

Journal Club with Pearls, & Marketing (JCPM) 2023.10.31

Topics

- Platelet-rich plasma (PRP) in the treatment of osteoarthritis in the knee
- Combination therapy of PRP and hyaluronic acid (HA) in knee osteoarthritis
- The use of PRP in the treatment of Peyronie's disease
- The effectiveness of PRP in erectile dysfunction (ED)
- Controversy surrounding double-blind placebo-controlled studies on PRP
- The importance of educating patients about their conditions and treatment options
- Recommendations for using penis pumps after the P-Shot® procedure

Transcript

Welcome to The Journal Club. I think we should be able to finish in about 15 or 20 minutes tonight. We have, as you know, I comb through all the research between meetings and look at oftentimes far back several decades and through the textbooks just looking for what might be helpful as we take care of our patients.

Platelet-rich plasma (PRP) in the treatment of osteoarthritis in the knee

There's so much redundancy, as you know, in the medical literature. I see now, just every week, there's a new paper out looking at platelet-rich plasma in multiple joints and almost always showing benefits, comparing it with HA or corticosteroids. But there is usually one or two unique studies that come out, and that happened this week as well. So let's jump in.

This study (Gupta, 2023) looked more carefully at a question that should be in your brain if you're taking care of osteoarthritis in the knees: We have support for using platelet-rich plasma in the knee and for HA in the knee and, of course, there's this debate in the literature about which is best in the long-run. At least over six months to a year, PRP seems to win as far as preserving the joint, although corticosteroids may give the best pain relief over the first few weeks. But very few studies (I think we have one in the past couple of years) examine the combination therapy (PRP plus HA) and what that might mean. So this review article talks about that idea, editorial, of combining the two, and it brings up two studies.

You can see the references are not a multitude. It brings up two studies, showing that, as you might expect, the combination should be helpful, but you can see a more recent systematic; maybe the combination was not better than PRP alone, and another study showed that the combination was better than PRP alone. So it's plus/minus.

And I think **this is one of those things where you almost have to wait for the research to catch up with common sense** if each one works (unless there's some reason why there should be an attenuation of one by the other), then the two together should at least be additive, if not synergistic, especially when you have just common sense biochemistry that supports the idea.

Combination therapy of PRP and hyaluronic acid (HA) in knee osteoarthritis

If you think back, way back at the beginning of our adventures with the Vampire Facelift®, [going to the wound care literature](#), and many of you who have been in my workshops have seen pictures of the ankle that I like to brag about that had the deep scarring. We restored it using a combination, a layer cake, with HA with PRP on top of it, which is not a new idea. There are studies in the wound care literature talking about the HA acting as a scaffolding for the platelet-rich plasmas recruited pluripotent stem cells.

So that's a long way of saying it, but there's common sense biochemistry that supports the idea that the two should work well together. At the worst, they should not be attenuating one the other and possibly some synergy.

So this gives you those two studies, one showing significant improvements when you combine the two, and then this other review showing PRP alone works better. Either way, that leaves you in good standing. So I'll end with this. I'll send you a link to this. If you're injecting joints, this is [a great link to send out to your people in an email if you want to inject joints](#).

If you want to see more of a type of patient, just think about it. It's not quite thinking about the problem; think about how you can help that patient. It's not quite exactly correct because it's somewhat incomplete. If you think a lot about how to take care of the person you most want to take care of, that doesn't do that much, but **if you share what you're thinking, it's tremendous because then people can see that you're thinking deeply about the research and the availability of various modali-**

ties of making them well, and they reward you with that by showing up in your office and telling their friends.

Okay, so I'll put this link in the chat box, and then if you want to take care of knees, I would just do a two or three-line email:

"Hey, this research just came out. It supports what we do. We can do the PRP alone, but we recommend you combine the two. It makes sense that it might work."

So, let me put that in the chat box for you, and then we'll get to the next paper.

Nothing complicated, right?

