

Dr Ron Ehrlich: Hello and welcome to “Unstress”. I’m Dr Ron Ehrlich. All disease is caused by oxidative stress, all cancers are a focus of chronic inflammation and chronic oxidative stress. Too much calcium is a problem, too much iron is a problem. What are the four basic and must-have supplements? Why is oral health the hidden epidemic, what about vitamin C? Why has it been described as the universal panacea? Well, my guest today is Dr Thomas E. Levy.

Thomas is a board-certified cardiologist, the author of “Primal Panacea” and “Curing the Incurable - Vitamin C Infectious Diseases and Toxins” plus three other ground-breaking medical books. Thomas is one of the world's leading vitamin c experts and frequently lectures to medical professionals all over the globe including in Australia about the proper role of vitamin C and antioxidants in the treatment of a host of medical conditions and diseases.

I hope you enjoy this conversation I had with Dr Thomas Levy.

Welcome to the show Thomas.

Dr Thomas Levy: Thank you, I’m glad to be here.

Dr Ron Ehrlich: Thomas you have quite a journey through law, cardiology, you’ve written books on dental disease and the connection to health. It's quite a journey. Can you just run us through your own journey to this point?

Dr. Thomas Levy: Well, I was a traditional mainstream cardiologist up until about 1993 when I met Dr Hal Huggins in Colorado Springs and for a number of reasons I was open to a change and I wasn't anticipating on meeting somebody like Dr Huggins but anyway he invited me to this clinic to see what was going on and I guess you might say that was the beginning of the end or the beginning of the beginning because I saw a large number of really critically ill patients getting many hours of extensive dental work extractions etc. crowns all over that period of time and then feeling really great afterwards. It just doesn't add up to me because I knew kids in college that went and got a couple wisdom teeth out and they went home and went to bed for a week.

It just didn't add up and I said Hal what's going on here and Hal if you ever had a chance to know him had a pretty devilish sense of humour and a sarcasm not match by any and he just pointed to the IV and I said “Okay, if that's fine, I'm familiar with IVs”. You're saying an IV did it and he said: “Well, no, it's what's in it”. I said “Okay, I'll bite. What's in it?” And he said fifty grams of vitamin C. That caught me completely out of left field and I immediately resolved that I was going to start learning about vitamin C, all this history what it's doing the literature etc.

Along with all the other stuff Hal had to offer knowledge-wise, I like to say that was the beginning of my real medical education that everything else had just been the preparation for. And so, over the course of the subsequent 23 or so years up until now, it's been quite a journey. A number of books, a number of projects, at one point in time I might begin working for Dr. Huggins as a consultant and he paid me well enough and I had enough time off that after watching all the brutal suits and everything else that he got harassed with so frequently then he had a lawyer on staff. I just decided that I was going to go ahead and get my law degree.

Dr. Ron Ehrlich: Of course, why not?

Dr. Thomas Levy: I look at these law books today and I don't know how I did it. I mean I just said you actually read that stuff and committed it to memory but anyway it all depends what time it is in your life, what you're prepared for, what you're motivated for. There's no way I could do it now, but I did it then and I will say it hasn't been maybe overwhelmingly significant, but it has had a great deal of impact on the way I analyse things, the way I write. I think this offered me oftentimes without me even knowing at a certain amount of protection that Hal didn't have and so it's all, I don't regret it at all the being a physician and then a lawyer. I always like to joke



when I talk to the audience's that I talked to that I say I'm thinking now becoming a dentist, so I could become finally a member of every group I hold on the lowest esteem.

Dr. Ron Ehrlich: Now as a dentist thanks for saying that. But now just going back a little bit because 1993 you'd already been in practice for how long as a cardiologist?

Dr. Thomas Levy: Probably 13 or 14 years as a cardiologist something like that. I was on the faculty of Tulane until 1983. Closer to 20 years I guess. Closer to 15 years.

Dr. Ron Ehrlich: This whole discovering the mouth because it's I've always said it's a little bit of a black hole in healthcare isn't it? I mean doctors know very little about it and dentists are so focused on the minutia they don't realise there's a body attached to these people so it's quite a revelation really isn't it to discover there's a mouth with all sorts of things going on?

Dr. Thomas Levy: Yeah, I like the reference to it as a black hole as sort of that literally and figuratively of it.

Dr. Ron Ehrlich: Yeah and so I mean I know Hal Huggins was a very interesting character I did get to do some of his courses in the late eighty's early nineties, so I did get to meet him. Now you've said so much here I mean the vitamin C is obviously something that I want to talk to you about in fact let's talk about that a bit because a lot of people when they get a cold or they feel one coming on they feel are just must grab a bit of vitamin C and I'll be right but there's a lot more to it than that isn't it? There are many faces of vitamin C to point of phrase. Can you just run us through a few basics for the beginner before we dive into it a bit more?

