, conduct outpatient clinics and maintain continuity of medical and surgical care.
- No new patients may be accepted after 24-hours of continuous duty.
- At-home (pager) call is defined as call taken from outside the assigned institution.
  1. The frequency of at-home call is not subject to the every third night limitation. However, at-home call must not be so frequent as to preclude rest and reasonable personal time for each fellow. Fellows taking at-home call must be provided one (1) day in seven (7) completely free from all educational and clinical responsibilities averaged over a four-week period.
  2. When fellows are called into the hospital from home, the hours fellows spend in-house are counted toward the 80-hour limit.
  3. The program director and the faculty monitor the demands of at-home call in their programs and make scheduling adjustments as necessary to mitigate excessive service demands and/or fatigue.

You may also refer to the GME Institutional Policy Manual which addresses the ACGME duty hour rule changes effective July 1, 2011.

**Evaluation Process**

**Fellow Evaluation Process**
The process for fellow evaluation consists of the following: Fellows are evaluated by faculty on a monthly basis during the academic year July 1 – June 30. Fellows on research will be evaluated by their research mentors and division research advisors every 2 -3 months in addition to the monthly faculty review.
Semi Annual review with the Program Director will take place between November/December and May/June of each academic year. The purpose of these evaluations will be to provide objective assessment of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice through a review of all current evaluations. The semi-annual reviews will provide documentation of fellow performance and improvement over the course of the fellowship.

A summative evaluation will replace the May/June semi-annual review for a graduating fellow. This review will document the final period of education and verify that the fellow is competent to practice without direct supervision.

**Program and Faculty Evaluations by Fellows:**
At the end of each academic year the fellows will provide written and confidential reviews of faculty members in RMS.
At least one fellow (senior or junior) will attend the program review held in early July to provide verbal feedback on the strengths and weaknesses of the MFM Fellowship.

**Possible Outcomes of Fellow Review**
After reviewing the fellows performance, the faculty may recommend that the fellow continue in program, continue in program with promotion to next level of training, graduate from program, continue in program with special mentoring and monitoring, continue in program with probation, or dismissal from program.

**Procedure Tracking**

You are expected to track procedure in the Logger section of New Innovations/RMS. To locate this section log into RMS and chose the Logger tab along the top bar. Choose Log Procedures and enter your information from the drop down menus.

You may wish to keep your own notebook of procedure, but you must also enter them monthly into the Logger section of RMS. Reports will be run as part of your semi-annual and annual review with the PD. These procedures will be kept as a means of verification for graduating fellows and ABOG annual reports.

**Conferences – Viewing**

Login to RMS. From the Main Menu, select Conferences then Calendar.

Conference calendars are also emailed monthly to fellows. We do not track attendance at conferences through the RMS module, but instead you should enter your conference attendance in duty hours.

**Curriculum – Viewing and Confirming**

Login to RMS. From the Main Menu, select Schedules and My rotations or click the link in your Notifications box on your Welcome Page.

You will be brought to your list of rotations for the academic year. To view available curriculum about the rotation click the links provide next to the name of the rotation.

Once you have viewed and read curriculum you should confirm it electronically in the system.
Faculty Advisors
Fellows starting their research component will choose a division faculty advisor to assist with, and oversee, the research months and thesis. This advisor is in addition to the fellow’s research mentor who may reside outside the Division of Maternal-Fetal Medicine.

Faculty advisors will review the research progress of the fellow every 3-4 months.

Fairview University Staff Identification
To obtain a UMMC-FV badge you will need to bring a picture ID and a staff identification badge authorization form. IDs will be ready for pick up within 48 hours from the parking customer service representative in the same location the picture was taken. You will be expected to wear your Fairview ID badge at all times during your Fairview rotations.

There are two locations:
1) UMMC-F—Room B 340 Mayo (Security Department’s Substation): open Monday through Friday from 8 a.m. to 4 p.m.

2) Riverside Hospital Campus - Room M 141 East Building: This office is open 24 hours a day. A shuttle bus operates every 15 minutes between the Riverside and University campuses from 5:20 a.m. to 8:30 p.m. See the shuttle schedule near the boarding locations on each campus. The shuttle picks up and drops off at the front entrance to VCRC (Variety Club Research Center) on East River Road for the University campus, and in the West circle entrance outside Subway restaurant on the Riverside campus. Please contact the Fairview Security Dispatch office at 612.273.4544 if you have questions.

Identification Badges for Abbott-Northwestern Hospital and Hennepin County Medical Center
- IDs for Abbott-Northwestern can be obtained from Anne Klinkhammer, the Internal Medicine residency program coordinator. Her phone number is 612-863-4649.
- Please contact Sylvia Lotz for HCMC IDs. Her office is located in the Ob/Gyn department. Her phone number is 612-873-2544 and email address: Sylvia.Lotz@hcmmed.org.

Graduate Courses (maybe taken anytime during the program)
The fellowship program strongly recommends each fellow take two graduate level courses both of which are offered through the School of Public Health at the University of Minnesota.

Areas of quantitative techniques, including biostatistics and other areas such as epidemiology, research design, and implementation will be heavily covered on the subspecialty written and oral examinations.

* denotes required course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Term</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBH 6348</td>
<td>Writing Research Grants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUBH 6450</td>
<td>Biostatistics I* - Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUBH 6451</td>
<td>Biostatistics II* - Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUBH 6301</td>
<td>Fundamentals of Clinical Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MED 7548</td>
<td>Clinical Genetics</td>
<td>Fall, Spring, Summer</td>
<td></td>
</tr>
</tbody>
</table>

PUBH 6348 Writing Research Grants
(2.0 cr: prereq [5330, 5450, [Epi PhD or clinical research MS student]] or #: S-N only) Focuses on NIH-type grants. Mechanisms of grant development/writing, principles of informed consent, budget development, grant-review process, identifying funding sources.

PUBH 6450 Biostatistics I *
Descriptive statistics. Gaussian probability models, point/interval estimation for means/proportions. Hypothesis testing, including t, chi-square, and nonparametric tests. Simple regression/correlation. ANOVA. Health science applications using output from statistical packages.

**PUBH 6451 Biostatistics II * **
(4 cr; prereq [5450, competition in SAS through 5420] or equiv or grade of at least B in [5414, 5415])
Two-way ANOVA, interactions, repeated measures, general linear models. Logistic regression for cohort and case-control studies. Loglinear models, contingency tables, Poisson regression, survival data, Kaplan-Meier methods, proportional hazards models.

**PUBH 6301 Fundamentals of Clinical Research**
(3.0 cr; prereq Clinical research student or #)
Concepts of clinical research design/implementation. Concepts that aid in applied investigation in epidemiology/biostatistics.

**MED 7548 Clinical Genetics**
(6.0 cr; prereq #; H-N only)
Designed for students interested in clinical pediatrics and medicine as well as academic genetics. The student builds basic genetic skills by participating as a member of the combined medicine/pediatrics clinical genetics group at the Fairview-University Medical Center. The activities include weekly hospital rounds, genetics clinic and genetics conference, and hospital consultations when requested. The student evaluates patients with different types of genetic problems and discusses these cases fully. During the second three weeks of the rotation, the student is expected to prepare one topic for genetics conference.

Registration is coordinated through Emily Gray at 612.624.0410 or elgray@umn.edu.

The Foundation of Excellence in Women’s Health Care which was founded by the American Board of Obstetrics and Gynecology (ABOG) has sponsored a course called Excellence in Faculty Development. The Subspecialty Divisions in Gynecologic Oncology, Maternal-Fetal Medicine and Reproductive Endocrinology and Infertility and the Committee on Female Pelvic Medicine and Reconstructive Surgery have approved this course as an option to replace one of the two recommended courses to be completed by the fellow during a fellowship. For further information, please visit the Foundation’s website at www.excellence.org.

Recommended courses will be covered by the MFM division with prior approval from the Program Director.

**Laboratory/Pathology/Radiology Services**
*Laboratory, pathology, and radiology services are readily available through University of Minnesota Medical Center.*

**Fairview Diagnostic Laboratories**
Mayo Medical Building, Room D-293
420 Delaware Street SE, MMC 198
Tel: 612.273.7838
Fax: 612.273.0183

**Pathology**
Pathology Department (also, Pathology Surgical, May Room 422, MMC 76)
Mayo Medical Building, Room C-477
420 Delaware Street SE, MMC 609
Lectures and Presentations
Fellows meet quarterly with their research mentor to summarize their progress. Fellows may be asked to participate in the Department of Obstetrics, Gynecology and Women’s Health Annual Autumn Seminar. At this event, the fellow gives a talk geared to the level of a generalist in OB/GYN or to a family practitioner. By the third year of fellowship training, fellows may present a lecture topic at the Department of Obstetrics, Gynecology and Women’s Health Grand Rounds. Fellows are also encouraged to participate in the annual Minnesota OB/GYN Society meetings.

Licensure/Resident Permits
Fellows are required to apply for a Minnesota medical license prior to fellowship start date.

For more information, please refer to the GME Institutional Policy Manual.

Medical Records
Medical records systems that document the course of patients’ illnesses and which are adequate to support quality patient care, the education of residents, quality assurance activities, and provide a resource for scholarly activity are available at all times at all institutions.

Moonlighting Policy
Moonlighting is a privilege, not a right. Fellows must submit a request to the Program Director for approval and acknowledge the moonlighting policy as follows:

- I am not required to engage in moonlighting activities.
- I will submit a new Moonlighting Request Form to my Program Director at least annually and as changes to my training program requirements or previously approved moonlighting activities occur. My Program Director must approve or deny each request.
- The University of Minnesota professional liability insurance for trainees does not cover moonlighting or any other activities outside the curricular components of the training program. I must obtain separate professional liability insurance which covers any liability for this moonlighting activity.
- I must have a valid Minnesota Medical License issued prior to the beginning of any moonlighting activity that requires a medical license, and that the license must be renewed prior to the expiration date.
- H-1B visa holders must obtain a separate H-1B visa for each facility where the trainee works outside of the training program.
- Moonlighting must not interfere with my ability to achieve the goals and objectives of the training program.
- Moonlighting activities are not part of the educational curriculum in University of Minnesota residency and fellowship programs. This activity (i.e. procedures) will not be credited toward my current training program requirements.
- This moonlighting activity is outside the course and scope of my approved training program. Moonlighting activities are prohibited during regular program duty hours as defined by my Program Director.
- Time spent moonlighting (internal or external) must be reported as a part of duty hour monitoring in the Residency Management Suite (RMS) and must be included in assessments of compliance with ACGME duty-hour requirements. Moonlighting activities must not interfere with meeting the duty hour requirements.
- Violating the Moonlighting Policy set forth in the Institution Manual and my Program Manual is grounds for discipline under Section VI of the Residency/Fellowship Agreement.
- My program director has the right to rescind approval of moonlighting at any time.

The institutional policy on moonlighting is available on the University of Minnesota Graduate Medical Education Administration website:

http://www.med.umn.edu/gme/prod/groups/med/@pub/@med/@gme/documents/content/med_content_458572.pdf

Fellows who wish to pursue moonlighting must submit the Standard Moonlighting Request Form to the Program Director for approval.

Please contact the fellowship coordinator for a copy of the Standard Moonlighting Request Form. This form is also available for download on your New Innovations Residency Management Suite home page (under Department Notices).

Monitoring of Fellow Well Being

The Division of Maternal-Fetal Medicine Program is committed to monitoring the well being of the fellows in the training program. Daily contact between faculty and fellows provides opportunities to observe fellows on a regular basis. Faculty observes for signs of fatigue, distraction, tardiness, or other signs that could indicate overwork or personal problems.

The GME office provides an orientation for all incoming residents and fellows which include the topic of Physician Well Being. During this orientation, fellows are made aware of the confidential Resident Assistance Program (RAP) that is available for fellows and their families should they require outside assistance.

- Resident Assistance Program (RAP)
  Sand Creek, 610 North Main Street, Suite 200, Stillwater, MN 55082
- Contact numbers for this program are: 651.430.3383 or 1.800.632.7643.
- http://www.med.umn.edu/gme/residents/rap/home.html

Program Curriculum

Regardless of their chosen direction our goal is to ensure each fellow is capable of identifying a research question and/or hypothesis and designing and analyzing a study to answer that research question. They would also be capable of presenting the results in a clear, concise fashion. Each individual would have a foundation in the principles of self-education and the education of others; and
be adequately prepared to successfully achieve certification by the Division of Maternal-Fetal Medicine of the American Board of Obstetrics and Gynecology.

