

Innovative Approaches to Minimally Invasive Surgery

By Tommaso Falcone, MD

New and innovative methods for minimally invasive surgery are continually being reported. Cleveland Clinic surgeons are employing rapidly developing optics and instrumentation, such as single-port devices with multi-channel access that can accommodate the laparoscope and two instruments; improved robotics; and specially designed curved laparoscopic instruments to offer more minimally invasive surgery.

Cleveland Clinic has among the largest experience with laparo-endoscopic single-site surgery (*LESS*). In the OB/GYN & Women's Health Institute, we have used *LESS* in several procedures including the removal of endometriosis and ovarian cysts. While these cases have been challenging, modifications to currently available instruments are correcting previous shortcomings.

The most intriguing developments have taken place in Natural Orifice Transluminal Endoscopic Surgery (*NOTES*). *NOTES* involves passing surgical instruments through a natural orifice, such as the mouth or vagina, to remove a diseased organ including the appendix, gallbladder or kidney. In gynecologic procedures, we expect to use *NOTES* to treat benign gynecologic diseases such as ovarian cysts and myomas.



The umbilicus, an embryologic natural orifice, presents a versatile access platform to various abdominal and pelvic surgical quadrants. In *NOTES* procedures, only one incision is made through the umbilicus for the purpose of inserting a two millimeter camera into the abdominal cavity. This enables the surgeon to safely access the surgical site.

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A Letter from Our Chairman

Dear Colleague,

This is an exciting year for obstetric and gynecologic care at Cleveland Clinic. Already ranked in the top 10 in the country by *U.S. News & World Report* in 2007, we took a bold step forward to enhance our care of women. The Department of Obstetrics and Gynecology, internists in the Women's Health Center and surgeons from the Breast Program joined to form the OB/GYN & Women's Health Institute. We have found that a collaborative approach fostered in interdisciplinary care centers improves clinical outcomes, increases patient satisfaction and stimulates research. This has occurred while maintaining the identity of the individual programs, especially in educating residents and fellows.

The Women's Health Center brings a focus on managing complex issues related to menopause and perimenopause such as abnormal uterine bleeding, menopausal symptoms in breast cancer patients, osteoporosis and sexual dysfunction. The Department of Obstetrics and Gynecology continues to excel in pelvic reconstructive, oncologic, laparoscopic and robotic surgery as well as continues to develop our Genetic Screening and Fetal Therapy programs. The staff is seen as innovators in all aspects of clinical medicine.

A longstanding national referral center, we now offer subspecialty ob/gyn services throughout Northeast Ohio at Cleveland Clinic hospitals and family health centers. Whether patients are referred from near or far, we work collaboratively with the primary ob/gyn on evaluation, offering treatment recommendations and follow-up care to the extent desired.

We invite you to browse through this issue and hope you find these articles interesting and informative. As always, we welcome your comments and feedback.

Sincerely,



Tommaso Falcone, MD

Professor & Chairman, Department of Obstetrics and Gynecology
Chairman, OB/GYN & Women's Health Institute

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Fall 2008

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Innovative Approaches to Minimally Invasive Surgery continued

Importantly, if necessary, this method allows a surgeon to “convert” the one-port trans-umbilical procedure to a conventional laparoscopic procedure at any point during the operation, by adding one or more conventional laparoscopic port(s), thus preserving existing standards of care.

Incorporating new techniques and instrumentation into gynecologic surgery is beneficial to our patients in lessening discomfort, speeding recovery and improving cosmetic results. Besides decreasing the number of incisions required in routine gynecologic laparoscopy, we are able to do more advanced gynecologic procedures using fewer incisions.

Gynecologists traditionally have been at the forefront of research in minimally invasive surgery. We will continue to investigate new techniques that can be adapted to the women's health care arena. ▢

Dr. Falcone is Professor and Chairman of the OB/GYN & Women's Health Institute. Physicians may reach him at 216.444.1758 or falcont@ccf.org.

2008 CME: Obstetrics and Gynecology

Cleveland Clinic
Celebrating 75 Years of Excellence in
CONTINUING MEDICAL EDUCATION

Physicians are cordially invited to attend the following continuing medical education symposia sponsored or co-sponsored by Cleveland Clinic's Department of Obstetrics and Gynecology:

6th Annual Medical Innovation Summit November 10 – 12, 2008

Join top CEOs, venture investors, medical leaders and journalists as they highlight new technologies, economics and trends in medical technologies. The event will feature an in-depth analysis of minimally invasive innovations in the fast-growing fields of urology and gynecology. **Marie Paraiso, MD**, Head of the Center for Urogynecology and Reconstructive Pelvic Surgery, will lead a panel exploring Female Pelvic Medicine and Reconstructive Surgery. **Holly Thacker, MD**, Director of the Center for Specialized Women's Health, will chair a panel on Reproductive Health. And Cleveland Clinic gynecologists **Sandip Vasavada, MD**, and **Matthew Barber, MD**, will moderate a live, interactive surgical procedure.

