The mission of the MEFACOOG is to foster continuing improvements in women’s health care. The goals of the MEFACOOG are to support Continuing Medical Education – Undergraduate, Graduate and Postgraduate, Research Programs, Faculty Development and Development of Educational Networks in women’s health care.
Message from the Chair

David Forstein, DO, FACOOG (Dist)

MEFACOOG’s mission is to foster ongoing improvements in women’s healthcare and support osteopathic lifelong educational opportunities. We achieve this through: continuing medical education; undergraduate, graduate and postgraduate research programs; faculty development; and, facilitating educational networks. MEFACOOG sponsored programs and events staged during the past 12 months have enabled us to make progress towards achieving our mission goals. Highlights for the year include:

- **Resident Reporter Program** - Residents representing their respective programs receive a scholarship to attend the ACOOG Annual Conference. Each resident is assigned a session to report on and possibly write an expansion article for publication. Their attendance also offers valuable networking opportunities to discuss issues, challenges, and current realities facing residents today.

- **Resident Research Forum** - Supported resident produced research by funding the online research training modules for every ACOOG program, which was also used as the curriculum outline for the ACOOG Resident Research Training Seminar during Fall Conference. 2nd year residents are required to attend so that they may be educated in research methodology as well as the overall process in conducting research in their respective specialties.

- **$1500 annual stipend available to all COM campuses** - A $500 grant is provided so that a delegate and/or alternate may attend ACOOG Fall Conference NSS Meeting. An additional $1000 is provided to each school scheduling a Visiting Professor. This can be used to fund projects in the community or on campus and to facilitate student clubs. The NSS and Visiting Professor programs help foster mentoring opportunities, student interest in the specialty, and networking with leadership and residents.

- **Community Service Projects** - Past projects have included:
  - Home builds in New Orleans after Hurricane Katrina
  - Women’s support organizations in Fort Worth and Philadelphia
  - After school community center and Build-a-Bike program in Chicago

  Such projects permit a chance for students, residents, and members to work together and alongside members of a community in a worthwhile project.

- **Provided sponsorship for four endowed lectures**:
  1. Gail Goldsmith – women’s health research
  2. Barbara Hawkes – honorary fellows lecture / service to the college
  3. Past Presidents – leadership
  4. MEFACOOG Distinguished Lecture – education
  5. Distinguished Fellows Lecture – education

**New Programs and Initiatives**:

- We held a Phone-A-Thon at the Fall Conference to help support the MEFACOOG lecture programs and raised $4500.00
- We will soon have available a Legacy Pledge Program to make it easy to remember ACOOG/MEFACOOG in your estate planning
- Funding for OMM at every ACOOG conference through restricted donations

Regardless of any new initiatives, we will maintain our focus on six primary areas:

- **Education**
- **Lectures** - Our goal is to have enough money to fund five fully endowed lectureship ($50,000 each or $250,000 total).
- **Scholarship**
  - Resident Reporter
  - NSS Society
  - Community Service
- **Research**
- **Fundraising to support the College**
- **Service projects in the cities we visit**

As we continue to develop new programs and events promoting medical education, we would like to extend a heartfelt thank you to all of our donors and supporters. It is only through your continued financial support and volunteerism that we are able to provide such opportunities. The MEFACOOG mission is very important and we greatly appreciate your continued support.

Sincerely Yours,

David A. Forstein, DO, FACOOG (Dist)
The Medical Education Foundation has welcomed many changes this year. New officers were David Forstein, DO-Chair and Michael Geria, DO-Vice Chair. Due to Dr. Geria’s employment as the ACOOG Executive Vice President, his unexpired term will be fulfilled by Teresa Hubka, DO. Dr. Geria will remain as an Ex-Officio advisor to the Foundation. New trustees are Nicole Cataldi, DO, Kimberlee Perkins, DO, and Jennifer Roncone, DO. Please welcome them and share your ideas. Our new volunteers will mold the future of osteopathic medical education.

I wish to express my sincere appreciation for our new donors and those that consistently support the mission of the foundation on an annual basis. The primary fundraising initiative for 2015 (and until achieved) is the $50,000 goal to fund the Distinguished Fellows Lecture endowment for 20 years. During the 2015 Fall Conference, many MEFACOOG and ACOOG volunteers conducted a telethon to support the Distinguished Fellows Honorary Lecture. They were able to raise $4,700 in one hour! Total donations for the endowment at year end were $22,635 just over 45% of our goal. As you attend the endowed lectures at this annual conference, know that the Foundation and its supporters are committed to providing quality CME for our members far into the future.

Did you know? Donors have the ability to restrict their donation to any of the following programs/initiatives:
- National Student Society of ACOOG
- Resident Reporter Program
- Endowed Lectureships (Gail Goldsmith, Distinguished Fellows, OMM, Past Presidents, MEFACOOG Distinguished, Barbara Hawkes)
- Osteopathic Graduate Medical Education
- Postgraduate Research Awards
- Fundraising Events
- Community Service Projects

This is a great opportunity if you’ve been a recipient of a particular award or scholarship and want to support the participation of another young ACOOG member. The Resident Reporter Scholarship Program alone has benefited more than 300 residents, many of whom have gone on to serve in ACOOG leadership roles. Other postgraduate training resources supported by MEFACOOG include online evaluation systems, research training modules, and the OMM video curriculum. Endowed lectures ensure that quality CME sessions will continue to be offered while allowing some relief of ever increasing conference production costs. Awarding excellence in research will provide the foundation for bringing osteopathic education principles to the greater OBGYN community.

Continuing to provide educational opportunities for our members is crucial; beginning with medical students, through postgraduate training, continuing medical education, and osteopathic continuous certification.

Sincerely,

Valerie Bakies Lile, CAE, FACOOG (Hon. Executive Director
CALL FOR VOLUNTEERS

MEDICAL EDUCATION FOUNDATION OF ACOOG

Are you looking for a new way to be involved? Do you enjoy developing innovative educational programs or social philanthropy? Being a MEFACOOG Board Member could be for you! MEFACOOG volunteer leaders can be physicians, educators, non-physician clinicians, spouses/family of ACOOG members, health care industry supporters….anyone with a passion for women’s health!

Several positions will be open for nomination this year and we need your expertise. The MEFACOOG Board of Trustees meets twice per year with one meeting usually conducted by phone or web conference. The primary, in-person meeting of the MEFACOOG Board coincides with the ACOOG Annual Conference.

Key MEFACOOG activities include:

• Community Service Projects—past projects include work at a youth community center in Chicago, home repairs in New Orleans for Katrina recovery effort, blood drives, and support for a residential home for pregnant mothers in crisis.
• Resident and Postgraduate Fellow Research Awards and Grants
• Resident Reporter Scholarships provide an opportunity for residents to attend an ACOOG conference and potential article publication
• Resident Education Resources (OMM video curriculum, L3 for Residents quarterly learning modules)
• Endowed lectureships for CME (Lifelong Learning for attending physicians)
• Support for Osteopathic Continuous Certification (Lifelong Learning, Practice Performance Improvement for attending physicians)
• Annual Golf Tournament
• Fundraising events such as the ‘Evening with the Stars’ planetarium function and Cirque Du Soleil Mystere

This is just an overview of the potential that exists with MEFACOOG. We welcome new opportunities, new leaders, and new ideas!

