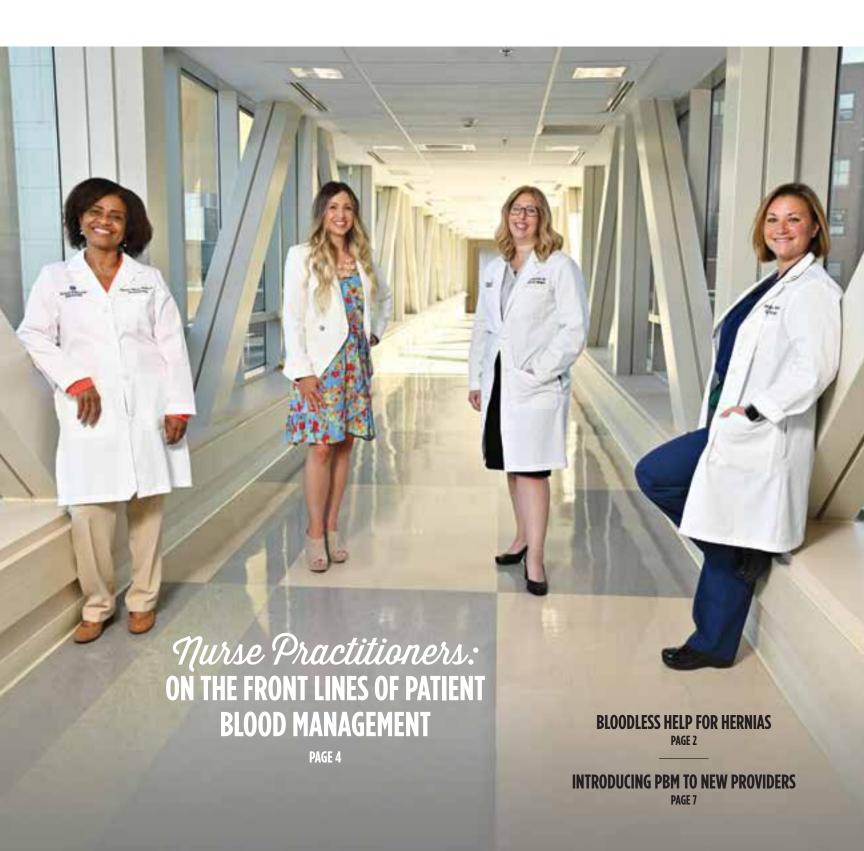


ENGLEWOOD HEALTH

Institute for Patient
Blood Management and Bloodless
Medicine and Surgery







Hernias were holding Rich Lombardi back. Minimally invasive robotic surgery allowed him to move forward.



James McGinty, MD

By late March 2022, years of dealing with intermittent pain in his left side had pushed Rich, a 72-year-old Realtor from Ramsey, New Jersey, to the breaking point.

"I was on the floor with pain when my wife and I decided to go to Englewood Hospital," Rich says. "I couldn't take it anymore."

The Lombardis bypassed two nearby hospitals to go to Englewood Hospital because of the presence of the Institute for Patient Blood Management and Bloodless Medicine and Surgery.

"As one of Jehovah's Witnesses, I was confident that Englewood Hospital would respect my religious beliefs and provide the best of care," Rich says.

In the Emergency Department (ED), physicians diagnosed a hernia—when an organ or tissue pushes through weak muscle. Hernias are common, but the type Rich had is anything but routine.

Surprising Diagnosis

"Rich had a spigelian hernia, which is quite rare, and it was large," says James McGinty, MD, Chief of Surgery and Surgical Services at Englewood Health, who saw Rich in his office a few days after he left the ED. "There was a gap where, normally, two layers of muscle in the

abdominal wall would cross. That created a hole in the wall."

Part of Rich's large intestine and bladder were bulging into the approximately two-inches-and-growing hole, causing pain. What's more, the spigelian hernia wasn't Rich's only one—he also had an inguinal hernia, the most common variety, nearby. He needed surgery to repair both.

The Fix Is In

Rich was nervous about having surgery, but the medical team's assurances of a bloodless procedure eased his concerns. Dr. McGinty decided to perform a minimally invasive operation using the da Vinci Xi robotic surgery system, an approach that produces less blood loss than an open procedure. Instead of a large incision in the abdomen, he made three small ones. The surgery took six hours.

"It was a long operation because we were working around the large intestine, bladder, blood vessels to the leg, and testicle," Dr. McGinty says. "We reconstructed the abdominal wall, closed the muscle, and implanted mesh to strengthen it and reduce the risk of recurrence."

