

JCPM2025.01.21

The following is an edited transcript of the *Journal Club with Pearls & Marketing* (JCPM) of January 21, 2025, with Charles Runels, MD.

>> The video of this live journal club can be seen here <<

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Charles Runels, MD

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develop novel drugs or strategies for its prevention and treatment.

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was injected into the dermis once a week after modeling. PRP group: rats were sedated...

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irradiate 18:07 every 2 days

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RESEARCH

Platelet-rich plasma alleviates skin photoaging by activating autophagy and inhibiting inflammasome formation

Zuocai Huang¹ · Zhonghang Gu² · Yuanjuan Zeng³ · Dongxing Zhang³

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Abstract
Platelet-rich plasma (PRP) holds promising prospects for the treatment of skin photoaging. This study aims to unravel the mechanism underlying PRP's anti-photoaging properties. Partial skin of rats was irradiated with ultraviolet (UV) and injected with PRP, and the skin appearance, pathological state, and aging conditions were determined. Apoptosis, reactive oxygen species (ROS), and collagen levels in skin tissues were detected. HaCat cells were stimulated with UVB, and the effects of PRP on cells and collagen degradation enzymes were evaluated. Furthermore, the mechanism of the autophagy-NLRP3 inflammasome pathway was explored by **treating cells with the autophagy inhibitor 3-MA**. Erythema, ulceration, and wrinkles appeared on the skin of rats after being irradiated by UV. PRP could enhance skin tenderness and improve skin pathology and aging. **PRP inhibited cell apoptosis, ROS generation, and collagen degradation in skin tissue. PRP elevated UVB-stimulated HaCat cell activity, reduced oxidative stress, senescence, and MMP-1.** Furthermore, 3-MA treatment reversed the inhibition of NLRP3 inflammasome by PRP, suggesting that autophagy mediated the regulation of PRP. To summarize, this study elucidates the regulatory mechanism of PRP on the autophagy-NLRP3 inflammasome pathway in the photoaging. These findings may provide a novel theoretical foundation for the clinical application of PRP.

Keywords PRP · Skin photoaging · UV · Autophagy · NLRP3

Introduction
Skin aging is a multifaceted process that involves both endogenous aging caused by factors such as age, and exogenous aging resulting from various external factors (Zhang and Duan 2018). Among these factors, **skin photoaging** refers to the premature aging of the skin caused by the cumulative occurrence of skin photoaging (Skotarczak et al. 2015). Clinical manifestations of photoaging include dryness, thickening, roughness, deepening of wrinkles, uneven pigmentation and the development of visible blood vessels (Geng et al. 2021), which not only significantly impact the visual appearance of the skin but also correlate with the occurrence and progression of various clinical skin

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Info

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Topics Covered

- PRP + HA Beats PRP Alone
- Cortez Inspired Crazy That Resulted in Good
- Why Charging More Can Be More Ethical
- The Vampire Facial® and Facelift® to Prevent Sun Damage
- Change the Size and Shape of the Eyes (a Botulinum Trick)
- Espresso for the Vagina (a legal aphrodisiac)

**Charles Runels, MD**

Author, researcher, and inventor of the Vampire Facelift®, Orchid Shot® (O-Shot®), Priapus Shot® (P-Shot®), Priapus Toxin®, Vampire Breast Lift®, and Vampire Wing Lift®, & Clitoxin® procedures.

Transcript

Welcome to our journal club on January 21st.

It was an interesting day down here in South Alabama near the Gulf of America. We had six inches of snow today [it wound up being 8 inches]. The last time it snowed here at all was 23 years ago, and the last time it came close to snowing like this was right after the Civil War.

Anyway, so I have two papers today that I thought you might find helpful. There's, as always, a lot that came out in the past week, but only two that I thought were practical and helpful further than just interest. I look for papers that will help you better care for your patients, reconfirm that what you're doing is right, or correct us where we might be wrong.

Then, I have a tip about using botulinum toxin to change the shape of the eye. Two papers and one pearl, and we're done. We should come in under 30 minutes.

