Johns Hopkins Bloodless Medicine and Surgery

Steven M. Frank, M.D.
Associate Professor
Medical Director, Bloodless Medicine and Surgery Program
Department of Anesthesiology/Critical Care Medicine
The Johns Hopkins Medical Institutions
Baltimore, Maryland
Johns Hopkins Bloodless Medicine and Surgery
(How it Began)

The ATP center – about 12 years ago

The new program – planning began 3 years ago

We officially opened summer, 2012

Visit to Bethel Brooklyn, New York
Visit to Bethel Patterson, New York
A few visits to Kingdom Halls

Backing from
Ron Peterson – President of The Johns Hopkins Hospital
John Ulatowski – Chairman of Anesthesiology/Critical Care
New York Community Trust
What We Offer

First – Treating patients with respect and compassion, like family
Keep you out of the hospital – preventive medicine
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Keep you out of the hospital – preventive medicine

Second – “Navigation” of the healthcare system
Helping patients find the best doctors
Not just any doctor - the ones with the most experience
Who know and honor the bloodless techniques
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Second – “Navigation” of the healthcare system
Helping patients find the best doctors
Not just any doctor - the ones with the most experience
Who know and honor the bloodless techniques

Third – Treating pre-hospital anemia
EPO and Iron, diet, vitamins, supplements
What We Offer

Fourth – Discussing options, advanced directives
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Fifth - Extra attention while in the hospital
extra set of eyes watching the care, giving advice
Our motto - “keep blood in the patient”
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Sixth - Family, emotional, spiritual support
   Andy and Joan, and the whole team
What We Offer

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    extra set of eyes watching the care, giving advice
    Our motto - “keep blood in the patient”

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    Andy and Joan, and the whole team

Seventh - Follow up care – post hospital follow up
What We Offer

Zayed-Bloomberg
Lessons I’ve learned

JWs are some of the friendliest, nicest people

JWs greatly appreciate what we do for them

They come with lots of supportive family members

Perhaps most of all – they do just as well or better without blood

If treated with the proper care

It’s like riding a bike...
There’s always some degree of risk

But if done correctly those risks are minimized

Fun and rewarding
### 154 Hopkins Doctors on Board in First Year

#### Gynecology
- Yue-Cheng Yang
- Courtney Rhoades
- Theresa Diaz Montes
- Ed Tanner

#### Orthopedics
- Greg Osgood
- Khalid Kebaish
- Edward Cohen
- Erik Hasenboehler
- Derek Papp
- Paul Sponseller
- Edward McFarland

#### General Surgery
- Michael Marohn
- Frederick Eckhauser
- John Efron
- Elizabeth Wick
- Jeffrey Lukish
- David Cromwell
- Amy Page Rushing
- Martin Makary
- James Black
- Justin Sacks
- Mabel Bodell
- Albert Chi

#### Pediatrics
- James Fackler
- Sapna Kudchadkar
- James Casella
- William Golden
- Estelle Gauda
- Lawrence Nogee
- Janine Bullard
- Frances Northington
- Karla Au Yeung
- David Cooke
- Adam Hartman
- Hilary Vernon
- Henry Lau
- Courtney Robertson
- Jeff Keefer
- Adam Hartman
- Maria Melendres
- Barry Solomon

#### Cardiac Surgery
- John Conte
- Duke Cameron

#### Pediatric Surgery
- Henry Lau
- Paul Colomboni
- Jeff Lukish
- Shruti Paranjape

#### Urology
- Arthur Burnette
- Mark Schoenberg

#### Neurosurgery
- Jon Weingart
- Allesandro Olivi
- Chetan Bettegowda
- Judy Huang
- Paul Kaloonian
- Tim Witham
- Daniele Rigamonti
- Daniel Sciubba

#### Internal Medicine
- Deepa Rangachari
- Karthik Suresh
- Margaret Mary Hayes
- Romsai Boonyasai
- Amit Kuma Pahwa
- Zishan Siddiqui
- Brian Houston
- Madhav Goyal

#### Internal Medicine
- Mike Streiff
- Madhav Goyal
- Stuart Ray
- Padmini Ranasinghe
- Sophie Lanzkron
- Sosena Kebede
- Zishan Siddiqui
- Mabel Bodell