For more information or to register, please visit www.clevelandclinic.org/innovations/summit

International Reproductive Medicine Symposium

September 5 – 6, 2008

Cleveland Clinic Lerner Research Institute

Fibroid Summit 2008

Sept. 25 – 27, 2008

Intercontinental Hotel & Bank of America
Conference Center

Cleveland, OH

Female Pelvic Floor Disorders

March 13 – 16, 2009

Hyatt Regency Pier Sixty-Six Fort Lauderdale and
David G. Jagelman, MD Conference Center

Weston, FL

For more information about Cleveland Clinic continuing education symposia, please contact our Continuing Education Department at 216.444.5696 or toll-free at 800.762.8173, or visit clevelandclinicmeded.com.

Options for the Critically Ill Obstetric Patient

The pregnant patient with a maternal, medical or surgical issue that requires emergency surgery or admittance to the ICU presents a particularly difficult situation for obstetricians and hospitals.

The Cleveland Clinic's Department of Maternal-Fetal Medicine, lead by Jeffrey Chapa, MD, is uniquely qualified to handle these high-risk patients. The team, trained and experienced in high-risk cases, is housed on the main campus but has portable delivery capabilities. These factors make coordinated care with other surgical departments and delivery in non-obstetric operating rooms highly successful.

Case Report

History

A 24-year-old female, gravida 2, para 1, presented at an outside hospital at 37 weeks' gestation with chest pain and shortness of breath. She was evaluated with an EKG and sent home. The following day she returned with headache and blurred vision. A CT scan of the chest demonstrated an acute dissecting aneurysm of the ascending aortic arch. She was transported by air ambulance to Cleveland Clinic and was emergently admitted for a combined Cesarean section and aortic dissection repair.

Operative procedure

The patient was admitted to the operating room and given general anesthesia to prepare for cardiac surgery. Dr. Chapa performed a Cesarean section, which resulted in a live, viable female infant. The placenta was delivered and the uterus was closed.

The cardiothoracic team then performed a valve-sparing aortic root replacement and ascending hemi-arch repair. After the cardiothoracic surgery, Dr. Chapa closed the abdominal incision. The patient was transferred to the Cardiovascular Intensive Care Unit.

Post-operative course

The patient's convalescence was unremarkable, and she was transferred to the regular nursing floor on the second post-operative day. The patient was discharged with instructions for six weeks of restricted activity.

Case Report

Presentation

A 32-year-old female, gravida 2, para 1, presented at 33 weeks' to the emergency room at a Michigan hospital with abdominal pain. An ultrasound revealed a 10-12 cm. hepatic adenoma. She was referred to Cleveland Clinic hepatic surgeon Charles Miller, MD.

Consultation with Dr. Chapa

The patient was found to be stable and reported a recent fetal ultrasound that revealed appropriate growth and no identifiable fetal anomalies. Due to the risks involved, Drs. Miller and Chapa chose not to perform the surgery with the fetus in utero. However, the risk of bleeding with the hepatoma was significant enough that surgery needed to be performed as soon as possible after delivery.

The patient's medical history was significant for factor V Leiden polymorphism. She was taking Lovenox 40mg QD and baby aspirin, which were suspended until the delivery due to increased risk of bleeding. Corticosteroids were administered to advance fetal lung maturity so that delivery could be performed at 36 or 37 weeks, followed by hepatic resection.

Delivery and surgery

The patient was taken to the operating room at 37 weeks, where a Cesarean section and partial hepatectomy were performed consecutively. The patient delivered a healthy male infant and tolerated the abdominal surgery well. Both were released to home. [n](#)

Dr. Chapa is Head of Maternal-Fetal Medicine and Head of Reproductive Genetics. To refer a patient to Dr. Chapa or another Cleveland Clinic Maternal-Fetal Medicine specialist, please call 216.444.6601 or 800.553.5056.

Fertility Preservation Methods Improving for Cancer Patients

New Device Shows Promise

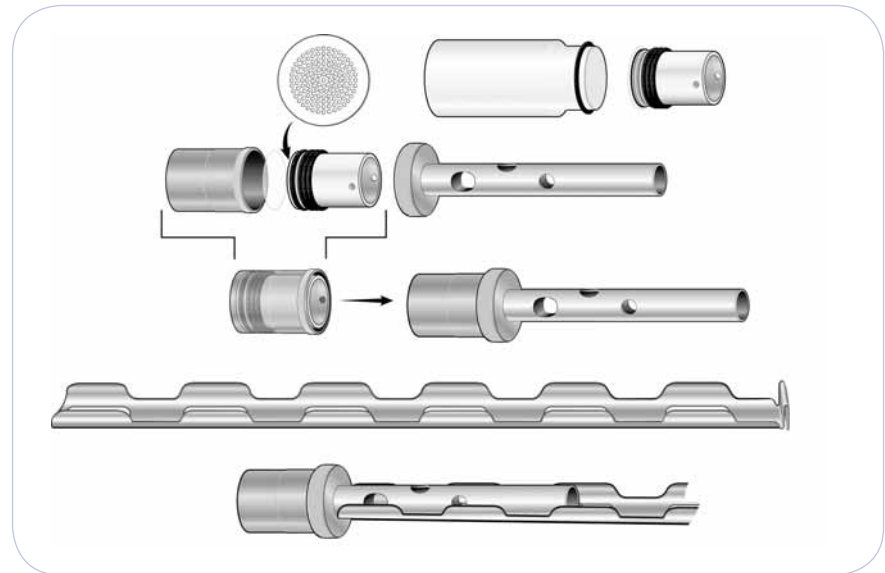
By Amr Farouk Abdel Kader, MD

Many young female patients undergo cancer treatments that include adjuvant chemotherapy or radiotherapy. These agents can severely affect fertility potential and future lifestyle as the gonads may be permanently destroyed during the course of treatment. The option of fertility preservation for cancer patients through cryopreservation of the ovaries in whole or in fragments already is available. Preserved ovaries are then either orthotopically or heterotopically transplanted back to the patient after the conclusion of cancer treatment. While this procedure is still experimental, ovarian tissue preservation and transplantation may be a standard patient care procedure in the near future.