If you are interested in MEFACOOG Board of Trustees service, please forward a statement of interest and a brief bio or CV to Valerie Bakies Lile, CAE by email to vblile@acoog.org or by fax to (817)377-0439 by February 1, 2017.
Medical Education Foundation
of the
American College of Osteopathic Obstetricians and Gynecologists

RECURRING GIFT FORM

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Option #1 Direct Debit

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Option #2 Credit Card

Type of Credit Card (circle one):  Visa  MasterCard  American Express

☐ Please charge my credit card  ☐ monthly ($25 minimum) or  ☐ quarterly ($75 minimum)

Credit Card Charge Start Date (circle one):  15th  or  25th  Scheduled Charge Amount:  $ ________________

Acct. No.: ___________________________________________  Expiration Date: __________________________

Signature: ___________________________________________  Date: ________________________________

Please designate to help support the following programs:

☐ MEFACOOG General Support
☐ Gail Goldsmith Memorial Lecture (Annual Conference)
☐ Barbara Hawkes & Honorary Fellows Address (Annual Conference)
☐ MEFACOOG Distinguished Lecture (Annual Conference)
☐ Past President’s Honorary Lecture (Fall Conference)
☐ National Student Society of the ACOOG Scholarship grant
☐ Visiting Professor Program
☐ MEFACOOG Fall Service Project

* This agreement will remain in effect until MEFACOOG receives written notification of termination. Quarterly donations will occur every three months after the first gift.

Return this form to:  8851 Camp Bowie West, Suite 275, Fort Worth, TX 76116
Fax: 817-377-0439
ACOOG Calendar of Events

2016 Fall Conference
October 5-9, 2016
Renaissance Cleveland
Cleveland, OH

84th Annual Conference
March 26-31, 2017
JW Marriott Desert Springs
Palm Springs, CA

2017 Fall Conference
October 7-11, 2017
Philadelphia, PA

85th Annual Conference
April 8-13, 2018
Waldorf Astoria Bonnet Creek
Orlando, FL

(Continued on Page 21)
Plan your research project now!

**The MEFACOOG Research Grant of up to $5,000 is open to all residents, fellows and junior faculty in Osteopathic Postdoctoral Training Institutions to support research efforts. The deadline date for the MEFACOOG Research Grant is November 1, of each year prior to our Annual Conference. Get your application and guidelines on the MEFACOOG website under Research Grant Award.**
Finding the appropriate treatment for the patient with the diagnosis of Pelvic Pain is difficult for many gynecologists. Pelvic pain is a major challenge secondary to its complex etiology and, at times, poor response to therapy. In the United States, approximately 12-20 percent of women are affected by chronic pelvic pain \(^1\). In the United States, it is estimated that approximately $881.5 million is spent annually for outpatient visits for pelvic pain \(^2\). Chronic pelvic pain is the reason for approximately 10% of gynecological consultations, 40% of laparoscopies, and 10 to 15% of hysterectomies.

“In the United States, it is estimated that approximately $881.5 million is spent annually for outpatient visits for pelvic pain”.

Around one in seven women will not find an etiology causing their pelvic pain \(^3\). The osteopathic physician has multiple modalities to assist treating the patients with pelvic pain.

Chronic pelvic pain is defined as: pelvic pain lasting more than 6 months in duration. It can significantly impact a woman’s activities of daily living and her quality of life. The difficult task of diagnosis includes an extensive

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*(Continued on Page 10)*
list of gynecologic and non-gynecologic causes. Non-gynecological causes include irritable bowel syndrome, painful bladder syndrome, interstitial cystitis, abdominal wall or pelvic floor myofascial syndrome or neuropathy that many times are overlooked when the pain is occurring in the pelvis. The non-gynecological causes explain why many times there is no pathology found during diagnostic laparoscopies (1). Review of the patient’s psychosocial history is necessary as there is a significant association with chronic pelvic pain and psychosomatic dysfunction (1,4).

Dr. Showalter described the fascial distortion model that focuses on the fascia and tensions within the fascia. This is seen on exam when one palpates tight bands of tissue and fascia. Examples during the pelvic exam include cervical deviation, uterine position and adnexal and vaginal tissue tension, tenderness and turgor. Pressure along these bands can resolve the tension and improve the patient’s pain.

Chronic pelvic pain consists of an up-regulation of the central nervous system responsiveness to peripheral stimuli. Patients in these chronic pain states develop maladaptive changes within their CNS that can predispose them to allodynia, hyperalgesia, widening of the receptive field and abnormal reflex responses in surrounding musculature. Chronic stimulation of the visceral tissue can allow a subset of nociceptive C-fibers that are usually dormant to become activated. This activation allows for an increase in noxious stimuli that permits the pain sensation to become persistent and amplified (1).

Pelvic Pain nerve fibers are dispersed from T9-S4 within the pelvis and overlap with other non-gynecologic organs within the body, which makes diagnosis even more difficult for the gynecologist (Figure 1). This idea is also referred to as viscerosomatic convergence, which is when referred pain occurs to areas on the abdominal wall from multiple organs within the body. The viscerosomatic neurons have a larger receptive field and pain can be referred to the skin also. The genital tract itself varies in sensitivity depending on the location and intensity of the stimulus. For example, the cervix is insensitive to small colposcopic biopsies but more sensitive to deep incision or dilation. The ovaries are relatively insensitive except in the cases of rapid distention or compression.

After taking a thorough history, one should perform a detailed structural exam. This includes assessing the ASIS, pubic bone, sacroiliac joints, psoas muscle, and abdominal wall abnormalities. Also, perform a detailed structural exam of the uterus and adnexa. Asymmetry in any of these areas can cause a significant amount of pelvic pain and once treated the woman’s pelvic pain can improve tremendously. For example, Dr. Showalter described a patient who had a spasm in her psoas muscle that caused her a significant amount of pelvic pain and once she was treated with counterstrain her pain improved. After treatment to areas of structural dysfunction, the pelvic exam can change in relation to tissue and texture making it important to reassess the pelvic organs.

Osteopathic manual therapy can assist with treatment of dyspareunia, endometriosis, adenomyosis, uterine fibroids, pelvic inflammatory disease, and pelvic congestion syndrome. In dyspareunia, many women will have pain just within the hymenal ring at the 4 o’clock position. This is an area where four muscles of the pelvic floor cross and can cause the patient significant pain. Counterstrain can be used by flexing the ipsilateral leg adding adduction and abduction until the pain is relieved at this point. The patient may need multiple treatments, but it can provide great relief for her. Patient’s with pelvic congestion syndrome can also have improved relief using balanced ligamentous tension on the uterus where you can flex/extend, sidebend and rotate the uterus to a point of ease to assist with lymphatic and venous drainage of the uterus.