Dr. Thomas Levy: Yes, and it's a good question. I'm glad you asked it because and I certainly wasn't in this spot 20 years ago or even 15 years ago but you stick at something long enough certain patterns and facts and things begin to emerge and all my presentations now circulate around the fact that I present the data that vitamin C is actually the primary fuel on which every cell in the body runs. This is because as an antioxidant it's an electron donor and that's significant because even though people have talked about oxidation and oxidative stress and all these catchphrases for a long period of time, it now becomes apparent to me, has become apparent to me that all disease is not necessarily caused by increased oxidative stress. It is increased oxidative stress. In other words, when you oxidise a biomolecule nucleic acid protein-sugar you name its nucleic acid, it becomes dysfunctional or a functional. Either operate at a lesser efficiency or it doesn't have its biological function at all and as such then the more biomolecules that are oxidised in different areas of the body different concentrations etc. that determines your disease process. The degree to which vitamin C can go into the tissues and re-donate electrons so that oxidised biomolecules are reduced and functional again is the degree to which a disease can be controlled or even use the dirty word cured, okay?

Then the other side of the coin is what's causing the oxidation and 100 per cent of the oxidation is caused by toxins. Toxins are all pro-oxidant. Pro-oxidants are all toxins. When you put this picture together you realise then that vitamin C is your ultimate antitoxin it well literally in the blood neutralise the toxin or immediately repair the damage after the toxin goes into the tissues, takes away some electrons for biomolecule reducing itself while it oxidises the biomolecule and then you have your toxic damage. It's elegantly simple but still, I believe 100% correct. There're so many enzymes so many pathways. I mean biology is incredibly complex incredibly involved yet there exist these final common denominator pathways in my point of view linking it to all disease. 100 percent of disease and this is why not only vitamin C but any antioxidant if it has the chemical structure to allow it to get the improper opposition to the oxidised biomolecule that needs to be reduced you'll get clinical improvement. And of course, I'm sure we'll be touching upon it later maybe even bigger half of the coin if you will or more important side of the coin is the fact that you have to identify and reduce preferably stop the exposure to new toxins on a daily basis. That, of course, brings us to the mouth which for many reasons we might get a chance to go into. I will tell you quite comfortably that's the primary source of disease-causing and disease-promoting toxins in the vast majority of people on the planet today.

Dr. Ron Ehrlich: Thomas, music to my ears. Of course, this is coming from a cardiologist that's quite a statement to hear but let's just back up because I do want to get on to and we will be talking obviously about this dental connection, but I want to stick with this vitamin C because you mentioned its importance. It's interesting

really because we've done quite a few programs on cancer as a metabolic disease and I think this kind of dovetails in rather nicely with that concept that rather than look for genetic drivers for all these things there's something about cell metabolism that manifests itself depending on your genetic in a various disease. I mean the diseases that show up are a genetic manifestation of it but the drivers are very similar and that's where basically what you're saying isn't it?

Dr. Thomas Levy: Yeah in the case of cancer all perhaps oversimplify things a bit but I think to bring it into focus is really virtually all cancers are foci or start as foci of chronically increase oxidative stress aka inflammation along with a chronic inflammatory response that will never disappear because if the inflammation doesn't disappear the immune system responds does it and then when you throw into the mix if you will excess iron and excess calcium. These are both primarily pro-oxidant and I'll say it carcinogenic presences, okay? These ramps up the intracellular oxidative stress to a point where the cell becomes either just chronically diseased or reaches enough increased oxidative stress that it undergoes a malignant transformation.

Point being then is everything of what I've already said pretty much applies to cancer it's just that cancer is just higher on the feeding list if you will. It's going to be one of the worst things that's going to result when these factors of increased inflammation chronic oxidative stress are not addressed early enough if you don't die of an infection or something else in the meantime then ultimately cancer is going to end up being your large in life.

Dr. Ron Ehrlich: Well, it is for many, many people as we know. I think the statistics are one in two men one in three women over the age of 60 or 65. Listen I'm just coming back because you mentioned increased iron increased calcium because I wanted to ask you about dairy. We get bombarded constantly by dairies important we need calcium for healthy bones. What are your thoughts?

Dr. Thomas Levy: You need a lot of things for healthy bones and calcium is just one of them. The approach seems to be that all you need to do this provide calcium and you're going to have healthy bones which of course is ridiculously asinine as a scientific concept, yet we seem to have science more by marketing than we have science by science.

Now what happens in the case of calcium is if you will osteoporosis is like an oxidation a burning up of the bony matrix in calcium is in the smoke okay so putting smoke back in to burn wood isn't going to make intact wood and putting back calcium into heavily oxidised bone is not going to make healthy bone. Ironically enough it will make bone that and this is a great deception looks a little bit better on the bone density tests but it's purely cosmetic just as if you put a layer of paint on a rotting fence. The fence will look a little bit better but if you lean against it'll still break.

Bottom line is all the studies show that calcium is a mono supplement. Mono supplement has no effect at all in decreasing fracture incidence which is, of course, your ultimate parameter as to whether or not you're having a positive effect. To make it worse and this is covered of course in the book death by calcium there is an incredibly large number of studies showing not only does calcium supplementation increase your chance of death from all causes, it can arguably be considered a primary above a certain level a primary carcinogenic substance because no cancer cell becomes malignant without substantially increased oxidative stress and no substantial increase oxidative stress occurs in isolation without the presence of an excess sense of calcium intracellularly.

