Overview

Expectations:
Residents are expected to participate in scholarly activities during their training. To assist in accomplishing this, residents are also expected to gain sufficient knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. Residents in the department are surrounded by active research investigators among our faculty and fellows and thereby work and learn in a culture that values and nurtures scholarship. The EBM Journal Club provides residents with resources, didactics, and discussions that serve as a foundation for interpreting and applying the medical literature to clinical practice. The Resident Research program will supplement these resources and allow residents to participate in the research process and complete a scholarly product. As part of the Resident Research program, each resident is expected to plan, complete, present at least one research study prior to graduation. Each resident is also expected to prepare a manuscript ready for publication.

ACGME Competencies Addressed by the Resident Research Program:
1. Medical Knowledge
2. Patient Care
3. Interpersonal and Communication Skills
4. Practice-Based Learning
5. Professionalism
6. System-Based Practice

(See CREOG Educational Objectives, 9th Edition, Unit 1: General Considerations, section V)

ACGME Program Requirements Addressed by the Resident Research Program and the EBM Journal Club:
Section IV.B Residents’ Scholarly Activities
1. The curriculum must advance residents’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.
2. Residents should participate in scholarly activity.
3. The sponsoring institution and program should allocate adequate educational resources to facilitate resident involvement in scholarly activities.

Goals:
To develop the foundational research skills, required for 1) enhancing the ObGyn knowledge base and clinical care as a practicing generalist, 2) independent research during a fellowship, and/or 3) a career in an academic medicine, through direct experience in graduate level research with the intended outcome of a clinically significant publication.
Educational Objectives

PGY2 Resident Educational Objectives
The resident will:
1. Identify research topic and an appropriate faculty advisor for the project
2. Conceptualize a research project including:
   a. defining the problem and/or purpose of the study
   b. developing the hypothesis
   c. defining specific aims
   d. describing experimental design, statistical methods, and anticipated results
   e. identifying potential problems and alternative plans
3. Present research idea in a formal setting
4. Appraise and modify research idea based on faculty, fellows, and other resident feedback
5. Apply for Human Subject Protocol Committee approval

PGY 3-4 Educational Objectives
The resident will:
1. Renew Human Subjects Protocol Committee approval as needed
2. Based on the PGY2 research idea, further design and develop a research project including, when appropriate:
   a. defining the problem and/or purpose of the study
   b. developing the hypothesis or research questions
   c. developing specific aims
3. Develop the research design including, when appropriate:
   a. Development of data collection instruments
   b. Reviewing charts
   c. Recruitment of subjects (clinical trials)
   d. Performing of experiments (basic and translational research)
   e. Entering data
4. Develop the data analysis plan
5. Conduct the appropriate statistical analysis and determine study findings
6. Formally present the research at the annual Resident Research Day demonstrating proficiency in the communication competency (as defined in the RRD Rubric).
7. Write a publishable quality manuscript and determine possible journals for submission
## Resident Research Process & Deadlines