The specific terminal and enabling objectives of the Guide to Learning in Maternal-Fetal Medicine (www.abog.org) are the basis for the didactic and clinical curriculum in the three-year fellowship.

**MFM Fellowship with a Masters in Public Health**

A Master of Public Health from the University of Minnesota, School of Public Health is an accessible and flexible option for Maternal-Fetal Medicine fellows who commit to an advanced graduate degree. In the time frame of the three-year Maternal-Fetal Medicine fellowship, the requirements for a Master Degree in Public Health can easily be accomplished. The didactic courses can be taken during the prescribed research/didactic time. Fellows are expected to be full-time students during those months. Their thesis is developed and completed by the end of the fellowship. The graduate level didactic courses and thesis will serve to satisfy the requirements for Maternal-Fetal Medicine certification. Prior approval must be obtained from the Program Director. Prior approval of the design and implementation of the program must be approved by ABOG before implementation.

**Program Goals and Objectives**

Our overall objectives are to train specialists in Maternal-Fetal Medicine with additional expertise in basic or clinical research, public health or epidemiology. Our specific objectives include training individuals capable of continuing on into either 1) a career in academic medicine with a defined area of interest and a foundation in research that will prepare the individual to obtain NIH grant funding and be a productive member of the academic community; or 2) a career as a community subspecialist in Maternal-Fetal Medicine with the knowledge and skills to act as a consultant to general obstetricians and be active in improving the delivery of health care to the population as a whole.

**Program Oversight**

- Each program must have written policies and procedures consistent with ABOG and their own institutional requirements for fellowship duty hours and the working environment. These policies must be distributed to the fellows and faculty. Monitoring of duty hours is required with frequency sufficient to ensure an appropriate balance between education and service.
- Back-up support systems must be provided when patient care responsibilities are unusually difficult or prolonged or if unexpected circumstances create fellow fatigue sufficient to jeopardize patient care.

**Fellow Responsibilities**

The roles and responsibilities of the clinical fellows on the Maternal-Fetal Medicine Service are as follows:

- Overall coordination and timely completion of ward work
- Supervising morning work rounds with the residents and attending patient care rounds
- Developing individual treatment plans with residents
- Participating in surgical cases as needed to complete his or her case list
- Dictating operative reports in cases where the fellow performs a significant portion of the case and assigning other operative dictations to the responsible physician
- Ensuring implementation of patient conferences
- Assuring adequate medical record completeness by junior and senior residents
- Coordinating teaching rounds with the attending of the week
- Adjusting the main OR schedule as necessary
- Participating in morning work rounds, and confirming any positive physical findings
• Developing long term treatment plans in conjunction with attending staff physician and residents and documenting these plans in the patient’s chart
• Ensuring completeness of the new patient evaluations and discussing new patients with resident and attending physician
• Maintaining patient flow in clinic by ensuring adequate resident coverage for attending clinics, consulting with residents on all new patients and/or problem patients and by seeing patients in larger clinics
• Discussing all new admissions with the attending. Formulating plans and ensuring note documenting short-term management in chart
• Assisting in management of new admissions and acute emergencies as needed
• Communicating patient status changes and clearing all treatment plan changes with the attending physician
• Attending all didactic and patient care conferences

Fellows must secure a project advisor for each research project they undertake and this advisor may or may not be the faculty advisor. The project advisor oversees all aspects of manuscript and presentation preparation for their particular project. The Division Director, faculty advisor and project advisor together ensure that the concept of progressive responsibility is followed with respect to the preparation of manuscripts and presentation at meetings. Progressively larger audiences are sought for the fellow’s manuscript and/or clinical research such as the Research Day, and Annual Autumn Seminar.

Research Day
Research Day is held each spring and is attended by approximately 100 academic faculty, clinical faculty, residents and medical students. The first year fellow is invited to attend this event. The second and third year fellows present a talk on an aspect of their ongoing research. The second year fellow submits a poster. The third year fellow gives an oral presentation with a PowerPoint document. A visiting lecturer presides over the day and, along with lead faculty, judge presentations. This exercise gives fellows an opportunity to develop their research and presentation skills and demonstrate their expertise to community physicians.

Research and Thesis Defense Meetings
On a quarterly basis, fellows will participate in the Maternal-Fetal Medicine fellowship program’s research meeting. This conference was established to review progress on current clinical and/or basic science research. New projects and present research issues are discussed.

The graduating fellow will provide an oral presentation on their thesis project. This is in accordance with ABOG’s requirement for a formal thesis defense which is evaluated by the fellow’s peers and faculty.

Thesis requirements are further explained in ABOG’s General and Special Requirements for Graduate Education in the Specialty Areas of Gynecologic Oncology, Maternal-Fetal Medicine, and Reproductive Endocrinology and Infertility (Section III.E.9, page 39; and, Addendum A, page 45).

It is very important to remember that the applicant (fellow) must be the sole or principal investigator and the only author listed on the thesis manuscript. Please do not list co-authors, institutions, or acknowledgments.

Research Stipend
When funds are available, each fellow will be awarded $7,500 towards research activities and travel or the three-year term they are with the Maternal-Fetal Medicine Fellowship Program. These funds are interchangeable with the yearly administrative stipend. These funds are not renewable; they will be available July 1 of the first year of the fellowship.
Fellowship Program Travel Policy and Process

Fellows must attend the annual SMFM (Society of Maternal Fetal Medicine) conference. The fellow’s expenses for the SMFM meeting will be covered by the division for three nights/four days in order to allow them to attend the Thursday-Saturday portion of the meeting. This would include airfare and hotel at the conference rate.

If the fellow chooses to attend the PG courses prior to the start of the meeting they can do so, however they would be responsible for paying for the course fees, hotel, and meals using either their research stipend, $7500 one-time award for the 3 year fellowship, to be used towards research activities and travel; their administrative stipend of $1200 yearly (unused funds do not roll over into next year), or pay the expenses out of pocket.

The division will also cover the cost of the 1st year Fellow retreat (usually in the fall) and the NICHD research meeting for 2nd year fellows.

For other conferences or educational travel, the fellows Research or Administrative funds will be used for all expenses associated with travel and presentation at educational conferences until such time as they are exhausted. When the stipends are exhausted:

I. The division will provide a stipend for poster and/or oral presentation at SMFM.

II. The division will consider a stipend for travel to present oral papers at other appropriate national meetings (ISUOG, AIUM or CAOG). The stipend may or may not cover all the associated costs of attending the meeting.

The division will provide a stipend for international travel only in extraordinary cases. The stipend may or may not cover all the associated costs of attending the meeting.

The division will not provide additional support for poster presentations or strictly educational meetings though research or administrative stipends may be used for these.

Traveling on University Business

Travelers now have up to 60 days after travel completion to substantiate and document travel expenses. Reimbursement requests submitted beyond the 60 days will be denied, except for extraordinary circumstances such as extended international travel. Reimbursement requests for local travel (local business mileage, parking, etc) do not fall under this 60-day time frame. This type of request may now be submitted on a less frequent basis (e.g. quarterly, semi-annually). Please submit all reimbursement requests to Margaret Louters at lout0006@umn.edu, or interoffice mail to MMC 395. Questions regarding reimbursement of travel expenses should be directed to Margaret Louters (phone: 612-625-8071).

The 60 day reimbursement policy also affects any purchase, including but not limited to membership fee, licensure fees, or exam fees, which fellows may submit for reimbursement from research or administrative funds.

Reimbursement Process

The expense reimbursement form is available on the RMS home page. You are responsible for completing the information requested on the form and submitting it within 60 days of travel or purchase. Requests for reimbursement which involve division funding must be signed off by the Program Director. Please submit requests to Pat Smolka (smolk002@umn.edu) or April Homich (homi0003@umn.edu) for processing.

Rotations

High Risk Pregnancy Management

The three-year Maternal-Fetal Medicine fellowship includes a minimum of thirteen months clinical time: twelve months clinical Maternal-Fetal Medicine, one month critical care unit. In addition, the fellow has
five elective months that may be personalized as clinical or research time. In the attached block diagrams, these elective months have been distributed as elective research and clinical time equally for demonstration purposes only. The fellow will gain extensive clinical experience in both the inpatient and outpatient settings with the management of high-risk pregnancies during the clinical Maternal-Fetal Medicine service months.

**University of Minnesota Medical Center**
University of Minnesota Medical Center is the tertiary care referral center based at the University of Minnesota, Twin Cities Campus. The fellows rotate on this service under the direction of Drs. Ramin, Landers, Nyholm, Prosen, Rauk, Shields and Yamamura, the full-time academic Maternal-Fetal Medicine faculty members. During the Maternal-Fetal Medicine service rotation, a Maternal-Fetal Medicine faculty member is assigned clinical responsibility for the inpatient transport, antepartum service and labor and delivery and direct supervision of the Maternal-Fetal Medicine fellow’s clinical performance and evaluation. The degree of autonomous decision-making by the Maternal-Fetal Medicine fellow will be at the discretion of the supervising faculty and relates to the fellow’s knowledge, skill, interest and experience. The fellow would participate in rounds on all antepartum, labor and delivery, and postpartum complicated patients and perform inpatient and outpatient consultations, coordinate maternal transports and interpret ultrasound evaluations. Fellows see obstetrical patients in the MFM outpatient clinic, managing patient care for all high risk obstetrical patients.

**Hennepin County Medical Center**
Hennepin County Medical Center is the county tertiary care center affiliated with the University. Students, residents and fellows rotate on the various services at this site under the supervision of HCMC attending staff that are also faculty members of the University of Minnesota. The Maternal-Fetal Medicine fellow on the inpatient obstetrical services at HCMC will be responsible for the care of hospitalized high-risk obstetric patients under the direct supervision of Dr. Coultrip. The day-to-day responsibilities include participating in the daily morning report conference, as well as clinical teaching with residents and medical students. The Maternal-Fetal Medicine faculty has sole clinical responsibility for the patients seen at the center. The fellow will perform high-risk inpatient/outpatient consultations, targeted (level II) ultrasounds, antepartum fetal testing (biophysical profiles, etc.) under the direct supervision of MFM faculty. This facility affords the fellow the unique opportunity of managing a large number of gravidas with substance abuse and HIV infections.

**Abbott-Northwestern Hospital**
Abbott-Northwestern Hospital is a private tertiary care hospital located adjacent to Minneapolis Children’s Hospital. Abbott-Northwestern Hospital currently has the largest labor and delivery services of our three sites. Fellows round with the attending Maternal-Fetal Medicine on labor suite and antepartum patients are responsible, under direct supervision of Dr. Marijo Aguilera, for transports, inpatient and outpatient consultations and antenatal testing. The fellow will also spend time in the Perinatal Center participating “hands-on” with the attending physician performing ultrasounds including fetal anatomic surveys, doppler velocimetry, and invasive procedures.

**Genetics and Prenatal Diagnosis**
Under the direction of Dr. Tracy Prosen, the fellows will rotate on the Genetics service. Genetics and prenatal diagnosis are taught jointly to the Maternal-Fetal Medicine fellow during the specific clinical Maternal-Fetal Medicine outpatient rotations under the direction Maternal Fetal Medicine faculty. These rotations take place at the UMMC site. Clinical fellow responsibilities during this time include participation in all prenatal diagnosis and genetic counseling cases, and review and discussion of all fetal death cases. The fellow learns the systematic approach to the examination and evaluation of the stillborn infant, and the collection of appropriate tissue samples for laboratory analysis. The fellow also participates in the pediatric genetics new patient evaluation, as well as pediatric genetics follow-up clinics. The fellow is expected to participate in pediatric genetic consultations. The fellow will observe
genetic amniocentesis, chorionic villus sampling, fetal blood sampling, and intrauterine transfusions under the supervision of the Maternal-Fetal Medicine faculty. The fellow will also be involved in telephone consultation with referring physicians requesting information on potential teratogen exposure.

In addition to the optional course in medical genetics (MED 7548), required reading will be assigned covering Mendelian/multifactorial genetics, pedigree analysis and risk management, metabolic disorders in pregnancy and in the newborn, teratogens, evaluation of the newborn infant, prenatal diagnosis, maternal serum screening, genetic counseling, cytogenetics, as well as developing technologies in DNA research. Attendance at the weekly Genetics Clinical Conference, Genetic Didactic Seminars and Prenatal Diagnosis Clinic Conference is mandatory during this rotation.