Calcium is important just as iron is just as copper is at certain low levels. I call them the three toxic nutrients. They're vital for life and above a certain level, they're vital for death. It helps the body self-regulate. I mean the body has to learn and know under given circumstances just how they're going to kill a cell as if they're going to nurture yourself and one of the main ways a cell is put into a proptosis is by manipulation either intentionally or unintentionally these levels of iron calcium and copper.

Bottom line is you get all the calcium you need by a balanced diet with the proper levels of vitamin D circulating in your blood. 50 to 60 to 80 to 90 nanogram per cc and you're going to do fine. Now does that mean you still won't get osteoporosis? No, osteoporosis is caused by a lot of things, but the thing osteoporosis is not caused by is a calcium deficiency. But because calcium is low in osteoporotic bone we immediately get branded

as having a calcium deficiency even though all that calcium they got mobilised from the bone as it had its oxidative burn it's deposited throughout the cells of the body.

Any cell that starts having extracellular metastatic calcification is in bad shape and this is why the coronary artery calcium score which has long been considered a gold standard for telling you what your chances were of having a heart attack well guess what? Coronary artery calcium is also an index of how readily you've been depositing calcium throughout your body not just in the coronary arteries and low and behold it's now established that the coronary artery calcium score, the higher it is the greater your all-cause mortality risk. In other words, the greater your chance of death from anything.

Now if you have a greater chance of death from anything it's because all the cells are affected and that's why the calcium is such a widely toxic substance is because it affects the health of every cell in your body.

Dr. Ron Ehrlich: Wow. One of our very first podcasts at the beginning of this year was with Ross Walker a cardiologist integrative cardiologist in Sydney. Do you know Ross?

Dr. Thomas Levy: No, no.

Dr. Ron Ehrlich: Anyway, he was very big on this coronary calcium CT score. In fact, he said anything over 400 don't read Tolstoy. Is there any way of reversing that?

Dr. Thomas Levy: Absolutely, absolutely. This is covered in my book as well, but you have what I call the big four supplements which are magnesium, vitamin C, vitamin D and vitamin K. Each one of those supplements independently as a mono supplement decreases all-cause mortality and it decreases all mortality because it mobilises calcium from these calcium deposits gets it out of your body and decreases intercellular calcium. Although I don't have a large list I have many people that have reported back to me that when they start seriously taking good supplements in general but heralded by these what I call four super supplements there are many good supplements, but I don't think anybody should be on a supplement regimen that does not at least contain these four things.

When you do that you mobilise your calcium, out your urine these deposits shrink and you actually can get some reversal of atherosclerosis coronary artery disease and in any of the diseases because nearly all cancers, for example, are associated with and many you can show some degree of cause-and-effect that has the calcium deposits in the metastatic spots throughout your body that heavily wraps up the increased oxidative stress that's so characteristic of carcinogenesis.

Dr. Ron Ehrlich: This podcast is a hell of an indulgence for me because after that statement Ross is my cardiologist I went and had mine done and my calcium CT score was 650 Thomas goddamn I am alive here to talk to you. It's amazing I'm even here talking to you but that was pretty high and I immediately put down Tolstoy. I was just starting the book and put me off the book but that's so high.

Vitamin D, calcium, vitamin K, magnesium, vitamin C - They are the big ones.

Dr. Thomas Levy: There are the big ones. Yes, sir.

Dr. Ron Ehrlich: Now tell me iron you mentioned elevated iron as well as being another driver. Tell us the iron story here.

Dr. Thomas Levy: Wow the iron story is so depressingly maddening it drives me crazy every time I tell it. Since the early 1940s our public health geniuses, by our I mean in the United States apparently had a realisation that there's a large number of children throughout the third world countries where they never get anything decent to eat, had high levels of iron deficiency anaemia. They just decided in their incredible wisdom that well we're going to make sure no United States children have iron deficiency anaemia and then they started putting iron in



everything. Now that was bad enough as it was because no form of supplemental iron is good for you if your basic Farmington level is normal and you don't have an iron deficiency anaemia. Anything extra is highly toxic.

Well, they not only decided all these foods that you see that are fortified are enriched and I have a video on this if people want to go to YouTube and type in my name "Dr. Thomas Levy - Iron video" you will be appalled because this has not changed because that was done 25 years ago and I've redone it a few months ago it's the same thing and that gets it in rich cereal soak it to break it up blender eyes it and then pass a magnet over a bag outside of it and you will pull out a fistful of raw metallic iron filings. And incredibly enough and I don't know if this is a statement of the ignorance of the world or a stupid belief that we actually do things correctly in the United States, but the entire world has followed suit on this. This "enrichment of the foods" is present everywhere throughout the world.