The use of OMT can assist with
saving the patient unnecessary testing and medical expense. If OMT improves the patient’s pelvic pain then a more thorough work-up is not needed. However, if the patient only has a short amount of relief then this patient may require further work-up. Also, consider a somatic dysfunction if the patient’s pain improves from a diagnostic laparoscopy but no pathology was found. This can be from the relaxation of the muscles from anesthesia, which assists with the resetting of the tissues.

Pelvic pain needs to have a multidisciplinary approach including assistance from pelvic floor physical therapy and osteopathic treatment. Osteopathic physicians may offer multiple treatments modalities including pharmacological treatment, surgery as well as manipulation for somatic dysfunction to assist with treating the patient with pelvic pain.

References:
Chronic pelvic pain is a challenging diagnosis for both the patient and the physician. Often this diagnosis is met with frustration from both participants. Unlike many diagnosis that are encountered in obstetrics and gynecology, chronic pelvic pain does not always have a clear-cut etiology and treatment.

The diagnosis of chronic pelvic pain can be made when a patient presents with pelvic pain >6 months in duration, for at least 2 weeks each month. Approximately 15% of women ages 18-50 are plagued by this diagnosis. Up to 10% of all referrals to gynecologists are for pelvic pain, which results in 70,000 hysterectomies per year and 400,000 laparoscopies per year.

Evaluation of chronic pelvic pain does not often yield a focal or single source for the patient’s pain. Most often a constellation of factors are involved. Even if an etiology for pain is elucidated, the disease process itself can be compounded by a neurobiological response to chronic pain, psychosocial interactions, and an altered processing of visceral and somatic sensations.

Six components make up the chronic pain constellation:
1. Psychiatric co-morbidites can be present, either in the form of depression, personality disorders or a history of sexual abuse.
2. Hormonal factors can also influence the cycle of pain, which is frequently associated with menses.
3. Iatrogenic factors, such as history of Lupron use.
4. Radiation exposure or complications from previous surgeries can also contribute to the cycle of chronic pelvic pain. A primary injury from a musculoskeletal trauma such as childbirth or low back injury can result in pelvic somatic pathology.
5. Pelvic visceral pathology is perhaps the one aspect that physicians are taught to treat. This includes: endometriosis, IBS, bladder dysfunction, Interstitial Cystitis, etc.
6. Nervous system sensitization is the potential component to the chronic pain constellation and can often be the most complex etiology to treat.

In order to attempt to effectively treat these patients, it is important to return to basic sciences and understand the neurophysiology concepts of the pain cycle. First, a large number of afferents and efferents converge over relatively few spinal cord segments, which makes identification & localization of visceral pain difficult, resulting in referred pain. Chronic pain leads to a progressive increase in the amplitude of electrical response of the dorsal horn neurons with repetitive stimulation of a peripheral nociceptors (“windup”). Windup creates increase in excitability of peripheral nociceptors thus amplifying pain signals to the central nervous system, leading to peripheral sensitization. Peripheral sensitization causes increased excitability of central pain transmitting neurons leading to a reduction in pain threshold and increased response to painful stimuli.

The ability of the nervous system to reorganize itself by forming new neural connections (neuroplasticity) allows for compensation of pain secondary to injury or disease. New neural pathways can form as a result, which can lead to up regulation of pain receptors and autonomic dysfunction. This creates additional abnormal efferent activity, inducing pain or pathology in surrounding viscera and/or somatic structures via convergence. In essence, a physiologic domino effect is created.

Assessment should include open-ended questions on how pain affects daily function, timing and onset, previous treatments and response. In addition to a complete gynecological history, questions should also be targeted towards other pain conditions, such as migraines, TMJ, fibro-
myalgia, depression, etc. Physical examination should include focused exams of the abdomen, vulva, pelvic floor and bladder. Technique for a bimanual exam should include using a single finger to assess pelvic tone and palpation of the bladder and muscles to evaluate for spasms.

Diagnostic testing can include STD screening, urinalysis, and urine culture and sensitivity. If a pelvic mass is suspected or if the pelvic exam is limited, pelvic ultrasound is indicated. An MRI should be considered if pain is in a dermatomal distribution or other neurological symptoms are present on exam. If renal or diverticular disease is suspected, a CT would be indicated. Assuming negative imaging and labs, almost always one or more of the following conditions exist: endometriosis, painful bladder syndrome, IBS, pelvic floor myalgia or abnormal pain behaviors with or without Axis I/II psychiatric diagnosis.

Over 90% of patients can be managed effectively with cycle suppression, NSAIDS, and laparoscopy. Often intra-operative findings provide an explanation for chronic pelvic pain. If indicated, incision-less hysterectomy is preferred.

A basic treatment algorithm for chronic pelvic pain requires a clear understanding by the physician that nearly all patients will have multiple pain issues. As such, it is imperative to treat primary and secondary generators. Any pelvic floor pathology should also be treated. Underlying Axis I/II disorder should be treated appropriately, either pharmaceutically or with behavioral therapy. Opiates should be limited or avoided altogether. Finally, the physician should have a dialogue with patients regarding realistic expectations for treatment. Return to function is a more realistic goal than making the patient pain free.

References:
Preterm birth, delivery before 37 weeks gestation, continues to be the leading cause of neonatal morbidity and mortality in the United States. As an Obstetrician, one must be continually looking for more effective ways to both diagnose and treat preterm labor. One of the areas that has been highly researched is the correlation of short cervix, as defined by transvaginal cervical length of <25mm, and preterm birth. Though not the only known cause of preterm birth, many advances have been made in the understanding and treatment of short cervix in an effort to prevent preterm birth including the use of cervical cerclage, vaginal progesterone and intramuscular progesterone.

In order to target prevention of preterm birth, one should look at the pathophysiology of preterm birth. Dr. Debbs stressed that after decades of researching the etiologies of preterm birth, definitions show the etiologies are a continuum of disease that cannot be categorized in simple terms as cervical insufficiency or premature labor. These etiologies include, but are not limited to: maternal stress, inflammation both from acute and chronic disease, decidual abruption/hemorrhage, and pathological uterine distention. Though these may seem somewhat unrelated, they provoke many of the same inflammatory pathways and will lead to the same outcome of premature birth. Demonstration of this idea was accomplished with examples of electron micrographs showing the changes in cervical stroma and organization when the cervix was insulted by some of these inflammatory factors.

It is the obstetrician’s duty to obtain a thorough patient history, preferably during a preconception visit, to assess for risk factors for preterm delivery. A prior preterm birth confers the greatest risk for subsequent preterm deliveries. The details of a preterm birth should be investigated. Was the preterm birth a result of spontaneous labor or an indicated delivery for maternal or fetal complications? Is there a known uterine abnormality, such as bicornuate uterus? Was an infection, either of the chorion/decidua or systemic, diagnosed at the time of preterm delivery? Even in those without a history of preterm delivery, it is important to elicit a history of cervical surgery and uterine instrumentation as these have shown to cause an increased risk of preterm birth in some, but not all, studies. A history of tobacco or other substance abuse, along with cessation plans, should be addressed.