The month-long Medical Students Genetics course given in November is recommended for general review.

**Infectious Diseases**
The Maternal-Fetal Medicine services at both the University of Minnesota Medical Center and Hennepin County Medical Center manage numerous pregnant women with infectious disease such as HIV, STDs, obstetric and perinatal infections. Training in perinatal infections is a necessary part of the curriculum regardless of the Maternal-Fetal Medicine fellow’s interest. Didactic training in infectious diseases is accomplished by the didactic lecture series, obstetric conferences and departmental grand rounds that cover a variety of infectious disease topics.

**Neonatology**
Between the active NICUs at UMMC, Hennepin County and Abbott-Northwestern Hospitals, there are over 100 NICU beds. These units are capable of providing high-frequency ventilation and ECMO (Extra Corporal Membrane Oxygenation). The Division of Neonatology at the UMMC works in close collaboration with the Division of Maternal-Fetal Medicine in the areas of clinical medicine, didactic lectures, and research.

**Ultrasonography**
Ultrasonography is a central feature of the Maternal-Fetal Medicine Center at UMMC. Fellows have the opportunity to scan as well as interpret as many as 3,000 exams while rotating on the Maternal-Fetal Medicine services. Fellows also participate in the scanning and interpretation of fetal echocardiograms at both UMMC and Abbott-Northwestern under the supervision of the pediatric cardiologists and MFM staff.

**Obstetrical Anesthesia**
The Maternal-Fetal Medicine fellow may elect to spend a month clinical rotation on the obstetrical anesthesia service at UMMC. The clinical service and fellow rotation are under the direction of Dr. David Beebe. The obstetric patients delivering at all three of our sites undergo regional epidural, spinal and intrathecal analgesia and there is ample opportunity for the fellow to gain experience in the technique of epidural analgesia for labor and delivery. In addition, the fellow may gain experience in the technique of induction of general anesthesia for cesarean delivery. Other didactic opportunities include weekly Anesthesia Grand Rounds, monthly Obstetric Anesthesia Grand Rounds and daily teaching rounds with the Obstetric Anesthesia faculty and Anesthesia house staff.

**Critical Care**
The Maternal-Fetal Medicine fellow spends a one month clinical rotation during the first year doing primary patient care in the intensive care unit at Abbott-Northwestern Hospital under the direction of Dr. Roman Melamed. The relationship with the ICU faculty and the Maternal-Fetal Medicine faculty has been most productive in the management of critically ill pregnant as well as non-pregnant patients. The goal of this rotation is for the fellow to gain expertise in the clinical management of the acutely ill patient. The fellow is placed in rotation with residents from the programs in internal medicine and general surgery. There is no responsibility to the Division of Maternal-Fetal Medicine during the
rotation in ICU. The fellows are under the direct supervision of the faculty of the ICU in gaining clinical skills in the areas of ventilatory management, invasive cardiopulmonary hemodynamic monitoring, and the clinical management of a variety of shock states. During the rotation, the Maternal-Fetal Medicine fellow gains expertise with placement of pulmonary artery catheters in the routine management of ventilator patients.

Phone: 612-863-4020
Fax: 612-863-8425

**Perinatal Pathology**
Dr. Alexander (Sasha) Truskinovsky is a pathologist who meets with fellows to review imaging of gross placental pathology.
<table>
<thead>
<tr>
<th></th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st Year:</strong></td>
<td>F MFM</td>
<td>H MFM</td>
<td>F U/S</td>
<td>F U/S</td>
<td>A MFM</td>
<td>L&amp;D supervisor</td>
<td>F MFM</td>
<td>L&amp;D supervisor</td>
<td>A ICU</td>
<td>U Research</td>
<td>FDTC/Genetics</td>
<td>FDTC/Genetics</td>
</tr>
<tr>
<td><strong>2nd Year:</strong></td>
<td>H MFM</td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>A MFM</td>
<td>U research</td>
<td>U research</td>
<td>U Research</td>
<td>F U/S</td>
<td></td>
</tr>
<tr>
<td><strong>3rd Year:</strong></td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>U Research</td>
<td>Fetal Echo</td>
<td>Endo U/Cardiology U</td>
<td>U Research</td>
<td>F U/S</td>
<td>F U/S</td>
<td>F U/S</td>
</tr>
</tbody>
</table>

MFM = Maternal-Fetal Medicine service (at either Fairview Riverside, HCMC or ABNW)
F Echo = Echo @ Fairview in MFM Clinic
F Ultrasound/Sono = Ultrasound @ Fairview Riverside
MFM Fellow Educational Goals and Objectives

INTENSIVE CARE UNIT (ABBOTT NORTHWESTERN HOSPITAL) (Revised 3/1/14)

Goals of the rotation:
1. Develop a systematic approach to the care of the ICU patient.

Objectives of the rotation:
1. Diagnose and provide critical care management for patients with (1,2,3,6):
   a. Acute blood loss and hemorrhage shock
   b. Adult respiratory distress syndrome
   c. Amniotic fluid embolism
   d. Cardiac arrest
   e. Congestive heart failure and pulmonary edema
   f. Eclampsia
   g. Hypertensive crisis and severe pre-eclampsia
   h. Myocardial infarction
   i. Peripartum cardiomyopathy
   j. Pulmonary embolism
   k. Respiratory failure
   l. Shock
   m. Diabetic ketoacidosis and hyperglycemic hyperosmolar coma
   n. Acute thyrotoxicosis
   o. Sepsis
   p. Pneumonia
   q. Delirium and agitation in the ICU
   r. DVT and stress ulcer prophylaxis in the ICU
2. Describe the indications for and complications of invasive hemodynamic monitoring (2,3,6)
3. Outline a plan of management of a critically-ill patient with (1,2,3,6):
   a. Arterial line
   b. Central venous pressure catheter monitoring
   c. Pulmonary artery catheter monitoring
   d. Mechanical ventilation
4. Demonstrate knowledge on the basics of hemodynamic monitoring in the ICU (CVP and PAC waveform analysis; cardiac output; interpretation of hemodynamic data) (2,3,6).
5. Demonstrate knowledge on the approach to airway management and the principles of invasive and non-invasive mechanical ventilation (indications for intubation; evaluation of the airway; approach to difficult airway) (1,2,3,6).
6. Demonstrate knowledge of nutritional support in ICU (1,2,3,6)
7. Understand the collaborative model of care of the critically ill patient (3,4,5,6).
8. Counsel women who have survived a critical care event about prognosis after pregnancy and risks of recurrence with future pregnancies (1,2,3,4).

In order to meet the above goals and objectives, the fellow will:
1. Perform admissions, consults and follow up visits on a broad range of ICU patients.
2. Perform common ICU procedures with supervision (i.e. arterial lines, central lines, pulmonary artery catheters, thoracentesis and paracentesis).
3. Communicate with patients and families.
4. Participate in multi-disciplinary rounds to experience.

Schedule of time (where the fellow is expected to be each day):
1. Clinical duties: 7 am to 5 pm or until the work is done (whichever is later). Meet in the Intensivist office at 7 am for morning report and to obtain your daily assignment. No new patients will be assigned after 4:40 pm. The fellow on service is expected to be physically present in the ICU most of the time and should be available for house office responsibilities for station 20. The fellow is anticipated to care for 4-8 patients at a time, depending on the complexity of the patients.
The fellow will see patients on Station 20 (MICU/SICU/Neuro ICU), Station H4100 (CV surgical ICU), and Station H4200 (CCU).

2. Meetings/Education: The fellow is expected to review the core topics outlined in the objectives using daily attending rounds, didactic sessions with the ICU staff, and through independent reading from the resources below.

**Educations materials include:**
1. Critical Care Medicine: Principles of Diagnosis and Management in Adults (Parillo and Dellinger)
2. The ICU Book (Merino)
3. Intensive Care Medicine (Irwin and Rippe)
4. A Guide to Interpretation of Hemodynamic Data in the Coronary Care Unit (Sharkey)
5. All You Really Need to Know to Interpret Arterial Blood Gases (Martin)
6. Critical Care Medicine (Wheeler)
7. Procedures and Techniques in Intensive Care Medicine (Irwin)
8. Airway Management in the Critically Ill
9. Critical Care Obstetrics (Clark et al)

**Contacts:**
Rotation supervisor: Roman Melamed, MD. Dr. Melamed can be reached at (612) 863-4020, page/text through anwpaging.com, or e-mail roman.melamed@allina.com.

**Fellow evaluations will include the following:**
1. Standard RMS evaluations will be sent to staff physicians who work with the fellow.

**Key to ACGME General Competencies met by each objective:**
1 = Patient Care
2 = Medical Knowledge
3 = Practice-based Learning and Improvement
4 = Interpersonal and Communication Skills
5 = Professionalism
6 = Systems-Based Practice

**MATERNAL-FETAL MEDICINE GENETICS AND PRENATAL DIAGNOSIS (REVISED 3/3/2014)**

Knowledge Objectives:

**Goals of the rotation:**
1. Understand the principles of non-directive counseling
2. Be able to describe options for screening and diagnostic tests in a non-directive manner
3. Understand the impact of maternal age on the risk for aneuploidy in pregnancy
4. Understand the accuracy of and differences between screening tests for aneuploidy in pregnancy including: 1st trimester screen, mid trimester multiple marker screen, ultrasound, and cell-free fetal DNA screening
5. Understand the limitations of screening for carriers of recessive genetic conditions
6. Be able to counsel patients regarding various fetal genetic or structural anomalies
7. Understand the interdisciplinary approach required for prenatal counseling, management, and treatment of fetal anomalies
8. The fellow should be able to counsel persons exposed to teratogenic agents.

**Objectives of the rotation:**
1. Understand patterns of inheritance (2):
   a. Mendelian modes of inheritance:
      i. Autosomal dominant
      ii. Autosomal recessive
      iii. Co-dominant
iv. X-linked recessive
v. X-linked dominant
b. Non-Mendelian modes of inheritance
   i. Trinucleotide repeat disorders
   ii. Imprinting
   iii. Uniparental disomy
   iv. Mitochondrial inheritance
   v. Germline mosaicism
   vi. Multifactorial and polygenic inheritance
c. Explain the importance of late manifestations, incomplete penetrance, variable expression, and genetic heterogeneity and gene-linkage in human disease.
d. Describe the Hardy-Weinberg Law and its applications.
e. Describe the significance of new mutations in humans.

2. Cytogenetics (2,3,6)
a. Be able to outline the principles of human cytogenetics, including:
   i. Cell cycle
      1. Meiosis (and understand its biologic function)
      2. Mitosis
   ii. Preparation and staining human chromosomes, including banding and fluorescence in situ hybridization
   iii. Derivation and significance of X and Y chromatin
   iv. Normal karyotype
   v. Chromosome nomenclature
3. Chromosomal abnormalities (1,2,3,6)
a. Explain and interpret chromosome pathology, including:
   i. Phenotypes associated with the common aneuploidies
      1. Trisomy 21
      2. Trisomy 18
      3. Trisomy 13
   ii. Effects of deletions (e.g., Di George syndrome)
   iii. Significance of translocations and translocation carriers, including the importance of empiric risk data
   iv. Significance of numeric and structural abnormalities of X-linked conditions (e.g., fragile X syndrome, monosomy X)
b. Describe the incidence and types of chromosome anomalies in spontaneous recurrent abortions.
c. Describe the evaluation, management, and counseling of couples with recurrent abortions.
d. Describe recurrence risks, prognosis, and alternative treatments for families with history of chromosome anomalies (donor egg/sperm; preimplantation genetic diagnosis).

