Ozone Therapy 101: Oxygen, Inflammation, Benefits and Genetic Clues That Matter Transcript

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Introduction to ozone therapy

Welcome back to the Get to The Root podcast with hope for healing. Today we are diving into one of the most frequently asked topics in our practice. What is ozone and how can it help?

In this episode Dr. K breaks down what ozone actually is, how medical ozone is safely used, and why supporting oxygen utilization matters for healing, inflammation, infections, and overall wellness.

We also address common misconceptions, safety concerns, how ozone can be layered thoughtfully into care. If you ever wondered whether ozone is right for you or your family, this episode brings clarity and education.

But first, a note from Dr. K about our sponsor. Did you know your genetics can influence how your body responds to viral load? There are certain genetic markers like SOCS1 and TRAF1 which play a role in cytokine and inflammatory signaling.

and how the body holds on to viruses. During COVID, we heard all about cytokine storm. Well, when you get sick, that's what's happening. So for individuals who have these specific genetic vulnerabilities, supporting the buddy and reducing viral load can be especially important.

And people that have these markers often respond very, very well to ozone therapy as part of a comprehensive care plan. If you don't test, you do not know.

You shouldn't guess. That's why we're so grateful to our partnership with Legrand because genetics help us understand why the body responds and the way it does and how to support healing at the root.

Okay, Dr. K, I'm so glad that we are getting to talk about this. We get so many questions about ozone. So let's just dive in to what ozone is and how it can be used and oxygen efficiency and all the buzzwords that are being asked about, but we want to answer people's questions.

And so we've collected these over the past year of just ready to For someone who has only heard the word ozone on the news, can you explain what ozone is?

Oxygen that we breathe are two oxygen molecules together. Ozone, we don't breathe ozone in through our nose and into our lungs because it's an irritant.

What ozone is and how medical ozone is made

But when you hear about the ozone layer on news that's where pollution in the environment is degrading the ozone layer. So, ozone is three little oxygen molecules.

But think about that fresh rain smell. That's ozone. I love that. So how then is medical grade ozone either different or made and how is it going to be different from like the ozone in the air quality that we see about?

That's a great question. So ozone can be made from oxygen in a small device called an ozone generator. And when you do medical grade ozone, you can create it and use it in the syringe or you could put it into a bubbler that goes into the ears or up the nose when it's bubbled through an oil.

So that's the difference and it's a certain concentration and its based on age and weight and condition. So medical grade ozone is made using a thing called an ozone generator.

And the extra ozone, is degraded or broken down also in the device. I love that. Okay. So then why, I mean, the question is why are we trying to increase and why we are using ozone?

Like what does ozone do in the body when used in either the IV or the nose bubbler or what is ozone doing? Well, to answer that question, we need to step back a little bit and talk about something else.

Ozone is good for everyone. Pain is the absence of oxygen. There are little things in our body called mitochondria that make energy or ATP. That's where that oxygen goes to make and to promote healing and help our bodies.

Okay, so then what is difference between enough oxygen to live versus optimal oxygen thrive? All right, so if you have pain, you're not utilizing the oxygen in your body correctly.

If and you are not driving down inflammation in the body. So when you had this supercharged ozonide from ozone, and your mitochondria are using those oxygen molecules appropriately, then you're able to become pain-free, or you should, because any disease, any ITIS, meaning inflammation, there's poor oxygen utilization going on in the body at the cellular level.

Okay, so I really love that. So then maybe you could get into either some conditions or environmental concerns that are main reasons why our bodies can't use oxygen efficiently.

Whether that's diet or stress or toxin, sleep or certain health conditions, what could cause that ineffectiveness of using oxygen? That is a really good question.

When you think about the toxic burden that our body has or the infectious burden our our bodies have.

Why ozone supports oxygen utilization and healing

So maybe you're fighting off different viruses. You know, the thing about viruses is that they get us and they just set up housekeeping in our and they can become reactivated.

