



**BBGuy Essentials 067:
Wiser Patient Blood Management Choices with Carolyn Burns
Released April 24, 2019**

Carolyn: Hello! I'm Dr. Carolyn Burns, and this is the Blood Bank Guy Essentials Podcast.

Joe: Hello everyone! Welcome to Blood Bank Guy Essentials, the podcast that just has one simple goal: To help you learn the essentials of Transfusion Medicine. My name is Joe Chaffin, and I am your host.

You know, it feels like everyone and their brother is talking about patient blood management nowadays! Now, don't get me wrong: That's a GOOD thing, but I wonder sometimes if what people mean when they say that phrase is the same as what it really should be in my view. My friend Carolyn Burns joins me today to talk about a great new resource that you really need to get your hands on and use! But first, before we get to that, a quick announcement:

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As I said earlier, PBM, patient blood management, is everywhere. It's in the TM literature, it's discussed at meetings and on webinars, and it even has its own international organization called the Society for the Advancement of Blood Management, or SABM, that's just devoted to patient blood management. Dr. Carolyn Burns, who is my guest today, is a SABM board member, and she's here to walk us through a really cool SABM publication that came out in late 2018, in concert with a group you may have heard of: The "Choosing Wisely" project. Carolyn is going to describe for us "Five Things Patients and Physicians Should Question" regarding blood management. Carolyn is going to give you some tools and new thoughts (hopefully) about blood management that you really need to take the next step, in your program. You can get the document, by the way, that "Five Things Patients and Physicians Should Question," from the show page for this episode, BBGuy.org/067.

Now about my guest: Carolyn Burns is a board-certified anatomic and clinical pathologist, and she spent 20 years as Chief of Pathology of the

Jewish Hospital System in Louisville, KY. She is a passionate advocate for Patient Blood Management, that much is certain, and she's been published on that topic in numerous peer-reviewed journals and textbooks. She currently works as an independent consultant helping facilities establish or improve their PBM programs. She is also a board member for the Society for the Advancement of Blood Management.

I just want to say a quick word about SABM: They are not a sponsor of this podcast, and I really have no formal relationship with them. But, I believe in what they are doing, and I'm happy to help spread the word about how to improve patient outcomes by giving the appropriate attention to everything related to blood and blood transfusion.

I'm very excited for you to add some new tools to your blood management arsenal! Let's check out my interview with Dr. Carolyn Burns on "Wiser Blood Management Choices."

Joe: Hey Carolyn! Welcome to the Blood Bank Guy Essentials Podcast.

Carolyn: Hi, Joe, how are you doing today?

Joe: I'm doing great. Thank you. It is so good to have you here. You and I have developed a little bit of a relationship that wasn't there before, and I think that is so much fun. About maybe a year ago you contacted me on behalf of the Society for the Advancement of Blood Management as a way to try and get some discussions going between this podcast and SABM. And as a result of that, I've done two separate podcasts already with Dr. Aryeh Shander, [episode 052](#), and Dr. Steve Frank, [episode 048](#). And both of those have been just so much fun, Carolyn, I just want to publicly thank you for bringing that together and, and helping me do those really excellent and fun episodes. So thanks for that!

Carolyn: You're welcome! It's been a real joy for me as well, just because you know how committed I am to the entire world of blood management. And I have been listening to your Blood Bank Guy Essentials for years and I just saw that, you know, you don't always just do things that are for some of us little "blood bank nerds," you know, which we all know and love, but you also really branch out into other areas that I think clinicians, whether they're physicians, perfusionists, nurses, etc., really need to know and be educated in these areas. So I've just been really appreciative, and also you and I kind of found were both kindred spirits. We come from a bit of the same background.

Joe: It's true.

Carolyn: That's been fun. That's the whole fun of it.

Joe: We're both recovering anatomic pathologists. [laughs]

Carolyn: [Laughs] Yes, yes, and frustrated Transfusion Medicine internists! So the whole group right now knows our little secret.

Joe: It's true. I don't think we need to go there anymore, Carolyn. I think that's enough dirty laundry.

Well, so I wanted to, before we get into our topic for today, which I'm really excited to talk about, the "Choosing Wisely" initiative and SABM's part in Choosing Wisely, I wouldn't feel right if I didn't give you the opportunity to just give a little thumbnail on the Society for the Advancement of Blood Management. I know how important it is to you. We've had those conversations before. Let me give you just a little bit of a platform to talk a little bit about SABM; who they are, what your part has been in it, and why you think it's so important.

Carolyn: For those that are not familiar with SABM, Society for Advancement of Blood Management, it was actually founded in 2001. I will tell you, I didn't start to get involved and become a member until maybe around 2005, 2006. And it was a group of likeminded healthcare professionals, predominantly physicians and nurses, that really saw a need to expand the view and push the agenda of blood management as an actual standard of care. So in other words, having a new way to think about, look at transfusion therapy in the backdrop of alternatives, additional strategies, etc., that we have available to us, and many people have been practicing for a long time. If you take into consideration our Jehovah Witness congregations that many of us that are involved with blood management came from a bloodless background. And I think that's been one of your recent podcasts you've done is about Jehovah Witness and bloodless medicine.

