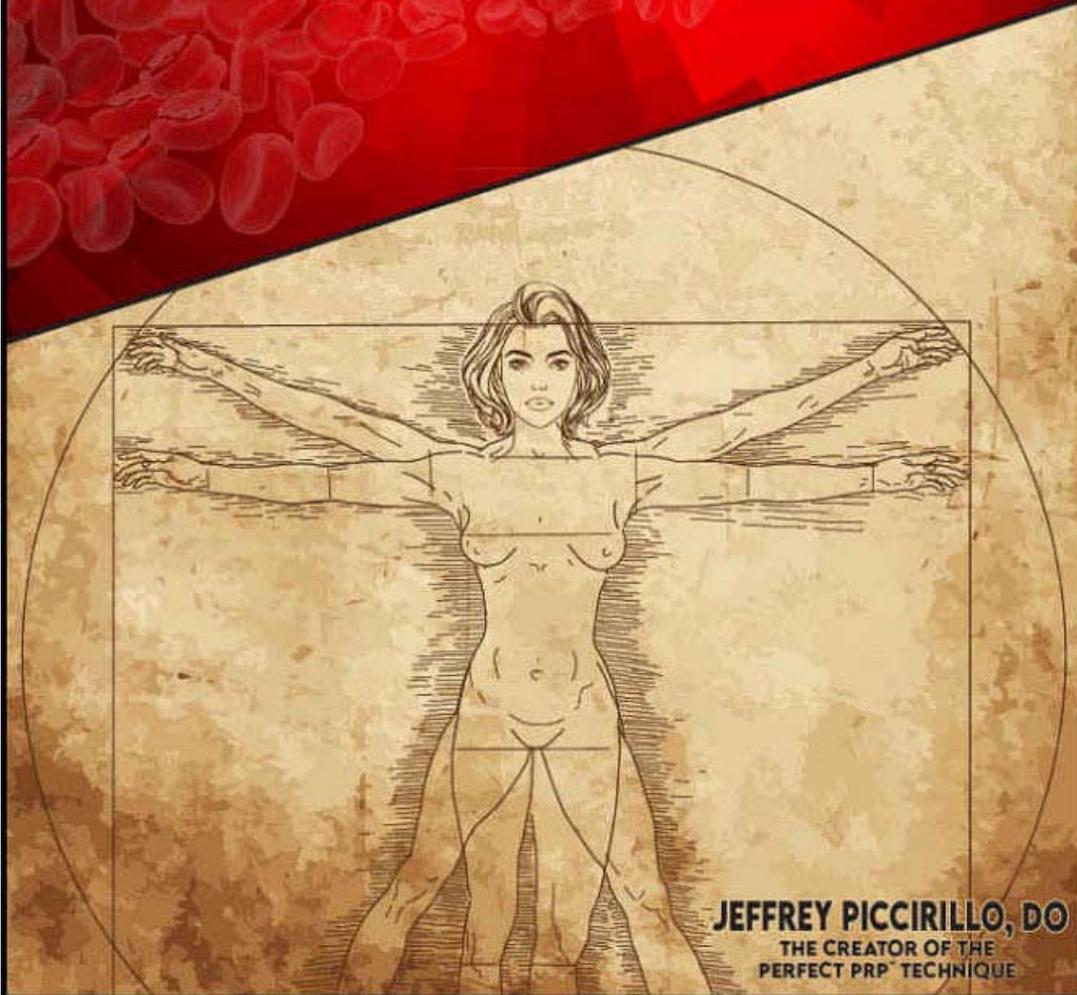


# PERFECT PRP™

HOW TO ACHIEVE EXCELLENT OUTCOMES WITH  
PLATELET-RICH PLASMA FROM AESTHETICS TO UROLOGY



**JEFFREY PICCIRILLO, DO**  
THE CREATOR OF THE  
PERFECT PRP™ TECHNIQUE

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# Foreword

Over two decades ago, surgeons operating on difficult-to-heal, avascular tissue started trying to improve outcomes by attempting to amplify the normal healing process. One of the more successful strategies involved taking the growth factors and cytokines found in platelets and concentrating those factors; this technology came to be known as platelet-rich plasma (or PRP).

A much smaller number of surgeons in other specialties also used PRP to improve healing, but, by far, the most use and research with the new tool was confined to orthopedic surgeons, dentists, and oral surgeons—all performing surgery on near avascular tissue. Almost no one was using PRP for non-surgical indications.