Months after the May surgery, the absence of pain has Rich feeling like he has a new lease on life.

"I feel like a different person and like I've had years added to my life," he says. "I can't believe it. I'm very happy."

Visit www.bloodlessmed.org to learn more about The Bloodless Institute. For a referral to a bloodless physician, call 888-766-2566.

"I WENT TO THE RIGHT HOSPITAL AND SAW THE RIGHT PHYSICIAN—NO QUESTION."

Rich Lombardi, who underwent a complex hernia repair surgery at Englewood Health earlier this year-

Life-Changing Care

When a car accident left Jaime Montalvo with debilitating pain, he turned to the team at Englewood Health for help and healing.



Alfred Steinberger, MD

For 25 years, Jaime Montalvo, 57, worked as a long-haul truck driver. But when he was struck by another vehicle on his way to work in September 2018, the Elizabeth, New Jersey, resident's entire life changed. Left with numbness, tingling, and constant pain in his neck and back that radiated into his face, arms, and legs, his ability to work was suddenly limited.

"I would be driving and completely lose sensation in my legs," Jaime says. "I had to pull over and poke myself with a pen until I could feel my legs again. I was forced to stop working."

Jaime was diagnosed with damage to his cervical vertebrae, but due to his weight, as well as his beliefs as a Jehovah's Witness, he had trouble finding a surgeon who was willing to operate on him. Instead, he received steroid injections to help alleviate his symptoms. Any relief he found only lasted a matter of days.

"I felt powerless," Jaime says.

Finding Healing

Finally, through the Hospital Liaison Committees for Jehovah's Witnesses, Jaime discovered the Institute for Patient Blood Management and Bloodless Medicine and Surgery at Englewood Health.

"When Jaime came to me in June 2019, he had damage in his cervical and lumbar spine, and MRIs revealed significant problems in his neck and lower back caused by disc disease and spinal stenosis," says Alfred "Abe" Steinberger, MD, neurosurgeon at Englewood Hospital. "I knew we could help him with surgery, but his weight presented a challenge."

With Dr. Steinberger's encouragement, Jaime lost 40 pounds and was able to undergo surgery.

"He treated me with dignity and respect," Jaime says. "I'm so grateful for his support."

The first procedure on his cervical spine was successful, and a nurse sat at Jaime's bedside and held his hand during recovery.

"I felt very well taken care of, like I was with family," Jaime remembers.

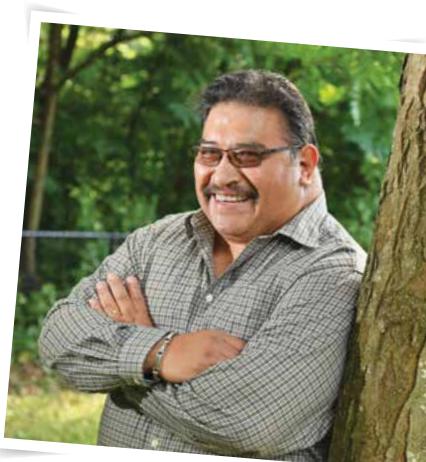
Jaime later had another similar surgery on his lower back, followed by a minor procedure to fix a broken screw.

"Jaime is doing quite well," Dr. Steinberger says. "Our dedicated team approach to bloodless care really makes a difference."

Jaime says his quality of life has improved drastically.

"I'm not where I was, but now I can do daily activities and walk in the park with my wife again," he says. "I am incredibly grateful to everyone who cared for me at Englewood. They are wonderful human beings."

Visit www.bloodlessmed.org to learn more about The Bloodless Institute.



Jaime Montalvo



Marilyn Milord, FNP-BC; Ashley Arellano, BSN, MBA, RN; Margit Kaufman, MD; and Jacqueline Pappas, NP, FNP-C

Murse Practitioners: Key Members of the Patient Blood Management Team

Nurse practitioners at the Institute for Patient Blood Management and Bloodless Medicine and Surgery at Englewood Health play a vital role in patient blood management.

Anemia can have a serious effect on men, women, and children at any age. According to the World Health Organization, an estimated 42 percent of young children, one-third of women of reproductive age, and 40 percent of pregnant women are anemic. When these patients need surgery, they are more likely to get a blood transfusion at most healthcare facilities. But that's not the case at Englewood Health. Here, our experts in patient blood management can create a personalized blood optimization plan to help them be as healthy as possible before, during, and after surgery. They are also able to ensure that patients who opt not to have blood transfusions for religious or personal reasons have their medical needs met.