4. Prenatal diagnosis (1,2,3,6):
a. Discuss amniocentesis, chorionic villus sampling, and cordocentesis, including:
   i. Techniques
   ii. Maternal and fetal risks
   iii. Limitation of the techniques
   iv. Appropriate gestational age for performance of diagnostic testing
b. Discuss use of fetal cells in maternal blood and cell-free fetal DNA and microarray for prenatal diagnosis, including:
   i. Advantages, disadvantages, and limitations
   ii. Disorders amenable to application of these techniques
c. Describe indications for invasive prenatal diagnostic tests, including:
   i. Maternal age
   ii. Paternal age
   iii. Previous aneuploidy
   iv. Chromosomal abnormality in a parent
   v. Fetal structural abnormality
   vi. Pregnancies at risk for X-linked hereditary disease (e.g. fragile X)
   vii. Diagnosis of neural tube defect
   viii. Pregnancies at risk for detectable autosomal or X-linked disorders (biochemical disorders)
d. Describe the use of molecular genetic analysis techniques for mutation detection, including:
   i. Southern blot analysis
   ii. Polymerase chain reaction
iii. Restriction fragment length polymorphism analysis
iv. Linkage analysis
v. Fluorescent in situ hybridization
e. Discuss ethical issues in prenatal diagnosis, including gender selection.
f. Describe capabilities and limitations of ultrasonography in prenatal diagnosis, including:
   i. Techniques
      1. First trimester chromosome anomalies
      2. Second trimester chromosome anomalies
      3. Third trimester
      4. Anatomic targeted examination
      5. Fetal cardiac anomaly detection
      6. Use of color Doppler
      7. Use of 3D ultrasound
      8. Cervical and placental evaluation
      9. Transperineal technique
     10. Endovaginal technique
   ii. Assessment of bioeffects and safety
g. Describe capabilities and limitations of magnetic resonance imaging in prenatal diagnosis, including advantages and disadvantages relative to ultrasound.
h. Describe fetal blood sampling and fetal surgery:
   i. Techniques
   ii. Assessment of immediate and long-term hazards of the procedure
   iii. Disorders amenable to diagnostic procedures
   iv. Disorders amenable to surgical treatment
   v. Indications
   i. Describe the technique and expected efficacy of preimplantation genetic diagnosis.
5. Screening (1,2,3,6)
a. Describe the impact of and prerequisites for genetic screening programs.
b. Describe the components used in first trimester screening and second trimester maternal multiple serum marker screening for fetal chromosome anomalies
   i. Know the expected sensitivity and false positive rates.
   ii. Know the typical pattern of biochemical markers in the 1st and 2nd trimester in pregnancies affected by Down Syndrome
   iii. Know the typical pattern of biochemical markers in the 1st and 2nd trimester in pregnancies affected by Trisomy 18
   iv. Understand how race, maternal weight, maternal medical conditions and medications affect maternal serum markers
   v. Know what “other things” abnormal genetic screening tests may indicate
   vi. Understand the evaluation of an abnormal first or second trimester screen
   c. Describe available techniques for screening and counseling couples at risk for:
      i. Neural tube defects
      ii. Chromosomal Aneuploidy
      iii. Cystic fibrosis
      iv. Canavan disease
      v. Tay-Sachs disease
      vi. Familial dysautonomia
      vii. Hemoglobinopathies
      viii. Fragile X syndrome
      ix. Spinal muscular atrophy
   d. Describe the genetic screening for gamete donors.
6. Counseling (1,2,3,4,6)
a. Describe the components of preconceptional counseling.
b. List the elements of genetic counseling, including knowledge of the diagnosis, mode of inheritance, risk of recurrence, and prognosis.
c. Describe the principles of genetic counseling.
d. Describe the management of maternal phenylketonuria.
e. Record and interpret pedigree data.
7. Embryology and teratology (1,2,3,6)
a. Describe normal embryology.
b. Outline the general principles of teratology:
i. Importance of the genotype of the fetus and the mother

ii. Relationship between the teratogenic effect and developmental stage at the time of exposure (e.g. critical periods for organogenesis)
   1. Preimplantation period
   2. Embryonic period
   3. Fetal period

iii. Dose-response relationship of teratogenic agents

iv. Species specificity

   c. Describe the criteria for proof of human teratogenicity.

   d. Describe the mechanisms of teratogenesis leading to abnormal embryogenesis:
      i. Know the distinction between embryopathy and fetopathy
      ii. Describe the risks of maternal/paternal teratogenic exposures

   e. List the effects on the fetus and newborn of suspected teratogenic agents, such as:
      i. Drugs and medications
         1. Illegal drugs
         2. Anticonvulsants
         3. Anticoagulants
         4. Anti-depressants/anti-psychotics/medications for mood disorders
         5. Angiotensin-converting enzyme inhibits and receptor blockers
         6. Retinoids
         7. Hormones
         8. Anti-neoplastic agents
         9. Anti-microbials, anti-fungals, and anti-virals
      ii. Herbal products
      iii. Infections: Viral, bacterial, and parasitic
         1. Evaluation of mother and newborn with exposure
         2. Effects on fetus at various stages of gestation
         3. Prenatal diagnosis
         4. Risk of morbidity and mortality
         5. Antepartum prevention and treatment
      iv. Vaccinations
      v. Radiation and other physical agents
         1. Investigate and counsel a pregnant woman or her spouse exposed to irradiation or agents
         2. Explain the effects of dose, dose rate, stage of gestation, and specific target organ at risk produced by:
            a. External ionizing radiation
            b. Nuclear medicine studies and radioactive isotopes
            c. Nuclear natural disaster or attack
            d. Biologic or chemical weapons
         3. High-intensity ultrasonography
      vi. Maternal conditions
         1. Nutritional deficiencies and excesses
         2. Diabetes mellitus
         3. Phenylketonuria
      vii. Environmental agents
         1. Alcohol
         2. Methylmercury
         3. Lead
         4. Pesticides
         5. Tobacco
         6. Caffeine
         7. Hyperthermia
      f. Review critically retrospective and prospective studies of suspected teratogenic agents.
      g. Describe the counseling in cases of teratogen exposure:
         i. Preconception counseling
         ii. Antepartum exposure
         iii. Paternal exposure

8. Demonstrate an understanding of the indications, contraindications, risk, and principles for the following procedures (1,2,3,4,5,6):
a. Chorionic villus sampling
b. Cordocentesis
t. Fetal transfusion
c. Fetal reduction and selective termination procedures
d. Dilation and evacuation for 2nd trimester fetal death or lethal anomalies
e. MRI for obstetric and fetal indications
f. Intrauterine fetal therapy
t. Placement of thoracic shunt
ii. Placement of urinary catheter
iii. Laser photocoagulation for the treatment of twin-twin transfusion syndrome

9. Fetal surgery (1,2,4,5,6)
a. Be able to explain evaluation and referral of patients to fetal surgery specialists

Technical objectives of the rotation:
1. Be able to perform ultrasound guided amniocentesis
2. Observe both trans-cervical and trans-abdominal CVS
3. Obtain sufficient nuchal translucency images for NT “certification”
4. Become familiar with computer resources of OMIM, GeneTests, Possum and teratogen databases (TERIS, ReproTox, Shepard’s)

In order to meet the above objectives, the fellow will:
1. Attend the Fetal Diagnosis and Treatment Center Clinics
2. Read and interpret ultrasounds of fetal anomalies
3. Counsel patients regarding the diagnosis, prognosis and management of pregnancies complicated by aneuploidy, fetal anomalies or genetic disorders
4. Observe genetic counseling sessions as well as obtain and interpret a 3-generation pedigree
5. Observe cell culture and genetic testing in the Clinical Genetics Laboratory
6. Present cases at the Fetal Diagnosis and Treatment Center meetings
7. Observe antenatal consultations with Pediatric subspecialists (ie. Pediatric Cardiology, Neonatology, Pediatric Surgery)

Schedule of time (where the fellow is expected to be each day):
1. Clinical coverage:
   Monday AM/PM:  FDTC clinic
   Tuesday AM:  PACC clinic with MFM attending
   Tuesday PM:  Neonatology consultations
   Wednesday AM/PM:  FDTC clinic
   Thursday AM:  PACC clinic with MFM attending
   Thursday PM:  Genetic Counseling
   Friday AM:  Genetic Counseling and/or Clinical Genetics Laboratory
   Friday PM:  Reading time

2. Meetings/Education:
   • Didactic with Dr. Prosen (weekly)
   • Genetic Conference at U of M (2nd Tuesday of the month, 15 minute presentation required)
   • Fetal Diagnosis and Treatment Center conference (1st Thursday of the month – required to co-present with FDTC coordinator)

Educational materials include:
1. Genetics in Obstetrics and Gynecology
2. Structural Fetal Malformations: The Total Picture
3. Prenatal Medicine
4. Fetology

Fellow Evaluations will include the following:
1. Standard RMS evaluations will be sent to staff physicians who work with the fellow.

Key to ACGME General Competencies met by each objective:
1 = Patient Care
2 = Medical Knowledge
3 = Practice-based Learning and Improvement
**ULTRASOUND I&II (REVISED 2/24/2014)**

**Goals of the rotation:**
1. Demonstrate a base of knowledge including, indications, contraindications, risks, and principles, and experience sufficient cases to perform the ultrasound examinations independently.
2. Understand the bio-effects and safety of ultrasound (ALARA).

**Objectives of the rotation:**
1. The fellow will be able to perform the following ultrasound examinations independently (1,2,3).
   a. 1st, 2nd and 3rd trimester ultrasound
   b. Targeted anatomic fetal evaluation
   c. Cardiac evaluation including Doppler
   d. Doppler velocimetry
      i. Fetal umbilical artery
      ii. Fetal middle cerebral artery
      iii. Maternal uterine artery
      iv. Attempt fetal ductus venosus
   e. Cervical and placental evaluation
   f. 3D and 4D ultrasound

**In order to meet the above objectives, the fellow will achieve the following competencies:**

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
<th>COMPETENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction the U/S Clinic</td>
<td>1. Observe work flow of the clinic.</td>
</tr>
<tr>
<td></td>
<td>Become familiar with the machine settings and U/S program</td>
<td>2. Experiment with different settings and transducers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Observe targeted U/S examinations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Recognition of normal landmarks.</td>
</tr>
<tr>
<td>Week 2</td>
<td>Assess current U/S skills</td>
<td>1. Document fetal number, viability, lie and presentation.</td>
</tr>
<tr>
<td></td>
<td>Discuss the physics of U/S</td>
<td>2. Obtain sagittal spine images.</td>
</tr>
<tr>
<td></td>
<td>Develop hand / eye coordination</td>
<td>3. Review ALARA.</td>
</tr>
<tr>
<td>Week 3</td>
<td>Complete basic biometry</td>
<td>1. Obtain and document measurements of femur, abdominal circumference, biparietal diameter and head circumference.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Obtain cervical length images.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Assess placentation.</td>
</tr>
<tr>
<td>Week 4</td>
<td>Independently assess fetal anatomy by region.</td>
<td>1. Demonstrate an understanding of normal anatomy through independently acquired and documented images (head, thorax, face, abdomen, spine and extremities).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Review and discuss interesting case at Ultrasound Conference.</td>
</tr>
<tr>
<td>Week 5</td>
<td>Complete fetal anatomic survey. Basic Cardiac exam.</td>
<td>1. Perform a complete fetal anatomy scan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Learn and obtain basic heart views (4 chamber heart, 3 vessel view).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Performs amniocentesis on simulation model.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Demonstrate an ability through recorded images to obtain a 4 chamber view, outflow tracts and 3 vessel views, as well as cardiac size and axis.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Complete U/S report.</td>
</tr>
</tbody>
</table>
| Week 6 | Solidify anatomic scanning skills. | 1. Independently document anatomic images with emphasis on normal anatomy.  
2. Doppler imaging.  
4. Learn the basics of the first trimester screen. |
|--------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Week 7 | Continue to develop cardiac imaging skills | 1. Rotate with Pediatric Cardiology.  
2. Independently complete and document the entire cardiac exam. |
| Week 8 | Become an independent sonographer  | 1. Independently complete and document a normal targeted exam.  
2. Participate in acquiring Doppler assessment of the umbilical artery, middle cerebral artery and maternal uterine artery. |

**Schedule of time (where the fellow is expected to be each day):**

1. **Ultrasound Clinic**
   a. Monday through Friday 8 am to 4:30 pm  
   b. Friday from 8 am to 12:30 the fellow will be assigned their own ultrasound room with a designated sonographer overseeing the ultrasound.

2. **Meetings/Education**
   a. Wednesdays 7:00 – 8:00 am fellowship lecture (required)  
   b. Monthly Ultrasound Conference  
      i. Prepare a Power Point presentation of an interesting ultrasound case with pertinent discussion.