But people don't know what you know unless you tell them. Hold on a second. Okay, so this is now in the chat box, and it will be there until we shut down the webinar. So if you want, if you click on it now, it'll pop up in your browser and won't go away when we end the webinar. I hope that helps you think about that.

The use of PRP in the treatment of Peyronie's disease

This one interests me because here's Ronald Virag, who's... He's the wizard; he's one of the pioneers of Trimix. He published a study I'll show you. To me, this study should be a poster on every wall. I'm trying to keep from ranting because it's aggravating to me. This should be a poster on every wall of every urologist. Let me pull up something. I [want you to see who Ronald Virag is](#). Hold on, just a minute.

Here we go. I'm making a point that I think might be worth noticing. He won one of the most prestigious awards available in urology, and he's not a urologist because

of his ideas regarding injecting the corpus cavernosum to result in improved erections. I have a textbook of sexual medicine that has his picture on the front pages of it as one of the wizards, an OG of sexual medicine.

Now, that's background. That's not the study we want to discuss today, but that's the background I want to show you because otherwise, I think you could be misled. Okay, here we go.

So Dr. Virag did this study (Virag, 2017) showing that PRP (and he says combined with hyaluronic acid because he was using one of the Regen PRP kits that uses HA as the activator for it. So, in theory, you could use your calcium chloride as an activator and get a similar outcome. He compared PRP with Xiaflex and showed that PRP worked better than Xiaflex, or collagenase, injectable collagenase, which is now outlawed . Europe, the collagenase, not the PRP, and in Canada, but still approved in the US.

Now, that's the background.

Now, here's the new article that came out. Mayo Clinic, "Penile indentation and hourglass deformities with Peyronie's disease-what can we reasonably offer?" (Ziegelmann, 2023)

And what you'll notice in this article is that there is no discussion or acknowledgment of PRP at all. They talk about collagenase (which, remember, is illegal in Europe) and other things like intralesional interferon and verapamil, which have been around for probably 20 years. **But there's the references; and there is no Ronald Virag reference on that list. There's no mention of PRP.**

So they do mention vacuum erection devices (the penis pump): "VED may help improve girth, we encourage concurrent use," as you guys know penile traction that's their PTT, penile traction therapy.

And I'm a big fan of the British Journal of Urology study that you guys hear me quote a lot: 51% of men canceled their surgery for Peyronie's just using a pump twice a day for 10 minutes for 12 weeks. So yeah, the vacuum works. But to me, this means that we have to keep preaching because, obviously, he's a brilliant man (Dr. Ziegelmann) who's just not acknowledging great research done by a pioneer in urology (Dr. Virag).

So what could we do other than the collagenase, which, best I can tell, probably gives somewhere around (you have to read between the lines to even figure it out because they do not give a straight answer), but there's around a 2% chance of penile fracture with Xiaflex or collagenase, which doesn't sound like much, but that's one in 50!

But, in contrast, the side effect of PRP for Peyronie's is a harder erection.

Of course, surgery for Peyronie's leaves your penis shorter. So treating this hourglass deformity with surgery, or collagenase, is not, in my opinion, shouldn't be the first line. And verapamil and alpha interferon have been around almost forever and not so effective.

Our [Priapus Shot® \(P-Shot®\) procedure](#) should be the first line therapy (combined with VED).

Now, what else could we do with this hourglass deformity?

You know that some of those people in our group are now using sub-dermal hyaluronic acid. And just in the same way that we treat deformities, left post-surgery for breast cancer or breast implants (the [Vampire Breast Lift® procedure](#)), you can very easily fill in deformities. If it's just a cosmetic effect, you can fill that in with your HA and smooth it and make it last longer by adding PRP.