So, Epstein-Barr virus is a really great example of that. And think about chickenpox. If you've had chicken pox when you're a kid and the virus lives in a nerve root, Then as an adult, you can get something called shingles or a child can shingle too.

It's where the virus reactivates and it comes out in a nerve. So where you're not utilizing oxygen appropriately is any medical condition where have an infection.

It can also be Lyme disease, mycoplasma pneumoniae. It could be strep, group A beta hemolytic strept that leads to brain inflammation called pandas. So any infectious thing.

And then the other side of the house is just toxic burden. There's a little crossover because these bugs also can make various toxins. One more condition where you're not utilizing oxygen well, is where you live inside a water damaged building and your whole immune system is totally overwhelmed and unable to make enough ATP or oxygen.

It's like your brain shuts down. You've got brain fog, you can't think. So pain, infection, it's environmental and toxic burden, infectious and You talked a lot about the infection and these bigger things like Lyme disease or toxins that are coming from like infections that were living in the body and all of those things.

But I was just wondering, is there anything that is like maybe the stress of the world or the way we eat or even just the day-to-day life? Does that compromise the ways the bodies utilizes oxygen and oxygen's ability to create a pain-free environment?

Yes, let's just back up the very simple things. Being surrounded by electromagnetic fields all the time, devices everywhere, that's going to decrease our body's ability to utilize oxygen.

If we eat foods that are chocked full of dyes and preservatives that aren't real living food, there's something that you could catch, something you can pick, bright colored foods, so if you put garbage in, then you're going to create more inflammation so you don't have to have some big, bad, yucky, horrible disease to, uh, have low oxygen utilization.

That actually speaks to why you feel so strongly about this treatment benefiting everyone, right? Because the day-to-day life, like we do not expect people to stay away from all things all the time.

There's just not a way to do that, right? And so that's where you can see the benefits of just you walk through, even if you ate perfectly, did perfectly.

What reduces oxygen efficiency in the body

You are being, I don't know, like inundated with so many different things that can cause your body system to be overwhelmed and overloaded. And that when we say ozone's for everyone, that really comes from depending on where are and come from.

So I really appreciate you tying those dots together. A word, I think you said, inundated, let's think about assaulted. Oh, yeah. Like you walk past a man that has this heavy cologne and it's like you're just…

I can't breathe. Especially with people who have multiple chemical sensitivity, right? Their bodies are like, and I mean, we have patients who are, like I love all my family and relatives, but all the different smells that come in for the holidays can be really overwhelming to the system.

Yeah, it's like in our office we're like don't wear colognes, don' wear perfumes, too many people. You know, it's multiple chemicals. Or they get a migraine.

So all the things that we deal with on a daily basis, inflammatory foods, the scents and the odors and body care products and things like that, and just stress.

Stress, that is so powerful. And even You know, as you think about your family of origin and, you know just different things trigger these memories. It's literally a visceral response that you get when you about certain things.

And so I think more now than ever the emotional and the mental and spiritual trauma that people go through on a daily basis. And, you know, even to drugs, I mean, pharmaceutical agents, cause oxidative stress, we need them.

Some are really good. So what there are, that's the point, is that they are needed sometimes. But how do we help the body recover after the fact, right?

How do get the bodies to be optimized after-the-fact? throwing the baby out with the bathwater. It is figuring out the partnership and we use the words layering method a lot.

We use all these terminologies because it is both and not only. And I really love that you provide that I think clarity where some people will go to one extreme or the other, you provide that like, no, let's work together.

Let's see how this can partner together and these treatments and things can be layered well. I love that. Okay. You mentioned this earlier. And so I'd really love to talk about this just a bit, which is ozone has a reputation for being irritating to the lungs, right?

And so I think sometimes when people hear ozone, they freak out. But how do we address the concerns about safety and proper use to ensure that ozone is not entering the lung?

Right. We don't inhale ozone. That's just all there is to it. So when it comes to potentially trying to treat a sinus infection or an ear infection, or throat infections, just think about your little kids when they go to daycare or preschool or elementary school.