**Educational materials include:**

1. Diagnostic Imaging (Woodward)  
2. Ultrasonography in Obstetrics and Gynecology (Callen)  
3. Diagnostic Imaging of Fetal Anomalies (Nyberg)

**Fellow Evaluations will include the following:**

1. Standard RMS evaluations will be sent to staff physicians who work with the fellow.

**Key to ACGME General Competencies met by each objective:**

1 = Patient Care  
2 = Medical Knowledge  
3 = Practice-based Learning and Improvement  
4 = Interpersonal and Communication Skills  
5 = Professionalism  
6 = Systems-Based Practice

**ULTRASOUND III (REVISED 4/20/2015)**

**Goals of the rotation:**

1. Demonstrate a base of knowledge including, indications, contraindications, risks, and principles, and experience sufficient cases to perform the ultrasound examinations independently.  
2. Demonstrate the ability to counsel patients on the ultrasound findings.  
3. To acquire the tools needed for independent practice.

**Objectives of the rotation:**

1. The fellow will be able to perform the following ultrasound examinations independently (1,2,3).  
   a. 1st, 2nd and 3rd trimester ultrasound  
   b. Targeted anatomic fetal evaluation  
   c. Cardiac evaluation including Doppler  
   d. Doppler velocimetry  
      i. Fetal umbilical artery
ii. Fetal middle cerebral artery
iii. Maternal uterine artery
iv. Attempt fetal ductus venosus
e. Cervical and placental evaluation
f. 3D and 4D ultrasound

2. The fellow will be able to discuss with patients the findings and interpretation of their ultrasound (1,2,3,4).
3. The fellow will be able to provide non-directive counseling to patients regarding the ultrasound findings and assist them with developing a plan of care for the pregnancy (1,2,3,4).
4. The fellow will be able to effectively communicate their ultrasound findings and discussion with referring providers (4,5,6).

In order to meet the above objectives, the fellow will achieve the following competencies:
1. Independently complete and document a normal targeted exam.
2. Counsel patients following their ultrasound regarding the observed findings.
3. Complete a written report summarizing the ultrasound and discussion with the patient.
4. Discuss any findings or recommendations with referring providers.

Schedule of time (where the fellow is expected to be each day):
1. Ultrasound Clinic
   a. Monday through Friday 8 am to 4:30 pm
   b. Friday from 8 am to 12:30 the fellow will be assigned their own ultrasound room with a designated sonographer overseeing the ultrasound.

1. Meetings/Education
   a. Wednesdays 7:00 – 8:00 am fellowship lecture (required)
   b. Monthly Ultrasound Conference
      i. Prepare a Power Point presentation of an interesting ultrasound case with pertinent discussion.

Educational materials include:
1. Diagnostic Imaging (Woodward)
2. Ultrasonography in Obstetrics and Gynecology (Callen)
3. Diagnostic Imaging of Fetal Anomalies (Nyberg)

Fellow Evaluations will include the following:
1. Standard RMS evaluations will be sent to staff physicians who work with the fellow.

Key to ACGME General Competencies met by each objective:
1 = Patient Care
2 = Medical Knowledge
3 = Practice-based Learning and Improvement
4 = Interpersonal and Communication Skills
5 = Professionalism
6 = Systems-Based Practice

LABOR AND DELIVERY SUPERVISORY ROTATION (FAIRVIEW) (REVISED 1/14/2014)

Goals of the rotation:
1. Supervise and manage the Labor and Delivery unit and triage.
2. Be able to prioritize labor and delivery care of patients based on the acuity and severity of the condition.

Objectives of the rotation:
1. Supervise and/or perform obstetrical procedures including (1,2,3,4,5):
   a. Cervical cerclage
   b. Classical cesarean section
   c. Cesarean hysterectomy
   d. Twin vaginal delivery including breech extraction
   e. Operative vaginal delivery (vacuum/forceps)
   f. Cesarean delivery for multiple pregnancy

   35
2. Understand and teach the abnormalities of labor (1,2,3,4,5,6):
   a. The anatomy of the pelvis and types of pelvic architecture and associated complications of labor
   b. The diagnosis and management of dystocia
   c. Indications and complications of oxytocic agents
   d. Intrapartum methods used to monitor fetal well-being
   e. The indications, techniques and complications of forceps and vacuum deliveries
   f. The indications, techniques and complications of Cesarean delivery
   g. The indications, techniques and complications of Cesarean hysterectomy
   h. The management of pregnancies subsequent to Cesarean delivery
   i. Outline the management of traumatic complications of labor
   j. Medical and surgical management of intrapartum hemorrhage
   k. The indications, techniques and complications of labor induction

3. Demonstrate both a leadership role and teaching role involving residents and medical students in the care of labor and delivery patients (2,3,4,5,6).

4. Provide consultative services in conjunction with the MFM Attending and/or WHS attending to other General Obstetricians, Family Practitioners and Certified Nurse Midwives in the care of their high risk patients (1,2,3,4,5).

In order to meet the above objectives, the fellow will:
1. Attend morning sign out rounds daily with attending staff (MFM and WHS), residents and students.
2. Supervise complete labor and delivery and triage care of all MFM and WHS Obstetric patients, including:
   a. Triage
   b. Admission
   c. Intrapartum/labor management
   d. Vaginal and cesarean deliveries

Schedule of time (where the fellow is expected to be each day):
1. Clinical coverage:
   a. Labor and Delivery coverage
      i. Monday through Friday 7:00 am to 5:00 pm
      ii. The fellow cannot have any outside clinical commitments during this rotation (no scheduled PACC clinic)
2. Meetings/Education
   a. Wednesday 7:00 – 8:00 am fellowship lecture (required)
   b. Monday, Tuesday, Thursday and Friday 7:00 – 8:00 am group sign-out and teaching rounds
3. Schedule of formal teaching rounds activities:
   a. Monday – Review MFM primary patient list and WHS Gyn list
   b. Tuesday – PGY 3 article/topic presentation
   c. Wednesday – Medical Student article/topic presentation
   d. Thursday – PGY 2 article/topic presentation
   e. Friday – MFM article/topic presentation

Educational materials include:

Fellow Evaluations will include the following:
1. Standard RMS evaluations will be sent to staff physicians who work with the fellow.

Key to ACGME General Competencies met by each objective:
1 = Patient Care
2 = Medical Knowledge
3 = Practice-based Learning and Improvement
4 = Interpersonal and Communication Skills
5 = Professionalism
6 = Systems-Based Practice
MATERNAL-FETAL MEDICINE SERVICE

Goals of the rotation:
1. Diagnose and provide treatment for maternal medical conditions that impact the management of pregnancy, delivery, and postpartum care.
2. Diagnose and provide treatment for complications of pregnancy and severe complications impacting antepartum, peripartum and postpartum care.
4. Improve performance of complex operative deliveries.
5. Gain expertise in providing care to complicated pregnant patients using a multidisciplinary approach involving other specialists in medicine and the health care delivery system.

Objectives of the rotation:
1. The fellow should be able to diagnose and manage medical and surgical complications of pregnancy that may affect the mother, fetus and neonate, including but not limited to (1,2,3,6):
   a. Cardiovascular
      i. Interpret tests to diagnose cardiac abnormalities and to assess cardiac reserve during pregnancy in disease states:
         1. Assign function classification of heart disease based on New York Heart Association classification
         2. Order and make electrocardiographic diagnoses of arrhythmias
         3. Order and interpret chest x-rays
         4. Order and interpret echocardiography, in consultation with other specialists
         5. Interpret pulmonary function tests
         6. Order and interpret catheterizations, in consultation with other specialists
      ii. Describe the pathophysiology, diagnosis and plan of management for Rheumatic heart disease:
         1. Congenital heart disease due to:
            • Atrial septal defects
            • Patent ductus arteriosus
            • Ventricular septal defect
            • Pulmonary stenosis
            • Coarctation of aorta
            • Tetralogy of Fallot
            • Eisenmenger syndrome
            • Aortic stenosis
            • Hypertrophic sub-aortic stenosis
            • Marfan syndrome
         2. Pregnancy with cardiac valve prostheses
         3. Primary pulmonary hypertension
         4. Peripartum cardiomyopathy
         5. Cardiac arrhythmias
         6. Mitral valve prolapse
         7. Hypertensive disorders
         8. Coronary artery disease
         9. Heart failure
         10. Cardiac transplantation
      iii. Treat with the following drugs and recognize the side effects of:
         1. Anti-arrhythmic agents
         2. Diuretics
         3. Antibiotic therapy for the prevention of bacterial endocarditis and recurrence of rheumatic fever
         4. Anticoagulants
         5. Vasoactive drugs, including inotropic agents, including digitalis, antihypertensive agents, including calcium channel blockers and beta-blockers, etc.
b. Gastrointestinal
   i. Diagnose and describe the management of common gastrointestinal disorders in pregnancy:
      1. Peptic ulcer
      2. Inflammatory bowel disease
      3. Intestinal obstruction
      4. Pancreatitis
      5. Appendicitis
      6. Megacolon
      7. Prior intestinal surgery
      8. Abdominal trauma with possible viscous rupture and hemoperitoneum

c. Autoimmune
   i. Describe a plan of management for:
      1. Rheumatoid arthritis
      2. Systemic lupus erythematosus
      3. Scleroderma
      4. Dermatomyositis
      5. Polyarteritis nodosa
      6. Autoimmune thrombocytopenic purpura
   ii. Describe the diagnosis and management of:
      1. Antiphospholipid antibody syndrome
      2. Autoimmune thrombocytopenic purpura

d. Neuropsychiatric disease
   i. Formulate a plan of management for the following:
      1. Cerebral thrombosis, including cortical vein thrombosis
      2. Cerebral hemorrhage (SAH) secondary to a
         - Ruptured aneurysm
         - Arterio-venous malformation
      3. Myasthenia gravis
      4. Multiple sclerosis
      5. Myotonic dystrophy
      6. Meningitis
      7. Guillan-Barre syndrome
      8. Spinal cord lesions
      9. Neurologic tumors
      10. Shunts for hydrocephaly
      11. Migraine headaches
      12. Pseudotumor cerebri
      13. Chorea gravidarum
      14. Porphyria
      15. Psychiatric diseases: depression, bipolar, schizoaffective disorder, schizophrenia, eating disorders, and postpartum depression.
   ii. Counsel and treat women with epilepsy.

e. Endocrine
   i. Diabetes mellitus
      1. Diagnose gestation and pre-gestational diabetes during pregnancy.
      2. Describe the maternal and infant management and consequences of diabetes.
         - Effects of pregnancy on the diabetic mother
         - Effects of diabetes on the maternal, fetal and neonatal organ systems
      3. Manage medical problems of the diabetic woman.
      4. Describe the mechanisms responsible for the development of hypoglycemia, hyperglycemia, and ketoacidosis.
      5. Describe how to avoid complications by the appropriate use of:
         - Diet
         - Insulin
         - Oral hypoglycemic agents
   ii. Thyroid disorders
      1. Diagnose and manage:
         - Hyperthyroidism due to a variety of causes, including Graves’ Disease
         - Acute thyrotoxicosis
• Hypothyroidism: Overt and subclinical due to a variety of causes, including Hashimoto’s Disease
2. Diagnose and refer thyroid masses
iii. Adrenal
1. Diagnose and manage:
   • Congenital adrenal hyperplasia
   • Addison’s Disease
   • Cushing’s Disease
   • Hyperaldosteronism
2. Describe the diagnosis and surgical management of pheochromocytoma.
iv. Pituitary
1. Describe the diagnosis and management of:
   • Adenomas
   • Hyperprolactinemia
   • Diabetes insipidus
   • Insufficiency
f. Substance abuse
i. Describe screening and identification of substance abuse.
ii. Describe maternal and infant risks, management and consequences of substance abuse due to:
   1. Alcohol
   2. Nicotine
   3. Narcotics
   4. Prescription drugs, including barbiturates and phenothiazines
   5. Illicit drugs, including cocaine, methamphetamines, and marijuana among others
g. Dermatologic disorders
i. Describe the normal cutaneous changes of pigmentation and hair in pregnancy.
ii. Recognize and diagnose:
   1. Common dermatological disorders
   2. Dermatologic disorders unique to pregnancy
      • Pruritic urticarial papules and plaques of pregnancy (PUPP)
      • Gestational pemphigoid
      • Impetigo herpetiformis
      • Papular dermatitis of pregnancy
h. Gynecologic disease
i. Describe a plan of management for:
   1. Leiomyomas
   2. Gynecologic cancers
   3. Uterine prolapse
   4. Cystocele
   5. Vaginitis
   6. Uterine incarceration
   7. Fistulae
ii. Describe the evaluation, diagnosis, and treatment of sexually transmitted diseases.
i. Neoplasms
i. Describe the management of neoplasms in pregnant women and/or their fetuses, including:
   1. Lymphoma
   2. Leukemia
   3. Breast malignancy
   4. Cervical carcinoma
   5. Melanoma
   6. Thyroid cancer
   7. Colon cancer
   8. Trophoblastic disease
   9. Metastatic cancer
   10. Metastatic cancers to the fetus and placenta
   11. Fetal tumors
ii. Describe the use and risks of chemotherapeutic agents in pregnancy.
j. Pulmonary
i. Diagnose and formulate a plan of management for:
   1. Asthma
   2. Pulmonary embolism
   3. Tuberculosis
   4. Infections
   5. Adult respiratory distress syndrome
   6. Aspiration pneumonitis
   7. Restrictive disorders, including kyphosis, scoliosis, and connective tissue disease
   8. Pneumothorax
   9. Pulmonary hypertension
   10. Respiratory failure

ii. Describe a plan of management for:
   1. Cystic fibrosis
   2. Pulmonary transplantation

iii. Describe the use and interpretation of pulmonary function tests in the management of any of the aforementioned diseases.