During the last decade, our group in the Reproductive Research Center at Cleveland Clinic and others around the world have been pioneering techniques to establish the best methods of cryopreservation and transplantation of ovarian tissue. We initiated this line of research in 2002, and continue to investigate a variety of fertility preservation options.

We have extensively studied ovarian tissue cryopreservation and its effects on oocyte quality. In our initial studies, we established freezing protocols and studied the cryobiology of the oocyte, as well as associated cellular changes and the effects of ischemia and post-transplant responses using animal models (porcine and ovine).

Ongoing research is evaluating a new modality of ovarian tissue cryopreservation that includes ovarian tissue processing followed by vitrification. We are using a



Exploded view of "The Ohio Cryo"

new device developed at Cleveland Clinic specifically for this purpose — "The Ohio Cryo." Preliminary results of the new method of processed ovarian tissue vitrification using "The Ohio Cryo" show successful recovery of healthy ovarian tissue.

Animal studies using the sheep model also are under way to evaluate transplantation of the ovarian tissue after vitrification. We are adopting a new minimally invasive surgical approach known as the "para-orthotopic laparoscopically assisted ovarian tissue injection transplantation." This technique promises simplicity; the possibility of dosing the transplant rather than the whole ovary; a near orthotopic site, which may allow spontaneous pregnancy if ovarian functions are adequately resumed; and finally, a rich surrounding vascular bed, which may improve the graft's initial uptake and survival.

Results from the animal transplantation experiments are not yet available. Further improvements of the methods of delivery of the ovarian tissue also are being investigated to assure the graft has the best possible chance to survive, remains active and begins to ovulate at or near the orthotopic site.

We are optimistic that our ongoing research will result in an easy, quick and effective method to cryopreserve ovarian tissue; provide physicians a simple, minimally invasive technique for ovarian transplantation; and most importantly, provide our patients a safe and reliable fertility preservation option that can be offered before cancer treatment begins. [n](#)

Dr. Kader is a research fellow in the Reproductive Research Center who specializes in assisted reproduction techniques, human gametes cryopreservation and laparoscopic surgery. He can be reached at kadera@ccf.org.

Trocarless Prolapse Kits May Reduce Complications

By Marie Fidela R. Paraiso, MD

Current treatments for pelvic organ prolapse have been shown to be less effective than we had hoped. The introduction of prolapse kits promised a reduction in repeat procedures, but long-term efficacy and safety trials are needed to provide a clearer picture with regard to risks and outcomes. In fact, Cleveland Clinic's unpublished analysis of literature on prolapse repair implies a higher rate of repeat surgery and surgery for complications in patients with mesh repair over sutured repairs.

Prolapse kits were approved by the FDA through the 510(k) clearing process, which only requires demonstration that they are equivalent to previously approved devices. In the case of prolapse kits, FDA approval was related to the graft material itself, not to the graft deployment system.

While kit procedures reduce operative time and offer a minimally invasive approach, graft extrusion/exposure rate is high, compared with existing evidence on synthetic mesh erosion associated with abdominal and laparoscopic sacral colpopexy. In addition, current synthetic materials are not ideal. Long-term sequelae of transvaginal implantation of these meshes are not known. Nor do we have long-term data on sexual function.

In addition to a 10 percent risk of mesh exposure requiring re-operation, some patients are experiencing trocar-related complications including groin pain, hematomas, and infection in the transobturator and ischioanal fossa.

This may be due, in part, to wide adoption of kit procedures by surgeons who are not adequately trained on their use. By and large, these procedures are blind and involve the transobturator and transgluteal (ischioanal fossa) spaces — uncharted waters for many gynecologic surgeons. Further, many surgeons lack extensive training or experience in sacrospinous ligament suspension, iliococcygeus fascia suspension, and vaginal paravaginal defect repair, which are prerequisites for the kit procedures.



Patient selection plays a role, as well. The best candidates for anterior kit procedures are those for whom previous anterior repair (with or without biologic graft), paravaginal defect repair and apical suspension have failed, and who continue to have symptomatic anterior vaginal wall with or without apical prolapse. Posterior and apical segment kit procedures should be used in women in whom transvaginal apical suspension has failed, and who are not suited for laparoscopic or abdominal procedures.

Newer trocarless prolapse kits may offer the best alternative. These kits employ the suture catch and release mechanism in traditional vaginal procedures and some laparoscopic procedures, without the added risks associated with trocar use. They combine the elements of some of the more popular pelvic organ prolapse kits by suspending the vaginal apex and the anterior and posterior vaginal walls respectively.

Our experience with trocarless kits is relatively small, but Cleveland Clinic urogynecologists will continue to compare these and other emerging techniques with gold-standard procedures for anatomic and functional outcomes. [n](#)

Dr. Paraiso specializes in laparoscopic surgery, vaginal reconstructive surgery, prolapse and incontinence in the OB/GYN & Women's Health Institute and the Glickman Urological & Kidney Institute. Physicians may reach her at 216.444.3428 or at paraism@ccf.org.