So really what SABM is, is that the mission is to provide this foundation for evidence-based transfusion guidance, management of anemia (so appropriate diagnosis and therapy for anemia), optimization of coagulation (minimizing bleeding and blood loss, if you will), and then doing all of this through a multidisciplinary, multimodal approach to blood conservation strategies. And then really the goal is to improve those patient outcomes. So if you go on the SABM website, you'll actually see a very little short moniker that says, "SABM: Evidence, Education, Better Outcomes." And I think that's really in a nutshell what we stand for.

Joe: Carolyn, before we get to the specifics of, of how SABM is interacting with the Choosing Wisely initiative and talk a little bit about that. I wonder how you feel just about where we are with PBM right now. You've been around this initiative for a while. How do you feel we are doing, specifically in the United States because that's where both of our experience is, with patient blood management and improving those patient outcomes by the methods that you described?

Carolyn: I could tell you, yes, I've been doing blood management in, well in my own practice, vis a vis "bloodless" since the 90s, and then as blood management really became the official moniker for this kind of care starting in those early 2000s. Since I've been out doing my independent patient blood management work, I

have, yes, seen this expand. There is however, a broad range of what hospital facilities or systems view as "participating" in blood management activities. You know, I think some are struggling to get beyond just establishing guidelines and maybe perhaps decision support via CPOE for red cell, plasma, platelets, et cetera. Others, however, have just gone LIGHT YEARS in a very short period of time, and have gotten their arms around not just transfusion guidelines, but really all those details of anemia management and not just the perioperative anemia management, but I mean even in the medical arena.

And then some have really focused in on their INTRAoperative blood conservation strategies. I've seen some go way far beyond in terms of the use of pharmaceuticals, etc. And that's a whole different discussion. So it's a mix. And I think I remember reading a couple of years ago, there was actually an article or a survey or something that came out that said that about a third of the United States hospitals are participating in some form of patient blood management. I think there are some barriers to doing it fully and completely. But I think people are trying and I think as long as SABM, and I think even AABB has gotten their word out. You know, there are a lot of folks talking about this, and it's really a global initiative. It's not just a small grass roots thing in a few places, in a few pockets in the United States, it really is becoming THE global standard of care.

Joe: Well, I would absolutely agree with that, and I think that you said something very important there, and I'm going to veer from for just a moment from being the interviewer to interjecting my opinion for just a second. So bear with me for a second, Carolyn, is that okay? Can you live with that?

Carolyn: Absolutely! Go for it.

Joe: My big issue with this, and it's not a complaint, but what I see in a lot of hospitals where I visit (I'm a blood center medical director now and I go out to a lot of different hospitals and have done that in several different states. I'm not just specifically talking about the state where I am now), but when I go to hospitals and they say, "Oh sure, we're doing patient blood management!" And I say, "Great! Let's talk about your program." And what they show me is, as you said, a series of guidelines. It's fairly narrow and it basically says, "If any of our clinicians transfuse anyone red cells with a hemoglobin above 7.0 g/dL, we're going to beat them about the head and shoulders, and things are going to get ugly for them."

Carolyn: Right [Laughs]

Joe: If that's the extent of your program, everyone, anyone that's listening (and if by any chance I have any hospital administrators listening to this podcast), if that's the extent of your patient blood management program, you are NOT doing patient blood management, you are monitoring transfusion. And there is a LOT more that you can do and a lot more beneficial stuff that you can do. Don't get caught up in the whole, "We're going to save transfusion costs and save money and Yay, everybody's happy!" As Dr. Burns mentioned, this is all about improved patient

outcomes, and it's NOT just that one arm of it. Okay, Carolyn, I'm sorry. I was on my soapbox, so are we okay?

Carolyn: No, and you are going to get Mrs. Dr. Burns going on the exact same thing, Joe, because this is where I really want to stress, I think people that I talk to, people that know me, they know I'm very eager to opine on this exact issue. This isn't about blood utilization. It's not about that. It's not about that number. It's not about being punitive. It is really about looking at how do we incorporate appropriate transfusion practices in the backdrop of other strategies that can either limit or eliminate that need.

And yes, is blood management one of the few things in healthcare today that we can do better quality evidence-based practice with a team approach that also is fiscally responsible? Sure, it is! It's one of the few things we can do. So it is a win-win, but you are correct. You can't just say, "Yes, we're tracking transfusions and sending out the 'bad boy' letters," and not considering each patient and that clinical scenario. Where can we get better? How can we develop our protocols better? How can we utilize our guidelines to guide us? But each individual patient again has to be taken into consideration. So, it's a really a broad sweeping sort of approach to overarching patient care.

