Laparoscopy, a minimally invasive surgical technique, lets doctors examine the inside of a person's body and operate while doing minimal damage to surrounding tissue. (Martin Parzer, AP)

IN DEPTH
**Health care**

# Laparoscopy

## Is it the future of gynecologic oncology?

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By Elisa Birnbaum

It was 12 o'clock on a crisp November afternoon in 2005 when Theresa Robinson was wheeled into surgery at the Sunnybrook Regional Cancer Centre in Toronto. After undergoing a complex laparoscopic operation (to remove her fallopian tubes, ovaries, pelvic lymph nodes and omentum), the 65-year-old patient was back home in time for dinner.

As for her recovery period, it was equally quick and simple. "I was out walking around the very next day," she says. "I felt absolutely great right off the bat."

While most gynecologic oncology patients wait at least six weeks after surgery before beginning chemotherapy treatments, Theresa began hers in half the time.

Having undergone a traditional operation in 1986 to remove her uterus, Theresa was initially expecting a similar post-surgical experience. But the comparison was striking. "That time I was at home lolling about for six months," she says, "so I know the difference."

**At the forefront of change**

While laparoscopy, a minimally invasive technique for conducting surgery, is not new, it was only introduced into simple gyne-oncological procedures in the 1990s. Even today, just a few doctors in North America are qualified to perform complex gynecological laparoscopic procedures.

Enter surgical oncologists Dr. Rachel Kupets and Dr. Alan Covens, from Toronto's Sunnybrook hospital, who are helping to bring the laparoscopic technique to the forefront of gynecological care. As opposed to laparotomies or open surgical techniques which require a big incision, three to seven days in hospital and longer recovery times, the newer procedure is comparatively simple — for the patients.

The technique is based on a medical gadget called a laparoscope, a slim device designed to give doctors a look at the inside of a person's body while doing minimal damage to surrounding tissue. Using a laparoscope, surgeons make four small incisions or "ports," each one-centimetre in diameter. A fibre-optic camera, inserted through each port, relays images from the abdominal cavity onto monitors, providing surgeons with a clear and crucial picture of their operating environment. Tiny instruments are used to do the actual surgery, avoiding the need for a large surgical incision that would require a lengthy healing period.

At Sunnybrook, the scope is used therapeutically and diagnostically, allowing the uniquely qualified surgeons to engage in complex procedures wherein all organs and lymph nodes are removed to determine whether cancer has spread. Although the surgery itself may take a bit longer than traditional methods, the results and cumulative data have been impressive.

"Patients are able to get up and walk on the day of the operation, as well as require much less pain control," Dr. Kupets said. "They also resume eating and drinking on the same day as the operation and ultimately resume their daily activities much earlier."

**Is it right for you?**

But the laparoscopic option is not right for every patient. The most appropriate candidates for the minimally invasive surgery are those with early stages of ovarian, endometrial and fallopian tube cancers, as well as those in need of radical hysterectomies for cervical cancer.

Patients at Sunnybrook who are heavier, elderly, have a history of heart and lung disease, or who may have an accumulation of scar tissue due to multiple operations, are treated using conventional techniques to minimize the risk of complications.

Vicki Sorrenti was one of the candidates who qualified. Having detected a small endometrial tumour, Sorrenti's physician immediately sent her to Sunnybrook for treatment. Though she had worked as a cancer nurse for 40 years, Sorrenti wasn't acquainted with the use of scopes in gyne-oncology, and this self-proclaimed "difficult" patient was highly skeptical.

"I really didn't think it was going to be that easy," she says. "I didn't believe them."

Less than a day later, however, Sorrenti's faith was renewed and another laparoscopic patient walked out of Sunnybrook Regional Cancer Centre a believer. Allowed to return home the day of her surgery, Sorrenti says she was thrilled with her short hospital stay.

"It was good to go home because the longer you stay in hospital, the more infections you can get," said the retired nurse. "Besides," she adds incredulously, "I had no pain."