Now, for the severe buckling he talks about, or the hinge effect, that will take something else. And I think that would, for us, first line would be PRP and vacuum

therapy, probably a series of two or three treatments, eight weeks apart. And I'm going to put [a link, I won't bore you with it because many of you have seen it, but I'm going to put a link in your chat box. I spent a few months reading all the Peyronie's disease literature I could find.](#)

I came up with everything that was legitimately supported by the literature, like stop smoking. One study showed that when combined with other therapies, high-dose vitamin E helped; aerobic exercise and correcting testosterone helped. I put everything [in there, including our P-Shot® with references.](#)

Now, Virag's not the only one.

Maybe you think, "Well, that's just one study. So, this Dr. from the Mayo Clinic (who I'm sure is brilliant and nice, and it would be fun to have dinner with him) didn't mention the study by Dr. Virag; and I'm disappointed he didn't see the study; but so what, isn't that a one-off?"

So let me show you other studies regarding Peyronie's disease and PRP, so that you know it's not one little study (see references at the end of this article).

The question that usually comes up for the new people in the [Priapus Shot Provider Group](#) is, well, do you have to inject the plaque? And some of us do, some of us don't.

The person in our group who's probably treated the most Peyronies that I could tell with our P-Shot® is Hunter Hansen, MD, and he just does a regular P-Shot® and has a tremendous success rate (and has a money-back policy with his patients) as have I.

I just do a regular P-Shot®. I just do a regular P-Shot®, and then I have them use the pump, and it gets better.

Let me just show you [the link; there you go](#): a link to the pump with a link to the research, the food, and vitamins that have been shown to be helpful. Believe it or not, CoQ10 in one study was helpful. Then I give you a suggested protocol, talk about hor-

mones, walking (actually shown to be helpful), low-dose daily Cialis (not just for blood flow), and then a picture from one of Dr. Hanson's patients. So [all right there](#).

Marketing the P-Shot® for Peyroinies

For marketing, I would share that link with your patients

And, of course, everything on here is not going to make your penis shorter and risk erectile dysfunction. Everything on this list would have a side effect of improved erection, but not so with collagenase or surgery.

Remember, if you could forget everything anybody, including myself, ever taught you about marketing and just remember one sentence, this is it...

Teach the person about their disease, and they will trust you to treat their disease.

So why would you talk about research that discusses things you do not do and doesn't even mention what you do?

Because it does talk about the person's problem and they see that you're reading and you're open about even contrary opinions. It's much more interesting and believable than just shooting out emails that say 10% off and trying to lure people in with sales discounts and pretty pictures. So that's how this marketing idea improves your reputation and brings people to you.

An email from this might go something like this: "This research just published in the Journal of Sexual Medicine showed that the answers to severe Peyronie's with an hourglass deformity are troubling. It's not like we have nothing to offer, but they're troubling. Here's some of the answers."

You put a link and, "If you're interested, call us."

The effectiveness of PRP in erectile dysfunction (ED)

This is a review article that came out, you see, last... It came from the same people who did the double-blind placebo control study that they quote in this review article where they look at double-blind placebo-controlled studies for using PRP for ED. Theirs was the only one that showed no benefit (Fazekas, 2023). And we've talked about their study before: they used half the volume we use, they did not activate the PRP, they used a tourniquet (which we do not... I know some people in our group do, but I do not use one, nor do I recommend one—I think it's important to treat the extensive part of the corpus cavernosum that's not visible. That's part of the erectile function as well.

So, they were a one-off, but they did not include other studies that do show benefits that are not randomized placebo-controlled. And their conclusion is we shouldn't be doing it. And they contradict themselves—saying the procedure poses a risk to patients, but they also say, so far, there's been no serious sequelae: all the studies show no problems other than bruising and pain and that's it.

So there's a quandary here, and we're going to respond to this in a very powerful way. There's no reason for us to be a group if we're not responding to such ideas in a very powerful way. There are quite a number of studies that do show benefit (see the references at the end of this article).

This one was led by Judson Brandeis and showed improved erection and larger size (Brandeis, 2023).

