

Bloodless Surgery

From hysterectomies to heart valve replacements, Brookwood's Bloodless Medicine And Surgery Program is giving patients new alternatives to transfusions.

For Linda, living with sickle cell anemia was an everyday fact of life. She'd faced the health challenges one by one. Now she needed surgery—a hysterectomy to correct bleeding problems that were making her anemia even worse. Her blood count was low, but a transfusion would be in direct conflict with her religious beliefs. What she needed was another option. Brookwood Medical Center's Bloodless Medicine And Surgery Program gave her that alternative.

“Concentrating on practices which reduce or eliminate the need for blood products is exciting because it's going to change the practice of medicine for the better,” said Dr. Bradley Dennis, executive medical director for Brookwood Medical Center. “We started the Bloodless Medicine And Surgery Program to provide better care for patients who don't accept transfusions because of their religious beliefs, but many of our other surgical patients are also benefiting.”

Brookwood's Bloodless Medicine And Surgery Program is the first of its kind in Birmingham, but it's part of a growing national trend. Each year, about 4 million people in the United States receive blood transfusions. However, many patients who need life-saving surgery or even treatment for trauma are now looking to medical science for new choices.

“Bloodless surgery has been used successfully in highly complex procedures such as open heart surgery and brain surgery,” said program coordinator Shelbra Sublett. “Recently I talked with a 78-year-old man who had just had a triple aneurysm repaired with bloodless surgery. He was doing great.”

Why Bloodless Medicine And Surgery?

For some people, like Linda, the program offers medical care that doesn't conflict with religious beliefs. Others who have rare blood types can have the peace of mind of knowing treatment options are available, even if compatible donor blood is in short supply. According to Dr. Dennis, patients and physicians often simply prefer to minimize the risk of complications related to transfusions.

“Although testing for AIDS, hepatitis C and other viruses has improved, and reactions to incompatible blood are rare, the surest way to avoid health risks from transfusions is to avoid the need for them,” he explained.

The benefits of the Bloodless Medicine And Surgery Program have been well received by the hospital's medical team.

"The response from our medical staff has been very positive," said Glenda Brogden, chief operating officer of Brookwood Medical Center. "They can see first hand how these techniques are directly contributing to the overall quality of patient care."

Preventing the need for transfusions

Brookwood's innovative program combines a variety of strategies before, during and after surgery to minimize blood loss and help the circulatory system work more efficiently. Dr. Tim Davis used several of these techniques in performing Linda's surgery.

"When patients have a condition similar to Linda's, we like to build up their blood count by giving them iron, vitamins and a medication that creates some of the effects of menopause to reduce blood loss," said Dr. Davis. "In Linda's case, I also worked with her hematologist at Brookwood. He gave her a hormone called erythropoietin, which is often used in bloodless surgery to stimulate the patient's bone marrow to produce more blood cells before surgery and to replenish the blood supply afterward."

During the surgery, Linda received intravenous fluids to maintain her blood volume and dilute it so each drop lost would contain fewer red cells. An anesthesiologist kept a close watch on her oxygen levels using oximetry monitors in contact with her skin. To minimize bleeding, Dr. Davis worked very carefully and used electrocautery to seal blood vessels. A special type of cell saver equipment was standing by to recirculate Linda's blood if necessary.

As it turned out, the other techniques worked so well, Linda didn't need the cell saver. She came through the surgery fine and was soon at home recovering.

In coordinating Brookwood's Bloodless Medicine And Surgery Program, Shelbra works as a liaison between patients, their families and the medical care team.

"In cases where transfusions are refused on religious grounds, an important part of my job is understanding the patient's views and communicating them to the care team," said Shelbra. "Cell savers are one example of where that can make a very important difference. Members of Linda's faith don't accept transfusions of their own blood that has been stored in advance, or any blood that has been outside their bodies. However, using cell savers that circulate blood in a continuous loop can sometimes be an option."

Much of the pioneering research in bloodless medicine and surgery has been based on work with patients who are Jehovah's Witnesses. Their refusal of transfusions is based on scriptures they believe require them to abstain from blood. The need for other treatment options has led doctors to develop creative alternatives.

