Department of Obstetrics & Gynecology Annual Report 2005/2006

1.	. Message from the Chairman		
2.	Administration	3	
3.	Programs	7 10	
4.	Division of Gynecology/Oncology	13	
5.	Division of Maternal Fetal Medicine	17	
6.	Division of Reproductive Endocrinology and Infertility	25	
7.	Division of Women's Health	37	
8.	Inpatient Women's Health	41	
9.	Services • Labor & Delivery • Maternity Statistics • Ambulatory	42 44 45	
10.	 Research Maternal Fetal Medicine Reproductive Endocrinology and Infertility Lois High Berstler Community Health Library 	48 52 55	
11.	. Joint Appointments	59	
12.	. Publications	68	
13.	. Presentations	72	
14.	. Research Support	78	

2005-2006 Annual Report

Message from the Chairman

Thank you for taking the time to review the July 1, 2005- June 30, 2006 Annual Report of the Department of Obstetrics and Gynecology at the Penn State University College of Medicine - Milton S. Hershey Medical Center. This past academic year has been exceptional, as you will read in the following pages. Our research programs in Maternal-Fetal Medicine, Reproductive Endocrinology and Gynecologic Oncology are robust and continue to gain the department recognition at the national and international level with total grant funding of almost 3 million dollars.

Our educational program continues to thrive as evidenced by our recent receipt of 4 years full accreditation by the Residency Review Committee of the Accreditation Council of Graduate Medical Education and approval to increase the size of our Residency Training Program to 5 Residents per year. Our excellence in education is also reflected in the large number of students (10) from the Class of 2006 who chose OB/GYN as a career, two of whom remained in our own residency training program. Also of special note was the promotion of two of our faculty, Dr. Colin MacNeill and Dr. Robert Yarwood, to the rank of Associate Professor.

With respect to our clinical activities the Oncology Division remains a full member of Gynecology Oncology Group (GOG), and our Reproductive Endocrinology Division continues to have superior results from their In-Vitro Fertilization Program (based on data from the Society for Assisted Reproductive Technologies) which places them among the top programs in the region and in the country. Maternal-Fetal Medicine continues to serve as a resource for high risk mothers for all of central Pennsylvania and recently instituted a telemedicine facility at one of our satellite offices. Women's Health has had an extraordinary year and has initiated a Minimally Invasive Surgery Program under the capable leadership of Dr. Gerald Harkins. All of these activities have resulted in a record year for Ambulatory visits, Operating Room cases and Deliveries.

I would be remiss if I did not acknowledge all of the support that we receive from our Hospital Administration, our College of Medicine, and our Nurses. Without this support it would not be possible to achieve these goals. Likewise, all of the support staff that contributes to the day to day operations of the Department – administrative assistants, billing and coding personnel, operations directors and numerous others makes it possible for us to achieve this kind of success. I trust that the following pages will serve as evidence of the enthusiasm and commitment of our Department to provide the best in Health Care services to the Women of Pennsylvania, and the best in research and education for our next generation of physicians.

John T. Repke, M.D., F.A.C.O.G. University Professor and Chairman, Department of Obstetrics and Gynecology Penn State University College of Medicine Obstetrician-Gynecologist-In-Chief The Milton S. Hershey Medical Center

Administration Update for Fiscal Year 2005/2006

Faculty/Staff

John T. Repke, M.D., Professor and Chairman George J. Olt, M.D., Professor and Vice-Chairman Steve Mancuso, Administrator Joy Zeager, Operations Director David Towery, Financial Liaison

Finance/Clerical

Angela Leffew, Financial Analyst Sherry Klahr, Administrative Associate Cheryl Mathias, Residency Coordinator

Professional Billing

Kevin Haak, Billing Work Unit Leader Beverly Kauffman, CPC, Professional Coder/Abstractor Deborah Hagerty, CPC Professional Coder/Abstractor Debra McIntyre, Professional Coder/Abstractor

The Department of Obstetrics and Gynecology has completed the 2005/2006 fiscal year with many outstanding initiatives implemented and continued growth and success as a team. Our plans for 2006/2007 will place the department in a position of greater recognition in the marketplace and high patient satisfaction.

The department ended the year in a positive financial status thanks to the efforts of our clinical and research faculty and support staff. Outpatient clinic visits for the year increased by 9% over 2004/2005. Patient revenue was \$17,146,926, an increase of 14.9% over 2004/2005, and our deliveries for the year ended at 1515, which is a 4.1% increase over the prior year and, for the 2nd consecutive year, the highest annual number of deliveries in the history of the Medical Center. Our goal is set at 1500 for 2006/2007, which will be another milestone for the department. We hired an additional faculty member in the Division of Women's Health, who started September, 2005 to assist us in reaching our new departmental goals for the fiscal year 05/06. Grant funding increased by 5.8 % to \$ 2,590,968 for 2005/2006.

Professional Billing Update

Our Ob/Gyn professional billing office has been successful in numerous areas for the department. Highlights of those initiatives include the following:

 The implementation of a second outpatient coder/abstractor. This has resulted in continued increase in charges captured, minimal rejections and reduced errors for the department.

- This coding position has also led to charge review and entry to be conducted by the Ob/Gyn Professional billing office instead of the front desk staff at the clinic locations.
- 3. With continued growth in the Operating Room and Maternity services, a second surgical coder/abstractor was hired in January, 2005. The additional position was put into place in anticipation of the opening of the Hershey Outpatient Surgical Center (HOSC). The new coder is responsible for all surgical procedures.
- 4. The department is now operating with four coder/abstractors. Two are dedicated to outpatient services and education and two are dedicated to inpatient, surgical, delivery, and emergency services.
- 5. The Work Unit Leader has expanded his role. One initiative implemented is the development of extensive billing and compliance education and training with the residency staff.
- 6. Continuation and refinement of the OR scheduling process for determining out-of-pocket expenses and collecting a portion of it prior to scheduling the case.
- 7. Continued use of claim scrubbing software, and further front desk education, with the addition of the outpatient coding position, has positively impacted the claims rejection rate of the department. The institutional average for fiscal year 04/05 was over 7-9%. Ob/Gyn is currently at 5-7%.
- 8. Enhanced communication and education with Customer Service has allowed the department to identify financial risks and implement arrangements prior to services being rendered.
- 9. After an internal audit, the Work Unit Leader implemented electronic communication to the faculty, through the current Powerchart system, to assure that documentation is complete and compliant for billing purposes.
- 10. The Andrology Lab results were transitioned to Powerchart, and the visit statistics were transitioned to Cadence. Pre-arrival work is being conducted to verify patient eligibility and benefit coverage.
- 11. The Nurse Manager from Cherry Drive and the Work Unit Leader has established a contract with Healthcare Receivable Specialists, Inc. (HRSI) to work with the maternity patients who do not have health insurance. The HRSI personnel meet with the patient at their home and assist them in receiving coverage for their maternity care.
- 12. The Work Unit Leader has continued to refine Financial Reports to demonstrate departmental activities, strengths, and opportunities for improvement. These reports are provided to the Chair, Administrator, Operations Director, Ambulatory Medical Director, and all Division Chiefs in the department on a monthly basis.
- 13. The Nurse Manager from Cherry Drive and the Work Unit Leader has established bi-weekly meetings to identify issues, and work on processes and resolutions. A

- task list is maintained and sent to the Department Chairman, Ambulatory Medical Director, and the Operations and Outpatient Directors.
- 14. With further refinement of cash collections and claim submission, the Department of Ob/Gyn's Net Collection rate is between 91% 93%, which is among the top in the institution.
- 15. The department continues to support PCA staff to maintain their certification status and further their career development.
- 16. The Work Unit Leader developed a relationship with Professional Financial Services Director, and coordinated a quarterly update from PFS at the Ob/Gyn Executive & Operations Meetings.

Department Goals for 2006/2007

The department is poised to provide the Central Pennsylvania region with exceptional service and a greater capacity for access to its referring physicians and patients. Our goals for the new year include:

- Renovations of the 3 North Reception area with a new desk and more tightly enclosed area for patient confidentiality. This has been approved for funding through the department academic enrichment funds and is set to start construction in fall 2006.
- After extensive planning in 2004/2005, renovations to the 3 Norht Clinic space were implemented in October, 2005 and moved into this new space by December, 2005. This expanded the available clinic space for the divisions of Maternal Fetal Medicine, Reproductive Endocrinology and Women's Health.
- 3. On-going recruitment of another faculty member to the Maternal Fetal Medicine Division. This will create added access for patients and their families to departmental services.
- 4. The new practice in the Erford Road West Shore area of Harrisburg has shown success with new patient appointments from the West Shore area. Our additional physician hire has afforded the department to have 3 female Women's Health practitioners at the West Shore location for general Women's Health. Also, we continue to expand our oncology services at the Erford Road clinic site with clinic held with Dr. George Olt. We continue to market and grow these service opportunities for our patient population.
- 5. With stability in our practitioner base, the department anticipates continued, steady growth in all subspecialties of the department. Our practitioners are always striving for the latest innovations that will serve our clients in the most up-to-date and least invasive techniques possible.
- Continued marketing of the sites at Erford Road and Nye's Road and emphasis on all our services will be the goal of fiscal year 2006/2007. Also, an updated Department of Obstetrics and Gynecology website was put online by Thanksgiving,

2005. In 2006/2007 our marketing will include a semi-annual newsletter to be sent to all households in our primary market.

- 7. We are making continued efforts through University Development to enhance our endowments and gifts for the department. This will also allow the department to provide for new initiatives in our missions of research and education.
- 8. In the last year, the implementations of many initiatives from the consultants report for our clinics have been successful. Dr. Holly Thomas accepted the position of Ambulatory Medical Director for ObGyn for the department starting late August, 2005. She has implemented many new processes to make the clinics more patient friendly and access to a physician easier.
- To enhance all three of our missions (clinical, education, research), our department library is undergoing renovations to allow for a larger audience, up-to-date audio visual and computer equipment, and new furniture. This will be completed by November 2006.

The department continues to make significant strides in many areas, and will continue to meet the challenges ahead in 2006/2007. As we continue to meet the clinical, education and research goals, we will aspire to find new and creative avenues while still adhering to the principals and standards of the Penn State Hershey Medical Center.

Medical Student Clerkship Program

Student Clerkship Program Staff

Robert L. Yarwood, M.D., F.A.C.O.G., Medical Student Clerkship Director A. Cheryl Mathias, Clerkship Program Coordinator

Description and Goals

A core component of the curriculum at the College of Medicine is instruction in Reproductive Medicine and Women's Health at several levels. This culminates in a sixweek clerkship in Obstetrics and Gynecology in the third year, administered through the clinical Department of the Milton S. Hershey Medical Center. All students take this course, and must pass to receive their Doctor of Medicine degrees. The course follows the educational objectives laid down by the Association of Professors of Gynecology and Obstetrics in designing a program to give broad exposure to women's health and to focus on details essential to the practice of the specialty.

Syllabus

The course incorporates one day of introductory lectures and presentations on the basics of OB/GYN history taking and examination, and two additional days of lectures from Department faculty on selected topics. The remainder of the six weeks is spent examining and caring for patients in labor and delivery, hospital inpatient wards, the operating room, and the outpatient clinic at one of five clinical teaching sites, under supervision of faculty and residents. Students perform pelvic exams, assist in deliveries and surgery, perform outpatient procedures, write chart notes, and give patient presentations, as well as participate in all of the teaching conferences of their particular institution. Grades are based on clinical evaluations submitted by faculty and residents who have worked with the students and scores on the NBME Subject Examination, administered on the last day of the course. The required textbook is Obstetrics and Gynecology, 5th Edition, Beckman, Ling, et al, Philadelphia: Lippincott Williams & Wilkins; 2006.

Clinical Teaching Sites and Supervisors

Milton S. Hershey Medical Center, Hershey, PA

Robert L. Yarwood, MD, FACOG (Clerkship Director)

Assistant: Ms. Cheryl Mathias (Clerkship Coordinator)

Lehigh Valley Hospital, Allentown, PA

Kristin Friel, MD, FACOG

Assistant: Ms. Teresa Benner

Pinnacle Health at Harrisburg Hospital, Harrisburg, PA

Norman Navarro, MD, FACOG

Assistant: Ms. Linda Weldon

Reading Hospital and Medical Center, Reading, PA

Anton Kleiner, MD, FACOG

Assistant: Ms. Karen Manning

York Hospital, York, PA

Leslie E. Robinson, MD, FACOG

Assistant: Ms. Linda Diamond

Statistics

For the 2005-2006 academic year, 125 students completed the course. Results were:

Grades

Honors	42
High Pass	36
Pass	
Low Pass	1
Fail	2

NBME Subject Exam

•	P.S.U.	National
Mean	71.3371.3	
Median	70	70 ½
s.d	7.93	8.2

For the 2006-2007 academic year, 137 students are enrolled in the course.

Additional Medical School Courses

Department faculty provide lectures and small group leadership in anatomy, physiology, and clinical medicine at the first and second year levels in several courses, and a department faculty co-directs the Reproductive Medicine course in the second year curriculum. Department faculty also oversee the integrated instruction in pelvic examination across the four-year experience.

The Ob/Gyn department offers several four-week electives to 4th year medical students. Currently:

Gynecologic Oncology, Hershey Medical Center
Maternal-Fetal Medicine, Hershey Medical Center
Reproductive Endocrinology, Hershey Medical Center
Ambulatory and Adolescent Gynecology,
University Physicians Group, Nyes Road and Cherry Drive
OB/GYN Externships: Harrisburg Hospital, Lehigh Valley Hospital,
Reading Hospital, York Hospital, Lancaster Women & Babies Hospital

A faculty mentor specifically supervises all of these courses, and several fulfill the graduation requirement of an acting internship. A total of 18 students are enrolled in these courses in the current academic year, and an additional 2 students are enrolled in independent studies in OB/GYN at various institutions around the country.

Finally, the Department offers clerkships in outpatient care for Physician Assistant and Nurse Practitioner students from affiliated institutions, scheduled on a case-by-case basis.

Mentorship in Obstetrics and Gynecology

The College of Medicine has had a student-run Interest Group in Women's Health for several years, with faculty advisors drawn from within the Department of OB/GYN. These primarily first- and second-year medical students actively participate in the LionCare free clinic in Harrisburg, sponsor educational seminars in women's health topics, collect cell phones for donation to a local women's shelter, and organize rally's and other activities centered around addressing domestic and sexual violence. Although not all ultimately

pursue a career in Obstetrics and Gynecology, they are all very aware of the importance of reproductive health across all medical specialties.

In the current academic year the Dean of Education has begun a new faculty mentorship program to better guide and support students as they grapple with planning for their professional futures. Students are asked to choose a specialty at the beginning of their clinical training, and are matched with a faculty member from that department to meet with 3-4 times throughout the year to discuss professional development and particularly residency preparation. Of the 137 students within the class of 2008, fully 17 are being mentored by OB/GYN faculty. This endeavor will also involve group sessions during the year for information exchange on post-graduate training.

These student activities – didactic, clinical, and modeling, both formal and informal – also serve to encourage students to pursue a career in Obstetrics and Gynecology, as well as sub-specialization within Family Medicine and Internal Medicine. Graduating students from the College entering residencies in Obstetrics and Gynecology have steadily increased as follow:

Class of 2003	96	graduates	5	OB/GYN
Class of 2004	116	_	6	
Class of 2005	120		6	
Class of 2006	129		10	

The Department is very proud of its contribution to the goals of the American College of Obstetricians and Gynecologists and the Association of Professors of Gynecology and Obstetrics in increasing providers of our specialty, and of heightening awareness of women's health issues among all new physicians.

Residency Program

Residency Program Staff

Paul R. Kramer, Jr., M.D., Director Matthew F. Davies, M.D., Associate Director A. Cheryl Mathias, Residency Coordinator

Resident Education

The Department of Obstetrics and Gynecology continues to support an outstanding Residency Program for training in the specialty of Obstetrics and Gynecology. With the department's continued growth in the area of general clinical Obstetrics and Gynecology, as well as upcoming additional growth in Maternal-Fetal Medicine, the residents are seeing a greater variety and number of clinical cases. This is especially true with respect to the continued increase in deliveries performed at Hershey. Urogynecology services also continue to grow thereby increasing resident exposure. Most recently, laparoscopic services have increased dramatically in general gynecology, again leading to greater experience for the residents.

The 2005-2006 academic year began with the introduction of what has been noted to be an outstanding group of first year residents. In October, the program quite successfully completed our anticipated site visit. At that time, the program was given full accreditation for four years. Our request to increase the overall number of residents to five per year was likewise approved. At the same time, the program leadership changed hands. Dr. Paul Kramer moved from Associate Director to Director of the Residency Program. Dr. Matthew Davies will continue to offer his considerable experience as Associate Director. After many years, Ms. Lana Helms stepped aside as Program Coordinator. In the spring of this year, Mrs. Cheryl Mathias was hired as Ms. Helms' replacement and has taken to the position with enthusiasm. Her background in Information Technology should be an asset to the program.

Following these changes, we completed an extremely successful interview season. The format was slightly revised and seemed to work well. This was in great part due to outstanding participation by both faculty and residents. The process resulted in a very strong match. Taking five new residents, the program was able to match those five physicians from the very top of the rank list. It is anticipated that this will be an excellent class of residents.

Formal didactic learning has continued to be a standard and accepted component of resident education. The focus on protecting the residents' time on these Wednesday afternoons is paramount. The Wednesday conferences continue to be a consistent, well-conceived program supervised by various faculty members, including the Chair and the Program Director, although changes and variations help the program to grow and remain interesting and current. The afternoon starts with a review of a chapter from a selected textbook. This past year, the residents elected to cover texts in specialized areas of Gynecology, including Reproductive Endocrinology, Urogynecology and Gynecologic Oncology. The chapters continue to be reviewed and presented by residents under the

direction and supervision of faculty members. The chapter is followed by Chair Rounds, which generally consists of a discussion of inpatient services led by the department Chairman, Dr. John Repke. The final hour of the afternoon is devoted to various topics including an M&M conference led by Dr. Robert Yarwood, a journal club overseen by Dr. Paul Kramer and various lectures on other topics of interest. This last hour, and often the whole afternoon, is occasionally used for special programs or labs. Over the past year, these have included programs to teach hysteroscopy and endometrial ablation as well as an anatomy lab using human cadavers. The afternoon concludes with Grand Rounds.

In addition to these protected educational endeavors for all residents, certain services continue to have their own, unique conferences designed to maximize the resident's educational experience on their service. The Gynecology Pre-operative Conference continues to be held on Monday mornings, with Dr. Richard Pees heading this resident presented discussion. We continue with the Perinatal Conferences on Friday mornings, which are organized by the Maternal-Fetal Medicine faculty in conjunction with the Neonatology Faculty. Thursday mornings have seen the completion of the second year of the Gynecology/Radiology Conference and of a hospital-wide series of lectures covering issues surrounding the ACGME Core Competencies. All of these educational efforts and clinical experiences have continued to be undertaken easily within the confines of the eighty-hour per week duty restrictions.

