New Options for Women after Mastectomy

Reconstructive Breast Surgery

During treatment for breast cancer, surgery to reconstruct the breast is offered as part of every woman’s care at Sky Ridge. While some women may undergo breast conservation surgery (lumpectomy), others may have a mastectomy to remove the entire breast. For these women, reconstructive options traditionally have included implants or surgical reconstruction with a procedure known as the TRAM (transverse rectus abdominus myocutaneous) flap.

The TRAM flap, the most commonly performed breast reconstruction procedure, entails rotating a flap of abdominal tissue to create a new breast. Because TRAM flap operations remove some of the abdominal muscle, women permanently lose some degree of abdominal strength and function, and they face an increased risk of hernias, weakness, constipation and other problems.

Now women in Colorado may consider the DIEP flap, a permanent surgical reconstruction that does not cause abdominal muscle loss. During DIEP surgery, surgeons remove the layer of fat and skin across the abdomen, similar to a “tummy tuck,” and use it to create a new breast. In contrast to TRAM flap operations (in which the rotated flap remains connected to the abdomen), DIEP flaps are removed entirely, and blood vessels are carefully removed from the abdominal muscles through leading-edge micro-surgical techniques. Precisely reconnecting these blood vessels into vessels in the chest provides essential blood flow to the newly reconstructed breast.

Each year more than 250,000 American women face the reality of either invasive or noninvasive breast cancer. New kinds of treatment as well as improved reconstructive surgery mean that women who have breast cancer today have better choices.

After her mastectomy at the age of 28, Lisa Moore lived without her left breast for more than six years while she and her husband grew their young family. She had been diagnosed with breast cancer in December 2002 and had a mastectomy in January 2003. Because she had learned she was pregnant shortly before the mastectomy, she opted to forgo reconstructive surgery to rebuild her breast, which would have lengthened her time in surgery and increased the risk to her pregnancy.

Six years and four daughters later, Lisa was ready to have her breast reconstruction. She was relieved to learn that Dr. Christopher Williams and Dr. Jeremy Williams perform DIEP (deep inferior epigastric perforator) flap breast reconstruction at Sky Ridge Medical Center.
By completely sparing the abdominal muscles, the DIEP is less likely to cause women to lose strength or function afterwards. The closure of abdominal tissue essentially constitutes a “tummy tuck” that most women appreciate as a side benefit, according to Dr. Christopher Williams. But because microsurgery is technically demanding and requires extensive training and expertise, far fewer surgeons perform DIEP flaps than TRAM flap reconstruction. He and Dr. Jeremy Williams have completed highly specialized training in microsurgical reconstruction during their Plastic Surgery residencies at Johns Hopkins Hospital in Baltimore, Maryland, and Dr. Christopher Williams completed additional fellowship training in microsurgical breast reconstruction after residency.

“*A lot of women don’t even know the DIEP is available... women in Colorado have this great option right here.*”

After Lisa researched her options in 2003 she knew she wanted a DIEP procedure, but at that time, only a few surgeons in the world were offering it. “I wanted to have reconstructive surgery after we were done having children, and I wanted the DIEP procedure because I like to be active. Our kids are so young, I wanted to have all my abdominal muscles so I could still do things with them.”

Lisa underwent the first stage of DIEP reconstruction at Sky Ridge in January 2009. Two additional stages will be performed in the coming months to lift her right breast (to match the left) and to complete the nipple, but Lisa is thrilled with her results so far. “I’m loving it,” Lisa says. “I’m so excited about it, and my muscles are not affected at all.”

### Bilateral Mastectomy on the Rise

Despite its complexity and limited numbers of qualified surgeons, breast cancer patients are increasingly requesting DIEP because of its compelling advantages, says Dr. Jeremy Williams. He explains that even though most breast cancers occur in just one breast, many of the women in their practice are choosing to undergo bilateral mastectomies. “This reduces the risk of breast cancer in the second breast by 95%. Patients are making this choice because the reconstructive options are so good, and they want to stay active — they would rather have a bilateral mastectomy than worry for the rest of their lives,” he explains.