Joe: I get the feeling, Carolyn, that we could probably talk about that for an hour just by itself.

Carolyn: I think so! There you have it! So we will not bore them further with that. [laughs]

Joe: Oh boy. So I love all of that. Let us move on and talk a little bit about an initiative that you guys got involved in. And I say "you guys" meaning SABM, and as I've already mentioned, you play a very important role in SABM as a board member. So let's talk a little bit about the "Choosing Wisely" initiative and how SABM came to be involved with the Choosing Wisely initiative.

Carolyn: So this really has been kind of a multi-year campaign to challenge healthcare providers through their professional societies to start thinking about vigilant use of evidence-based medicine. And really the just utility of our healthcare resources. What are the five things physicians and patients should question?

And to date, by the way, there's over 80 professional societies that participate in Choosing Wisely, and there's been over 550 recommendations, which has distributed about a hundred some patient-oriented materials that are all available on the Choosing Wisely website.

Joe: It would seem that the dovetail between what they do and what SABM tries to do would be just obvious and straightforward. So, how did SABM go about developing your list of the five things physicians and patients should question regarding patient blood management?

Carolyn: When we started this, we reached out, actually we had a task force that was designated by the board and we started to look at the materials Choosing Wisely

national office sent us. We came up with, I think I was about eight or nine of our statements that we wanted for our list. And then we pitched those out to the membership via survey, because it was very important for us to have our membership weigh in on what they saw as the most important issues, topics for us to be working on. Once we got that list, we fleshed out with the task force...what you have to do is come up the statements, everyone will notice all the statements are of the same ilk. They have the format of "don't" or "avoid" or "limit." So it comes off initially, Joe, that people will think, "Well this is kind of a negative connotation," but again, it's supposed to initiate this conversation of, "Hmm, should I question this If it's being used, if someone is talking to me about this particular intervention, etc?"

So that's really what we did. And then you submit this to the national Choosing Wisely campaign. They are reviewed, uh, by their "peeps," if you will. And not necessarily people that are peers. And there was, they don't always just have people that are Transfusion Medicine or blood management people that are looking at this. They want people of all different subspecialties. I even get the feeling they have lay public that reviews this. And ultimately for us, we were able to publish these in August of 2018, so it was about a year and a half process, but we felt like we engaged not just leadership but really our members and then we got to know the people on the national campaign, which was very exciting.

Joe: Carolyn, I want everyone to know that I will have a link to the Choosing Wisely pdf that everyone can download. If you just go to the show page for this episode, which is BBGuy.org/067, you'll see right there on the page a place to go, a link on the Choosing Wisely website where you can directly download the SABM Choosing Wisely PDF. So are you ready to do the five?

Carolyn: Let's do it!

Joe: Number one: "**Don't proceed with elective surgery in patients with properly diagnosed and correctable anemia until the anemia has been appropriately treated.**" Oh my! I can see that you guys chose your words very, very carefully there, because there is a lot of richness in that statement. what led that to be an important point for you? What led that to be the number one statement that you made?

Carolyn: Well, you know, it's, it's interesting because yes, this is number one and if you look at the first of the foundational pillars of the Society for the Advancement of Blood Management, it is all about identification of anemia, appropriate diagnosis and appropriate treatment, because anemia is not the new normal. And folks may be a bit surprised at how often when we address this, in particular, for me personally, when I address this as a patient blood management consultant, I will not infrequently have the little comment, "Oh, you know what? I'm not worried about that 40 year old female with anemia. She's got menorrhagia, and she's going to be anemic." Or the 70 some year old gentleman that's coming in for their elective hip, "Oh, I'm not worried about that anemia; they're old! They're going to be anemic." Well, no, wrong answer! No, we don't walk around anemic for no reason.

There's a reason and anemia in and of itself, we all know is not the disease. It's a sign of something else. And if you look through the literature, there's a multitude of studies that show that anemia is present in about a third of patients that come for their preadmission testing, if you will, prior to elective procedures. So we need to find out why that is, because anemia in and of itself is independently associated with poor outcomes, morbidity and mortality, increased length of stay, readmission rates, all sorts of things. So we need to be concerned about it.

And the other reason is, again, what if you're missing an underlying diagnosis that is readily fixable. Like most patients, if they're anemic, very often it's due to nutritional deficiency, iron deficiency, maybe that's due to chronic blood loss. But what if we're missing that underlying renal disease, hematologic disease, God forbid the cancer that we haven't identified? So in other words, the thought process needs to be there because our patients will do better if we "tune them up," if you want to call it that, let's make sure they're optimized before they go into the stress of the surgery. So of course this really was SABM's first and foremost, because you can make such a huge difference in patient outcomes by just focusing on this one element.