At Englewood Health and The Bloodless Institute, patient blood management is handled by a multidisciplinary team, and nurse practitioners (NPs) are instrumental to the success of the team and the patients.

"Most of our NPs did not work in institutions with patient blood management programs prior to coming to Englewood Health," says Margit Kaufman, MD, Medical Director of The Bloodless Institute. "Once they arrived, their intellectual curiosity and professional drive led them to educate themselves. Even more exciting, they became leaders and advocates in patient blood management."

Today, you can find these leaders and advocates throughout The Bloodless Institute and Englewood Health.

At Preadmission Testing

In other hospitals, patients with anemia are more likely to need blood during or after surgery. That's why patient blood management at Englewood Health doesn't start in the operating room. It starts before you're admitted or begin anesthesia.

Prior to care, you may meet Marilyn Milord, FNP-BC, a nurse practitioner in anesthesia with Englewood Health's Preadmission Testing.

"The anesthesiologist is responsible for the patient's safety once they are in the operating room," Milord says. "My goal is to ensure that patients are optimized for anesthesia and are safe for surgery."

Optimization begins with laboratory tests. Milord reviews the results, looking for any abnormalities. If she notices anemia or other blood problems, she discusses the results with the anesthesiologist and surgeon.

The standard of care at Englewood Health is to first employ patient blood management, which means that nonemergency surgery will be postponed until the patient's blood levels are optimized. While other hospitals depend on transfusions as a safety net, they're considered a last resort for traditional patients at Englewood Health. A bloodless medicine patient will not receive a blood transfusion under any circumstance.

To optimize the blood of patients with anemia who are waiting for surgery, Milord orders iron infusions or injections.

"It's all about the patient, so we don't just treat anemia," Milord says. "We treat the underlying disease."

Another set of blood tests may be completed to determine when the patient is ready for surgery. At that point, Milord contacts the surgical team and gives the thumbs-up. Soon after, surgery takes place.

Though optimization may postpone surgery, it ensures the best outcome. As an added perk, it puts anesthesiologists and surgeons at ease and removes one potential danger.

At the Cancer Center

Cancer and cancer treatment take a lot out of patients. In addition to pain, loss of energy and hair, and sleep issues, patients may also develop anemia as a result of treatment. If the anemia is severe, additional cancer therapies may get delayed.

Inside the Lefcourt Family Cancer Treatment and Wellness Center at Englewood Health, NPs work to recognize and reverse anemia. Sometimes, this means treating anemia before cancer therapy begins. Because chemotherapy can cause anemia, ongoing

anemia patient blood management care may also be necessary.

This may include:

- Hydration
- Iron infusions
- · Other therapies

"Oncology patients at other facilities are at risk to get a lot of blood products," says Ashley Arellano, BSN, MBA, RN, Director of the Lefcourt Family Cancer Treatment and Wellness Center. "With proper patient blood management, patients have a better journey through cancer treatment. They have fewer side effects, feel better, and are at lower risk of winding up in the ER due to low blood counts."

No matter when patient blood management takes place, Cancer Center NPs make it happen. According to Arellano, NPs serve as the bridge that enables bloodless patients to receive appropriate cancer care, whether that involves surgery or chemotherapy.

On top of optimizing patients, they coordinate scheduling, laboratory testing, and more. All this takes place to ensure excellent care.

At Cardiothoracic Surgery

As you would expect, optimization must occur before cardiothoracic surgery.

If lab results show a patient is anemic, an NP begins patient blood management on the day of the consultation. The first step to optimization is often a weekly injection of Retacrit, a medication that stimulates the body to produce more blood cells in the bone marrow. Oral supplements, such as iron, folic acid, and vitamin C, are initiated from day one, and a one-time B12 injection may be given in the office if necessary.

Based on the patient's age and overall health, specific blood level goals a patient must meet before surgery are developed. Fortunately, patients are in good hands.

"One hundred percent of my patients, whether or not they're bloodless, reach their goals," says Jacqueline Pappas, FNP-C, nurse practitioner in Cardiothoracic Surgery at Englewood Health. "Going through the optimization process makes patients feel safer—especially those undergoing open-heart surgery."

Some patients need more than daily oral supplements and weekly Retacrit injections. For these patients, iron infusions at the Infusion Center at Englewood Health help.

