

Where Does My Immune Globulin Come From?

By Kit-Bacon Gressitt

Where does my immune globulin come from? At IG Living, we hear this question a lot, and its frequency is understandable because so many of our readers infuse immune globulin (IG) into their bodies. What's surprising is that we don't hear the question more often—from everyone whose health depends on IG products.

Perhaps folks are practicing the philosophy of "ignorance is bliss"—for instance, there's nothing more effective than too much information to ruin a good hotdog—but ignorance does not serve the immune globulin consumer well. In fact, understanding the source and creation of IG products explains a lot of otherwise mysterious things: why IG products are so expensive, why the supply is sometimes tight or even short, why safety is so critical to IG products and their recipients and why recipients are so dependent on the thousands of people who donate their plasma—as volunteers or for compensation.

Which brings us to the topic of this, the first in a series of articles on the origins of IG products. Through the series, we will tell the complex and compelling story of how IG starts with one person's blood and ends up as a fractionated and purified plasma product in the body of another.

It All Starts With Plasma—and Its Donors

"I've been donating blood for eight years." Why? "People are struggling, and I'm able to give something to help."

This is Heather, 30 years old and a little reticent about her reason for being at her local blood donation center on this particular Friday morning. Heather has been through a rigorous screening process, including responding to a long, invasive list of questions about her health and



Heather giving blood

drug use, travels, sexual history and more—and a physical examination to check her vital signs and arms where veins are accessed. She does all of this every time she gives blood, a donation that takes about an hour.

And, every time Heather or any other donor gives blood or a blood component such as plasma, it is tested for a laundry list of recognized indicators of blood-borne illnesses, including hepatitis, HIV and West Nile virus. Any donation that tests positive is destroyed.

Heather now reclines in a chair, well-designed for the purpose of extending an arm, accessing a vein and drawing a unit of blood.

"I try to get friends to come with me, but..." She shrugs.

Donating blood can seem a little intimidating if you've never given before, and needles are never fun. People must donate for other more compelling reasons.

Heather looks away as the phlebotomist sticks a needle in her vein, and her blood wends its way through the attached tubing and into a clear bag that gradually takes on the rich scarlet hue of whole blood.

The blood will be spun in a centrifuge at a processing laboratory, separating the red blood cells, platelets and plasma. Each blood component will be used to help heal another person in need—in need of red blood cells, perhaps to improve the oxygen-carrying capacity of a trauma patient's body fluids; in need of platelets, perhaps to prevent bleeding associated with chemotherapy; in need of plasma, perhaps to replace coagulation factors lost during open-heart surgery.

Some of the plasma collected by the center will be fast-frozen and shipped to the facilities of a plasma products

manufacturer. Such plasma is referred to as “recovered plasma,” because it is salvaged from whole blood. The plasma is mixed or “pooled” with plasma from thousands of other donors and made into immune globulin, coagulation factors and albumin through a process known as fractionation, which separates the various proteins found in human plasma.

Heather is told of the very ill patients who might receive what becomes of her plasma, and she realizes her donation has more meaning than she had ever known. Then she shares why she came today, of all possible days, to donate her blood.

“It’s actually my birthday today, and I get to give back to others!” She smiles a wide and wonderful grin.

Those around Heather take in a collective breath, acknowledging the poignancy of her generous birthday gift.

“Very cool!” They all agree.

Recruiting Plasma Donors

Unlike whole blood donors, plasma donors spend an extra 30 to 60 minutes while their blood is drawn, centrifuged to separate the plasma from the other components, and the red blood cells and platelets are returned to them.

Although the process takes longer, plasma-only donors give more plasma at each sitting than whole blood donors and they can donate more regularly, up to twice a week, compared with a limit of once every two to three months for whole blood. But the extra effort involved in donating plasma can be a deterrent to prospective donors.

“It seems harder to get men of a certain age group. Younger people are more open to doing it; women are more open,” one plasma recruiter explains. He’s been at

it long enough that he can tell pretty quickly who is going to give and who isn’t.

There are hurdles, but he shares with potential plasma donors the sense of urgency he feels, especially when there’s a plasma shortage. “If I can help make the gateway into the donation a little more comfortable, then I feel good about it.”

Comfortable or not, donor recruitment is essential to creating plasma products, including immune globulin:

It can take as many as 3,000 individual donations to treat one patient with immune globulin for a year.

To overcome the challenges to donor recruitment, some plasma centers offer donors a small payment, and, given the demand for plasma products, both paid and volunteer donors are needed. In fact, all five of the U.S. immune globulin manufacturers buy some or all of their raw plasma from collection centers that pay donors.

Plasma safety concerns are addressed through extensive donor screening and plasma testing—and the exclusion of risky donors. Yet, if too many donors are ruled out, the plasma supply is reduced, which in turn reduces the availability of plasma products such as immune globulin. If less product is available, patients go without treatment.

It seems a bit of a Catch-22, attempting to balance product safety with supply, but there is a potential solution: encouraging more plasma donors by educating them about the patients they can help.

Revealing the Joy of Giving

“One of the major causes of IVIG access problems is the lack of raw material.” Judi Miller is the vice president of medical affairs for Octapharma USA, a plasma products manufacturer.

Approximately 60 percent of the U.S. population is eligible to donate blood, but only 5 percent of those who can, do. Many non-donors say they never thought about giving plasma or they’ve never been asked.

“Now we *are* asking,” Miller says. We’re letting people know just how much their donations are needed. It’s very simple: To increase the availability of IVIG, we need more plasma and that means we need to recruit and retain more donors.”

To help meet this need, Octapharma has created “Vein-to-Vein,” a program to educate blood and plasma centers and the public about the need for and benefits of plasma donation. Judi hopes that increased understanding of how donated plasma saves and enhances the lives of seriously ill patients will increase the number of donors.

“When prospective donors realize the number of life-saving therapies that can be produced from each liter of plasma, we hope they will be motivated to become long-term donors.”

Maybe on her next visit to a blood center, Heather will find her friends more inclined to join her. ■

Editor’s note: To donate blood or plasma, look up a blood center near you at www.aabb.org or www.americasblood.org or search the Internet for “plasma donation.”