Research opportunities and experiences within the department have grown under the direction of Dr. Colin MacNeill. He has offered his time and energy to direction of the mandatory resident research projects. With the upcoming 2006-2007 schedule, it is anticipated that residents will have protected time in which to discuss their projects with Dr. MacNeill and to avail themselves of his expertise to complete these projects. Last years' efforts ended with an outstanding Resident Research Day in conjunction with Graduation Weekend. Our guest speaker, through the Mortel Lectureship, was Dr. Geoffrey Cundiff from Johns Hopkins. The weekend concluded with the graduation of four excellent Obstetrician/Gynecologists, three into private practice and one into a laparoscopy fellowship.

Our outside rotations to the Harrisburg Hospital have continued to offer the residents an experience not available at the medical center. Four residents are currently assigned to this rotation at any given time, but this number may increase in the future. This rotation presently allows the residents to completely avail themselves of the opportunities and experiences at the community portion of our program, including exposure to a more urban patient population. Residents have recently begun working more with a busy Maternal-Fetal service at Harrisburg Hospital and it is anticipated that a formal rotation may be arranged with the 2006-2007 schedule. Dr. Norman Navarro, a Penn State College of Medicine graduate, has recently assumed leadership of the Harrisburg program subsequent to Dr. Jean Hauser's retirement. It is expected that he will continue to lead this program and to optimize this aspect of the residents' education.

Finally, our documentation and evaluation of resident requirements and experiences has been augmented and improved. We have continued to develop the ACGME Core Competencies within Obstetrics and Gynecology. It is anticipated that we will begin a program directed to the teaching of these vital areas in the next academic year. Means of assessment and methods of intervention have been developed for four of the six competencies and will soon be completed and implemented for the whole group. Data keeping has long been a problem in residency programs. Over the past two years, using

the Resident Experience Logs, the program has been keeping statistics for the residents. This has been done in conjunction with the billing department under the direction of Mr. Kevin Haak. While this has taken much of the responsibility for record keeping away from the residents, it is anticipated that this will better allow the program to accurately monitor resident experiences with both procedures and primary care.

In conclusion, the future for the Obstetrics and Gynecology Residency Program looks extremely promising at this time. The department continues to increase its clinical activity and continues to seek growth in general clinical Obstetrics and Gynecology and in Maternal-Fetal Medicine. Experiences in laparoscopy, especially in Gynecologic Oncology, are likely to expand. Increased exposure in Maternal-Fetal Medicine will be seen through rotations with the group at Harrisburg Hospital. Educational activities in the simulation laboratory, run by the Anesthesia Department, are already scheduled. These will be held in conjunction with both Anesthesia and Nursing. Inanimate laparoscopy training under the direction of Dr. Gerald Harkins is likewise in the didactic schedule for the academic year. Protected research time will be offered under the continued supervision of Dr. Colin MacNeill. From these efforts, a resident completed poster has already been accepted for presentation at a national conference. The program will continue to expand its efforts to deal with record keeping electronically under the direction of the new Program Coordinator. Finally, the leadership in the Residency Program is settled and committed. It is through this commitment, the addition of faculty members committed to resident education, and the department's continued clinical growth that enables us to attract outstanding residents for training here at the Penn State Milton S. Hershey Medical Center.

House Staff

Liezl Irisari, M.D., PGY4 – West Virginia University School of Medicine Sharee Livingston, D.O., PGY4 – Philadelphia College of Osteopathy Kathryn Randall, M.D., PGY4 – University of New Mexico School of Medicine Kathleen Sheridan, M.D., PGY4 – Penn State University School of Medicine

Erin Flaherty, D.O., PGY3 – Lake Erie College of Osteopathic Medicine Adedoyin Shonekan, M.D., PGY3 – University of Tennessee College of Medicine Scott Readence, M.D., PGY3 – University of Cincinnati College of Medicine Daniel Victoria, M.D., PGY3 – Faculte de Medecine Laennec

Danielle Hazard, M.D., PGY2 – Penn State University School of Medicine Tetyana Kashner, M.D., PGY2 – Vinnica Medical University Sangeetha Konda, M.D., PGY2 – Mahadevappa Rampure Medical College Jaimey Pauli, M.D., PGY2 – Penn State University School of Medicine Thanh Truong, M.D., PGY2 – University of California College of Medicine, Irvine

Corenthian Booker, M.D., PGY1 – Creighton University School of Medicine Kimberly Kesler, M.D., PGY1 – University of Maryland School of Medicine Julie Messimer, M.D., PGY1 – Saba University School of Medicine Ericka Stone, M.D., PGY1 – Southern Illinois University School of Medicine Lisa Vigue, M.D., PGY1 – Creighton University School of Medicine

Division of Gynecologic Oncology

Division of Gynecologic Oncology Staff

George J. Olt, MD, Division Chief Edward S. Podczaski, MD, Professor Paul R. Kramer, Jr., MD, Assistant Professor Ann Gelder, Coordinator of Research Studies Susan Bedger, LPN Kathleen Shrawder, Secretary

Overview

The Division of Gynecologic Oncology provides complete care for women of Central Pennsylvania with pre-malignant and malignant gynecologic diseases, as well as patients with complex surgical problems. As only 790 board certified Gynecologic Oncologists practice nationwide, our referral area is quite large, extending north from the New York border, south into Maryland, west to Altoona, and east to Reading. Nearly 400 major surgeries were performed by our division and over 6500 patient visits were accomplished during this academic year, with increases at all practice sites.

While the majority of patients are seen at the Hershey Medical Center, the division also maintains an office at Women's and Babies Hospital in Lancaster, Pennsylvania. This office allows for the complete care of Lancaster County women with gynecologic malignancies. This site increased new patient visits by 17% and return patient visits by 10% over the past year. Two years ago, an office was opened at Erford Road in Camp Hill. It is our endeavor to provide the women of the west shore with comprehensive gynecologic cancer care at this site as well.

The Division of Gynecologic Oncology plays an active role in the education of both medical students and residents. During the past academic year our division participated in the well-received clinical correlation series with Dr. Richard Zaino. Third year students rotate weekly on the Gynecologic Oncology service. Five percent of the senior class performed acting internships in gynecologic oncology. First and fourth year residents rotate on the Gynecologic Oncology service obtaining experience in pre-and post-operative care while refining surgical techniques. Dr. Kramer assumed the responsibility of Residency Program Director in October of 2005.

The Division of Gynecologic Oncology research endeavors are primarily focused around clinical trials generated both in-house and via national collaborative groups. The Hershey Medical Center is one of 47 parent institutions of the Gynecologic Oncology Group (GOG). Our affiliates are University of Maryland, Lehigh Valley Hospital and University of Utah. Our division also participates in the Eastern Cooperative Oncology Group (ECOG). More than 75 patients were enrolled in clinical trials last year. Non-clinical funded research areas include the genetic basis of ascites formation and the molecular basis of response in therapy of epithelial ovarian cancer.

Faculty

Paul R. Kramer, Jr., MD, Assistant Professor, Residency Program Director

Medical School: The Medical College of Virginia, MD - 1991

Residency: Milton S. Hershey Medical Center, Obstetrics and Gynecology 1991-1995 Fellowship: Milton S. Hershey Medical Center, Gynecologic Oncology 1995-1997 Research Interests: Endometrial cancer and hyperplasia, use of nutraceuticals by cancer

patients, drug absorption across vaginal and cervical epithelium.

George J. Olt, MD, Professor, Division Chief

Medical School: University of Cincinnati, MD- 1984

Residency: Duke University Medical Center, Obstetrics and Gynecology 1984-1988 Fellowship: Duke University Medical Center, Gynecologic Oncology 1988-1991

Research Interests: The biology of ascites formation, role of progesterone in patients with endometrial hyperplasia, the molecular biology of response to therapy of epithelial ovarian cancer.

Edward S. Podczaski, MD, Professor

Medical School: University of Chicago, Pritzker School of Medicine, MD-1977 Residency: University of Chicago, Obstetrics and Gynecology, 1978-1982 Fellowship: University of Chicago, Gynecologic Oncology, 1982-1984

Research Interests: Endometrial cancer, the role of telomerase expression in cervical

cancer.

Clinical Activities

554 OR Cases @ HMC

Dr. Olt 170 Dr. Podczaski 181 Dr. Kramer 203

- 38 OR Cases @ Women's and Babies Hospital
- 1136 New Patient Visits @ HMC

Dr. Olt 404 Dr. Podczaski 521 Dr. Kramer 211

5415 Return Patient Visits @ HMC

Dr. Olt 1834 Dr. Podczaski 2730 Dr. Kramer 851

1769 Supervised Patient Visits @ HMC

 Dr. Olt
 126

 Dr. Kramer
 1643

- New Patient Visits @ Women's and Babies Hospital
- 331 Returns Patient Visits @ Women's and Babies Hospital
- 122 New Patient Visits @ Erford Road
- 264 Return Patient Visits @ Erford Road

Research

Gynecologic Oncology Group Parent Institution with affiliates at University of Maryland, Lehigh Valley and University of Utah (Kramer P, Olt G, Podczaski E – Co-Investigators)

The role of telomerase expression in cervical cancer. Study based on immunohistochemical staining of banked specimens. (Podczaski E, Irisari L – Co-Investigators)

Role of progesterone route of administration in patients with endometrial hyperplasia. (Olt G – Investigator)

Progression of HPV-induced human dysplasia. Tobacco Settlement Block Grant. (Olt, G Co-Investigator)

Publications

None

Presentations

Kramer P: "Combination Radiation Therapy and Chemotherapy for Cervical CA", Department of OB/GYN Grand Rounds, Milton S. Hershey Medical Center, Hershey, PA 1/11/06

Kramer P: "Ovarian Cancer Update", Department of Veteran's Affairs, VA Medical Center, Lebanon, PA 9/30/05

Kramer P: "GYN Cancer Staging", Department of Nursing, Milton S. Hershey Medical Center, Penn State University, Hershey, PA 2/16/06

Kramer P: "HPV, Teenagers and The New Vaccine", Ages and Stages 10th Annual Women's Health Conference, Penn State College of Medicine, Continuing Education, The Hotel Hershey, Hershey, PA 4/25/06

Kramer P: "Cancer and IP Chemo", Department of Nursing, Penn State University, Milton S. Hershey Medical Center, Hershey, PA 5/3/06

Olt G: "Cervical Cancer", Penn State Cancer Institute, Hershey Medical Center, Hershey, PA 12/20/05

Teaching

Clinical Pathology Correlation Course - Two Hour Lecture 4/6/06 - One Hour Lecture 3/30/06

Tutorials for Third Year Medical Students every 6 weeks

Acting Intern – Fourth Year Medical Student – Rotates every four weeks on Gyn Onc Service

Resident Summer Core Lectures:

Kramer P: "OR Instruments and Sutures" - 7/7/05 Podczaski E: "Abnormal Cytology and Colposcopy" - 8/25/05

Olt G: "Post Op Care/Complications" - 8/16/05

Resident Lecture:

Olt G: "Preoperative Evaluation, Medical Management and Critical Care" 3/29/06

Resident Teaching:

Kramer P: Weekly Chapter Reviews, Pathology Conferences, Chair Rounds (substitute approx. once every six weeks), CREOG Review

Division of Maternal Fetal Medicine

Maternal Fetal Medicine Staff

John J. Botti, M.D., F.A.C.O.G., Division Director Anthony Ambrose, M.D., F.A.C.O.G. John T. Repke, M.D., F.A.CO.G., Professor and Chairman Patricia Myers, RN-C Pamela Macrina, RN Susan Sell, MS, Certified Genetic Counselor Judy Grubb, Division Secretary

The mission of the Penn State MS Hershey Medical Center Division of Maternal Fetal Medicine is to improve pregnancy outcomes through the provision of outstanding clinical care, relevant clinical research, research into practice knowledge sharing, student and obstetric/gynecology resident training and community service. During 2005-2006 FY, the Division of Maternal Fetal Medicine completed a major transfer in practice location and continued transformations in the focus of clinical care, and in collaborative research endeavors. The Division continues to provide daily inpatient and outpatient care at the MS Hershey Medical Center and fetal diagnostic imaging at the Women's Health Center at Cherry Drive and at the Nyes Road facility. In February, the Division's antenatal care and consultative practice was transferred from the Cherry Drive facility to the 3 North Triage area, adjacent to the Labor and Delivery facilities. The transfer consisted of extensive coordinating activities including the Division of Reproductive Endocrinology and the Department of Radiology.

Clinical Care

The Division of Maternal Fetal Medicine provides comprehensive preconception, consultative and obstetrical care to some healthy but mostly high-risk patients from fourteen counties in Central Pennsylvania. In FY 2005-2006, the Division had 2649 outpatient visits, including 567 consultations. We performed 614 non-stress tests and/or biophysical profiles. There were 160 genetic consultations, 140 amniocentesis procedures and 18 chorionic villus samplings. The Division performed more than 2,000 outpatient ultrasound procedures, distributed among facilities at the Cherry Drive and Nyes Road sites, and in the Perinatal Testing Unit on 3N at the Medical Center. The ultrasound studies included initial performance of 3D/4D imaging, following the purchase of two units with 3D/4D technology by the Department and the addition of a similar unit by The Department of Radiology at Cherry Drive. Inpatient care included 426 admissions, 236 of them from transferred patients, resulting in 312 deliveries, performed in collaboration with the Division of Women's Health. More than 400 inpatient non-stress tests, and 30 consultations were performed.

Teaching

The Division of Maternal Fetal Medicine provides daily clinical teaching and training to residents from the second through fourth years in both inpatient and outpatient settings,

including the Maternal-Fetal Medicine prenatal testing and inpatient care rotation. The division collaborates with Women's Health to provide labor and delivery supervision two days each week, including teaching and training to the residents. The division also provides teaching of third and fourth year medical students, including two fourth year students during the academic year in a Maternal-Fetal Medicine elective externship.

The Division of Maternal-Fetal Medicine provided several monthly lectures to medical students throughout the academic year in subject areas of prematurity, fetal imaging and hypertensive disorders of pregnancy. The division was also responsible for several of the basic OB/Gyn lectures for new residents and students, including management of normal and abnormal labor, and fetal monitoring. The Division of Maternal-Fetal Medicine shared responsibilities with the Newborn Medicine Division for the conduct of the interdepartmental Perinatal Conference for the 2005-2006 academic year, which included seven teleconferences to surrounding hospitals.

Dr. Ambrose participated in the 2nd year Case-Based Learning Program during the 2005-2006 academic year (Spring).

Faculty

Anthony Ambrose, M.D., F.A.C.O.G., Associate Professor

Undergraduate Training (Engineering): United States Military Academy, West Point, NY – 1964-1968

Medical School: Milton S. Hershey Medical Center, Hershey, PA – 1971-1975

Internship and Residency: William Beaumont Army Medical Center, El Paso, TX – 1975-1979

Fellowship: Maternal Fetal Medicine, the University of North Carolina, Chapel Hill, NC – 1982-1984

John J. Botti, M.D., F.A.C.O.G., Professor, Division Director

Undergraduate Training: University of Notre Dame – 1966-1970

Medical School: Albany Medical College of Union University – 1970-1974

Residency: University of Pittsburgh School of Medicine, Pittsburgh, PA – 1974-1977

Research Fellowship: Maternal Fetal Medicine, University of Pittsburgh School of

Medicine, Magee-Women's Hospital, Pittsburgh, PA – 1977-1979

Research Training: University of Pittsburgh School of Medicine, Magee-Women's Hospital – 1974-1979

John T. Repke, M.D., F.A.C.O.G., Professor and Chairman

Undergraduate Training: Georgetown University, Washington, D.C. – 1974

Medical School: The Johns Hopkins Hospital, Baltimore, MD – 1978 Residency: The Johns Hopkins Hospital, Baltimore, MD – 1978-1982

Fellowship: Maternal Fetal Medicine, the Johns Hopkins Hospital, Baltimore, MD - 1982-

1984

Recruitment

During FY 2005-2006, the Division of Maternal Fetal Medicine interviewed two candidates for a position in the Division. In an environment of very few available MFM specialists (approximately 70 fellowship graduates during the year) for many positions (more than 400 advertised nationally), we were unsuccessful hiring an additional member to the division.

Grants and Contracts

Dr. Botti continues as a co-investigator on the campus team that received a four-year \$4.7 million grant from the Pennsylvania State Department of Health Tobacco Fund for the Central Pennsylvania Center of Excellence on Pregnancy Outcomes. He serves as the Educational Core Committee Chair for the program. Dr. Botti is Administrator of Penn State Women's Health and Isabel Cate Rineer Memorial Endowment in Perinatology.

Service to the University and Community

Dr. Ambrose continues service as a member of the Hershey campus to the Faculty Senate, which meets on a monthly basis during the academic year. He is also extensively involved in the admissions interview and selection program for the students and the College of Medicine.

Dr. Botti continues service with the MSHMC Ultrasonography Committee and is a member of the Kienle Humanities Committee through the Department of Humanities.

Goals for FY 2006-2007

- 1. Recruitment of at least one additional faculty member to the Division of Maternal Fetal Medicine.
- 2. Enhance the 3N clinical theatre schedule to provide all perinatal services in morning as well as afternoon sessions.
- 3. Increase outreach programming for continuing education and improved regional referral /transport.
- 4. Continue interaction with residents for research projects, as well as developing a broad relationship with clinical research and teaching in the Central Pennsylvania Center of Excellence for Pregnancy Outcomes Program. (Community acquired methicillin resistant staphylococcus aureus in reproductive aged women; optimal pregnancy management of women who had gastric surgery for obesity.)
- 5. Development of research publications from the clinical interventions enacted in response to the Central Pennsylvania Women's Health Survey, completed in 2005. (Health Conditions and Behaviors in Women Age 18-45 years in

<u>Predominantly Rural Pennsylvania: The CePAWHS Determination of Areas for Preconception Interventions to Improve Pregnancy Outcomes)</u>

Research and Publications

The Central Pennsylvania Center of Excellence for Research on Pregnancy Outcomes successfully submitted the manuscript, <u>Preconceptional Health: Risks of Adverse Pregnancy Outcomes by Reproductive Life Stage in the Central Pennsylvania Women's Health Study (CePAWHS)</u> for peer review. The article is accepted for publication in Womens Health, with Dr. Botti as co-author. Dr. Botti also presented an abstract, <u>Health Conditions and Behaviors in Women Age 18-45 years in Predominantly Rural Pennsylvania: The CePAWHS Determination of Areas for Preconception Interventions to Improve Pregnancy Outcomes at the National Perinatal Association Annual Meeting in Chicago, in October, 2005.</u>

Ambrose A, Repke JT., Puerperal problems. High Risk Pregnancy: Management Options. Eds. James DK, Steer PJ, Weiner CP, Gonik B. 3rd Ed. pp. 1579-1605. Elsevier Saunders, Philadelphia, PA, 2006.