PRP + HA Beats PRP Alone

The first one goes along with what we've seen multiple times, but it's nice to have another high-impact journal that gives us a review. Their conclusion was that, yes, what we have seen previously is correct that combining platelet-rich plasma with HA is better than PRP alone.¹

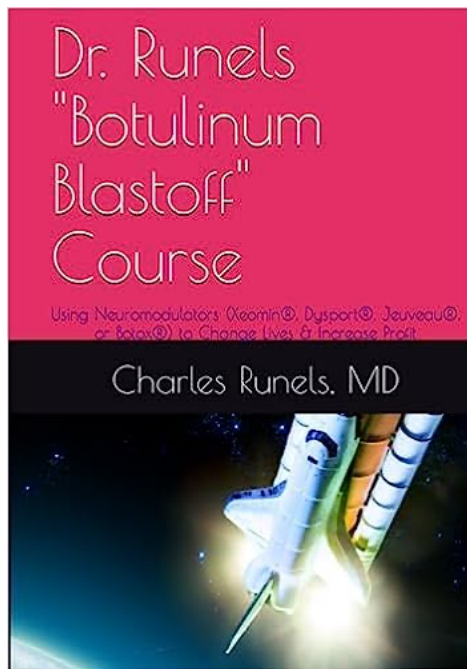
In other studies, if you remember, we've probably looked at least a dozen studies in the past couple of years, and we haven't looked at all that have come out, but my favorites routinely show that cortisone gives you a nice short-term quick result. But if you look at the results after six months and later, platelet-rich plasma conserves the joint. As you might expect, combining it with an HA filler improves the results.

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Few ideas about this related to previous things we've talked about.

¹ Du and Liang, "A Meta-Analysis and Systematic Review of the Clinical Efficacy and Safety of Platelet-Rich Plasma Combined with Hyaluronic Acid (PRP + HA) versus PRP Monotherapy for Knee Osteoarthritis (KOA)."

First, Regen has a kit that comes with a non-cross-linked HA, so not quite what you would put with Hyalgan or Synvisc, but it's there as an activator. It's a nice product. If you want to combine it with an



HA, Hyalgan was the first to market. Synvisc is also a great product, and I have some experience with it.

When it first came out, some of you may know part of what swapped me over to wanting to do in all-cash practices is that in 2003, I was the number two doctor in my state for injecting knees. It was an outlier by the software that was written by Blue Cross Blue Shield. They audited me, but I was doing weight loss, quite a bit of weight loss in my internal medicine practice, [and suggesting that people walk](#). It seemed to me logical, this was 21 years ago, that skipping the cortisone, which would cause joint destruction and increased appetite, might be a good thing for people who are overweight.

Ironically, even though they audited me about being an outlier and costing them too much money, I had actually lost about \$3,500 that year injecting knees. My net profit was negative because they were paying me \$50 to do the injection, and the

product cost me \$100. If you realize if they denied payment on the product because I skipped the cortisone, which cost a quarter, and went straight to the Hyalgan, which cost \$100 out of pocket for me, then by not paying me either for the injection or the product, I lost \$100. Then, simple math: the next one, if they pay me, I make \$50, and the next one, they pay me, I make \$50. It's not until the third injection that they pay me do I start to make a profit. Then it's \$50 for a total of four knee injections. About \$10 a knee, \$12 a knee. That's it. And if they deny two in a row, I lose money.

Because by paying me one, by not paying me for one, I didn't make a profit until the fourth one because the product was two times the cost of doing the injection.

I guarantee you that that's going to be the case if insurance starts to cover our PRP injections.

After that, one other thing they audited me about regarding a phase four clinical trial I was doing that was costing them both times had to do with them costing them money, even though, ironically, I had lost money. That was the thing that made me decide maybe I should practice medicine a different way because it looks like to play by their rules straight to cortisone, skip the HA, even the medical brain tells me I should go straight to HA. If I don't go their way, I will lose money working as a physician.

