Bloodless Medicine and Surgery Program
The Only Bloodless Medicine and Surgery Program in the D.C. Area

Knowledge and Compassion
Focused on You
Blood transfusions are performed to replace blood that has been lost during surgery, an injury or a serious illness. However, whether for religious reasons or personal preference, many people today are seeking an alternative to blood transfusions. With various advances in medical care, one option is “bloodless surgery” that uses innovative techniques before, during and after surgery to avoid the transfusion of donor blood entirely.

MedStar Georgetown University Hospital’s bloodless surgery team provides alternative options to blood transfusions for patients. Our comprehensive and multidisciplinary program provides bloodless surgery techniques to religious populations like Jehovah’s Witnesses and others who want to avoid transfusions during surgery.

From complex gastroenterology surgery to advanced brain surgery, most surgical procedures today can be safely performed without a blood transfusion.
What is Bloodless Surgery?

Bloodless surgery is a surgical technique in which transfusions of donor blood are purposefully avoided.

People prefer bloodless surgeries because of the following reasons:
- **Religious beliefs**—Jehovah’s Witnesses avoid blood transfusions for religious reasons and seek bloodless alternatives.
- **Medical preference**—Some patients want to decrease their risk of blood-borne infections and immune-system suppression.

Also, bloodless medicine and surgery has many benefits:
- Faster recovery time
- No risk of contracting a blood-borne infection
- Lower mortality rate
- Fewer complications

There are three instances during the surgical process when our doctors can use bloodless surgery techniques:
1. **Pre-surgery**—using medication to increase the blood supply or storing the patient’s blood before surgery
2. **During surgery**—using techniques, specialized equipment and other technologies to avoid blood loss
3. **Post-surgery**—using techniques that eliminate the use of transfused blood or blood products

D.C.’s First Comprehensive Bloodless Medicine Program

When his acid reflux became intolerable and an endoscopy confirmed a diagnosis of Barrett’s Esophagus, Peter Velarde knew surgery was inevitable. So Peter began a very methodical search for just the right surgeon. Of course, he wanted a skilled and experienced practitioner with a solid track record of success. But finding a surgeon who also respected his religious beliefs was just as critical.

Peter is one of Jehovah’s Witnesses, and he follows an important tenant of his faith forbidding blood transfusions. “I spoke with the D.C. area’s Witness Hospital Liaison Committee for the names of surgeons who understood my position of bloodless surgery—and I did research myself,” Peter explains.

Peter found MedStar Georgetown surgeon Stephen Evans, MD. “When I asked him if he was agreeable with the Jehovah’s Witnesses stand on blood, he told me he had just toured the center for bloodless surgery in New York,” says Peter. “You could see the glow in my eyes when he said, ‘it’s a good thing.’”

“This really is about treating the whole patient—physically and spiritually,” Dr. Evans adds. “We know that blood conserving techniques help shorten hospital stays, reduce the risk of contamination and decrease the cost of care. They are a win-win for everyone.”

They proved a win for Peter, whose surgery was very successful—with no need for blood transfusion. “I’m feeling great,” he says. “Techniques that resulted from our spiritual needs are now helping to advance medicine. I’m delighted to know that MedStar Georgetown is taking the lead in this important work.”
The Bloodless Surgery Process

The process begins with your contacting a member of MedStar Georgetown’s bloodless medicine and surgery team who will help arrange your procedure.

Before Bloodless Surgery
We take great care prior to your surgery to ensure success and safety. Preparation for a bloodless surgery differs from those before a regular surgery.

Blood loss during a surgery is expected, and our doctors implement strategies ahead of time to compensate for this loss of blood. These strategies include:

- **Diet management**—eating foods high in iron, folic acid as well as vitamins C and B-12 to help enrich the blood.
- **Hematopoietic agents**—taking iron supplements and other medications to stimulate the production of additional red blood cells (oxygen carriers).
- **Microsampling**—conducting the minimum number of blood tests to obtain the smallest amount of blood necessary for laboratory tests.
- **Pre-operative bone marrow stimulation**—prescribing medications to stimulate the bone marrow to produce more red blood cells.
- **Delaying surgery**—rescheduling non-emergency surgeries until hemoglobin (a red blood cell component) levels increase.
- **Stopping certain medications**—discontinuing certain medications—aspirin, ibuprofen, anticoagulants, vitamin E, etc.—that impact blood clotting or blood count. Do not stop taking medications unless advised by a doctor.
- **Stop smoking**—ceasing smoking to increase oxygen levels.

During Bloodless Surgery
Keep in mind that some blood loss during surgery is expected. However, a bloodless surgeon uses specialized instruments and techniques to minimize blood loss and avoid the need for a transfusion of donor blood.