Controversy surrounding double-blind placebo-controlled studies on PRP

There's another problem with their evaluation (Fazecas, 2023) that is worth remembering. A huge problem with their evaluation is that (it blows up their whole premise) if your placebo is not a placebo, then you're not doing a placebo-controlled study. And in their paper, they don't explain why half the placebo group gets better.

Well, you might say, "Well, that's what happens with placebo and sexual function studies."

Yeah, but we have studies with doppler flow studies; and we have studies with biopsies (like with our lichen sclerosis studies). So if you're doing a survey kind of study, maybe, but not 50% or more when gathering objective data.

Please let me explain further: If you go to the dermatology literature, and look at soft tissue regenerative studies, you see that saline is not a placebo. When you do hydrodissection, that's not nothing. In these studies of saline as a treatment, they're treating acne and other hard-to-treat problems (see references at the end of this paper).

But you could see the hypothesized mechanisms of the effects for acne scars, collagen production, remodeling a fibroblast, cutting a fiber; look at someone power washing their sidewalk. Water pressure is not nothing.

Maybe there's clot formation. If you cause bleeding, you're causing the production of PRP and the release of growth factors from platelets.

If you are squirting IV saline and comparing that to an IV drug, that's a placebo; but not if you are hydrodissecting with saline and comparing that with hydrodissecting with PRP. This idea that PRP is not a placebo explodes every one of double-blind placebo-controlled study of PRP that claims no benefit.

And if you talk to Ronald Virag, that's exactly why he did a positive control when he looked at PRP versus Xiamin for Peyronie's disease because he thinks that placebo saline is not a placebo for a PRP study.

And I think that probably applies to all of our procedures. I think there's probably, like with anything else, a graduation of increased effectiveness depending on what you're using and how you're doing it. So probably saline works better than nothing or just sticking a needle in there. And probably whole blood would work better than saline, and PRP would work better than whole blood. And probably to a certain extent, increasing the concentration of platelets within the PRP would work better than a lesser concentration.

And I think with that, I'll open up the mics to anybody that wants to say anything. And I love it when you disagree with me, correct me, or teach me something. So go for it. Let me see what you guys have to say.

Recommendations for using penis pumps after the P-Shot® procedure

Dr. Coleman says, "Did a P-Shot® and the patient, now he's wall-to-wall with the pump, needs a bigger pump. What do you recommend?"

So far, I have avoided getting into the pump business. And the best source is a link to get a discounted wholesale price on a pump from Kaplan that you will find in the [Priapus Shot® membership site](#). If you go to their website, they've done an amazing job. I mean, it's a huge warehouse full of penis pumps of various sizes. And they have an online way of determining the best size—so I buy pumps from Kaplan, give them

one when I do the procedure, and tell the patient when they want a bigger pump to call Kaplan.

That's great that your patients graduated to another size. It means your procedure worked, but don't get in the pump repair business or the pump measuring business, unless that's what you want to do. We may eventually make it an extension of our business, but so far, we haven't. And so I just send them to Kaplan and then they can use the online information to order their next size up.

By the way, a good tip for measuring the girth of the penis is to tell them to wrap a string around it, mark where the overlap is, and then stretch the string out on a ruler. A measuring tape is often awkward, and of course, a flat ruler is impossible. So that's the tip for measuring the girth of the penis.

And I don't see any other questions, so thank you for that one. And I think with that, we will end the call. I'm always honored, and I hope this gave you ideas about how to fill up your office with people that you want to take care of.

Goodnight.