Joe: And so Carolyn, when you're talking about being "appropriately treated," I think that we have to be really careful with that. I think you know where I'm going here. I have spoken with many clinicians who talk about pre-op anemia and say, "Eh, Joe, you tell me blood is safer than it's ever been. I'll just transfuse him. What's the big deal?" How do you feel about that? Oh, button pushed. Okay [laughs]

Carolyn: Yes. Well, transfusion is not the answer. Transfusion comes, as you and I both know, and most of the people on this podcast, if they're listening the bulk of the time, they know that transfusion is risky on its own accord. And why do we want to expose patients? And it's also a temporizing measure. We have to remember that. "Okay, great. Let's tank him up, get him in there, and then let's go back in my silo where I don't have to worry about it." Right? It's all those risks we know about, whether that's transfusion-associated circulatory overload, acute lung injury, transfusion transmitted disease and iron overload, and transfusion is also independently associated with adverse outcomes, increased wound infections, increased length of stay; a multitude of studies show this. So you don't want to be using transfusion as the top off, temporizing mechanism. We'd like to think, "Well, let's get, let's dig in the weeds and find out what's going on with that patient." Otherwise, we might send them home and they'll just go back to the state that they were in. And we don't want patients walking around anemia an anemic. Again, anemia is not the new normal.

Joe: I did an entire podcast on this, as you know, with the great, and I say that deliberately, the great Dr. Aryeh Shander, that is episode 052, everyone, a whole discussion on preoperative anemia. So you can find that at BBGuy.org/052. If you have not listened to that, boy, there's a treasure trove of information. But I can't leave this point without mentioning this, that comes down to, somebody got to check, right? Somebody's got to take a look before the patient comes to surgery. You don't want to make that diagnosis the day of surgery!

Carolyn: Yes, correct. This may necessitate a consultation with another service. It may demand some additional lab testing or intervention. And we want to do that appropriately as well. And that takes a judicious eye, talking to patients, examining our patients, evaluating their circumstances, their laboratory values, et cetera. And then coming to a diagnosis, which, this also could bring up that entire idea of "diagnostic management teams." Again, it's interdisciplinary, multimodal. But let's do what's best for the patient on the front end instead of putting them at risk during that stressful time of a surgery and even beyond for their recovery.

Joe: Completely agree. Okay, so everyone, that was statement number one of the five things physicians and patients should question, "Don't proceed with elective surgery in patients with properly diagnosed and correctable anemia until the anemia has been appropriately treated." Let us move on to number two and this is...okay, Carolyn, Let's be honest: This is where you're getting into people's business right here! [Laughs]

Carolyn: [Laughs] Yeah, yeah!

Joe: So let's do it. Here's number two: **"Don't perform laboratory blood testing unless clinically indicated or necessary for diagnosis or management in order to avoid iatrogenic anemia."** So wait a minute, wait, wait, wait, wait, wait! So you guys have the NERVE to tell people that they shouldn't just perform routine lab testing. Where is that coming from, Carolyn?

Carolyn: Well, okay, first off, I do have to say, as long as we're talking about Dr. Shander, he also has another wonderful quote that I use very often on this whole idea of iatrogenic blood loss, or what I call "anemia of chronic phlebotomy." And he says, Aryeh has said before that "The most common reason for phlebotomy is sunrise!" And you know, and, and I was, I was one of those people, because I started out as a surgery resident, and I got daily labs on every single patient. And it didn't matter why or what, I just did, because I thought that the lab was going to have some miraculous, you know, bring a gift to me and telling me what's going on with my patient. Laboratory studies, as we know, are wonderful adjuncts for diagnosis, prognosis, and potential treatment in terms of their guidance. But they are just one piece of the puzzle.

What we have to remember is, when we do daily laboratories, we kind of forget what the volume of that is, much less how we make pin cushions out of our poor patients. And having been a patient, let me tell you, it's not the most comfortable thing. But here's, here's an interesting statistic, that if you look at intensive care unit patients, up to 90% of them will become anemic by day 3. So they come in not anemic and we help to render them anemic. Now part of that could be because of other surgical interventions, etc., where they had some blood loss. Okay, "uncle." But are we helping this along by every single day getting a complete blood count, coagulation tests, a comprehensive or even a basic metabolic panel when perhaps we really don't need it. It's not helping us in our endeavors. And all we're doing is causing our patients to have an anemia, which again is independently associated

with adverse outcomes and also increases your risk of transfusion, which we want to avoid if we can. So it's this chicken and egg.

And I can tell you what my location, before I left practice in 2011, we actually just did a little snippet and others have done this, you can see it published. But we just did a little anecdotal, one week in our cardiac care units, let's say. And I told the supervisory nurse on that floor, I told him, "Hey, let's just take a little snapshot of how much phlebotomy volume do you on average take?" And these weren't our VAD patients or transplant patients, these were our routine CABGs, valves, etc. And in just one week, we found that on average, and again, this is anecdotal, we found that on average a patient had about 75 cc's of blood drawn from them in a week. So if you think about that and the range, some patients were up to 150 cc's, we all know the volume of a unit of red cells. So we could do the math, right? So that means in a week or two time, what are we going to do now? We're going to knee-jerk and we're going to say, "Oh my gosh, they're anemic!" Well, duh. So I think we have to just look at some of our practices.