#### Cardiology
- Sunil Sinha
- Joseph Marine
- Jeffrey Brinker

#### Cardiology
- Patrick Okolo
- Anne Marie Lennon
- Victor Singh

#### Oncology
- Ephraim Fuchs
- Robert Giuntoli

#### Endocrine Surgery
- Alan Dackiw
- Martha Zeiger

#### Oncology
- Ephraim Fuchs
- Robert Giuntoli

#### Plastic Surgery
- Gedge David Rosson
- Michelle Manahan
- Justin Sacks
- Bethany Sacks

#### Neurology
- Ronald Lesser
- Brett Morrison
- Daniel Harrison
- Arun Venkatesan
- Victor Urrutia

#### Urology
- Arthur Burnette
- Mark Schoenberg

#### Gastroenterology
- Patrick Okolo
- Anne Marie Lennon
- Victor Singh
Lung Transplantation in a Jehovah’s Witness

John V. Conte, MD and Jonathan B. Orens, MD

Patients of the Jehovah’s Witness faith generally do not accept transfusions of blood or blood products but some will accept cadaveric organs for transplantation. We report a left single lung transplantation in a 48-year-old Hispanic female with idiopathic pulmonary fibrosis and secondary pulmonary hypertension. We believe this is the first reported case of lung transplantation in a Jehovah’s Witness. J Heart Lung Transplant 1999;18:796–800.
Bloodless Medicine and Surgery Program - Johns Hopkins Medical...
www.hopkinsmedicine.org/bloodless_medicine_surgery
Our bloodless medicine and surgery team understands how to treat patients for whom blood transfusions are not an option.

FAQs
Answers to common questions about bloodless medicine and ...

What Our Patients Say
Read what our patients have to say about their experience with ...

Our Team
Our team are leaders in the field of bloodless medicine and surgery ...

In the News
Check in often for the latest updates on bloodless medicine ...

About Us
Johns Hopkins Medicine. Bloodless Medicine and ...

Bloodless Techniques
Before, during, and after surgery, we use a wide range of ...
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Bloodless Medicine and Surgery Program

Overview
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Our Team
Appointments & Referrals
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Bloodless Medicine and Surgery Program
The Team

Steve Frank MD – Medical Director
Linda Resar MD – Hematology, Oncology, Pediatrics
Jim Rothschild MD – Anesthesiologist
Liz Dackiw RN – Clinical Coordinator
Andy Pippa – Administrative Coordinator
Joan Pippa – Communications Specialist
Our Team

The professionals in the Bloodless Medicine and Surgery Program at Johns Hopkins are leaders in their field. Just as importantly, they have a deep respect and understanding for the needs of patients for whom blood transfusion is not an option.

Steven Frank, M.D., Medical Director

Dr. Frank has more than 26 years of experience as an anesthesiologist and clinical researcher, and is an expert in blood conservation methods. Dr. Frank’s compassion and understanding of his patients' beliefs ensure that patients who wish to avoid blood transfusion receive the very best healthcare. Dr. Frank has published book chapters and dozens of scientific articles about optimizing the care of surgical patients. Dr. Frank is fellowship-trained in vascular, thoracic and transplant anesthesiology at Johns Hopkins, where he is currently an Associate Professor of Anesthesiology and Critical Care Medicine. His recent research and publications are focused in the area of blood conservation and bloodless medicine and surgery. Learn more about Dr. Steven Frank.

Linda Resar, M.D., Hematology Consultant

Dr. Resar helps prepare patients who wish to avoid blood transfusions for surgery, and advises on the treatment of anemia in our hospitalized patients. She is an Associate Professor of Medicine, Oncology and Pediatrics, and has more than 25 years of experience in blood disorders, including anemia, bone marrow failure, sickle cell disease and thalassemia, other red cell disorders, and thrombocytopenias. Dr. Resar completed her training in Pediatrics and fellowship in Hematology-Oncology at The Johns Hopkins Hospital and Johns Hopkins University School of Medicine. She is board certified in Hematology/Oncology with the American Board of Pediatrics. Learn more about Dr. Linda Resar.
James Rothschild, M.D., Anesthesiologist

Dr. Rothschild is highly experienced in blood conservation and blood sparing techniques and has led several projects at Johns Hopkins in these areas. He has expertise in obstetrics, vascular and transplant anesthesia. Dr. Rothschild was an active-duty flight surgeon with the U.S. Navy before becoming an Assistant Professor of Anesthesiology and Critical Care Medicine. Dr. Rothschild has published numerous scientific articles in the field of blood conservation. Learn more about Dr. James Rothschild.