Within the first week, Sorrenti was already engaging in many of her usual activities and was feeling great. Advised to avoid her morning speed-walking routine for a month, Sorrenti reluctantly complied. "But," she emphatically states, "I wanted to — and I could have."

**Some remain cautious**

Sorrenti and Robinson are not alone in their praise for the laparoscope and its possibilities.

"It's a definite trend," says Dr. Marie Plante of Quebec City's Hotel Dieu. "We just had our meeting with the Committee of the Society of Gynecologic Oncologists of Canada and there was a lot of enthusiasm and people pretty much realize this is the way to go."

Yet despite the many patients and members of the medical community won over by the technology, the number of practitioners doing laparoscopic gyne-oncological procedures is still relatively small.

While some cancer centres, such as Quebec City's Hotel Dieu, B.C.'s Cancer Agency and Toronto's Sunnybrook seem to be pushing the laparoscopic envelope, other institutions seems to be lagging behind. Dr. Covens estimates the number of laparoscopic surgeries he performs at 150 per year, or approximately 50 per cent of his patients.

Several theories are offered to explain the discrepancy. For one thing, the procedure doesn't come without potential downsides.

Though complications such as wound infections and pneumonia are uncommon with laparoscopy, other potential problems such as hematomas (internal bleeding) caused by instruments coming into contact with delicate tissue in the abdominal wall may arise. Since most surgery is done on an outpatient basis, these complications may only appear once the patient has left hospital, outside the careful watch of their physician.

Laparoscopic surgery also involves complex procedures that require a lot of training. Some hospitals provide the training as part of their surgical training fellowships, while some doctors study another year or two beyond that fellowship period for more complex procedures.

Dr. Covens said laparoscopy takes more operating time than traditional surgery with large incisions. "Especially at the beginning, it would take you [the surgeon] longer to do something a different way."

And then there's the cost, including the fact that a considerable amount of disposable material is used in many of the procedures.

"It's a significant investment by hospitals," Dr. Covens concludes.

Of course, it can be argued, laparoscopy is saving hospitals money in the long run by allowing patients to

recover more quickly. In fact, one of the biggest advantages attributed to the procedure is that it seldom requires the use of a hospital bed, a precious commodity always in short supply.

But Covens remains clearly focused on one thing: "A physician's main responsibility is to the patients, so I'm trying to deliver what I think is the best care to them."

**Getting the word out**

Dr. Kupets agrees. In fact, her belief in the scope's potential to have a positive impact on health care has prompted her to join efforts to establish an official training program in laparoscopy under the University of Toronto's division of gynecologic oncology. Still in the works, it is expected that under the guidance of gynecologic oncology laparoscopic surgeons, including Kupets (who was trained in California) and Covens (who studied in Europe), trainees who complete the intense gyne-oncology program will be eligible for a certificate of satisfactory completion.

"They will then go back to their centres of employment and provide those skills internationally," Kupets says.

She is also a member of a special committee of the Society of Gynecologic Oncologists of Canada that is hoping to increase the availability of laparoscopy for women across the country.

"The impression is laparoscopy hasn't picked up as much as it should have, that it's not progressing," says Dr. Plante, who is committee co-chair. The group is working on a number of strategies, including skills training and awareness.

"We want to raise the level of teaching laparoscopic surgery to fellows in training and also offer support to gyne-oncologists already in practice," she explains.

Kupets and Covens are in the midst of co-editing a new book, a written and video compilation of surgical laparoscopic techniques used in operations of early ovarian fallopian tube, uterine and cervical cancers. The first of its kind in the gynecologic oncology community, the book *Laparaoscopic Surgery for Gynecologic Oncology* has a release date of Spring 2008 and will include contributions from laparoscopic experts across North America and Europe.

"It's meant to educate trainees and surgical oncologists already in practice who want to learn how to offer the operations to their patients," says Kupets. "This is truly a unique undertaking."

A beaming Robinson would undoubtedly encourage such an ambitious undertaking.

"I still can't believe it," she says of her smooth, trouble-free procedure. "Every once in a while, I'll be walking down the street and someone will say how good I look and I'll think, 'good god, I was really one of the lucky ones.'"