That was a quandary, but I came home, wrote a letter to Blue Cross Blue Shield, giving up my PMD status, gave my keys to my house back to the bank, and even though it was almost paid for, defaulted on the loan, declared bankruptcy, rented a little house on a handshake across the street from the school and started over with a different plan. I admit that's a crazy way to do your life, perhaps, but I don't regret it. By doing that, it forced me to think of a different way.

Cortez Inspired Crazy That Resulted in Good

Remember the story about Cortez?

Cortez came to South America intending to conquer the Aztecs and find lots of gold. About the time he landed, not soon after, his man wanted to go home to the safety of their little tropical island. I can't remember if they started in Cuba or where they started from, but they wanted to go home, and so he burned the boat. Then, they had to either fight and win or die. There was no retreat.²

That's what I did. I burned the boat. I gave up my PMD status and never looked back (fired Blue Cross).

But I did have some sleepless nights and a lot of pain.

Out of that came the [ideas about marketing that I teach](#) and the ideas about how to improve the quality of care that you give your patients. You simultaneously are paid sooner and more for your time so that you don't have to do what I did, which is lose \$3,500 over the course of a year, injecting more knees than every doctor in the state, including orthopedic surgeons except for one.

When I read these recent studies about injecting knees, I feel bittersweet, but mostly, it's like remembering school.^{3 4 5}

It's fun, but you remember there was pain, but then there was a reward at the end. This was my school of the reality of insurance. The decision that I made was that to practice ethical medicine, at least in my case, I had to go all cash. These knee articles are dear to my heart because it's like I'm reading between the lines.

Why Charging More Can be More Ethical

I do hope eventually, PRP for knees is covered by insurance. I just hope that it's done in such a way that the math is different.

² Hernán Cortés sailed from **Cuba** when he embarked on his expedition to present-day Mexico in 1519. He landed on the coast of **Veracruz** and, according to legend, **burned (or scuttled) his ships** to prevent his men from retreating, forcing them to commit fully to the conquest of the Aztec Empire. However, historical records suggest that he may have **scuttled** the ships rather than literally burning them.

³ Idres and Samaan, "Intra-Articular Platelet-Rich Plasma vs. Corticosteroid Injections Efficacy in Knee Osteoarthritis Treatment: A Systematic Review."

⁴ Peng et al., "Intra-Articular Leukocyte-Rich Platelet-Rich Plasma versus Intra-Articular Hyaluronic Acid in the Treatment of Knee Osteoarthritis."

⁵ Belk et al., "Patients With Knee Osteoarthritis Who Receive Platelet-Rich Plasma or Bone-Marrow Aspirate Concentrate Injections Have Better Outcomes Than Patients Who Receive Hyaluronic Acid."

This is also why, as you know, when I started pricing, I came up with the price because when I came up with the [Vampire Facelift®](#), the [O-Shot®](#), and the [P-Shot®](#) procedures; if you give a refund, they're still profitable on the next procedure. It's counterintuitive, but having a higher price allows you to be ethical because even at the higher price, the person gets more value than the cost of the procedure.

If they don't receive that value, there's enough profit in the procedure that the loss on the one that didn't work is minimal enough that you're still profitable on the next procedure. Counterintuitive, but a higher profit per procedure is allowing you to be more ethical, of course, within reason.

That's why this experience with knee injections helped me consider pricing as we began using PRP for our regenerative procedures.

The Vampire Facial and V. Facelift to Prevent Sun Damage

This was a fascinating paper for me to read.⁶

I admit some of the biochemistry they talk about goes above my understanding, some of the markers, but you can get 98% of it. The idea was they took rats and injected them with PRP; they had four groups and a placebo group. Then, one of the groups had PRP, and they shaved them and shone UV light on them.

Then, they sacrificed the rats and did in vitro studies and stains on the cells. You can see without even, I mean, look, you can see it, so beautiful, the difference between that and that (see video). They describe what they think is going on biochemically.

Go back up here and read this introduction to the paper.

This is where what gave me pause. There's a growing, these approaches are temporary.