They're not just exposed to the kids in their class, they're exposed all the bugs that their siblings and their parents are exposed too. So you can bubble ozone through olive oil and then breathe it in through a nasal cannula.

The other thing is if a child can hold their breath, and usually by about six or so, a childhood can't hold her breath at least 10 seconds. You know, they're learning how to blow bubbles in the swimming pool.

So we use ozone here in The Office when Any kiddo has a respiratory tract infection, and we encourage families that want to think outside the box if they don't want give their kids antibiotics every time they get an ear infection.

Using a homosome generator is just a great way to knock these bugs out without creating drug resistance. That's a huge problem that we have. So you can put it into the ear.

It's colorless, it's heavier than air, and we pull it out into a syringe from the ozone generator and put a little bit of olive oil in the air canal and just hold it in there 10 seconds.

And you do that three times on each side. Now for the nose, you breathe in. You hold your breath, and only if you can hold you breath do we do this. But it also takes a little practice too.

So you're saying we use it with the ears for many ages, but we don't start it in the nose until a person can know that they can't hold their breath for how long?

For about 10 seconds. Okay. Thank you. I love it. Cause that's where it's different. Yeah. You have to breathe in, hold your breath for 10 seconds and stop up one side of the nostril.

And then you use a syringe and we pull the ozone into it and put it into the nose hold it for 10 seconds, and then you breathe out through your mouth.

And the nice thing is, is if you do it in the ears, it goes down the eustachian tubes and down into the back of the throat, but also it's going to hit the adenoidal tissue, which is up high in the nasopharynx, we call it.

And then if you're breathing it, not breathing, it's only if it is bubbled through the olive oil. You can start that at any age through that olive oils.

If you've got a little one and you can have them sit, you may need to hold them. read to them, do something with them for 15 minutes or so, you can bubble the ozone through the nasal cannula too.

I love that.

Safety, delivery methods, and proper use

Okay, let's get into some of the more technical, like you described the ozon-generator and all this stuff, but why is it so important that you use like pure oxygen and a high quality generator?

Like what could happen and maybe some concerns we would have by just buying some random one off the road or something? Well, medical grade oxygen is what is used and it has to be.

If you don't use pure medical-grade oxygen, your ozone generator may explode and you can destroy the ozone-generator. And you do not want to have anything in there that will do that.

So we do want exploding ozone generators. I was like, man, like if I, yes, that convinced me enough, Dr. Gay. Okay, next up, we talk a lot about genetics at Hope for Healing because it's so impactful.

I wondered if there was anything that genetics or the genetics we specifically look at at hope for healing that would tell someone that they were a good candidate for ozone.

That is a superb question because when we look at genetics, the inflammatory markers, even if you have like a healthy child, But if you see that they have very exaggerated inflammatory responses, meaning, wow, they're going to have an explosive response, or if they can't turn inflammation off, then ozone is going be a very good tool in the arsenal.

And there are even some genetic markers. There's one called SOCS1. Cytokine signaling is what it has to do with cytokines or inflammatory messengers. And there's another genetic marker called TRAF1 that if you hold on to viruses and it's slammed shut into the cells, that those folks are in desperate need.

They do very, very well with ozone to kind of help decrease the viral load in their body. not only does ozone, it acts like this supercharged oxygen that goes to our mitochondria, those little batteries or powerhouses of the cells to make more ATP.

And it also has to do with, well, its all about something called NAD and NAH and the cycle. But the benefit of ozone is that it disrupts the bacterial cell walls, so it causes them to break open and die.

And it disruption the viral envelope around various viruses. And then for parasites or single-celled, well, single celled yeast and multicellular fungi, it disrupts those cell walls and membranes.

And for the parasites it does the same thing. Now, I like to call it God's perfect molecule because it doesn't destroy healthy bugs in our gut or in your body.

We call those commensals when we talk about the GI tract and even other places in the body, so bad organisms create bad chemicals or bad toxins, bad inflammatory signaling molecules.

So we call those interleukins and pro-inflammatory cytokines. producing those cytokines and inflammatory pro-inflammatory cytocines, and it selectively kills those, which is incredible.