Early Detection Imperative in Ovarian Cancer

By Peter G. Rose, MD

Ovarian cancer continues to be extremely difficult to diagnose in its early stage. In 2008, an estimated 21,650 cases of ovarian cancer are predicted to occur, and 15,520 women are expected to die of this disease (a death rate of 72 percent).

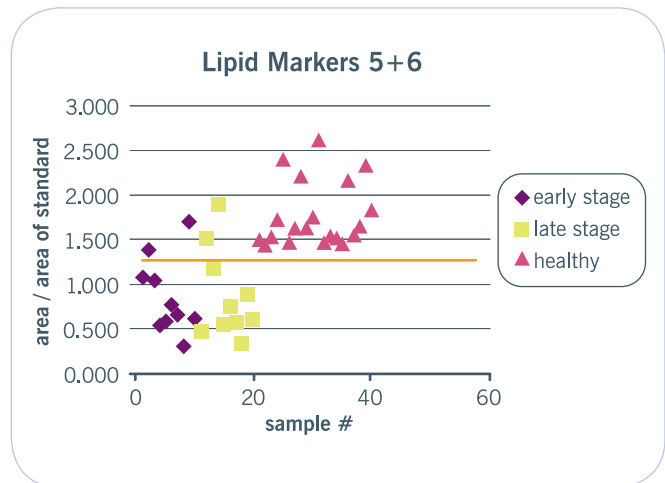
In contrast to the more common uterine cancer, there are no symptoms of early stage disease, and unlike cervical cancer, an effective screening test does not exist. As a result, approximately 70 percent of patients will be diagnosed with Stage III and IV disease and have an estimated 20 percent 10 year survival.

Screening Efforts Have Failed

Efforts at screening with annual CA-125s and ultrasounds have been ineffective in the general population. Approximately 10 percent of women are at high risk for hereditary ovarian cancer, most related to the BRCA mutation. A second group of patients have a hereditary colon cancer syndrome known as "hereditary nonpolyposis colon carcinoma syndrome (HNPCC)," which puts them at increased risk for colon, uterine, breast and ovarian cancers. Both of these syndromes of hereditary cancer tend to occur a decade earlier than sporadic ovarian cancer.

Screening this high-risk population of women has been the focus of numerous studies. Our most recent study, a report of the National Ovarian Cancer Early Detection Program, studied 4,526 high-risk women who had normal gynecologic and ultrasound exams at study entry. The median age of patients was 46, with roughly 2,600 being pre-menopausal and 1,900 being post-menopausal. Among 49 patients who underwent surgery, 12 gynecologic cancers were diagnosed. Aside from two early stage uterine cancers, the remaining 10 ovarian, tubal and peritoneal cancers were advanced stage.

Due to the failure of screening efforts, there continues to be widespread interest and utilization of prophylactic bilateral salpingo-oophorectomy for women who carry BRCA mutations. For patients who carry the HNPCC germ-line mutations, prophylactic total hysterectomy and bilateral salpingo-oophorectomy are performed because of the increased risk of uterine cancer, which is not seen with BRCA mutations alone. Our most recent estimate of the lifetime risk of ovarian cancer with BRCA1 is 62 percent at age 75, and for BRCA2 is 18 percent at age 75.



Patient plasma concentrations of lipid markers

Lipid Studies Promising

Cleveland Clinic is currently participating in an ongoing study evaluating women who are undergoing surgery for a pelvic mass. This study involves a single blood test to measure plasma concentrations of particular lipids. Preliminary data suggest that patients with ovarian cancer have lower levels of these lipids.

In the initial study of 40 patients with ovarian cancer, cancer patients could be separated from healthy controls with 100 percent specificity and 80 percent sensitivity by measuring the concentrations of two of these lipids. Significantly, the test was equally sensitive to early- and late-stage cancers. This is important because CA-125 is more frequently elevated in advanced stage ovarian cancers (80 percent of cases) compared to early stage (25 percent of cases). □

Dr. Rose is Fellowship Director and Head of the Section of Gynecologic Oncology. Physicians may reach him at 216.444.1712 or at rosep@ccf.org.

OB/GYN & Women's Health Institute Physician Honored as Master Educator

Margaret McKenzie, MD, is passionate about education. In addition to her personal commitment to lifelong learning, there is nothing she likes more than to share her knowledge with others. She has immersed herself in Cleveland Clinic's mission to train medical students, residents and fellows throughout her career.

Her efforts most recently earned Dr. McKenzie the coveted 2007 Maria and Sam Miller Professional Excellence Award: Master Educator at Cleveland Clinic, which recognizes an individual who has demonstrated an outstanding, sustained commitment to education. She finds it humbling to be listed among former recipients whom she considers exemplary medical educators, such as nephrologist Phillip Hall, MD, and orthopaedic surgeon John Bergfeld, MD.

Dr. McKenzie has particularly embraced her role in the Cleveland Clinic Lerner College of Medicine. She was involved in the design of the school's curriculum, serving on the Basic Sciences and Clinical Curriculum Task Force. She also is a Problem-Based Learning case writer for the Endocrine and Reproductive Biology basic science curriculum.