Ironically enough and this takes us to a slightly related situation and one that I had to live through myself before I inadvertently started really realising all of this is that in my opinion, the primary benefit of a gluten-free diet is the fact that nearly all the gluten-free foods are iron-free, and they don't add iron to them. The moment you go truly gluten free you start going at it iron free and the leaky gut syndrome that you invariably get when you take a toxic substance like iron on a daily basis with every meal that can start to heal and as it heals, if it heals completely you can start digesting gluten and everything else. If it heals to a lesser degree you at least become less sensitive and your gluten sensitivity is much more readily managed. But it became very apparent to me that to my satisfaction anyway that the primary benefit of a gluten-free diet was it gave your gut a chance to heal. I mean we start this I assault on our bottle-fed baby so from the first food, they have outside of mother's milk and mothers' breasts they start developing a rotten gut.

You look at babies they eat something they cry they scream they have indigestion we just kind of accept this as normal but it's not. Guess what? Babies are designed to have a meal and then not be miserable, but you wouldn't know that for most circumstances.

Dr. Ron Ehrlich: The bottle-feeding part of it is there is the count what did what he sang about that bottle feeding.

Dr. Thomas Levy: Depending on the manufacturer you have different forms of iron.

Dr. Ron Ehrlich: The iron supplementation within the bottle, this at the formula, the enriched.

Dr. Thomas Levy: Repeat the question. What they are?

Dr. Ron Ehrlich: The iron supplementation within the formula.

Dr. Thomas Levy: I'm saying there's pyrophosphate there's ferrous sulphate there's a number of different types of iron they put in there. I don't know if they have metallic iron filings of the baby formula. I know they have it in virtually all of the cereals so as soon as the baby graduates to something that they can chew on a little bit they'll start ingesting the metallic iron filings as well which really, it's important to realise it's just an added layer of toxicity because above a normal level of iron it's all toxic.

You've probably run into lots of people or friend's family friends they start taking an iron supplement they get an upset stomach. Guess what? Your stomach is reacting the way it should react to something that starts poisoning the lining of the stomach. Iron has no place at all in anything other than your food or if you have an iron deficiency anaemia and you're going to take a limited course of iron until the anaemia corrects itself assuming you haven't found an underlying reason for the anaemia like blood loss and a gastric ulcer or cancer or something like that.

Dr. Ron Ehrlich: Now let's just go back to vitamin C because obviously, it's so important. What kind of types of vitamin C are there and what should what works and what doesn't?

Dr. Thomas Levy: Vitamin C is really the ascorbate anion. Acerbic acid is hydrogen ascorbate sodium, sodium ascorbate magnesium ascorbate potassium ascorbate calcium ascorbate that's one you should avoid but there's a lot of it out there.

Dr. Ron Ehrlich: I mean that's a very common supplement.

Dr. Thomas Levy: It's advertised it is true that is easier on the stomach, so it doesn't aggravate your stomach like ascorbic acid but guess what? Sodium ascorbate doesn't either, so you do find taking sodium ascorbate steer clear the calcium ascorbate you have a fat-soluble form of vitamin C known as a scorable palmitate and you have these different delivery forms. One of them and I have worked with the company for 13 years and done a lot of clinical work with their product and properly liposomal capsulated vitamin C is incredibly beneficial because most people including dogs still get confused and think that the benefit of liposomes is to get more vitamin C in your blood. No, no, no. It's designed to get more vitamin C inside your cells because the membrane of the liposomes is identical to the membrane of every cell in your body. Once it gets absorbed which you get absorbed very easily, the tinier liposomes passed straight into the cell the larger liposomes have a reverse pinocytosis they merged with them all with the merge with the wall and deposit their contents directly in.

But we still seem hung up on looking at blood levels. When you're talking about blood levels that you're relevant with liposomes the big problem with liposomes is not like the cells per se but the incredible amount of fraud in the liposomal business. They have every Tom Dick and Harry seeing the success of life on labs who started liposomes some 13 years ago and goes to tremendous lengths to have a quality control in production. They're just throwing garbage out there right and left and that's bad enough but the really bad thing about it is you have a lot of desperate patients as you well know and for them, a properly liposomal capsulated product can do a lot of good.

When they take one of these fraudulent products which I, fortunately, believe it or not, is the majority of them and they don't get the result they want, or they are hoping for then they say oh well liposomes have failed me. Well, they haven't of course because they haven't taken liposomes.

In Australia, in New Zealand, they have a matter of fact I was down in Australia several weeks ago and we talked about this product it's available in New Zealand if people are interested online its liveonlabs.com.

Then of course is intravenous and there's intramuscular and all of these are different ways of achieving the goal of trying to optimise intracellular levels of reduced vitamin C. I don't want to disrupt or deflect things too much but we also now very, very recently a colleague of mine introduced me to this stuff and we've been doing some research with it and now appears we have a supplement a nutrient polyphenol that unmasks the Kelowna lactone oxidase gene and the human being and we're seeing human beings now able to synthesise their own vitamin C.

Whatever other forms of sublimation you take if you have a background of being able to still continually put a little vitamin C in your system while using up your glucose which is what you synthesise it from that's a super double whammy and I've already seen some pretty amazing results with this product. All of those are different ways of getting your vitamin C levels up keeping them up and the studies are crystal clear - The higher your plasma concentrations of vitamin C, the longer you live. Plain and simple.