Sometimes I think we also do our laboratories to kind of just cover ourselves. "Oh, we don't want to miss it. We don't want to miss it." And this gets into the whole concept of, what do you do with an abnormal lab value when your patient is stable, which will of course dovetail into what number three statement is. So you could see the sequence here. So I'm leading you down the road. So I think it's important.

Joe: Oh, I see. I agree completely and I think it's been very clear, certainly in laboratory medicine in recent years, the increased emphasis on this in terms of helping clinicians understand judicious use of laboratory testing. And I could not agree more with what you've said and I think that's one of the things that that is really missed a lot is just how much volume is lost. And you just illustrated that. And you know when you're, when you're drawing patients for no obvious reason and you're putting them in a scenario where they're needing transfusion as a result of lab tests that didn't need to be done in the first place. It's again, you're, you're putting me on soapboxes Carolyn, that got to get off.

Carolyn: Oh, I love it! I love it! I told you, we're kindred spirits on this!

Joe: It's true. It's absolutely true. Anything else on that one before we move on to number three, Carolyn?

Carolyn: Well, maybe one last comment, and I think some of the laboratory professionals societies have pointed this out. If we think about the laboratory and testing, it's a fairly small percentage of overall costs. Because again, for administrators that are maybe listening. In terms of its own cost, it's limited in the big picture or backdrop of a patient's episode of care. But what has been clearly documented in the literature is it is the downstream driver of a HUGE number of additional interventions, therapies, etc., that might not be necessary. So we have to look at, again, this is not just the lab, it's what happens beyond that. So again, it speaks to this whole idea of getting out of our silos, looking at that interdisciplinary, multimodal approach to our patients. So I'll stop with that.

Joe: And let us move on to number three, which as you said often comes from number two. So number two, of course, again, just to review, everyone was, "Don't perform laboratory testing unless clinically indicated or necessary..." (it was a little more, but I'll stop there). But that leads us to number three, which is, **"Don't transfuse plasma in the absence of active bleeding or significant laboratory evidence of coagulopathy."** Oh boy. You talk about a soapbox! You put this one in the HEART of the list of five. And I think this, this is one that is obviously absolutely massive. I have everyone, I have talked about this before extensively with Dr Jeannie Callum, who did a wonderful discussion about plasma transfusion when it may not be totally obvious. That's episode 016 (so, BBGuy.org/016). Jeannie did a great job, but Carolyn, this is a huge, huge issue. So, I will throw this to you. Why should we be so worried about people giving plasma unless it's totally blatantly obvious that someone needs plasma?

Carolyn: I think plasma is probably (and this comes as a reflection of just my work either initially in my private practice or again now out as an independent consultant), plasma is one of the most misunderstood components we have. I think health care providers get their arms around red cells pretty well, and the literature really speaks. I think part of the issue with plasma, you know, it's yellow, it's out there and we think people need it because...well, obviously nobody's going to argue that in the exsanguinating patient (and that's why we stated "active bleeding" in this statement), nobody's going to argue. That is, when there's blood on the floor and you're using some "reds," you're going to have to use some "yellow!" Okay. So we know that. But, that can be life and limb-saving. I think the issue is, and you're right, Jeannie did a great presentation on this, and I've heard several others since that, and people get a little "twitchy" when they get an abnormal coagulation study. Of course, I can be a little bit glib and say, "Well, if you wouldn't get the coag study and your otherwise stable patient, then you wouldn't feel compelled to act on it." But there's my little editorial comment.

Joe: See point 2! {laughs}

Carolyn: We have to remember that an abnormal coagulation test does not predict bleeding. Again, that's clear, clear in the literature, but I think we get a little nervous, and we say, "Oh my goodness, this person has this abnormal PT or INR or an abnormal PTT." And I look at that the same way we would look at the CBC where we find somebody who's anemic: Look at your patient and find out why. Is it significant? Is it clinically applicable? Before you need your work and write an order for plasma. Because plasma as well, comes with inherent risks. The average adult dose is anywhere from three to four units, which is a high volume. It's about one liter of fluid for an adult dose and that can cause significant circulatory overload.

The reason we see a lot of circulatory overload with plasma is because, how do people transfuse plasma? Well, wide open or "as fast as the patient can tolerate." We don't think about it in the slow steady stream that we look at red cells, which every single nurse that's listening knows that they give, they administer their red cell units over three to four hours. For whatever reason, we think we can just "wide

open" plasma. So if you think about that volume that you're giving and the patients very often that are receiving (unnecessarily) that plasma are our critical care patients that have those comorbid conditions that don't allow them to handle volume readily.