Some of the more forward thinking orthopedic surgeons started considering more deeply about how to use PRP not only to enhance post-op recovery, but also, as a stand-alone joint injection, to *avoid* surgery in some cases. ***Dr. Jeff Piccirillo was one of these forward-thinking orthopedic surgeons and has injected over fifteen-thousand joints.***

My later development of non-surgical, PRP procedures (the O-Shot<sup>®</sup>, P-Shot<sup>®</sup>, and Vampire Facelift<sup>®</sup>, and others) could have never happened without the previous work of Dr. Piccirillo and his many orthopedic and oral surgeon colleagues who delineated much of the basic science of PRP and the mechanics of the FDA-approved devices used to prepare PRP.

If you're a physician of almost any specialty other than psychiatry, and you're not yet using PRP as part of your practice, you're rapidly becoming out-of-date. The safety and efficacy of PRP is becoming more solid almost daily with an absolute explosion of research (go to PubMed now, type in "platelet-rich plasma" in the search box, and be surprised). But, as you work your way through this book, remember—there is no procedure that works perfectly—none. ***So finding an idea that works is only the first step. Next comes the eternal task of looking at the near infinite variations:*** who will respond to the procedure, who will not, how can the PRP be best prepared, can it be mixed with something, cooled, washed with saline, what if the patient exercises first, what are contraindications, what about medications or nutrients that enhance or hinder, how can it best be injected, and how much should be injected?

Those are just some of the questions that arise concerning PRP procedures. ***Most of those who have tried but have not succeeded with using PRP in their medical practice have not carefully noticed these and other questions.***

After dealing with these questions, and after seeing excellent outcomes with his many patients, Dr. Piccirillo developed a deep understanding of PRP technology and began consulting with other physicians who came to him for help (hundreds of them over the past 10 years) so that they might learn how to best use PRP technology for best results in multiple specialties for multiple indications.

This book, by Dr. Piccirillo, arose out of that experience as both a physician and as a teacher of physicians. He's put a very generous piece of that experience and knowledge into this book. Any physician using PRP or considering using PRP should study this book cover to cover.

I'm grateful for what I've learned from Dr. Piccirillo, I think you will be too.

Sincerely,

Charles Runels, MD  
Fairhope, AL  
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## Welcome

If you ask 100 doctors, "What is PRP?", you will get a hundred different answers. The OB/GYN may look at it as a way to treat urinary stress incontinence. The urologist, a method to improve erectile dysfunction. The orthopedist an alternative to joint replacement.

If you are opening this book today, you must have an interest in platelet-rich plasma (PRP). Possibly you have been using it as an integral part of your practice?

Maybe you're just starting to dabble in regenerative medicine, and seeing what it's all about? Or, perhaps, you're a patient, that is looking for more information?

*In this book, I promise to dispel the myths, and make the uses of PRP clear: exactly what you can do with it to improve the health and function of the body and what's the best way to use PRP for the best outcome.*

I fell in love with PRP technology in 2002 when I saw what it could do to help my patients. As an orthopedic surgeon, I was blessed to practice one of the specialties that (because orthopedist deal with avascular, hard-to-heal tissue) was exposed to PRP technology early in its development, and I was able to be part of that development.

Over the past almost 20 years, I deeply studied the science, the device-technology that drives the science, and how to improve the final PRP product, and ultimately the improve the benefits to people who are treated.

In considering would constitute **Perfect PRP™**, I think we are truly there. We are at the time where PRP and Regenerative Medicine has become a powerful mainstream option in healthcare. We are able to harness the body's healing power from within.

Some may still think it's quackery, since it's not offered by every physician. I remember the quotation from medical school, "If you are a hammer, everything looks like a nail". That still holds true in medicine today. Many doctors only feel there is one way, their way, to treat the patient, and are unable to look at other

options. If you have treated knee arthritis with joint replacement since you were a resident, then that is your go-to modality, even if there are other options.

Since, no complete review has ever been published on the subject of PRP, since no one has looked at all the data available (over 12000 articles on PubMed), I decided to take the challenge and using my 18 years of experience with regenerative science and with acting as a consultant to over 200 physicians, and provide for you a focused review of *exactly what you can and cannot do with PRP* through this book.

There is so much confusion, even among my colleagues. Much PRP research is very difficult to follow, since there is no standard definition of what PRP is. For every physician comment above, there is a centrifuge sales person touting its superiority in the field. Each device has a different preparation of PRP, which makes it difficult to compare apples to apples.

*My hope is to dispel some of the confusion in the science and technology. Here's what you'll find in the book:*

Chapter 1: **“Where did this all start?”** We will look at the history, and we arrived to where we are today.