Repke, JT, Management of obstetric hypertensive emergencies. OBG Management. 2005; 17:41-7

Repke, JT, Editorial: Does treating gestational diabetes improve outcomes? OBG Management 2005; 17:19

Repke, JT, Episiotomy; ACOG Practice Bulletin No. 71 Obstet Gynecol 2006; 107; 957-62

Repke, JT, Management of Lupus Flare. OBG Management 2006; 18:29-44

Invited Lectures John J. Botti, M.D.

"Twin Gestation"

Women's Health Update – Nurse Education, MSHMC (CME)
July 14, 2005 - Hershey, PA

"Diabetes in Pregnancy"
Brown Bag Seminar, Department of Obstetrics and Gynecology, MSHMC
July 15, 2005 - Hershey, PA

"Pratfalls and Progress in the Diagnosis and Management of Cervical Insufficiency" Ob/Gyn Masters Series sponsored by Penn State Milton S Hershey Medical Center, in cooperation with The Central Pennsylvania Center of Excellence for Research on Pregnancy Outcomes and March of Dimes: Central Pennsylvania Division (CME) August 20, 2005 - Hershey, PA

"Diabetes in Pregnancy"
Women's Health Update – Nurse Education, MSHMC (CME)
September 20, 2005 - Hershey, PA

"Morbidity & Mortality (2nd qtr 2005)"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

September 23, 2005 – Hershey, PA

"Interventions to Improve Maternal Health Status Before Pregnancy"

Mead Johnson Nutritionals Mid-Atlantic Conference on Perinatal Research

September 25-27, 2005 (CME)

September 26, 2005 - Hershey, PA

"Prematurity 2005"

Grand Rounds, Department Obstetrics & Gynecology, Lewistown Hospital (CME)

October 20, 2005 - Lewistown, PA

"The Importance of Meconium and its Management"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

October 21, 2005 - Hershey, PA

"A Stitch in Time"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

November 18, 2006 - Hershey, PA

"Central Pennsylvania Women's Health Study in Rural PA: Reproductive Health Risks and Interventions 2005"

Grand Rounds, Department Obstetrics & Gynecology, MSHMC (CME)

December 7, 2005 – Hershey, PA

"Morbidity & Mortality ((3rd qtr 2005)"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

December 9, 2005 - Hershey, PA

"Central PA Women's Health Study (CePAWHS)"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

February 17, 2006 - Hershey, PA

"SMFM 2006 Meeting Highlights"

Perinatal Videoconference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

February 24, 2006 - Hershey, PA

"Morbidity & Mortality (4th Qtr 2005)"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

March 24, 2006 - Hershey, PA

"Fetal Fibronectin Testing"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

April 7, 2006 - Hershey, PA

"Cervical Insufficiency"

Perinatal Videoconference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

May 5, 2006 - Hershey, PA

"Resuscitation/Treatment of the ELBW Infant: Research vs. Standard of Care" Life Inside and Out: Perinatal & Neonatal Care Symposium, University of Tennessee (CME) May 25, 2006 – Asheville, NC

"Maternal Obesity: Where Are We Failing?"

Life Inside and Out: Perinatal & Neonatal Care Symposium, University of Tennessee (CME) May 25, 2006 – Asheville, NC

"Morbidity & Mortality (1st Qtr 2006)"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

June 23, 2006 - Hershey, PA

Invited Lectures Anthony Ambrose, M.D.

"15th World Congress on Ultrasound in Obstetrics and Gynecology"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

October 7, 2005 - Hershey, PA

"Obstetrical Nightmares for the NICU Nurse" Women's Health Update – Nurse Education, MSHMC (CME) November 6, 2005 - Hershey, PA

"Induction of Labor at HMC and Elsewhere"
Grand Rounds, Department Obstetrics & Gynecology, MSHMC (CME)
November 30, 2005 – Hershey, PA

"Obesity and Pregnancy"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

March 10, 2006 - Hershey, PA

Invited Lectures John T. Repke, M.D.

"Preeclampsia: What causes it, can we prevent it and can we treat it?" Grand Rounds, Dept. of OB/GYN, Franklin Square Hospital Center October 7, 2005 - Baltimore, MD

"Preeclampsia: What causes it, can we prevent it and can we treat it?" Obstetrical Society of Boston November 28 - Boston, MA

"Management of Gestational Diabetes: Pill or Shot?"
Obstetric Controversies and Debates. 26th Annual Meeting, Society For Maternal-Fetal Medicine
February 1, 2006 - Miami, FL

"VBAC: Dinosaur or Phoenix?"

Obstetric Controversies and Debates. 26th Annual Meeting, Society for Maternal-Fetal Medicine. February 1, 2006 - Miami, FL

"Preeclampsia: What causes it, can we prevent it and can we treat it?" Grand Rounds, Department of Obstetrics and Gynecology, Lenox Hill Hospital, March 1, 2006 - New York, NY

"Management of Gestational Diabetes: Pill or Shot?"
Grand Rounds, Penn State College of Medicine – Milton S. Hershey Medical Center March 22, 2006 - Hershey PA

"Update on Preeclampsia "
Grand Rounds, Penn State College of Medicine – Milton S. Hershey Medical Center
April 19, 2006 - Hershey, PA

"VBAC: Dinosaur or Phoenix?" Grand Rounds Harrisburg Hospital May 18, 2006 - Harrisburg, PA

"VBAC: Dinosaur or Phoenix?" Grand Rounds, Penn State College of Medicine - Milton S. Hershey Medical Center May 24, 2006 - Hershey, PA

Chapters and Reviews John T. Repke, M.D.

Barbieri, RL, **Repke, JT**. Medical disorders during Pregnancy 16th Ed. pp 32-8. McGraw-Hill, New York, 2005

Repke, JT. Editorial: Incidence, severity and determinants of pain after vaginal delivery: A prospective cohort study. Obstetric Anesthesia Digest. 2005:2;78-9

Repke, JT. Editorial: A randomized controlled trial of plasma volume expansion in hypertensive disorders of pregnancy: influence on the pulsitility indices of the fetal umbilical artery and middle cerebral artery. Obstetric Anesthesia Digest. 2005:25;147-8. Norwitz, ER, **Repke, JT**. Obstetric Issues in Women With Neurologic Diseases. Neurologic Disease in Women. Ed. Kaplan,PW. Demos Medical Publishing, New York, 2006. pp.151-68

Repke, **JT**. Isorbide Dinitrate for Treatment of Preterm Labor. Obstetric Anesthesia Digest. 2005:25;195

Ambrose, A, Repke, JT. Puerperal problems. High Risk Pregnancy: Management Options. Eds. James, DK, Steer, PJ, Weiner, CP, Gonik B. 3rd Ed. pp. 1579-1605. Elsevier Saunders, Philadelphia, PA, 2006

Repke, JT. Calcium plus linoleic acid therapy for pregnancy induced hypertension. Obstetric Anesthesia Digest. 2006:26;66-7

Repke, JT. Does the way that women experience the onset of labour influence the duration of labour? Obstetric Anesthesia Digest. 200626:103

Division of Reproductive Endocrinology and Infertility

Reproductive Endocrinology Staff

Courtney Bury, C.N.M.
Joni McCrady, R.N.
Julie Toth, Secretary
Jeri V. Miller, Embryologist
Janis M. Moessner, ELD (ABB) Embryologist and IVF Lab Director
Barbara Scheetz, Andrology Technologist
Sandy Eyer, Project Coordinator
Emily George, Lab Intern
Patricia Rawa, Coordinator of Special Projects I

Faculty

William C. Dodson, M.D.

Dr. Dodson is Chief of the Division of Reproductive Endocrinology and Infertility and Professor of Obstetrics and Gynecology in the College of Medicine. He graduated from Temple University School of Medicine in 1980 and completed his residency in obstetrics and gynecology in 1984 and fellowship in reproductive endocrinology at Duke University in 1986. Dr. Dodson is board-certified in obstetrics and gynecology and in reproductive endocrinology. He has been a member of the faculty at the College of Medicine since 1990. His areas of clinical focus include ovulation induction, assisted reproductive technology, and disorders of development of the female reproductive tract.

Carol L. Gnauk, M.D.

Dr. Gnatuk is Assistant Professor of Obstetrics and Gynecology in the College of Medicine. She graduated from the University of Pittsburgh Medical School in 1983 and completed her residency in obstetrics and gynecology at the University of Medicine and Dentistry of New Jersey in 1987. She completed her fellowship in reproductive endocrinology at the Mayo Clinic in 1991. Dr. Gnatuk is board certified in obstetrics and gynecology and an active candidate for certification in reproductive endocrinology. She has been a member of the faculty at the College of Medicine since 1991. Her areas of clinical focus are andrology, sperm donation, and endocrine disorders of menopause.

Richard S. Legro, M.D.

Dr. Legro is Professor of Obstetrics and Gynecology in the College of Medicine. He graduated from Mt. Sinai School of Medicine of New York University in 1987 and completed his residency in obstetrics and gynecology at Magee-Women's Hospital in Pittsburgh in 1991. He completed his fellowship in reproductive endocrinology at the University of Southern California in 1993. Dr. Legro is board certified in obstetrics and gynecology and in reproductive endocrinology. He has been a member of the faculty in the College of Medicine since 1993. His areas of clinical focus include polycystic ovary syndrome, ovulation induction, obesity, and uterine leiomyomas.

Accomplishments for 2005-2006

Clinical Reproductive Endocrinology and Infertility

Dr. Dodson was an examiner for the American Board of Obstetrics and Gynecology. Dr. Dodson was designated as a "Best Doctor".

Dr. Legro earned recognition as a "Top Doctor" and as a "Best Doctor".

Research and Education

Through Dr. Legro's efforts the Division of Reproductive Endocrinology and Infertility has received additional sponsored research support by grants from State Tobacco Funds to investigate the relationship between obesity and reproduction. He has additionally received extramural funding to investigate diet and its role in the treatment of the metabolic syndrome and another grant to examine 24 hour glucose levels during pregnancy. The division has completed enrollment in two major studies, both funded by the NIH. The first is entitled, "Pregnancy in Polycystic Ovary Syndrome", and the second, "The Effects of Continuous Combined Oral Contraception". Dr. Legro has been selected to serve on the Clinical Research Committee of the Endocrine Society and will continue his service on the NIH study section, "Reproduction, Andrology, and Gynecology Special Emphasis Panel". Dr. Legro is a member of the Editorial Board for the Journal of Clinical Endocrinology and Metabolism.

Dr. Dodson served as a reviewer for the Orphan Products Grant Development Program, a continuing project administered by the FDA. Dr. Dodson was a reviewer for the Society for Reproductive Endocrinology and Infertility Abstract Committee. He also was a member of the editorial task force for *Precis: Reproductive Endocrinology* and the ASRM Postgraduate Program Co-Chair.

The division has second-year residents in Obstetrics and Gynecology participate in all aspects of clinical care. Additionally, students in all four years of study at the Penn State College of Medicine are taught by members of the division.

The division continues to participate in patient-oriented education seminars throughout the local community.

Clinical Activity

Sessions Attended by Physicians 767, with at least one session every day, seven days per week.

New Patient Visits

645

Return Patient Visits

4768

Ultrasound Examinations

2272 Gyn and early Ob ultrasound examinations

Surgical cases

6 inpatient cases

48 outpatient cases

ART cycles

63 cycles initiated
55 oocyte retrievals
12 pregnancies delivered or ongoing (19% per cycle started)
9 single
3 twin

23 cryopreserved embryo transfers (1 pregnancy, single, delivered)

Educational Activity

Lectures

Medical Students

Second year students "Physiology of Reproduction"

Third year students (each block)

"Infertility"

"Menstrual Cycle and Amenorrhea"

"Menopause"

Mentor 1-2 students every other rotation Mentor 2-3 students each summer in clinical research

"Introduction to the Pelvic Exam"

Ob Gyn Residents

"Spontaneous Abortion and Ectopic Pregnancy"

Other Departmental Teaching

"PCOS: Everything you wanted to know without the confusing diagrams" Brown Bag Series, Hershey Medical Center, Hershey PA, 12/16/05. (Legro)

"Managing Menopause after the WHI", Grand Rounds, Department of Ob/Gyn, Hershey Medical Center, Hershey, PA, 5/17/06. (Gnatuk)

Invited Lectureships William C. Dodson, M.D.

"The Effect of Obesity on Infertility Treatment Outcomes" James Symposium, Meharry Medical College, 4/7/06

"The Effect of Obesity on Infertility Treatment Outcomes" Department of Obstetrics and Gynecology Grand Rounds, Christiana Hospital, Newark, DE, 4/26/06

"PCOS Environmental vs Genetic Influences" International PCOS Meeting, Dept of Ob/Gyn, Heilongjiang University of Chinese Medicine, Harbin, China, 8/26-8/28/05

Invited Lectureships Richard S. Legro. M.D.

"Diabetes in PCOS" PCOS: A multifaceted disease from Adolesence to Elderly, Villa Rufulo, Ravello, Italy, 9/30-10/01/05

PEACOCKS PCOS Forum: Chateau Vault de Lugny, France, 10/6/05-10/09/05 "PCOS: Genes and Insulin Sensitization: 2005 Update" Interactive Session. Annual Meeting of the American Society of Reproductive Medicine, Montreal Canada 10/19/05.

"PCOS: Genes and Insulin Sensitization: 2005 Update" Interactive Session. Annual Meeting of the American Society of Reproductive Medicine, Montreal Canada 10/19/05.

"PCOS: Genes and Insulin Sensitization: 2005 Update" Interactive Session. Annual Meeting of the American Society of Reproductive Medicine, Montreal Canada 10/19/05.

"Role of Oral Contaceptives in the treatment of PCOS", 3rd Annual Insulin Resistance Congress, San Francisco, CA 11/17//05.

"Oral Contraceptive Pills in PCOS: Perceived Risks and Benefits" Division of Endocrinology Grand Rounds, Penn State College of Medicine, Hershey, PA 12/14/05.

"Metformin in PCOS: Myths and Realities". Grand Rounds Dept of OB/Gyn University of Maryland Medical Center, Baltimore MD, 1/13/06.

"Managing a Clinical Trial", Junior Faculty Development Program, Penn State College of Medicine, 1/27/06.

"Developing PPCOS: Lessons in clinical trial methodology" CREST Program, NICHD-NIH, Bethesda, MD 3/05/06.

Division of Medical Endocrinology and Reproductive Endocrinology, *Speaker* "Anovulation and Reproductive Failure in PCOS: Role of Insulin Sensitization" Endocrinology Grand Rounds, University of Lousiville School of Medicine, Louisville, KY, 3/07-3/08/06.

"The Metabolic Syndrome in PCOS", The Athens International PCOS Congress, Athens Greece, 3/26-3/29/06.

"Body Weight and Reproduction: The Thick and Thin". 4th Annual Assembly of the New England Fertility Society, 4/8/06, Newport, R.I.

"Does Body Weight Matter in Reproduction?", Spring Colloquium Series, Dept of Nutrition, College of Health and Human Development, Penn State University, State College PA, 4/17/06

"Effects of Bariatric Surgery on Pregnancy and Reproductive Function in Women, Brown Bag Series, Department of Ob/Gyn, M.S. Hershey Medical Center, 4/23/06

Departmental Seminar, Metformin and PCOS: Myths and Realities" UT Southwestern, Dallas TX, 5/16/06

The Genetics of Polycystic Ovary Syndrome 22nd Annual Meeting of the European Society for Human Reproduction and Endocrinology, Prague, Czech Republic, 6/19/06.

Genotype and Phenotype in Polycystic Ovary Syndrome, 88th Annual Meeting of the Endocrine Society, Boston MA, 6/24/06

Invited Lectureships Carol L. Gnatuk, M.D.

"Menopause", Nurse Practitioner Student Lecture, Penn State College of Medicine, Hershey, PA 11/16/05. (Gnatuk)

"Ethics of Embryo Transfer", Elements of Clinical Research course, Penn State College of Medicine, Hershey, PA 4/13/06. (Gnatuk)

"Managing Menopause after the WHI", Grand Rounds, Carlisle Regional Medical Center, Carlisle, PA. 5/12/06. (Gnatuk)

Publications Peer-reviewed

Sam S, **Legro RS**, Dunaif A. Dyslipidemia and Metabolic Syndrome in the Sisters of Women with Polycystic Ovary Syndrome. J Clin Endocrinol Metab. 2005 Aug;90(8):4797-802 2005 May 17; [Epub ahead of print]

Wickenheisser J, Nelson-DeGrave VL, Hendricks KL, **Legro RS**, Strauss JF,III, McAllister JM. Retinoids and Retinol differentially regulate steroid biosynthesis in ovarian thecal cells isolated from normal cycling women and women with polycystic ovary syndrome. J Clin Endocrinol Metab 2005 Aug;90(8):4858-65. Epub 2005 May 24.

Urbanek M, Woodroffe A, Ewens K, **Legro RS**, Strauss JF III, Dunaif A, Spielman RS. Candidate Gene Region for Polycystic Ovary Syndrome (PCOS) on Chromosome 19p13.2. J Clin Endocrinol Metab. 2005 Dec;90(12):6623-9. Epub 2005 Aug 9.

Ho CKM, Wood JR, Stewart DR, Ewens K, Ankener W, Wickenheisser J, Nelson-Degrave V, Zhang Z, **Legro RS**, Dunaif A, Jan M. McAllister JM, Spielman R, Strauss JF III, Increased transcription and increased mRNA stability contribute to increased GATA6 mRNA abundance in PCOS theca cells. J Clin Endocrinol Metab 90(12):6596-602 2005. Epub Sep 13, 2005.

Liljenquist DR, Kasza K, Azziz R, **Legro RS**, Ghazzi MN, Ehrmann DA for the PCOS/Troglitazone Study Group. Prevalence and Predictors of the Metabolic Syndrome in Women with PCOS J Clin Endocrinol Metab 91(1):48-53 2006. Epub Oct 25, 2005.

Coviello AD, **Legro RS**, Dunaif A. Adolescent girls with polycystic ovary syndrome have an increased risk of the metabolic syndrome independent of obesity. J Clin Endocrinol Metab. 91(2):492-7 2006, Epub Oct 25, 2005

Non Peer-reviewed

Legro RS. Polycystic Ovary Syndrome. Journal Watch Women's Health. 11(1):4-5, 2006.

Legro RS, Nestler J. Point/Counterpoint: Should PCOS be treated with insulin sensitizers

Legro RS "Examing the Evidence" on "Prospective parallel randomized double-blind double-dummy controlled clinical trial comparing clomiphene citrate and metformin as the first-line treatment for ovulation induction in non-obese anovulatory women with polycystic ovary syndrome" Ob/Gyn Management In Pressor oral contraceptives Ob. Gyn. News Feb 15, 2006, p. 6.