k. Renal
   i. Describe the utilization of the following laboratory tests:
      1. Urinalysis, urine osmolality
      2. Plasma BUN, creatinine, uric acid
      3. Endogenous creatinine clearance
      4. Timed urinary protein collection
      5. IVP, renal scan, CT scan, ultrasound, MRI
      6. Renal biopsy
   ii. Describe the diagnosis and management for women with:
      1. Diabetic nephropathy
      2. Glomerular and interstitial nephritis
      3. Acute and chronic pyelonephritis
      4. Nephrotic syndrome
      5. Chronic undifferentiated renal disease (arteriolar nephrosclerosis)
      6. Renal transplantation and dialysis
      7. Acute tubular necrosis and renal cortical necrosis
      8. Acute and chronic renal failure

l. Liver
   i. Diagnose and describe management of common hepatic disease in pregnancy:
      1. Gall bladder and biliary tract disease
      2. Hepatitis
         - Infections
         - Autoimmune
      3. Acute fatty degeneration, or acute liver failure secondary to the above states, drug ingestion, or steatosis
      4. Cirrhosis
      5. Changes secondary to preeclampsia, eclampsia
      6. Hyperemesis gravidarum
      7. Cholestasis
   ii. Describe a plan for management for:
      1. Hepatic rupture
      2. Liver transplantation

m. Hematologic
   i. Diagnose the following disease and formulate a plan of management for:
      1. Anemia (e.g. iron, folate deficiency)
      2. Hemoglobinopathies
      3. Thrombocytopenias
      4. Congenital and acquired coagulation defects
      5. Thrombophilias and thromboembolism
      6. Leukemia and lymphoma
   ii. Describe the appropriate use and risk of:
      1. Whole blood
      2. Fresh frozen plasma
3. Cryoprecipitate
4. Platelets
5. Packed red blood cells
6. Plasma protein fractions
7. Plasma substitutes

iii. Describe a plan for long-term anti-coagulation therapy in pregnancy and puerperium
1. Anticoagulation
   • Prophylactic
   • Therapeutic
2. Anticoagulant agents
   • Vitamin K antagonists (Coumadin)
   • Factor Xa inhibitors, such as:
     o Unfractionated heparin
     o Low molecular weight heparin
   • Direct thrombin inhibitors
3. Indications for use
4. Risk for complications

n. Infectious diseases
i. Epidemiology
   1. Describe the incidence/prevalence of infectious diseases in pregnancy and in the neonatal period.
   2. Describe the impact of these diseases on maternal and child health.
ii. Pathophysiology
   1. Describe the altered host factors in pregnant women, the fetus, and newborn predisposing them to infectious diseases.
   2. Describe the genital tract flora during pregnancy.
   3. Describe the sources and possible influences leading to colonization and infection of the fetus and neonate with:
      • Bacteria
      • Viruses
      • Parasites and protozoa
   4. Describe microbiologic and immunologic consequences of breastfeeding vs. formula feeding for newborns.
   5. Describe the primary mechanisms and organisms involved in:
      • Septic abortion
      • Premature labor
      • Preterm premature rupture of membranes
      • Chorioamnionitis
      • Maternal sepsis/infections, including:
        o UTI
        o Pneumonia
        o Endomyometritis
        o Surgical site infections
        o Pelvic thrombophlebitis
        o Peritonitis
      • Neonatal sepsis
      • STD
      • Mastitis
   6. Describe and interpret the microbiologic evaluation of:
      • Septic abortion
      • Chorioamnionitis
      • Maternal pneumonia
      • Mastitis
      • Neonatal sepsis or pneumonia
      • Nosocomial infections
      • UTI
      • STD
      • Tuberculosis
• Hepatitis
• Human Immunodeficiency Virus, including opportunistic infections

iii. Treatment

1. In the mother, fetus, and neonate, describe the selection, mechanism of action, and side effects of:
   • Antibiotic
   • Antiviral

2. Counsel patients:
   • Regarding immunization in pregnancy and the puerperium
   • Regarding international travel and prophylaxis of various infections in developing countries
   • Who are exposed to emerging infections and bioterrorism

3. Describe currently recommended antiretroviral treatment regimens of HIV infection in pregnancy:
   • Goals of maternal antiretroviral treatment and risks of perinatal transmission
   • Management decisions about the route of delivery to prevent perinatal HIV transmission
   • Classes, safety, side-effects and complications of antiretroviral therapy specific to pregnancy
   • Prevention, prophylaxis and treatment of opportunistic infections

4. Describe the effect of pregnancy on antibiotic and antiviral pharmacokinetic parameters.

5. Explain the consequences of maternal-fetal infection on a subsequent pregnancy.

6. Describe the prophylaxis and management of sexually transmitted diseases and group B streptococci.

7. List steps to be taken when a susceptible pregnant woman or newborn is exposed to common bacterial and viral pathogens.

o. Genito-urinary tract
   i. Describe the embryology of the urogenital tract.
   ii. Describe the etiology of specific malformations:
      1. Diagnosis
      2. Implications for pregnancy
      3. Treatment

p. Non-obstetric surgery
   i. Describe the complications, risks of surgery, and management in the:
      1. First trimester
      2. Second trimester
      3. Third trimester
   ii. Describe anesthetic concerns for non-obstetric surgery
   iii. Describe fetal monitoring in:
      1. Burn patients
      2. Trauma patients
      3. Hypothermic patients
      4. Cardiopulmonary bypass cases
      5. Laparoscopic cases

2. Care for the undelivered patient with pregnancy complications including but not limited to (1,2,3,6):
   a. Multi-fetal gestation
      i. Describe the:
         1. Diagnosis
         2. Antepartum evaluation and management
         3. Methods of delivery
         4. Complications and management of:
            • Twin-twin transfusion syndrome
            • TRAP sequence
            • Discordance
            • Mono-amniotic twins
            • Retained fetal demise

42
ii. Describe the indications, techniques and complications of fetal reduction.
iii. Describe the management of higher order multiple gestations.
iv. Describe indications and techniques for treatment of twin-twin transfusion.

b. Hypertensive disorders of pregnancy
   i. Describe, diagnose, and manage hypertensive disorders of pregnancy:
      1. Etiology of specific causes of hypertension
      2. Risk assessment and possible approaches to prevention
      3. Pathologic changes in mother, fetus, and newborn
      4. Complications of the disease and treatment
      5. Techniques to monitor the mother and fetus
      6. Prognosis for subsequent pregnancies

   c. Preterm ruptured fetal membranes
      i. Describe the:
         1. Pathophysiology
         2. Management
         3. Methods of diagnosis
         4. Methods of evaluating pulmonary maturity
      ii. Describe the use of glucocorticoids, antibiotics and tocolytic agents
      iii. Describe problems of infection and effects on mother, fetus and newborn.
      iv. Describe the associated with abnormalities of maternal local and systemic inflammatory response.
      v. Describe prognosis for subsequent pregnancies.
      vi. Describe the risks assessment and possible approaches to prevention.

   d. Preterm labor
      i. Describe, diagnose, and manage premature labor and understand the:
         1. Risk assessment and possible approaches to prevention
         2. Etiology
         3. Use and complications of various therapeutic modalities, including tocolytics and glucocorticoids
         4. Maternal, fetal and neonatal complications
         5. Methods for delivery, with attention to fetal weight and lie
      ii. Describe the use of maternal transport and community education programs.
      iii. Describe the association with abnormalities of maternal local and systemic inflammatory response.

e. Cervical incompetence

f. Hyperemesis gravidarum

g. Fetal growth restriction
   i. Describe the:
      1. Role of maternal, placental, and fetal factors in the etiologies
      2. Clinical, biochemical, and biophysical screening and diagnostic techniques
      3. Criteria for monitoring fetal growth
      4. Effects on fetal and newborn prognosis (immediate and remote)
      5. Method and timing of delivery
      ii. Counsel a patient of the prognosis of future pregnancies.

h. Fetal malformation and/or genetic abnormalities
   i. Bleeding complications
      i. Diagnose and manage:
         1. Abnormal placental implantation or development
         2. Trauma to the genital tract
         3. Uterine atony
         4. Hypovolemia
         5. Coagulation defects
         6. Feto-maternal bleeding

j. Prolonged gestation
   i. Describe the methods used to establish gestational age.
   ii. Describe the:
      1. Risks to the fetus
      2. Methods to monitor the fetus
      3. Indications and methods for delivery
   iii. List neonatal complications of prolonged pregnancy.
k. Fetal death, stillbirth and recurrent fetal loss
   i. Describe the:
      1. Etiology of recurrent fetal loss
      2. Diagnostic evaluation of recurrent fetal loss
      3. Evaluation of unexplained stillbirth
   ii. Outline appropriate management, including methods of termination.
   iii. Counsel a couple about prognosis for subsequent pregnancies.
   iv. Describe management of the grief process.

l. Fetal hydrops
   i. Identify and describe the management of:
      1. Non-immune hydrops
         • Etiology
         • Diagnosis
         • Management
      2. Immune hydrops
         • Antigen-antibody systems
         • Pathophysiology
         • Management
   ii. Describe the prevention of maternal alloimmunization.
   iii. Describe the timing and mode of delivery in affected cases.

m. Abnormalities in amniotic fluid volume
   i. Diagnose and manage:
      1. Hydramnios
         • Etiologies
         • Diagnostic criteria
         • Complications
         • Management
      2. Oligohydramnios
         • Etiologies
         • Diagnostic criteria
         • Complications
         • Management
   3. Manage severe peripartum complications including but not limited to (1,2,3):
      a. HELLP syndrome
      b. Severe preeclampsia and eclampsia
      c. Pulmonary edema
      d. Renal failure
      e. Diabetic ketoacidosis
      f. Acute fatty liver of pregnancy
   4. Develop an interdisciplinary approach to the management of complicated undelivered patients including involvement of other medical and surgical subspecialties, nursing, social services, clergy, and neonatology (1,2,3,4,5,6).
   5. Demonstrate both a leadership role and teaching role involving residents and medical students in the care of complicated pregnancies (1,2,3,4,5).
   6. Provide consultative services in conjunction with the MFM attending to General Obstetricians, Family Practitioners and Certified Nurse Midwives in the care of their high risk patients (1,2,3,4,5).
   7. Demonstrate a base of knowledge including indications, contraindications, risks and principles, and experience sufficient to perform the following antepartum procedures independently (1,2,3):
      a. Amniocentesis in the 2nd and 3rd trimester
      b. Amnioreduction
      c. Cardiopulmonary resuscitation
      d. Transvaginal cervical cerclage
         i. McDonald
         ii. Shirodkar
      e. Fetal assessment
         i. Non-stress test
         ii. Contraction stress test
         iii. Biophysical profile
         iv. Vibroacoustic stimulation test
v. Doppler velocimetry
f. External cephalic version of abnormal fetal lie

8. Demonstrate a base of knowledge, including indications, contraindications, risks, principles and experience sufficient to perform the following intrapartum procedures independently (1,2,3):
   a. Complicated cesarean delivery
   b. Cesarean hysterectomy
   c. Control of hemorrhage
      i. Medical
      ii. Surgical
   d. Delivery of multiple gestations
      i. Management of the non-vertex second twin
   e. Version of second twin
      i. Internal
      ii. External

In order to meet the above objectives, the fellow will:

FAIRVIEW SITE
1. Conduct morning sign out rounds daily with attending staff (MFM and WHS), residents and students
2. Supervise hospital care of all MFM and WHS obstetric antepartum patients:
   a. Triage
   b. Admission
   c. Intrapartum/labor management of MFM patients
   d. Vaginal and cesarean deliveries of MFM patients
   e. Postpartum management
   f. Surgical procedures on the undelivered patients
3. Supervise all MFM inpatient consults
4. Participate in twice weekly interdisciplinary rounds
5. Participate in teaching rounds each morning, including reviewing assigned reading material, be prepared to discuss this information during teaching rounds each morning and teach information to residents and medical students.
6. Attend PACC clinic and see MFM consultations and MFM complete care OB patients.