A single surgeon qualified to perform DIEP flap procedures may do the surgery if a woman has a unilateral mastectomy, but a bilateral procedure benefits from the skills of two surgeons working as a team during the eight to ten-hour operation. Since no other surgeons in the state are working as a team to provide this option. Drs. Christopher and Jeremy Williams are the only surgeons in Colorado who regularly offer and perform bilateral DIEP flaps today. No hospitals other than Sky Ridge currently offer this option.

The problem of local access to bilateral DIEP ironically hit close to home when Dr. Jeremy Williams’ mother, Yvonne Williams, had to fly across the country in order to have the procedure. Yvonne learned she had breast cancer in 2008, and decided that although just one breast was affected, bilateral mastectomy followed by bilateral DIEP flaps would be her choice of treatment. “I knew I could do a lumpectomy and then have mammograms my entire life, but I thought that eliminating the risk of cancer in my other breast was a better option. My mother had died of ovarian and pancreatic cancer, so I was concerned about my risk level.” She said the choice of the DIEP over a TRAM flap operation was clear because she didn’t want to lose her abdominal muscles or risk a hernia. “I wanted to live a normal life.” So, since it was not an option to have her son perform the operation, Yvonne arranged to have her surgery in Baltimore, where both her son and Dr. Christopher Williams had trained during residency and fellowship.

“A lot of women don’t even know the DIEP is available,” she says. “Although I had to travel far from Denver to have the DIEP procedure, other women in Colorado have this great option right here.”

**Did You Know**

- Many women are choosing to have both breasts removed, even if their cancer is only on one side.
- Microsurgery includes reconnecting the blood vessels and in some cases, reconnecting the nerves, that go to the skin.
- At this time, fewer than five surgeons in Colorado perform the DIEP flap procedure. Only Sky Ridge regularly offers DIEP flaps to women with bilateral mastectomies.
- Surgeons at Sky Ridge can now monitor their patients using cell phones to ensure that all is well after surgery. A tiny pad attached to the patient’s skin provides readings of her blood oxygen level, which is transmitted wirelessly across the internet. Using his cell phone, the surgeon can check the status of the patient at any time, from anywhere. A low reading, which may indicate a problem with the new flap, prompts immediate action.
## A Comparison of Reconstructive Procedures

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<th>Description</th>
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<tr>
<td><strong>DIEP Flap</strong>&lt;br&gt;Deep Inferior Epigastric Perforator flap</td>
<td>A flap of abdominal skin and fat is used to create the new breast. Blood vessels are reconnected using microsurgical techniques. Abdominal muscles remain fully functional.</td>
<td>No loss of abdominal muscle; Uses a woman’s own fat and skin; Better blood flow to the breast, and possibility of reconnecting nerves; Tummy tuck as side benefit; Results last forever. Lower long-term cost.</td>
<td>A saline implant is placed under the skin in order to create the shape of a breast where the natural breast has been removed.</td>
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<tr>
<td><strong>TRAM Flap</strong>&lt;br&gt;Transverse Rectus Abdominis Myocutaneous flap</td>
<td>A flap of skin, fat and muscle is removed from the abdomen to create the new breast. There are several variations of the TRAM flap, but all require removal of some abdominal muscle.</td>
<td>Widely performed by most surgeons; Less technically demanding; Shorter operation.</td>
<td>Fast procedure; Less expensive short term; Less surgical risk to the patient; No other scars.</td>
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<tr>
<td><strong>Implant</strong></td>
<td></td>
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<td>Results not permanent — multiple surgeries likely over time; Implants may extrude or become infected; Less natural cosmetic appearance; Higher long-term cost.</td>
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*Christopher Williams, MD, and Jeremy Williams, MD, are unrelated, but they trained together at Johns Hopkins Medical School in Baltimore and are now partners in practice at the Rocky Mountain Center for Breast Surgery at Park Meadows Cosmetic Surgery.*