

Inova Women's Hospital
Outcomes 2012





U.S. News & World Report has recognized us for our expertise in caring for women. In 2012, we were ranked

23rd in the nation for Gynecology.

Inova Fairfax Hospital was ranked the region's top hospital.

We are the only hospital in the Washington metropolitan region to receive a national ranking in women's care.



Dear Colleague,

At Inova Women’s Hospital, we have a goal not just to provide today’s healthcare, but the future of health. This means many things to us—providing quality care in the safest medical environment, educating the physicians and clinicians of tomorrow, emphasizing public awareness of women’s disease to foster early detection and prevention; as well as challenging ourselves through our research efforts to lead the field in providing more personalized care to patients.

U.S. News & World Report has recognized us for our expertise in caring for women. In 2012, we were ranked 23rd in the nation for Gynecology and Inova Fairfax Hospital was ranked the region’s top hospital. We are the only hospital in the Washington metropolitan region to receive a national ranking in women’s care. Inova Women’s Hospital brings more lives into the world than any hospital in our region. More than 10,000 each year. A kindergarten class each day. The care that we provide these babies and their mothers is quite literally care for the future of our region.

Work is underway on a new home for Inova Women’s Hospital. The hospital will be a state-of-the-art, 650,000-square-foot building dedicated to caring for the women of our community. Doors will open in early 2016. It will be the region’s only dedicated Women’s Hospital, and will be just one more step in our hospital leading the way in women’s care.



G. Larry Maxwell, MD, COL (ret)
*Chairman, Obstetrics and
Gynecology*



Patricia Schmehl
*Vice President and
Administrator
Inova Women’s Hospital*

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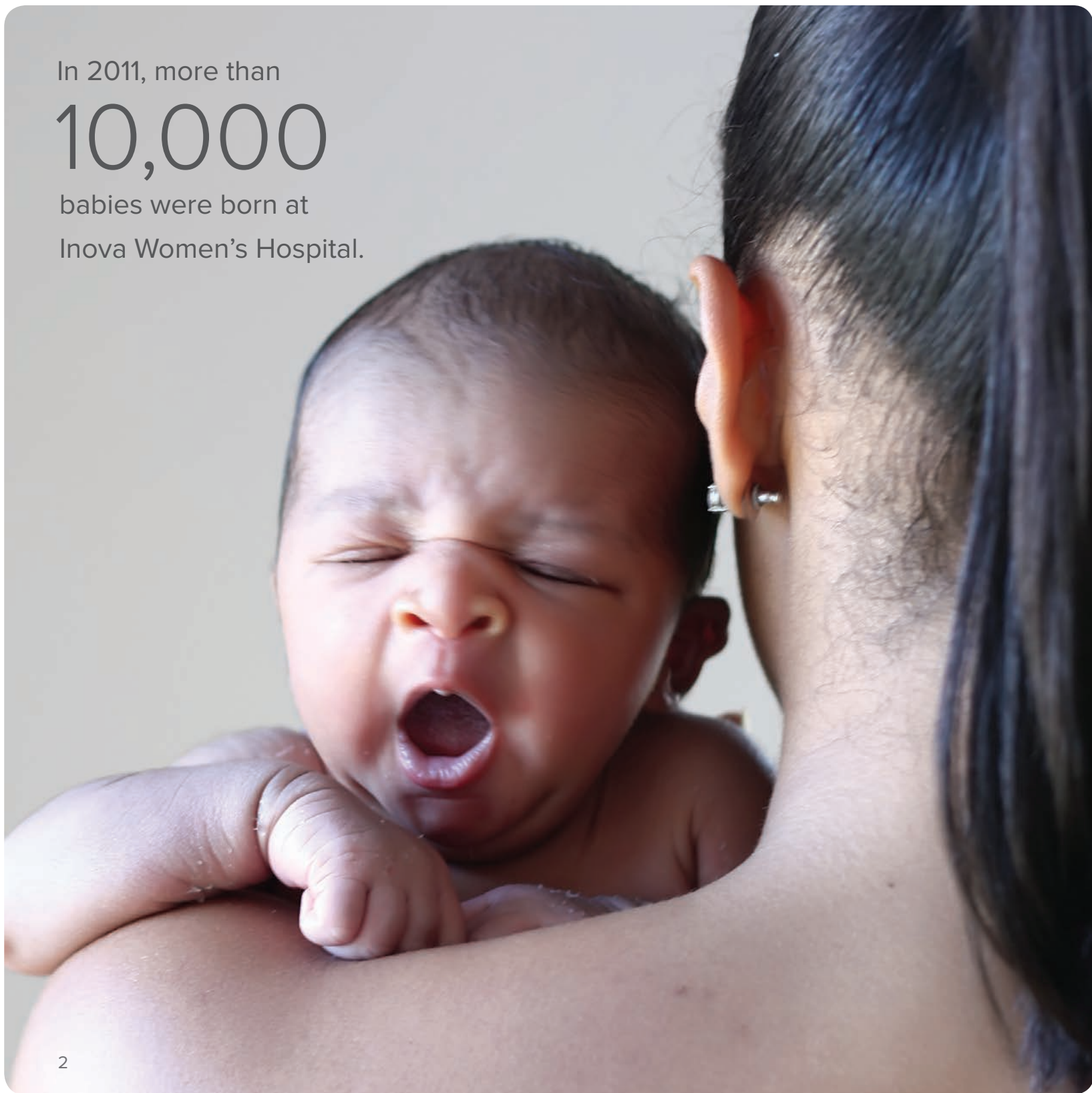
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In 2011, more than

10,000

babies were born at

Inova Women's Hospital.



Division of Obstetrics



Alfred Khoury, MD
Vice Chair, Obstetrics

In 2011, Inova Women’s Hospital brought more than 10,000 new lives into the world— a Northern Virginia kindergarten class is born within our walls each day. As the region’s referral center for high-risk maternal care, Inova Women’s Hospital is able to provide a comfortable and safe birthing environment from the simplest delivery to the most complex. Inova Women’s Hospital includes 22 labor, delivery and recovery suites, a 38-bed high-risk perinatal inpatient unit, 89 postpartum, family-centered care beds. It also includes three well-baby nurseries in addition to Inova Children’s Hospital’s 75-bed level IV NICU.

The Inova obstetrics collaborative group has several areas of focus, including the reduction of the primary c-section rate. From 2010 to 2011, the primary c-section rate was reduced from 27.2 percent to 24.5 percent. January through October 2012 showed an even greater improvement, with a primary c-section rate of just 16.6 percent.

Fig. 1

Year	Deliveries	Primary C-Section Rate
2011	9,888	24.5
2010	10,010	27.2

Inova Women’s Hospital takes every step to ensure that mother and baby are off to a healthy start. From childbirth education classes to postpartum support groups and infant CPR, whatever the mother’s need, Inova Women’s Hospital is here for her.

Maternal Fetal Medicine

Featuring Northern Virginia’s first outpatient antenatal testing center, the largest high-risk perinatal staff in the country and more than 27 years of experience caring for patients, Inova Women’s Hospital is a leader in maternal fetal medicine.

Conditions We Treat

Hypertensive Disorders

Chronic hypertension, gestational hypertension, HELLP Syndrome (Hemolysis, Elevated Liver Enzymes and Low Platelet Count) and preeclampsia (toxemia) are all dangerous for the mother and the baby. Inova’s physicians are skilled in the diagnosis and treatment of hypertensive disorders, from medication management to knowing when it’s time to deliver.

Preterm Labor

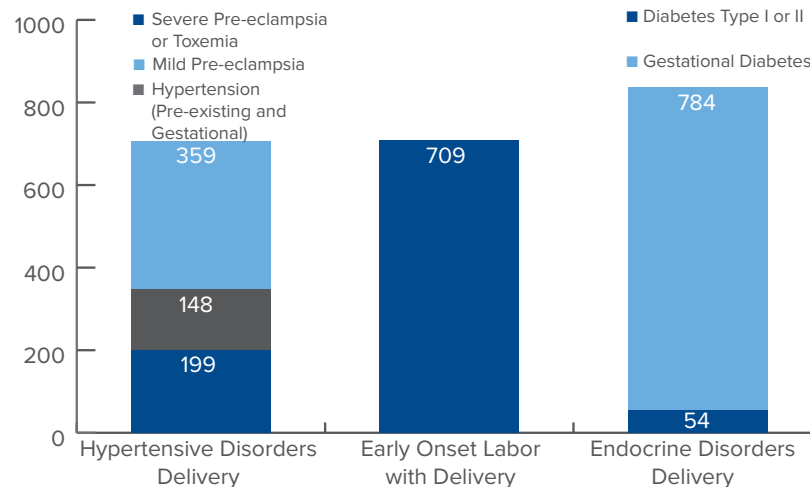
If a woman is experiencing preterm labor, for whatever reason, the high-risk pregnancy team at Inova Women’s Hospital allows for observation or inpatient care. Perinatologists are able to constantly monitor and manage medication from the unit, and perform cerclage or other minor procedures necessary to help women carry their babies as long as possible.



Left to Right: George Bronsky, MD, Alfred Khoury, MD, Barbara Nies, MD, and Huda Al-Kouatly, MD

Fig. 2

Incidence of Hypertensive Disorders, Preterm Labor and Diabetes as Cause for Inpatient Stay in High Risk Perinatal Unit



Diabetes and Endocrine Disorders

Gestational diabetes, type 1 diabetes, thyroid disorders, and other endocrine disorders are among the most frequent causes of high risk pregnancy. Incidence of gestational diabetes in particular continues to rise, in fact a recent multi-centered, international study found that 18 percent of pregnant women are impacted by insulin resistance. Inova physicians are able to manage diabetes and other endocrine disorders in order to keep both mothers and babies safe.

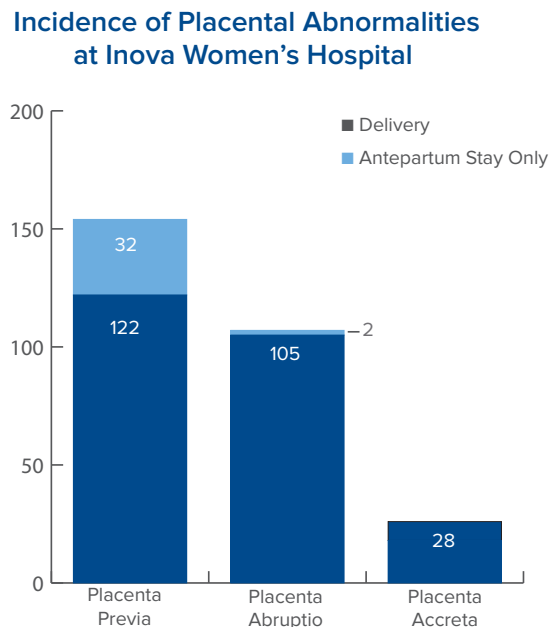
Intrahepatic Cholestasis of Pregnancy (ICP), Hepatitis, Acute Fatty Liver and Other Liver Disorders

These disorders can lead to discomfort during pregnancy, preterm birth, and other major complications, including risk to the mother's life. Physicians are skilled in treating liver disorders during pregnancy and preventing any spread of Hepatitis from mother to baby.

Placenta Previa, Accreta and Other Placental Abnormalities

The incidence of placenta accreta and placental abnormalities has increased in parallel to our nation's increasing cesarean section delivery rate. Placental abnormalities can lead to major issues in prenatal development and can create a very challenging delivery, with high risk of bleeding and other complications. Placenta accreta in particular can threaten both the mother and the infant's lives. Inova Women's Hospital has more experience than any other hospital in the mid-Atlantic delivering women with placental abnormalities.

Fig. 3

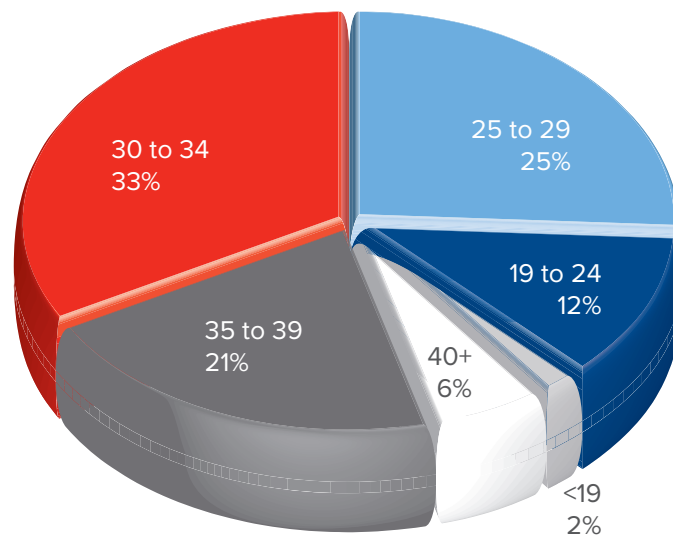


Advanced Maternal Age

Women over 35 have increased risk of previously mentioned complications of pregnancy, as well as increasing the likelihood of having a baby with certain genetic disorders. Antenatal testing and monitoring of women over the age of 35 is a major portion of the perinatology practice at Inova Women's Hospital, considering the birth demographics of our region.

Fig. 4

Age Distribution of Women Giving Birth at Inova Women's Hospital - 2011



27% of deliveries
are to women over the age of 35.

Multiples

Twins, triplets, quadruplets and more multiply the joy that a family experiences, but also bring major risk to both mother and infants. The Multiples Clinic at Inova Women's Hospital is the only one of its kind in the region, and the perinatology team's protocol brings more multiples to full-term than the national average.

In 2011, Inova Women's Hospital welcomed

225 sets of twins,

12 sets of triplets and

1 set of quadruplets into the world.



Genetic Counseling

The Antenatal Testing Center is one of the few in the country with a full-time geneticist on staff to advise and support couples who are pregnant or planning a pregnancy. Services include genetic testing such as amniocentesis and chorionic villus sampling. It also offers prenatal genetic counseling and diagnostic testing to screen for inherited diseases or disorders.

Fetal Care Program

Using a multidisciplinary approach of specialty physicians and nurses, the Fetal Care Program provides prenatal consultation and pediatric care planning for pregnant women identified as carrying babies with fetal heart abnormalities, birth defects or medical problems.

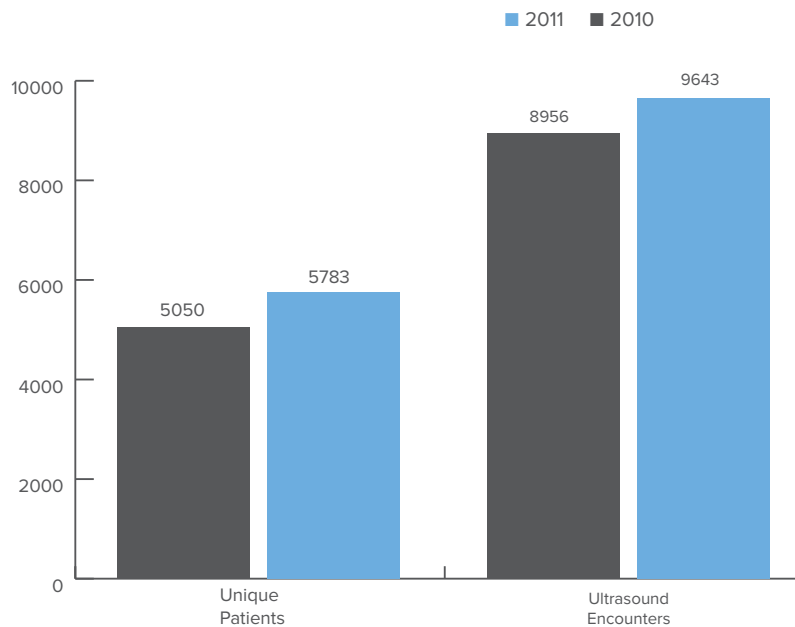
The program provides the advantage of high-risk pregnancy expertise available at Inova Women's Hospital with the pediatric surgical and medical care of Inova Children's Hospital. When problems are identified, all of our surgical and medical specialties are available for prenatal consultation, coordinated by our patient navigator who helps the expectant mother throughout the entire process of her hospital visit, delivery and surgery. Because the fetal care, birth and pediatric care can all occur in the same setting, the family does not have to be separated from their baby at this critical time.

James G. Sites Antenatal Testing Center

The James G. Sites Antenatal Testing Center includes a highly skilled team of physicians, nurses and sonographers who care for pregnant women at risk for maternal, fetal or obstetric complications. Our staff is one of the most experienced in the nation, diagnosing and treating thousands of patients each year with consistently excellent outcomes. The Center offers the full spectrum of prenatal and pregnancy care. Comprehensive services range from high-tech ultrasound and state-of-the-art screening procedures to education and nutritional counseling. The Center was the first in Northern Virginia to perform the Nuchal screen for Down syndrome and other abnormalities. Physicians and sonographers are credentialed in Nuchal Translucency by the Maternal-Fetal Medicine Foundation.

Fig. 5

James G. Sites Outpatient Antenatal Testing Center Volume



Inpatient Care

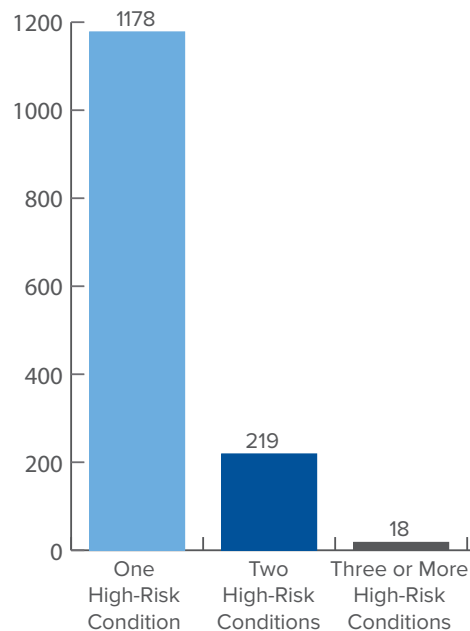
Our 38-bed High Risk Perinatal Unit is the largest inpatient unit in the country dedicated to the care of pregnant women requiring hospitalization before delivery.

Our nurses and physicians care for women facing a variety of conditions including premature labor, placenta previa, fetal growth restriction, diabetes and preeclampsia. The unit has developed comprehensive care plans for diabetes in pregnancy, premature labor/premature ruptured membranes and preeclampsia. We have coordinated care plans for placenta accrete and other placental abnormalities, treating more than 100 women each year.

Our team includes specialists from maternal fetal medicine, gynecologic oncology, anesthesia, interventional radiology, the intensive care unit, and the blood bank. Our physicians are experienced in performing rescue cerclages for women with advanced cervical dilation who may otherwise lose their babies.

Fig. 6

Incidence of High-Risk Conditions at Inova Women's Hospital Reason for inpatient stay or observation on High Risk Perinatal Unit



Last year **1,415**
women delivering at
Inova Women's Hospital
spent time on the
High Risk Pregnancy Unit.



In 2011, the NICU was the **1st** in the nation to receive The Joint Commission's Gold Seal of Approval™ for Prematurity.

Neonatal Intensive Care Unit



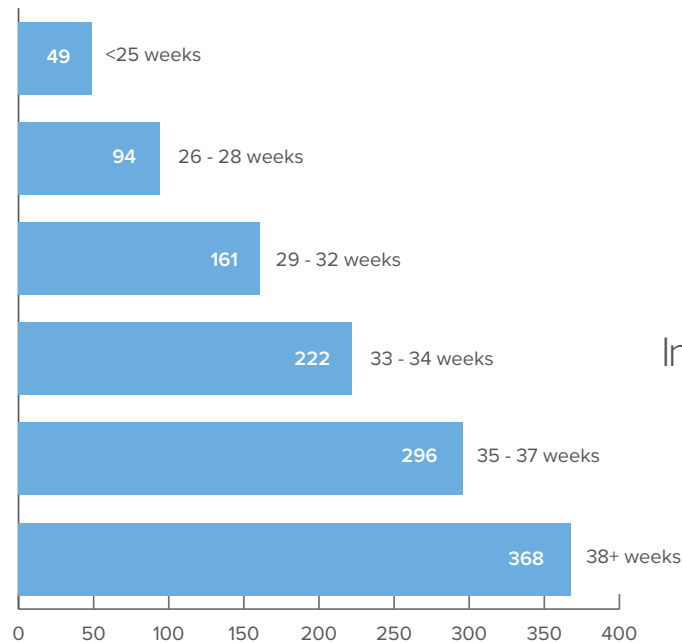
John North, MD,
Medical Director,
NICU, Inova
Children's Hospital

Inova Children's Hospital's 75-bed, level IV C neonatal intensive care unit (NICU) provides specialized care and observation for the most vulnerable, high-risk infants. We are the only NICU of our kind in Northern Virginia, and a vital resource for the entire Washington Metropolitan Region.

In 2011, the NICU was the first in the nation to receive The Joint Commission's Gold Seal of Approval™ for Prematurity. This prestigious certification represents the highest level of care for premature infants. It recognizes our team's commitment to continuously improve performance around treatment protocols that reduce complications and improve long-term quality of life.

Fig. 7

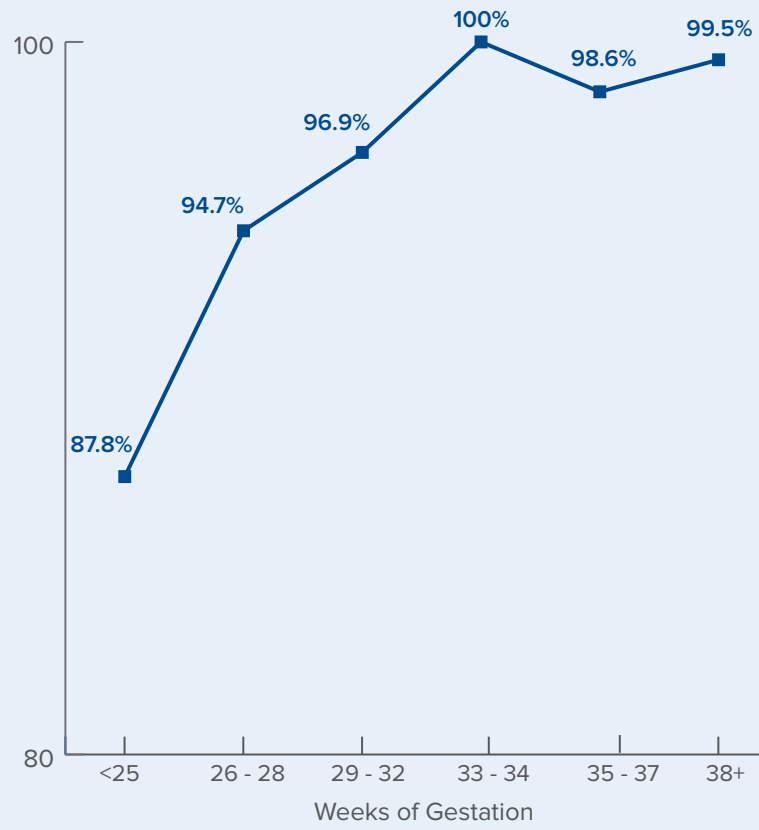
2011 NICU Discharges



Each year more than
1,000 babies
spend time at the
Inova Children's Hospital NICU.

Fig. 8


2011 NICU Survival Rate by Gestational Age



A Commitment to High-Quality Care

Inova Children's Hospital is an active participant in the Vermont Oxford Network (VON), which is dedicated to improving the quality and safety of the medical care provided to newborn infants. Using the network database, we are continually comparing outcomes of our smallest and most fragile infants—those weighing less than 1500 grams—against other similarly capable NICUs. Inova Children's Hospital consistently ranks in the top decile across VON measures. Quality improvement is always a major goal. Our recent efforts have focused on: reducing retinopathy of prematurity; central line blood stream infections; breast milk usage and respiratory care. Secondary to improvements in these areas, the Joint Commission awarded its first Gold Seal of Approval to the NICU at ICH.

The NICU is staffed by a highly trained, multi-disciplinary team of board-certified neonatologists, neonatal nurse practitioners, respiratory therapists and lactation consultants 24-hours a day. In addition, we have a complete contingency of pediatric subspecialists on staff and ready to help if the need arises, including pediatric: cardiologists and cardiac surgeons, general surgeons, neurologists and neurosurgeons, orthopedic surgeons, infectious disease specialists, pulmonologists, gastroenterologists, nephrologists, and geneticists.



Inova Women's Hospital
has the largest and most
respected gynecologic
surgery program
in the region.

Division of Gynecology



*Karen Maser, MD
Vice Chair,
Gynecology*

Inova Women's Hospital physicians are field leaders in the surgical treatment of gynecologic cancers, fibroids, pelvic floor disorders, endometriosis and other gynecologic diseases and disorders requiring surgical intervention. In 2011, Inova Women's Hospital physicians performed 5,193 gynecologic surgeries. Of these, more than 4,000 cases were performed on an outpatient basis. Nearly 650 surgeries were performed on patients with the presence of gynecologic malignancy and more than 700 pelvic floor procedures were completed.

Our physicians are not only on the cutting-edge of surgical technique themselves; they are also involved in teaching residents and fellows. Inova Women's Hospital's house staff includes obstetrics and gynecology residents, medical students, and urogynecology and gynecologic oncology fellows. Where continuing medical education is concerned, in 2013, Inova Women's Hospital will host the inaugural Future of Surgery Conference, dedicated to the advancement of minimally invasive gynecologic surgery.

Minimally Invasive Gynecologic Surgery



*Ruchi Garg, MD
Medical Director,
Minimally Invasive
Gynecologic Surgery*

Whenever appropriate, minimally invasive surgical techniques are utilized, making for better patient outcomes, faster recovery times, less length of stay and much greater patient satisfaction.

In addition to traditional laparoscopic minimally invasive surgery, Inova Women's Hospital physicians are skilled in robotic surgery, including da Vinci hysterectomy, myomectomy, sacral colpopexy, trachelectomy, and the staging of gynecologic cancers (lymph node removal).

In 2011, 1,555 hysterectomies were performed at Inova Women's Hospital. Of this number, 877 were hysterectomies performed without the presence of gynecologic malignancy or additional pelvic floor surgery. 67.5 percent of these cases were performed via minimally invasive approach; abdominal open hysterectomies were performed just 19.7 percent of the time (often due to very large fibroids or other extenuating circumstances). The 2010 Nationwide Inpatient Sample reports that only 23.3 percent of hysterectomies were performed via laparoscopic approach, and more than 47 percent were performed as abdominal open procedures. Inova Women's Hospital is committed to leading the region, and the nation, in our commitment to performing appropriate procedures through minimally invasive technique.



Ruchi Garg, MD performing da Vinci procedure

Fig. 9

2009-2011 Hysterectomy Volume and Indication

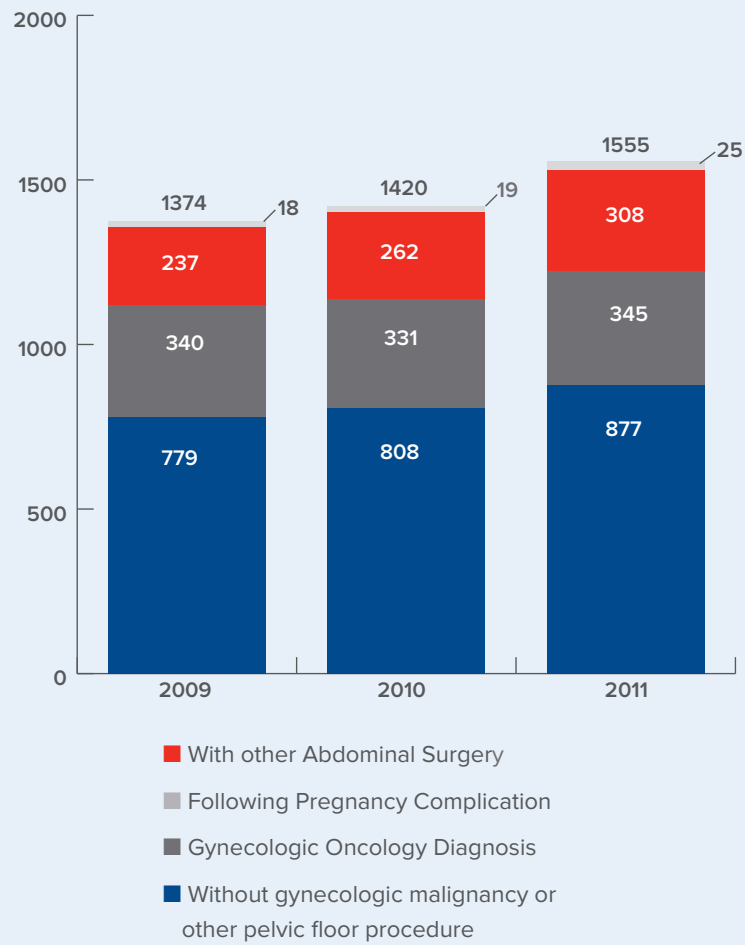
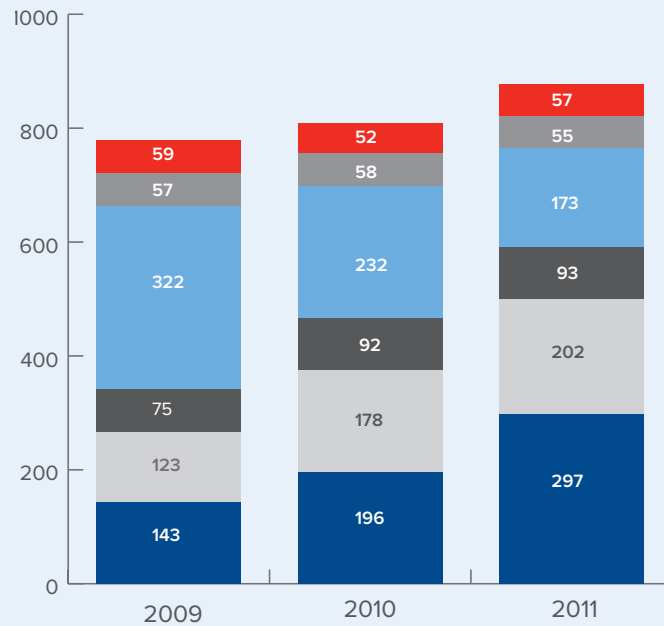


Fig. 10

2009-2011 Hysterectomy Volume

(Excluding in combination with pelvic floor procedure or gynecologic malignancy)

A Comparison of Surgical Techniques



- Vaginal hysterectomy
- Supracervical hysterectomy
- Abdominal hysterectomy
- Supracervical Laparoscopic Hysterectomy
- Abdominal Laparoscopic Hysterectomy
- Laparoscopic Assisted Vaginal Hysterectomy

*Data includes only hysterectomies performed on women without gynecologic malignancy and without any combination with other pelvic floor procedure.

Urogynecology



*Jeff Welgoss, MD
Section Chief
Urogynecology*

Urogynecology, or Female Pelvic Medicine and Reconstructive Surgery, is the subspecialty most recently approved for board certification by the American Board of Obstetrics and Gynecology. The specialty of Urogynecology combines principles from multiple disciplines including Obstetrics and Gynecology, Urology, Colorectal Surgery, Neurology and Physical Medicine and Rehabilitation in order to address female pelvic floor disorders in a comprehensive fashion. All the physicians in the section of Urogynecology are fellowship trained in the management of pelvic floor disorders including urinary incontinence, fecal incontinence and pelvic organ prolapse as well as in the management of complex benign gynecologic conditions such as vaginal fistula, childbirth injuries and vaginal reconstruction.

The multidisciplinary team that participates in the care of patients meets regularly to discuss complex cases and includes physicians from the section of Urogynecology, Colorectal Surgery and Radiology. In addition, physical therapists with specialty interests in female pelvic floor disorders and pelvic pain are directly involved in a large volume of patients with these conditions.

Urogynecologic Faculty

Inova Women's Hospital is fortunate to have the most experienced Urogynecologic faculty in the region, all of whom have served in regional and national capacities. Nicolette Horbach, MD has served as a past president of the American Urogynecologic Society and past head of the Urogynecologic section of the American Board of Obstetrics and Gynecology. Jeff Welgoss, MD has served as the program's medical director since its inception and has served on the Board of Directors of the American Urogynecologic Society. Walter vonPechmann, MD serves as the site director for the National Capitol Consortium Fellowship training program in Female Pelvic Medicine and Reconstructive Surgery, the oldest training program of its kind in the region and has served on committees of the American Urogynecologic Society. Eric Hurtado, MD has served on several committees for the American Urogynecologic Society.



Top Row (L-R): Kimberly Matzie, MD, (Colorectal Surgery), Lynda Sue Dougherty, MD (Colorectal Surgery), Lawrence Stern, MD (Colorectal Surgery), Daniel Otchy, MD (Colorectal Surgery), Elizabeth York, PA, Kara Beckner, MD, (Radiology)

Front Row (L-R): Eric Hurtado, MD (Urogynecology), Walter Von Pechmann, MD (Urogynecology), Nicolette Horbach, MD (Urogynecology), Jeff Welgoss, MD (Urogynecology), Caroline Sanchez, MD (Colorectal Surgery), Daniel Covlin, MD (Colorectal Surgery)

Progress and Innovation

The Urogynecologic team is dedicated to the advancement of patient care through cutting edge surgical techniques, including minimally invasive techniques for pelvic reconstruction. This includes the use of advanced laparoscopy and the da Vinci® system. Over the past several years, the percentage of women requiring more traditional, “open” abdominal surgery for prolapse at Inova Women’s Hospital has radically declined, being replaced by minimally invasive procedures. Surgeons in the section of Urogynecology have consistently been at the forefront of implementing newer procedures for pelvic floor disorders at Inova Women’s Hospital for more than a decade. This includes not only reconstructive procedures for prolapse and incontinence but also surgical and non-surgical techniques in neuromodulation for incontinence. Dr. vonPechmann has been actively involved in the development of newer surgical instrumentation for minimally invasive reconstructive surgery and has been awarded competitive research grants for this endeavor.

Research and Education

Inova Women’s Hospital is the major clinical teaching site for the National Capitol Consortium fellowship training program for Female Pelvic Medicine and Reconstructive surgery. This is the oldest and most established fellowship training program of its sort in the region and one of the largest volume fellowships in the country. In conjunction with the Urogynecology faculty at Walter Reed National Military Medical Center as well as Virginia Polytechnic Institute, basic science research into the mechanism of the genesis of pelvic floor disorders is ongoing. Results of clinical and basic science research has been presented at meetings of the American Urogynecologic Society, the Society for Gynecologic Surgeons, the Society for Urodynamics and Female Urology and the American College of Obstetricians and Gynecologists. The faculty in the section of Urogynecology remains actively involved in the teaching of residents and medical students from George Washington University and Virginia Commonwealth University.

Fig. 11

2011 Pelvic Floor Surgical Volume

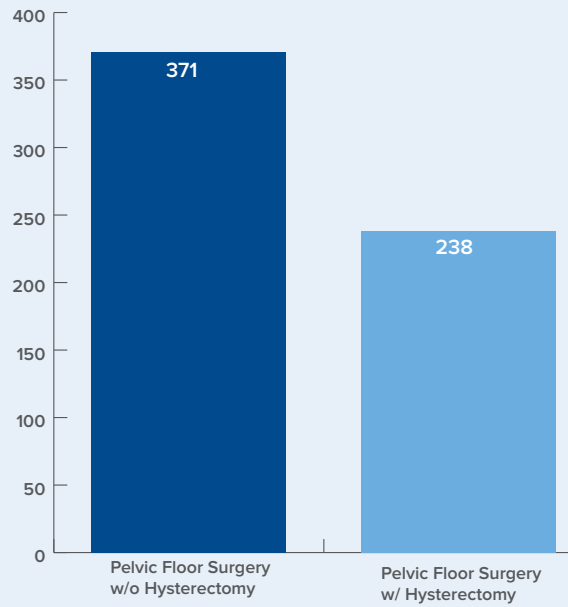
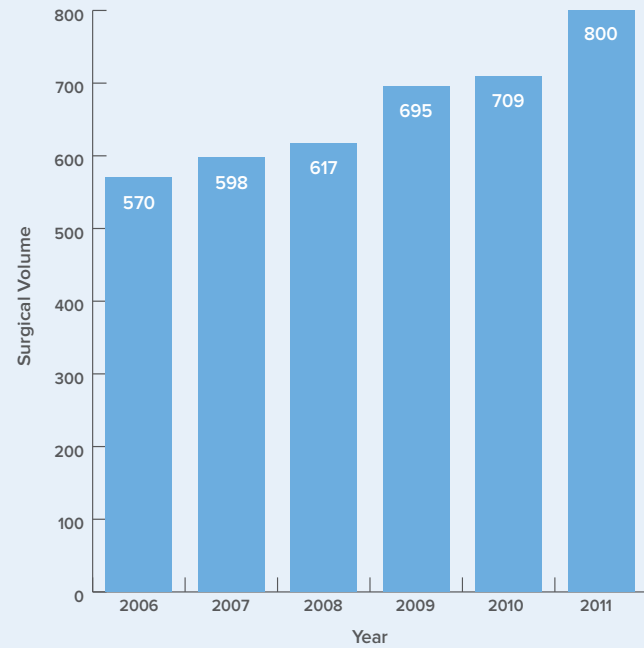


Fig. 12

Total Urogynecologic Surgical Volume Since 2006



87%

of all pelvic floor procedures at Inova Women's Hospital were completed by a fellowship-trained urogynecologist.

Fig. 13

Reason for Pelvic Floor Surgery

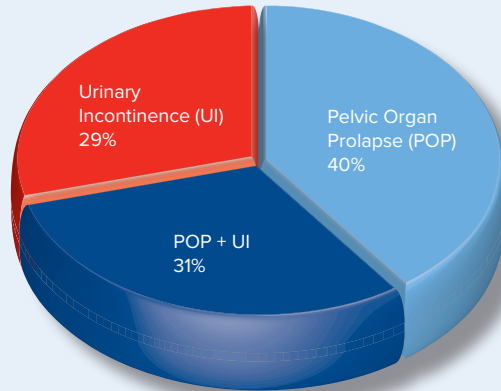


Fig. 14

Surgical Approach Utilization in Pelvic Organ Prolapse

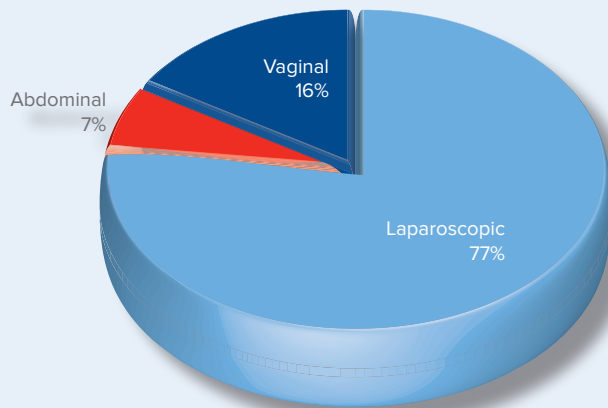
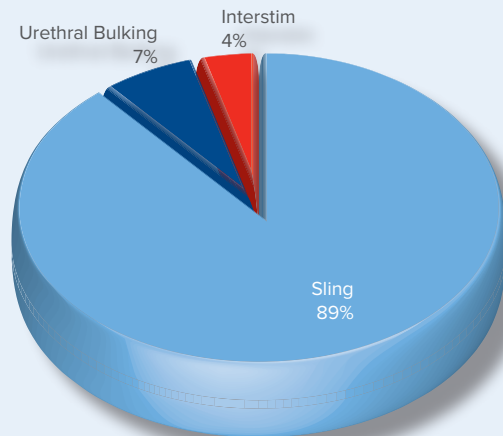



Fig. 15

Surgical Approach Utilization in the Treatment of Incontinence Urogynecology Procedures in 2011





Inova Women's Hospital
Gynecologic Oncology Program
represents the largest volume center
in the mid-Atlantic region for the
treatment of gynecologic malignancies.

Gynecologic Oncology



Annette Bicher, MD
Medical Director,
Gynecologic Oncology

The Inova Women's Hospital Gynecologic Oncology Program has been cultivated and developed over the past 20 years and now represents the largest volume center in the mid-Atlantic region for the treatment of gynecologic malignancies. The mission of our multidisciplinary team is to provide top-quality care and cutting-edge therapy and diagnostics to our patients, while performing clinical and translational research surrounding the ways that we detect, treat, and defeat these cancers.

Our multidisciplinary team which includes radiation oncologists, interventional and diagnostic radiologists as well as gynecologic pathologists meets regularly with our gynecologic oncologists in a tumor board setting to optimize patient care and maximize treatment options.



Top row (L-R): G. Larry Maxwell, MD (Gynecologic Oncology), William McGuire, MD (Medical Oncology), Stella Hetelekidis, MD (Radiation Oncology), John Elkas, MD, (Gynecologic Oncology)

Bottom row (L-R): Hans Krebs, MD (Gynecologic Oncology), Annette Bicher, MD (Gynecologic Oncology), Ruchi Garg, MD (Gynecologic Oncology), G. Scott Rose, MD (Gynecologic Oncology)

Support Programs

Patient Navigation



Marcy Osterhause
Patient Navigator

Through collaboration with providers and other healthcare professionals, Gynecologic Oncology Navigator, Marcy Osterhause, assists women with a diagnosis of gynecologic cancer to receive optimum care and offers access to resources they need in a timely and efficient manner. For international patients, Marcy coordinates multi-language translators and provides cancer literature.

Marcy has over 20 years of oncology nursing experience. She utilizes her vast knowledge of gynecologic cancer, treatments and the healthcare system to guide patients and their families through the medical process from diagnosis through treatment and recovery.

The goal of our navigator is to provide individualized assistance, information and support to patients, families and caregivers through the cancer care experience in order to minimize stress and maximize opportunity for a positive care experience.

Support Programs

Inova Life with Cancer™

A Gynecologic Cancer support group meets monthly as part of Inova Life with Cancer™ community support and education program for cancer patients, their families and friends. The program offers creative, physical and social outlets that can help ease fears and improve quality of life for all those affected by the disease. Funded primarily by community contributions, Inova Life with Cancer™ programs are provided free of charge regardless of where a patient lives or receives treatment.

The staff at Inova Life with Cancer™ focuses on the total needs of the patient, going beyond medical treatment to address psychological and social needs created by the disease. It is so rewarding to see all the ways we are able to help people affected by cancer to improve their quality of life.

The newly opened Dewberry Life with Cancer™ Family Center—the largest of its kind in the nation—provides a warm, welcoming environment for those affected by cancer. It includes the Sharon Nicolaisen Appearance Center, a one-stop-shop where cancer patients can find everything they need to improve their appearance and quality of life during treatment.

Clinical Trials



William McGuire, MD

In 2012, the team was joined by William McGuire, MD, a medical oncologist focused on the treatment of gynecologic malignancies. Dr. McGuire serves on the editorial boards of the *Journal of Clinical Oncology* and *Gynecologic Oncology*, and co-chairs the scientific committee responsible for the National Cancer Institute's clinical studies involving ovarian tumors.

Radiation Oncology



Stella Hetelekidi, MD

The Radiology Oncology staff consists of six board-certified radiation oncologists, including Dr. Stella Hetelekidis, who specialize in gynecologic radiation therapy.

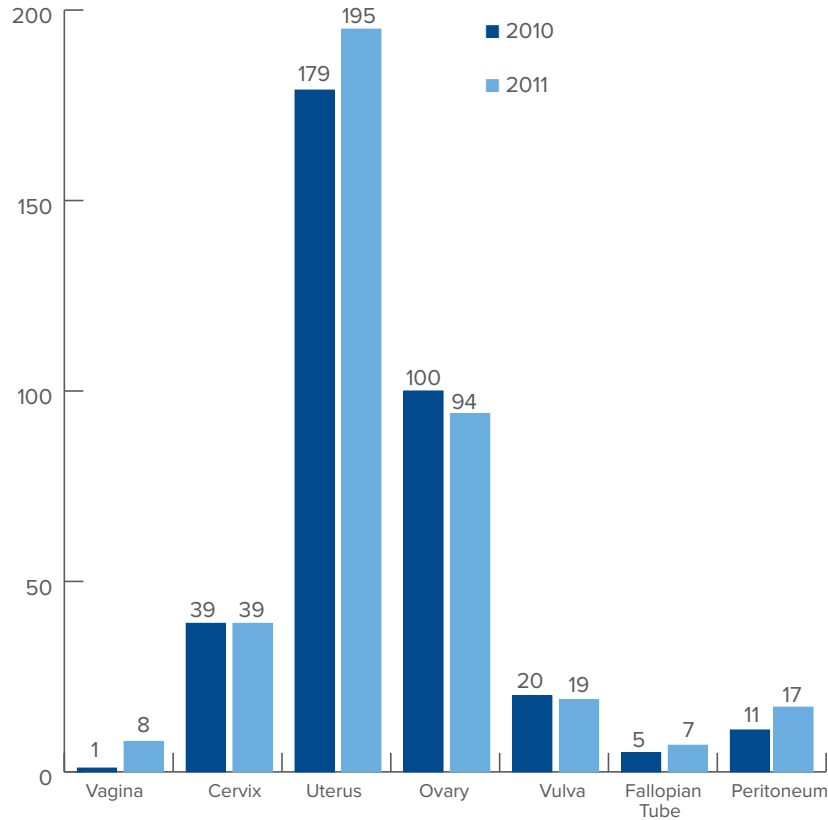
The full spectrum of therapies for patients with gynecologic malignancies are available to women needing radiation oncology treatment. External beam radiation

therapy, using 3-dimensional conformal planning or intensity modulated radiation therapy (IMRT) with image guidance, is delivered using state-of-the-art linear accelerators (Varian Trilogy or TomoTherapy®). Brachytherapy (implant) procedures using high dose rate (HDR) and low dose rate (LDR) sources are also available for patients. Over 600 HDR brachytherapy treatments have been performed since 2008.

Fig. 16

2011 Gynecologic Oncology Diagnoses

2011 Newly Diagnosed Patients by Tumor Site



Source: IFH Cancer Registry (Analytic and non-Analytic patients)

Support Programs

Genetic Counseling

Inova Cancer Services is proud to offer the only comprehensive genetic counseling program for cancer in Northern Virginia. The Inova Cancer Genetic Counseling Program serves patients with a personal and/or family history of many different types of cancers, including ovarian and uterine cancer. Our board-certified genetic counselor conducts individualized hereditary cancer risk assessments, facilitates the ordering of appropriate genetic tests and interprets test results. Services are provided with compassion and attention to the emotional impact on patients and families.

Fertility Options and Family Planning

A gynecologic cancer diagnosis is devastating for any woman, but for one still hoping to become a mother it can be even more heartbreaking. The gynecologic oncologists at Inova Women's Hospital always work to defeat cancer, but also to preserve fertility if possible. Because Inova Women's Hospital is home to one of the largest obstetrics programs in the country, patients have the option of working with reproductive endocrinologists and have children in a number of traditional and non-traditional ways, including gestational carriers.

Gynecologic Cancer Survival Rates at Inova Women’s Hospital

The gynecologic cancer survival for up to five years after diagnosis at Inova Women’s Hospital from 2004-2009 for ovarian and uterine cancers are compared to the National Cancer Data Base (NCDB) in charts 1 and 2 shown on the following page. The survival rates by stage comparisons are to the Southeast Region and the nation in the NCDB. Survival rates for our patients exceed regional and national benchmarks.

Fig. 17

Ovarian Cancer Cumulative Survival Rates as Compared to the National Cancer Data Base

STAGES III- IV

**2004 base year and five year percent survival by stage and by year*

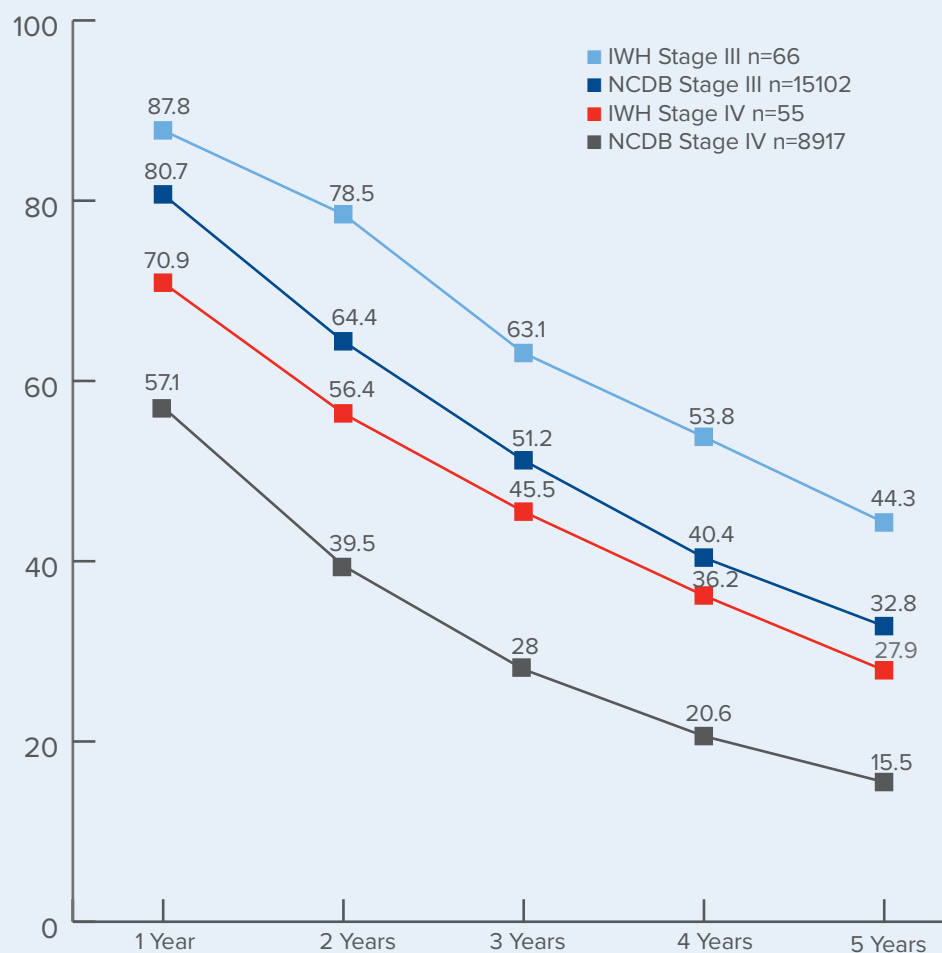
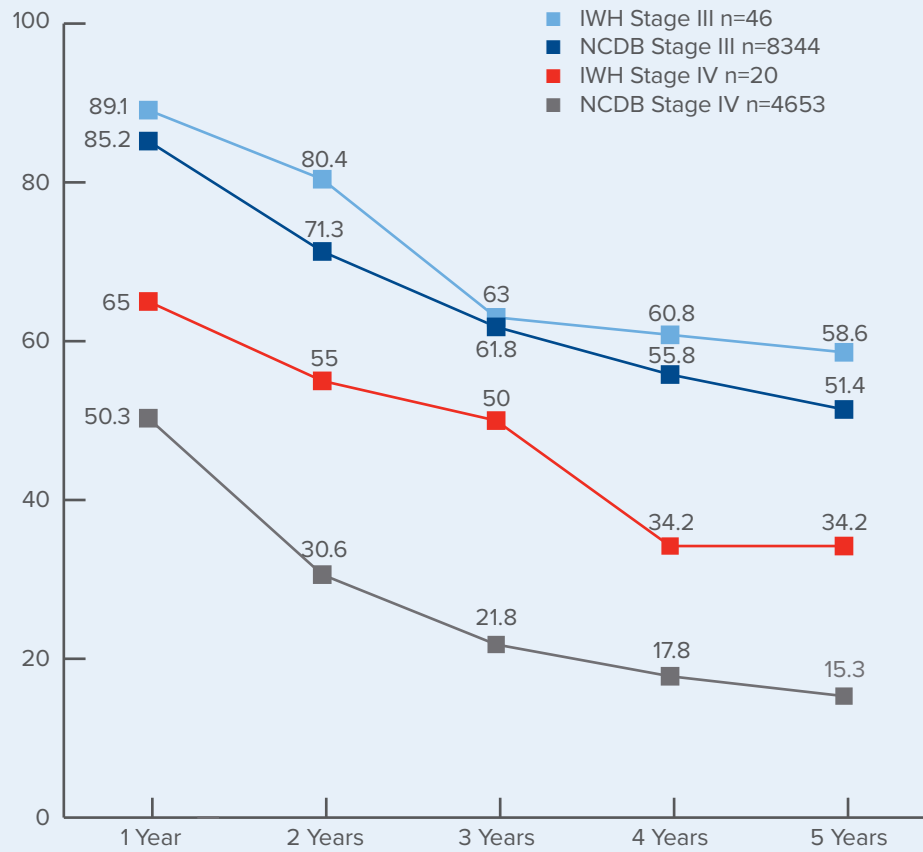


Fig. 18

Uterine Cancer Cumulative Survival Rates as Compared to the National Cancer Data Base

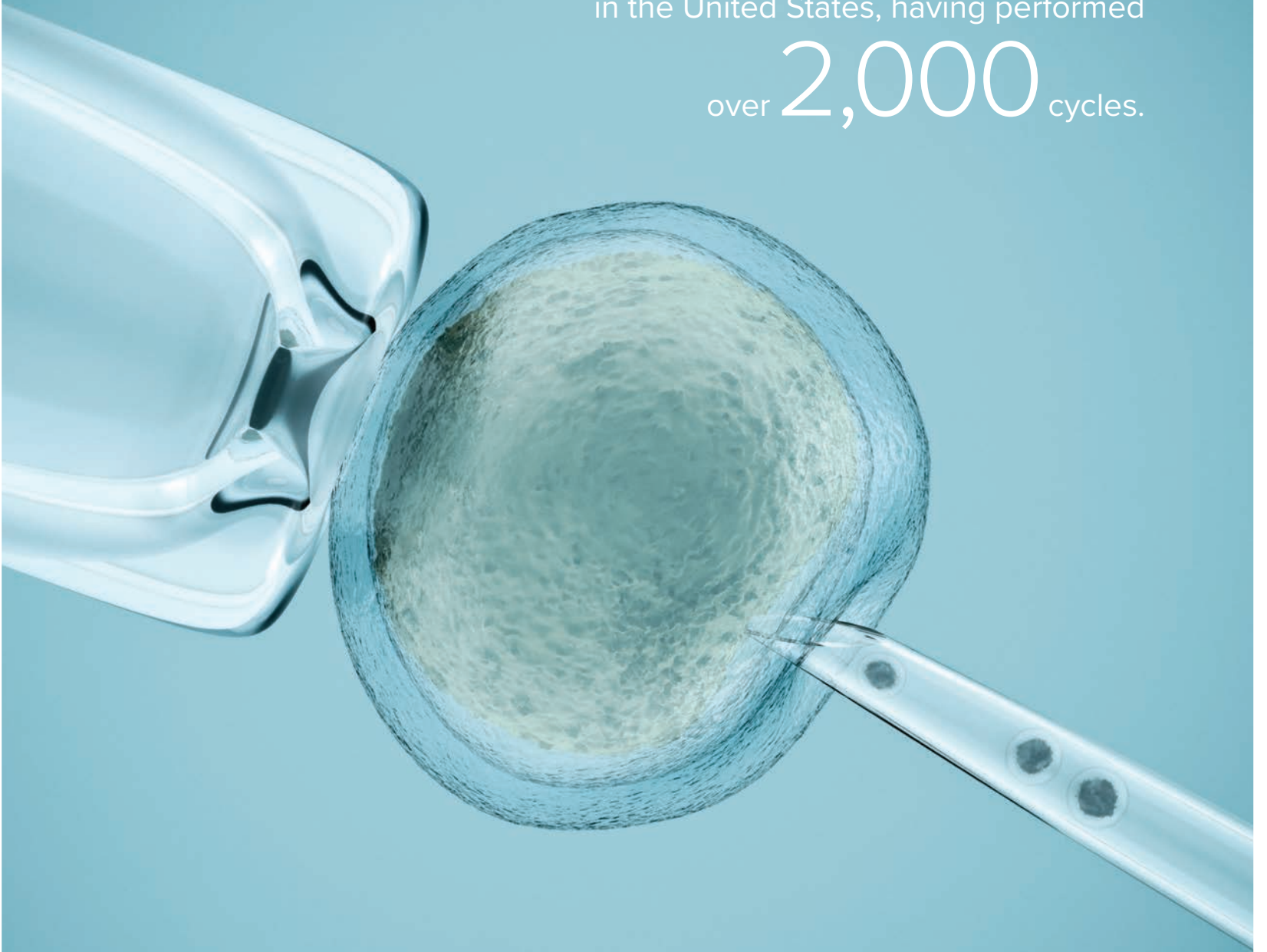
STAGES III - IV

**2004 base year and five year percent survival by stage and by year*



We have the largest Natural Cycle program
in the United States, having performed

over **2,000** cycles.



Reproductive Endocrinology and Infertility




*John Gordon, MD
Section Chief, REI*

The Reproductive Endocrinology and Infertility physicians at Inova Women's Hospital treat many extremely challenging cases of infertility. Our physicians handle a range of reproductive problems from tubal disease to age related infertility as well as male factor infertility and other issues such as endometriosis and unexplained infertility. Many of our patients have failed in vitro fertilization elsewhere or were excluded from further treatment because of high follicle stimulating hormone, poor ovarian reserve, age or other rigid criteria. These women are offered hope and are able to find the the help that they need through the efforts of the physicians at Inova Women's Hospital. Inova Women's Hospital physicians remain on the forefront of innovation in the field of infertility.

We offer a comprehensive array of reproductive services from ovulation induction to stimulated cycle IVF and egg donor IVF. In addition, the members of the Division of Reproductive Endocrinology also offer innovative techniques including preimplantation genetic screening of embryos and egg/embryo cryopreservation for fertility preservation in those women who are facing cancer or other diagnoses that may affect future fertility.

Our physicians are dedicated to reducing the risk of fertility treatments, such as multiple pregnancy and ovarian hyperstimulation syndrome. The physicians of Inova Women's Hospital transfer fewer embryos than the national average and have one of the lowest multiple pregnancy rates in the nation. Many cycles of IVF are performed with no fertility drugs at all (Natural Cycle IVF) or with minimal medications (MiniIVF). Since the region's first Natural Cycle IVF birth in 2007, the Inova Women's Hospital Reproductive Infertility and Endocrinology Division has grown the largest such program in the United States, having initiated more than 2,000 cycles.



Inova Women's Hospital
is not only focused on
providing high-quality
women's healthcare
today, but also providing
personalized medicine
for the future.

Research and Innovation

The Department of Obstetrics and Gynecology at Inova Women's Hospital is not only focused on treating the women's illnesses of today, but also pioneering how we screen, prevent, and treat women of tomorrow. Department Chairman, Dr. Larry Maxwell, leads a consortium of laboratories from university health systems across the United States, as well as local research operations at Inova and the National Institutes of Health. In addition, Dr. Maxwell co-directs the Women's Health Integrated Research Center at Inova Health System (WHIRC). The WHIRC is uniquely positioned to enable clinical applications of state-of-the-art, molecular profiling that have a major impact on diagnosis, assessment of prognosis and response to treatment. Accordingly, the mission of the WHIRC is to apply "omics" technologies (e.g. genomics and proteomics) toward identifying, characterizing, and validating biomarkers for clinical applications in women's cancers. Since understanding of disease-related biology does not conform neatly to an isolated approach of scientific disciplines such as biochemistry or molecular biology—and with the recent emergence of modern genomics, proteomics, metabolomics, and other related technologies—it is increasingly important to combine all possible approaches of biological analyses into a systematic study of molecular processes. This field of systems biology is driving towards the goal of analyzing, linking and explaining aspects of biology from the molecular to the population level. Within this context, genomics, transcriptomics, and proteomics, are leading edge research technologies that show promise for revolutionizing applications in personalized medicine, including diagnosis, prognosis, and patient stratification.

Gynecologic Oncology

The department's activities encompass four major research programs: Molecular Profiling for Personalized Medicine, Prevention, Therapeutics and Early Detection. These programs are supported by three core operations, including Administration, Tissue and Data Repository, and Bioinformatics/Biostatistics. Some of the research group's current activities includes investigation of chemoprevention strategies for ovarian cancer using a hen model, development of metastasis and recurrence biomarker profiles for endometrial cancer, utilization of adjuvant agents to chemotherapy to effectively treat resistant patients, and early detection of cancer using blood based proteomics testing.

Obstetrics and Maternal Fetal Medicine

Researchers in the Departments of Obstetrics and Gynecology and the Department of Pediatrics are partnered with the Inova Translational Medicine Institute in a large program aimed at using genomics, proteomics, and systems biology to understand the molecular alterations associated with obstetrical and neonatal disease. In a groundbreaking study, this group is collecting whole genomes from over 500 families (inclusive of full- and pre-term infants with their parents) to determine if there is an inherited predisposition to premature birth, defined as delivery before 37 weeks gestation. A follow-on study aimed at enrollment of several thousand families will facilitate analysis of the genetic and epigenetic (environmental) changes that are associated obstetrical and neonatal diseases. Dr. Maxwell, Chair of OB-GYN has emphasized that *“genetic and environmental factors play a significant role in the development of diseases that affect the pregnant mother and her baby. Understanding the complexities of these disease processes on a molecular level is essential to the implementation of early detection and surveillance programs that must be individualized in the provision of personalized women's care.”*

Commitment to the Community

Inova Cares for Women Clinics

Inova Cares Clinic for Women provides outpatient prenatal and gynecological charity care for the underserved residents of Fairfax County in collaboration with the Fairfax County Health Department. The clinic is staffed with OB/GYN physicians, resident physicians, certified nurse midwives and nurse practitioners.

In the year 2011, 3,481 women who were able to receive comprehensive prenatal, obstetrical and gynecologic care thanks to Inova Cares for Women. Additionally, the clinics provide well woman visits and coordinate referrals to Inova gynecologic oncologists and urogynecologists when necessary.

National Race to End Women's Cancer *Raising Awareness for Gynecologic Cancers*

Inova Women's Hospital is not only on a mission to help the women of our region fight gynecologic cancer, they are also doing all that they can to raise awareness of women's cancers. Women's Hospital Chairman, Larry Maxwell, MD, co-founded the National Race to End Women's Cancer. This 8K race held in November supports the Foundation for Women's Cancer. The goal is to make purple the new pink. More women lose their lives to gynecologic cancers each year than breast cancer, yet so few are talking about them. It is Dr. Maxwell and the Race to End Women's Cancer's goal to change that through events like the National Race to End Women's Cancer and Gynecologic Cancer Awareness Month.



Gynecologic Cancer Awareness Month occurs each September. Activities include survivor courses, educational events, and events focused on raising awareness. One such event is the Relay around the White House. In 2012 this event included a 72-hour relay along a several block route around the White House.

Walking for healthy moms and health babies, every baby step of the way

Each year employees across Inova descend on Reston Town Center with a single purpose, raising money for the neonatal and infant support programs that the March of Dimes provides our hospitals and the mothers of our region. This year, Inova raised more than \$100,000 for the event and had several hundred employees attend. March of Dimes provides family support in the Inova Children's Hospital NICU.



Reunited and It Feels So Good

The bond that moms and dads of Inova Children's Hospital NICU babies form with their nurses, physicians, March of Dimes support specialists, and other NICU clinicians is strong—and lasts the tests of time. Inova Children's Hospital and the physicians of Fairfax Neonatal Associates recognize that bond, and celebrate it. Each year the team hosts a reunion for NICU graduates. Moms and dads get a chance to catch up with their favorite nurse, or the physician who saved their child's life—and the doctors and nurses get the joy of watching the tiniest infants turn into rambunctious toddlers and elementary school children.

Caring for Women across the Globe

A team of Inova doctors and nurses traveled to Sierra Leone for a week long medical mission with Helping Children Worldwide. This team included Dr. Mary Beth Cantwell, Anesthesiologist at Fairfax Anesthesiology Associates; Dr. Kirsten Edmiston, Medical Director at Inova Cancer Services; Dr. Cynthia Horner, Family Medicine Physician at Herndon Family Medicine; and Dr. Carol McIntosh, Obstetrician/Gynecologist at Inova Women's Hospital. The focus of the program was to establish a breast and cervical cancer screening program, previously unavailable to women in the region at Mercy Hospital in Bo, Sierra Leone.

Dr. Russell Seneca, General Surgeon and Associate Dean of the VCU School of Medicine Inova Campus, led a humanitarian medical mission through the Community Coalition for Haiti. Dr. Ruchi Garg, Gynecologic Oncologist, and Dr. Peter Rothschild, Gynecologist, accompanied Dr. Russell to the Jim Wilmot Surgery Center in South-East Haiti, where they were able to provide gynecologic surgical care and train Haitian health professionals. The Community Coalition for Haiti and Dr. Seneca organize several humanitarian missions to Haiti each year.

Inova Women's Hospital - 2016



The Future of Inova Women's Hospital

In September 2012, Inova broke ground on a new 12-story, 665,000-square-foot Inova Women's Hospital. The hospital will be built with the patient experience in mind, including all private, family-centered rooms and a meditation garden. Not only will it include environmentally friendly design, it will bring elements of the outdoors in, with calming features, including a multi-story water-wall.

Inova Women's Hospital will feature 192 rooms, 8 women's surgery operating rooms, 6 caesarean-section operating rooms, and will connect to the recently constructed Inova Fairfax Hospital South Tower. It is scheduled to open in January 2016.

Funding the Future

As a not-for-profit hospital, Inova Women's Hospital is committed to meeting the healthcare needs of the communities that we serve. We rely on generous charitable gifts to enhance many of our programs, from funding patient support services to cutting-edge research and technologies.

The current areas of philanthropic need are focused on research and patient support programming.

Philanthropy will enhance *The Inova Women's Cancer Research Program* so that aggressive and productive research aimed at identifying the molecular and environmental causes of gynecologic cancer can occur right here in Northern Virginia.

The *Inova Perinatal Research Program* will diversify research efforts to cover the full spectrum of obstetrical, neonatal and developmental pediatric conditions.

Patient support programs are important for every stage of a woman's life—and generous donations are important to make these programs possible.

Philanthropy helped create the *Fetal Care Program* to support women diagnosed with a complicated pregnancy. Thanks to generous contributions, the program has grown and now includes a patient nurse navigator to be the supportive, comforting guide to patients during a very difficult time.

Additionally philanthropic gifts fund the *Comfort to Strength Program*, which provides support and a comfort care package to women facing gynecologic cancer diagnoses.

No matter how large or small, gifts to Inova Women's Hospital make a major impact on the community that we serve. To learn more about how you can support the hospital, please contact the Inova Health Foundation at **703.776.6693** or Kate.Luke@inova.org.



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Gynecologic Oncology

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John Elkas, MD

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Obstetrics/Maternal Fetal Medicine/Neonatal Care

- Inova HealthSource Childbirth Education: [703.689.2421](tel:703.689.2421)
- Inova James G. Sites Antenatal Testing Center, Inova Women's Hospital: [703.776.6654](tel:703.776.6654)
- Inova Children's Hospital NICU: [877.900.9KID \(877.900.9543\)](tel:877.900.9KID)

The Inova Children's Hospital NICU is just one call away. Coordinated neonatal patient referral, transfer and transport, via air or dedicated pediatric and neonatal critical care ambulance, are available 24-7 by calling 1.877.900.9KID (877.900.9543)

Gynecology/Urogynecology/Gynecologic Oncology

- Pelvic floor physical therapy services at Inova Physical Therapy Centers:
 - Inova Physical Therapy Center – Ashburn: [703.726.1616](tel:703.726.1616)
 - Inova Physical Therapy Center – Woodbridge: [703.580.5160](tel:703.580.5160)
 - Inova Alexandria Hospital: [703.504.3535](tel:703.504.3535)
 - Inova Fairfax Hospital: [703.776.6080](tel:703.776.6080)
- Gynecologic Oncology Patient Navigator: [703.776.2901](tel:703.776.2901) • Marcy.Osterhaus@inova.org
- Life with Cancer programs patient referral: [703.698.2526](tel:703.698.2526)
- Inova Comprehensive Cancer and Research Institute genetic counseling patient referral: [703.970.3209](tel:703.970.3209).
- Research options including WHIRC: Dr. Larry Maxwell at [703.776.6040](tel:703.776.6040)



*Inova Women's Hospital
Meeting a woman's healthcare needs
at every phase of her life.*