We have chances of allergic reactions, anaphylactic reactions. I can tell you in my practice I saw this a lot because people...and we were really starting to focus on, "Why are we giving this plasma if the patient is clinically stable, non-bleeding?"

So again, I think we have demonstrated in recent studies that transfusion of plasma is most often inappropriate. And we have to look at the backdrop of what's REALLY going on with the patient. I know Jeannie brought up that entire idea too, in patients with liver disease. That's a population that receives a lot of peri-procedural plasma, paracenteses, other interventions. And it's really not necessary because as she and others have pointed out, those patients have a "rebalanced hemostasis." They have normal thrombin generation and are very often capable of actually...in fact, sadly enough, they might be more prothrombotic than they are coagulopathic! So stopping and thinking about our patient, let's take a look at our patient, let's look at what that laboratory really means, and do we really need to expose our patient if we can avoid it.

Joe: Let me just mention one thing that you said. You said that that a dose of plasma is typically three or four units, and I am certain that there are clinicians, nurses out there saying, "Well wait, wait, wait, wait, wait! What are you talking about? A dose is two units, Dr. Burns, why would you say a dose is three or four units?" So I would love to give you just a second to describe the, I'll bias you, the FUTILITY of a two-unit dose of plasma in most situations.

Carolyn: So let's just take for example, again being fair, someone that is my size and for people that don't know me, I'm about a 5'2", 110 pound person. Okay? So for someone my size, that necessitated, truly necessitated a plasma transfusion, a two unit, 600-700 cc dose, if you weight-base it, might be appropriate for somebody my size. It certainly isn't going to be adequate necessarily for, let's say like one of my old prior partners in my group who was a 6'3", 200 pound guy, okay?

So if you really want to be picky, we should be weight-basing it. So I'm glad you brought the point because if there is some fairness in that, but I agree with you that most often what people do, and again this is in the literature and the Pittsburgh folks, Darrell Triulzi and their group did a beautiful study that was, I kind of called the "epidemiology of plasma transfusion," and what happens is, "Oh my gosh, now we have that abnormal INR" (whatever you think that magical abnormal is), and we feel compelled to do. Again, stable patient, not bleeding, maybe even necessitating a minimally invasive procedure. What do we do? We want to act, so we feel, "Well let's give them a little prophylaxis." So I think where you're leading me is the futility of, "Well, I'll tweak them with one unit." And the funny thing about that is if you really dig into the records when people have done that, there's a significant number of patients that receive a unit or a two unit prophylactically prior

to a procedure, non-bleeding, but then they don't even repeat the INR, if that's what they're acting upon, to tell you if it did anything different.

Well, no. Then they say, "Well, the patient did well." Well they would have done well regardless. So I think we've got a two pronged discussion there. There's some merit, but overarching the use of plasma, to me, the use of plasma outside of an exsanguinating hemorrhage, you know, protocol or for therapeutic plasma exchange for TTP, isolated orders for plasma should be questioned. They should be thought about very, very carefully, because most often they're not needed.

Joe: That is a great place to leave that. I completely agree with with what you just said. Okay, let us move on to number four, which is, "**Avoid transfusion when antifibrinolytic drugs are available to minimize surgical bleeding.**" And this may be one that many blood bankers are not quite as familiar with. So why don't you talk us through that? What do we mean when we're talking about "antifibrinolytic agents?"

Carolyn: I think this was one of the statements that when membership looked at this when we pitched it out, this came with a very resounding thumbs up, and I think it reflects the fact that SABM wants to be very broad sweeping in alternatives to help avoid transfusion. And the literature, again, over the last really 10 in particular years has shown that (and I'll use a line I always use), the pharmacy is your friend. And the pharmacy has the keys to the kingdom when it comes to some of these adjuvant therapies and interventions that we can use to minimize bleeding and blood loss and to optimize patients' coagulation. And tranexamic acid, Amicar, the lysine analogs, which are antifibrinolytics so they act to decreased fibrinolysis, so in other words, they're going to stabilize or help make clots, if you will, these can be used to reduce blood loss and to avoid transfusion requirements.

There is a wealth of literature, particularly in orthopedics, and if you talk to folks at high volume orthopedic practices, particularly for total knees, total hips, and even venturing into spine, somewhat craniofacial, etc., but definitely for joint arthroplasty, TXA has been shown, whether IV or topical, to decrease the need for transfusions and decrease overall blood loss.

So we're looking for alternative strategies and interventions that we can use. So that's why we feel that this is very important because I could tell you, I still go out to facilities and not every surgeon is aware of this. Let's look at the CRASH-2 study for our trauma patients. The WOMAN study for our OB hemorrhage patients. Those studies with over 20,000 patients found that early use of TXA meant for better outcomes in terms of mortality. So you use this early, it increases their survival, even in the actively hemorrhaging patients. So we can affect outcomes with pretty simple interventions and avoid or at least limit our use of transfusion. I think we should acknowledge the fact that there are some quirks that people have pointed out. But, I think at this point in time, at this juncture, I think there is evidence to show that we can save lives by incorporating antifibrinolytics into our current blood management strategies.