<table>
<thead>
<tr>
<th>Year</th>
<th>Goal</th>
<th>Timeline</th>
<th>CWRH Guidelines*</th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>PGY1</strong></td>
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<tr>
<td></td>
<td>IRB Training</td>
<td>Prior to start of intern year</td>
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<td></td>
<td><a href="http://www.uab.edu/research/administration/offices/IRB/Training/Pages/CITI-Courses.aspx">http://www.uab.edu/research/administration/offices/IRB/Training/Pages/CITI-Courses.aspx</a></td>
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<tr>
<td></td>
<td><em>Identify potential faculty mentors, discuss opportunities for research</em></td>
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<td></td>
<td><em>Identify clinical or scientific areas of interest</em></td>
<td>Throughout the year</td>
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<td></td>
<td><em>Assess areas of need &amp; unanswered questions</em></td>
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<td></td>
<td><em>Literature review of topic</em></td>
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<td></td>
<td><strong>Meet with Resident Research Director to discuss potential projects</strong></td>
<td>March-April</td>
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<td></td>
<td><strong>PGY2</strong></td>
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<tr>
<td></td>
<td><strong>Identify a mentor and project</strong></td>
<td>October 10</td>
<td>Consult with biostatistician from CWRH for:</td>
</tr>
<tr>
<td></td>
<td><strong>Complete and turn into Resident Research Director a Mentorship Agreement Form</strong></td>
<td></td>
<td>• Data collection form</td>
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<tr>
<td></td>
<td><strong>Submit Preliminary PGY2 Abstract</strong></td>
<td>October 10</td>
<td>• Database creation</td>
</tr>
<tr>
<td></td>
<td><strong>Preliminary Review of PGY2 Abstracts</strong></td>
<td>October 17</td>
<td>(EXCEL data sets will not be accepted)</td>
</tr>
<tr>
<td></td>
<td><em>Goal: To refine research questions and modify abstracts as needed prior to resident research day presentations. Residents should invite their mentors to attend.</em></td>
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<tr>
<td></td>
<td><strong>Submit final PGY2 Abstract for Winter Resident Research Day</strong></td>
<td>October 31</td>
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<tr>
<td></td>
<td><strong>Present at Winter Resident Research Day</strong></td>
<td>November 14</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>Goal</td>
<td>Timeline 2014-2015</td>
<td>CWRH Guidelines*</td>
</tr>
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</tbody>
</table>
| PGY2 | Modify research project based on suggestions at Resident Research Day  
Continued meetings with mentor, research personnel, statistician  
Obtain IRB approval  
http://www.uab.edu/research/administration/offices/IRB/Pages/Home.aspx  
http://www.uab.edu/research/administration/offices/IRB/Forms/Pages/Forms.aspx  
Design data collection forms, database  
Data analysis plan  
Conduct study (data collection, patient recruitment, data entry, data cleaning) | December – PGY3 |  
*If you do not present results at resident research day as R3, you are expected to present an interim report in your third year with presentation of results as PGY4 |
| PGY3 | IRB Renewal | Summer PGY3 |  
Data should be entered into database by December 2014 |
| | Conduct study (data collection, patient recruitment, data entry, data cleaning) | Summer-December PGY3 |  
Meet with resident research director for update on research progress | October 2014 |  
Data cleaning & data analysis | Spring 2015 |  
Submit Abstract with results | May 15, 2015 |  
Present at Resident Research Day | June 5, 2015 |  
*If you have not presented at resident research day as PGY3, please follow PGY3 time schedule for meetings and updates |
| PGY4 | Complete manuscript & submit. Copies of final manuscript should be provided to Dr. Goepfert & Dr. Harper after approval by mentor | April 2016 |  
If submission to journal planned, manuscript should be completed & submitted prior to September 2016 to allow for revisions |

*If you are planning to use CWRH resources for Biostatistics and Data Management, please follow these guidelines
Resident Research Requirements

1) The primary mentor must be faculty in OB/GYN. We encourage interdisciplinary research and working with fellows; however, the primary mentor must be faculty within the department.

2) A mentorship agreement form should be completed together by the resident and mentor. The intent of this form is to assist the resident in initiating a conversation about expectations, deadlines, and goals of the resident (presentation at national meetings, publication of first author manuscript). This form also assists the mentor in setting expectations, goals and deadlines for the resident.

3) Accepted types of research:
   a. Randomized control trial (Caution: The majority of RCTs will not be feasible in the time frame of a resident research project. While I encourage resident participation in RCTs, all but pilot RCTs will probably not be able to be completed from start to finish during residency.)
   b. Prospective cohort study (Prospective cohort studies may be feasible during the time frame of residency if the population being studied is large, the condition being studied occurs frequently, and the time of follow up is short)
   c. Retrospective cohort study
   d. Case control study
   e. Meta-Analysis
   f. Cost Effectiveness Analysis

Types of research/reports that will not be accepted for resident research day presentations:
   a. Case reports
   b. Case series
   c. Systematic reviews without meta-analysis

4) All PGY2s will present at winter resident research day.

5) All PGY3s will present at spring resident research day. If a PGY3 does not have results to present at spring resident research day, they will present an interim report that year and must present results at spring resident research day as a PGY4.

6) A PGY2 who is prepared to present results in the spring will be allowed to do so. They should notify the resident research director no later than 5/1 of their intent to present.

7) All residents must write a publication-ready manuscript. If the manuscript is to be submitted to a journal, please follow publication requirements/formats for the journal of choice. If the resident does not intend to submit to a journal, the manuscript should be formatted for either Obstetrics and Gynecology or American Journal of Obstetrics and Gynecology. The manuscript must be approved by the research mentor and turned in to the resident research director and program director prior April of the fourth year.
PGY 2 Requirements

Abstracts

- 350 Words Limit (Not including title, name, mentor)
- Resident Name
- Title of Project
- Mentor
- Background & Rationale
- Hypothesis
- Specific Aims
- Experimental Design
- Anticipated Results
- Potential Problems/Alternative Plans
- Summary

Resident Research Presentation Format

- 10 minute presentation, 5-minutes for questions
- Background
- Hypothesis
- Specific Aims
- Experimental Design
- Statistics
- Anticipated Results
- Potential Problems with Alternate Plans
- This is a professional presentation. Please dress appropriately.