Currently, primary methods for preventing and treating UV-induced skin aging include the use of sunscreens, beauty devices, cosmetic surgery, hats, and whatever sits in the shade. However, these approaches are temporary, exert significant side effects, and can be costly. Growing interest in the field of skin care and cosmetics to delve into the underlying mechanisms of skin photo aging, and this is the part, develop novel drugs or strategies for its prevention and treatment.

The idea that spring's coming, what can we do other than sunscreen to prevent sun damage? Well look what it did for these rats. You can make this paper makes the case that when you're getting ready to go to the tropics, instead of just loading up your sunscreen, you might want to do a Vampire facial or a facelift and squirt PRP subdermally everywhere. This is, which I think would be superior, but either one, treating the skin with platelet-rich plasma, this is going to The Bahamas without injecting your face with

⁶ Huang et al., "Platelet-Rich Plasma Alleviates Skin Photoaging by Activating Autophagy and Inhibiting Inflammasome Formation."

PRP. If you're a rat, your skin, this is going to The Bahamas laying out naked and you did inject your skin with PRP.

This is very strong science for explaining how it works and suppressing cell senescence using platelet-rich plasma to prevent sun damage.

Isn't that wonderful?

I love this paper.

It'd be a nice one to shoot out now in an email or especially coming into the spring in another couple of months. It's just January, so in four weeks, you'll be mid-February, which is Valentine's, and then people are thinking about March, which is spring and sunshine. Hard to think about that with six inches of snow down here in South Alabama.

But that's what's coming.

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We also have Valentine's Day coming.

I think part of what we could do for Valentine's, I haven't talked about it enough, but we have a new O-Shot arousal oil that has caffeine in it. Let me swap over and show you something and then I promised you a Botox Pearl too.

A Botulinum Trick to Change the Size and Shape of the Eye

Let me show you two more things, and we'll still be under 30 minutes. Hold just a minute. There you go. There's my beautiful wife, Alex. As you guys know, she's a gynecologist with offices in Alabama and San Antonio. This is one of the pages in my Botox or Botulinum injection course.

What I'm showing here is just a minute and 51-second video, but it's part of one of [40 videos in this course](#).

[=>Dr. Runels Botulinum Blastoff Course<=](#)

I'm showing you how to inject the eye to open the eye and keep a beautiful shape. I

'm showing that if you draw a line with the eyes in a neutral position, you draw a line on each side of the color of the eye. You come to this lateral edge, a few millimeters below the lash line; right there is the injection point.

You come in laterally, as you see me doing here. You do a very superficial—that's the extent of the depth—injection. You're making a little Sub-Q bleb. As soon as the needle gets subdermal, you inject.

She's looking at the ceiling, so this is not in her vision and doesn't cause her to blink.

I'm using a 30-unit insulin syringe, and this is only one or two units, which is difficult to measure accurately with a 50 or 100-unit syringe. That's a BD brand 31-gauge insulin syringe, a lateral approach, and a Sub-Q bleb right there just below the lash line.

That gives a **beautiful oval almond shape** with it more, so here it would come down more and then come up with an almond shape. It is a nice thing to do if someone has one eye larger than the other, or if just in general they want the eye to be more open because of genetics, or some people have an open eye, but they squint when they smile. Then, in that case, you would treat both eyes so they have a more open eye when they're smiling. But the camera have a couple of people who make their living in front of the camera that I do that for.

That was the little toxin pearl.

Espresso for the Vagina

What else did I tell you I was going to show you? I put a link to this class in your chat box. I was going to show you, if you go to oshotwomen.com, this is the group that manufactures our O-Shot for us. You can get this from us at a very good wholesale price. I won't say what it is because sometimes people not in our group manage to get access to our recordings.

But I think this is written wrong because the hemp is not the main thing. What hemp, but notice it has caffeine. I had them redo this formula and put caffeine in it, which you think, "Well what does that do?" There's a whole, if you go online and click around on some, you'll find there's a whole subculture of people who think about what happens when the pelvic circulation is exposed to even mild amounts of caffeine, either vaginally or rectally. With that in mind, trying to come up with the perfect safe, legal aphrodisiac turns out it's working very well. Try it out; let me know.