Bloodless Surgery Strategies

In addition to the techniques used in Linda's surgery, there are a variety of strategies that can reduce blood loss or increase efficiency so less blood can do more, including:

- Choosing less invasive procedures such as laparoscopy or endoscopy
- Microsampling small amounts of blood for essential pre-surgical testing rather than collecting larger amounts as a matter of routine
- Sealing incisions with new surgical instruments such as argon beam coagulators and harmonic scalpels that work with ultrasonic vibrations
- Cooling the patient's body to slow the metabolic rate to reduce the need for oxygen and help red blood cells keep pace
- Increasing oxygen saturation in the blood to deliver a better supply to vital organs

Creating New Possibilities

"Rapid advances are expanding the possibilities and giving us new ways to help patients," said Shelbra. "As coordinator, I'm an information resource for healthcare professionals and the community. The National Association for Bloodless Medicine & Surgery is one of many sources that keep us informed of new developments, and I share that information in briefings for our physicians and care teams."

In major traumas and some types of surgery, there are still situations where transfusions give patients the best chance for survival. But even that may be changing.

Research on synthetic blood substitutes is now underway and showing promise. It could virtually eliminate the need for blood transfusions in most surgical procedures in the not-so-distant future.

New Alternatives To Prostate Surgery

Outpatient procedures offer simpler ways to ease enlarged prostate symptoms

When you're a 30-year-old man, enlarged prostates aren't likely to be a major topic of conversation when you get together with the guys. After all, at that age, only 10% of men are beginning to show the signs of benign prostatic hyperplasia (BHP).

But as prostate tissue continues to grow throughout a man's life, by your 50s and 60s, you'll probably be hearing friends talk about the problems of an enlarged prostate, and odds are 50-50 you'll be dealing with the symptoms yourself. The numbers keep growing, and in your 70s and 80s, the chances for having BHP may be as high as 90%.

Why does a prostate become enlarged? There's no definite answer, but some researchers believe it could be related to the hormonal shifts of aging. The good news is an enlarged prostate isn't generally considered to be related to prostate cancer, though you'll need to see your doctor to be sure of the diagnosis.

As the prostate grows, it can tighten around the urethra like a clamp around a hose, narrowing the flow of urine. If you take over-the-counter medication containing a decongestant known as sympathomimetic, it could temporarily cut off the flow altogether and send you on a quick trip to the urologist. Similar problems can be triggered by alcohol, cold temperatures or a long period of immobility.

Medication, surgery or something new?

Typical signs of BHP include extra trips to the bathroom, hesitancy and a slow stream. Medications may relieve the symptoms, but long-term drug therapy is expensive and sometimes has side effects.

Until recently, correcting the problem usually meant having an operation called Transurethral Resection of the Prostate, or TURP, which requires a hospital stay and anesthesia. Complications can include bleeding problems, scar contractures, and a slight, but anxiety-provoking chance of impotence or incontinence if nerve or muscle tissue is damaged.

Recent advances in treatment are giving men new choices that may be effective, less invasive and possibly less likely to be associated with the complications of traditional surgery.

One form of transurethral microwave thermotherapy uses a device known as the Targis™ system. Microwave energy travels through a catheter to focus heat on the blockage, while a coolant maintains a comfortable temperature to help prevent irritation.

“With the new microwave procedure, there’s no cutting, so there’s no need for general anesthesia,” said Dr. Dr. Rodney L. Dennis, a urologist who has used the innovative technology to treat a number of patients at Brookwood Medical Center. “We may correct the problem in an hour or two on an outpatient basis using light sedation, and patients can usually go home the same night.”

According to Dr. Dennis, microwave therapy has been a welcome option for many of his patients, and those he has treated have had generally good results. He cautions, however, that it may not be the best choice in every case, particularly if a patient has a hip or penile prosthesis, or if his doctor determines that he has a short prostatic urethra or a large median lobe prostate.

Indigo laser therapy, using laser light through a cystoscope, is another choice for outpatient treatment. It offers many of the same benefits as microwave therapy, but requires anesthesia.

“A procedure called Transurethral Needle Ablation (TUNA®) can be done in the urologist’s office,” said Dr. Dennis. “Doctors specially trained in administering a local anesthetic called a pudendal block perform the procedure using a cystoscope with 2 needles and radio frequency.”

Which choice is right for you?

“Many of my patients are optimistic and excited about the new options,” said Dr. Dennis. “For some patients, there’s still a lot to be said for traditional surgery, even though it requires anesthesia and a hospital stay. When the catheter comes out, the results are usually immediate. With microwave therapy and the indigo laser, it may take several weeks to see the full benefits.”

The best advice is to talk with your doctor about your particular case so you can choose the therapy that may work best for you.