Other Resources:

- Sample abstract available in appendix
- Sample powerpoint presentation available in appendix
- Scoring rubric available in appendix
PGY 3 Requirements

Abstracts

- 350 Words Limit (Not including title, name, mentor)
- Resident Name
- Undergraduate school
- Medical school
- Hometown
- Primary faculty mentor
- Co-Authors
- Title of Project
- Objective
- Methods
- Results
- Conclusions

Resident Research Day Presentation Format

- 10 minute presentation, 5-minutes for questions
- Background
- Hypothesis
- Specific Aims
- Methods
- Results
- Strengths/Limitations
- Conclusions
- This is a professional presentation. Please dress appropriately.

Other Resources:

- Sample abstract available in appendix
- Sample powerpoint presentation available in appendix
- Scoring rubric available in appendix
Personnel assisting in resident research and contacts:
Residency Program Director:
Alice Goepfert, MD
Professor, Maternal-Fetal Medicine
10270N Women & Infants Center
Office Phone: 205-934-7872 or 205-934-2216
aliceg@uab.edu

Associate Director of Education
Julie Covarrubias, Med, EdD
Associate Professor
176F 5330
Office Phone: 205-934-3177
jwalsh@uab.edu

Other Resources:
Please note that assistance with IRB submissions and renewals as well as data analyses should be coordinated with your primary faculty mentor’s division research personnel. If a regulatory manager (IRB) or biostatistician is not available within your mentor’s division, then the resident should utilize the resources available through the Center for Women’s Reproductive Health (CWRH). The CWRH faculty and staff are listed below. They should be involved EARLY in the project planning process in order to provide sufficient assistance (Fall PGY2). Last minute requests for assistance will not be accepted. The CWRH resources are available for the required resident research project. Any resident needing assistance with other projects should work with his/her faculty mentor and submit a request to the Executive Director of the CWRH (Rachel Copper, MSN, CRNP).

CWRH Regulatory Manager (IRB)
Lisa Dimperio
Program Manager
CWRH 379
Phone 205-934-3276

CWRH Biostatistician
Jeffery Szychowski
Associate Professor of Public Health
Ryals School for Public Health
WIC 10270
205-975-9135
jszychow@uab.edu
Appendix: List of Faculty & Research Interests

Female Pelvic Medicine & Reconstructive Surgery
1. Holly Richter, PhD, MD
   a. Urinary and Fecal Incontinence in Women
   b. Pelvic Floor Reconstructive Surgery
   c. Fistula Repair Surgery
   d. Outcomes of UroGyn Interventions Research Initiation and Network Coordination
2. R. Edward Varner, MD
   a. Pelvic Reconstructive Surgery
   b. Urinary & Fecal Incontinence
   c. Complex Pelvic Surgery
   d. UroGyn Fellowship Director
3. Robert L. Holley, MD
   a. Urinary Incontinence in Women
   b. Pelvic Organ Prolapse
   c. Menopause
   d. Vaginitis and Vulvar Disease
   e. Resident Education
4. David Ellington, MD
   a. Fecal Incontinence Interventions & Outcomes
   b. GYN Surgical Education
   c. Prolapse Surgery
   d. Sacral Neuromodulation Treatment & Outcomes

General Ob/GYN
1. Todd Jenkins, MD
   a. Minimally Invasive Surgery
   b. Patient engagement/satisfaction
   c. Ambulatory/benign gynecology (abnormal uterine bleeding, fibroids, etc)
2. Michelle Khan, MD
   a. Infectious diseases
   b. Sexually transmitted infections
   c. HPV
   d. HIV
   e. Preterm birth
3. Sabrina Wyatt, MD
   a. Gynecologic Ultrasound
   b. Contraception
   c. Abnormal uterine bleeding
   d.