Dr. Ron Ehrlich: Let's talk about dosages. I mean if some well let's talk about dosages I mean if someone was shall we say healthy whatever that means in today's world but if someone didn't have a diagnosable disease and was feeling good wish they'd be out and then as they progress through the disease process, how do these dosages vary?

Dr. Thomas Levy: They vary widely. For one reason when we talk about the average healthy person before we call someone healthy. I have to first say they can't be on any prescription medications and be considered healthy. If there aren't prescription medications, then they need the 3d cone beam exam with their mouth to see if there are any affected teeth because one infected tooth brings everything down skyrockets your body wide oxidative stress and just brings everything potentially bad into your life.

Now if your mouth is relatively clean there's no chronically infected tonsils from previously chronically infected teeth that were later addressed because tonsils tend to get infected and stay in fact it even though they characteristically look normal. If let's just say for the sake of argument all that is addressed well and very importantly you have a normal CRP c-reactive protein. If your c-reactive protein is less than the one I mean they call the normal range or the reference range zero to three. Three is much too high. You want to see a c-reactive protein reflective of a relatively low body-wide level of oxidative stress less than one.

With that type of scenario taking one or two grams, one or two packets of this little vitamin C should take care of your needs fairly well if you find that's not desirable or it's not available or it's too expensive a lot of people have taken care of themselves for very many years now with playing all vitamin C powder and capsules I would advise powder capsules. I mean it's just no point in taking pills okay? Pills just bring a whole different factor and deprive you of rapid action and purity of action when you're taking a good powder or a good capsule. Then those people that it's good to work out what's called the bowel tolerance. The first time you do this you take a level teaspoon every hour or so with a lot of water until you poop and if that's 10-12-14 grams take four-fifths of that dose on a daily basis and divided amounts and that's a good amount to take.

Now having said that there's nothing wrong, quite the contrary with doing what's called the C flush on a daily basis. I did that for many years but you have to be either somebody working at home or you got to meet the boss or have your old bathrobe but all that sort of thing because until you get used to your body and how it reacts you don't want to be in the middle of a situation where you don't have that type of access. But it neutralises gut toxins as they develop and believe me gut toxins are an enormous source of contribution to increase oxidative stress throughout the body, so I mean I consider the mouth and secondarily the constipated gut to be your greatest sources of toxins compromising your body wide oxidative stress levels.

Dr. Ron Ehrlich: I want to get on to the dental part of it but just when we start doing an IV talk to us a little bit about how what the best protocol is for the IV?

Dr. Thomas Levy: The protocols are evolving. I mean for many years now led by Dr. Klenner at the Reardon Clinic and other places around the world, you get up 25-50 grams 75 grams intravenously and this would work very, however, we've had some very recent things occur in the last year or so some work on vitamin C and sepsis and we're now beginning to see that much smaller doses of vitamin C given more frequently appears to have perhaps a superior effect.

In other words, 50 grams given over an hour versus two grams given IV push every two hours for four or five doses. It would appear preliminary that those 10 grams given as intermittent IV pushes might be having a more significant impact than the 50 grams all at once. There's a lot of things we're playing with at the Riordan clinic too. They developed a little bladder where they can hook you up and you can get a steady infusion over a 24-hour period. This was something that Dr. Klenner talked about many years ago as perhaps having an even better effect on cancer another chronic degenerative disease. I think he was right, but I think having this steady low-grade infusion followed by whenever somebody's in the office they don't have to be in the hospital, just come by the office three or four times and just get a little additional IV push on top of that I think you're going to start seeing some even greater things. Believe me, vitamin C has already done some pretty great things the way it's been done but it's ironic because I don't know if you're aware of this probably then we've had a worldwide shortage of IV fluids for quite a few years now.

I mean you just can't honour all the bags of sterile water and normal saline you what. Not even the hospitals. This has actually pushed us into evolving evaluate evaluating areas we might not have evaluated otherwise and doctor and I'm a consultant to the Reardon Clinic, I don't live in Wichita, we've developed some protocols where we can give 5-10-15-25 grams of vitamin C IV push over a minute or two or three or four minutes no more. And by also adding things and I want anybody listening to understand this is experimental and investigational now but by adding things like 25 to 50 milligrams of hydrocortisone to the IV push and one two three four units of omul and insulin to the IV push both insulin and hydrocortisone by separate mechanisms substantially increase the uptake of vitamin C inside the cell. As I mentioned before that's the bottom line and that's the target how much reduced vitamin C can we get inside the effective cells is going to determine your short and your long-term recovery.



Dr. Ron Ehrlich: Then that intravenous is sodium ascorbate?

Dr. Thomas Levy: Well it's sodium ascorbate ideally. The ideal form is if you can get a pharmacy to formulate for you sodium ascorbate powder dissolved in a sterile water and then a pH comes in at perfect like 7-2 7-1. The commercially available vials are ascorbic acid buffered with sodium bicarbonate which eventually which actually brings it to be sodium ascorbate. But to a pH as low as five and a half up to seven.