Following surgery, patient blood management continues. With cardiothoracic surgery especially, patients normally experience some blood loss. To help the body rebuild its natural blood stores, an NP may provide a month of iron and folic acid pills.

EXCELLENCE REQUIRES A TEAM APPROACH

At The Bloodless Institute, nurse practitioners aren't the only ones trained in patient blood management. So are physicians, physician assistants (PAs), nurses, laboratory technicians, and others.

Together, these experts:

- Identify and treat anemia
- Determine and address the cause of any blood loss
- Educate patients about bloodless care options
- Teach outside providers about bloodless medicine
- Coordinate services to allow for comprehensive, personalized patient care

"Patient blood
management principles
are proven to do
more than improve
anemia. They also lead
to improved patient
results," says Margit
Kaufman, MD, Medical
Director of the Institute
for Patient Blood
Management and
Bloodless Medicine and
Surgery at Englewood
Health. "To further
improve the care of
patients, multiple
clinicians and other staff
work together with our
NPs as a team."

Interventional Radiology:

Guiding Care With Innovative Treatment

Awareness of interventional radiology is growing. Still, many people have yet to discover all the benefits.



Advancements over the past two decades have opened up new doors for a wide range of minimally invasive interventional radiology (IR) procedures. With less blood loss, low risks and shorter recovery periods, IR is an excellent option for patients facing a variety of medical conditions—particularly those for whom blood transfusions aren't an option.

What Is Interventional Radiology?

Interventional radiology combines the use of imaging technology with precise skills of specially trained physicians called interventional radiologists.

During an IR procedure, a CT scan, MRI, ultrasound, or X-ray is used to create an image of the internal structures of the body. An interventional radiologist uses this image as a map and guides a thin wire and tube, called a catheter, toward the source of the problem. Once the catheter reaches its target, more information can be gathered or a precise treatment can be delivered.

"Most interventional radiology procedures are done through a needle stick with no incision at all," says interventional radiologist Allison Barone, MD. "At the close of the procedure, the patient only needs a Band-Aid."

Benefits of Interventional Radiology

In addition to less blood loss, people who have an IR procedure instead of a traditional surgery usually have:

- Decreased time under anesthesia
- Faster recovery
- · Less pain overall
- Shorter procedures

Some IR procedures require an overnight hospital stay, but most allow you to return home the same day.

Types of Interventional Radiology Procedures

IR is now a leading way to perform procedures that used to require surgery, including:

- Angioplasty—using a balloon to enlarge a narrowed area in a blood vessel
- Biopsy—a diagnostic procedure to remove a small bit of tissue for testing
- Embolization—treatment that cuts off the blood supply to stop bleeding or shrink a fibroid or tumor
- Stent placement—placing a small mesh tube inside a blood vessel or another passageway in the body in order to keep it open
- Targeted cancer treatment—delivering chemotherapy or radiation directly into a tumor bed with the purpose of shrinking the tumor Additionally, interventional radiologists often partner with surgeons to decrease risks when surgery can't be avoided. For example, using IR to block the blood supply to a tumor first can significantly reduce the amount

"There is not an interventional option for every type of open surgery," Dr. Barone says. "But the types of procedures we are able to perform are growing yearly."

Is Interventional Radiology Right for You?

of blood lost during surgery to remove it.

"Knowledge is power. In many cases, surgery is not the only option. Before making a trip to an operating room, patients should discuss options with their providers," says Michael Warhit, MD, interventional radiologist. "They can also ask to see an interventional radiologist for a second opinion before making a decision."

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Allison Barone, MD, is presented with flowers and a huge "thank you" from patient Adam Solomon, who suffered bleeding from his colon last November that brought his hemoglobin level down from his normal 15.7 g/dL to just 1 g/dL—a level considered incompatible with life. With great skill, Dr. Barone was able to identify the source of the bleeding and coil it off to stop Adam from bleeding out.



"I LOVE MY JOB AS AN INTERVENTIONAL RADIOLOGIST, ESPECIALLY WORKING WITH PATIENTS FOR WHOM BLOOD TRANSFUSIONS AREN'T AN OPTION.

I KNOW THESE PATIENTS HAVE UNIQUE CONCERNS, AND IT'S MY OBLIGATION TO MAKE THEM FEEL LIKE THEY ARE BEING TAKEN CARE OF IN A SAFE ENVIRONMENT."

-Allison Barone, MD, interventional radiologist

Improved Onboarding at The **BLOODLESS INSTITUTE**

Using advanced technology and evidence-based practice, new training and education helps our clinicians provide the highest-quality care.