Gynecologic Oncology
1) Warner Huh, MD
   a. HPV and cervical cancer (Screening, Prevention, Treatment)
b. Endometrial cancer
c. Robotic surgery

2) Ronald Alvaraez, MD
   a. Gene therapy
   b. Clinical trials
   c. Ovarian cancer
d. Cervical cancer

3) Kerri Bevis, MD
   a. Palliative care
   b. Survivorship
c. Outcomes research in gyn cancer

4) Jacob Estes, MD
   a. Surgical management of ovarian cancer
   b. Outcomes assessment
c. Robotic surgery and training
d. Palliative care

5) Trey Leath, MD
   a. Therapeutics for ovarian and cervical cancer
   b. Cervical cancer – treatment & prevention
c. Surgical aspects of gynecologic cancer

6) Michael Straughn, MD
   a. Surgical techniques and outcomes
   b. Endometrial cancer
c. Cost effectiveness

Maternal-Fetal Medicine

1) Joseph Biggio, MD
   a. Prenatal Screening
   b. Ultrasound
   c. Genetics of prematurity and complications of pregnancy
d. Quality and Safety

2) Rodney Edwards, MD
   a. Labor
   b. Preterm Labor
c. Obesity
d. Infections in Pregnancy

3) Lorie Harper, MD
   a. Medical Complications of Pregnancy, in particular obesity & diabetes
   b. Labor

4) Sheri Jenkins, MD
   a. Ultrasound

5) John Owen, MD
   a. Ultrasound
   b. Cervical length & cerclage
c. Sleep apnea and pregnancy
d. Preterm birth prevention

6) Amelia Sutton, MD, PhD
   a. Prenatal Screening
   b. Diagnosis and Management of Fetal Anomalies
   c. Maternal Genetic Conditions in Pregnancy
   d. Perinatal Pharmacology

7) Alan Tita, PhD, MD
   a. Obstetric epidemiology
   b. Obstetric and perinatal infections
   c. Obstetric & medical complications
   d. Evidence based obstetric practice and surgical techniques
   e. Global health

8) Luisa Wetta, MD
   a. Preterm birth
   b. Medical complications of pregnancy

Reproductive Endocrinology and Infertility

1) G. Wright Bates, Jr, MD
   a. PCOS
   b. Ovulation Induction
   c. IVF outcomes
   d. Reproductive surgery
   e. Operative hysteroscopy
   f. Adhesion prevention
   g. Fertility preservation

2) Janet Bouknight, MD
   a. Fertility preservation
   b. IVF
   c. Clinical Infertility

3) Mamie McLean, MD
   a. Metabolic health & reproductive outcomes
   b. Ovarian aging and adiposity
   c. Long term outcomes after ART

4) Richard Blackwell, PhD, MD (available on a limited basis)
   a. Menopause
   b. Dysautonomic syndrome

5) Robert Rebar, MD (Executive Director of ASRM, available on a limited basis)
   a. Abnormal puberty
   b. PCOS

6) Andrew LaBarbera, PhD (Scientific Director of ASRM, available on a limited basis)
   a. Basic REI research

7) Michelle Miller, PhD (Cell Biology)
   a. C. Allegans basic research lab
Education Office
1) Julie Covarrubias, MEd, EdD
   a. Undergraduate and graduate medical education
   b. Information technology
   c. Faculty development
   d. Curriculum development
   e. Assessment/Evaluation measures
2) John Woods, MD
   a. Simulation
Appendix: PGY2 Winter Resident Research Day Sample Abstract

Resident Name: Lorie M. Harper, MD

Title of Project: Gestational Weight Gain after the Diagnosis of Gestational Diabetes: Association with Adverse Outcomes

Mentor: Alan Tita, Joseph Biggio

Background & Rationale: Guidelines developed by the Institute of Medicine (IOM) for gestational weight gain are based on the weight gain necessary to achieve an ideal birth weight, which is directly linked to gestational weight gain. The IOM guidelines were developed for a healthy population, and tailored recommendations for special populations, such as women with gestational diabetes, were not created. As gestational diabetes complicates 4-7% of pregnancies in the United States, it is imperative to evaluate these guidelines in this population.

Hypothesis: Women with GDM need to gain less per week than current IOM guidelines for weight gain per week of gestation.

Specific Aims: We aimed to assess the impact of GWG outside the IOM recommendations on perinatal outcomes after the diagnosis of GDM.

