[00:00:00] **Dr. Geo:** Hey everyone. Welcome to the Dr. Geo podcast. I am your host, Dr. Geo, where it is my goal to share with you some of my research insights and tools that will help your urological function and simply live better with. Today, we're going to talk about the PSA test, the PSA test. I tell you, I do not know of a biomarker that induces more stress in patients like the PSA, not high cholesterol, not high blood glucose levels, not high hemoglobin A1C PSA.

[00:00:53] **Dr. Geo:** That number rises. And it provokes anxiety and distress in most men. [00:01:00] In fact, what does PSA stand for? You know, patients stimulated anxiety. That's what PSA stands for patient stimulated, anxiety, PSA release stands for prostate specific antigen. So the reason why you get so stressed when you go get your PSA is because in your conscious.

[00:01:24] **Dr. Geo:** Or subconscious mind, you're connecting that high number to dying. Let's be honest, isn't that what's happening. The higher, the number, the more consciously or subconsciously you're saying to yourself, I'm going to die. That's the bottom line, right? So I want to talk to you today about the PSA test and what it really means and how to best use it without abusing.

[00:01:51] **Dr. Geo:** And how to have a better conversation with your urologist about this test, about your PSA. Let's go, they take your [00:02:00] blood work and then they can monitor your PSA value from your blood work. How does that happen if the PSA molecule it's in your prostate? Let's talk about your prostate for a second. If you have a prostate, I know perhaps many of you don't have a prostate anymore and probably have a high PSA, regardless because you had your prostate removed for having prostate cancer.

[00:02:25] **Dr. Geo:** So you had a prostatectomy. So I understand that many of you listening to this podcast today do not have a prostate, but how it works is any normal situation where a man has their prostate is. The prostate is a combination of muscle and gland and throughout the processes, blood vessels, actually, there's a lot of blood vessels around the prostate.

[00:02:48] **Dr. Geo:** That's why a prostatectomy. It's actually a very bloody procedure because it's just lots of blood vessels in the prostate. So what happens is that your [00:03:00] prostate gland, the glandular part of your prostate makes PSE. Prostate specific antigen and this prostate specific antigen PSA has one job. And no, it's not to provoke stress in men.

[00:03:19] **Dr. Geo:** That's not its primary job though. That's exactly what it does. The primary job for this protein is to help with conception fertilization. How so? Well, when a Manny Jacquelyn. There's a lot of material in that

ejaculate. One of the components in that ejaculate is PSA protein. And what it does is that it kind of liquefies seaman.

[00:03:48] **Dr. Geo:** So let's take it a step back for a second. When it, Manny Jack, Leitz similar to blood, the semen coagulates, and kind of clumps up. [00:04:00] The PSA molecule, it serves like an anticoagulant kind of breaks up all these proteins so that the seamen and the sperm can move more freely so that one can conceive. And that's the main function of this PSA molecule.

[00:04:20] **Dr. Geo:** It serves as a fertility tool. So in essence, The PSA never really makes it to your bloodstream or it should not make it to your bloodstream. In essence, the PSA molecule goes from the gland right into the ducks and right into the urethra, which is the canal, the channel that brings out the urine and semen and never makes it to your blood.

[00:04:45] **Dr. Geo:** Yeah. Around the prostate, you have all sorts of tissues. You have the muscular part, and then you have another layer of tissue that keeps the prostate intact, a membrane that keeps the prostate intact when that [00:05:00] membrane kind of breaks off, or that membrane kind of opens up a little bit, that causes PSA leakage.

[00:05:08] **Dr. Geo:** So essentially what a PSA value from bloodwork is, is PSA leak. It's a leaky prostate. So PXA leakage. Meaning this molecule going into your bloodstream is what's red from lab work. When they draw blood from you, by the way more production of PSA is not what causes your number to go up. The only thing that causes your number to go up upon getting a blood test is PSA leakage that I'm talking about leaking into the bloodstream.