During the pregnancy, the obstetrician needs to be able to recognize early signs of cervical change that may lead to preterm birth and to know when and how to treat these patients. This was illustrated by the use of case examples of varied patients, their history, and ultrasonography findings. Through many well-founded randomized clinical trials, recommendations are provided by the American College of Obstetrics and Gynecology. The basic summary of these recommendations, as discussed in Practice Bulletin 130, are as follows:

1. In low risk patients without history of preterm birth, vaginal progesterone should be offered if the cervical length is less than 20mm
2. In those with history of preterm birth, intramuscular 17-hydroxyprogesterone should be started at 16-24 weeks and continued through 37 weeks
3. In those with history of preterm birth and ultrasonographic evidence of cervical length less than 25mm, cerclage should be offered
4. In those with prior failure of history indicated cerclage, abdominal cerclage should be offered
5. In those with multiple gestations and short cervix,
with or without a history of preterm birth, there is no evidence to support the use of either progesterone or cerclage.

In discussing the options of treatment for shortened cervix with the patient, the obstetrician needs to be able to discuss the risks and benefits of intervention. Progesterone therapy shows no difference in maternal side effects or congenital anomalies from a placebo group in meta-analysis. If a cerclage is indicated, the obstetrician needs to ensure that the patient fully understands the possible risks of cerclage placement. Though complications are low and serious complications are rare, there is a risk of bleeding, rupture of membranes, introduction of infection, cervical lacerations, and suture displacement.

Though many advances have been made in the detection of cervical etiologies of preterm delivery, there still exists a need for further investigation into the multiple causes of preterm birth and into the preventative methods available to aid us in lowering the morbidity and mortality associated with it. Obstetricians should remain vigilant in preconception counseling, careful history taking, and monitoring guidelines in their high risk patients. Obstetricians can be confident that the current guidelines are based on strong evidence that will assist them in helping patients achieve the best possible outcome.

References


Endometrial cancer is the most common gynecologic cancer in the United States and therefore a bread and butter workup for the general gynecologist. However, with the growing obesity epidemic, and the known association between obesity and endometrial cancer, perhaps a fresh approach, with less bread and butter, is needed when evaluating women. In addition to the known work-up, DeEtte R. Vasques D.O., put forth a reimagination of the role of the generalist, with an emphasis on prevention of endometrial pre-cancer. This culminated in a discussion on the obesity epidemic. This lecture combined the speaker’s oncologic expertise with the obesity crisis, and determined that more should be done to empower patients with the knowledge that being overweight is a primary risk factor for developing endometrial cancer. Providers should place the same level of importance on a patient’s body mass index (BMI) that is placed on her age and last menstrual patient. Including BMI as a principle component alongside other basic and critical risk stratification tools on every history and physical or progress note would increase the awareness of the provider to the patients risk for a multitude of medical problems. This documentation change is a simple way to avoid missing the opportunity to address the patients current status, discuss their individual risks, and review the effects they will have on the patient’s overall health. This practice would allow the provider to question the patient about her diet and exercise habits and potentially disseminate valuable education about those topics. By making a concerted effort as potentially the sole primary care physician for a large portion of women, the tide can be reversed, and average BMIs lowered, thereby lowering the cases of endometrial hyperplasias and pre-cancers.

Representing the vast majority of all endometrial cancers at around 80%, type I, or endometrioid adenocarcinoma, is primarily caused by excessive estrogen exposure. The principle mechanism in these cancers is hyperestrogenism, therefore Dr. Vasques was not surprised in the early days of her practice when she received referrals regarding patients on unopposed oral estrogen therapy. Given our current knowledge of the pathophysiology of endometrial cancer, unopposed estrogen therapy should be declining. On a national scale, the American Cancer Society predicts that in 2015 endometrial cancer will be the most common cancer of reproductive organs with estimations of 54,870 new diagnoses and 10,170 deaths. This number will likely increase in the coming years as the average BMI of women in upcoming generations continues to rise.

The latest national statistics from the National Center for Health Statistics, in association with the Center for Disease Control, state that the number of females over 20 years of age that had a healthy BMI (18.5-24.9) was 45.0% from 1988-1994. This decreased (now less healthy BMI) to 32.8% in the latest census covering 2009-2012. Recent statistics reveal that less than a third of the 20 years of age and older female population has a medically desired BMI. In the late eighties and early nineties half of the females in that age range fell into this population category. More alarming is that when comparing those same data collections, the BMI group with the greatest increase in percentage are also the most at risk; those with BMI > 40kg./m2, doubled from 4% to 8.2%. These numbers are staggering and reinforce the need for generalists to be vigilant and well versed in the workup of potential endometrial cancer patients at various points across the spectrum of disease progression.

With the female population moving towards a higher average BMI with a greater proportion in the obese ranges, the number of women in an unopposed estrogen environment has never been higher nor have the upper ranges of those estrogen levels. The

(Continued on Page 17)
underlying mechanism for the high levels of estrogen has two common forms that can be seen together or separate. Specifically these include chronic anovulation and the overweight or obese patient. In the chronic anovulatory patient, the stimulatory effects of estrogen are left to exert a prolonged effect on the endometrium. Without successful ovulation, there can be no creation of a corpus luteum to produce progesterone. Consequently, in the absence of the inhibiting effects of progesterone on the endometrium, the lining continues to proliferate. This leads to hyperplasia and potentially a malignant neoplasm. In addition, the endometrium cannot be fully shed without a progesterone withdrawal. This again requires the corpus luteum to initially raise progesterone levels before it fails without a pregnancy to support and shedding occurs. The cause of the continuous estrogen state in the obese patient is exacerbated when excess adipose converts androgens from the ovary and adrenal glands into estrone. While estrone is the weakest form of the estrogens, at high enough levels it does affect the endometrium. In the case of a postmenopausal patient there is no ovarian hormone production. Therefore the weak activity of estrone is negated entirely because there can be no creation of a corpus luteum and therefore no progesterone production as ovulating has ceased. Given enough time, this environment will lead to the development of endometrial cancer. Vigilance in sampling and counseling with patients is important, but the best treatment is to modify those risk factors that can be corrected and thereby prevent this environment from ever existing.

The question of when to evaluate someone for endometrial cancer is a daily occurrence in the office of any practicing Ob/Gyn. With the increasing average BMI at every age group, the frequency of this workup will increase as more women will be in prolonged states of unopposed estrogen for greater lengths of time and at higher levels than previous generations.

This evaluation begins from the standpoint of age and is focused by the specifics of a patient’s complaints, vaginal bleeding history, and risk factors. While seemingly basic, the idea that all premenopausal women should have some vaginal bleeding and postmenopausal women should have none is the first step in answering the question of whether additional testing is needed. Vaginal bleeding in the postmenopausal patient always requires evaluation. National statistics from the National Center for Health Statistics in association with the Center for Disease Control show, the number of females in the 45-54 years of age range that were classified as overweight has increased from the 1984-1994 census level of 60.3% to 70.5% in the latest census covering 2009-2012. That is getting dangerously close to three quarters of that female age population being overweight when entering a perimenopausal state. Notable is that for each classification of obesity by decade, there is an increase in the numbers of women who “fit” that category.