Experimental Design: We will perform a retrospective cohort study of all singleton pregnancies delivered at a single center with GDM from 2007-2012. Gestational weight gain per week (GWG) will be calculated: (last measured weight–weight at diagnosis)/(gestational age at delivery-gestational age at diagnosis). Women will be classified as GWG within, less than, or greater than IOM recommendations for body mass index (BMI). Women will be excluded for incomplete height/weight data, diagnosis of GDM <12 weeks or >34 weeks, major maternal medical illness, and fetal anomalies. Maternal outcomes considered will be preeclampsia, cesarean delivery, and A2 GDM. Neonatal outcomes considered will be birth weight, small for gestational age (SGA), large for gestational, and macrosomia. Groups will be compared using analysis of variance and chi-squared test for trend, as appropriate. Backwards stepwise logistic regression will be used to refine point estimates after adjusting for significant confounding factors.

Anticipated Results: We anticipate that weight gain less than the recommendations will be associated with decreased preeclampsia, A2 GDM, LGA and macrosomia without an associated increase in SGA.

Potential Problems/Alternative Plans: Although we anticipate approximately 1,000 gestational diabetics in the data set, the number of women gaining in each category may be limited (particularly less than or within). We will perform a post-hoc power analysis in the case of negative results.

Summary: This study will provide evidence on how to counsel women on gestational weight gain after a diagnosis of GDM.
Appendix: PGY2 Sample Slides

Slide 1

Gestational Weight Gain after the Diagnosis of Gestational Diabetes: Association with Adverse Outcomes

Lorie M. Harper
November 14, 2014
Mentors: Joseph Biggio, MD & Alan Tita, PhD, MD

Slide 2

Background

- Gestational weight gain directly linked to birth weight
- GWG also associated with:
  - Gestational diabetes
  - Preeclampsia
  - Preterm delivery

Slide 3

Background

- IOM guidelines:
  - Developed in healthy population
  - No specific recommendations for GDM
  - GDM affects 4-7% of pregnancies in US
  - Need guidelines specific to GDM

You only have 10 minutes so 1-2 slides on background should be sufficient
Hypothesis

Women with GDM need to gain less per week than current IOM guidelines for weight gain per week of gestation.

Specific Aims

To assess the impact of GWG outside the IOM recommendations on perinatal outcomes after the diagnosis of GDM.

Experimental Design

- Retrospective cohort
- All singletons complicated by GDM
- 2007-2012
- Gestational weight gain after diagnosis of GDM calculated per week: \((\text{last measured weight} - \text{weight at diagnosis})/\text{(gestational age at delivery-gestational age at diagnosis)}\).

Experimental design slides should include:

- Study type
- Time frame
- Inclusion/exclusion
- Exposure
- Outcomes
### Slide 7

**Experimental Design**

- **Exposure groups:**
  - Weight gain less than IOM recommendations for BMI category
  - Weight gain within IOM recommendations for BMI category
  - Weight gain greater than IOM recommendations for BMI category

### Slide 8

**Experimental Design**

**Inclusion**

- Singleton
- GDM
- Weight measured within 2 weeks of GDM diagnosis & within 2 weeks of delivery

**Exclusion**

- Incomplete height/weight data
- Major maternal medical problems other than chronic hypertension
- Fetal anomalies
- GDM diagnosis <12 weeks or >34 weeks

### Slide 9

**Experimental Design**

- **Outcomes:**
  - Maternal: Preeclampsia, cesarean delivery, A2 GDM
  - Infant outcomes: birth weight, SGA, LGA, macrosomia
Statistics

- Groups will be compared with:
  - ANOVA or Chi-square test for trend
  - Backwards stepwise logistic regression
- Sample size calculation
  - Baseline incidence of primary outcome
  - Estimated difference between groups
  - Sample size needed
  - Sample size anticipated: 1000

Please include a sample size calculation

Anticipated Results

- Compared to weight gain within or greater than IOM recommendations, weight gain less than IOM recommendations will be associated with:
  - Decreased preeclampsia
  - Decreased cesarean
  - Decreased LGA, macrosomia
  - No increase in SGA

Anticipated results – 1-2 slides

Potential Problems & Alternate Plans

<table>
<thead>
<tr>
<th>Potential Problem</th>
<th>Alternate Plan</th>
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</thead>
<tbody>
<tr>
<td>Sample size: May not be evenly distributed between weight gain groups – decreased power to detect differences</td>
<td>Post hoc power analysis if negative results</td>
</tr>
<tr>
<td></td>
<td>May combine weight gain categories (less than + within versus greater than)</td>
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Appendix: PGY2: Research Feedback Form

Resident Name: 

Presentation Title: 

Instructions: Place a “√” beside the description that best represents the resident’s performance.