If you have irregular vials and you have a sensitive patient I mean for example I'm not sensitive to it at all I can use the Macduff intravenous preparation as is with no problems, some often times ladies with smaller veins they're more sensitive and it's very important in them to try to get your pH is perfectly adjusted at between 7 to 7.4 as possible. In that case, if you're preparing an IV bag or if you're preparing an IV push you just add a few ccs of the standard 8.4% injection of sodium bicarb mix it and then squeeze out a drop or two of pH paper and see if you're getting it close to that pH of 7.

But the bottom line is you people may talk about ascorbic acid infusion. Believe me, nobody infuses ascorbic acid it'll burn it'll burn your vein up in a second. They're talking about ascorbic acid that's been properly buffered.

Dr. Ron Ehrlich: Before we move on to the dental connection knowing everything you know, what's your protocol on a daily, how often are you having your vitamin C and all that?

Dr. Thomas Levy: I have the little pillbox packs that I have a hole somewhere between 500 and 1000 milligrams of magnesium 3 and 8 some, vitamin K2, the vitamin D that I've found has brought my blood level into the right range in my case it's about seven thousand units a day I own a roll for my thyroid the iodine preparation and also Panther theme which is a form of vitamin D5 which is very good for energy production. My direct vitamin C intake is kind of variable. I don't have a straightforward take X amount but some days it'll be a few packs of liposomes C other days it'll be a few low teaspoons of a vitamin C powder that also has a little lysine and proline in it for its anti-authority effect. And of course, I'm now on the supplement that I've talked about that we're developing for maintaining vitamin C blood levels and my vitamin C blood level has doubled since I've taken that. All of those things.

Dr. Ron Ehrlich: Now let's get on to the dental connection because you mentioned you were a bit of an epiphany for you to be working find yourself in how Huggins office and then be working with him and have written several books. Then coming from you as a cardiologist can you share with that listen to what some of these dental challenges are?

Dr. Thomas Levy: The biggest dental challenge is an infection. There's been a lot of focus initially it was almost the primary focus when I first met dr. Huggins but about mercury and incompatible fillings and I'm not here to demean that. Those are all important. I firmly believe that enough amalgam fillings substantially increase your chance of multiple sclerosis and other chronic neurologic diseases as you get older. However, if you have an infected tooth a root canal or a chronic abscess tooth and you have 12 amalgam fillings and you can only afford the extraction, or you can only afford the amalgam filling removal I say get the extraction. That's how much more important these chronic infections are in terms of impacting negatively your body wide oxidative stress level making you a setup for all the different disease processes.

Number one on the list statistically speaking is now in my opinion for a long time I was going to say it was root canals because so many of them are done worldwide and with the 3D code name exam we now know and can show they're all infected. Some of them much less severely than others but we've also seen on three-day examination that some ten to fifteen in some cases 20 percent of all adult teeth examined with the cone beam examination reveal one or more abscesses in the teeth and as I'm sure you realise as a dentist one abscess tooth is going to take you down. It's going to give you the heart attack is going to give you the breast cancer it's going to accelerate whatever disease process you have going on very, very critical. But it doesn't stop there unfortunately because tonsillitis as a kid you see big infected tonsils is very obvious but this is what I call internal tonsillitis when these you have the root canal or you have the chronic abscess tooth and the tonsil has

been draining those teeth for months to even years and then those teeth get taken out you still have chronically infected tonsils and they can single-handedly do the same damage as those teeth did.

Unfortunately, they look normal and this is what Dr. Issel found out in the 1950s. He found that 98% of his advanced metastatic cancer patients that came to him in desperation had infected teeth. Considering they didn't have the 3D back then I think he can tell you say that 98% is a hundred percent and then combine that with the fact that he still noticed when the teeth came out that a lot of patients still ended up getting heart attacks somehow and a stroke of genius he figured out it was the tonsils those started coming out too, no more heart attacks and in Dr. Issel's words, not mine he said "100 percent of his extracted tonsils were not minimally but were grossly infected". All of these things factored together and as you've seen me saying several times here that the key, in my opinion, is this relatively new 3D cone beam examination because there's just so many panel x-rays that just look fine and you can take a tooth that looks fine maybe as much as 30 to 40 percent of the time and it's not revealing, not a minimal but a gross infection.

The other problem with this is these infected teeth also somewhat counter-intuitively are completely asymptomatic. Now how many internal medicine doctors have their patient walk into the office for the first time, but the doctor looks at them and says "Wow, Mrs Jones looks like you have a blood sugar 330. Let's get you started on insulin". Of course, not they have to do the blood test. How many people are going to walk into the office and the dentist or the physician is going to say wow it looks like you have several teeth that are severely infected, but you can't feel them at all? Let's just go ahead and get them extracted. No, you have to do this test and I would submit it even further that this is going down to kids too. I mean when you have the child aged five with leukemia you damn well better sure better make sure that that child doesn't have one or more infected teeth or you're missing your only single chance to give that child a normal life free from a great deal of suffering secondary to disease and treatment.