The health care system has not yet seen the impact of what will be an increased number of post-menopausal bleeding workups. An increase in the number of trans-vaginal ultrasounds and/or endometrial biopsies (EMB) will force more health care resources to be utilized. Taking this a step forward, perhaps hypothetically, if these postmenopausal women cannot decrease their adipose stores and continue to have vaginal bleeding even after a negative sampling; where does this leave the provider? If they continue to have vaginal bleeding then repeat evaluation every 3-6 months is certainly reasonable but how many patients will want to endure repeated testing? How many patients loss to follow up in order to avoid the recommended testing will occur? How many hysterectomies will be performed just to make sure a sampling error isn’t missing the diagnosis? These are real questions and they have real consequences both physically and emotionally for the patient as well as financially for the patient and the healthcare system at large.

There are also the premenopausal and women where the trends in overweight and obese BMIs are increasing at an even more dramatic rate. A discussion of premenopausal abnormal bleeding workup, although certainly important, is beyond the scope of this article.

The ACOG endometrial cancer

(Continued on Page 18)
practice bulletin #149 Apr 2015, for example, states that the majority of women diagnosed with endometrial cancer are postmenopausal, with less than 5% diagnosed before 40 years of age and only 15% diagnosed before age 50 years of age. Based on the previously mentioned statistics concerning changes in patient risk factor profiles at the population level since 1984, these may not accurately reflect what today's clinician will see in the office. When looking at the premenopausal age group population in the most recent statistics from The National Center for Health Statistics, in association with the Center for Disease Control, comparing between the 2009-2012 data and the 1988-1994 data, there has been a decrease by 25-30% of healthy BMI women aged 20-44 years. For the group of 20-34 years of age women, the increase in percentage from late eighties to the late 2000’s is 49% for overweight, 62% for obese, 24% for morbidly obese, 35% for grade II obesity, and a staggering 185% for grade III obesity. The other premenopausal age group including the 35-44 year age group show an increase in percentage from late 1980’s to the late 2000’s of 26% for overweight, 41% for obese, 39% for morbidly obese, 18% for grade II obesity, and another staggering 84% for grade III obesity. This data helps put into perspective why the obesity epidemic has been termed in such dramatic fashion.

For women with abnormally high BMIs who enter menopause earlier than the average, the risk is even higher due to a lack of progesterone with drawl from ovulation. In the women who were class I obese, it was found that they had a sixfold increased risk of developing endometrial cancer than did those in the normal BMI group. Those in the group whose BMIs were class II–III obese had a greater than 20-fold increased risk of developing endometrial cancer compared to the normal BMI group. The extra adipose tissue is stimulating earlier development of these estrogen dependent cancers. A recent study released in 2014, concluded that endometrioid type endometrial cancers not only are associated with obesity but also that they occur at an earlier age when the patient is obese. This study included patients seen between 1999 and 2009 in New York and produced a mean age of diagnosis of this estrogen dependent endometrial cancer at a mean age of 56.3 years (+10.3 standard deviation) in women with a BMI greater than 50 versus 67.1 years (+11.9 standard deviation) in women with a normal BMI. This study included patients seen between 1999 and 2009 in New York and produced a mean age of diagnosis of this estrogen dependent endometrial cancer at a mean age of 56.3 years (+10.3 standard deviation) in women with a BMI greater than 50 versus 67.1 years (+11.9 standard deviation) in women with a normal BMI. This study illustrates the dangers for future generations having to deal with a endometrial cancer diagnosis at earlier ages. This reiterates the need for the healthcare team to band together to start having the difficult conversations with patients about lowering their BMI.

The relationship between patient and provider must become more transparent if meaningful change is to be achieved. Starting on the Patient side, patients with BMIs in the various levels of obesity are not always aware of their increased risk or what that risk means going forward medically. This disconnect from a patients true medical reality was examined in a small study of 93 patients presenting for bariatric surgery. In the study 45.7% of women with a mean age of 44.9 years and a mean BMI of 48.7 reported feeling that they were in ‘good’, ‘very good’, or ‘excellent’ health despite having other medical comorbidities. Clearly this represents the disconnect that many people may feel about their body but the opportunity is there for physicians to help patients enact change. The research study also surveyed these women on the risk that obesity poses for developing endometrial cancer. Approximately 66% of the women in the study identified obesity as a risk factor for uterine cancer. At the same time the women did not make the connection to their own situation as seen in the responses of the 48% of the women that still had their uteri intact perceiving their own risk for endometrial cancer as “not likely/not possible”.

The perception problem extends to the Provider side of the relationship as well as seen in a study from 2014 that looked at 52 physicians and their weight assessments for 400 patients. Out of the 192 (48%) of the patients in the study whose BMI placed them in an obese category, only 66% were correctly identified by physicians as being obese. Interestingly there was a statistically significant difference in the levels of likelihood of identification based on BMI.
in that while 86% of those with a BMI ≥ 35 were identified as obese, only 49% of those with a BMI of 30 to 34.9 were identified as obese. This finding shows that physicians cannot rely on their clinical judgement to determine a patient’s BMI classification.

The challenge lies with both current and future clinicians to confront what is, “pun intended,” the biggest problem facing healthcare in the United States. The shadows cast by the obesity epidemic extend into every area of healthcare and not all is being done to make the difference that both current and future generations deserve. Research from 2012 should give motivation and hope to practitioners and patients alike. This study of 1410 cases showed that the risk of endometrial cancer is relative to their current weight regardless of their weight previously in life. In this study, patients who were overweight or obese at ten and twenty years of age who were able to reach normal BMI status later in life had the same endometrial cancer risk as those of normal BMI. This is encouraging as providers can counsel patients that by losing weight they can decrease their increased risk of endometrial cancer. This study also provided clinicians with a way to counsel patients about their risk based on that specific patient’s BMI. Specifically, they showed that for each 5 point increase in BMI a patient increases their relative risk of 1.87 when compared to the endometrial cancer risk of a patient with a normal BMI.

If future women are to be spared from the gynecologic effects of the obesity epidemic then clinicians have a duty to inform them of medical expectations of weight loss vs. remaining obese. This is not an easy conversation to have and perhaps specific training on how to talk about diet habits and exercise would be helpful. Even small changes like including the BMI on the first line of every patient’s documentation or something as simple as a referral to a dietician or a fitness group could potentially alter a patient’s future course.

References:
Thomas, Cheryll C. MSPH1; Wingo, Phyllis A. PhD, MS1; Dolan, Mary S. MD, MPH2; Lee, Nancy C. MD1; Richardson, Lisa C. MD, MPH1. Endometrial Cancer Risk Among Younger, Overweight Women. Obstet Gynecol. 2009;114(1):22-27.
Nevadunsky, Nicole S. MD; Van Arsdale, Anne MD; Strickler, Howard D. MD, MPH; Moadel, Alyson PhD; Kaur, Gurpreet MD; Levitt, Joshua BS; Girda, Eugenia MD; Goldfinger, Mendel MD; Goldberg, Gary L. MD; Einstein, Mark H. MD. Obesity and Age at Diagnosis of Endometrial Cancer. Obstet Gynecol. 2014;124(2-1):300-6.

