

Nayan Patel, PharmD, Founder of Auro Wellness and CEO of Central Drugs Compounding Pharmacy

Interview by Sheldon Baker

Nayan Patel, PharmD, is a sought-after and respected pharmacist, wellness expert, and thought leader in his health industry. Based in Southern California, he has worked with physicians since 1999 to custom develop medication for their clients and design patient specific drug and nutrition regimens. He is the pharmacist of choice to celebrities, corporate executives, and physicians. Dr. Patel is globally regarded as the foremost go-to expert on absorbable forms of glutathione and holds the only patent on transdermal glutathione. After 12 years of clinical research on the master antioxidant, glutathione, Dr. Patel shares how powerful and essential glutathione is to the body's detox system. He often speaks about the various benefits it has for slowing the aging process and explains how you can naturally increase your levels. Dr. Patel is a firm believer in providing the body with the tools it needs to defend itself, and in promoting a healthy lifestyle. Along with traveling the world educating practitioners on advanced biochemistry and anti-aging science, Dr. Patel serves as adjunct faculty at the University Of Southern California School Of Pharmacy where he is also an alumnus, Western University Health Science School of Medicine in Pomona, Calif. He is a licensed compounding pharmacist still involved in designing and compounding drugs and nutrition therapies for his patients and is a member of the International Academy of Compounding Pharmacists.

Sheldon Baker is an InnoVision contributing editor. His freelance editorial content can also be found in several lifestyle publications, and as CEO of Baker Dillon Group LLC, he has created numerous brand marketing communications and public relations campaigns for health and wellness organizations. Contact him at Sheldon@NutraInk.com.

Integrative Medicine: A Clinician's Journal (IMCJ): What led you to studying glutathione?

Nayan Patel, PharmD: In the late 90s, I was invited to work as a consultant on liposomal technology to make the vitamin C molecule much easier to work with. My partner and I perfected a system for pulverizing vitamin C into small molecules and a capsule pathway for swallowing it. But it was too cost prohibitive. People were not going to pay a lot of money for a vitamin C capsule. Even though

the project was successful, it was abandoned by the company because the value of having vitamin C raised in your body was not enough. As my research partner and I had worked so hard on this project, we considered: what's another mass antioxidant to which this work might be applied? So, from that project came our work on glutathione.

IMCJ: Glutathione is considered the body's master antioxidant. Provide a short overview of glutathione.

Dr. Patel: Glutathione is a tripeptide. One of the simplest peptide forms. It is mass produced and your body makes an abundance of it unless you have a gene mutation, or your body has issues where you are not able to produce glutathione. It is known for its function but not for its structure. In other words, it is known for what it does, it quenches free radicals and yes, known as the master antioxidant. But on the other side, it's also a great cleanser or detoxifier. It conjugates and metabolizes to help the body excrete metabolites from your liver.

IMCJ: Does glutathione have some similarities to curcumin?

Dr. Patel: Not at all. It's a different compound than peptide. A peptide is a simplistic way of dealing with our body's own defense systems. For example, we just finished a clinical trial that was recently published. The glutathione trial showed us it was able to improve your cytokine markers, IL12, IL2, TNF- α , INF- γ . The cytokine markers showed it can improve your body in multiple ways. If you compare glutathione with curcumin compounds and those molecules, they are binding to some receptors and having a positive chain on those receptors where glutathione is completely different and helping modulate the chemical reactions that are happening in your body. In other words, it is way different than curcumin.

IMCJ: Please review more of the clinical trial you referred to.

Dr. Patel: The trial was conducted at Western University Health Science School of Medicine and was published in the Journal of Antioxidants (<https://pubmed.ncbi.nlm.nih.gov/37507915/>). The trial was based around absorption,

and we wanted to see that glutathione gets absorbed through your skin at a pace that had not previously been seen. But the IRB wanted to see more than that and if it has any positive impact on mycobacterium avium. To do the testing on mycobacterium avium, we had to figure out which immune markers are affected or improved to help with reduction in the bacterial load, because we know glutathione does not kill any bugs. The only way to have any effect on mycobacterium or the bugs in the body, it must function on the beta cytokine. So, we measured all the cytokines that affect the proficiency of mycobacterium in the body. The researchers then applied the glutathione and drew blood one- and four-hours later, plus three days later and infected the blood in-vitro with mycobacterium. What they found in the four-hour sample was a statistical reduction in the mycobacterium. That was attributed to all the positive outcomes they saw on the cytokines. In other words, there is a positive impact on the body by modulating the chemical reactions and not actually doing anything to the bacteria, but it is helping the body beef up its own defense systems. On the other hand, they did see a reduction in the MDA level within the first-hour blood sample. The level went down. MDA levels are associated with increased oxidative stress and it's a clear indication that absorbed glutathione was able to reduce MDA levels within 1 hour.