Dr. Ron Ehrlich: Wow. I mean that it's a huge area at Thomas and you're right. I must say the 3D cone beam is a revelation. Let's say it's actually quite frightening in many ways because...

Dr. Thomas Levy: Let me interrupt you here because to be very practical for a moment, there shouldn't be any endodontist any implantology's any regular dentist any physician that should be resistant to getting this test on a routine basis because it increases the size of the pie. There's going to be more and more people with pathology that absolutely needed to be addressed. In the long run, you'll have healthier people but in the short run, the business is going to go sky-high. There shouldn't be any of the almost reflex opposition to anything new because it's going to make the somewhat idle dentist a heck of a lot busier than he or she is now.

Dr. Ron Ehrlich: While putting aside the business side of it the diagnostic we've found this in our practice where we've been taking panoramic x-rays for many, many years and then send off for full cone beam 3D and getting a radiologists to report and it's been very, very sobering to us and often taking a 2D x-ray which looks pretty good and then taking a 3Dx-ray only to have something revealed that Wow he just blows you away as a dentist. I agree with you I think I think it's a big thing I mean of course the problem is as I think as I said to you earlier about the black hole. The fact that the medical health professionals know almost nothing about it and yet the hand the doctors and the dentists that are very, very focused on my new show on a daily basis. Often say if you went to see a cardiologist and he said, Thomas, how are you and you went I'm fine and he said I okay we'll come back when you when you have any pain in your chest and we'll deal with it then. You would kind of think that's really not a very good cardiologist and somehow, we've equated no pain in the mouth with a healthy mouth.

Dr. Thomas Levy: What's maddening about that super maddening to me is it's even in the cardio Mladic cardiological literature I mean think about this they have a study where they did after ectopy that's like a roto-rooter actually carving out the plaque on known chronic coronary artery disease patients. They did this in 34 patients and they found a whole wide variety of periodontal pathogens DNA fungi viruses you name it. Now mind you the card coronary artery should be sterile or near sterile okay? And guess what? Guess how many of those patients they found that in? 34. I'm not big on mathematics but last time I checked 34 out of 34 is pretty close to 100%.

I mean all the cardiologists now accepted that all coronary artery disease is caused by inflammation, but they won't peel off another layer of the onion. What the heck is going on? The other thing too about the 3D test I think it's important that your listeners understand because everybody all the different dentists have like different routines. This test as you've alluded to and you well know has a ton of information on it and you really must have a qualified person you talked about a radiologist that's fine or a dentist who has specialised it, that's fine but a qualified person to do the thorough interpretation on these studies. For two reasons, one is you can get distracted and not pay enough attention to the teeth and each of the tooth tips tooth roots need to be examined carefully for infection and number two, as a very busy dentist you don't have the time to spend a half an hour to 45 minutes which is how much how long it takes to properly do and dictate a full interpretation or something like this. Yet, if let's say you do several hundred of these a year and you miss somebody's malignant bone cyst and interpreted it as a normal study your medical legally going to have your butt on the line too. It's good for the patient it doesn't add that much cost to the study and it allows the dentist to do what he or she does best which is remedying the situation once it's been identified.

Dr. Ron Ehrlich: No, no, I totally agree with that I that's been our experience as well. I mean this whole discussion about dental connection has been going on well for most of the 20th century of course but in the 90s there was a lot of research published about the link between gum disease and cardiovascular health and that by an association must include all infections in the mouth, not just gum infections.

Dr. Thomas Levy: No question and it's very frustrating and amazing and I don't office intentional or ignorantly that so few physicians, so few dentists appear ready to make the not such a mammoth leap to understanding that if you have some slightly affected gums how much worse is an infected tooth, okay? Combined with the fact that of course, the teeth have the perfect delivery system. What do you do on a tooth at the big molar? You chew on it and you squeeze the contents of it in directly into the bloodstream directly the venous system and directly into the little draining lymphatics. I mean you actually have a more efficient mechanism than if you took the toxins and the infection and injecting it IV with us rich.

Dr. Ron Ehrlich: Wow. Look we've covered so much territory and there's so much more we could discuss and we're coming to the end. I just want to ask you now just taking a step back from your role as a cardiologist, as a health practitioners and author because we're all on a bit of a health journey in this world, what do you think the biggest challenge is for people on their health journey through life in our modern world?