### Practice-Based Learning and Improvement

#### Background

- ___ Background clearly explained
- ___ Background reasonably explained
- ___ Background and study rationale NOT clearly explained

#### Research Design

**Explanation**

- ___ Design clearly explained
- ___ Design reasonably explained
- ___ Design NOT clearly explained

**Design Flaws**

- ___ Design flaws recognized, clearly described, and explained potential impact on results
- ___ Some design flaws present, but are recognized
- ___ Major flaws in design and/or flaws

#### Innovation / Feasibility

**Innovation**

- ___ Approach highly innovative and/or original
- ___ Approach somewhat novel
- ___ Approach NOT particularly novel or original

**Feasibility**

- ___ Project well-balanced between feasible and ambitious
- ___ Project will likely be competed, but small in scope
- ___ Project is likely NOT achievable in allotted time

#### Planned Statistics

- ___ Described planned statistics as it relates to design
- ___ Planned statistics reasonably explained
- ___ Planned statistics NOT explained / Limited explanation

Was sample size and power described?  ___ Yes  ___ No

#### Anticipated Results

**Explanation**

- ___ Anticipated results clearly explained
- ___ Anticipated results satisfactorily explained
- ___ Anticipated results NOT explained well

**Potential Problems / Alternative Plans**

- ___ Potential problems/Alternative plans well-developed
- ___ Potential problems/Alternative plans only mentioned
- ___ Potential problems/Alternative plans NOT presented

#### Impact

- ___ Results will clearly advance science/Translate to improved clinical practice
- ___ Results may advance science/Translate to improved clinical practice
- ___ Results will NOT advance science/Translate to improved clinical practice
**Resident Name:**

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### Communication: Presentation Skills

<table>
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<th>Content</th>
<th>Criteria</th>
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<tr>
<td>____ Very Good</td>
<td>Purpose / Overview communicated clearly</td>
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<tr>
<td>____ Average</td>
<td>Well-organized – Logical order and transitions Exhibited a thorough understanding of topic</td>
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<tr>
<td>____ Poor</td>
<td>Well-planned closing remarks</td>
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<tr>
<th>Delivery</th>
<th>Criteria</th>
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<tr>
<td>____ Very Good</td>
<td>Well-prepared <em>(does not merely read paper)</em></td>
</tr>
<tr>
<td>____ Average</td>
<td>Spoke clearly / effectively</td>
</tr>
<tr>
<td>____ Poor</td>
<td>Avoided fillers such as “you know”, “like”, “uhm”</td>
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<tr>
<td></td>
<td>Exhibited Confidence</td>
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<th>Q &amp; A</th>
<th>Criteria</th>
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<tr>
<td>____ Very Good</td>
<td>Repeated / Rephrased questions <em>(to allow audience members to hear what was asked)</em></td>
</tr>
<tr>
<td>____ Average</td>
<td>Responded effectively to questions/comments <em>(confident and complete)</em></td>
</tr>
<tr>
<td>____ Poor</td>
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<table>
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<tr>
<th>Slides</th>
<th>Criteria</th>
</tr>
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<tbody>
<tr>
<td>____ Very Good</td>
<td>Appropriate number of words/items <em>(not overloaded or too crowded)</em></td>
</tr>
<tr>
<td>____ Average</td>
<td>Legible - Used large fonts/images that could be easily seen</td>
</tr>
<tr>
<td>____ Poor</td>
<td>Good color contrasts with no conflicting backgrounds</td>
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### Comment Section

**Overall Strengths** *(list the major strengths displayed during the presentation of the proposed research project):*  

**Areas Needing Improvement** *(list the areas needing improvement displayed during the presentation of the proposed research project):*
Appendix: PGY3 Resident Research Day Sample Abstract

Resident Name: Lorie M. Harper, MD
Undergraduate school: University of Texas at Dallas
Medical school: Washington University in St. Louis
Primary faculty mentor: Joseph Biggio
Co-Author: Alan Tita

Title of Project: Gestational Weight Gain after the Diagnosis of Gestational Diabetes: Association with Adverse Outcomes

Objective: Although the Institute of Medicine (IOM) makes recommendations for GWG in pregnancy, no specific modification is recommended if a woman develops gestational diabetes (GDM). We aimed to assess the impact of GWG outside the IOM recommendations after the diagnosis of GDM.