So it doesn't kill the good bugs, like it's not going to kill your probiotic. I love that. No, yeah, that's super important. Pretty cool. You can ozonate water, drink ozinated water and you can also put it in the ears, you could put up the nose but you're not breathing it and remember.

And then if you have really severe skin problems, you can even purchase what's called the body bag. Like people with gangrene, shingles, severe eczema, healing, wound healing.

Those kinds of things. The applications are incredible. They are incredible. And for some of those ones that you're thinking topically, would you think about something like ozonated olive oil would be a good benefit?

So I'm just thinking like for people who have like, my kid will not sit still for a body bag. Like, do they have things that we could just put on topical?

Yes, that's one of our favorite go-to. So like from newborn babies, we recommend ozinated coconut oil or ozoneated, olive and you can apply that to diaper rashes.

It's good for fungus, it's for bacteria, and it is gentle, even though it has an oil. So what it will do is penetrate deep into the pores, start killing the bad guys.

The skin makes layer initially a little bit, And then it starts to get better after about two to three weeks of use. And you would think, well, I don't want to put an oil on my face when I'm battling acne.

But it's actually so beneficial. A little goes a long way. Oh, my gosh. Yes, a tiny amount goes very, very far. I've noticed when i've heard patients who are like, it just didn't work.

Can you show me how much you're using? And I was like oh, you could use a quarter of that. Like, because it is in a carrier oil, it spreads very, very well.

And so if you're having any issues, you are like, I tried it and it didn't work. It was like just dial back and you'll see some great improvement. Okay, so you talked about something that I think was really great.

Genetics, candidate selection, and ozone benefits

So at Hope for Healing, and I love that you've talked a lot about the benefits and amazing, but what I really love about us is we really like educating from both sides of the perspective.

We don't want someone to like Google and see all these terrible things without being very honest about what's going on. So let's start off first and foremost with what are the main contraindications for Ozone to make someone maybe not a good candidate for ozone?

Well, there's very few contraindications, but one of them is having a platelet count less than 30,000. Why? We use a tiny amount of heparin when we pull the blood out of the body and we also prime our tubing because in addition to taking some blood, putting the ozone gas in it, and as soon as it hits the It becomes a very stable molecule called the nosonide, which we'll talk about in a little bit, but then we put it back in the body.

We also, if people are on blood thinners, we need to know about that because that little tiny bit of heparin, If someone is bleeding very, very easily, We don't want to promote any more bleeding.

If you're on an anticoagulant like Warfarin, Coumadin, Lovenox, those kinds of things, we're going to want to know about that. But it just depends how much you are on, why you on it, that kind of a thing.

So a platelet count less than 30,000 and then also blood antICOAGULANTS. So maybe there are some situations that are not contraindications, meaning they'd still be a great candidate, but we're going to use a little bit more caution with ozone therapy and specifically when it comes to IV ozone.

Yes. Well, many, people are incredibly sensitive to many things. So with folks that tell us, you know, I take a tiny bit of something and I react crazy, we're just a little more cautious with them.

and then we're also going to set them up to have less of a reaction. So when those bugs in the body die and they release toxins, or maybe you're just doing it for general well-being, quarterly to come in and improve your oxygen utilization and delivery to all of your tissues and to help your brain and your body really come online.

You can have reactions. So, we use things to minimize the reaction supplementation. We like herbals here, too, that have excellent science to back them up.

So we just listen to the patient and keep that in mind when we do that. Folks that had those multiple chemical sensitivities, you want to take it a little more low and slow when you do I love that.

And so one of the other things that I want to touch on is, because you did talk about the die-off reactions, and so we know that one those reactions can be what is called a Herxheimer reaction and a die off.

So can you explain what a herxhimer is and maybe what are some symptoms of a hersheimer action that we like to prepare people for? Well, I wouldn't rely on Dr.

Google for this, but in the medical community, when we talk about this what that was named after two doctors, Dr Jarosz and Dr Herxheimer, they saw that when people received a shot of penicillin to kill syphilis in people, the reaction was they felt very poorly.