But as a Valentine's special, I recommend that you offer people a free bottle of this when they get your O-Shot. I don't recommend cutting the price of your O-Shot, but you can have something you give along with it. You could give this and, say, 20 units of toxin. You could do this and you get a Vampire facial for free. Something where they get a discount, not by discounting the price, but by adding something else in.

If you read the ingredients list on this, **it's all edible**.

I think it's an old corny joke, but where at the Catholic school, they said, "When it comes to vaginas, take all you want but eat all you take."

I know that's a crude locker room joke, but I think if you truly love your lover, you wouldn't want anything on the genitalia that's not edible, and everything in there (our O-Shot Arousal Oil) is edible, all of it. **You could sprinkle this on your salad** if you wanted.

It is a beautiful, edible, and it has caffeine, and they need to look at that. They don't have it in there. They need to redo this website because there's caffeine in it now. I do think it makes a difference.

With that, let me see if there's any questions and if not, we will call it a night. Hold on a second. No questions. You guys have a good night.

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References

- Belk, John W., Joseph J. Lim, Carson Keeter, Patrick C. McCulloch, Darby A. Houck, Eric C. McCarty, Rachel M. Frank, and Matthew J. Kraeutler. "Patients With Knee Osteoarthritis Who Receive Platelet-Rich Plasma or Bone-Marrow Aspirate Concentrate Injections Have Better Outcomes Than Patients Who Receive Hyaluronic Acid: Systematic Review and Meta-Analysis." *Arthroscopy: The Journal of Arthroscopic & Related Surgery*, March 2023, S0749806323002207. <https://doi.org/10.1016/j.arthro.2023.03.001>.
- Du, Dan, and Yuan Liang. "A Meta-Analysis and Systematic Review of the Clinical Efficacy and Safety of Platelet-Rich Plasma Combined with Hyaluronic Acid (PRP + HA) versus PRP Monotherapy for Knee Osteoarthritis (KOA)." *Journal of Orthopaedic Surgery and Research* 20, no. 1 (January 17, 2025): 57. <https://doi.org/10.1186/s13018-024-05429-w>.
- Huang, Zuocai, Zhonghang Gu, Yuanjuan Zeng, and Dongxing Zhang. "Platelet-Rich Plasma Alleviates Skin Photoaging by Activating Autophagy and Inhibiting Inflammasome Formation." *Naunyn-Schmiedeberg's Archives of Pharmacology*, January 21, 2025. <https://doi.org/10.1007/s00210-025-03800-0>.
- Idres, Fatima A, and Michel Samaan. "Intra-Articular Platelet-Rich Plasma vs. Corticosteroid Injections Efficacy in Knee Osteoarthritis Treatment: A Systematic Review," 2023.
- Peng, Yu-Ning, Jean-Lon Chen, Chih-Chin Hsu, Carl P. C. Chen, and Areerat Suputtitada. "Intra-Articular Leukocyte-Rich Platelet-Rich Plasma versus Intra-Articular Hyaluronic Acid in the Treatment of Knee Osteoarthritis: A Meta-Analysis of 14 Randomized Controlled Trials." *Pharmaceuticals* 15, no. 8 (August 7, 2022): 974. <https://doi.org/10.3390/ph15080974>.

Tags

Journal Club, South Alabama, Gulf of America, Snowfall, Botulinum Toxin, Eye Shape, Platelet-Rich Plasma, HA Filler, Cortisone, Joint Preservation, Knee Injections, Insurance Coverage, Regenerative Medicine, Vampire Facelift, O-Shot, P-Shot, UV Damage, PRP Therapy, Skin Aging, Sun Protection, Medical Ethics, All-Cash Practice, Clinical Trials, Marketing Strategies, Pricing Models, Valentine's Day, Arousal Oil, Caffeine, Aphrodisiac, Botox Injection, Facial Aesthetics, Medical Training, Cosmetic Surgery, Patient Care, Charles Runels

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