Chapter 2: **“VEGF, IL-6, PDGF... Alphabet Soup, or tremendous healing potential?”** Looks into what actually defines PRP, and what substances generate this amazing healing power.

Chapter 3: This chapter looks at the devices, and technology, which allows us to arrive at a final product, and will answer the question **“Will my LabCorp Centrifuge work?”**

Chapter 4: Once we set out to recover PRP from whole blood, there are ways to improve the quality of the final PRP. In, **“Exercise, Supplements, Fasting...What can improve my PRP?”** we will look at the science and research to improve outcomes.

Chapter 5: I finally get a chance to explain the “**Perfect PRP™**”. **What constitutes the Perfect PRP™ technique, and how can I take my PRP to this next level?”**

Chapter 6: “**Healing wounds: What can we learn from the wound care physicians?”**. Wound Care is the specialty (along with dentistry) that started it all. We will dive into the tissue healing technology, that has allowed many specialties to adopt PRP into its treatment protocols.

Chapter 7: “**From bone graft to the NFL, How the science of PRP became mainstream**”, Orthopedic Surgery is the specialty which has performed more research on PRP, than any other single specialty. In Chapter 6, we will look at research from the early days of PRP, through today.

Chapter 8: Since the beginning of time, men and women both have been looking at ways to make yourself more appealing to the opposite sex. In “**Can PRP make me more beautiful ?**”, we will look at how an internist from Alabama brought PRP into the beauty industry.

Chapter 9: “**How did PRP make it into the bedroom?**” dives into PRP and sexual medicine. It will offer ways of using PRP to take our sex lives to the level they were at in our 20’s.

Chapter 10: In the chapter, “**I’m old....Is my PRP still good?**”, we look at how PRP ages, and what physicians can do to combat the problem.

Chapter 11: In the final chapter, “**Where do we go from here?**” we will wrap up the PRP journey, and look at how you can take the next step.

***My goal is once you read this book, you will understand PRP more thoroughly, understand how to prepare PRP, and feel comfortable using PRP throughout your practice (and know when not to use it), whatever your medical practice may be.***

With any project like this, there are so many people to thank. First of all Mr. Ben Zappa, my high school biology teacher, for igniting a spark. The orthopedic rep, who first rolled a giant centrifuge into my OR in 2002. Dr. Charles Runels, who’s

friendship and passion allowed me to see the need for writing this book, and created the vision. . My MasterMind team, Emily, Heather, Ryan, Shelly for keeping me focused, and pushing me to keep deadlines. Most of all, my wife Jennifer (Baby Panda) , for being a light and inspiration every single day. I love each and every one of you!!

With the incorporation of any new procedure in your practice, there will be questions. I would be more than happy to answer each and everyone. As you take some of the concepts in this book, and use them to improve your patients outcomes, and a question pops up reach out. My email is [Dr.Jeff@Regenmedicalgroup.com](mailto:Dr.Jeff@Regenmedicalgroup.com), and my cell phone is 641-990-6737 (and yes, I answer my own phone).

I hope you take something from this book, that resounds in your mind, and maybe, will have impact on the lives of the people who come to you for help.

Chances are if you are not moving forward, you are falling back.

Let's move FORWARD,

Jeffrey Piccirillo, DO

## Chapter 5

### Perfect PRP™....

### What constitutes the Perfect PRP™ technique, and how can I take the PRP in my practice to this next level?

In the last five chapters we looked at the beginnings of PRP, and then how, over the last 20 years, PRP has developed,. All of the facts, research, hypothesis, have led me to come up with the idea, Can we make a Perfect PRP™?. This is how the Perfect PRP™ technique has developed.

### What is Perfect PRP™?

I guess the best way to answer, is by answering the question, **What is it not?**

1. It is not a centrifuge. Any centrifuge, which allows you to closely predict the concentration of PRP in your final product, can be part of your Perfect PRP™ technique. This means, if you have drawn a platelet count, know your starting point, and can calculate the final platelet count in your injectable product, you are on your way to Perfect PRP™.
2. It is not a supplement line. If you already have a line of supplements, you lie to use prior to your regenerative procedure, then use them. If you are not doing something to help with marginating stem cells, controlling blood sugar, and controlling oxidation, then you can look at some of the products available to do so.  
Some of the supplements I like are as follows:  
Blood Sugar: Cinnamon, Chromium, Berberine  
Stem Cell Mobilizing: NAD+, or an oral derivative like Nicotinamide Riboside  
Antioxidants: Green Tea Extract, Resveratrol
3. It is not about injection techniques. YES, you absolutely need to be proficient in the injection techniques, but that is not what Perfect PRP™, is about. If your focus is joint regeneration, you should attend workshops on those techniques. The same with sexual health, aesthetics, and wound care.