Currently, she serves as the Chair of the Physician Advisors Council for the innovative competency-based portfolio assessment system at the Lerner College of Medicine and the discipline leader for the Obstetrics and Gynecology Core clinical curriculum. She also serves on the Admissions Committee. She has presented both nationally and internationally on assessments, mentoring, and the success of assessment portfolios and other innovations in medical education.



Margaret McKenzie, MD, shares her enthusiasm for her profession through her teaching of medical students, residents and fellows.

"In the Lerner College, we are training reflective practitioners who can constantly monitor their current knowledge, as well as new evidence as it comes out in the literature," says Dr. McKenzie. "Our students will bridge the gap between what they are learning today and future innovation in the care of women throughout the female lifecycle."

Clinicians and basic scientists in the OB/GYN & Women's Health Institute are involved at all levels of the curriculum and assessment process, ensuring that teaching activities are aligned with the school's mission.

"I feel privileged to be part of an outstanding faculty in OB/GYN & Women's Health," she says. "Our faculty members have national reputations for excellence and share their knowledge extensively through publications, courses and lectures. We truly provide an excellent course." [n](#)

To learn more about the Cleveland Clinic Lerner College of Medicine, visit clevelandclinic.org/cclcm. Physicians may reach Dr. McKenzie at 216.445.0228 or at mckenzm@ccf.org

Laparoscopic Supracervical Hysterectomy Reduces Pain, Recovery Time

By Vivianne Conner, MD

Approximately 600,000 hysterectomies are performed annually in the United States, and this number has remained consistent for 20 years despite the introduction and widespread implementation of multiple alternatives. Although less invasive procedures such as uterine artery embolization, global endometrial ablation and myomectomy are safe, readily available and effective, many women still opt to proceed with hysterectomy due to the high clinical satisfaction, negligible recurrence risk, if any, and definitive cessation of menstrual cycles.

Rapid technological advances in optics, vessel sealing, and energy sources, as well as the miniaturization of much of the equipment, have enabled gynecologic surgeons to perform hysterectomies via several minimally invasive approaches. When compared to a total abdominal hysterectomy, a laparoscopic hysterectomy results in significantly less post-operative pain and recovery time, enabling the woman to return to social, family and work responsibilities typically within 7-10 days, rather than six weeks. At Cleveland Clinic in Florida, approximately 97 percent of the hysterectomies performed for benign disease are done with one of several minimally invasive approaches.

History and Diagnosis: A 47-year-old gravida 2, para 2, female presented complaining of right lower quadrant pressure for six months, a palpable abdominal mass and urinary frequency. Twelve months prior she had a uterine artery embolization for uterine fibroids, with good relief. However, the symptoms recurred after

four months. She presented with an MRI demonstrating multiple fibroids and requesting definitive treatment. Pelvic examination revealed a 16-week size uterus with an 8 cm subserosal fibroid palpable on the left. Recent Pap smear and HPV both were negative.

Operative Technique: The patient elected to proceed with a laparoscopic supracervical hysterectomy, with preservation of the normal ovaries and cervix. A three trocar technique was used to separate the uterine fundus from all attachments, secure the vasculature, and divide it from the cervix. A morcellator was utilized to remove tissue fragments through a small incision. The specimen weighed 647 grams; operative time was 75 minutes; and blood loss was minimal. The patient was discharged home later the same day, with a hemoglobin of 12.7 mg/dl.

Follow-up: Final pathology confirmed multiple benign fibroids. At her post-operative visit two weeks later, the patient had resumed normal activities and was quite happy that she could sleep through the night without voiding. Her mother presented to the office to convey how incredulous she was at her daughter's recovery, having undergone a typical total abdominal hysterectomy 30 years earlier. [n](#)

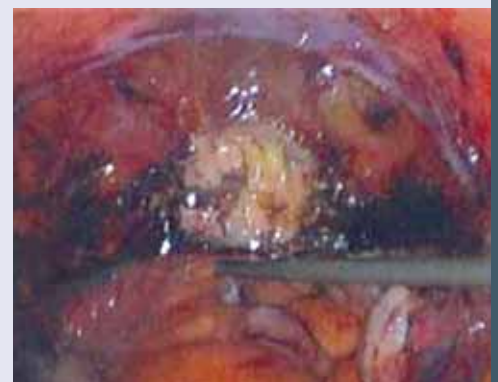
Dr. Connor is Co-director of the Section of Minimally Invasive Gynecology at Cleveland Clinic in Florida. An ACGE-certified Advanced Hysteroscopist, Dr. Connor specializes in minimally invasive gynecology, operative hysteroscopy and alternatives to hysterectomy. Physicians may reach her at 954.659.5559 or connorv@ccf.org



Multiple uterine fibroids



Skeletonization of uterine vessels



Cervical stump after removal of the uterine fundus



Preservation of normal ovary

Oxidative Stress and Female Infertility

Ashok Agarwal, PhD, HCLD, Sajal Gupta, MD, Edmund Sabanegh, MD
Center for Reproductive Medicine

The etiology of unexplained infertility and recurrent pregnancy loss remains unclear and poses a challenge to clinicians involved in infertility diagnosis and treatment. Recent and ongoing studies in our laboratory suggest that oxidative stress may be a potentially treatable pathological factor affecting female fertility.