References

1. Fazekas D, Campbell K, Ledesma B, Masterson T. Platelet-rich plasma for erectile dysfunction: a review of the current research landscape. *Sexual Medicine Reviews*. 2023;11(4):369-374. doi:10.1093/sxmrev/qead032
2. Gupta A, Sharma SP, Potty AG. Combination of Platelet-Rich Plasma and Hyaluronic Acid vs. Platelet-Rich Plasma Alone for Treatment of Knee Osteoarthritis. *Biomedicines*. 2023;11(10):2759. [doi:10.3390/biomedicines11102759](https://doi.org/10.3390/biomedicines11102759)
3. Virag R, Sussman H, Lambion S, de Fourmestraux V. Evaluation of the benefit of using a combination of autologous platelet rich-plasma and hyaluronic acid for the treatment of Peyronie's disease. *Sex Health Issues*. 2017;1(1). doi:10.15761/SHI.1000102
4. Ziegelmann MJ. Penile indentation and hourglass deformities with Peyronie's disease—what can we reasonably offer our patients? *The Journal of Sexual Medicine*. 2023;20(10):1230-1232. doi:10.1093/jsxmed/qdad105

References regarding Peyronies & ED & PRP

1. Bole R, Bajic P. Editorial CommentRe: Stem-Cell, Shockwave, and Platelet Rich Plasma Therapy for the Treatment of Erectile Dysfunction and Pey-

- ronie's Disease: A Survey of Clinics Across the USA. *Urology*. Published online July 2023:S0090429523003254. doi:10.1016/j.urology.2023.01.062
2. Bosma-Den Boer MM, Van Wetten ML, Pruimboom L. Chronic inflammatory diseases are stimulated by current lifestyle: How diet, stress levels and medication prevent our body from recovering. *Nutrition and Metabolism*. 2012;9. doi:10.1186/1743-7075-9-32
 3. Brandeis J, Lu S, Malik R, Runels C. (130) Increasing Penile Length and Girth in Healthy Men Using a Novel Protocol: The P-Long Study. *The Journal of Sexual Medicine*. 2023;20(Supplement1):qdad060.125. doi:10.1093/jsxmed/qdad060.125
 4. Calabrese EJ. Hormesis: Why it is important to toxicology and toxicologists. *Environmental Toxicology and Chemistry*. 2008;27(7):1451-1474. doi:10.1897/07-541.1
 5. Casabona F, Gambelli I, Casabona F, Santi P, Santori G, Baldelli I. Autologous platelet-rich plasma (PRP) in chronic penile lichen sclerosus: the impact on tissue repair and patient quality of life. *Int Urol Nephrol*. 2017;49(4):573-580. doi:10.1007/s11255-017-1523-0
 6. Chung. A Review of Current and Emerging Therapeutic Options for Erectile Dysfunction. *Medical Sciences*. 2019;7(9):91. doi:10.3390/medsci7090091
 7. Chung E. medical sciences A Review of Current and Emerging Therapeutic Options for Erectile Dysfunction. Published online 2019:1-11.
 8. Everts P, Onishi K, Jayaram P, Lana JF, Mautner K. Platelet-Rich Plasma: New Performance Understandings and Therapeutic Considerations in 2020. *Int J Mol Sci*. 2020;21(20):7794. doi:10.3390/ijms21207794

9. Finkle AL. Sexual impotency: Current knowledge and treatment I. *Urology/sexuality clinic. Urology.* 1980;16(5):449-452. doi:10.1016/0090-4295(80)90592-0
10. Francomano D, Iuliano S, Dehò F, et al. Regenerative treatment with platelet-rich plasma in patients with refractory erectile dysfunction: short-term outcomes and predictive value of mean platelet volume. *Minerva Endocrinol.* Published online September 2023. doi:10.23736/S2724-6507.23.04060-5
11. Ganijee M, Sahgal GR, Latif B, Arain H, Ahmad MT. Thoughts on: "Is Platelet Rich Plasma Safe and Effective in Treatment of Erectile Dysfunction? A Randomized Controlled Study." *Urology.* Published online September 2023:S0090429523007276. doi:10.1016/j.urology.2023.08.010
12. Garcia M, Fandel T, Lin G, et al. Treatment of erectile dysfunction in the obese type 2 diabetic ZDF rat with adipose tissue-derived stem cells. Published online 2010:14.
13. Garcia M, Fandel T, Lin G, et al. Treatment of erectile dysfunction in the obese type 2 diabetic ZDF rat with adipose tissue-derived stem cells. *J Sex Med.* 2010;7(1 Pt 1):89-98. Accessed June 14, 2022. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2904063/>
14. Israeli JM, Lokeshwar SD, Efimenko IV, Masterson TA, Ramasamy R. The potential of platelet-rich plasma injections and stem cell therapy for penile rejuvenation. *Int J Impot Res.* Published online November 6, 2021:1-8. doi:10.1038/s41443-021-00482-z
15. Kumar CS. 265 Combined Treatment of Injecting Platelet Rich Plasma With Vacuum Pump for Penile Enlargement. *The Journal of Sexual Medicine.* 2017;14(1):S78. doi:10.1016/j.jsxm.2016.11.174