Unfortunately, our economic status has remained relatively the same the past few years. The Medical Education Foundation relies more and more on its members to support its mission. The mission of the MEFACOOG is to foster continuing improvements in women’s health care. The financial review below reflects the year ending December 31, 2015. As you can see, we were once again down in both individual and corporate contributions. Below are ongoing grants we hope to continue in the upcoming year.

- MEFACOOG Resident Reporter Scholarship
  Program-educating osteopathic OB/GYN residents at the ACOOG Annual Conference and reporting back to their programs and to the profession.
- MEFACOOG Awards for Excellence in Poster Presentation-encouraging research and rewarding dissemination via poster presentation at the ACOOG Annual conference.
- MEFACOOG Resident Research Grant- encouraging research in osteopathic OB/GYN residency and fellowship programs.

Financial Review

Statement of Activities

Year Ended December 31, 2015

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<th>Support</th>
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<td>Support Services</td>
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<td><strong>Total Expenses</strong></td>
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| Net Assets, Beginning of Year| $487,140     |
| Change in Net Assets         | $(13,934)    |
| **Net Assets, End of Year**  | **$473,206** |

Statement of Financial Position

Year Ended December 31, 2015

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<tr>
<td><strong>Total Liabilities and Net Assets</strong></td>
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</table>

The 82nd Annual Conference of the ACOOG hosted four ongoing funded lectureships. The Barbara Hawkes Memorial Lecture; also the college’s first endowment memorial lectureship, was given by Steve Buchanan, DO. The MEFACOOG Distinguished Lecture was presented by Michael R. Harrison, MD. The Distinguished Fellows Lecture was presented by Alan Waxman, MD. These is the ninth of ten year endowment by the friends and colleagues of Gail Goldsmith and Wyeth. MEFACOOG Gail Goldsmith Memorial Lectureship was presented this year by Lee A. Learman, MD, PhD.

The ninth of a ten year endowment of the MEFACOOG Past President’s Honorary Lectureship was presented by David L. Wolf, DO at our 2015 Fall Conference in Orlando, FL.

The National Student Society of the ACOOG met for the seventh time in Chicago, IL at the ACOOG Fall Conference. The online Research Training Course was funded for all residency programs through a MEFACOOG grant. These projects would not be possible without the support of you, the donors. Thank you for your continuing support.
**BACKGROUND:**

- The use and potential abuse of narcotics, illicit substances, and street drugs are ongoing public health issues. Illicit drugs include various types of substances such as marijuana, cocaine, heroin, hallucinogens, inhalants, or prescription medications that are frequently abused or used non-medically.

- Substance abuse is not only costly to society; its effects on fetal well-being in pregnant women are disconcerting and of significant concern.

- Commonly, many medical care seekers abuse more than one substance or drug. Studies are limited by the self-reporting nature of data they rely upon. Approximately 5.1% of pregnant women use illicit substances. A much larger proportion smokes cigarettes or drinks alcohol, for which patients are routinely screened with a verbal questionnaire, but not tested with confirmatory lab work.

- Various studies have demonstrated links between substance use and abuse during pregnancy and poor neonatal outcomes, such as Fetal Abstinence Syndrome and even fetal death. There are no readily available studies regarding maternal screening of substance abuse at the time of hospital admission through a verbal questionnaire followed with lab confirmation.

**QUESTION:**

The research question was as follows: Of the neonates who tested positive for illicit drugs, either through urine or meconium testing, had the mothers reported substance use upon admission to the Maternity Unit?

**METHODS:**

- This was an Institutional Review Board approved retrospective study to determine an association between positive test results for illicit drugs of neonates and maternal reports of drug use upon admission to the Maternity Unit.

(Continued on Page 22)
• The target population included neonates born at a Midwestern community hospital with a positive urine or meconium drug screen during October 2011 through December 2014 and their associated mothers (N = 195).

• A three-year span of records were reviewed in order to take into account any changes that might have occurred in the neonatal testing protocols over time and to ensure that the sample size was large enough to provide adequate statistical power to detect any real effects.

• Women who had not reported drug use at the time of admission were more likely to be smokers than non-smokers (78/125 = 62.4% vs. 47/125 = 37.6%), P < .0001 and on Medicaid (103/126 = 81.7% vs. 23/126 = 18.3%), P < .0001.

• Of the patients, whose infants screened positive for drugs and who had not reported drug use on admission, a statistically significant, greater proportion tested positive (82/117 = 70.1% vs. 35/117 = 29.9%) than negative when they were urine-screened for drugs, P < .0001.

• After adjusting for all other variables, it was observed that the majority of the women who illicitly use or abuse drugs and substances were more likely not to report their use upon admission to the Maternity Unit at this community hospital, P < .0001.

**CONCLUSION:**

• The majority of the women who illicitly use or abuse drugs and substances were more likely not to report their use upon admission to the Maternity Unit at this community hospital, P < .0001.

• A statistically significant proportion of women who had not reported drug use upon admission to the hospital, tested positive with a urine drug screen at admission.

• Need future studies to demonstrate that initiating better patient education and increasing early prenatal care access may be associated with better outcomes.
REFERENCES:


ACKNOWLEDGMENTS:

Karen Collins, MPA, Ohio University Heritage College of Osteopathic Medicine, CORE Research Office
Jennifer Canan, DO, PGY-2, Grandview Medical Center
Jessica Prim, IRB Coordinator, Kettering Medical Center
INTRODUCTION

Currently in America, 1/3 of the population is obese. The institute of medicine (IOM) defines obesity as BMI ≥30.0 kg/m2. As the obesity epidemic affects more people, we are seeing a rise in both extreme pre-pregnancy weight as well as pregnancy weight gain. In addition, we are seeing an increased amount of large for gestational age newborns. The increasing size of infants can lead to an increase in maternal morbidity, including the need for operative or complicated deliveries, prolonged second stage of labor, and increased blood loss during delivery. Our study looked to examine if birth weight was affected by prepregnancy size, pregnancy weight gain, and midtrimester growth of the fetus. In addition, we looked to examine if these or additional factors had any influence of maternal morbidity in the form of operative delivery, prolonged second stage, blood loss, and traumatic lacerations.