[00:05:42] **Dr. Geo:** Okay. So what causes PSA leak? Many things, many things causes that. And a lot of benign non-cancerous things cause PSA to rise in blood value and enlarged prostate inflammation around the [00:06:00] prostate ejaculating because when a many Jackie relates right, what's happening there, there's a squeezing of the prostate that occurs where a portion of the semen is expelled from the.

[00:06:12] **Dr. Geo:** Any disturbance of the architecture of the prostate, a rectal exam or any type of manual manipulation of the prostate can cause a PSA to rise. In some cases, writing on a bicycle for a prolonged period of. It's interesting because a lot of my patients said, well, can I ride a bike? I mean, I have prostate cancer.

[00:06:36] **Dr. Geo:** Can I ride a bike? You can. And oftentimes it doesn't cost problems to the prostate. I think in some men who have prostititus, it could be worsened to ride a bicycle for prolonged period of time because you kind of banging on your pelvic area and your perineal area, and that's pushing up against the prostate.

[00:06:55] **Dr. Geo:** So in certain instances, It might not be a good idea, but it [00:07:00] doesn't seem to, or at least there's no evidence that it promotes prostate cancer or anything, but it can aggravate the prostate if the prostate is already aggravated from an infection or from inflammation. And it can cause the PSA to go up.

[00:07:15] **Dr. Geo:** That's that now, how do we make sense of the PSA value from a blood test? Right? Because. You know, some of you I've seen you. I know how you roll. I've seen you in my office. Some of you get the slightest increase in PSA and you're going nuts. All right. So let's make some sense of this with the hope that you stress just a little bit less about this biomarker.

[00:07:40] **Dr. Geo:** Next time you go to get tested, the range that is provided to you from your lab work is somewhere between zero to four. So the range that you think it's the proper range is zero to four. So if your PSA's a three it's within [00:08:00] that range, so I'm good. I don't have a problem. And if it's 4.1 or 4.2, Ooh, that may mean that I have prostate cancer and that's not true.

[00:08:08] **Dr. Geo:** That's not how it works. It's not that. If a man is, let's say 45 years old, 42 years old give or take. And his PSA is 2.5. It's within that range, but it might be a little high for 40 year old. If you are a 60 or 62 years old, and you have a 2.5 PSA that may not be that high. So number one, PSA's age dependent.

[00:08:37] **Dr. Geo:** It's not just a matter of whether it's within the zero to four range or not. It is age dependent. Number two, the rapid growth or the rapid rise in PSA. It's probably in many instances, more valuable than just that absolute number. So let's just say to keep the numbers easy in a man who comes in [00:09:00] today with a PSA of two.

[00:09:01] **Dr. Geo:** And he's, let's say, I don't know, 52 years old. And in six months, his PSA is four. And then three months after that, his PSA is six. That is a rapid rise in PSA. And we want to look further. We want to kind of assess for perhaps even prostate cancer and that's an. If the PSA is kind of cyclical where it's same guy, 52 years old PSA of two, six months later, the, for three months after that is a three, three months after that is a two again.

[00:09:35] **Dr. Geo:** Oh, that may or may not mean that it's prostate cancer. I don't know, actually, because yeah, you can have prostate cancer with a low PSA, for sure. Now there's a small segment of patients that have. Prostate cancer with a PSA less than one, a very small segment. Okay. It's age dependent and the velocity, or [00:10:00] what's called PSA kinetics.

[00:10:01] **Dr. Geo:** How PSA number changes within time. It's probably more valuable than the absolute number though. The absolute number is important. Once again, again, a PSA of 2.5, like I said earlier in a person who's 42 years old. It's pretty. Now if a PSA is very high again, I'm pulling these numbers out of my head from patients that I've seen.

[00:10:24] **Dr. Geo:** So let's just say 49 year old patient has a PSA of 15. But also presents with some urinary symptoms and pelvic pain and things like that, burning around the prostate area, feeling like this heaviness in that area, perhaps some urinary frequency as well, then that could be prostititus. So I think most doctors would prescribe some antibiotics first before recommending a biopsy.

[00:10:50] **Dr. Geo:** And if there is an infection around the prostate that's causing the inflammation and the discomfort, then that PSA will come down very low. So oftentimes in young [00:11:00] men, very high PSA is treated with antibiotics because the assumptions may be that it's, prostititus not something malignant. So PSA, absolute number, age dependent, it's important.