Legro RS *Practice Point Commentary* on Ibanez *et al.* (2005) Absence of hepatotoxicity after long-term, low-dose flutamide in hyperandrogenic girls and young women. *Hum Reprod* **20**(7):1833-1836. Nature Practice Endocrinology and Metabolism, 2: 188-9, 2006.

Legro RS. Polycystic Ovary Syndrome. Journal Watch Women's Health. 11(1):4-5, 2006.

Legro RS, Nestler J. Point/Counterpoint: Should PCOS be treated with insulin sensitizers or oral contraceptives Ob. Gyn. News Feb 15, 2006, p. 6.

Monographs

Azziz R, Carmina A, **Legro RS**, Escobar-Morreale H, Futterweit W, Witchel SF, Jannssen OE. Position Statement: The Androgen Excess Society evidence-based criteria for defining the polycystic ovary syndrome as a predominantly hyperandrogenic syndrome. Complete task force report. Available online.

Abstracts

Dodson WC, Kunselman AR, **Legro RS**. The effect of obesity on treatment outcomes for infertile ovulatory women undergoing superovulation and intrauterine insemination. Presented at the American Society for Reproductive Medicine, Montreal, 2005

Montgomery-Rice, V, Ashar A, Ladson G, Sweet S, **Dodson W**, **Legro R**. Increased bone mass in reproductive age Black women is associated with increased lean body mass. Presented at the Society for Gynecologic Investigation, Toronto, 2006

Legro RS, Myers ER, Barnhart HX, Carson SA, Diamond MP, Carr BA, Schlaff WD, Coutifaris C, Mcgovern PG, Cataldo N, Giudice L, Steinkampf MP, Nestler JE, Gosman G, Leppert PC, for the NICHD Reproductive Medicine Network. The Pregnancy in Polycystic Ovary Syndrome Study: Study Design and Baseline Characteristics of the Randomized Cohort. Poster presentation at the 53rd Annual Meeting of the Society for Gynecologic Investigation, Toronto, Ontario, Canada 3/22-25/06.

Legro RS, Myers ER, Barnhart HX, Carson SA, Diamond MP, Carr BA, Schlaff WD, Coutifaris C, Mcgovern PG, Cataldo N, Giudice L, Steinkampf MP, Nestler JE, Gosman G, Leppert PC, for the NICHD Reproductive Medicine Network. The Pregnancy in Polycystic

Ovary Syndrome Study: Effect of Race and Ethnicity on the PCOS Phenotype in the Baseline Cohort. Poster presentation at the 53rd Annual Meeting of the Society for Gynecologic Investigation, Toronto, Ontario, Canada 3/22-25/06.

Mcgovern PG, **Legro RS**, Myers ER, Barnhart HX, Carson SA, Diamond MP, Carr BA, Schlaff WD, Coutifaris C, Cataldo N, Giudice L, Steinkampf MP, Nestler JE, Gosman G, Leppert PC, for the NICHD Reproductive Medicine Network. Utility of Screening for Other Causes of Infertility in Women with "Known" Polycystic Ovary Syndrome: Results from Subjects Presenting for Inclusion in the NICHD-Reproductive Medicine Network's "Pregnancy in Polycystic Ovary Syndrome" (PPCOS) Trial. Poster presentation at the 53rd Annual Meeting of the Society for Gynecologic Investigation, Toronto, Ontario, Canada 3/22-25/06.

Coviello A, Sam S, **Legro RS**, Dunaif A. High Risk of Metabolic Syndrome in First Degree Male Relatives of Women with PCOS is Associated with Obesity and Lower Androgen Levels. Poster presentation at the Annual Meeting of the Endocrine Society, Boston MA 2006.

Raja-Khan N, Shuja SA, Kunselman AR, **Legro RS**. No Difference in Reactive Hyperemia in Women with Polycystic Ovary Syndrome (PCOS) Compared to Controls. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA, 2006.

Raja-Khan N, Shuja SA, Kunselman AR, **Legro RS**. No Difference in Reactive Hyperemia in Women with Polycystic Ovary Syndrome (PCOS) Compared to Controls. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA, 2006.

Raja-Khan N, Shuja SA, Kunselman AR, **Legro RS**. No Difference in Reactive Hyperemia in Women with Polycystic Ovary Syndrome (PCOS) Compared to Controls. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA, 2006.

Liu DM, Sun YA, **Legro RS**, Grebe SK, Singh RJ, Taylor RL, Dunaif A. Evidence for Gonadotropin Secretory and Steroidogenic Abnormalities in Brothers of Women with Polycystic Ovary Syndrome (PCOS). Oral presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA, 2006.

Legro RS, Taylor MC, Kunselman AR, Bentley CM, Dunaif A. Evidence for Increased Cardiovascular Events in the Fathers of Women with PCOS. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA 2006

Legro RS, Roller R, Bentley CM, Kunselman AR, Dunaif A. Low Birthweight in PCOS Families Identifies Insulin Resistance and Glucose Intolerance. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA 2006.

Legro RS, Shuja SA, Kunselman AR, Dunaif A. Amenorrhea and Increasing Oligomenorrhea within Polycystic Ovary Syndrome Predict Worsening Insulin Resistance. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA 2006.

Hahr AJ, Essah PA, **Legro RS**, Dunaif A. Oligomenorrhea as a Marker for Polycystic Ovary Syndrome (PCOS) and the Metabolic Syndrome. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA 2006.

Ladson GM, **Dodson WC**, Kunselman AR, Montgomery Rice VC, Coney PJ, **Legro RS**. Black Women with PCOS Have Increased Bone Mineral Density Compared to White Women. Poster presentation at the 88th Annual Meeting of the Endocrine Society, Boston MA 2006.

Wickenheisser J, **Legro RS**, McAllister JM. Augmented CYP11A1 Gene Expression in Polycystic Ovary Syndrome Theca Cells: Alterations in Transcriptional Regulation and Messenger RNA Stability. Submitted to the 4th Annual Meeting of the Androgen Excess Society. Boston MA, 2006.

Research Grant Support

Principal Investigator

Source of Support: National Institutes of Health

Identifying Number: U10 HD 38992

Project Title: Cooperative Multicenter Reproductive Medicine Network

Principal Investigator: Legro, RS

Percent Effort: 2% Total Direct Costs: 826,749

Years of Award: 4/01/00-43/31/07

Source of Support: National Institutes of Health

Identifying Number: 1 RO1HD433332

Project Title: The effects of continuous versus sequential oral contraception

Principal Investigator: Legro, RS

Percent Effort: 5%
Total Direct Costs: 375,000

Years of Award: 10/01/02-9/30/06

Source of Support: National Institutes of Health

Identifying Number: U54 HD34449

Project Title: National Cooperative Program in Infertility Research

Principal Investigator: Strauss, J.F.

Co-Investigator: Legro, RS (Site Director- Phenotype/Genotype in PCOS)

Percent Effort: 10%

Total Direct Costs: 6,437,282 (Site Costs 312,730)

Years of Award: 7/01/02-6/30/07

Source of Support: National Institutes of Health

Identifying Number: HD044315

Project Title: The Meharry Medical College/Penn State Cooperative

Reproductive Science Center

Principal Investigator: Coney, PJ

Percent Effort: 5% (Co-Director of the Center)

5% (P.I. Project III- A Randomized trial of metformin and lifestyle interventions in

adolescents and adult women with PCOS)

Total Direct Costs: 5,446,268

Years of Award: 03/01/03-2/28/08

Source of Support: General Mills Foundation

Identifying Number: HHD050052

Project Title: Weight loss and cardiovascular disease prevention via a

whole grain diet in men and women with the metabolic

syndrome

Principal Investigator: Legro RS and Kris-Etherton, P

Percent Effort: 1%
Total Direct Costs: 50,000

Years of Award: 01/01/05-12/31/07

Source of Support: CROWN, Lancaster PA

Identifying Number: None

Project Title: Continuous Glucose Monitoring in Pregnant Women with

Polycystic Ovary Syndrome: A case control study

Principal Investigator: Legro RS

Percent Effort: 1% Total Direct Costs: 30,316

Years of Award: 05/01/05-04/30/06

Source of Support: CROWN, Lancaster PA

Identifying Number: None

Project Title: Development of a Screening Test for Endometrial Hyperplasia

in a At Risk Population

Principal Investigator: Legro RS
Percent Effort: 1%
Total Direct Costs: 50,000

Years of Award: 10/01/05-9/30/08

Source of Support: Commonwealth of Pennsylvania

Identifying Number: SAP 41-000-26343

Project Title: Planning Grant for an Obesity and Reproduction Center

Principal Investigator: Legro RS

Percent Effort: 5%
Total Direct Costs: 150,000

Years of Award: 01/01/05-12/31/05

Current Funding: Co-Investigator

Source of Support: National Institutes of Health

Identifying Number: 2R01-HD33852 Principal Investigator: McAllister JM

Project Title: 17a-Hydroxylase expression in human ovarian cells.

Percent Effort: 3% (Legro) Total Direct Costs 1,496,218

Years of Award: 12/31/05-11/30/09

Source of Support: National Institutes of Health

Identifying Number: M01 RR10732

Project Title: Penn State General Clinical Research Center Grant

Principal Investigator: Kirch, D

Project Role: GCRC Investigator (3 protocols in funded grant)

Percent Effort: N.A.

Total Direct Costs: 12,214,895

Years of Award: 12/01/05-11/30/09

Source of Support:

Identifying Number: 21012

Project Title: Levonorgestrel Containing Intrauterine Device in the

Treatment of Endometrial Hyperplasia Without Atypia

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 4/28/05-5/31/06

Source of Support:

Identifying Number: 20868

Project Title: A Study of an Aromatase Inhibitor Anastroloze in obese

women

Principal Investigator: Richard S. Legro, M. D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 4/6/05-5/1/06

Source of Support:

Identifying Number: 20477

Project Title: Sildenafil Citrate in the Treatment of Primary Dysmenorrhea

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 2/14/05-4/30/06

Source of Support:

Identifying Number: 19703

Project Title: Continuous Glucose monitoring in Pregnant Women with

Polycystic Ovary Syndrome

Principal Investigator: Richard S. Legro, M.D.

Project role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 10/8/04-10/31/05

Source of Support:

Identifying Number: 19374

Project Title: Case/Control Study of Ovarian Response to Ovulation

Induction with Exogenous Gonadotropins in Lean and Obese

Women

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort: Total Direct Costs:

Years of Award: 8/12/04-8/31/05

Source of Support:

Identifying Number: 19286

Project Title: A six week Double Blinded Randomized Trial of Atorvastatin

for the Treatment of PCOS Women with Elevated LDL

Cholesterol

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 7/28/04-9/6/05

Source of Support:

Identifying Number: HY99-059-A

Project Title: Prevalence of Endometrial Pathology and Role of Insulin

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort: Total Direct Costs:

Years of Award: 3/17/04-4/30/06

Source of Support:

Identifying Number: HY97-041

Project Title: Phenotype and Genotype in Familial PCOS

Principal Investigator: Richard S. Legro, M.D. Project Role: Co-Investigator (**Dodson**)

Percent Effort: Total Direct Costs:

Years of Award: 2/21/2002-4/30/06

Source of Support:

Identifying Number: HY01-190

Project Title: The Effects of Continuous Administration of a Monophasic

Oral Contraceptive on Bleeding Days and Endometrial and

Ovarian Function

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 6/18/2001-8/31/05

Source of Support:

Identifying Number: HY01-179

Project Title: A 4-month Double Blind Randomized Trial of Atorvastatin for

the Treatment of PCOS Women with Elevated LDL-

Cholesterol

Principal Investigator: Richard S. Legro, M.D.

Project Role: Co-Investigator (Dodson, Gnatuk)

Percent Effort:

Total Direct Costs:

Years of Award: 6/5/01-7/31/05

Source of Support:

HY00-149

Identifying Number:
Project Title: Markers of Insulin Resistance in Children

Principal Investigator:
Project Role: Richard S. Legro, M.D. Co-Investigator (**Dodson**)

Percent Effort:

Total Direct Costs:

6/21/00-5/31/06 Years of Award:

Division of Women's Health

Women's Health Staff

Matthew F. Davies, M.D., Division Chief Carie D'Agata, M.D.
Virginia Hall, M.D.
Gerald Harkins, M.D.
Rae Kennedy, M.D.
Colin MacNeill, M.D.
Richard Pees, M.D.
Holly Thomas, M.D.
Robert Yarwood, M.D.
Barb Svec, CNM
Wendy Jones, CRNP
Kim Shuster- Dubois, CRNP
Kim Ambacher, LPN
Denise Neely, Secretary

Overview

The Division of Women's Health provides primary care as well as specialty care in areas of general obstetrics and gynecology as well as a wide variety of complex issues involving obstetric and gynecologic disorders for the women of Central Pennsylvania. Specific subdivisions within our division in which faculty have special interests include vulvodynia and chronically recurring vaginal infections, pediatric and adolescent gynecology, pelvic pain, advanced laparoscopic dissection, minimally invasive surgery and complex pelvic floor reconstructions including the evaluation and correction of incontinence. The clinical offices are located in three main sites, with the principal one being the Women's Health Center on Cherry Drive in Hershey, Pennsylvania. The secondary site is our Nyes Road office in Linglestown, Pennsylvania. The most recently added site is located on Erford Road in Camp Hill, PA, which began seeing Ob/Gyn patients in July 2004. The members of the Division of Women's Health saw an aggregate of 28,078 visits in our offices last year. This represents a 25.9 % increases from the 22,299 visits during 2004-2005.

The division continues its growth, this year hiring Dr. Rae Kennedy. In addition, this year the average WH physician saw 2,182 patients. This represents a change of 31.2 % increase over last year in which we saw 1,667 visits/provider. In addition, 868 total inpatient and outpatient operative cases were done during this academic year. This represents an increase of 9.0 % over the 796 cases from last year.

The Division of Women's Health continues to play the lead role within the department in the education of both the medical students and residents. We initiate the student education with the introduction of pelvic exam during the first year of medical school. Dr. Gerald Harkins along with Dr. Richard Zaino from pathology, were the co-coordinators for the Interdisciplinary Course Curriculum (ICC) for the reproductive block in the second year of medical school. This course provides eighteen lectures as well as five cases used in Problem Based Learning (PBL). Coordinating this with the department of education within

the medical school has lead to another very successful year for this portion of the medical student curriculum. At the conclusion of this year it was reported that the Reproductive Block was the best among all blocks in this medical school in regard to their performance on the National Board examination. This is the second year in a row it has received such designation.

For the third year of medical school, Dr. Robert Yarwood serves as the Clinical Clerkship Director, and continues to run a very efficient and model program. He involves all faculty members through not only the clinical services, but also in the lectures given throughout the student's third year rotation. This year with the help of Dr. MacNeill, he has consolidated the pelvic exam OSCE into a more intensive one-week block to enhance the student's practical knowledge and skill. Finally Dr. Robert Yarwood, with the help of Dr. Carie D'Agata, runs the fourth year electives. Again this year we have had a high number of students opting to rotate through the pediatric and adolescent gynecology rotation with Dr. D'Agata, and the gynecologic oncology rotation under the supervision of Dr. Olt. In addition, there was more use of rotations on reproductive endocrinology and maternal fetal medicine as well.

The Women's Health Division, as the largest division within the department, has three residents rotating on its service: one in the first year, one in the third year and one chief resident. In addition, because of our large role on labor and delivery, we also have a first year and a fourth year resident running the inpatient obstetrical service. Dr. Matthew Davies was the Residency Program Director. This year saw a very successful RRC site visit and resident matching program through the NRMP and now Dr. Davies has stepped into the role of Assistant Program Director to focus more time on his administrative role within this division.

The Division of Women's Health's research endeavors are primarily focused on the work of Dr. Colin MacNeill, who focuses on vulvovaginitis and recurrent vaginal infections. He has completed his grant on the study of these diseases through the NIH funding. His collaborative work goes from within the department with Dr. Judith Weisz, to outside the department with Dr. David Phelps in Microbiology. He currently has a grant for tobacco settlement money for continued research in this area. This funding is in collaboration with Dr. Carol Weisman in Health Evaluation Sciences.

Other research includes work by Dr. Pees on Professionalism in Medicine and Clinical Trials by Dr. Harkins on Pre-Induction Cervical Ripening and "Follow up of Thermal balloon Ablation: A Five Year Experience". For the latter he has a poster presentation accepted at this year's AAGL meeting.