Oxidative stress (OS) results when the level of reactive oxygen species (ROS) exceeds the capacity of antioxidants to neutralize them. In females, OS is hypothesized to negatively impact a number of processes involved in reproduction, including folliculogenesis, oocyte maturation, endometriosis and embryo development. OS may damage the cellular membrane, retard embryo development and induce cellular apoptosis.

The cause and effect relationship between OS and female infertility has yet to be established. However, the demonstrated association between the two suggests that controlling ROS production during assisted reproduction techniques (ART) may improve success rates for implantation and pregnancy.

During ART, ROS may originate from multiple oocytes in a dish, large cumulus cell mass, or the spermatozoa used for insemination and embryos. The presence of metallic cations, light exposure and oxygen concentration are all factors in the culture media that can increase embryo production of ROS.

ROS also may be present in follicular fluid or in semen. In a meta-analysis by our group, ROS levels in semen were shown to adversely affect the fertilization rate with IVF. Based on these findings, measuring ROS levels in ART culture, embryos, follicular fluid or semen may be useful in counseling patients regarding failed IVF/ICSI and in planning future attempts.

For maximum effectiveness, ROS and OS levels should be evaluated at the point when an infertile woman is first considering ART. ROS level may be measured by flow cytometry and chemiluminescence, and total antioxidant capacity in

the follicular fluid or embryo culture media. ROS in culture media may impact post-fertilization development, i.e. cleavage rate, blastocyst yield, and embryo quality (indicators of ART outcome).

In the event these evaluations demonstrate high levels of ROS and OS, a multi-pronged approach is recommended to address these issues during ART.

Managing culture media conditions to reduce OS is a first-line consideration. This can be accomplished by supplementing the culture media with antioxidants and metal chelators such as vitamins C and E, thiol, antioxidant enzymes and hypotaurine.

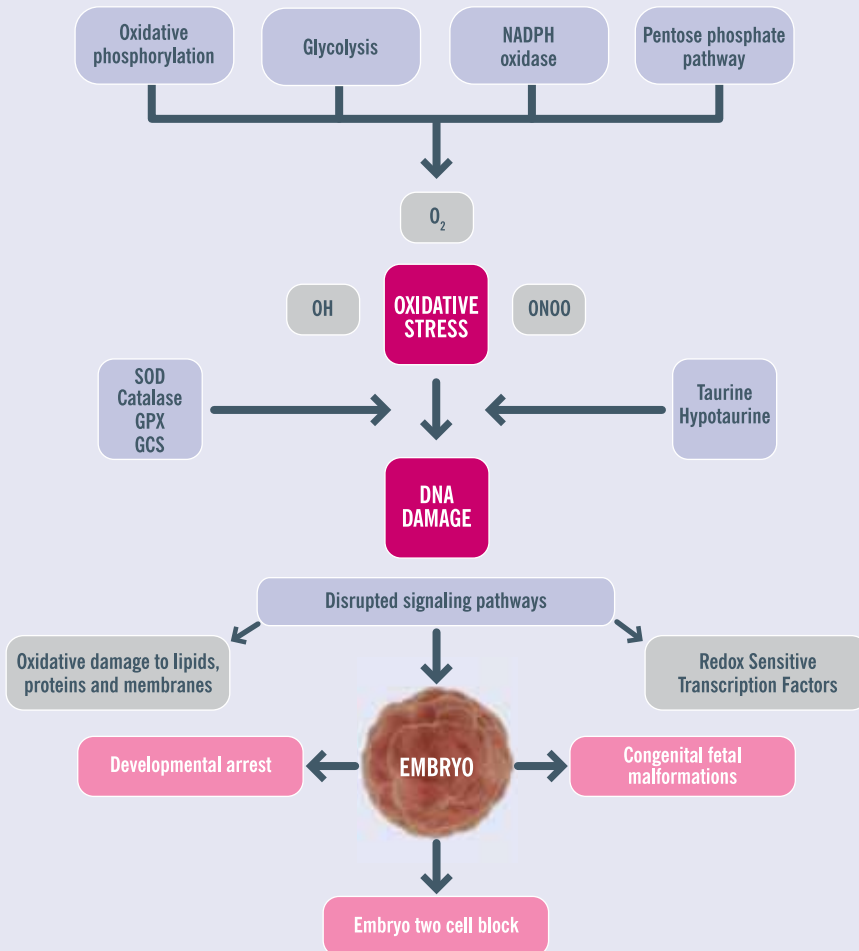
Reducing seminal OS is important for both natural and assisted fertility. Selecting an optimal semen preparation technique is the next step for preventing or controlling OS. The swim-up or one-step wash techniques have been shown to minimize ROS production.

As a final recommendation, antioxidant supplementation should be considered in infertile women with high OS and ROS levels. There is a potential role for well-balanced nutrition and medicinal herbs to achieve adequate levels of antioxidants in vivo, and the prevention and treatment of reproductive diseases such as preeclampsia and ovulatory disorder infertility.

Our knowledge of OS and its effects on fertility and ART outcomes is evolving rapidly. Our laboratory will continue to be on the leading edge with studies to evaluate the presence of ROS in commercially available ART culture media and the



Oxidative stress in the ART setting



use of antioxidant supplementation in female infertility with the goal of achieving higher live birth rates via natural conception and in ART. ⁿ

To learn more about Cleveland Clinic's Center for Reproductive Medicine, visit www.clevelandclinic.org/reproductiveresearchcenter.