Margit Kaufman, MD

For more than 25 years, the Institute for Patient Blood Management and Bloodless Medicine and Surgery at Englewood Health has been an internationally recognized provider of safe and effective transfusion-free medical and surgical care.

When new physicians join The Bloodless Institute, they receive comprehensive training in patient blood management (PBM) to maintain strong patient-physician relationships and ensure patients receive the highest-level care.

Recently, the World Health

Organization (WHO) called on medical, nursing, and pharmacy schools to begin offering PBM education to incoming professionals to close the gaps that exist around PBM training.

"PBM has not been fully integrated into many medical education programs," says Margit Kaufman, MD, anesthesiology and critical care medicine practitioner at Englewood Health and Medical Director of The Bloodless Institute. "There's still a wide variation in PBM and transfusion practices, so many of our new staff have had inconsistent training and education on the topic."

A New Training Creates Consistent Care

To address this educational inconsistency, The Bloodless Institute initiated individual trainings with each new physician that is focused on their area of practice.

"The goal is to introduce or review core concepts of PBM so the new team member is aware of hospital policies and procedures," Dr. Kaufman says. "By meeting with hospital staff, new physicians develop close relationships they can rely on for additional help and guidance."

Previously only offered to physicians within the hospital, the training has expanded to include procedural, surgical, and office-based staff. By creating individual trainings and expanding to include all providers within The Bloodless Institute, patients can expect the highest level of transfusion-free care.

"This new level of training creates a deeper connection between physicians and other providers hospital-wide," Dr. Kaufman says. "When questions, concerns, or areas of need are identified it's easier to continue communication."

What's Next in Training and Education

The improved onboarding for new physicians and other providers doesn't end at expanded training. Additional educational events include:

- Clinical case studies for physicians
- Lunch and learn programs
- Presentations of ongoing research

By staying up to date on leading transfusion-free practices, physicians and providers at The Bloodless Institute help strengthen the hospital's mission to improve patient outcomes by making PBM the standard of care.

"The new education and training have been very effective," Dr. Kaufman says. "We're proud to continue providing accessible, quality services to all bloodless patients."

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Institute for Patient Blood Management and Bloodless Medicine and Surgery

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This publication in no way seeks to serve as a substitute for professional medical care. Consult your physician before undertaking any form of medical treatment or adopting any exercise program or dietary guidelines.

WHO Recommends

Implementing PBM Worldwide



By Sherri Ozawa, RN, Consultant to The Bloodless Institute

In a recent exciting development in patient blood management (PBM), the World Health Organization (WHO) published a groundbreaking policy brief on the urgent need for the implementation of PBM on a global scale. Published in October 2021 and released to all WHO member states, the policy brief urged ministries and health departments, government agencies, and healthcare providers worldwide to create processes and infrastructure for improving public health via optimal PBM.

Several key statistics were included in the policy brief.

- Almost three billion people worldwide are affected by anemia, mostly from iron deficiency, with women and children disproportionately impacted.
- An additional 600 million people are affected by coagulation and bleeding disorders.

While many healthcare organizations, regulatory agencies, and other government and non-government organizations have been urging people to donate blood for transfusion, especially in view of shortages during the COVID-19 pandemic, this policy brief emphasizes that the most precious resource is a patient's own blood. Globally, a huge opportunity is missed if we overlook blood optimization for populations across the world.

Moving Forward

The next phase of this global health initiative is the creation of guidance documents which will be tailored to levels of resource availability and economic and social settings in various countries and communities. While countries with more generous healthcare resources may be able to implement PBM programs that include advanced technology for detecting and managing anemia and bleeding along with other available medications, that may not be the case in parts of the world with very few resources. Yet, even in these resource-challenged areas, clinicians can use diagnostic skills and meticulous surgical techniques to minimize patient harm from anemia and bleeding.

During the next year, two planning meetings will be held as leaders in PBM collaborate on the recommendations. Ten PBM subject matter experts, including two from the United States,* have been selected to author these documents on behalf of the WHO.

Implementation of patient blood management advances the techniques, technologies, and principles fundamental to bloodless medicine and surgery. Access to high-quality care for bloodless patients will advance as PBM knowledge becomes more accepted and widespread.

*The chosen representatives from the United States are Sherri Ozawa, Patient Blood Management and Bloodless Medicine and Surgery Consultant, Englewood Health, and Irwin Gross, MD, Senior Medical Director/Patient Blood Management, Accumen Inc., in eastern Maine.