Faculty

Matthew F. Davies, MD, Associate Professor, Division Director, Labor & Delivery Director, Associate Residency Director

Medical School: Penn State University College of Medicine, Hershey, PA, MD 1989 Residency: Penn Sate University College of Medicine, Obstetrics and Gynecology 1989-1993

Carie D'Agata, M.D., Assistant Professor

Medical School: Temple University, Philadelphia, PA, MD 1998 Residency: Penn State University College of Medicine, Hershey, PA, Obstetrics and Gynecology 1998-2002

Virginia E. Hall, M.D., Associate Professor

Medical School: Hahnemann University, Philadelphia, PA, MD 1972 Residency: Albert Einstein Medical School, Obstetrics and Gynecology 1980-1982

Gerald Harkins, M.D., Assistant Professor

Medical School: Penn State University College of Medicine, Hershey, PA, MD 1996 Residency: Madigan Army Medical Center, Tacoma, WA, Obstetrics and Gynedology 1996-2000

Rae L. Kennedy, M.D., Assistant Professor

Medical School: University of Virginia, MD 1988

Residency: Hahnemann University/Drexel, Philadelphia, PA, Internal Medicine 1998-1999
Hahnemann University/Drexel, Obstetrics and Gynecology 1999-2002
Popp State University College of Medicine, Hersbey, PA, Obstetrics and Gynecology 2003

Penn State University College of Medicine, Hershey, PA, Obstetrics and Gynecology 2003-2005

Colin MacNeill, M.D., Associate Professor

Medical School: Penn State University College of Medicine, Hershey, PA, MD 1988 Residency: Penn State University College of Medicine, Obstetrics and Gynecology 1988-1992

Richard C. Pees, M.D., Associate Professor

Medical School: Hahnemann Medical College, Philadelphia, PA, MD 1977 Residency: Keesler Medical Center, Keesler Air Force Base, MI, Obstetrics nd Gynecology 1977-1978

Dr. Holly Thomas, M.D., Assistant Professor

Medical School: Penn State University College of Medicine, Hershey, PA, MD 1993-1997 Residency: Medical College of Pennsylvania, Obstetrics and Gynecology 1989-1993

Robert Yarwood, M.D., Associate Professor, Clerkship Director

Medical School: The University of Texas, Southwestern Medical School, Dallas, TX, MD 1979

Residency: U.S. Naval Hospital, Port Smith, VA, Obstetrics and Gynecology 1982 - 1986

Clinical Activities for 2005-2006

868 total operations performed (prior year 776)

3,721 new patient visits (prior year 3,869)

28,078 return patient visits (prior year 22,299)

Trends in Obstetrical Flow

Site of Origin	WHC	at CD		Nyes	Road			Erford	Road
Month									
	<u>Vag</u>	<u>C/S</u>	<u>Total</u>	<u>Vag</u>	C/S	<u>Total</u>	<u>Va</u>	<u>g C/S</u>	<u>Total</u>
7/05	62	26	88	4	1	5	1	2	3
8/05	65	34	99	1	2	3	0	1	1
9/05	57	29	86	1	1	2	0	0	0
10/05	60	15	75	5	3	8	6	0	6
11/05	55	18	73	5	1	6	5	0	5
12/05	59	17	76	1	2	3	4	0	4
1/06	62	30	92	3	5	8	1	1	2
2/06	55	23	78	8	0	8	5	1	6
3/06	45	24	69	2	0	2	13	3 2	15
4/06	57	36	93	10	1	11	8	2	10
5/06	72	33	105	2	2	4	9	0	9
6/06	62	24	86	2	4	6	3	2	5
Totals	711	309	1020	44	22	66	55	5 11	66

Outpatient WH Prenatal Care **Total Deliveries:** 1152

Research

 1. MacNeill,C
 9/1/2000 – 8/31/2002

 Source: NIH / NIDCR
 total cost \$469,000

Title: "Collectins in Vaginal Mucosal Host Defense" *extended without additional funds through 8/31/04

2. Harkins, G

Source: Gynecare, Friends of Women's Health 1/1/06 - present

Publications

Leong SL., Erickson DR., **Pees, RC**., Hormone replacement therapy: the right choice for your patient?. [Clinical Conference. Journal Article] Journal of Family Practice. 54(5):428-36, 2005 May

Inpatient Women's Health

Inpatient Women's Health has many things to be proud of this year. We have initiated the Shared Governance Model and all of our councils are up and running with great accomplishments and pride by the nurses and staff who support them. They have really enjoyed being a part of this change and are making it a success.

The Practice Council initiated the start of "Camp Baby"—a patient-focused group education session offered to our new parents. The Ante Partum Council started having monthly get-togethers for our ante partum patients that sometimes spend months with us. The Grief and Mourning Council provide support to our patients and families who have had an infant loss. They also provide an Infant Loss Support Group that meets the third Monday of every month and it is open to all who desire to come.

We also started an interdisciplinary team for Patient Satisfaction. This team is made up of nurses, secretaries, physicians (both OB/GYN & Pediatrics), care coordinator, social work, and finance. This team worked through the steps to find out the core issues of our patient and staff satisfaction. This team found that both the staff and patients were complaining about the same issues. They initiated a Communication Page that is in the front of each patient chart for all patient providers to use. They also initiated a Question Clipboard at each patient bedside for the patients / families to write questions on. They also found communication between OB and Pediatrics was lacking and they initiated a new communication board in the Newborn Nursery.

These are only a few of the contributions that our nurses have provided not only for patient satisfaction but also staff satisfaction.

There have been several individual staff recognitions as well. They are as follows:

- 1. Jill Arnold obtained her RNC
- 2. Jana Sukeena obtained Clinical Ladder IV
- 3. Carolyn Haydo won the Women's Health Excellence In Clinical Practice Award
- 4. Julie Becker graduated with her MSN in Adult Health & Nursing Education
- 5. Barb Shocker graduated with her MEd in Health Education

The Women's Health department has also had many accomplishments this year including breaking three records. We had 23 babies in the Newborn Nursery on April 6 & 7. This is the most EVER (so far). We also broke our monthly delivery record in May 2005 with 149 deliveries. This was last set in August 2004 with 142. We had a "149" party to celebrate. We also broke our yearly record with 1515 deliveries.

We know records will continue to be broken and Women's Health, working together, will accomplish many more things to come.

Labor and Delivery

The labor and delivery unit at the Penn State Milton S. Hershey Medical Center had 1,515 total deliveries between July 1, 2005 through June 30, 2006. Over the same time interval for the preceding year 1,435 deliveries were performed. This represents a 5.6% increase from the prior year. Overall, there were 503 cesarean deliveries, 55 vacuum deliveries, 33 forceps deliveries. Our cesarean section rate overall was 33.2% and a primary cesarean section rate of 23.7%. Finally, we had 29 successful VBAC's and 5 failed VBAC's attempts (78.6% success rate)

Patients seen by members of the Women's Health Division represent the largest subset of our obstetrical practice. Overall (excluding patients cared for by the Maternal Fetal Medicine Division), we had 1,154 such deliveries with the following delivery profile:

Vacuum assisted delivery 43 Forceps assisted delivery 22 Overall operative vaginal delivery 5.6%

344 total cesarean sections (29.8% rate)

131 repeat cesarean sections 213 primary cesarean section (20.8% primary cesarean section rate)

The unit maintained a very high rate of high-risk obstetrical patients through the year. Overall, there were 146 patients evaluated as in-patient status with either gestational or pre-gestational diabetes mellitus. In addition, there was 41 patients evaluated with either placenta previa or third trimester bleeding, 55 patients who were evaluated and delivered with maternal cardiac conditions. In addition, we had 249 patients evaluated for gestational hypertension, preeclampsia, or chronic hypertension during pregnancy. Finally, 203 patients were evaluated and treated for possible pre-term labor.

On an administrative basis, the OB Providers Group, with input from every delivering obstetrician and family practitioner with obstetrical privileges at the Penn State Milton S. Hershey Medical Center, has now formalized 22 guidelines for a variety of inpatient and outpatient obstetrical management issues. The meetings of this group occur on a monthly basis and address on an ongoing basis, clinical protocols and their continued improvement. Three additional policies were finalized this year. Most importantly, the OB/Trauma policy has been adopted and actively updated as our hospital has seen an increase in exposure to pregnant women involved in motor vehicle accidents. In this regard, the Trauma services and/or OB/GYN department has engaged in M&M conferences to review every trauma to date since this policy's inception.

In addition to the OB Provider's Group, there is an Obstetrical Liaison Group consisting of nurses, pediatricians, anesthesiologists and obstetrical providers continues to address areas of concern as to the function of the Labor and Delivery, Antepartum and Postpartum/Nursery areas on the third floor of the hospital. This year was our first full year of our new electronic fetal monitoring system. There was a seamless transition in the unit

from the traditional monitoring system to this digital one. This allows better archiving of our records and remote access as needed.

Future endeavors include the updating of every obstetrical provider's neonatal resuscitation certification in the first half of this academic year. Finally, we will soon finalize an enhanced, system wide response to cesarean sections. This uniform approach by all members of the health care team will ensure the highest quality of care for our patients. We look forward to continued improvements and success in growing our obstetrical numbers over the academic year of July 2006 to June 2007, as continued progress is made toward keeping this the state of the art facility in Central Pennsylvania.

PENN STATE MILTON S. HERSHEY MEDICAL CENTER MATERNITY STATISTICS

Fiscal Year 2005-2006

Statistical Category	Annual Percentage
Annual rate of primary cesarean sections	23.7%
Annual rate of repeat cesarean sections	9.5%
Annual rate of total cesarean sections	33.2%
Annual % of women who have had a cesarean section and who have also had a subsequent successful vaginal birth	1.6%
Annual % of total deliveries in birthing rooms (labor/delivery/recovery)	64.3%
Annual % of vaginal deliveries in birthing rooms (labor/delivery/recovery)	95.8%
Annual % of deliveries by certified nurse midwives	0%
Annual % of labors which were externally fetal monitored	99%
Annual % of labors which were internally fetal monitored	24.2%
Annual % of labors which were both externally and internally fetal monitored	24.2%
Annual percentage of women who received intravenous heplock	100%
Annual % of women who experienced inductions	35%
Annual % of women who experienced augmentation	13%
Annual % of episiotomies	2.5%
Annual % of forceps deliveries	2.6%
Annual % of women who received epidural anesthesia	56%
Annual % of women who received spinal anesthesia	21%
Annual % of women who received general anesthesia	3%
Annual % of women who were breast-feeding their infants upon discharge from the hospital	76% (NBN) 73% (NICU)

Ambulatory Services

Locations

The outpatient services function from five office sites. The main site for the divisions of the Department of OB/GYN is the University Physician Group at Cherry Drive, Hershey, PA. The Divisions of Women's Health, Gynecologic Oncology, and Reproductive Endocrinology and Infertility provide patient care at this site.

The Divisions of Maternal Fetal Medicine and Reproductive Endocrinology and Infertility are the main providers at the University Hospital site 3 North. The Division of Women's Health has one room at this site and it is primarily used by the surgical nurse.

The University Physician Group at Nyes Road, Harrisburg, PA is the third site and is covered by the Divisions of Women's Health and Maternal Fetal Medicine.

The University Physician Group at Erford Road, Camp Hill, PA is another outpatient site. The Divisions of Women's Health and Gynecologic Oncology provide women's services here.

The University Physician Group at Women and Babies Hospital, Lancaster, PA is the final outpatient site. The Division of Gynecologic Oncology provides services here.

Staff

Holly J. Thomas, M.D. is the Medical Director of Women's Health Outpatient Services. Currently the Department has 18 faculty physicians, 18 staff physicians, 2 nurse practitioners, and 2 nurse midwives providing patient care. Clinic staff for Cherry Drive and the 3N areas are as follows:

STAFF	
Clinical Head Nurse/Office Manager	1
Secretary	1
Medical Office Assistants I	9
Medical Office Assistants II	2
Medical Assistants	11
LPN	4
Attending Nurses (Clinic)	4
Attending Nurses (Professional Services)	2
LPN (Professional Services)	2
Surgery Schedulers	2
Medical Record Clerks	3
Childbirth Educators	7

Services

Patients are drawn from throughout the Commonwealth of Pennsylvania. Services provided in our outpatient setting include prenatal care, high risk obstetric consultation and care, non-stress tests, fetal ultrasounds, general gynecologic and well woman care, gynecologic ultrasound, acute and chronic gynecologic oncologic care, colposcopy, biopsies, counseling services, and a full range of infertility evaluations and management including in-vitro fertilization. Growth over the past three years has been remarkable at all sites.

VISIT STATS	FY	FY	Projected
	2005	2006	2007
OBSTETRICS AND GYNECOLOGY CHERRY			
GYN ONC CD	5005	5299	5568
MATERNAL FETAL MED CD	1540	917	0
REPRODUCTIVE ENDO CD	1421	1390	1493
WOMEN'S HEALTH CD	25594	27363	26184
CENTER TOTAL: OBSTETRICS AND GYNECOLOGY			
CHERRY	33560	34969	33245
OBSTETDICS AND CYNESOLOGY 2 NODTH LIMS			
OBSTETRICS AND GYNECOLOGY 3 NORTH HMC MAT FET MED 3N HMC	1583	2068	3034
REI 3N HMC	4340	4472	4934
WOMEN'S HEALTH 3N HMC	14	58	247
CENTER TOTAL: OBSTETRICS AND GYNECOLOGY 3 NORTH HMC	5937	6598	8215
NONTHINIC	3937	0330	02 13
OB/GYN NYES ROAD	3626	4325	5400
OB/OTH WILD KOAD	0020	7020	0400
OB/GYN ERFORD ROAD	1446	2874	3554
		_3,,	3337
GYN ONC LANCASTER	375	425	456
		-	
TOTALS FY 2006	44944	49191	50870
TOTAL DELIVERIES	1455	1515	1575

Changes

Staffing increases at the Cherry Drive site have expanded our Attending Nurse services from 2 full time to 3 full time and 1 part time. The third Attending RN will complete the continuity of prenatal care at the Erford and Nyes sites. The part time Attending RN will work with the Divisions of Reproductive Endocrinology and Infertility and Maternal Fetal Medicine. The Division of Women's Health also added an Outpatient Nurse (LPN) primarily for the gynecologic surgery patients.

Equipment additions have included a new colposcope at the Cherry Drive and Nyes sites, two new NST machines at the Cherry Drive site, a new Ultrasound at the Erford site, and a 3D ultrasound at the 3 North site.

The Erford and Nyes Road sites now provide patient care services five days a week. Both sites also have laboratory services available.

The 3 North renovations are now complete increasing the number of exam rooms to 6 with a consultation room and ultrasound reading room in addition.

The future will bring an increase in volume at all practice sites. Communication by EMR is continuing to increase and wireless service will come to many sites. The addition of another Nurse Practitioner is planned. Planning and discussion of increased outpatient procedures is upcoming as well.

Maternal Fetal Medicine Research Laboratory

Research in the laboratory of Maternal Fetal Medicine focuses on two areas, breast carcinogenesis, under the direction of Dr. Judith Weisz, and the role of Surfactant Protein-A (SP-A), a component of innate host defenses, in the pathogenesis of chronic inflammation in the lower genital tract and in pre-term labor, under the direction of Dr. Colin MacNeill.

Breast carcinogenesis: Our research in this area is focuses on; a) testing the hypothesis that chronic oxidative stress underlies the high breast cancer incidence in the USA and; b) identifying breast cancer initiating stem cells. The studies are being carried out using human breast tissue, normal and neoplastic. They are designed to test the relevance to breast cancer in humans of the wealth of information obtained using experimental model systems on mechanisms of potential relevance to breast carcinogenesis.

Chronic oxidative stress and breast carcinogenesis: Epidemiological evidence points unequivocally to environment as the principal determinant of the high incidence of breast cancer that characterizes western industrialized countries, such as the USA. Although mortality from the disease in the USA has been kept in check by early detection, there has been no progress made in reducing its incidence. We remain the country with the highest incidence of the disease in the world. Developing strategies to reduce the risk of women living in the USA from developing breast cancer will require identifying both the nature of the environmental factors contributing to breast carcinogenesis and the mechanisms by which they exert their effects.

There is growing evidence linking the high risk of women living in countries such as the USA to exposure of the mammary epithelium to chronic oxidative stress. Many of the environmental factors implicated in breast carcinogenesis are known potential contributors to oxidative stress, including diet and xenobiotics. There are also a number of well-characterized mechanisms by which reactive oxygen species responsible for oxidative stress can contribute to carcinogenesis. Within this context, we have been testing the hypothesis that breast cancer incidence in a population correlates with the prevalence in that population of adducts in the mammary epithelium of 4hydroxynonenal (4-HNE), a well characterized marker oxidative stress. This investigation was prompted by our original observation of the presence of 4HNE adducts in mammary epithelium of all but two of the first twenty two specimens of breast tissue specimens obtained from women undergoing reduction mammoplasty at our institution today, that is, from women representative of the population served by our institution, one in which one in eight can expect to develop breast cancer in her lifetime. To enable us to assess the relationship between breast cancer incidence and prevalence of 4HNE adducts we have gained access to a unique collection of archival normal breast tissue obtained at forensic autopsy from two populations in SW USA, non-Hispanic white and American Indian with a 3.5 fold difference in breast cancer incidence.

During the last year, supported by funds from the *Department of Defense*, we have extended our observation of the presence of 4HNE adducts in mammary epithelium in all specimens of breast tissue from women over the age of 20 in our own population, as well as in that of women from the high BC incidence (Caucasian White) population from the SW USA, and the much lower prevalence of such adducts in breast tissue of the low breast cancer incidence American Indian population in SW USA. Together the findings

support the notion that chronic oxidative stress is the final common path by which diverse environmental factors contribute to breast carcinogenesis. These findings lay the foundation for studies that we have initiated using proteomics technology to identify the mechanisms by which reactive oxidizing species (ROS), such as 4HNE, contribute to carcinogenesis.

Identification of breast cancer initiating stem cells: As described in last year's progress report, our examination of breast cancers for cells expressing multidrug resistance proteins (MDR) led to the novel and unexpected finding suggesting that in situ cancers might be enriched with cancer stem cells. We postulated that since expression of MDR is one of the few shared properties of normal stem cells, it will also serve as a marker of cancer stem cells, at least in patient at relatively early stages of their disease and before they have received drugs that can induce MDRs. During the last year we have confirmed in additional breast cancer specimens the enrichment of in situ cancers with MDR immunpositive (MDF+) cells. Moreover, we have identified in metastatic breast cancers in regional lymph nodes clusters of MDR+ cells. With support from a Dean's Feasibility Grant, we are in the process of determining if these MDR+ cells coexpress some of the other genes associated with stem cells. Findings from these studies lay the foundation for future ex vivo experiments needed to determine if MDR+ cells isolated from in situ breast cancers and lymph node metastases have the functional properties of stem cells, identify mutations that allow them to function as cancer initiation stem cells and to apply for funds needed to support such studies.

Significance: Despite major advances in therapeutic approaches to the treatment of solid cancers, including breast cancer, it is an inescapable fact that none can offer complete cure. This is evidenced by the resurgence of the cancers, often even after many years of apparent cure. An explanation for these treatment failures is provided by growing evidence supporting the notion that cancers arise from a few mutated cells that have retained or acquired the potential for self-renewal, that is the hallmark of normal stem cells. In addition, like normal stem cells, cancer stem cells can be expected to be resistant to conditions and agents to which their progeny are susceptible. Importantly, these include chemotherapeutic drugs that are typically targeted at the progeny that make up the bulk of a cancer and that can be extruded from cells by MDR. If so, to cure cancer will require identifying and characterizing stem cells so that agents targeting these cells can be developed. While the importance and urgency of this task is now well recognized, progress has been hampered by two factors. First, cancer stem cells are few in number and generally dispersed throughout a cancer, and second there are no markers unique to cancer stem cells. Our novel observation suggests that in situ might provide a source of breast cancer stem cells for studies needed to developing agents that can overcome their defenses.

Expression of the innate immune protein Surfactant Protein-A (SP-A) in the lower and upper genital tract and the placenta. The goal of these experiments is to gain an understanding of mechanism that initiate and maintain inflammatory disorders at these sites.

SP-A and vaginal inflammation: We have previously identified SP-A in the vaginal mucosa and have demonstrated a significant increased in SP-A concentration in vaginal fluid of healthy women in the early follicular phase of the menstrual cycle. This increase in SP-A corresponds directly to an increase in pro-inflammatory cytokines IL-1 β and IL-8. Together, these findings suggesting that SP-A is involved in the up-regulation of

inflammatory potential immediately following menses, and delineate an in vivo test system for the evaluation of vaginal anti-inflammatory treatments that counteract SP-A. An increasing body of evidence suggests that the inflammatory activity SP-A is determined by a balance between the concentration of SP-A and the anti-inflammatory activity of pulmonary surfactant, the lipid with which SP-A is complexed in the lung. Based on this evidence, we have initiated pilot studies in healthy women aimed at decreasing the vaginal pro-inflammatory cytokines by instilling into the vagina pulmonary surfactant commonly used in to treat premature babies. Initial formulation studies have been completed and we have began to accrue study participants. We will use these to determine whether and which among the vaginal inflammatory conditions are responsive to surfactant therapy. The importance of decreasing lower genital tract inflammation takes on added significance in light of the increased risk it poses for infection of the upper genital tract, including chorioamnionitis, endometritis.