IMCJ: What led you to doing that study and how will you utilize the results?

Dr. Patel: It was the idea of Dr. Vishwanath Venketaraman and Dr. Ray Yutani and the team that was working on this research. They have been researching glutathione and liposome technology for more than two decades. They already knew the liposome technology worked on all the issues and they wanted to see if a topical form of glutathione did the same thing. It was only a three-day study. When the researchers reviewed this, they decided to do an absorption study. And while they were already going to measure the blood samples for the study patients to see if

it was absorbing, they also wanted to do a reciprocal study to what they did for liposome technology which the results were one- to three-months out and they would be able to see the results within the first four hours with the topical form. That absolutely triggered their minds for other research that they would do on animals with mycobacterium infection and follow up the study within a robust way of doing other cytokine studies.



IMCJ: Who are the prime candidates to supplement their body with glutathione?

Dr. Patel: Oxidative stress is the buzz phrase. Everybody is stressed out. The modern-day stressors are there. If you tell people to avoid UV rays or cell phone radiation, don't put on make-up, use chemicals in your home or leave your house, they know you can't escape it. There is so much that we are exposed to. If you live in a part of the world where you don't have access to these things or are living in a cave, you might not

need glutathione because your body doesn't need to detoxify as much. And not everyone else needs glutathione. Up until the age of about 30, your body can keep up with the glutathione production to meet your needs. There is a tipping point where your body can produce only so much, and glutathione levels decrease, and your needs far exceed your levels. When that happens, suddenly for the first time, we see there is an imbalance of what your body's needs are and what you can produce. There is a limit to what the body can produce.

IMCJ: How much glutathione should a person take daily when taken in supplement form?

Dr. Patel: There is IV glutathione, oral capsules, and a liposome form. If you look at the literature for all the different technologies, it is recommended to take 500 to 1000 mg a day and up to three grams a day on the IV form for some conditions that wellness doctors have used for a couple of decades. When I did my original research on the topical form of glutathione, I wanted to determine how much to use. I was not getting the results needed from

conventional products. The feedback I got was that people were having negative reactions as well as rashes. I had to figure out what dose to give them. What we found was about 100mg twice a day should suffice. We have used 100mg for the clinical trials we have conducted. We have made a stronger dose of 175 mg. A typical dose is half a cc, or half a ml, applied to the body twice a day. We also make a stronger version 200mg per ml and 350 mg per ml. The stronger version is for people who are severely depleted of glutathione and physicians who want to boost their patients' levels upfront for up to six months. Patients are then switched to a maintenance program to always keep their glutathione levels within range.

IMCJ: How do they keep it at that level?

Dr. Patel: Doctors start with a higher dose first. Then after a three- to six-month period depending on what their condition is and what they are being treated for, they may be switched to a maintenance program with Glutaryl, which I will discuss. It is given at 200 mg per ml. For the past 15 years since this molecule was discovered and patented, we have always used 200 mg per ml for all the trials. Everything in the literature is based on 200 mg per ml or a dose of 100mg twice a day in a spray or topical format.

IMCJ: Do most doctors know about glutathione?

Dr. Patel: Many do not, but that's my job. I am an advocate and out there lecturing, as well as presenting at physician's offices for them to learn about the results from these molecules. I tell them to look at the science and published pharmacokinetic data to make sure they are using the product correctly. I get calls every day from doctors about the correct product usage.

IMCJ: In addition to supplementation there are other ways to replenish glutathione levels.