METHODS

Design: A retrospective study. Inclusion criteria: Delivered between gestational ages of 37-42 weeks as confirmed by a first trimester ultrasound and were carrying live, singleton pregnancies and without complications such as

Table 1. Characteristics of subjects (n=499)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± SD or n %</th>
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</thead>
<tbody>
<tr>
<td>Age (yr.)</td>
<td>27.80 ± 5.79</td>
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<tr>
<td>Pre-pregnancy BMI (kg/m²)</td>
<td>26.62 ± 6.57</td>
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<tr>
<td>Obesity (BMI≥30)</td>
<td>124 (24.85)</td>
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<tr>
<td>Ethnicity n (%)</td>
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<tr>
<td>Caucasian</td>
<td>358 (71.74)</td>
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<tr>
<td>African American</td>
<td>90 (18.04)</td>
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<tr>
<td>Others</td>
<td>51 (10.22)</td>
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<tr>
<td>Marriage Status n (%)</td>
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<tr>
<td>Married</td>
<td>207 (41.48)</td>
</tr>
<tr>
<td>Unmarried &amp; Others</td>
<td>292 (58.52)</td>
</tr>
<tr>
<td>Gestational age at delivery (week)</td>
<td>39.52 ± 1.08</td>
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<tr>
<td>Nulliparous n (%)</td>
<td>141 (28.26)</td>
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<tr>
<td>Cigarette smoking n (%)</td>
<td>74 (14.83)</td>
</tr>
<tr>
<td>Gestational age at mid gestation fetal anatomy scan (week)</td>
<td>19.97 ± 1.29</td>
</tr>
<tr>
<td>Infant birth weight (g)</td>
<td>3452 ± 447</td>
</tr>
<tr>
<td>Infant gender n (%)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>257 (51.50)</td>
</tr>
<tr>
<td>Male</td>
<td>242 (48.50)</td>
</tr>
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</table>

Association of excessive GWG and LGA birth

Unadjusted LGA birth %

Adjusted Odds Ratio

*Model was adjusted for maternal age, cigarette smoking, ethnicity and parity using adequate GWG as reference. P for trend <0.05

(Continued on Page 25)
gestational diabetes, preeclampsia or fetal growth restriction.

Outcomes: The primary outcomes are large for gestational age infants (LGA) and parameters of fetal growth including abdominal circumference (AC) at Anatomy scan, estimated fetal weight (EFW) at anatomy scan, and infant weight at delivery. The secondary outcome variables are the mode of delivery (spontaneous vaginal delivery, operative vaginal delivery, or cesarean section) and incidence of 3rd and 4th degree vaginal lacerations.

Summary

With multivariable adjustment (age, pre-pregnant BMI, ethnicity, parity and smoking), women with excessive GWG were associated with a 3-fold increased risk of delivering a LGA infant as compared to women with adequate GWG.

Women with excessive GWG were associated with a 2-fold increased risk of cesarean section (all reason) and greater estimated blood loss during delivery (421±13 ml vs adequate GWG 393±23ml, p<0.05).

The percentiles of abdominal circumference (AC) and estimated fetal weight (EFW) at their mid-gestation fetal anatomy scan were significant at predicting a LGA birth.

Conclusions

Controlling the rate of excessive gestational weight gain not only decreases the risk of LGA birth, but also reduces the risk of operative delivery and lower blood loss during delivery. Fetal size measured during at their mid-gestation fetal anatomy scan can be useful to predict a LGA birth.
HYPOTHESIS

There is a relationship between OMT administered during the prenatal period and labor times in gravida 1 and 2 women such that OMT is negatively correlated with labor times in gravida 1 and 2 women, reducing the time spent in labor.

BACKGROUND/HISTORY

“Historic writings claim Osteopathic obstetrics offers one of the greatest fields for the propagation of the principles underlying the osteopathic profession. Dr. C.E. Still first praised the work of the osteopathic physician in 1900 by stating that the average time to delivery from the beginning of contractions is 3 hours for a primipara and 1½ hours for a multipara. Other osteopathic physicians confirm what Dr. Still first noted.

For example, 1900- Dr. C.E. Still- primapara: 3 hrs; 1911- Dr. Whiting- primapara: 7 hr,.36 min. vs 18 hr., 3 min.; 1917- Dr. Lorenz- primapara: 7-9 hr., shorter; 1918- Dr. Hart- primapara: 8.25 hr. vs 9 hr., 40 min; 1921- Dr. Cooper- “shortened by one half”; 1934- Dr. Whiting- “half the time than currently published times”; 1949- Dr. Woody- average time: 9 hr., 12 min which was half compared to that of national average.

There is a gap in the literature since 1949. Though current and published research reference these times, no study was found that reviewed these results to see if they are still applicable with current labor and delivery standards.

METHODS

This IRB approved retrospective, chart review accessed medical records of a single provider. All recorded were de-identified and the following data was collected. Maternal variables: Race,, Maternal age at delivery, BMI at first obstetric visit, G1 versus G2 for each stage of labor, total labor and time activity level of mother during pregnancy.

Delivery variables: Rupture of membranes, induction details, epidural use, gestational age of child at birth, weight of child at birth, APGAR scores at 1 & 5 minutes, cord arterial and venous pH, any complications at delivery, maternal infections present at delivery, medications used during pregnancy and at time of delivery, tobacco/alcohol/illicit drug use during pregnancy and maternal preexisting conditions.

OMT variables: Number of OMT treatments, gestation week(s) that OMT was received, general assessment leading to OMT, the area, treatment modality and dysfunction resolution.

Matching: The two groups (OMT and non-OMT) were matched according to G1 vs G2, induction vs presented in active labor, race, BMI +/-3 at initial obstetric visit (or adjusted for by subjective amount of weight gain/loss), age +/-2 years. The results were aggregated and analyzed to look for a statistically significant difference in the OMT verses non-OMT group. Descriptive statistics and nonparametric analyses were used as a conservative approach to analyze matched mean group differences and association between groups and delivery variables. Significant number of patients in this group that developed GDM.

We did not find a difference in birth weight or mode of delivery based on early A1C testing. However, patients in this study that had an A1C > 5.9% (all of whom were diagnosed with GDM) were diagnosed at a significantly earlier gestational age than those with lower early A1C values. Thus, we think that earlier diagnosis of patients with borderline A1C led to improvement their lifestyle habits with diet and exercise earlier, thereby introducing an effective intervention to prevent excessive fetal growth and CS.

(Continued on Page 27)
“The Effect of Osteopathic Manipulative Treatment (OMT) on Gravida 1 and 2 Labor Times

(Continued from Page 26)

RESULTS

![Chart Review Demographic Matching Variables](chart.jpg)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MEAN (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE +/- 2 years</td>
<td>Mean=21.64 (SD 2.63)</td>
</tr>
<tr>
<td>BMI at initial obstetric visit +/-3</td>
<td>Mean=26.55 (SD 3.88)</td>
</tr>
</tbody>
</table>

(Continued on Page 18)


**DISCUSSION**

A consistent reduction in labor time between OMT and Non-OMT groups was identified in all stages of labor and delivery, but failed to demonstrate statistical significance. This trend was also found in the number of OMT treatments and their impact, APGAR scores at 1 and 5 minutes, gestational age at birth, the need for augmentation with Pitocin and/or cytotec and the reduction of vaginal lacerations or need for episiotomy.

Although analyses failed to reach statistical significance, the averages and the trends warrant further investigation. The smaller sample size and limited statistical power may have resulted in a failure to identify true significant differences or (Type II errors).