Pre-term birth and SP-A: Preterm birth remains the leading cause of neonatal morbidity and mortality in the US. Chorioamnionitis, an inflammation of the placenta, remains the only established pathologic process associated with pre-term birth. Because SP-A has been shown to stimulate many of the inflammatory markers associated with pre-term labor, we postulated that SP-A concentration is increased in placenta of women delivered pre-term or who had chorioamnionitis. Support for this hypothesis was obtained by our demonstration of a focal increase of immunoreactive SP-A in placentae from women who delivered before 36 weeks, specifically, at sites of placental inflammation. We have during the last year used Western analysis to examine of SP-A levels in protein isolated from the chorionic plate, the principle site of chorioamnionitis. We found that SP-A concentration in the chorionic plate was greater in those delivered at term whether chorioamnionitis was present or absent. This finding suggest that concentration of total SP-A alone may not be the determining factor in up-regulating inflammation in the preterm placenta. Therefore, based on evidence that of the two components of SP-A, SPA-1 and SP-A 2, SP-A2 has greater pro-inflammatory activity, we have began to examinine the relative amounts (ratios) of SP-A1 to SP-A2 in term and pre-term placetae. We have now identified by RT-PCR SP-A transcripts in RNA isolated from chorionic plate, and demonstrated that both SP-A1 and SP-A2 genes are transcribed in term placenta, whereas only SP-A2 is transcribed in preterm placenta.

SP-A in the endometrium changes through the menstrual cycle. In the upper genital tract the mucosal lining of the uterus, the endometrium, is also a site of host-microbe interaction. In order to determine whether innate immune proteins such as SP-A could contribute to this interaction we carried out a immunohistologic study to determine if SP-A is present in the endometrium and if so, how it might change over the course of the monthly hormonal cycle. We found that SP-A is present in the endometrial stroma in patches over the first half of the menstrual cycle, and in the middle of the second half, at the critical time when a fertilized ovum would implant, SP-A is found to be expressed evenly throughout the stroma and, weakly, in the endometrial glands. The finding of SP-A in the endometrium is supported by our identification of transcripts for SP-A by RT-PCR.

These studies have been funded through a generous grant from the PA Department of Health through Tobacco Settlement funds. Vaginal surfactant studies are being carried out with medical student Alison Schroth ('07) in fulfillment of her medical student research requirement. The placenta studies fulfilled the medical student requirement for Medical Student Tom Lin ('08). The endometrial studies, conducted by

Chief Resident Scott Readence, MD (Ob/Gyn '07), received the 2006 Seward Award for outstanding resident research.

Davies, MF and **MacNeill, C**. Herpes Genitalis. *Hospital Physician Board Review Manual.* 10:2-12. 2006.

MacNeill, C. Infertility. In: Williams RJ, Kahan S, editors. *In a page – Ambulatory Medicine*. Lippincott, Williams & Wilkins. *In press* 2006.

Kamdar, N., Fisher, L. and **MacNeill, C**. Vulvar Vestibulitis Improves with the Leukotriene Receptor Antagonist Montelukast. *Journal of Reproductive Medicine*. *Accepted for publication* 2006.

MacNeill, C. Dyspareunia. *Obstetrics and Gynecology Clinics of North America. In press.* Dec 2006.

Reproductive Endocrinology and Infertility Research

Reproductive Endocrinology and Infertility Research Staff

Richard S. Legro, M.D.
Barb Scheetz, Research Coordinator
Patsy Rawa, Special Projects Coordinator
Sandy Eyer, Associate Projects Coordinator
Emily George, Lab Intern
Heather Katcher, PhD Nutrition student

Sharon Ward, Outside Consultant Romana Dmitrovic, Outside Co-investigator

Our research effort in the last year has focused on clinical trials that may ultimately improve the diagnosis and treatment of women with Polycystic Ovary Syndrome (PCOS). In addition to the research staff listed above, Dr. Dodson and Dr. Gnatuk are co-investigators in the research and participate regularly in the care of research subjects, and the conduct of the studies. Jan McAllister in the Dept of Cellular and Molecular Physiology with a joint appointment in Obstetrics and Gynecology is also intensively involved with many of these studies. Polycystic Ovary Syndrome is one of the most common endocrinopathies that affect women and consists of unexplained androgen excess and chronic anovulation. Affected women present to a physician desiring treatment for menstrual disorders and infertility, obesity, acne, and hirsutism. Recently more severe metabolic consequences including diabetes and increased cardiovascular risk have been associated with the syndrome. Therefore, diagnosis and treatment tend to rely greatly on the art of medicine, with an absence of the science of medicine.

We participated through the NIH funded Reproductive Medicine Network on a multicenter double blind randomized trial of three medications to induce ovulation and achieve pregnancy in infertile women with PCOS. Dr. Legro is the lead investigator of this nationwide protocol. The results of the trial are in and have been accepted as a plenary session at the American Society of Reproductive Medicine Annual Meeting in New Orleans in October 2006. The baseline manuscript is in press at Fertility and Sterility and the main results of the trial have been submitted for publication. We also plan to submit an abstract on a pharmacogenetic substudy to SGI this year and a manuscript will follow.

We are interested in the effects and mechanisms of action of extended cycle continuous oral contraception. We hypothesize this may result in greater ovarian suppression which will improve stigmata related to PCOS, such as acne and hirsutism. We have completed a randomized double blind trial of continuous versus traditional 21-day treatment of oral contraception in normal women with regular menses, as a prelude to further studies in women with gynecologic abnormalities. We enrolled a total of 62 women in this trial supported by a NIH RO1 grant. We has just completed the urinary assays and are wrapping up the final dataset analysis. We plan on submitting this as an abstract to a major meeting in 2007

Finally we are continuing to conduct a local and nationwide study of the families of women with PCOS, to identify disease traits and specific genes that contribute to them. To date we have characterized over 2500 subjects for this study, the majority from South Central PA, but many including many family members from all over the country. This study is conducted in conjunction with the University of Pennsylvania and Northwestern University and is supported by a NIH U54 grant. Barb Scheetz coordinates this project. A lab intern Emily George assists Barb Scheetz locally. An outside consultant and former employee Sharon Ward assists in the recruiting of families and proband for this study.

Another treatment intervention we are pioneering is to examine the effects of a lipid-lowering agent, atorvastatin on steroidogenesis in women with PCOS. This randomized placebo controlled study is sponsored by Pfizer and is also coordinated by Barb Scheetz. This protocol is recruiting and is being led by one of Dr. Legro's mentees, Dr. Nazia Raja-Khan a fellow in medical endocrinology. Dr. Raja Khan presented data from a study in vascular reactivity in women with PCOS at this year's Endocrine Society Meeting in Boston.

This year we have continued studies in our U54 Cooperative Reproductive Center with our partner, Meharry Medical College in Nashville TN. This grant focuses on minority differences in basic reproductive endocrinology and in response to treatment. There are three projects. The first is an intense study of the menstrual cycle and bone in normal young women using blood, urine, and ultrasound parameters of the menstrual cycle. The second project led by Dr. Dodson is an observational study of the effects of OCP on leiomyoma growth. The third project is a double blind randomized trial of the effects of a lifestyle intervention with or without metformin on ovulation and hyperandrogenism in women and adolescents with PCOS. These are two separate but similar trials. All projects are coordinated by Patsy Rawa who is the overall head coordinator of this project and we have enrolled ~125 subjects in all of the protocols. Sandy Eyer provides administrative support.

We received a renewal grant form Tobacco Settlement Funds to continue our obesity center focused on reproduction. Dr Legro is the PI and there are a number of cross departmental collaborators. We have initiated three projects related to this center. Project 1 is entitled "The Effect of Morbid Obesity and Rapid Weight Loss from Bariatric Surgery on Reproductive Function" and we will study male and female reproductive function in morbidly obese men and women prior to and after bypass surgery and is led by Dr. Robert Cooney in the Department of Surgery. We propose that surgery and ensuing weight loss will have marked improvements on reproductive function. We have enrolled 17 subjects. The second project will examine the relationship between reproductive functions and sleep disorders. The first part of this project has been initiated under the leadership of Dr. Alex Vgontzas in the Department of Psychiatry and is a randomized trial of rosiglitazone, an insulin sensitizer in men with sleep apnea. We have completed enrollment in this trial and plan a similar trial in women. project is entitled The Effect of Obesity on Aromatase Activity in Human Ovarian, Endometrial, and Adipose Tissue and the P.I. is Jan McAllister, Ph.D. with Dr. Dodson as the Co-I. We have obtained endometrial biopsies on 6 volunteers and ovarian granulosa cells from 43 women undergoing IVF at the time of oocyte retrieval. These studies are ongoing and still collecting tissue specimens. We will examine the effects of obesity of estrogen production and aromatase activitiy, the key enzyme that converts androgens into estrogens.

We have developed a greater interest in nutrition and its effects on metabolic and reproductive function due to the addition of a Ph.D. student in nutrition Heather Katcher, who is splitting here time between Hershey Medical Center and State College. We have developed a protocol that will examine the effects of diet on the metabolic syndrome in men and women. Specifically we propose that a low glycemic diet will have benefits even without weight loss. We have obtained funding from the General Mills Foundation, with Dr. Legro and Dr. Penny Kris-Etherton in the Dept of Nutrition from the College of HHS at main campus as Co-Pls. We have nearly completed enrollment in this trial, and in a related protocol that examines post prandial effects of these diets on gonadotropin pulsatility and androgen production in women.

Our visiting Fulbright scholar returned to Croatia this year, Dr. Romana Dmitrovic, who worked on a number of ongoing protocols and developed several new ones. One of these is a randomized, double blind trial of Viagra for the treatment of dysmenorrhea in women and involves study of both acute and long term effects of this treatment in women. We have applied for and received NIH funding through the Fogarty Center to continue this work jointly in Croatia, and are now starting up these 3 year studies.

Dr. Dmitrovic also developed a protocol to look at the predictive value of 24hr glucose monitoring using a portable glucometer on the development of gestational glucose intolerance, we have significant preliminary data about the changes in 24h glucose levels throughout pregnancy in women with and without PCOS during pregnancy. That protocol has been funded by the Center for Women's Health and Newborns (CROWN) in Lancaster PA, and we have begun recruitment for this protocol. We have also initiated studies funded by CROWN to develop an ultrasound screening test for endometrial hyperplasia.

Lois High Berstler Community Health Library

Library Staff

Patrice Hall, M.L.S.

Overview

The Lois High Berstler Community Health Library opened in April 1998. The library's mission is to provide health information and education to its patrons to assist them in making informed decisions about their health and lifestyle. The library is open to the public and does not charge for its services. The library's consumer-level collection provides accurate and current information on a wide range of health topics, although its collection has an emphasis on women's health issues. Information is available from print, non-print and electronic resources. The library is staffed full-time by a librarian with assistance from volunteers.

In 2002 the library became part of the Community Libraries Information Consortium (CLIC), a cooperative, resource sharing partnership consisting of this library, the Hershey Public Library and the Middletown Public Library. Through a LSTA grant the three libraries established a shared automation system. This partnership with two local, independent public libraries has increased the visibility of the library in the local community and made its resources more accessible.

Activities

Ask the Librarian - The electronic reference service was added in January 2001 as part of the redesign of the institution's website. It allows website visitors to email health-related questions directly to the librarian. When the service started the average number of requests per month was around 30. This year the average number of requests per month was 125. The library receives a variety of types of questions. Many requests are for information about our institution and its services. Others are requests for information on a particular disease or condition. Common topics have included menopause, cancer, nutrition, infectious diseases, sexually transmitted diseases, childhood diseases and accident-related topics such as burns and bee stings. The librarian responds to these requests with information from the reference databases and links to reputable websites, such as MEDLINEplus. In those instances where the person is requesting medical advice or a diagnosis, the requestor is encouraged to contact his or her healthcare provider. Many positive comments have been received from the users of this service. Users appreciate the timeliness of the response and the quality of the information sent to them.

Outreach and Educational Programs

Besides providing resources and reference, the library also strives to make its patrons better health information consumers by teaching them how to find quality information and to evaluate the health information available through outlets such as the mass media and the Internet. The librarian taught a number of workshops for other librarians and presented programs on health information to the public.

Educational Programs

Programs presented to librarians

MLA workshop, "Prescription for Success: Consumer Health Information on the Internet."

MLA workshop, "Beyond an Apple a Day: Providing Consumer Health Information in a Public Library."

Pennsylvania Equal Access Libraries Institute

Programs presented to the public

Brown Bag Luncheon, "Health Information Resources"

Friend's of the Hershey Public Library, consumer health book review and overview of the library and its services

"Prescription for Better Health: Better Health Information," a series of three workshops given at 3 different libraries.

The librarian also participates in health fairs as a way to promote the services of the library and those of the Department of Obstetrics and Gynecology.

Health Fairs attended--

Dauphin County Area Agency on Aging
Derry Presbyterian Church Wellness Fair
Senior Annual Expo
Penn State Heart & Vascular Institute Health Awareness
Milton Hershey School Wellness Day
Elizabethtown College Health Fair
Rutherford House Health Fair
Women's Center Health Fair
Children's Miracle Network Health Fair

The library also provides assistance to the many support groups and educational programs sponsored by other hospital departments. The Brown Bag Luncheon series, the Looking Good program, the Childbirth and Parenting Preparation program, Young Mothers' Program, Diabetes Support Group, and Breast Cancer Support Group have all benefited from the bibliographic and reference services of the library.

Annual Survey- In October the annual out-put measures survey was performed. This tool is designed to track patron satisfaction with library services and to provide feedback that can be used to improve service, direct collection development and help with the allocation of resources. Surveys are distributed to staff and community patrons. The surveys consist of closed and open-ended questions as well as a section that allows the patron to rate certain aspects of the library and its services. This year's results show that patron satisfaction with the library and its services remains high for both community and staff patrons. One change noted in library use was that for the first time community patrons listed circulation as the most used service. Results for the staff survey show that staff still uses reference services more than circulation and that they also use the library for a quiet work area. Although most staff still reported using the information for themselves, there was an increase in the number of those who said they also use the information for their patients.

The results of the survey show that the library continues to be a valued service to its patrons, both community and staff. Particularly encouraging was the increase in the number of patrons who reported that they had been referred by a health care

professional. This response indicates that the staff has become more familiar with the library and its services and is encouraging their patients to utilize the library.

Grants and Donations

Association of Faculty and Friend's \$1000 National Network/Libraries of Medicine \$350 Lois High Berstler bequest \$250,000

Library Annual Use Statistics

It was a very busy year for the library. There was an increase in all use statistics. Patron visits increased by 11%, circulation by 31%, literature searches by 22% and total reference transactions by 20%.

Patron count

Community	1237
Staff	535
Total	1772

Circulation

Books	500
AV	141
Total	641

Reference

rect	

Community	101
Staff	14
Total	115

Ready

Community	284
Staff	93
Total	377

Instructional

Community	28
Staff	22
Total	50

Literature searches

Community	1530
Staff	30
Total	1560

Total reference transactions Community 1943

Community	1943
Staff	159
Total	2102

Conclusion

Through its service to our patients, staff and the community, the Lois High Berstler Community Health Library remains an important component of Penn State Milton S. Hershey Medical Center's commitment to health education, patient care, and community service.

Joint Appointments

Joint Appointment Members

Carol S.Weisman, Ph.D., Professor, Health Evaluation Sciences and Obstetrics and Gynecology, Health Policy and Administration

Thomas Lloyd, Ph.D., Professor, Health Evaluation Sciences, Obstetrics and Gynecology, Pharmacology, Nutrition and Kinesiology

Joanna Floros, Ph.D., Professor, Cellular and Molecular Physiology, Pediatrics and Obstetrics and Gynecology

Marianne M. Hillemeier, Ph.D., M.P.H., Assistant Professor, Department of Health Policy & Administration, School of Nursing, Health Evaluation Sciences and Obstetrics and Gyecology

Kristen H. Kjerulff, Ph.D., Associate Professor, Health Evaluation Sciences, Obstetrics and Gynecology, Health Policy and Administration, Cancer Institute

Jan M. McAllister, Ph.D., Associate Professor, Cellular and Molecular Physiology and Obstetrics and Gynecology

Carol S. Weisman, Ph.D.

Dr. Weisman is Professor of Health Evaluation Sciences and Obstetrics and Gynecology. In the Department of Health Evaluation Sciences, she is Chief, Division of Health Services Research. She is Director of the Central Pennsylvania Center of Excellence for Research on Pregnancy Outcomes. She is the lead instructor of HES 535, "Quality of Care Measurement," a graduate-level course. Dr. Weisman also holds a joint appointment in the Department of Health Policy and Administration, College of Health and Development, University Park.

Completed Grants

NA

Funded Grants

Pennsylvania Department of Health, "Central Pennsylvania Center of Excellence for Research on Pregnancy Outcomes," 6/1/04 – 5/31/08 (Principal Investigator, 50% effort). This is a \$4.7 million grant (non-formula tobacco settlement funds).

National Committee for Quality Assurance, "Improving the Quality of Care for Cardiovascular Disease: Using National Managed Care Performance Data to Investigate Gender Differences in HEDIS Measures Related to Heart Disease,"

9/1/04 - 8/31/07 (Co-investigator, 20% effort). Subcontract with the National Committee for Quality Assurance; funded by AHRQ and the American Heart Association.

3. US Department of Veterans Affairs, "Impact of Practice Structure on the Quality of Care for Women Veterans," 6/1/05 - 3/31/07 (Co-investigator, 10% effort). Subcontract with the Greater Los Angeles VA.

Publications

Henderson JT, Weisman CS, "Women's Patterns of Provider Use Across the Lifespan and Satisfaction with Primary Care Coordination and Comprehensiveness," Medical Care 43(8):826-833. 2005.

Chuang CH, Chase GA, Bensyl DM, Weisman CS. "Contraceptive Use by Diabetic and Obese Women," Women's Health Issues 15(4):167-173, 2005.

Hillemeier MM, Weisman CS, Chase GA, Romer M. "Preterm and Low Birthweight Outcomes among Rural Women: The Importance of Preconceptional Physical and Mental Health Status." In Coward RT, Davis LA, Gold CH, et al. (Eds.), Rural Women's Health: Linking Mental, Behavioral, and Physical Health. New York: Springer Publishing 2005.

Hillemeier MM, Weisman CS, Baker K, Primavera K. "Mental Health Services Provided through the National Centers of Excellence in Women's Health: Do They Reach Rural Women?" Women's Health Issues 15(5):224-229, 2005.