They had headaches. were very fatigued, maybe had low-grade fever, chills, were just tired and worn out. And it's because the penicillin caused the syphilis to die and it released biotoxins.

Well, when you're talking about a jar-ish Herxheimer reaction in relationship to other organisms that might be dying or going away, it should really only last about three days or so.

meaning you might feel not so good the day of the IV, ozone, or the next day, but you should start to feel better a few days later. Now, if you've been sick for a long time or you are dealing with, say, Lyme disease or Bartonella or Babesia or another type of an infection, mycoplasma, Pans Pandas type stuff, because we do this IV therapy for children here in our office, is that it may take several treatments before they start to turn the corner and get better.

So those reactions can be headaches, irritability, fatigue, maybe a low-grade fever, chills, just really feeling bad. And you think, well, what good is this therapy?

But it's like, no, it is doing good under the hood. Now, we always stack IV therapy right after that, that a little vitamin C or some glutathione, something that's going to lower the inflammation in the body and replete some of the nutrients that your body is used up trying to kill the bad guys.

So we stack them together. We don't want to separate it, not at all, because we want the person to feel better more rapidly and communication is really critical too.

But we also want to set people up for success with these things that stop those reactions. Yes, I love that. And what I think I loved about what you said is communication as key.

because I have spoken so many people who have done this therapy and everybody is a little different where some people did the first two and three and didn't have any reaction, but the fourth one was like, oh, my body said, I need a break for a second and we have tools to either one, okay, we're going to keep you at a dosage or we are not going increase the amount of ozone.

Herxheimer reactions and detox support

And again, this very communal and conversation to be able to say, how are you feeling? and being super honest about that has helped our patients and non-patients alike who have tried this particular treatment succeed in the treatment, right?

Because we don't want you feeling miserable. The point is, and I really love that you mentioned the IV therapy after and how that's super, because we did talk about oxidative stress and this will cause your body to fight and cause it to stress, but to cool it with the vitamin C that we put in that along with other things.

So thank you for bringing that up. And the partnering of these two treatments is really important. I was thinking about some of the various patients that we see that do IV ozone, and you can have seizure disorders, you could have had traumatic brain injuries.

concussions and, you know, cognitive decline. You don't have to have infections. And this is, I mean, ozone is great for everyone, but when you've had something like that, it's not a one and done treatment.

Now, the only exception that I will say is that if you have got COVID, or flu and are doing terrible and you want to come in and get ozone with IV therapy, many times that will cause the red blood cells that are sticking together because we know about clots and things like that with COVID and then just how influenza can have a cytokine storm and just go crazy or have trouble sleeping, those kinds of things.

That's the only type of time where I talk about, you know, a little one and done, it just really flips you back so much more rapidly. So we're talking like chronic versus acute type things that were like, okay, that makes a lot of sense.

Like an acute COVID infection and acute influenza, You can come in, have a treatment and man, can get yourself back on your feet really rapidly instead of being out for the count.

for two weeks or getting a secondary bacterial pneumonia because the virus caused you to get so much mucus and garbage in your chest. So the therapeutic benefits are outstanding.

They really are. That's really great. I also really love that you mentioned that because I do think some of our COVID

patients and our flu patients that will come in due to the acute nature of it, will feel this ramp up of It and then it will like cool down.

So they'll be like, I felt like it was done really fast and it ramps up and Then it cools off and they have been like oh wow, i'm feeling much better and They don't have the linger as much, right?

The thing that like you're over it but you don t feel over season in their health. so that's been really fun to hear patients talk about that. Speaking of the herxheimer reaction and the die-off reactions and all of that, going back to genetics again, will or can your genetics help us know more about if you're more likely to have a herxymer reaction?

Yes, so individuals who have problems in their detoxification pathways are much more likely to have herxheimer reactions because their body makes faulty glutathione and it Glutathione is the body's master antioxidant and so they don't have the ability to dial down and it will clean the buddy out afterwards and to decrease inflammation.