Some of the techniques our bloodless surgery team use include:

- **Hemodilution**—conserving blood during surgery by adding extra fluid to the blood to minimize the loss of red blood cells; or collecting some blood, replacing it with an equal amount of fluid and re-introducing the collected blood after surgery.
- **Volume expanders**—enhancing circulation with non-blood fluids.
- **Pulse oximeter**—monitoring blood levels with a technology that estimates oxygen levels.
- **Anesthesia techniques**—maintaining body temperature, blood pressure and oxygen levels, which can be indicators of blood loss.
- **Selective embolization or embolotherapy**—using heat to burn and seal blood vessels during surgery.
- **Specialized instruments**—reducing blood loss with innovative devices like CyberKnife® that pinpoints and destroys tumors without incisions or pain.
- **Meticulous hemostasis**—identifying and quickly stopping even the smallest amount of bleeding.
- **Patient position**—using special positions such as lying on one’s back with feet higher than the head to decrease bleeding while increasing blood and oxygen delivery throughout the body.
- **Minimally invasive surgery**—using minimally invasive procedures like laparoscopic surgery to reduce the size of incisions and blood loss.
- **Interventional radiology**—using small incisions to open closed blood vessels or close bleeding vessels.
After Bloodless Surgery

While all patients are monitored closely after surgery, it is especially important to monitor a bloodless surgery patient to prevent anemia—a loss of iron in the blood. You will be monitored very closely following your surgery to make sure your blood supply is at an optimal level.

Some techniques our bloodless surgery team use include:

- **Homeostatic monitoring**—monitoring blood pressure, temperature and fluid levels to identify and quickly respond to signs of anemia or the lack of healthy red blood cells.
- **Homeostatic agents**—taking medications to help blood clot while minimizing blood loss.
- **Medications**—prescribing medications to increase blood volume.
- **Microsampling**—conducting the minimum number of blood tests to obtain the smallest amount of blood necessary for laboratory tests.
- **Hyperbaric oxygen chamber**—using 100% oxygen within a high-pressure chamber to maintain blood oxygen levels.
- **Diet**—eating foods high in iron, folic acid as well as vitamins C and B-12 to help enrich blood.
- **Re-infusing blood**—re-introducing blood that was collected prior to surgery back into the body.
- **Nurse coordinator**—having an experienced healthcare professional who provides personal follow-up care.

Professional Education

Our experienced bloodless medicine and surgery team educates other healthcare professionals. In fact, other departments have adapted our techniques to reduce the number of blood transfusions—a benefit to all patients.

Our bloodless surgery team provides services in collaboration with various MedStar Georgetown University Hospital departments:

- Cancer care and surgical oncology
- Cardiology
- Gastroenterology
- Gynecologic surgery
- Hematology
- Intensive care management
- Neurosurgery
- Obstetrics
- Orthopaedic surgery
- Otolaryngology (ear, nose and throat)
- Plastic and reconstructive surgery
- Thoracic surgery
- Urologic surgery
- Vascular surgery

After bloodless surgery, eating a diet rich in iron can help prevent anemia.
Our Bloodless Medicine Team

MedStar Georgetown University Hospital’s team has been working with bloodless surgery patients for years.

Richard Verstraete, RN, Nursing Coordinator
Richard Verstraete has been a critical care nurse for more than 11 years and has six years of medical research experience. His expertise includes establishing and managing a blood conservation unit.

Mark Zawadsky, MD, Medical Director
Dr. Zawadsky is the medical director of the Bloodless Medicine and Surgery Program. He is board certified in orthopaedic surgery and has had significant experience caring for bloodless medicine and surgery patients when he was the chief of arthroplasty service at Kaiser Permanente in Oakland, Calif.

Mike Hofmann, Bloodless Surgery Program Coordinator
Mike Hofmann has close ties to the Witness community and has worked with patients seeking non-blood medical management for more than 20 years. He educates physicians and healthcare professionals about bloodless surgery and its many benefits.
MedStar Georgetown University Hospital is a not-for-profit, acute-care teaching and research hospital with 609 beds located in Northwest Washington, D.C. Founded in the Jesuit principle of *cura personalis*—caring for the whole person—MedStar Georgetown is committed to offering a variety of innovative diagnostic and treatment options within a trusting and compassionate environment.

MedStar Georgetown’s centers of excellence include neurosciences, transplant, cancer and gastroenterology. Along with Magnet® nurses, internationally recognized physicians, advanced research and cutting-edge technologies, MedStar Georgetown’s healthcare professionals have a reputation for medical excellence and leadership. MedStar Georgetown University Hospital—Knowledge and Compassion... Focused on You.