INTRODUCING The Future of Healthcare

Innovative new buildings improve patient access, experience.

This fall, Cleveland Clinic is introducing the future of healthcare with the opening of the Sydell and Arnold Miller Family Pavilion and the Glickman Tower.

These buildings, which represent the largest construction and philanthropy project in Cleveland Clinic history, embody the pioneering spirit and commitment to quality that define Cleveland Clinic. These structures are a tangible expression of institutes, our new model of care that organizes patient services by organ and disease.

At 1 million square feet, the Miller Family Pavilion is the country's largest single-use facility for heart and vascular care. The 12-story Glickman Tower, new home to the Glickman Urological & Kidney Institute, is the tallest building on Cleveland Clinic's main campus. Both will help us improve patient experience by increasing our capacity and by consolidating services, so patients can stay in one location for their care.

With 278 private patient rooms, more than 90 ICU beds and a combined total of nearly 200 exam rooms and more than 90 procedure rooms, patients will have faster access to Cleveland Clinic cardiac and urological services.

For details, including a virtual tour, please visit meetthebuildings.com. ⁿ



Empowering Women to Take Control of Their Health and Well-Being

The Cleveland Clinic Women's Health Center is proud to sponsor "Speaking of Women's Health" (SWH) and "Universal Sisters," two interactive day-long events designed to educate women, and women of color, respectively, about their health, well-being and personal safety.

The events include free health screenings by Cleveland Clinic physicians and breakout sessions on a variety of health and wellness topics of interest to women. More than 2,000 women participated in the events in 2007.

Among the honorees at the sixth annual SWH in 2007 was Cleveland Clinic consultant Wulf H. Utian, MD, PhD, founder and Executive Director of the North American Menopause Society (NAMS) and the first ever male honoree.

In the early 1970s, Dr. Utian started down a path that has shaped the way women are treated today. His distinguished career has garnered a lifetime of groundbreaking medical advancements in the treatment of infertility and menopause. He describes women as the "backbone of society. Women set the rules for everybody." He encourages women to take control of their health by educating themselves on health issues and asking questions during doctor visits.

"His respect for women is obvious and his impact on women's health has been incredible," says Holly Thacker, MD, FACP, Director of the Cleveland Clinic Women's Health Center and honorary chair of SWH.

In acknowledging his recognition, Dr. Utian said "I've learned more from women — from my patients — than any lab experiment I ever did." [n](#)

Medical Mission to India Reaches Thousands

When Gita Gidwani, MD, retired from her surgical practice in 2000, she found the time to do something she had long contemplated. She returned to India on a medical mission trip. Since then, she has returned every year in January for a 10-day Medical Yatra.



Traveling with the Association of Indian Physicians of Northern Ohio (AIPNO), Dr. Gidwani and colleagues from the United States, Canada and the United Kingdom reached several remote villages of the Puri district this year. Patients from surrounding villages, some as small as 250 people, walked or rode bicycles, motorcycles or scooters to reach the makeshift clinics.

"We saw 12,800 people from 100 villages," says Dr. Gidwani, who maintains a part-time clinical practice in the Cleveland Clinic Women's Health Center. "We brought our own blood pressure cuffs and stethoscopes, and carried 30 to 50 pounds of donated medicine and supplies, which would be too expensive to ship."



Two teams of 15 physicians and 15 volunteers each were joined by Indian interns and physicians and local volunteers in setting up in a new village each day.

Everywhere, local villagers, school teachers and sarpanchs worked together to arrange facilities in local schools. Schoolchildren welcomed the visitors with flowers and garlands and vermillion; in some places they sang and danced.

Many of the residents in these remote Indian villages have little or no money for medical care. "We see horrible conditions that would never go untreated in the United States, such as advanced breast cancers," Dr. Gidwani says.

Patients who cannot be treated are referred to regional hospitals, who offer to provide follow-up treatment. A young girl with a congenital absence of the anus and vaginal fistula was referred to an area hospital, as well as a child with contracture of a foot from a previous burn injury.

Dr. Gidwani says her group hopes to raise funds to cover the cost of care for the most desperate cases.

"This is very rewarding to me as a physician — to be able to give back to my country," says Dr. Gidwani. "What I get from this is the love and affection of the patients." n

To learn more about AIPNO or to donate time or funds to future Medical Yatras, visit www.aipno.org