Hollenbeak CS, Weisman CS, Rossi M, Ettinger SM. "Gender Disparities in Percutaneous Coronary Interventions for Acute Myocardial Infarction in Pennsylvania," Medical Care 44(1):24-30, 2006.

Weisman CS, Hillemeier MM, Chase GA, Dyer AM, Baker SA, Feinberg M, Downs DS, Parrott RL, Cecil HK, Botti JJ, MacNeill C, Chuang CH, Yost B. "Preconceptional Health: Risks of Adverse Pregnancy Outcomes by Reproductive Life Stage in the Central Pennsylvania Women's Health Study (CePAWHS)," Women's Health Issues (in press).

Service/Leadership/Outreach

Penn State

Member, College of Medicine Appointments and Tenure Committee

Member, Unified Campus Research Team

Chair, Search Committee for Health Services Research Faculty Member

Member, Search Committee for Director of Survey Research Center

Coordinator, Women's Health Research Interest Group (Level I funding from CYFC and Health Disparities Initiative)

Member, Advisory Board of the Penn State Rural Women's Health Initiative

Professional (i.e. Study Sections, Editorial Boards, etc.)

Editor, Women's Health Issues (journal of the Jacobs Institute of Women's Health, Washington, D.C.)

Vice-Chair, Board of Directors, AcademyHealth, Washington, D.C.

Member, Select Panel on Preconception Care, Centers for Disease Control and Prevention, 2005 – 2006

Member, The Standards of Care Project Advisory Board, National Health Law Program, 2005 - present

Co-chair, Women's Health Measurement Advisory Panel, National Committee for Quality Assurance (NCQA), Washington, D.C.

Member, Advisory Committee for Women's Health Research Coalition, Society for Women's Health Research, Washington, D.C.

Faculty Development

Dr. Weisman helped two medical school faculty members with project development in AY 1005-06: Cynthia Chuang, M.D. (Internal Medicine, K-award) and Ian Paul, M.D. (Pediatrics, K-award). She also mentors faculty in the Division of Health Services Research, Department of Health Evaluation Sciences.

Thomas Lloyd, Ph.D.

Dr. Lloyd plays a pivotal role in the development of the Masters Program in Health Evaluation Sciences and has been the Director of the Penn State Clinical Research Training Programs since 1999. He has also been the research project mentor for 28 medical students, physician students and graduate students.

Current Major Educational Programs

Director, Penn State Clinical Research Training Programs for Physicians and medical students.

Course Director, The Elements of Clinical Research - 44 students enrolled for 2005 - 2006.

Director of Education. The General Clinical Research Center.

Administration

Research Subject Advocate, The General Clinical Research Center

Grants Active 5 K30 RR 02262-08 Lloyd (PI) NIH/NCRR

06/07/05-03/31/10

Clinical Research Curricula for Physicians/Medical Students

The major goal of this project is to coordinate existing and develop specific new clinical research education programs for physician-students and medical students.

Amount: \$1,500,000 Role: PI (4.8 cal)

5M01 RR 10732- 12 (Paz)

06/07/05 - 03/31/10

NIH/NCRR

General Clinical Research Center

This is the core grant for the General Clinical Research Center.

Amount: \$2,142,037

Role: Dr. Lloyd is the Director of Education and the Research Subject Advocate for the

GCRC (3.0 cal)

4100020719 (Weisman)

06/01/04-05/31/08

PA Department of Health

Central Pennsylvania Center of Excellence for Research on Pregnancy Outcomes The overall goal of this project is to reduce disparities in adverse pregnancy outcomes (preterm birth and low birth weight) by improving women's preconceptional health and health care. The project will focus on high-risk, medically underserved populations in Central Pennsylvania, with particular emphasis on rural areas that have received little prior attention.

Role: Mentor (0.24 cal)

Grants Pending

(George) 08/01/06 – 07/31/10 A.T. Still Univ. of Health Sciences

Curriculum & Faculty Development in Evidence-Based Medicine

Role: Mentor / Advisor (0.24 cal)

RFA-HL-06-007 (Legro) 09/30/06 - 09/29/11

NIH \$499,854

Weight Loss In Obese Adults w/Cardiovascular Risk Factors: Clinical Interventions The purpose of this project is to study the effects of lifestyle & medication on obesity in adults in a rural population that are treated at family practice sites that participate in Pennsylvania Area Health Education Center (AHEC) practices using a validated internet based lifestyle program based on the Diabetes Prevention Program (DPP) in conjunction with a new very promising anti-obesity drug Rimonabant.

Role: Co-I (3.0 cal)

1 P20 RR 023474-01 (Sinoway) 9/1/06 - 8/31/07

NCRR \$150,000

Pennsylvania State University CTSA Planning Grant

Role: Co-I

Publications

Petit M A, Macdonard HM, McKay HA, Lloyd T, Bone Acquisition in Adolescence In Osteoporosis eds. Marcus, Feldman, Nelson and Rosen, Elsevier Press, New York, 2006

Lloyd T, Petit MA, Lin H-M, Beck TJ. Lifestyle factors and the development of bone mass and bone strength in young women. J Pediatrics 144(6):776 -782, 2004.

Joanna Floros, Ph.D.

Dr. Joanna Floros holds a joint appointment in Physiology and Obstetrics and Gynecology.

Research Mission

Amount of effort currently covered by extramural grants 50% (25% ozone, 25% CF)

Anticipated changes in funding during the 2006/07 academic year - CF ends and it will not be renewed; 50% of my salary for a 9 month period will be paid by PSU for Senate service.

Publications

Wang G, Guo X, and Floros J. Differences in the translation efficiency and mRNA stability mediated by 5'-UTR splice variants of human SP-A1 and SP-A2 genes. Am J Physiol Lung Cell Mol Physiol, 2005;289(3):L497-508.

Bibikova M, Lin Z, Zhou L, Chudin E, Wickham Garcia E, Wu B, Doucet D, Thomas NJ, Wang Y, Vollmer E, Goldmann T, Seifart C, Jiang W, Barker DL, Chee MS, Floros J, and Fan J-B. High-throughput DNA methylation profiling using universal bead arrays. Genome Res. 2006; 16: 383-393.

Floros J, Thomas NJ, Liu W, Papagaroufalis C, Xanthou M, Pereira S, Fan R, Guo X, DiAngelo S, and Pavlovic J. Family-Based Association Tests Suggest Linkage Between Surfactant Protein B (SP-B) (and Flanking Region) and Respiratory Distress Syndrome (RDS): SP-B Haplotypes and Alleles From SP-B-Linked Loci Are Risk Factors for RDS. Pediatric Research 2006; 59, No. 4: 616-621.

Pavlovic J, Papagaroufalis C, Xanthou M, Liu W, Fan R, Thomas NJ, Apostolidou I, Papathoma E, Megaloyianni E, DiAngelo S, and Floros J. Genetic Variants of Surfactant Proteins A, B, and D in Bronchopulmonary Dysplasia. Disease Markers, in press.

Abstracts and/or invited talks

Characterization of a Human Surfactant Protein A (SP-A1)-Gene-Specific Antibody; SP-A1 protein Variation among Individuals as a Function of Age and Pul-. Proceedings of the Amer. Thoracic Society 2: A189, 2006

6/8/06 Institute Pasteur Euroconference of Infections and Lung Diseases. "Genetic polymorphism of human surfactant protein A and host defense", Paris, France.

In addition to the above, I had the privilege to participate in 3 CIC leadership conferences where I could interact, contribute and learn from leaders in the Big 10.

Education Mission

Give number of hours spent giving lectures to graduate students during the 2005/06 academic year: 1 hr, K30 program

List graduate students and/or rotating students in your laboratory for the 2005/06 acadmic year: Renee Donahue

Service Mission

Committee on Honorary Degrees, Penn State University
Chairman-elect, Senate, The Pennsylvania State University
Committee on President's Award for Excellence in Academic Integration, PSU
Advisory Search Team to the President for Leadership Transition at the College of Medicine
PSU Senate Officer Meetings
PSU Campus College visits (Fall) and College visits at University Park (Spring)
PSU Senate Council meetings and related meetings prior to Council
Faculty Advisory Committee to the President and related meetings
Member in the PSU Senate Committee on Committees and Rules meetings
Chair of the PSU Senate Officers and Chairs Meetings
Guest at the PSU Board of Trustees meetings
Member of the PSU Administrative Council on Undergraduate Education PSU Central Enrollment Management Group meetings

Editorial board(s)

Exp. Lung Research

Professional Development Activities

This coming year I have major leadership service activities in my position as the chair of the University Faculty Senate. This will consume a minimum of 50% of my effort. In this capacity, I have the opportunity to learn about the University at large and work with and learn from the upper PSU leadership on a wide variety of issues.

In addition to senate activities, I will have the opportunity to host the CIC senate leadership conference, November 2006.

Jan M. McAllister, Ph.D.

Dr. McAllister holds a joint appointment in Cellular and molecular Physiology and Obstetrics and Gynecology.

Research Mission

Amount of effort currently covered by extramural grants - 75%

PHS; 5 R01 HD33852-09A1 McAllister, J.M. (PI) 4/1/2006 - 3/30/2011 NIH/NICHHD 35%

"17a-Hydroxylase Expression in Human Ovarian Cells"

The studies in this proposal are designed to investigate the regulation of androgen production of theca cells

from ovaries in normal cycling women with polycystic ovary syndrome (PCOS).

Role: P.I. \$186,750 (DC Current Year)

5 U54 HD34449-09 McAllister, J.M. (PI) 7/1/2002 - 3/31/2007 NIH/NICHD, Consortium w/Univ. of Penn (Strauss, J.F.) 40%

"National Center for Research on Female Infertility"

Identification of distinguishing biochemical and molecular phenotypes of PCOS cells from an analysis

of differential gene and protein expression.

\$136,822 (DC Current

Year)

Role: Co-P.I.

JL Huck/PA Tobacco Settlement Fund (Legro, R.S.) 3/1/2005 –2/29/2007 Obesity and Reproduction Center Planning Grant 0%

To examine the effects of obesity on ovarian function. \$37,745 (DC Current Year)

Pending Grant Support

NIH Center Grant on Reproduction Research. U54-HD34449-11. Translational Research in Polycystic Ovary Syndrome. J. Nestler, M.D, P.I. J.M. McAllister, Ph.D., Subcontact P.I., 4/07-3/12, Subcontract \$978,417.

Publications

Wickenheisser, J. K., Nelson-Degrave, V.L., Hendricks, K.L., Legro, R.S., Strauss, J.F., 3rd, **McAllister, J.M**. Retinoids and retinol differentially regulate steroid biosynthesis in ovarian theca cells isolated from normal cycling women and women with polycystic ovary syndrome. *J Clin Endocrinol Metab* 90(8):4858-4865, 2005

Ho, C.K.M., Wood, J.R., Stewart, D.R., Ewens, K., Ankener, W., Wickenheisser, J.K., Nelson-DeGrave, V.L., Zhang, Z., Legro, R.S., Dunaif, A., **McAllister, J.M.**, Speilman, R., Strauss III, J.F. Increased transcription and increased mRNA stability contribute to augmented GATA6 mRNA abundance in PCOS theca cells. *J Clin Endocrinol Metab* 90(12):6595-6602, 2005.

Wickenheisser, J.K., Nelson-DeGrave, V.L., McAllister, J.M. Human Ovarian

Theca Cells in Culture. Trends in Endocrinol. 7(2)63-69, 2006.

Huang, A-H., Rudelius, M., Sharan, S., **McAllister, J.M**., Mark Raffeld, M., Christenson, L.K., Sterneck, E. The C/EBPδ gene is activated in mouse theca/interstitial cells by LH/hCG and expressed in theca cell cultures from women with polycystic ovarian syndrome. *Submitted in revised form to Fertil Steril*

Chapter

Wickenheisser, J.K., and **J.M. McAllister**. Ovarian Steroidogenic Abnormalities in PCOS. <u>In: The Polycystic Ovary Syndrome</u>. Springer Publishing, Norwell, MA. *In press*.

Abstracts

Speaker: Signaling defects in the PCOS ovary: Effects on steroidogenic enzyme gene expression. Presented at the 4th Annual Meeting of the Androgen Excess Society Meeting, Boston, MA, June, 2006.

Session Chair: Session V, PCOS Therapy II, Androgen Excess Society's 2nd Special Scientific Meeting. "PCOS: A Multifaceted Disease from Adolescence to Elderly." Ravello, Italy, October, 2005.

Wickenheisser J K, Nelson-Degrave, McAllister, JM. Tumor necrosis factor inhibition of human theca cell androgen biosynthesis involves Sp3-dependent repression of cytochrome P450 17ahydroxylase gene expression Presented at the 87th Annual Meeting of the Endocrine Society, Boston, MA, June, 2006.

Zhu, Q, Wickenheisser J K, McAllister, JM. Decreased activation of the transcription factor FOXO1 is associated with increased cytochrome P450 17α-hydroxylase (CYP17) gene expression and androgen production in polycystic ovary (PCOS) theca cells. Presented at the 87th Annual Meeting of the Endocrine Society, Boston, MA, June, 2006.

Wickenheisser J K, Nelson-Degrave, V, McAllister, JM. Augmented CYP11A1 gene expression in polycystic ovarian syndrome theca cells: Alterations in transcriptional regulation and messenger mRNA stability. Presented at the 4th Annual Meeting of the Androgen Excess Society Meeting, Boston, MA, June, 2006.

Education Mission

Give number of hours spent giving lectures to medical students during the 2005/06 academic year

5 hours of CMBMP lectures plus review session (not including preparation)

Give number of hours spent giving lectures to graduate students during the 2005/06 academic year

6 hours of Physio 505 plus review session (not including preparation)

Course Co-Director Integrative Physiology 505/572

Service Mission

List team and/or committee(s) on which you served during the 2005/06 academic year Hershey Medical Center Conflict of Interest Committee
The Women's Faculty Group
Steering Committee Member, The Huck Inst. for Life Sciences

List study section and/or other grant review panels on which you served during the 2005/06 academic year

Study Section Member for NIH's F31 Minority and Disabilities Predoctoral Fellowship Program

Ad-Hoc Reviewer for NIH's Center for Reproductive Research/Transcription Factors in Reproduction (R30)

Ad-Hoc Reviewer for Canada's National Cancer Institute

Journal Review

Nature Pharmacogenetics
Molecular and Cellular Endocrinology
Proteomics
J. Clinical Endocrinology and Metabolism
Endocrinology
Biology of Reproduction
Biochemical Toxicology
Endocrine Journal
Human Reproduction
Endocrine

Service for Professional Societies

Androgen Excess Society - Annual Meeting Organizer, Abstract Review

Society for Gynecologic Investigation- Annual Meeting Abstract Review

Publications

Anthony Ambrose, M.D.

Ambrose A, Repke JT., Puerperal problems. High Risk Pregnancy: Management Options. Eds. James DK, Steer PJ, Weiner CP, Gonik B. 3rd Ed. pp. 1579-1605. Elsevier Saunders, Philadelphia, PA, 2006.

Joanna Floros, Ph.D.

Wang G, Guo X, and Floros J. Differences in the translation efficiency and mRNA stability mediated by 5'-UTR splice variants of human SP-A1 and SP-A2 genes. Am J Physiol Lung Cell Mol Physiol, 2005;289(3):L497-508.

Bibikova M, Lin Z, Zhou L, Chudin E, Wickham Garcia E, Wu B, Doucet D, Thomas NJ, Wang Y, Vollmer E, Goldmann T, Seifart C, Jiang W, Barker DL, Chee MS, Floros J, and Fan J-B. High-throughput DNA methylation profiling using universal bead arrays. Genome Res. 2006; 16: 383-393.

Floros J, Thomas NJ, Liu W, Papagaroufalis C, Xanthou M, Pereira S, Fan R, Guo X, DiAngelo S, and Pavlovic J. Family-Based Association Tests Suggest Linkage Between Surfactant Protein B (SP-B) (and Flanking Region) and Respiratory Distress Syndrome (RDS): SP-B Haplotypes and Alleles From SP-B-Linked Loci Are Risk Factors for RDS. Pediatric Research 2006; 59, No. 4: 616-621.

Pavlovic J, Papagaroufalis C, Xanthou M, Liu W, Fan R, Thomas NJ, Apostolidou I, Papathoma E, Megaloyianni E, DiAngelo S, and Floros J. Genetic Variants of Surfactant Proteins A, B, and D in Bronchopulmonary Dysplasia. Disease Markers, in press.

Richard S. Legro, M.D.

Peer Reviewed

Sam S, Legro RS, Dunaif A. Dyslipidemia and Metabolic Syndrome in the Sisters of Women with Polycystic Ovary Syndrome. J Clin Endocrinol Metab. 2005 Aug;90(8):4797-802 2005 May 17; [Epub ahead of print]

Wickenheisser J, Nelson-DeGrave VL, Hendricks KL, Legro RS, Strauss JF,III, McAllister JM. Retinoids and Retinol differentially regulate steroid biosynthesis in ovarian thecal cells isolated from normal cycling women and women with polycystic ovary syndrome. J Clin Endocrinol Metab 2005 Aug;90(8):4858-65. Epub 2005 May 24.

Urbanek M, Woodroffe A, Ewens K, Legro RS, Strauss JF III, Dunaif A, Spielman RS. Candidate Gene Region for Polycystic Ovary Syndrome (PCOS) on Chromosome 19p13.2. J Clin Endocrinol Metab. 2005 Dec;90(12):6623-9. Epub 2005 Aug 9.

Ho CKM, Wood JR, Stewart DR, Ewens K, Ankener W, Wickenheisser J, Nelson-Degrave V, Zhang Z, Legro RS, Dunaif A, Jan M. McAllister JM, Spielman R, Strauss JF

III, Increased transcription and increased mRNA stability contribute to increased GATA6 mRNA abundance in PCOS theca cells. J Clin Endocrinol Metab 90(12):6596-602 2005. Epub Sep 13, 2005.

Liljenquist DR, Kasza K, Azziz R, Legro RS, Ghazzi MN, Ehrmann DA for the PCOS/Troglitazone Study Group. Prevalence and Predictors of the Metabolic Syndrome in Women with PCOS J Clin Endocrinol Metab 91(1):48-53 2006. Epub Oct 25, 2005.

Coviello AD, Legro RS, Dunaif A. Adolescent girls with polycystic ovary syndrome have an increased risk of the metabolic syndrome independent of obesity. J Clin Endocrinol Metab. 91(2):492-7 2006, Epub Oct 25, 2005

Non Peer-reviewed

Legro RS, Polycystic Ovary Syndrome. Journal Watch Women's Health. 11(1):4-5, 2006.