Dr. Patel: I strongly recommend that everyone should do that. Glutathione is just one of the peptides that we are replacing. Eating a healthier diet gives you access to all the glutathione production as well as various other types of peptides. In my book, *The Glutathione Revolution*, I have a list of all the foods you should eat and a 14-day plan to boost the glutathione level. But note, the 14-day plan is just for marketing purposes. That's my life-long plan. I eat that diet every single day and as much as I can. I strongly believe that having all the amino acids for your body to build all the peptides is important. I'm not against animal proteins at all. I do eat animal proteins and fish occasionally but try not to eat meat. As a result, along with some supplementation, my glutathione levels have always been high. Fresh vegetables, including broccoli and Brussel sprouts are in my diet and I eat avocados probably every

day. You need to have a very balanced diet. It helps you make all the different amino acids that are needed, except for the tripeptides, but it does everything else.

Secondly, you need to avoid certain skin care products. Skin care products need to be completely clean. There should be no ingredients that your body has to detoxify. If you are using cleaning agents for the home, there are ecofriendly products available. They may not clean as well, but they are beneficial because they are not using your body's resources to detoxify when you do get exposed to them. Of course, I understand you do get exposed to the fumes.

Avoiding direct sunlight on any part of your skin for more than five or 10 minutes is also important. I love the sun. I grew up in Africa and India near the equator and sun is what we do.

IMCJ: I bet you're going to tell me to limit my alcohol intake as well.

Dr. Patel: Well, yes. We know for a fact that alcohol is a known toxin to the body. Alcohol immediately depletes the body's glutathione. The fact that you get buzzed after drinking some form of alcohol is because it gets metabolized to the aldehyde which is an amino toxin. That's where the buzz comes in. The metabolism pathway is activated by glutathione.

IMCJ: Discuss a little about your book *The Glutathione Revolution*.

Dr. Patel: *The Glutathione Revolution* was released four years ago. The molecule was discovered in 2007. It was too early for me, and I didn't know how much to prescribe. The doctors I was working with were helping me determine the right dosages that they were using on their patients to help with glutathione levels. So, when we partnered, I determined there was a lot more to learn and felt I could not release the product until I did all the trials. This is when I started working on glutathione and the doctors asked me to make glutathione for their patients. Because I was working in a pharmacy environment, they wrote the prescriptions so I could make the glutathione product. Then about 12 years later, I had so much data from all the doctors I was working with that every time I went to an event I was known as the glutathione guy and was encouraged to respond to questions. It got to a point where I tried to avoid professional gatherings because I would get questions all day long about glutathione. I was then talking to an associate, and he said I should write a book. While I am not a writer, I thought I would share all the things I had learned. My book is a compilation of all the patient success stories and what I have done over the past 12 years in my research, and everything I found out about using glutathione. In addition, there are health practitioner interviews and my personal 14-day diet plan

to boost glutathione levels. Once you read the book, you will understand that glutathione is so powerful, and understand the real way to impact glutathione levels in the body in a matter of minutes or even seconds. The word *revolution* is understandable. That word revolution came to mind because we want to change the world. Give the people of the world something they have never experienced before. People have also said if the research proves that glutathione does all the things I have found, the word revolution would be an understatement. It is available on Amazon, major book retailers and on my website at www.aurowellness.com. It is also available as an audio book.

IMCJ: You describe Glutaryl as a new glutathione alternative. Please explain.

Dr. Patel: The product name was coined by Dr. Yutani, one of the original molecule and product researchers at Western University. The technology's name is Auro GSH. Glutaryl is a topical spray and was launched in 2020 after 14 years of research to make sure it does what it is supposed to do: improve the glutathione levels of the body. It got a slow start due to the pandemic, but now people are starting to inquire about it. Glutaryl is patented, both for composition and delivery of the molecule. We have completed one human clinical trial and one of the researchers published a manuscript spring 2023 on their findings from the past three years.

The product is available at doctor's offices and my website, but the idea behind the product is we simply want patients to be aware of it and work with their doctor because of its impact on the body. With millions of chemical reactions happening in the body all the time, glutathione support is needed. Interfacing with your doctor you can determine the right dose, how often and long to take the product, as well as if you need to increase or decrease the glutathione levels in your body. They can guide you through the entire process.

The product is safe, and you don't need to go into supraphysiologic doses because you don't want to do too much, rather just be at the optimal level.

IMCJ: But can you overdo glutathione intake?

Dr. Patel: The answer is no, and more is not merrier. You need to have the right amount and not do too much. If you have a clean lifestyle and glutathione levels are already high enough, then your needs would just be basic. People do see the benefits of having the correct glutathione level.