Dr. Thomas Levy: Unfortunately, it's mostly financial and I'm hoping against hope that one of the things we can do with our political system over here and our current president believe it or not is very Pro alternative integrative health on a number of levels. If we could just get a bill that would allow a patient to choose the healthcare, they want and be reimbursed for it rather than be forced to do something else. Most people just don't have enough money to pay for \$5,000 worth of IV infusions, but their insurance will cover \$850,000 worth at the chemotherapy. I mean it's bizarre but it's true. Most people I mean a lot of us don't think a lot about spending a couple hundred dollars a month for different supplements but a lot of people they're tapped out after 40 or 50 dollars a month. A lot of it has to do with economic freedom to be able to pursue the very apparent changes in evolving healthcare that you can read online, and you can see coming about it is for the average person I would say it takes a lot more now than just awareness of what's the best things to do. I mean you can follow a good diet and all but still organic is more expensive but still, the knowledge is the king and being able to realise what's good for you and still have the economic ability to do it especially if you have three or four or five kids. Those are all important factors, so I don't have an easy answer to your point except to say a few simple legislative interventions not just in the United States but in Australia and around the world. Reimburse people for the health care they want and that would actually bring the whole system tumbling down. The bad system. The pharmaceutical centred system but if just one bill like that could come out the freedom of healthcare Choice Act I would call it.

Dr. Ron Ehrlich: Terrific. Thomas thank you so much for joining us today. I really appreciate your time.

Dr. Thomas Levy: My pleasure thanks for having me.

Dr. Ron Ehrlich: Interesting to hear a cardiologist talk about the hidden epidemic of oral disease. As I mentioned when it comes to the mouth in general and oral health, in particular, it really is a hidden epidemic and sadly the black hole of health care.

Now according to the statistics over 90 percent of the adult population has some experience of tooth decay in their adult teeth. That is the hardest part of your body decaying because of what you eat. The statistics for kids was something we dealt with in my conversations with dr. Lewis Ehrlich, dr. Stephen Lin and dr. Sandra Kahn. Go back to my website and search our oral health on the podcast page you'll find them there.

Now over 90% of the population also have gingivitis that's an inflammation of the gum surrounding each tooth and almost 50% have periodontal disease. Now that's a more advanced problem of inflammation and infection of the periodontal ligament which attaches the tooth to the bone. Now I refer to this as the black hole of health care and almost everyone, almost everyone equates not having any pain with good oral health.

Now with almost 40 years of clinical experience let me just say that over 90% of all oral diseases have no pain associated with it that is no pain. Add to this that almost every medical or health practitioner's knowledge of oral health is minimum, and they often use the same criteria. If you're not in pain your oral health must be good, you can see why I'm referring to it as the black hole of health care. If you have a health condition and you haven't had a comprehensive oral assessment done you may be missing a very important driver of disease and more frustrated of health. What makes the mouth even more the black hole of health care is the fact that dentists are focused on my new show literally. Quite apart from the challenges of working in the most sensitive part of the body, the mouth, on a person who is awake may be anxious is trying to swallow and breathe in a moist environment teeming with bacteria. And as though that's not enough everything we do has to be absolutely precise. The fit of the filling, the adjustment of the bite, how well it's contoured, how smooth it is. It's easy for a dentist to be rather preoccupied with those very significant challenges.

X-rays is another important point that Thomas made and just to explain. X-rays in dentistry have always been a must. So much of dental disease of oral health diseases is hidden under the tooth surface or under a filling or in the bones surrounding a tooth. For 160 years we had to do X rays I'm sure everyone listening to this has had many, but Thomas referred to cone beam x-rays. Now just to explain cone beam x-rays or 3D x-rays are relatively new.

First introduced into dentistry in 1988 it wasn't until really computer power and software made it more commonplace certainly in the last 10-15 years. Its main focus had been on determining how much bone was available for placing a dental implant but its diagnostic value for identifying infections has become increasingly apparent and confronting.

Now as a dentist using this I can tell you it's an absolute revelation. It can turn your world upside down. Teeth that you thought were okay or might be a problem you were in quote we just want to keep our eye on this may actually have a chronic infection attached to it and here's the thing. Depending on your resilience, depending on your immune system, depending on your genetic predisposition that infection could be very significant with or without pain. Then there are some challenging discussions to be had and some even more challenging decisions to be made. It's a huge challenge professionally and personally and in all honesty, I can understand why health practitioners, medicos and dentists might be dismissive. It upsets one sense of certainty about what you have been doing. It challenges you on many levels and it definitely makes your professional life far more complicated. You see no pain and you're in good dental health it's a very easy message to convey and one that you know as a practitioner will be well received by the patient a seemingly win-win for everybody but is it?

I've often said health is very simple apart from two minor variables and those variables? Well, each patient is a human being and an individual and on top of that, each health practitioner is too. So, apart from those two variables, it's all very straightforward. It's why in my book and in this podcast, I think it's really important to identify and minimise what stresses our bodies are put under and have the potential to compromise our health. I mean I identify five stresses in our lives emotional, environmental, nutritional, postural and dental stress. People are always surprised when they hear dental stress, but I like to say that I include dental stress for anybody with a mouth interested in their health but has never fully connected the two.



Now you can decide whether you fit into that or not. It's not just identifying and minimising stresses in the system or to the system but also to build resilience through the five pillars of health: sleep, breathe, nourish, move and think. Incidentally, we are starting an online course on those five pillars in a few weeks' time. There's a free play.

Thomas has certainly elevated a hidden epidemic for dental stress. He has written some great books and we will have links to those in our show notes. So, until next time this is Dr. Ron Ehrlich, be well.

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