Cleveland Clinic OB/GYN & Women's Health Institute

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Director, In Vitro Fertilization Laboratory**Marjan Attaran, MD****Cynthia Austin, MD****Tommaso Falcone, MD****Bryan Hecht, MD****Hanna Lisbona, MD****Barry Peskin, MD****Julierut Tantibhedhyangkul, MD (Julie Tan)****In Vitro Fertilization****James Goldfarb, MD**
Director, In Vitro Fertilization Program**Gynecologic Oncology****Peter G. Rose, MD**
Head, Section of Gynecologic Oncology; Fellowship Director**Jerome L. Belinson, MD****Richard Drake, MD****Pedro Escobar, MD****Chad Michener, MD****Saubhik Sengupta, PhD****Urogynecology and Pelvic Reconstructive Surgery****Marie Fidela R. Paraiso, MD**
Head, Section of Urogynecology and Reconstructive Pelvic Surgery**Matthew D. Barber, MD****J. Eric Jelovsek, MD**
Residency Site Director**Mark D. Walters, MD**
Fellowship Director**Pediatric and Adolescent Gynecology****Marjan Attaran, MD**
Head, Section of Pediatric and Adolescent Gynecology**Gita P. Gidwani, MD****General Obstetrics and Gynecology****Benito Alvarez, MD**
Co-Director, Section of General Obstetrics and Gynecology**Sharon Sutherland, MD**
Co-Director, Section of General Obstetrics and Gynecology**Mark D. Walters, MD****Elliot H. Philipson, MD**
Residency Site Director**Michael Anderson, MD****Lesley Bicanovsky, DO****Michael Bloomfield, MD****Bonnie Cheung, MD****Deborah Clark, MD****Amelia Cleveland, MD****Linda D. Bradley, MD****Jonathan Emery, MD****Ruth Farrell, MD****Gretchen Fisher, MD****Gita P. Gidwani, MD****Habbibeh L. Gitiforooz, MD****John Iafelice, MD****Tara McElroy, MD****Margaret McKenzie, MD**
Director, Undergraduate Education**Julian Peskin, MD****Ken Rao, MD****Vicki Reed, MD****Elisa Ross, MD****Keisha Smith, MD****Kristina Sole, MD****Womack Stokes, MD****Monica Svets, MD****Diane Young, MD****Nikki Zite, MD**

Matthew D. Barber, MD, has been named Vice Chair for Clinical Research, Department of Obstetrics & Gynecology, and Associate Professor of Surgery, Cleveland Clinic Lerner College of Medicine. In 2007, Dr. Barber received the "Best Clinical Research Paper Award" from the American Urogynecologic Society. In 2006, Dr. Barber was appointed private investigator for the Pelvic Floor Disorders Network NICHD grant, making Cleveland Clinic one of only seven sites in the United States to participate in the study.

Obstetrics and Maternal-Fetal Medicine**Jeff Chapa, MD**
Head, Section of Obstetrics and Maternal-Fetal Medicine**Majida Jassani, MD****Robert Kiwi, MD****Kevin Muise, MD****Elliot Philipson, MD****Mohammad Rajabi, MD****Midwifery****Cynthia Cover, CNM**
Head, Section of Midwifery**Linda Bloom, CNM****Jennifer Ceccardi, CNM****Charlotte Frires, CNM****Shellie Hawk, CNM****Niki Pearce, CNM****Barbara Schlueter, CNM****Women's Health Center****Holly L. Thacker, MD**
Director, Women's Health Center; Fellowship Director**Cynthia Brewer, DO**

For more information about our staff, visit www.clevelandclinic.org/staff.

A Sampling of 2007 Publications

From Cleveland Clinic's OB/GYN & Women's Health Institute

JOURNAL ARTICLES

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U.S. News Ranks Cleveland Clinic One of America's Best Hospitals

Gynecologic and Obstetrics Care Ranks in the Top 10

Cleveland Clinic has been ranked among America's top hospitals since *U.S. News & World Report* began its annual survey of "America's Best Hospitals" in 1990. For the 14th consecutive year, Cleveland Clinic's cardiac care has been ranked No. 1 in the nation.

The 2008 survey recognized Cleveland Clinic as one of the nation's best hospitals overall, ranking the hospital as No. 4 in the country. Cleveland Clinic ranked in all 16 specialties surveyed by the magazine. Ten of its specialties were listed among the Top 10 in the United States.

The complete 2008 national rankings for Cleveland Clinic are: heart and heart surgery 1; gastrointestinal disorders 2; urology 2; rheumatology 2; orthopaedics 3; kidney disease 4; respiratory disorders 5; neurology and neurosurgery 6; endocrinology 6; gynecology 8; ear, nose and throat 11; ophthalmology 11; cancer 13; geriatric care 14; psychiatry 22; and rehabilitation 19.

According to *U.S. News & World Report*, of the 5,453 hospitals evaluated by the magazine, only 170 scored high enough in measures of quality, including mortality and patient volume, to be ranked in at least one specialty this year.

08-OBG-012

Online Services and Resources for Physicians

Online Access to Your Patient's Treatment Progress


Whether you are referring from near or far, our eCleveland Clinic service, **DrConnect**, can streamline communication from Cleveland Clinic physicians to your office. This new online tool offers you secure access to your patient's treatment progress at Cleveland Clinic. With one-click convenience, you can track your patient's care using the secure **DrConnect** Web site. To establish a **DrConnect** account, visit eclevelandclinic.org or e-mail drconnect@ccf.org.


eCleveland Clinic Second Opinions

You can also request a remote second opinion from Cleveland Clinic Ob/Gyns through the secure eCleveland Clinic **MyConsult** Web site. Our specialists offer remote consultations for gynecologic cancer, hysterectomy, infertility, fibroids and abnormal uterine bleeding, within five to seven days. To request a second opinion for your patient, visit eclevelandclinic.org/myConsult.

Outcomes Data Available

The latest edition of "Cleveland Clinic OB/GYN & Women's Health Institute Outcomes" is available. Our outcomes booklet offers summary reviews of medical and surgical trends and approaches. Charts, graphs and data illustrate the scope and volume of procedures performed in our institute each year. To view outcomes booklets for the OB/GYN & Women's Health Institute, as well as many other Cleveland Clinic medical and surgical disciplines, visit clevelandclinic.org/quality.

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