Schedule of time (where the fellow is expected to be each day):
1. Clinical coverage:
   a. Monday through Friday 7:00 am to 5:00 pm
      i. Monday through Friday 8:00 – (variable) round on antepartum with MFM team
      ii. PACC clinic Tuesdays 8:30 am to 12:30 pm
      iii. PACC clinic Thursdays 8:30 am to 3:00 pm

2. Meetings/Education
   a. Monday through Friday 7:00 – 8:00 am teaching rounds
   b. Monday and Wednesday 9:00 – 9:30 a.m. antepartum interdisciplinary rounds
   c. Tuesdays 3:00 pm – 3:30 p.m. MFM/NICU Joint Meeting (NICU conference room)
   d. Wednesdays 7 am to 8 am MFM didactic sessions
   e. Attend all assigned U of M education activities (Neonatology joint conference, ect)
   f. Wednesdays 7 am to 8 am weekly MFM didactic sessions

3. Schedule of formal teaching rounds activities:
   a. Monday – Review MFM primary patient list
   b. Tuesday – PGY 3 article/topic presentation
   c. Wednesday – Medical Student article/topic presentation
   d. Thursday – PGY 2 article/topic presentation
   e. Friday – MFM article/topic presentation

ABBOTT NORTHWESTERN SITE
1. Conduct morning sign out rounds daily with MFM attending staff
2. Supervise hospital care of all MFM antepartum patients:
   a. Triage
   b. Admission
c. Intrapartum/labor management of MFM patients
d. Vaginal and cesarean deliveries of MFM patients
e. Postpartum management
f. Surgical procedures on the undelivered patients
3. Perform all MFM inpatient consults

Schedule of time (where the fellow is expected to be each day):
1. Clinical coverage:
   a. Monday through Friday 7:00 am to 5:00 pm
      i. Inpatient MFM service
   b. MFM in-house call four nights

2. Meetings/Education
   a. Wednesdays 7 am to 8 am MFM didactic sessions
   b. Attend all assigned U of M education activities (Neonatology joint conference, etc)

HCMC SITE
1. Conduct morning sign out rounds daily with attending staff, residents and students
2. Supervise hospital care of all MFM antepartum patients:
   a. Triage
   b. Admission
   c. Intrapartum/labor management of MFM patients
   d. Vaginal and cesarean deliveries of MFM patients
   e. Postpartum management
   f. Surgical procedures on the undelivered patients
3. Supervise all MFM inpatient consults
4. Participate in teaching rounds each morning, including reviewing assigned reading material, be prepared
to discuss this information during teaching rounds each morning and teach information to residents and
medical students.
5. Attend High Risk (HR) clinic and see MFM consultations and MFM complete care OB patients.

Schedule of time (where the fellow is expected to be each day):
1. Clinical coverage:
   a. Monday through Friday 7:30 am to 5:00 pm
      i. Monday through Friday 7:30 am morning sign-out
      ii. HR clinic Mondays and Thursdays 8 am to 12:30 pm
      iii. Ultrasound clinic with MFM attending Monday and Thursday 12:30 pm to 5 pm; Tuesday and
           Wednesday 8 am to 5 pm.
      iv. Supervision of L&D with MFM supervision Friday 8 am to 5 pm.
      v. L&D call (one weekend 24 hour shift and three weeknight shifts)

2. Meetings/Education
   a. Wednesdays 7 am to 8 am weekly MFM didactic sessions
   b. Attend all assigned U of M education activities (Neonatology joint conference, etc)

3. Schedule of formal teaching rounds activities:
   a. Monday through Friday 7:30 – 8:00 am combined sign-out and teaching rounds

Educational materials include:
   Saunders, 2013.

Fellow Evaluations will include the following:
1. Standard RMS evaluations will be sent to staff physicians who work with the fellow.

Key to ACGME General Competencies met by each objective:
1 = Patient Care
2 = Medical Knowledge
RESEARCH AND THESIS (Revised 4/21/2015)

Goals of the rotation:
1. Provide the opportunity for structured basic laboratory and/or clinical research. If basic laboratory research is not being performed, didactics will be given to teach techniques.
2. To enhance the fellows' understanding of the latest scientific techniques and encouragement of interaction with other scientists.
3. Promotion of the fellows' academic contributions to the respective subspecialty.
4. Furthering the ability of the fellow to be an independent investigator.

Objectives of the rotation:
1. The fellow should be able to participate fully in the theoretical and technical aspects of clinical and/or basic science research projects.
2. The fellow should write a thesis which is a scholarly publication and be able to defend.

In order to meet the above objectives, the fellow will:
1. The fellow will identify a research mentor and a thesis topic relevant to Maternal-Fetal Medicine.
2. The fellow will develop a research project under the guidance of their mentor. The fellow is expected to identify the project and independently perform the research under the guidance of their mentor.
3. The fellow should write a thesis which is a scholarly publication and be able to defend it according to the following outline:
   a. Hypothesis
      i. What are the study objectives?
      ii. What was the population to be studied?
      iii. Was the study population representative of the target population?
   b. Design of the Investigation
      i. What was the study design and was the study design appropriate for addressing the study hypothesis?
      ii. Were there possible sources of bias or confounding factors?
      iii. How were cases and controls selected?
      iv. What was the statistical power of the study?
   c. Observations
      i. Were there clear definitions of the terms used (i.e., diagnostic criteria, inclusion criteria, measurements made and outcome variables)?
      ii. Were the observations reliable and reproducible?
      iii. What were the sensitivity, specificity and predictive values of the methods?
   d. Presentation of Findings
      i. Were the findings presented clearly, objectively, and in sufficient detail?
      ii. Were the findings internally consistent? (i.e., did the numbers add up properly and could the different tables be reconciled, etc.?)
   e. Analysis of the Results
      i. Were the data worthy of statistical analysis? If so, were the methods of analysis appropriate to the source and nature of the data?
      ii. Were the appropriate assumptions met for the statistical methods utilized?
      iii. Were the analyses correctly performed and interpreted?
      iv. Were there sufficient analyses to ascertain whether "significant differences" might, in fact, have been due to a lack of comparability of the groups? (i.e., age, sex, clinical characteristics, or in other relevant variables)
      v. Was there an improper use of statistical techniques?
      vi. Was there mention of the type of test used or the significance level?
      vii. Was there use of measured sensitivity without specificity?
   f. Conclusions or Summary
      i. Which conclusions were justified by the findings?
ii. Were the conclusions relevant to the hypothesis?

g. **Redesign the Study**
   i. If the study could be improved, how would the candidate revise the
   ii. experimental design in order to provide reliable and valid information
   iii. relevant to the questions under study?

h. **Breadth and Depth of Subject Matter**
   i. Each candidate may be asked about references cited in their thesis. The candidate also will
      be judged based upon their knowledge of the literature related to the subject of their thesis.

**Fellow Evaluations will include the following:**
1. RMS evaluations will be sent to the research mentor working with the fellow, as well as the division
   research advisor, on a quarterly basis.
2. The fellow will be evaluated by their peers, faculty, and research support staff following their oral thesis
   defense.

**EPIDEMIOLOGY, STATISTICS AND EXPERIMENTAL DESIGN**

**TERMINAL OBJECTIVE:** The fellow should demonstrate sufficient knowledge of epidemiology and
statistical methods to design and interpret research.

**ENABLING OBJECTIVES:**
1. The fellow should be able to describe and interpret principles of epidemiology with regard to:
   a. descriptive epidemiology including
      i. disease incidence/prevalence
      ii. adjustment of disease rates
   b. causality of disease including
      i. criteria for judging causality
      ii. quantitative assessment (relative risk, odds ratio)
   c. disease or risk factor screening including
      i. criteria for establishing a screening program
      ii. quantitative assessments (sensitivity/specificity, receiver-operator characteristics curve)
   d. study design including
      i. experimental (e.g., randomized clinical trials)
      ii. observational (e.g., prospective cohort, retrospective cohort, case control)
   e. appropriate conduct of a study including
      i. calculation of power
      ii. case selection
      iii. control selection
      iv. randomization
      v. human subject rights
      vi. avoidance of bias
      vii. avoidance of confounding variables
2. The fellow should be able to explain
   a. descriptive statistics including
      i. measures of central tendency and
      ii. measures of dispersion
   b. statistical estimates of variability (confidence interval)
   c. Inference (hypothesis testing)
      i. confidence interval
      ii. non-parametric testing (e.g., rank sign test)
      iii. parametric testing including
         1. two-sample tests (e.g., z, t test)
         2. multiple sample tests (e.g., analysis of variance)
         3. differences in proportions (e.g., chi square)
      iv. multivariate techniques (e.g., multiple regression, logistic regression)
3. The fellow should know when to seek statistical consultation for research planning
4. The fellow should know the importance, use and limitations of computers in storage and analysis of data
Scholarship and Research Funding Opportunities

SMFM Scholarship Award—Funding for Fellows in Training
Funds three consecutive years of research training for the MFM Fellow
Deadline August 15 (Annually)
www.smfm.org/index.cfm?zone=careers&nav=scholarship

ABOG/AAOGF and SMFM/AAOGF Scholarships
Stimulate scholarly development through the support of advanced scientific/research training.
Awarded yearly to third year fellow
Deadline August 15 (Annually)
clarkins@acog.org

National Research Service Award: Individual Postdoctoral Fellowships
Provides opportunities for one or more years of academic training and supervised experience in applying quantitative research methods to the systemic analysis and evaluation of health care services
Deadline: December 5, April 5, August 5 (Annually)
www.ahrq.gov/fund/99005.htm

Berlex Scholar Award in Clinical Research
Supports studies that are specifically focused on clinical research in obstetrics and gynecology
Awarded yearly to third year fellow
Deadline October (annually)
www.berlex-foundation.org/aw0201.asp

Scientific Meetings
Travel funds are available for the three-year term of the fellowship. Prior authorization for travel must be obtained from the Maternal-Fetal Medicine Director. Attendance at the Society of Maternal-Fetal Medicine annual meeting is mandatory.

Security/Safety
Security and personal safety measures are provided to fellows at all locations including but not limited to parking facilities, on-call quarters, hospital and institutional grounds, and related clinical facilities (e.g., medical office buildings).

Escort Services #
University of Minnesota - Riverside 612.624.WALK
UMMC, University Campus 612.672.4544
Abbott-Northwestern Hospital 612.863.5416

Supervision of Fellows
- All patient care must be supervised by qualified faculty. The program director must ensure, direct and document adequate supervision of fellows at all times. Fellows must be provided with rapid, reliable systems for communicating with supervising faculty.
- Faculty schedules must be structured to provide fellows with continuous supervision and consultation.
- Faculty and fellows must be educated to recognize the signs of fatigue and adopt and apply policies to prevent and counteract the potential negative effects.

Teaching Residents and Medical Students
The fellow makes morning rounds every day with residents and students while on clinical service.
Electronic Lecture For Medical Students
During the second year of the MFM fellowship, each fellow will be responsible for writing and recording a presentation for medical students. The lecture topic is “Preconceptual and Prenatal Care,” and the material should be directed at 3rd and 4th year medical students who have little to no exposure to the field of obstetrics and gynecology. The lecture should be approximately 30 minutes long, shorter if possible.