Elizabeth Dackiw, R.N., Clinical Coordinator

Liz Dackiw is a registered nurse with more than 20 years of experience caring for both adult and pediatric patients. She has worked with acutely ill surgical patients, as well as patients in the emergency department and intensive care units. Her strong background in adult hematology, pediatric hematology and oncology help her effectively care for patients who wish to avoid blood transfusion.
Andrew Pippa, Administrative Coordinator

Andy Pippa is an active member/elder of the Jehovah’s Witness community and acts as a liaison between the community and our medical staff to ensure that patients get the care they deserve. He previously served as the clinical coordinator for a Bloodless Medicine and Surgery Program in Connecticut where he was also a healthcare system navigation specialist. His extensive experience in helping patients with insurance approvals and in assisting uninsured patients with financial issues and drug access allows our patients to focus on their health and recovery.

Joan Pippa, Communications Specialist and Web Manager

Joan Pippa, also a member of the Jehovah’s Witness community, brings a wealth of “people skills” and administrative capabilities to our program. She is in charge of patient relations and web site updates, finding and posting the most current articles on bloodless medicine to help our patients stay informed. Joan is also our patient relations specialist in charge of optimizing the healthcare experience for patients seeking bloodless care.
Before surgery

As we plan your procedure, we will select the **least invasive approach** appropriate for your condition to minimize damage to tissues and reduce the amount of blood loss.

- The amount of blood drawn for testing before and after surgery will be minimized through **micro-sampling**, eliminating wasted blood.
- **Medications, vitamins and nutritional supplements** that increase the blood’s ability to carry oxygen may be an option for some patients. These drugs and supplements, when taken before surgery, can increase the number of red blood cells, which help your body handle blood loss more effectively.
- A technique called **hemodilution** allows us to dilute the blood before surgery so that when blood is lost, the impact on the body is lessened.
During surgery

Our goal during surgery is to prevent or minimize bleeding, and to recover any blood that is lost so that it can be put back into the patient's bloodstream.

- **Special anesthesia techniques** can minimize bleeding by safely lowering blood pressure.
- A **harmonic scalpel**, which cuts tissues while clotting the blood almost immediately, can substantially reduce blood loss.
- Advanced **hemostatics** (products that stop bleeding) can be used before, during, and after surgery.
- **Electrocautery** or the **argon beam coagulator** can quickly seal off bleeding vessels.
- An **Intraoperative cell salvage machine**, a device that collects lost blood, washes it, and allows us to return it back to the patient, can be used to maintain healthy blood volume without transfusions.
- A new device, called a **noninvasive continuous hemoglobin monitor**, can be used to measure hemoglobin levels without requiring a blood sample. This technology reduces or eliminates the need to send blood samples to the lab, conserving the patient's blood.
Who benefits from red blood cell salvage?—Utility and value of intraoperative autologous transfusion

Steven M. Frank, MD
e-mail: sfrank3@jhmi.edu
Perioperative Blood Management Services
Department of Anesthesiology/Critical Care Medicine
The Johns Hopkins Medical Institutions
Baltimore, MD

The “centerpiece” of blood conservation
The new non-invasive hemoglobin monitor

Hemoglobin measurement without a blood test
After surgery

Blood loss does not necessarily stop when surgery ends. Our techniques for minimizing blood loss after surgery, for improving your body’s ability to replace lost blood and for increasing oxygen levels in the blood, can be an important part of treatment.

- **Certain medications** can be used to stimulate the body’s ability to produce red blood cells after surgery.
- **Microsampling techniques** can substantially reduce the amount of blood lost due to routine blood testing after surgery. In some cases, this method of blood conservation reduces blood loss from testing by 90%.
Bloodless Medicine and Surgery In the News

The Bloodless Medicine and Surgery team at Johns Hopkins not only stays current on developments in the field, but also helps to shape the latest best practices. Here we share with you the most recent articles in the scientific and lay press so you can stay informed on techniques, trends, and the options available to you.

In the Lay Press

**Call It a Bloodless Coup** *(Physician Update, Spring 2013)*

**Donated blood may grow ‘stale’ quickly** *(Futurity, March 2013)*

**‘Making the case for bloodless surgery** *(Pittsburgh Post-Gazette, Aug 2012)*

**Blood transfusion refusal poses no risk in cardiac patients** *(HealthLeaders Media, Aug 2012)*

In the Scientific Press

**Abstract: Variability in blood and blood component utilization as assessed by an anesthesia information management system** *(Anesthesiology, July 2012)*

**Abstract: Duration of red-cell storage and complications after cardiac surgery** *(New England Journal of Medicine, March 2008)*

**Abstract: Tranexamic acid reduces blood loss and financial cost in primary total hip and knee replacement surgery** *(Orthopedics & Traumatology: Surgery & Research, July 2012)*
What Our Patients Say

“I have had two major operations at JHH and benefited from their bloodless program. Even before my operations, it was clear that my wishes about avoiding blood transfusions would be honored and respected. Their high level of professionalism was exceeded only by the warm, compassionate care I received. I count these individuals as life-long friends.”