16. Lee PJ, Jiang YH, Kuo HC. A novel management for postprostatectomy urinary incontinence: platelet-rich plasma urethral sphincter injection. *Scientific Reports* |. 123AD;11:5371. doi:10.1038/s41598-021-84923-1
17. Littara A, Palmieri B, Rottigni V, Iannitti T. A clinical study to assess the effectiveness of a hyaluronic acid-based procedure for treatment of premature ejaculation. *International Journal of Impotence Research*. 2013;25(3). doi:10.1038/ijir.2013.13
18. Liu MC, Chang ML, Wang YC, Chen WH, Wu CC, Yeh SD. Revisiting the Regenerative Therapeutic Advances Towards Erectile Dysfunction. *Cells*. 2020;9(5):1250. doi:10.3390/cells9051250
19. Masterson TA, Molina M, Ledesma B, et al. Platelet-rich Plasma for the Treatment of Erectile Dysfunction: A Prospective, Randomized, Double-blind, Placebo-controlled Clinical Trial. *Journal of Urology*. Published online April 30, 2023:10.1097/JU.0000000000003481. doi:10.1097/JU.0000000000003481
20. Masterson TA, Molina M, Ledesma B, et al. Platelet-rich Plasma for the Treatment of Erectile Dysfunction: A Prospective, Randomized, Double-blind, Placebo-controlled Clinical Trial. *Journal of Urology*. Published online April 30, 2023:10.1097/JU.0000000000003481. doi:10.1097/JU.0000000000003481
21. Matz EL, Pearlman AM, Terlecki RP. Safety and feasibility of platelet rich fibrin matrix injections for treatment of common urologic conditions. *Investig Clin Urol*. 2018;59(1):61-65. doi:10.4111/icu.2018.59.1.61
22. Matz EL, Pearlman AM, Terlecki RP. Safety and feasibility of platelet rich fibrin matrix injections for treatment of common urologic conditions. *Inves-*

- tigative and clinical urology. 2018;59(1):61-65. doi:10.4111/icu.2018.59.1.61
23. Matz EL, Scarberry K, Terlecki R. Platelet-Rich Plasma and Cellular Therapies for Sexual Medicine and Beyond. *Sexual Medicine Reviews*. 2022;10(1):174-179. doi:10.1016/j.sxmr.2020.07.001
 24. MD CR. Memo in Response to the JAMA article: "Analysis of Direct-to-Consumer Marketing of Platelet-Rich Plasma for Erectile Dysfunction in the US." Priapus Shot®. Published May 3, 2023. Accessed July 4, 2023. <https://priapusshot.com/memo-in-response-to-the-jama-article-analysis-of-direct-to-consumer-marketing-of-platelet-rich-plasma-for-erectile-dysfunction-in-the-us/>
 25. Poullos E, Mykoniatis I, Pyrgidis N, et al. Platelet-Rich Plasma (PRP) Improves Erectile Function: A Double-Blind, Randomized, Placebo-Controlled Clinical Trial. *Journal of Sexual Medicine*. 2021;18(5):926-935. doi:10.1016/j.jsxm.2021.03.008
 26. Pruimboom L, Muskiet FAJ. Intermittent living; the use of ancient challenges as a vaccine against the deleterious effects of modern life – A hypothesis. *Medical Hypotheses*. 2018;120:28-42. doi:10.1016/J.MEHY.2018.08.002
 27. Raheem AA, Garaffa G, Raheem TA, et al. The role of vacuum pump therapy to mechanically straighten the penis in Peyronie's disease. *BJU International*. 2010;106(8):1178-1180. doi:10.1111/j.1464-410X.2010.09365.x
 28. Ruffo A, Franco M, Illiano E, Stanojevic N. Effectiveness and safety of Platelet rich Plasma (PrP) cavernosal injections plus external shock wave treatment for penile erectile dysfunction: First results from a prospective,