[00:11:13] **Dr. Geo:** And PSA, velocity or PSA kinetics is important to determine if it's something serious or not. Again, there's a lot of just non-cancer reasons that increases PSA value in. How about after you're diagnosed with prostate cancer, how does it work? In other words, you're diagnosed with prostate cancer and you get treated for prostate cancer, and now you have a PSA recurrence.

[00:11:41] **Dr. Geo:** How does that work? A PSA rise after prostate cancer treatment, whether it's surgery or radiation or whatever can indicate and can be a better biomarker. For prostate cancer recurrence. Now the same rules apply. In other words, [00:12:00] PSA can rise in a very slow manner at some point after prostate cancer, if it does, they may not mean that the prostate cancer is that aggressive.

[00:12:10] **Dr. Geo:** If it does rise with high kinetics and high velocity, very rapidly after prostate cancer treatment, then we need to test a little bit more and figure out if it's prostate cancer progression and see what's the next approach.

Now prostate cancer or PSA recurrence after treatment from anything it's not an uncommon scenario.

[00:12:31] **Dr. Geo:** It happens often. So roughly about 40% of the times after prostate cancer treatment, the PSA rises within 10 years, but here's how it works. The longer it takes for PSA to rise. If it rises after prostate cancer treatment, the less likelihood of there ever being prostate cancer that's serious enough. That might be.

[00:12:54] **Dr. Geo:** So if a patient comes today and they just had their prostatectomy and their prostatectomy was, I don't [00:13:00] know, three months ago, and their first PSA is undetectable and their PSA remained undetectable for five years, six years, and then they start getting a little increase in PSA. Then we want to look at PSA kinetics.

[00:13:15] **Dr. Geo:** They are too. And if it stays increasing with low velocity, then. If there's prostate cancer recurrence in that scenario, it may not be that bad. Another scenario, if a prostatectomy was done, let's say. Three months ago in that first PSA's not undetectable. Then that's, what's called a neater PSA of three months.

[00:13:37] **Dr. Geo:** Then the needs to be addressed that may be a prostate cancer recurrence. Can there be a increase in PSA and it's not associated with prostate cancer after prostate cancer treatment. In other words, can a PSA rise after prostatectomy and it not be prostate cancer related. Some studies suggest that yet.

[00:13:58] **Dr. Geo:** It may be when a [00:14:00] surgeon goes into your body and removes the prostate, it is possible that they can leave behind some benign prostate tissue and that benign prostate tissue can make PSA that leaks into your bloodstream. So that is possible, but typically the PSA rise would not be that rapid and it would be a very slow rise in that center.

[00:14:22] **Dr. Geo:** So those are the two aspects of PSA and its role. One is before diagnosis and the other role is after diagnosis. And lastly, I'll say this, we know that there's been a lot of confusion with the role and value of PSA within the last 10 years. Where some governmental agencies have proclaimed that, you know what PSA should not even be taken in an office visit because it has no value in terms of helping diagnosed prostate cancer.

[00:14:57] **Dr. Geo:** So many of you are [00:15:00] seeing this on the internet and reading about this, say, well, I'm not going to do a PSA. And my doctor

recommends against a PSA. I could not disagree more with that approach. I could not disagree more with that approach, the PSA tests to test for prostate cancer. It is imperfect. There's no question, but it's pretty good though.

[00:15:21] **Dr. Geo:** It's not perfect. Prior to the advent of the PSA test, we're talking now before 1990, most people who presented to the office and had prostate cancer already had aggressive prostate cancer. 60% of people are. So that king to the office with prostate cancer already had advanced prostate cancer that metastasized fast forward to 2004, 2005, only about three to 5% of people that come to the office have advanced prostate cancer because of the PSA [00:16:00] tests.

[00:16:01] **Dr. Geo:** What's the problem with the PSA test. The problem is that it was used abused and misused. The problem is that PSA rose and it prompted urologists to do biopsies oftentimes unnecessarily with a mild rise. They caused. So there were too many prostatectomies and things from biopsies that showed cancer and cancer that was low grade or low risk, like Gleason six.