– S.B. - Bermuda
“Risk-adjusted Clinical Outcomes are Equivalent or Better in Patients who Refuse Allogeneic Blood Transfusion”

290 JW Patients vs. all non-JW Patients
Overall Outcomes

- **Infection**: JW (P=0.03) vs. non-JW
- **Pulmonary Embolus**: JW (P=0.80) vs. non-JW
- **Renal**: JW (P=0.55) vs. non-JW
- **Respiratory**: JW (P=0.67) vs. non-JW
- **Myocardial Infarction**: JW (P=0.89) vs. non-JW
- **TIA/CVA**: JW (P=0.62) vs. non-JW

Risk-adjusted Clinical Outcomes are Equivalent or Better in Patients who Refuse Allogeneic Blood Transfusion.
Appointments and Referrals

To make an appointment or to learn more about how we can meet your needs for bloodless medicine or surgery, please call 877-474-8558.

We see patients at The Johns Hopkins Hospital, located at 1800 Orleans Street, Baltimore, Maryland, 21287. Our facilities nearly doubled in size in 2012, with the opening of the Sheihk Zayed Tower and the Bloomberg Children’s Center.

For Your Convenience

Whether you are traveling to Johns Hopkins or you are a local resident, please follow the link below to Planning Your Visit. You will find information on what to bring, such as important documents and directives, a list of hotels and housing close to Johns Hopkins Hospital, and more.
Call It a Bloodless Coup

Though some form of the “bloodless surgery” that lowers the need for transfusions has been around almost two decades, a new body of clinical research looks to cement its hold at Johns Hopkins and extend it to more patients. Also, new work suggests now may be the time to rethink assumptions about blood-banking.

“We’re seeing that we can do a lot more with less blood during surgery and afterward,” says anesthesiologist Steven Frank, medical director of The Johns Hopkins Hospital’s umbrella program for bloodless medicine and surgery. “Our aim is to reduce transfusions by 10 to 20 percent throughout our medical system.

“The tactics we use don’t only benefit those who traditionally refuse transfusions for personal concerns about contamination or, like the Jehovah’s Witnesses, for religious beliefs. We’ve come to see bloodless surgery as best practice for more patients in general.”

What drives the new goal, Frank says, are four landmark studies—the most recent including Johns Hopkins data. All the trials followed large numbers of patients during hospital stays, comparing survival based on whether or not their hemoglobin levels had been boosted by transfusions. The trials varied in details, though all involved very sick people experiencing blood loss.

“The bottom line,” says Frank, “was that patients held to a lower hemoglobin reading before getting transfusions did just as well or better than those transfused at a traditional higher triggering point. So we see no advantages in routinely giving extra blood. All you do is introduce cost and risk.

“Transfusions aren’t necessarily benign,” he adds. Transfused patients are two to three times more likely to get acquired infections. Also, receiving donor blood sparks antibodies that work against future transfusions.

Just-out work from Hopkins adds another consideration: the blood supply. Yes, worldwide shortages exist in banked blood. But banking itself warrants a second look. Blood banks’ equivalent of a “sell by” date—six weeks—is likely off, Frank says. He and colleagues show that blood starts becoming “stale” after three weeks. Red blood cell membranes stiffen, which can slow passage in capillaries. That likely explains transfused patients’ slightly higher risk of cardiac complications.

One remedy, however, lies in reducing blood bank demand. So the hospital program goes beyond modern tactics that recycle blood lost during surgery, shrink operating fields through robotics or beef-up patients’ presurgical red cell count. Tactics are increasingly patient-tailored. And research continues on best practice. A large hospital database, for example, showed Frank’s team how a simple 99 IV-based device that one Hopkins critical care unit used halved blood loss during testing.

The benefits of blood conservation, Frank says, are clear: They lower risk. They lower cost. And they improve outcomes.

* The gold standard has long been 10 grams of hemoglobin per deciliter of blood. Hopkins is considering a new 7-8 g/dl threshold for many patients.

877-474-8558 for information.

3 physicians, a nurse coordinator, and 2 patient care coordinators
Pager and phone contact numbers 410-283-2808, 877-474-8558 (24 hour coverage)
≈45 patients / month after one year, open house May 30, 2013
Thank You