- Joe:** I have come across clinicians sometimes who have been concerned about using TXA because of what I view as an erroneous belief that using TXA causes an increase in the risk of thromboembolic events. That we're going to clot the patient if we use TXA. What is your feeling on that? Has that been studied?
- Carolyn:** Yes, it has been studied. I would agree with you, this is one of the greatest barriers to getting clinicians to embrace and incorporate the use of antifibrinolytics, TXA in particular and, well, Amicar as well. TXA has been around for...it's as old as dirt. Okay. It's as old as black pepper! It's been around. It's listed by the WHO as one of the most essential medications that we have at our fingertips, and there have been no meta-analyses of the studies that are out there that have shown that there's an increased thromboembolic risk profile with the use of TXA. Also, I think one caveat is that probably antifibrinolytic agents should not be used in the backdrop of subarachnoid hemorrhage, because there has been some association of antifibrinolytics being associated with delayed cerebral ischemia. So I think that is one arena where we probably should consider TXA at this point in time to be contraindicated.
- But as far as thromboembolic profile, there's really no solid evidence in the well-done studies, and again, there's a multitude of them, that shows any increased risk.
- Joe:** Yep. Great. Okay. So here's number five: **"Avoid transfusion outside of emergencies when alternative strategies are available as part of informed consent and make discussion of alternatives part of the informed consent process."**
- Carolyn:** This fifth and final statement is no way at the bottom of the rung because again, this is something that if anyone is involved with SABM, you will hear people that are members or hospital affiliates of SABM speak to this idea of informed consent, or really as one of our past presidents and wonderful physicians, Dr Kathleen Sazama, she really puts it out there as "informed choice." And this is one of the statements that I think really sets SABM apart from some of the other lists. For me, going through, culling through a number of the Choosing Wisely lists, I have not seen this mentioned. And if we all sit down and think about it, there's a wide variation among all of us as medical practitioners of how we have our knowledge about risks of transfusion, alternatives to transfusion, and more importantly, the delivery of this information to our patients.
- And having come again from a surgery internship, having to go into a room and get consent for a procedure, I didn't know anything! So we have very often our youngest people on the team, or we foist that out upon our nurses, which really is outside the scope of their practice, to try to discuss and cogently discuss the risks and benefits. So I think we have to be more aware of this. We have to get away from this idea that an informed consent means we go in, we say a couple things to patients, have them sign a document, yay rah! It's now in their electronic medical record. That's not INFORMED consent, much less is it truly informed CHOICE.

And I understand the obstacles to that are that physicians, their days are filled to the gills. Most everybody in medicine today is, as I always like to say, we're treading water and we're praying for no waves, right? Because we are under the surf a lot of the time. A lot of that has to do with just the way the practice is today and the confines of our work each day of our lives. But I think if we stop and take time again to have the dialogue, let's get back to the whole point of choosing wisely. Let's speak to our patients, let's sit and talk to them. Let's provide materials to them. Let's provide adequate time for people to feel that they are part of that process, particularly for those elective, obviously for elective interventions. So I just feel that we need to enhance this as part of our education for our healthcare providers, and we know what our role is, so we do a better job.

Joe: There is a rich treasure trove in that entire statement, Carolyn, and I could not possibly agree with you more. I am saddened, quite frankly, every time I think about how...I'll just be frank, grossly inadequate transfusion informed consent often is, and I think you've raised an excellent point: Our medical practitioners in hospitals and in their offices, they, in many cases haven't really been trained on how to do this. And so I think it's really incumbent on us as Transfusion Medicine professionals to make sure that we get that information out to them and give them tools. But I also think it's important for clinicians to educate themselves on what they're really saying to patients, and so that the patients, as you said, can be a part of this discussion so they can understand there are options other than getting a transfusion potentially if you prepare in advance.

Carolyn: Yeah, and you know in this recently happened to, and I've told people this story, I've had my best friend here in town who used to also be my transfusion safety officer at my facility. She also happens to be a blood banker and an HLA person. So she goes in for an orthopedic procedure, and the nurse walks into her room, two and a half, maybe three days later and says, "You need to sign this consent because the doctor's ordered a transfusion. Now this is almost as bad as having an attorney in the room, right? You have a blood banker that you're talking to about this, right? So it was a little bit incongruous, and of course my girlfriend said, "Excuse me?" No one had come in and talked to her about her hemoglobin. Nobody had come in and examined her. And the nurse was obviously nervous about this because she said, "I'm very uncomfortable with this." And she said that to my friend. She said, "Well, why don't you tell the doctor to come in and spend a little time?" Now, her point was, she didn't expect a 30 minute treatise on this, but she did expect someone to come into the room as the primary provider to discuss the risk and benefits. And that ultimately happened, kinda-sorta.