Legro RS, Nestler J. Point/Counterpoint: Should PCOS be treated with insulin sensitizers

Legro RS, "Examing the Evidence" on "Prospective parallel randomized double-blind double-dummy controlled clinical trial comparing clomiphene citrate and metformin as the first-line treatment for ovulation induction in non-obese anovulatory women with polycystic ovary syndrome" Ob/Gyn Management In Pressor oral contraceptives Ob. Gyn. News Feb 15, 2006, p. 6.

Legro RS, *Practice Point Commentary* on Ibanez *et al.* (2005) Absence of hepatotoxicity after long-term, low-dose flutamide in hyperandrogenic girls and young women. *Hum Reprod* **20**(7):1833-1836. Nature Practice Endocrinology and Metabolism, 2: 188-9, 2006.

Legro RS, Polycystic Ovary Syndrome. Journal Watch Women's Health. 11(1):4-5, 2006.

Legro RS, Nestler J. Point/Counterpoint: Should PCOS be treated with insulin sensitizers or oral contraceptives Ob. Gyn. News Feb 15, 2006, p. 6.

Thomas Lloyd, Ph.D.

Petit M A, Macdonard, H M, McKay HA and Lloyd T Bone Acquisition in Adolescence In Osteoporosis eds. Marcus, Feldman, Nelson and Rosen, Elsevier Press, New York, 2006

Lloyd T, Petit MA, Lin H-M, Beck TJ. Lifestyle factors and the development of bone mass and bone strength in young women. J Pediatrics 144(6):776 -782, 2004.

Jan M. McAllister, Ph.D.

Wickenheisser, J. K., Nelson-Degrave, V.L., Hendricks, K.L., Legro, R.S., Strauss, J.F., 3rd, McAllister, J.M. Retinoids and retinol differentially regulate steroid biosynthesis in ovarian theca cells isolated from normal cycling women and women with polycystic ovary syndrome. *J Clin Endocrinol Metab* 90(8):4858-4865, 2005

Ho, C.K.M., Wood, J.R., Stewart, D.R., Ewens, K., Ankener, W., Wickenheisser, J.K., Nelson-DeGrave, V.L., Zhang, Z., Legro, R.S., Dunaif, A., McAllister, J.M., Speilman, R., Strauss III, J.F. Increased transcription and increased mRNA stability contribute to augmented GATA6 mRNA abundance in PCOS theca cells. *J Clin Endocrinol Metab* 90(12):6595-6602, 2005.

Wickenheisser, J.K., Nelson-DeGrave, V.L., McAllister, J.M. Human Ovarian Theca Cells in Culture. *Trends in Endocrinol.* 7(2)63-69, 2006.

Huang, A-H., Rudelius, M., Sharan, S., McAllister, J.M., Mark Raffeld, M., Christenson, L.K., Sterneck, E. The C/EBPδ gene is activated in mouse theca/interstitial cells by LH/hCG and expressed in theca cell cultures from women with polycystic ovarian syndrome. *Submitted in revised form to Fertil Steril*

Richard C. Pees, M.D.

Leong SL., Erickson DR., Pees, RC., Hormone replacement therapy: the right choice for your patient?. [Clinical Conference. Journal Article] Journal of Family Practice. 54(5):428-36, 2005 May

John T. Repke, M.D.

Ambrose A, Repke JT, Puerperal problems. High Risk Pregnancy: Management Options. Eds. James DK, Steer PJ, Weiner CP, Gonik B. 3rd Ed. pp. 1579-1605. Elsevier Saunders, Philadelphia, PA, 2006.

Repke, JT, Management of obstetric hypertensive emergencies. OBG Management. 2005; 17:41-7

Repke, JT, Editorial: Does treating gestational diabetes improve outcomes? OBG Management 2005; 17:19

Repke, JT, Episiotomy; ACOG Practice Bulletin No. 71 Obstet Gynecol 2006; 107; 957-62

Repke, JT, Management of Lupus Flare. OBG Management 2006; 18:29-44

Carol S. Weisman, Ph.D.

Henderson JT, Weisman, CS, "Women's Patterns of Provider Use Across the Lifespan

and Satisfaction with Primary Care Coordination and Comprehensiveness," Medical Care 43(8):826-833. 2005.

Chuang CH, Chase GA, Bensyl DM, Weisman, CS, "Contraceptive Use by Diabetic and Obese Women," Women's Health Issues 15(4):167-173, 2005.

Hillemeier MM, Weisman, CS, Chase GA, Romer M. "Preterm and Low Birthweight Outcomes among Rural Women: The Importance of Preconceptional Physical and Mental Health Status." In Coward RT, Davis LA, Gold CH, et al. (Eds.), Rural Women's Health: Linking Mental, Behavioral, and Physical Health. New York: Springer Publishing 2005.

Hillemeier MM, Weisman, CS, Baker K, Primavera K. "Mental Health Services Provided through the National Centers of Excellence in Women's Health: Do They Reach Rural Women?" Women's Health Issues 15(5):224-229, 2005.

Presentations

Anthony Ambrose, M.D.

"15th World Congress on Ultrasound in Obstetrics and Gynecology" Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

October 7, 2005 - Hershey, PA

"Obstetrical Nightmares for the NICU Nurse" Women's Health Update – Nurse Education, MSHMC (CME) November 6, 2005 - Hershey, PA

"Induction of Labor at HMC and Elsewhere"
Grand Rounds, Department Obstetrics & Gynecology, MSHMC (CME)
November 30, 2005 – Hershey, PA

"Obesity and Pregnancy"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

March 10, 2006 - Hershey, PA

John J. Botti, M.D.

"Twin Gestation"
Women's Health Update – Nurse Education, MSHMC (CME)
July 14, 2005 - Hershey, PA

"Diabetes in Pregnancy"
Brown Bag Seminar, Department of Obstetrics and Gynecology, MSHMC
July 15, 2005 - Hershey, PA

"Pratfalls and Progress in the Diagnosis and Management of Cervical Insufficiency" Ob/Gyn Masters Series sponsored by Penn State Milton S Hershey Medical Center, in cooperation with The Central Pennsylvania Center of Excellence for Research on Pregnancy Outcomes and March of Dimes: Central Pennsylvania Division (CME) August 20, 2005 - Hershey, PA

"Diabetes in Pregnancy"
Women's Health Update – Nurse Education, MSHMC (CME)
September 20, 2005 - Hershey, PA

"Morbidity & Mortality (2nd qtr 2005)"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

September 23, 2005 – Hershey, PA

"Interventions to Improve Maternal Health Status Before Pregnancy" Mead Johnson Nutritionals Mid-Atlantic Conference on Perinatal Research September 25-27, 2005 (CME) September 26, 2005 - Hershey, PA

"Prematurity 2005"

Grand Rounds, Department Obstetrics & Gynecology, Lewistown Hospital (CME) October 20, 2005 – Lewistown, PA

"The Importance of Meconium and its Management"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

October 21, 2005 – Hershey, PA

"A Stitch in Time"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

November 18, 2006 – Hershey, PA

"Central Pennsylvania Women's Health Study in Rural PA: Reproductive Health Risks and Interventions 2005"

Grand Rounds, Department Obstetrics & Gynecology, MSHMC (CME)

December 7, 2005 - Hershey, PA

"Morbidity & Mortality ((3rd gtr 2005)"

Perinatal Conference, Departments of Obstetrics & Gynecology and Pediatrics, MSHMC (CME)

December 9, 2005 – Hershey, PA

"Central PA Women's Health Study (CePAWHS)"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

February 17, 2006 - Hershey, PA

"SMFM 2006 Meeting Highlights"

Perinatal Videoconference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

February 24, 2006 - Hershey, PA

"Morbidity & Mortality (4th Qtr 2005)"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

March 24, 2006 - Hershey, PA

"Fetal Fibronectin Testing"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

April 7, 2006 - Hershey, PA

"Cervical Insufficiency"

Perinatal Videoconference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

May 5, 2006 – Hershey, PA

"Resuscitation/Treatment of the ELBW Infant: Research vs. Standard of Care" Life Inside and Out: Perinatal & Neonatal Care Symposium, University of Tennessee (CME)

May 25, 2006 – Asheville, NC

"Maternal Obesity: Where Are We Failing?"

Life Inside and Out: Perinatal & Neonatal Care Symposium, University of Tennessee (CME)

May 25, 2006 - Asheville, NC

"Morbidity & Mortality (1st Qtr 2006)"

Perinatal Conference, Departments of Obstetrics & Gynecology, and Pediatrics, MSHMC (CME)

June 23, 2006 - Hershey, PA

William C. Dodson, M.D.

"The Effect of Obesity on Infertility Treatment Outcomes" James Symposium, Meharry Medical College, 4/7/06

"The Effect of Obesity on Infertility Treatment Outcomes" Department of Obstetrics and Gynecology Grand Rounds, Christiana Hospital, Newark, DE, 4/26/06

"PCOS Environmental vs Genetic Influences" International PCOS Meeting, Dept of Ob/Gyn, Heilongjiang University of Chinese Medicine, Harbin, China, 8/26-8/28/05

Carol L. Gnatuk, M.D.

"Menopause", Nurse Practitioner Student Lecture, Penn State College of Medicine, Hershey, PA 11/16/05. (Gnatuk)

"Ethics of Embryo Transfer", Elements of Clinical Research course, Penn State College of Medicine, Hershey, PA 4/13/06. (Gnatuk)

"Managing Menopause after the WHI", Grand Rounds, Carlisle Regional Medical Center, Carlisle, PA. 5/12/06. (Gnatuk)

Paul R. Kramer, M.D.

"Combination Radiation Therapy and Chemotherapy for Cervical CA", Department of OB/GYN Grand Rounds, Milton S. Hershey Medical Center, Hershey, PA 1/11/06

"Ovarian Cancer Update", Department of Veteran's Affairs, VA Medical Center, Lebanon, PA 9/30/05

"GYN Cancer Staging", Department of Nursing, Milton S. Hershey Medical Center, Penn State University, Hershey, PA 2/16/06

"HPV, Teenagers and The New Vaccine", Ages and Stages 10th Annual Women's Health Conference, Penn State College of Medicine, Continuing Education, The Hotel Hershey, Hershey, PA 4/25/06

"Cancer and IP Chemo", Department of Nursing, Penn State University, Milton S. Hershey Medical Center, Hershey, PA 5/3/06

Richard S. Legro, M.D.

"Diabetes in PCOS" PCOS: A multifaceted disease from Adolesence to Elderly, Villa Rufulo, Ravello, Italy, 9/30-10/01/05

PEACOCKS PCOS Forum: Chateau Vault de Lugny, France, 10/6/05-10/09/05 "PCOS: Genes and Insulin Sensitization: 2005 Update" Interactive Session. Annual Meeting of the American Society of Reproductive Medicine, Montreal Canada 10/19/05.

"PCOS: Genes and Insulin Sensitization: 2005 Update" Interactive Session. Annual Meeting of the American Society of Reproductive Medicine, Montreal Canada 10/19/05.

"PCOS: Genes and Insulin Sensitization: 2005 Update" Interactive Session. Annual Meeting of the American Society of Reproductive Medicine, Montreal Canada 10/19/05.

"Role of Oral Contaceptives in the treatment of PCOS", 3rd Annual Insulin Resistance Congress, San Francisco, CA 11/17//05.

"Oral Contraceptive Pills in PCOS: Perceived Risks and Benefits" Division of Endocrinology Grand Rounds, Penn State College of Medicine, Hershey, PA 12/14/05.

"Metformin in PCOS: Myths and Realities". Grand Rounds Dept of OB/Gyn University of Maryland Medical Center, Baltimore MD, 1/13/06.

"Managing a Clinical Trial", Junior Faculty Development Program, Penn State College of Medicine, 1/27/06.

"Developing PPCOS: Lessons in clinical trial methodology" CREST Program, NICHD-NIH, Bethesda, MD 3/05/06.

Division of Medical Endocrinology and Reproductive Endocrinology, *Speaker* "Anovulation and Reproductive Failure in PCOS: Role of Insulin Sensitization" Endocrinology Grand Rounds, University of Lousiville School of Medicine, Louisville, KY, 3/07-3/08/06.

"The Metabolic Syndrome in PCOS", The Athens International PCOS Congress, Athens Greece, 3/26-3/29/06.

"Body Weight and Reproduction: The Thick and Thin". 4th Annual Assembly of the New England Fertility Society, 4/8/06, Newport, R.I.

"Does Body Weight Matter in Reproduction?", Spring Colloquium Series, Dept of Nutrition, College of Health and Human Development, Penn State University, State College PA, 4/17/06

"Effects of Bariatric Surgery on Pregnancy and Reproductive Function in Women, Brown Bag Series, Department of Ob/Gyn, M.S. Hershey Medical Center, 4/23/06

Departmental Seminar, Metformin and PCOS: Myths and Realities" UT Southwestern, Dallas TX, 5/16/06

The Genetics of Polycystic Ovary Syndrome 22nd Annual Meeting of the European Society for Human Reproduction and Endocrinology, Prague, Czech Republic, 6/19/06.

Genotype and Phenotype in Polycystic Ovary Syndrome, 88th Annual Meeting of the Endocrine Society, Boston MA, 6/24/06

George J. Olt, M.D.

"Cervical Cancer", Penn State Cancer Institute, Hershey Medical Center, Hershey, PA 12/20/05

John T. Repke, M.D.

"Preeclampsia: What causes it, can we prevent it and can we treat it?" Grand Rounds, Dept. of OB/GYN, Franklin Square Hospital Center October 7, 2005 - Baltimore, MD

"Preeclampsia: What causes it, can we prevent it and can we treat it?" Obstetrical Society of Boston November 28 - Boston, MA

"Management of Gestational Diabetes: Pill or Shot?"

Obstetric Controversies and Debates. 26th Annual Meeting, Society For Maternal-Fetal Medicine

February 1, 2006 - Miami, FL

"VBAC: Dinosaur or Phoenix?"

Obstetric Controversies and Debates. 26th Annual Meeting, Society for Maternal-Fetal Medicine. February 1, 2006 - Miami, FL

"Preeclampsia: What causes it, can we prevent it and can we treat it?" Grand Rounds, Department of Obstetrics and Gynecology, Lenox Hill Hospital, March 1, 2006 - New York, NY

"Management of Gestational Diabetes: Pill or Shot?"

Grand Rounds, Penn State College of Medicine – Milton S. Hershey Medical Center

March 22, 2006 - Hershey PA "Update on Preeclampsia "
Grand Rounds, Penn State College of Medicine – Milton S. Hershey Medical Center April 19, 2006 - Hershey, PA

"VBAC: Dinosaur or Phoenix?" Grand Rounds Harrisburg Hospital May 18, 2006 - Harrisburg, PA

"VBAC: Dinosaur or Phoenix?" Grand Rounds, Penn State College of Medicine - Milton S. Hershey Medical Center May 24, 2006 - Hershey, PA

Research Support

John J. Botti, M.D.

Penn State Women's Health & The Isabel Cate Rineer Memorial Endowment in Perinatology

Administrator

Principal Balance \$88,259

Pennsylvania Department of Health Central PA Center of Excellence for Research on **Pregnancy Outcomes** Co-Investigator \$17,570

William Dodson, M.D.

National Institutes of Health

RFA-HD-02-012

The Meharry Medical College/Penn State Cooperative

Reproductive Science Center

(P.I. Project II- The effects of oral contraceptives on

Uterine Leiomyoma)

\$24,027

Virgina Hall, M.D.

Wyeth Pharmaceuticals Drug study combinations in Postmenopausal Women Principal Investigator \$282,340

Gerald Harkins, M.D.

Ethicon

Patient Satisfaction with Thermal Balloon Ablation for Treatment of Menorrhagia: A Retrospective Review Principal Investigator

\$6,523

Paul Kramer, M.D.

Gynecologic Oncology Group parent member. West Virginia University, University of Maryland, and Lehigh Valley affiliate members of Hershey Medical Center. \$427,020

Richard S. Legro, M.D.

National Institutes of Health K24 HD01476 Insulin Resistance in PCOS: Sequelae and Treatment \$572,920

National Institutes of Health U10 HD 38992 Cooperative Multicenter Reproductive Medicine Network \$826,749

National Institutes of Health 1 RO1HD433332 The effects of continuous versus sequential oral contraception \$375,000

National Institutes of Health U54 HD34449 National Cooperative Program in Infertility Research Strauss, J.F. \$6,437,282 (Site Costs \$312,730)

National Institutes of Health RFA-HD-02-012 The Meharry Medical College/Penn State Cooperative Reproductive Science Center (P.I. Project III- A Randomized trial of metformin and lifestyle interventions in adolescents and adult women with PCOS) \$240,423

Pfizer Pharmaceuticals Investigator Initiated Grant A Double Blind Randomized Trial of Atorvastatin in Women with Polycystic Ovary Syndrome \$72,466

National Institutes of Health R01 HD/AR39245-01 Bioenergetics of Exercise-induced menstrual disturbances Co-Investigator \$1,496,218

National Institutes of Health 2R01-HD33852 J.M. McAllister, Ph.D., 17a-Hydroxylase expression in human ovarian cells. Co-Investigator \$1,496,218 Crown Center for Women and Newborn Health Investigator Initiated Grant Development of a Screening Test for Endometrial Hyperplasia in an at Risk Cohort Principal Investigator \$50,000

Crown Center for Women and Newborn Health Investigator Initiated Grant Continuous Glucose Monitoring in Pregnant Women with Polycystic Ovary Syndrome Principal Investigator \$30,316

Pennsylvania Department of Health Central PA Center of Excellence for Research on Pregnancy Outcomes Co-Investigator \$1.464

Pennsylvania Tobacco Settlement Fund 4100026343 The Effects of Obesity on Human Reproduction Principal Investigator \$219,750

Colin MacNeill, M.D.

Pennsylvania Tobacco Settlement Fund SP-A and SP-D Genetic Variants Associated with Preterm Birth Principal Investigator \$346,700

Pennsylvania Department of Health Central PA Center of Excellence for Research on Pregnancy Outcomes Co-Investigator \$16,560

Carol Weisman, Ph.D.

Pennsylvania Department of Health Central PA Center of Excellence for Research on Pregnancy Outcomes Principal Investigator \$4,700,000

National Committee for Quality Assurance

Improving the Quality of Care for Cardiovascular Disease: Using National Managed Care Performance Data to Investigate Gender Differences in HEDIS Measures Related to Heart Disease. Co-investigator

US Department of Veterans Affairs Impact of Practice Structure on the Quality of Care for Women Veterans Co-investigator

Judith Weisz, M.B., B. Chir.

PA Tobacco Settlement Fund Retinoid Homeostasis, Oxidative Stress and Breast Carcinogenesis \$112,684

Department of Defense Lipid Peroxidation Principal Investigator \$109,875

Pennsylvania Department of Health Central PA Center of Excellence for Research on Pregnancy Outcomes Co-Investigator \$923