There is a list of available training in the “Additional Resources” section at the end of the book.

4. It is not guaranteed or fool proof. As a physician, you realize there are a hundreds moving parts, that need to align for any surgery, technique, or procedure to go succeed. If one or two is out of alignment, it may all fail. Perfect PRP™, is a stepwise guide to control as many of these of these variables as possible, which should lead to a successful outcome. As we well know we cannot control what happens when the patient leaves the office.

Now we know what its NOT, then what is the Perfect PRP™ technique?

It is a systemized approach to the consultation, diagnosis, preparation, and finally processing and injection of PRP. Let’s breakdown each of the above segments.

### **Consultation and Diagnosis:**

The first visit is probably the most important visit between you and your patient. First, you will have to dispel myths regarding PRP, and regenerative medicine, and will need to set-up realistic expectations. The Vampire Facial (more in Chapter 8), can make you appear younger, but will not erase 30 years in the Florida sun , and a 2 pack a day smoking habit. Osteo-arthritis responds well in early stages, but not in Stage IV (more in Chapter 7).

- Did the patient may have had PRP in the past, with no results? You need to figure out why.
- Was it the PRP preparation (Lab Corp centrifuge?), injection technique, or did they not hold the anti-inflammatory medications pre and post treatment?
- Any cortisone injection within 90 days prior to the injection?
- Was the blood sugar under control?
- Did they do anything to boost the response? Supplement? Radio-frequency? Prolo-therapy? NAD+?

### **Preparation:**

After everything is discussed at the first visit, and a treatment plan is formulated, the next two weeks, will be putting the plan into effect. This will consist of everything needed to get the patient ready, and the body prepped to receive the treatment. This is where you and your staff will bond with the patient, and get their mind ready for the procedure. If they have been through a failed treatment in the past, these steps may be the most important.

### **Processing PRP:**

The day has finally come to for the patient to finally undergo the procedure. Consent has been signed, and a pre-treatment platelet count completed. Blood has been drawn, with every effort being taken to make the patient as comfortable as possible. Remember, this is Perfect PRP™, not just an ordinary procedure, in an ordinary office, cover by insurance. **“Style points” count.**

What is a “Style Point”? Anything you do in your office to elevate the level of satisfaction, the patient is not accustomed to receiving at other offices.

Now, that the patient specific dosage of PRP has been calculated, and is being processed in centrifuge. Ideally the PRP should never leave the patient’s sight, so they will always know, the PRP being injected is theirs.

### **The Injection:**

This may be the easiest part of the formula, but attendance and certification is key. There are many first rate workshops available, and you can find links to many of them in the Reference section in the back of the book. If you are venturing into joint injections, this is where the question arise;... **Should we use ultrasound or guidance?**

That depends on two variables: The joint being injected, and your comfort level. As an orthopedic surgeon, who started before ultrasound guidance became popular, we do most injections in the office either blind, or with fluoroscopy. If it was a difficult joint (think SI Joint or hip), or a spinal injection (facet or disc), they were performed in a radiology suite, either in the office or hospital.

There are courses teaching joint injections both blind and with ultrasound. Find a course you like, with a well trained instructor, and see what your comfort level is. Missing the pathology, or performing the injection incorrectly, means a less than adequate outcome. Training is key!!

### **Follow-up:**

You just spent 3+ weeks, preparing the patient for an injection, now is not the time to send them out the door, not knowing what to do. Even though this is far less than a surgical procedure, the patient/client will typically only remember a portion of their instructions. Make sure they are written down, and better yet, accessible

either written or in video format on your website. This gives the patient a place to go, to see their doctor explain them one last time. This may also save you some calls.

Some things that may need to be explained:

- Resuming medications and supplement. Just like pre-treatment, all anti-inflammatory products should be held for an additional 2 weeks following the procedure.
- Return to activity.
- Return to sex.
- Showers, hot tubs, swimming pools
- Follow up visit / Need for additional treatments

Now you have an idea about what makes up the Perfect PRP™ technique. I hope this will inspire you to read on, and see where Perfect PRP™ can be utilized. Maybe you will be interested in taking the Perfect PRP on-line course, or attending one of our weekend workshops. Please see the Additional Resources section in the back of this book.

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Now that you've seen the valuable information contained in this book, jump over to Amazon to get your full copy in paperback or Kindle format!

<https://www.amazon.com/Perfect-PRPTM-excellent-platelet-rich-aesthetics-ebook/dp/B08SWGJXMC>

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