- randomized, controlled, interventional study. *European Urology Supplements*. 2019;18(1):e1622-e1623. doi:10.1016/S1569-9056(19)31175-3
- 29.Schirmann A, Boutin E, Faix A, Yiou R. Pilot study of intra-cavernous injections of platelet-rich plasma (P-shot®) in the treatment of vascular erectile dysfunction. *Progrès en Urologie*. Published online June 2022:S1166708722001300. doi:10.1016/j.purol.2022.05.002
 - 30.Schirmann A, Boutin E, Faix A, Yiou R. Pilot study of intra-cavernous injections of platelet-rich plasma (P-shot®) in the treatment of vascular erectile dysfunction. *Prog Urol*. Published online June 10, 2022:S1166-7087(22)00130-0. doi:10.1016/j.purol.2022.05.002
 - 31.Shaher H, Fathi A, Elbashir S, Abdelbaki SA, Soliman T. Is Platelet Rich Plasma Safe and Effective in Treatment of Erectile Dysfunction? Randomized Controlled Study. *Urology*. 2023;175:114-119. doi:10.1016/j.urology.2023.01.028
 - 32.Shahinyan GK, Weinberger JM, Shahinyan RH, Yang SC, Mills JN, Eleswarapu SV. Analysis of Direct-to-Consumer Marketing of Platelet-Rich Plasma for Erectile Dysfunction in the US. *JAMA Netw Open*. 2022;5(5):e2214187. doi:10.1001/jamanetworkopen.2022.14187
 - 33.Siroky MB, Azadzo KM. Vasculogenic Erectile Dysfunction: Newer Therapeutic Strategies. *Journal of Urology*. 2003;170(2S). doi:10.1097/01.ju.0000075361.35942.17
 - 34.Siroky MB, Azadzo KM. Vasculogenic Erectile Dysfunction: Newer Therapeutic Strategies. *Journal of Urology*. 2003;170(2S). doi:10.1097/01.ju.0000075361.35942.17
 - 35.Towe M, Peta A, Saltzman RG, Balaji N, Chu K, Ramasamy R. The use of combination regenerative therapies for erectile dysfunction: rationale and

current status. *Int J Impot Res*. Published online July 12, 2021:1-4. doi:10.1038/s41443-021-00456-1

36. Yang SC, Weinberger JM, Shahinyan RH, Shahinyan GK, Mills JN, Eleswarapu SV. Regenerative therapies for erectile dysfunction: the influence of direct-to-consumer marketing on patient interest. *Transl Androl Urol*. 2023;12(4):586-593. doi:10.21037/tau-22-309

Representative references regarding PRP for remodeling scar tissue into normal tissue