[00:16:31] **Dr. Geo:** So a people were overtreated B increased the cost of healthcare significantly. So what does. Here's what I would say. It's not a matter of what that number is. So when you get a PSA test is not the number is what you do with that number. So oftentimes when I'm consulting with patients, I don't necessarily, if they're seeing me for the first time and their PSA was of a certain value, and if it's maybe a little bit high, we don't [00:17:00] rush to get a biopsy right away.

[00:17:01] **Dr. Geo:** We look at different information to determine a, they need a biopsy. And B what's the risk of them having prostate cancer. In other words, we risk stratify with things that are more than just PSA. And we look at what are the other possibilities of them having a high PSA that's high for their age, or even after a prostatectomy?

[00:17:26] **Dr. Geo:** It doesn't always mean that the next treatment is necessary. The next medical treatment, it can't be that they need aggressive interventions after that. So we just need to do a better job using the PSA test. And here's the other thing I think most committees and medical organizations would suggest not to start taking PSA clinically in men until the age of 50, 50 and above.

[00:17:53] **Dr. Geo:** And I disagree with that. I disagree with that. I think that all men. [00:18:00] She get a PSA at 40, 40 years old, you have nothing to lose because if it's indeed high, you can do something about it early. I've seen way

too many men in their forties with aggressive prostate cancer way too many. So it's not only what the data shows is, what we're seeing clinically.

[00:18:20] **Dr. Geo:** So it costs very little to just get a PSA at the edge of. And yes, if you have a family history of prostate cancer and you have certain genetic mutations that may be associated with prostate cancer, absolutely take it at 40. I would say every man, age 40, if you have a family history of prostate cancer, first degree, father, brother, or you have certain genetic mutations that are associated with prostate cancer, I would get a PSA once a year, starting at the age of four.

[00:18:55] **Dr. Geo:** If you have no family history and no genetic mutation for prostate cancer, [00:19:00] I would say start at 40 and probably get it every two to three years or so. Just to be safe, just to be safe, nothing to lose. If it's high, then you have to have a discussion with your practitioner on what do we do and do we need to do a biopsy right away?

[00:19:17] **Dr. Geo:** And what if we don't do a biopsy right away? What would happen? So. Let's wrap it up. Let's wrap it up. I would say before going to your next blood draw for your PSA, I want you to take a nice deep breath. Take five, really nice deep breaths before that blood draw, because I believe that stress can increase PSA.

[00:19:41] **Dr. Geo:** So you take five deep breaths before the blood test. When you go for the value and you go to discuss with your doctor, what that number is, I would take another five deep breaths and do not catastrophize. In other words, don't make things worse before it [00:20:00] happens, right? It is what it is. The number may be the number don't be so honed in on the number itself.

[00:20:09] **Dr. Geo:** Okay. Uh, most people oftentimes as Thai for benign reasons, or oftentimes it does not equate to premature deaths. Sometimes it may, I don't want to overlook that, but that's not that common or frequent for the most part. Yeah. I really hope this podcast today, bring some clarity to you about this stress induced, biomarker, the PSA test and how to best use it, how to best talk to your doctor about it and how for it not to control your life for it, to just be a number that you look at to make certain decisions with regards to your health and your prostate.

[00:20:51] **Dr. Geo:** Thanks for tuning in today. Don't forget to like this podcast and many others on all the channels, podcast, channels, apple, Spotify, [00:21:00] YouTube, and I really appreciate you tuning in today. And I really

appreciate your comment and subscribe. Much love to you all. This is Dr. Geo signing off. I'll talk to you soon.

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[00:22:02] **Dr. Geo:** And now for a brief disclaimer, this podcast is for general information only, and we're not forming a doctor patient relationship to this medium, the use of the information and all links associated with this podcast is at the listener's risk and is not to replace medical advice from a physician or a healthcare practice.

[00:22:25] **Dr. Geo:** Lastly thoughts and opinions related to this podcast on my own. I mean, not reflect the views of any institution or organization I'm associated with.