But either way, I think, yeah, we need to sit down and talk to our patients and have those conversations. And I know that takes time, but I'll say again, I've been a patient a lot of times, more than I had ever hoped in my life and I always was a bit bothered (and I'm a physician and I knew these people), you can't make the assumption that we understand everything that you're going to do to us. And those are some benefits. So take just an extra 5 to 10 minutes, sit down, uncross the arms, and have the conversation. I think that would go a long way. I think that what Choosing Wisely is all about and why we felt with SABM, that this was now a new

point that we needed to bring out that maybe distinguishes, this is something we have to get back to: That whole idea, as I mentioned, of professionalism.

Joe: So Carolyn, before we leave this point and close our time together, I wonder if from your perspective, if someone who's listening to this, and I pray someone is, that a clinician is listening to this and saying, "Wow, I really need to do this better," how can a clinician who wants to get better at doing informed consent, if they came to you and said, "Dr. Burns, I want to do this better. I want to figure out how to help my patients more." What would you tell them? How can they educate themselves?

Carolyn: Well, certainly any physician could, you know, get online and do a pub med search for articles regarding, the processes and elements of informed consent. But I'll also pitch out there, because since this is a little bit of a, of a SABM opportunity for me, I would also really recommend that if folks would like it to go on the SABM website, first off, become a member, or have your hospital become an affiliate. And there's a wealth of information and resources. And there, there are several that are patient-oriented in terms of, you know, informed consent, what are the things I need to be asking from the patient point of view. There's documents that can help guide you through what types of questions and discussion points should you have for your patients. So I think there's plenty out there. I just don't think it's a topic that most people think in their average day to address.

So I'd point them to what the literature points them towards some of the SABM resources and, uh, and, and, and get out. In fact, I should tell everybody to theirs. There was an article just in the New England Journal of Medicine by a physician and it's called "Informed," and it's by a Dr. Alessandra Colaianni, and she gives a really good perspective from the resident point of view. She also lists (and I wasn't able to get this as an epub ahead of print) 12 tips for teaching the informed consent conversation.

Joe: Well Carolyn, this has been just a blast for me. I, I've really enjoyed talking with you and going through these, going through these five, choosing wisely statements. I can't help but uh, but just running through them one more time. The five things physicians and patients should question (and I'll paraphrase, I'm not going to read every word): Don't proceed with elective surgery in patients with properly diagnosed and correctable anemia until that anemia has been appropriately treated. That's number one. Number two, don't perform laboratory blood testing unless it's clinically indicated. Number three, don't transfuse plasma in the absence of active bleeding or lab evidence of coagulopathy. Number four, avoid transfusion when you can use one of those antifibrinolytic drugs that could minimize surgical bleeding. And then finally, avoid transfusion outside of emergencies when alternative strategies are available. In other words, make your informed consent process real and meaningful and valuable to your patients. So, Carolyn, that you guys did a great job with us. I salute you for the effort and thank you so very much for being with me and talking to me about this.

Carolyn: Thank you, Joe for doing this. And I have to really give a shout out too, to our board and the other folks in the task force and our membership who are just so committed to doing, doing the right thing. So I'm just greatly appreciate it and always look forward to your other podcasts.

Joe: Well, thank you, Carolyn. Thanks for being here.

Joe: Hey, before you take off, everyone, I have just a couple more things for you, really quick. If you are a doctor or laboratory professional, you can go to www.wileyhealthlearning.com/transfusionnews and get your hour of totally free continuing education credit. While you are there, you can find an assortment of other episodes that you can listen to and get equally free continuing education! My thanks for that, as always to Transfusion News, Bio-Rad, who brings you Transfusion News, and Wiley Health Learning for bringing you all that continuing education, at (did I mention?) NO COST!

Again, the show page for this episode is at BBGuy.org/067, and you can find the link to the SABM Choosing Wisely pdf. I really recommend that you get it; it's very useful, well-referenced, and makes a nice target if you aren't currently addressing all five of those questionable practices in your facility.

You've heard me say this one before, but please, please, please go to Apple Podcasts on your computer and give this podcast a rating and a review. Those ratings really go a long way in helping others find the podcast and learn, which is my entire goal!

I've got some great episodes coming up, including a discussion on TRALI prevention with AABB President-elect Dr. Beth Shaz, as well as episodes discussing transfusion in cardiac surgery and how to implement low-titer whole blood into your trauma transfusion practice. All those are coming very soon.

But until that day comes, my friends, as always, I hope that you smile, and have fun, and above all, never, EVER stop learning. Thank you so much for listening. I'll catch you next time on the Blood Bank Guy Essentials Podcast.