After viewing your lecture, the medical student should be able to:
- Describe how certain medical conditions affect pregnancy, and describe how pregnancy affects certain medical conditions.
- Counsel patients regarding history of genetic abnormalities
- Counsel patients regarding advanced maternal age
- Counsel patients regarding substance abuse
- Counsel patients regarding nutrition and exercise, and describe nutritional needs of a pregnant woman
- Counsel patients regarding medications and environmental hazards, and describe the adverse effects of drugs and the environment
- Counsel patients regarding immunizations
- Diagnose pregnancy & assess gestational age
- Distinguish an at-risk pregnancy
- Assess fetal growth, well-being, maturity, and amniotic fluid volume
- Describe appropriate diagnostic studies
- Answer commonly-asked questions concerning pregnancy, and labor & delivery

The lecture needs to be recorded no later than May 15 of the second year of fellowship. Recommended deadlines are:
- April 15 – Finish PowerPoint presentation
- May 1 – Write script for presentation narration
- May 1 – Contact Medical Student Coordinator to set up a time and place to record your presentation.

Medical Student Coordinator:
Deb Egger-Smith
612-626-4939
egger016@umn.edu

Ob/Gyn – OBST 7500: Goals & Objectives
During the six-week clerkship in obstetrics and gynecology, third and fourth year medical students learn to provide primary health care for women.

For this course, the department's Curriculum Committee has chosen to use the educational objectives developed by the Association of Professors of Gynecology and Obstetrics. Upon completion of this rotation, all students will be expected to demonstrate that they have achieved these objectives.
APGO Medical Student Educational Objectives, 10th Edition

The curriculum in the first two years of medical school contains minimal exposure to the practice of obstetrics and gynecology. As a result, students will be expected to cover some of the learning objectives through independent study.
This course will introduce the student to the practice of obstetrics and gynecology and care of the female patient. Graded responsibility will be assigned so that by the end of the externship the student will be familiar with:

- The management and delivery of normal pregnancies;
- The complete gynecologic examination and work-up; and
- Common obstetric and gynecologic problems.

Educational Program Objectives: University of Minnesota Medical School
Graduates of the University of Minnesota Medical School should be able to:

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>OUTCOME MEASURES</th>
<th>ACGME Essential Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrate mastery of key concepts and principles in the basic sciences and clinical disciplines that are the basis of current and future medical practice.</td>
<td>USMLE Steps 1 and 2 Year 1 and 2 course performance, based on standardized examinations Clinical rotation performance Feedback from residency directors</td>
<td>Medical knowledge</td>
</tr>
<tr>
<td>2. Demonstrate mastery of key concepts and principles of other sciences and humanities that apply to current and future medical practice, including epidemiology, biostatistics, healthcare delivery and finance, ethics, human behavior, nutrition, preventive medicine, and the cultural contexts of medical care</td>
<td>USMLE Steps 1 and 2 Course performance (esp. in Physician and Society, Nutrition, and Human Behavior at TC campus; Medical Sociology, Medical Epidemiology and biometrics, Family Medicine I, Medical Ethics, Human Behavioral Development and Problems, and Psycho-Social-Spiritual Aspects of Life-Threatening Illness at DU campus) Clinical rotation performance Feedback from residency directors</td>
<td>Medical knowledge</td>
</tr>
<tr>
<td>3. Competently gather and present in oral and written form relevant patient information through the performance of a complete history and physical examination</td>
<td>Yr 2 OSCE Physician and Patient (PAP) course performance at TC campus, assessed by tutors using global rating forms and observed practical exams Course performance at DU campus in Applied Anatomy, Clinical Rounds &amp; Clerkship (CR &amp; C), Clinical Pathology Conference, and Integrated Clinical Medicine Clinical rotation performance</td>
<td>Patient Care Interpersonal and Communication Skill</td>
</tr>
<tr>
<td>4. Competently establish a doctor-patient relationship that facilitates patients' abilities to effectively contribute to the decision making and management of their own health maintenance and disease treatment</td>
<td>Yr 2 OSCE and Primary Care Clerkship (PCC) OSCE PAP course performance at TC campus, assessed by tutors using global rating forms and observed practical exams Preceptorship and CR &amp; C course performance at DU campus Clinical rotation performance</td>
<td>Patient Care Interpersonal and Communication Skill</td>
</tr>
<tr>
<td>5. Competently diagnose and manage common medical problems in patients</td>
<td>PCC OSCE Clinical rotation performance</td>
<td>Medical knowledge Patient Care</td>
</tr>
<tr>
<td>6. Assist in the diagnosis and management of uncommon medical problems; and, through knowing the limits of her/his own knowledge; adequately determine the need for referral</td>
<td>Clinical rotation performance Documented achievement of procedural skills in the Competencies Required for Graduation</td>
<td>Medical Knowledge Patient Care Practice-Based Learning and Improvement</td>
</tr>
<tr>
<td>Objective</td>
<td>Performance Measures</td>
<td>Competency Areas</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7. Begin to individualize care through integration of knowledge from the basic sciences, clinical disciplines, evidence-based medicine, and population-based medicine with specific information about the patient and patient's life situation</td>
<td>Clinical rotation performance Feedback from residency directors</td>
<td>Patient Care Medical Knowledge Interpersonal and Communication Skills Professionalism</td>
</tr>
<tr>
<td>8. Demonstrate competence practicing in ambulatory and hospital settings, effectively working with other health professionals in a team approach toward integrative care</td>
<td>Yr 2 and PCC OSCE Physician and Society (PAS) course performance at TC campus Preceptorship, CR &amp; C, and Introduction to Rural Primary Care Medicine course performance at DU campus Clinical rotation performance</td>
<td>Practice-Based Learning and Improvement Systems-Based Practice</td>
</tr>
<tr>
<td>9. Demonstrate basic understanding of health systems and how physicians can work effectively in health care organizations, including: • Use of electronic communication and database management for patient care. • Quality assessment and improvement. • Cost-effectiveness of health interventions. • Assessment of patient satisfaction. • Identification and alleviation of medical errors</td>
<td>PAS course performance at TC campus Medical Sociology and CR &amp; C course performance at DU campus Clinical rotation performance, especially the PCC Feedback from residency directors Feedback from local health plans</td>
<td>Practice-Based Learning and Improvement Systems-Based Practice</td>
</tr>
<tr>
<td>10. Competently evaluate and manage medical information</td>
<td>Critical reading exercises in PAS and other courses at TC campus Clinical Pathology Conference performance and exercises in Problem Based Learning Cases at DU campus Year 2 Health disparities project PCC EBM project</td>
<td>Patient Care Medical Knowledge Practice-Based Learning and Improvement Systems-Based Practice</td>
</tr>
<tr>
<td>11. Uphold and demonstrate in action/practice basic precepts of the medical profession: altruism, respect, compassion, honesty, integrity and confidentiality</td>
<td>PAS course performance at TC campus Preceptorship and CR &amp; C course performance at DU campus Clinical rotation performance Participation in honor code and student peer assessment program Participation in anatomy memorial Participation in volunteer service activities</td>
<td>Professionalism</td>
</tr>
<tr>
<td>12. Exhibit the beginning of a pattern of continuous learning and self-care through self-directed learning and systematic reflection on their experiences</td>
<td>PBL cases at DU campus Yr 2 Health disparities project Clinical rotation performance Participation in research</td>
<td>Professionalism</td>
</tr>
<tr>
<td>13. Demonstrate a basic understanding of the healthcare needs of society and a commitment to contribute to society both in the medical field and in the broader contexts of society needs</td>
<td>Course performance in all years Introduction to Rural Primary Care Medicine course project at DU campus Involvement of students in international study Enrollment in RPAP, RCAM, and UCAM Yr 2 Health disparities project Feedback from residency directors Participation in volunteer service activities</td>
<td>Patient Care Medical Knowledge Practice-Based Learning and Improvement Professionalism Systems-Based Practice</td>
</tr>
</tbody>
</table>

These objectives are written to reflect the qualities and competencies expected of our graduates. Each objective specifies the expected competency level to be attained by our students, the outcome measures used to evaluate attainment of the objective, and the essential qualities and competencies of a physician (as defined by the six ACGME Essential Competencies) addressed.
by the objective. The Accreditation Council for Graduate Medical Education (ACGME) has formulated essential competencies felt to be necessary for physicians practicing in the current health care climate. They are:

- Patient Care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health
- Medical Knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care
- Practice-Based Learning and Improvement that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care
- Interpersonal and Communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals
- Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population
- Systems-Based Practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide optimal patient care

The objectives for the undergraduate curriculum can be grouped as follows:

- Objectives 1-3: Knowledge and skills addressed principally in the first two (preclinical) curricular years;
- Objectives 4-9: Knowledge and skills addressed principally in the second two (clinical) curricular years;
- Objectives 10-13: Knowledge, attitudes, and skills addressed throughout the curriculum.

The objectives, which relate to the ACGME essential competencies, are designed to be modified for use also by the graduate (GME) programs at the University of Minnesota Medical School. Residency programs can modify the competency level stated in the objectives and the outcome measures to reflect their own programs, while maintaining the overall integration of basic learning objectives across undergraduate and graduate medical education.

One of the primary outcome measures for the objectives is clinical rotation performance. To expand on this; clinical rotation performance is assessed by attending physicians and residents using a Web-based global rating form, evaluating the following knowledge, competencies, skills, and attitudes:

- Medical knowledge and the ability to apply knowledge in clinical situations
- Competency in patient care including communication and relationships with patients/families
- Skills in data gathering from the history, physical examination, clinical and academic sources, and diagnostic tests
- Assessment and prioritization of problems
- Management of problems, including knowledge of patient data and progress
- Appropriate decision making
- Communication in written and oral reports
- Professionalism, including: patient care and management in teams (work habits), independent learning, personal characteristics, and commitment to medicine
- Specific procedural skills (see report outlining Competencies Required for Graduation)
SECTION VI - Administration

Administration
Please refer to Institution Policy Manual for Medical School Policy on the following:
University of Minnesota Physicians, GME Administration Contact List,
GME Administration by Job Duty)

Department Head
Linda F. Carson, MD     612.626.3347

Fellowship Program Director
Kirk Ramin, M.D.      612.301.3413

Assistant Fellowship Program Director
Jessica Nyholm, M.D.     612.301.3401

Administrative Support
Deborah Egger-Smith, Fellowship Administrator 612.626.3503
Pat Smolka, MFM Division Administration 612.301.3414
April Homich, MFM Division Administration 612.301.3408

SECTION VII – ABOG Annual Report and Clinical Experience Log

ABOG Annual Report Data:

Each fellow is required to log on to www.abog.org using their personal ABOG ID to provide the following data:

Fellow Publications and Presentations - If the fellow has no publications or presentations, then nothing should be entered. (Note: If this case, the status icon will be red until the fellow confirms the data and then the coordinator approves and locks the data.)

Fellow Research Summary - All fields are required.

Beginning in 2013 and as a submission to the ABOG Annual Report (due in mid-July of each year), each Maternal-Fetal Medicine fellow must track their procedural experience by counting the number of patients who fall under each of these procedures:

1. Ultrasound examinations for fetal anatomic surveys
2. Ultrasound examinations for fetal growth assessment
3. Nuchal translucency measurements
4. Fetal echocardiograms
5. Doppler assessments
6. Genetic amniocentesis
7. Chorionic villus sampling (include practice and for continuing pregnancies)
8. Fetal blood sampling
9. Fetal therapeutic procedures
10. Cerclage procedures
11. Peripartum hysterectomy
12. Genetic Counseling
13. Critical Care Cases

Up to date procedure logs must be turned in to the fellow’s faculty advisor at the time of quarterly review. These will be reviewed and revised as necessary.
CONFIRMATION OF RECEIPT

Confirmation of Receipt of the Policy Manual (see example below) – LCME Requirement: Each resident/fellow must have a signed receipt that they have received the program manual. This receipt should be kept in the resident/fellow’s file.

Confirmation of Receipt of your Program Policy Manual for Academic Year _________

By signing this document you are confirming that you have received and reviewed your Program Policy Manual for this academic year. This policy manual includes policies and procedures pertinent to your training program. This receipt will be kept in your personnel file.

Fellow’s Name (Please Print) ________________________________

Fellow’s Signature _________________________________________

Date ________

Coordinator’s Initials __________

Date __________