Methods: Retrospective cohort study of all singleton pregnancies delivered at a single center with GDM from 2007-2012. Gestational weight gain per week was calculated: (last measured weight–weight at diagnosis)/(gestational age at delivery-gestational age at diagnosis). Women were classified as GWG within (WITHIN), less than (LESS), or greater (MORE) than IOM recommendations for body mass index (BMI). Women were excluded for incomplete height/weight data, diagnosis of GDM <12 weeks or >34 weeks, major maternal medical illness, and fetal anomalies. Maternal outcomes were preeclampsia, cesarean delivery, and A2 GDM. Neonatal outcomes were birth weight, small for gestational age (SGA, <10th percentile on Alexander standard), large for gestational age (LGA, >90th percentile on Alexander standard), and macrosomia (>4000 g). Groups were compared using analysis of variance and chi-squared test for trend, as appropriate. Backwards stepwise logistic regression was used to refine point estimates after adjusting for significant confounding factors.

Results: Of 680 subjects, 83 were WITHIN, 181 LESS, and 416 MORE. The risk of preeclampsia and A2DM increased with GWG outside the IOM recommendations. The risk of LGA and macrosomia increased as GWG increased, although the risk of SGA did not decrease. After adjusting for prepregnancy BMI, the risk of A2DM remained significantly increased. For every 1-kg increase in weight gain after diagnosis of GDM, there was a 6-10% increase in the risk of preeclampsia, cesarean, A2DM, macrosomia, and LGA that remained significant after adjusting for prepregnancy BMI.

Conclusions: Women should be advised to gain no more than the IOM recommendations after diagnosis of GDM. Further studies should evaluate the impact of weight gain less than the IOM recommendations on perinatal outcomes after a diagnosis of gestational diabetes.
Appendix: PGY3 Sample Slides

Slide 1

Gestational Weight Gain after the Diagnosis of Gestational Diabetes: Association with Adverse Outcomes

Lorie M. Harper
June 5, 2015
Mentors: Joseph Biggio, MD & Alan Tita, PhD, MD

Title
Name
Date
Mentors & Co-Authors

Slide 2

Background

- Gestational weight gain directly linked to birth weight
- GWG also associated with:
  - Gestational diabetes
  - Preeclampsia
  - Preterm delivery

Slide 3

Background

- IOM guidelines:
  - Developed in healthy population
  - No specific recommendations for GDM
  - GDM affects 4-7% of pregnancies in US
  - Need guidelines specific to GDM

You only have 10 minutes so 1-2 slides on background should be sufficient
Hypothesis

Women with GDM need to gain less per week than current IOM guidelines for weight gain per week of gestation.

Specific Aims

To assess the impact of GWG outside the IOM recommendations on perinatal outcomes after the diagnosis of GDM.

Methods Slides should include: Study type

Time frame

Inclusion/exclusion

Exposure

Outcomes

• Retrospective cohort
• All singletons complicated by GDM
• 2007-2012
• Gestational weight gain after diagnosis of GDM calculated per week: (last measured weight–weight at diagnosis)/(gestational age at delivery-gestational age at diagnosis).
**Slide 7**

Methods

- Exposure groups:
  - Weight gain less than IOM recommendations for BMI category
  - Weight gain within IOM recommendations for BMI category
  - Weight gain greater than IOM recommendations for BMI category

**Slide 8**

Methods

Inclusion
- Singleton
- GDM
- Weight measured within 2 weeks of GDM diagnosis & within 2 weeks of delivery

Exclusion
- Incomplete height/weight data
- Major maternal medical problems other than chronic hypertension
- Fetal anomalies
- GDM diagnosis <12 weeks or >34 weeks

**Slide 9**

Methods

- Outcomes:
  - Maternal: Preeclampsia, cesarean delivery, A2 GDM
  - Infant outcomes: birth weight, SGA, LGA, macrosomia
• Groups were compared with:
  • ANOVA
  • Chi-square test for trend
  • Backwards stepwise logistic regression

Flow of subjects through study sometimes helpful

Table 1 – Compare demographics of exposure groups
Table 1 continued – more demographics of exposure groups

<table>
<thead>
<tr>
<th>Weight Gain</th>
<th>Less than IOM (n=175)</th>
<th>Within IOM (n=92)</th>
<th>More than IOM (n=368)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Diagnosis</td>
<td>0.52 ± 2.7</td>
<td>3.6 ± 1.2</td>
<td>8.9 ± 3.3</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>After Diagnosis</td>
<td>18.4 ± 8.3</td>
<td>25.8 ± 7.8</td>
<td>35.4 ± 6.8</td>
<td>&lt;0.01</td>
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Table 1 continued