So if you have those genetic vulnerabilities with detoxification, that's one of the things that moves you into illness and that can predispose you to having No, I really love that you kind of broke down how we can start looking into those things and how, if you're a patient who's already done genetics and now you feel like ozone is something you'd like to layer into your treatment, that we kind look at it more in-depth view that your diving into.

Okay, next up, can you explain a little bit about how ozone supports the immune system, like the inflammation pathways, or even the detox processes? Okay, great question.

So, as far as the inflammation goes, so we're stepping back because we know that ozone, when ozone gas is added to red blood cells or even put in the ears or you do the insufflations, not inhalations but insuffleations that when the ozone hits protein or fat, it becomes an ozonide.

And that ozonoid is very stable, and that's what has the ability to eradicate these organisms. A lot of times people say, well, if ozone's so good for everyone, why doesn't everyone do it?

Well, first of all, there's no money in it, because you cannot patent oxygen. Okay. And I just think if a family wants to be a biohacking family, they need to have an ozone generator at home.

It's going to save their kids from developing, you know, multiple drug resistances.

Immune support, misconceptions, and brain recovery

We mentioned that's a huge problem. And also, when you think about when a kiddo gets sick, and then mom and dad lose work hours, then you're taking sick days, it passes around the whole family and everybody gets so it's a therapy that's so, so helpful.

Now, how does ozone affect the immune system? Well, if it eradicates organisms, Then you're healthier. Okay. Now, as far as ozone and I think you asked me about detoxification.

Well, our mitochondria being the little batteries of the powerhouses of this cells assist the body in cleaning the cells out. you're moving things through the body to go through, the liver, kidneys, skin, lungs, to take those toxins and get rid of them.

So that's kind of how Ozone does that. Well, and I love that you mentioned that because those are all pathways that, I mean, that we'll find on our Wellness Blueprint, right?

So when you know that your body doesn't detox properly or you don't know how to clear or lower inflammation and when your know your bodies immune system, is either overactive or just won't activate at all, you know very well, like if you're a patient, and you are like, wait, hold on, that could help this.

And I think that's the beauty of the systems working together and how ozone doesn't, I mean, kind of what you were saying before, It only targets the bad guys, not the good guys.

And so it can help produce a very therapeutic approach to overall wellness and addressing all the systems. So I really appreciate you diving into that.

Okay. Before we wrap up, what is one of the biggest misconceptions about ozone that you wish more people understood differently? That is bad. I mean, all they hear about is on the news when the ozone layer is being degraded by pollution, but it's actually this incredible molecule that has so much power.

And remember, it is good for everybody because everyone can drink ozonated water. And the beautiful thing is it's just so helpful for so many things. One thing that I'm really excited about, we care for a lot of people here in our practice that have something called chronic inflammatory response syndrome or biotoxin illness.

And this can be caused by Lyme disease. We call that chronic Inflammatory Response Post-Lyme Syndrome. or from living within the interior of a water-damaged building.

And if they've had an MRI or something called a neuroquant done of their brain, it can show that certain parts of the brain have become atrophied. Well, when you think about atrophy in the brains, I mean, that's devastating even for children, which we see.

So one of things that we started doing is when we show that there is atrophy, we're having parents, even if they're little dinks, that can't hold their breath and do the intranasal ozone insufflations, but they can do nasal cannula.

If they do the air insufflations in conjunction with another therapy to—it's a peptide that helps improve brain volume. It's called vasoactive intestinal plypeptide.

When you put ozone with that, air-insufflation, you can restore volume and functioning Well, you can store mitochondrial functioning in the brain. So it's just such a great therapy to put in conjunction with recovery from chronic inflammatory response and to do it a lot quicker.

That's a therapy that I'm super excited about. Well thank you so much for your time. It is super exciting and we can't wait to learn more about ozone therapy.

And as always, thank Thank you for listening to today's episode. We hope this conversation helped bring understanding and confidence around ozone therapy and how it can support the body at a cellular level.

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