1. Alves R, Grimalt R. A Review of Platelet-Rich Plasma: History, Biology, Mechanism of Action, and Classification. *Skin Appendage Disord*. 2018;4(1):18-24. doi:10.1159/000477353
2. Charles-de-Sá L, Gontijo-de-Amorim NF, Takiya CM, et al. Effect of Use of Platelet-Rich Plasma (PRP) in Skin with Intrinsic Aging Process. *Aesthet Surg J*. 2018;38(3):321-328. doi:10.1093/asj/sjx137
3. Eichler C, Üner J, Thangarajah F, et al. Platelet-rich plasma (PRP) in oncological patients: long-term oncological outcome analysis of the treatment of subcutaneous venous access device scars in 89 breast cancer patients. *Arch Gynecol Obstet*. Published online April 4, 2022. doi:10.1007/s00404-022-06416-4

4. Gawdat H, El-Hadidy YA, Allam RSHM, Abdelkader HA. Autologous platelet-rich plasma “fluid” versus “gel” form in combination with fractional CO2 laser in the treatment of atrophic acne scars: a split-face randomized clinical trial. *Journal of Dermatological Treatment*. 2022;0(ja):1-31. doi:10.1080/09546634.2022.2067816
5. Number 5 SV 24. Platelet-Rich Plasma (PRP): Current Applications in Dermatology. Accessed August 26, 2021. <https://www.skintherapyletter.com/dermatology/platelet-rich-plasma-prp/>
6. Sánchez M, Anitua E, Delgado D, et al. Platelet-rich plasma, a source of autologous growth factors and biomimetic scaffold for peripheral nerve regeneration. *Expert Opinion on Biological Therapy*. 2017;17(2):197-212. doi:10.1080/14712598.2017.1259409

Reference regarding saline is not a placebo in soft tissue studies

1. Asghar A, Tahir Z, Ghias A, Iftikhar U, Ahmad TJ. Efficacy and Safety of Intralesional Normal Saline in Atrophic Acne Scars. *Annals of King Edward Medical University*. 2019;25(2). doi:10.21649/akemu.v25i2.2867
2. Bagherani N, R Smoller B. Introduction of a novel therapeutic option for atrophic acne scars: saline injection therapy. *Glob Dermatol*. 2016;2(6). doi:10.15761/GOD.1000159
3. Bokey EL, Keating JP, Zelas P. HYDRODISSECTION: AN EASY WAY TO DISSECT ANATOMICAL PLANES AND COMPLEX ADHESIONS. *ANZ J Surg*. 1997;67(9):643-644. doi:10.1111/j.1445-2197.1997.tb04616.x

4. Cass SP. Ultrasound-Guided Nerve Hydrodissection: What is it? A Review of the Literature. 2016;15(1):3.
5. El-Amawy HS, Sarsik SM. Saline in Dermatology: A literature review. Journal of Cosmetic Dermatology. 2021;20(7):2040-2051. doi:10.1111/jocd.13813
6. Popp LW. Improvement in Endoscopic Hernioplasty: Transcutaneous Aquadissection of the Musculofascial Defect and Preperitoneal Endoscopic Patch Repair. Journal of Laparoendoscopic Surgery. 1991;1(2):83-90. doi:10.1089/lps.1991.1.83
7. Saltzman BM, Leroux T, Meyer MA, et al. The Therapeutic Effect of Intra-articular Normal Saline Injections for Knee Osteoarthritis: A Meta-analysis of Evidence Level 1 Studies. Am J Sports Med. 2017;45(11):2647-2653. doi:10.1177/0363546516680607
8. Searle T, Al-Niaimi F, Ali FR. Saline in dermatologic surgery. Journal of Cosmetic Dermatology. 2021;20(4):1346-1347. doi:10.1111/jocd.13996
9. Sharma R, Gupta M, Rani R. Delineating injectable triamcinolone-induced cutaneous atrophy and therapeutic options in 24 patients—A retrospective study. Indian Dermatol Online J. 2022;13(2):199. doi:10.4103/idoj.idoj48321
10. Clinical benefit of intra-articular saline as a comparator in clinical trials of knee osteoarthritis treatments *A systematic review and meta-analysis of randomized trials* | Elsevier Enhanced Reader. doi:10.1016/j.semarthrit.2016.04.003

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