<table>
<thead>
<tr>
<th>Weight Gain</th>
<th>Less than IOM (n=175)</th>
<th>Within IOM (n=85)</th>
<th>More than IOM (n=288)</th>
<th>AOR (95% CI)</th>
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<tbody>
<tr>
<td>Prematurity</td>
<td>0.40 (0.13 - 1.16) 0.9 (9.8% 64 (17.4%)</td>
<td>*</td>
<td>1.39 (0.62 - 3.13) 63 (17.4%)</td>
<td>*</td>
</tr>
<tr>
<td>Cesarean</td>
<td>1.19 (0.65 - 2.19) 29 (31.5%)</td>
<td>§</td>
<td>1.78 (1.02 - 2.84) 167 (45.4%)</td>
<td>§</td>
</tr>
</tbody>
</table>

Results in table format
### Table

<table>
<thead>
<tr>
<th></th>
<th>Data Less Than IOM (n=175)</th>
<th>AOR (95% CI)</th>
<th>Wilcoxon JMP (n=92)</th>
<th>Data More Than IOM (n=368)</th>
<th>AOR (95% CI)</th>
<th>P</th>
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<tbody>
<tr>
<td>Birth Weight</td>
<td>3268 ± 670</td>
<td>3308 ± 565</td>
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<td>3391 ± 670</td>
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<td>Macrosomia</td>
<td>18 (10.3%)</td>
<td>1.46† (0.50 - 4.19)</td>
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<td>10 (10.9%)</td>
<td>2.59† (0.98 - 6.84)</td>
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<td>LGA</td>
<td>20 (11.5%)</td>
<td>1.28† (0.48 - 3.45)</td>
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<td>11 (12.0%)</td>
<td>2.43† (0.99 - 5.97)</td>
<td>0.07</td>
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<tr>
<td>SGA</td>
<td>16 (9.1%)</td>
<td>0.94§ (0.38 - 2.33)</td>
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<td>8 (8.7%)</td>
<td>0.70§ (0.30 - 1.65)</td>
<td>0.45</td>
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</table>

### Conclusions

- As GWG increased:
  - Risk of A2 GDM increased
  - LGA & macrosomia increased
  - SGA did not decrease

### Summary of results

### Strengths/weaknesses of study – bullet points

**Limitations**
- Small number of women gaining within recommendations
- Not a large enough sample size to stratify by prepregnancy BMI
- New guidelines in 2009 but our subjects were 2007-2012

**Strengths**
- Detailed clinical information
- Confirmed diagnosis of GDM
- Weight gain per week after diagnosis of GDM is clinically useful to providers
Conclusion

- Weight gain after a diagnosis of GDM should be limited to the IOM recommendations.
- Future interventional studies should investigate whether less weight gain is appropriate in this patient population.

Thank you

- Questions?
Appendix: Senior Resident Research Scoring Form

Resident Name: 
Presentation Title: 

Instructions: Place a “✓” beside the description that best represents the resident’s performance.

Practice-Based Learning and Improvement

<table>
<thead>
<tr>
<th>Hypothesis, Aim, or Objective</th>
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<tr>
<td>Clearly explained hypothesis, aim, or objective</td>
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<tr>
<td>Reasonable explanation of hypothesis, aim, or objective</td>
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<tr>
<td>Hypothesis, aim, or objective NOT clearly stated or explained</td>
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<tr>
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<tr>
<td>Design is NOT clearly explained</td>
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<tr>
<td>Design Flaws</td>
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<td>Design flaws recognized, clearly described, and explained potential impact on results</td>
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<td>Some design flaws present but are recognized</td>
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<td>Major flaws in design and/or flaws are NOT recognized</td>
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<td>Results are NOT organized well</td>
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<table>
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<td>Conclusions are supported by results</td>
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<tr>
<td>Conclusions are NOT well supported by results</td>
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<td>Were conclusions overstated? Yes No</td>
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## Communication: Presentation Skills

### Content

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<td>Well-organized – Logical order and transitions Exhibited a thorough understanding of topic</td>
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<td>Well-planned closing remarks</td>
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<td>Spoke clearly / effectively</td>
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### Q & A

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<td>Responded effectively to questions/comments (confident and complete)</td>
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### Slides

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### Comment Section

**Overall Strengths** (list the major strengths displayed during the presentation of the proposed research project):

**Areas Needing Improvement** (list the areas needing improvement displayed during the presentation of the proposed research project):

Additional Comments: