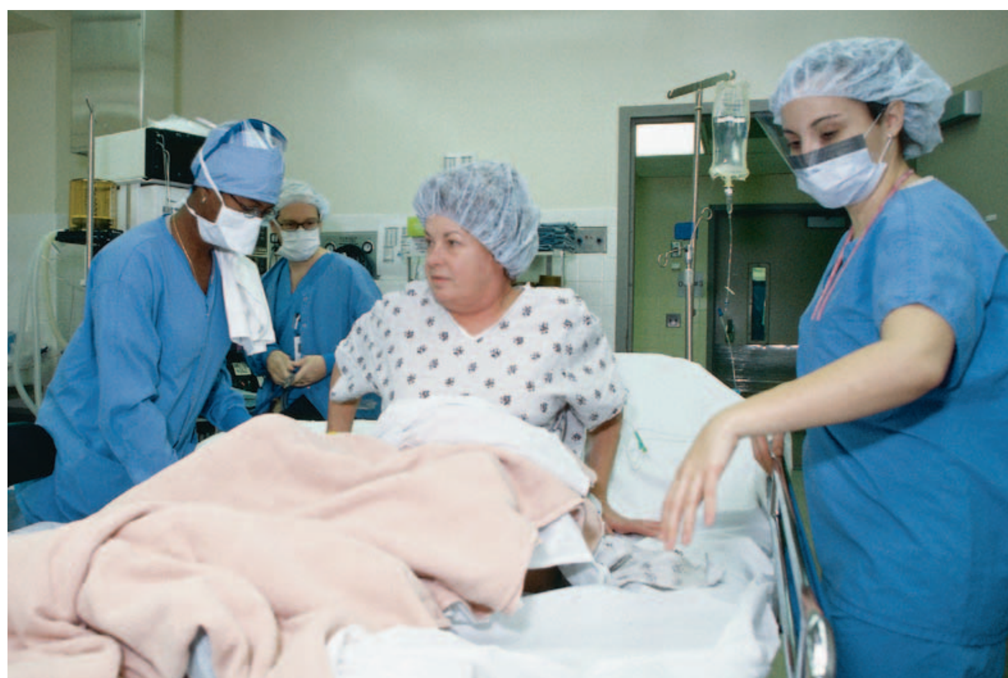
Emerging Technology in Women's Health



A patient prepares for outpatient surgery — a welcome alternative to hospital admission.

Thanks to a growing focus on women in medical studies and research, new procedures and treatments for women are being developed at breakneck speed.

"It's an exciting time to be involved in women's health because there is a proliferation of services," says Richard J. Taylor, M.D., OB/Gyn at Piedmont Hospital. "Research is moving at the speed of light, and new technologies are coming along almost faster than we can evaluate them."

Piedmont Hospital is at the forefront in adopting new procedures as soon as they are approved. Here's an overview of emerging technology.

Minimally Invasive Laparoscopic Hysterectomy

An estimated 670,000 women undergo hysterectomies each year in the United States, usually for treatment of debilitating bleeding, pain and fibroids. The majority of cases — about 65 percent — are performed through traditional abdominal surgery, requiring at least two to three days in the hospital and six to eight weeks of recovery and resulting in a large disfiguring abdominal scar.

Now women have another option. Piedmont has begun offering a minimally invasive alternative to the traditional surgery, called laparoscopic supracervical hysterectomy (LSH).

"I call it the sutureless, bloodless and less painful hysterectomy," says Nathan Mordel, M.D., a Piedmont gynecologist who has performed more than 75 of these procedures.

LSH requires only three laparoscopic incisions — a tiny (half-inch) umbilical-naval incision and two tiny (one-fifth of an inch) abdominal incisions. There is no vaginal incision. LSH removes the uterine body but leaves the cervix, its attachments, ovaries and fallopian tubes intact. "Most of the uterine support is through the cervix — the ligaments, nerves and the blood supply," says Dr. Mordel. "Preserving the cervix and its support may avoid the pelvic floor problems that can arise after a hysterectomy. Preserving the ovaries prevents surgical menopause."

LSH is an outpatient procedure, and most patients go home the same day and resume all activities in two weeks. Dr. Mordel uses special energy sources to seal and cut the vessels and tissue, so he uses no sutures. The uterus is removed through a special device called a morcellator. Even large uteri weighing up to two pounds may be removed using this device.

Jeanne Nordmark is sold on LSH. She had the procedure last October. "I've had quite a few surgeries, and I've never experienced anything like this in my life," Jeanne declares. "I really had no pain after the surgery. It was unbelievable."

Jeanne, 73, had been having problems with bleeding and abdominal pain. Her gynecologist performed a dilation and curettage (D&C) and found fibroids and polyps in her uterus. He recommended a hysterectomy.

As researchers continue addressing the unique health concerns of women, Piedmont Hospital will embrace new advances and technology as quickly as they become available.

Jeanne went to Dr. Mordel to discuss it. "We walked in thinking there was no way we were going to do it, and we walked out totally sold," says Jeanne's husband, Bill.

Jeanne, who had severe problems recovering from anesthesia in the past (she spent eight hours in the recovery room to overcome nausea after a 1965 mastectomy), woke up from the surgery with no pain or nausea. She spent one night in the Hospital because of a heart murmur from an unrelated condition.

"I was so pleased," she says. "Dr. Mordel is the only doctor who has ever called me after surgery. He called me three days after the procedure to see how I was doing. He's one of the finest doctors I've ever known."

Uterine Fibroid Embolization

Of the hundreds of thousands of women who have hysterectomies each year, about one-third undergo surgery to remove uterine fibroids (benign tumors within the uterus). Fibroids are the leading cause of hysterectomy in the United States. Piedmont Hospital offers Uterine Fibroid Embolization (UFE), one of the newest and most advanced treatments for uterine fibroids. This non-surgical option, which works by cutting off the blood supply to a fibroid, is a welcome alternative to a hysterectomy for many women.

"One of every three women of childbearing age has fibroids," says John C. Lipman, M.D., an interventional radiologist at Piedmont who has had extensive experience with the procedure since the mid-1990s. "Fibroids are even more common and more commonly symptomatic in African-American women. In the past this translated into a higher hysterectomy rate in African-American women. Today, hysterectomy is no longer a first option for patients suffering with fibroids."

For some women the symptoms can be quite severe. "I've had patients who were changing pads every hour or were unable to work for several days each month due to heavy bleeding," says Dr. Lipman. "Some women think it's normal because they've always bled like that, but in reality they are actually hemorrhaging and can become profoundly anemic."

Women with such severe symptoms traditionally have been advised to have a hysterectomy or a myomectomy, a surgical procedure that removes the

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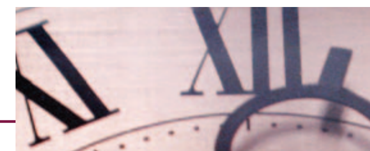


fibroids but spares the uterus. UFE offers women a completely non-surgical option.

A national leader in the ongoing development of UFE, Piedmont was one of the first hospitals in the southeast to offer UFE and the only Georgia hospital chosen to participate in two FDA trials comparing UFE with traditional surgical options. Dr. Lipman is considered a nationally recognized expert on the procedure and is one of seven board-certified interventional radiologists who perform the procedure as members of Radiology Associates of Atlanta. “We have the most experience with UFE in the state by a large magnitude,” Dr. Lipman says. “There are only two hospitals in the country that have done more UFE procedures.”

During a UFE, the interventional radiologist uses X-rays to guide very small instruments through the blood vessels of the uterus. Tiny particles are delivered through a small catheter, which cut off the blood supply to the fibroid. “Fibroids are hard, firm tumors,” explains Steven J. Citron, M.D., chief of Interventional Radiology at Piedmont. “Once their blood supply is cut off, they shrink and die off. Patients typically see significant improvement in their symptoms within two to three months. Roughly 90 percent of patients’ symptoms improve significantly or resolve completely.”

While other minimally invasive therapies have a negative impact on a patient’s fertility, UFE’s impact on fertility is still unknown.

“We’ve seen patients get pregnant and have children after UFE,” says Dr. Lipman. “Recently, a patient had twins.”

HydroThermAblator

Piedmont is the first hospital in the city to offer the HydroThermAblator (HTA), a new treatment for dysfunctional intrauterine bleeding. HTA is a safer, more effective and less invasive way to curb excessive menstrual bleeding. It circulates heated saline throughout the entire endometrial cavity, destroying the lining of the uterus, which is responsible for the heavy bleeding. In HTA, unlike other ablation techniques, the saline conforms to the uterine cavity regardless of its shape.

An estimated 20 percent of women over 35 suffer from menorrhagia (periods that last more than seven days and often require more than 15 pads a day). Traditionally, these women had few options other than hysterectomy to control the bleeding. The HydroThermAblator is an attractive alternative for many women. The procedure takes about 30 minutes, so patients are under anesthesia for a shorter period of time and recovery is quicker.

According to a study conducted by the manufacturer of the HydroThermAblator, of 167 patients that were treated, 40 percent stopped having periods 12 months after treatment, and 42 percent had normal or less-than-normal periods.

“HTA is safe, quick and minimally invasive,” says Bonita D. Dozier, M.D., OB/Gyn at Piedmont. “It’s an effective alternative that shows great promise for a broader scope of women.”

Urodynamics

As women age, they are more prone to a variety of pelvic floor problems, including incontinence (urine leakage) and prolapse (sagging or falling organs). Piedmont is well equipped to diagnose and treat pelvic floor problems. The Hospital’s expanded Women’s Center will include a comprehensive pelvic floor service, Atlanta’s first multi-specialty integrated laboratory for such problems. Anne K. Wiskind,

M.D., urogynecologist, will partner with Jay J. Singh, M.D., colorectal surgeon, establishing the only true collaboration of its kind between urologists, urogynecologists and colorectal surgeons. (Urogynecology is a subspecialty of OB/Gyn that deals with pelvic floor disorders.)

"Most centers for pelvic floor problems are run by urologists," says Dr. Wiskind. "We have urologists, urogynecologists and gynecologists working together, and we'll be adding colorectal surgeons, gastroenterologists and physical therapists. This will be the only comprehensive pelvic floor center in the city and will encompass diagnosis and management of pelvic floor disorders, with emphasis on both surgical and nonsurgical treatments." Dr. Wiskind performs a special test called urodynamics to diagnose pelvic floor problems, mostly incontinence and prolapse.

About 40 percent of women suffer from some form of urinary incontinence, says Dr. Wiskind. The two main types are urge incontinence (leakage before a woman has a chance to get to the bathroom) and stress incontinence (leakage during activities like coughing, laughing or sneezing). Urge incontinence is commonly treated with medications, biofeedback or electrical stimulation to the nerves that control the bladder.

Stress incontinence can be treated with pelvic floor exercises, devices that block the loss of urine, and surgery. One of the most promising new techniques to treat this type of incontinence is a minimally invasive surgery using a type of suburethral sling known as tension-free vaginal tape (TVT). The tape forms a hammock under the bladder neck to help support it.

"We're seeing success rates [with TVT] of 90 to 95 percent for primary operations and 80 to 85 percent for secondary procedures," says Dr. Wiskind. The surgery is an outpatient procedure and patients are generally back to their normal activity level in a week or two, she adds.

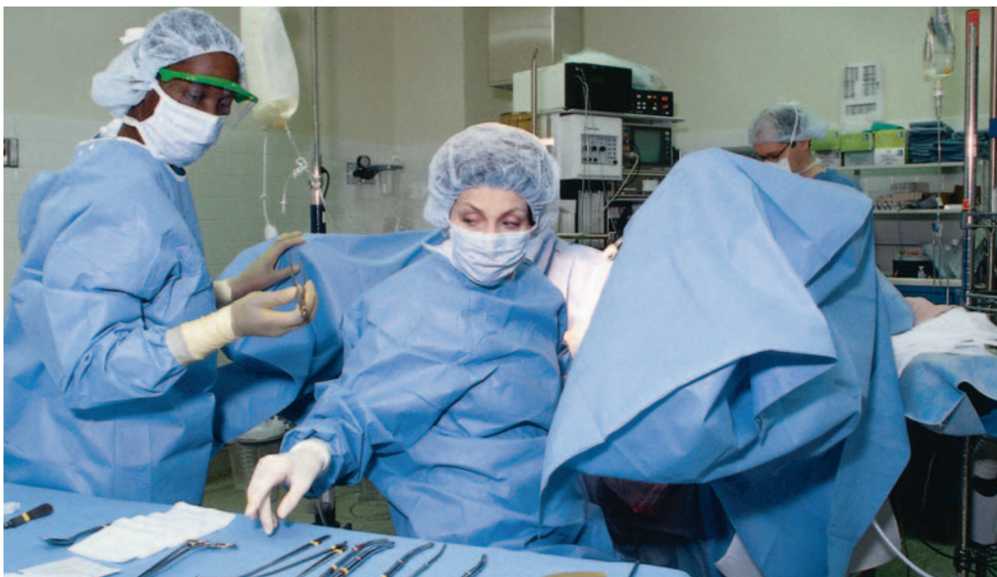
Sharon Bates is a fan of the procedure. The 52-year-old medical transcriptionist was having trouble with leakage when she coughed or sneezed. "I got so tired of wearing a pad every day," Sharon recalls. "It was such a nuisance." Her OB/Gyn, Dr. Taylor, sent her to Dr. Wiskind. After undergoing urodynamics, Sharon decided to try TVT.

"After my surgery I spent just one night in the Hospital," Sharon says. "I had just two tiny incisions and a little discomfort, but no real pain. I haven't had any leakage problem since, and I am thrilled beyond belief."

Prolapse of the vagina, bladder and/or uterus generally occurs slowly over time, and the symptoms can be hard to recognize. Many women don't seek treatment until they actually feel something protruding outside the vagina.

Women suffering from prolapse have two treatment options: They can wear a pessary, which is a device worn in the vagina like a diaphragm to support the prolapsed pelvic organs, or they can undergo corrective surgery.

"The type of surgery depends on where the prolapse is," explains Dr. Wiskind. "We have to determine what part of the pelvic floor has been compromised to determine the best way to repair it."



Keeping Pace with the Future

As researchers continue addressing the unique health concerns of women, Piedmont Hospital will embrace new advances and technology as quickly as they become available. "We're actively building on what has become recognized as an excellent service," concludes Dr. Taylor. "We'll always strive to be a leader in providing the best care possible for women by combining the most forward-thinking research technology with compassionate care."