Several aspects of a retrospective study limit the full analysis and data collection possible. The conditions under which the OMT took place could not be specified. The OMT may not be consistent throughout each pregnancy, nor between patients. Not all items tracked were able to be collected. There were several items that were missing from the electronic records. This limited not only the completeness of the study, but also limited the number of participants. Matching for race, BMI, age, G1 vs G2, and induction vs non-induction limited the amount of matches found. Most patients were induced, finding matches for those that were not induced was difficult/impossible in some cases.

(Continued from Page 27)
**CONCLUSION**

OMT is widely accepted as a tool to aide in comfort and functionality during pregnancy, yet the effects of OMT in gravida 1 and 2 women on labor times have not been studied since the first half of the 18th century.

Since these studies have taken place, significant advances have been made in prenatal and labor/delivery protocol and standard of care. Due to the evolution of obstetric patient care, delivery of OMT may continue to impact the time spent in labor and delivery. Yet, OMT is not regularly included in the current standard of care for obstetric patients.

Due to these factors, further investigation is warranted as the trends of OMT in pregnancy appear to have potential in finding significance. Future implications may include the addition of OMT as a standard of care during the prenatal period.

**Next Steps**

Future studies can address limitations of this study and may include:
- A multicenter, blinded, prospective study to determine the effect of OMT in a greater population size,
- A proposed OMT treatment protocol to perform during the prenatal period,
- A logistical regression model to predict labor times when OMT has been performed throughout the prenatal period.

**References:** Available upon request.
**ABSTRACT**

In her lifetime, a woman’s risk of developing breast cancer is 1 in 8 and her risk of developing ovarian cancer is 1 in 70. Of these cases, 10% of ovarian cancers and 3-5% of breast cancers are due to mutations in BRCA1 and BRCA2 genes. In the general population, 1 in 300 to 1 in 800 individuals have a mutation in the BRCA1 or BRCA2 genes. Through advancing technology, women can now be screened and tested for mutations in these genes, allowing physicians to institute changes in the surveillance of high risk patients.

**Methods:** A retrospective chart review of patients evaluated in the McLaren Macomb Women’s Health Associates Resident Clinic from July 1, 2014 through July 31, 2014 was performed. The accuracy of screening and change in management for all women at risk of hereditary cancer were assessed.

**Results:** Two hundred and twenty one women had appointments during the study period. Of those 221 patients, 151 were first time visits and 70 patients were seen for follow-up appointments or repeat prenatal care visits. Appointments for all previously screened patients were excluded from total clinic visits. Of the 151 patients included, 144 (95.4%) were screened for hereditary cancer risk. Four women did not know their family history and therefore could not complete the questionnaire. Twenty-seven (19%) of the 140 women who were successfully screened during the study period were eligible for BRCA testing. No women tested positive for mutations during the study period. Four women (2.8%) tested negative for BRCA mutations. Five women (3.5%) consented to testing, but canceled due to lack of insurance coverage. Fifteen women (10%) were not offered testing, despite screening positive for hereditary cancer family history. One woman (0.7%) had previously tested negative for BRCA mutations. Two women (1.4%) declined genetic testing.

**Conclusion:** Women in a resident clinic population can be successfully screened for hereditary cancer risk. However, follow through with genetic testing and changes to the long term plan of care can be a challenge due to lack of insurance coverage and consistent follow up.

**OBJECTIVES**

To determine if all women in a resident clinic can be appropriately screened for hereditary cancer mutations; evaluate the success of screening, genetic testing when indicated, and implementing a change in the patient’s long-term plan of care based on her results.

**METHODS**

A retrospective chart review of patients evaluated in the McLaren Macomb Women’s Health Associates Resident Clinic from July 1, 2014 through July 31, 2014 was performed to assess the success of hereditary cancer screening in a resident clinic population. The accuracy of screening and change in management for all women at risk of hereditary cancer mutations were assessed. This study period was chosen because the Clinic was initiating a new screening protocol for hereditary cancer risk. The screening form used in this study was provided by Myriad and approved by the managing physician of the Resident Clinic. The form follows National Comprehensive Cancer Network guidelines for hereditary breast and ovarian cancer syndrome.

All women over the age of 18 who were evaluated at the Resident Clinic during the study period were considered for inclusion in the study. Exclusion criteria included women under the age of 18 and women who were seen more than once at the Clinic during the study period and previously screened.

(Continued on Page 31)
After obtaining approval from the McLaren Macomb Hospital Institutional Review Board, the charts of all women who met inclusion criteria during the study period were reviewed. Collected data included completion of the hereditary cancer screening form, and any testing or change in management ordered by the resident after evaluation of the hereditary risk. Data collection was performed by a single investigator and recorded in a password protected Excel file. All patient identifiers were removed and data coded by number. The key to the coded data was stored in a separate, password protected file. Collected data was analyzed and the qualitative results reported.

RESULTS

During the study period, 221 women had appointments at the Resident Clinic. Of those 221 patients, 151 were first time visits and 70 patients were seen for follow-up appointments or repeat prenatal care visits. Appointments for all previously screened patients were excluded from total clinic visits. Of the 151 patients included, 144 (95.4%) were screened for hereditary breast and ovarian cancer risk. Four women (3.5%) consented to testing, but were forced to cancel due to lack of insurance coverage. Fifteen women (10%) were not offered testing, despite screening positive for hereditary cancer family history. One woman (0.7%) had previously tested negative for BRCA mutations. Two women (1.4%) declined genetic testing. No women tested positive for genetic mutations during the study period.

CONCLUSIONS

Women in a resident clinic population can be successfully screened for hereditary cancer risk. However, follow through with genetic testing and changes to the long-term plan of care can be a challenge due to lack of insurance coverage and consistent follow up. After completion of this study, it is clear that changes were necessary in the management of patients with an increased risk of hereditary breast and ovarian cancer. Despite the short time interval, this initial, qualitative study demonstrates that women can be successfully screened while highlighting the potential areas of improvement for better patient care. It is assumed that inexperience with the new cancer screening protocol is the reason fifteen women were eligible for testing yet not offered it. Going forth, resident physicians at this Clinic should receive more education on eligibility for hereditary cancer screening and the proper documentation necessary to ensure testing is covered and patients receive quality care.
REFERENCES


PLATINUM LEVEL $20,000+

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<td>William Bradford</td>
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</tr>
<tr>
<td>Steve Buchanan</td>
<td>DO</td>
</tr>
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<td>Eric Carlson</td>
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DIAMOND LEVEL $10,000+

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<tr>
<td>Robert H Debbs</td>
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<td>Mark Kalchbrenner</td>
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<td>Paul Kroeger</td>
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<td>Ronald J Librizzi</td>
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<td>Dela Badia</td>
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<td>Ernest Thompson</td>
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<td>Glenn Bigsby IV</td>
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<td>Bernard D Billman</td>
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<td>Annette Bombrys</td>
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(Continued from Page 25)

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<td>John Knaus, DO</td>
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We will accomplish our mission by:

1. Education of:
   • Physicians
   • Residents and other related
   • Health care professionals
2. Increasing industry awareness of the uniquely osteopathic educational model
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4. Collaboratively identifying, developing and implementing educational programs in women’s health care and thereby,
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