Speaker Introduction and Background

I'd like to introduce our speaker today, Dr. Susan Sklar. She is the founder and medical director of the Sklars Center for Restorative Medicine. After a 25-year career as an OB-GYN, she started a second career in the field of anti-aging and restorative medicine.

She started the Sklar Center for Restorative Medicine six years ago as an answer to the unmet needs of men and women who want to feel good in midlife and maintain long-term health.

She implements a perspective of restorative medicine, which recognizes that hormonal and other biochemical deficiencies cause humans to age in ways that are not necessary or inevitable.

Replacement and balancing of these natural substances result in improved vitality and a longer, healthy lifespan. with less chronic illness. She sees private patients at her center in Long Beach, California.

I'd like to introduce Dr. Susan Sklar. Thank you. Thanks. A couple of other people. One is Dr. Robert McBride, who I call my professional soulmate. My real soul mate is my husband, and he's here.

But Dr Mcbride is professional my soul-mate, he is a holistic dentist who recognized that what I was putting together around burning mouth and burning tongue was significant enough to be heard.

And so the first place that I ever spoke about this at a dental meeting was at the California Dental Association last year. How many people here have encountered a patient with burning mouth, burning tongue?

Just about everybody. How may people have been successful in at least partially alleviating the person's distress? About maybe half of you. It certainly is a devastating illness, and it affects millions of people.

There's no question about it. I want to read you something. This is from the California Dental Association Journal from 2006. Imagine the frustration of having a continuous painful disorder that cannot be definitively diagnosed with any known test or x-ray, interferes with eating, becomes progressively worse with time, has no known cause, and for which there is no highly effective treatment.

This is what patients with Burning Mouth Syndrome deal with every day of their lives. So judging by the hands here, people see that this is a problem needs to be addressed.

I know I have a little explaining to do about why OB-GYN is here at the Dental Association, so I thought I'd start out with some explanation. I am a fellow at the American College of Obstetrics and Gynecology, which I became a Fellow 30 years ago, and in the meantime, they changed the name to the America Congress of OBGYN.

But anyhow, I'm still a Fellows. The things that I would say are similar between gyneecologists and dentists is, you know, we deal with mucosal linings, right?

Some of them estrogen sensitive. We deal with similar diseases. We do with lichen planus. Bichettes affect both the oral cavity and the vaginal vulvar mucosis and some infectious diseases like herpes and candidiasis.

And then we both encounter the same difficulties in trying to get patients to hope it ever wider so that we can do our work. As Dr. Portwood had mentioned in his introduction, after a long career in obstetrics and gynecology and quite frankly getting burned out on the insurance model of medicine and trying to see 30 patients a day and provide them with adequate care, I know this is probably ringing a bell in front of you, decided I had to do something different.

A colleague introduced me to the whole field of anti-aging medicine, the largest body that trains doctors in anti-aging and regenerative medicine is the American Academy of Anti-Aging and Regenerative Medicine where I did my fellowship.

So I'm going to tell you a little bit about anti aging and regenerating medicine and I was speaking to some of you before this talk started. It's important for you, your patients and your family, long term health to know that this field exists.

Conventional medicine, and goodness knows I've been in it for decades, looks at aging when it happens as what, oh well, what do you expect at your age, right?

Have people heard that from their doctors when they come up with a problem? It's expected that as we age things are gonna decline and doctors stand helplessly by as you start to fall apart, sometimes giving us medicines to patch us up, but they don't usually really do that good of a job.

It is an integrative approach to health. conventional medicine picks your body apart into multiple different body systems. And so there's the nervous system, there is the brain and the psychological aspects and nobody thinks that psychological problems have anything to do with intestinal health, have nothing to with toxin exposures and a whole variety of things that we combined in anti-aging and restorative medicine because we understand that, you know, as the old song goes, the knee bone's connected to the thigh bone and the thighs bone is connected the hip bone, and it's all connected.

And by picking things apart, we're doing our patients a disservice. The other thing is we evaluate the underlying causes of disease. People don't just get sick, boom, all of a sudden a disease fell out of the sky.

Burning Mouth Syndrome Overview

There were years going to the development of that chronic illness, whether it's cancer, Alzheimer's disease, or cardiovascular disease and we have, through the study of long-lived populations around the world, to animal studies and through human studies, have been able to determine what causes the decline that happens with aging and we are able to take steps to correct it.

So some of the things we use are hormones, we do hormone restoration and balancing. We use supplements and lifestyle recommendations regarding diet and exercise.

And I was especially motivated when I first heard about this field because I heading for 60 years old, had had some health problems of my own and could begin to see the unwinding of that decline that happens as you get older.

Worries about my children, were they going to have to take care of me when couldn't take of myself anymore and when was that going And when I went to my first annual American Academy of the Anti-Aging Conference, really a whole new world opened up to me.

And I'm a very big skeptic. I really have to see scientific evidence. So I don't just kind of take it based on people's testimonials and, you know, statements about what works.

And anti-aging and regenerative medicine is based on a very sound scientific foundation. So I want to give you what I'm calling a Hormones 101 Crash Course because you really do need to understand something about hormones in order to where I am going with the whole issue of burning mouth and burning tongue.

Usually we think of hormones as something to do with reproduction, right? Girls go through puberty, boys go to puberty, we know it has something to do with hormones, and then women get pregnant, you know that's more hormones.

And then, women go thru menopause and that is something more with the hormones and men go though hormone changes, although they are more subtle and not as stark as menapause, but that abrupt sensation of two really

important hormones estrogen and progesterone.

But we all do go through hormone decline as we age. But hormones have much more to do with other things in our bodies than simply reproduction. So hormones control the aging process.

They control our mood, they control how much energy we have, They are really the great commanders that affect our metabolism, our immunity, our body temperature, our salt and water balance, all of these being metabolic activities.

When we do a hormone restoration program in anti-aging medicine, we're generally working with six to eight different hormones. Most of them are steroid hormones, which means they have a certain chemical structure.

Estrogen, progesterone, testosterone, DHEA, and pregnenolone are known steroid hormones. Vitamin D is in fact not a vitamin, vitamin D a steroide hormone.

It's one that we manufacture from the sun and gets produced in our skin with exposure to sun. vitamin d has a steroids chemical pattern. And then we work with two non-steroidal hormones, thyroid hormone and melatonin.

So these are the things when people come to see me as a patient, they have a variety of problems, fatigue, low energy, weight, no sex drive, depressed, anxious.

These are hormones that we work with replenishing back to youthful levels. Generally people are hormonally at their most optimal when they're between about 25 and 30 years of age.

And then we start to have hormone decline from there. Stress affects hormones. Toxins in the environment affect hormones, aging. And then these reproductive processes like pregnancy and menopause.

This is what the steroid structure looks like. So all the things that you saw listed here on the left-hand side of the page have this similar chemical structure with different side groups.

As I mentioned, hormones decline with increasing age. Men and women have gradually decreasing levels of testosterone and DHEA as they age. By the time we're in our mid-40s, which that's not very old, especially from my perspective, your DheA level is half of what it was when you were in your 20s.

And considering that DHeA is responsible for energy, immunity, muscle building, and good moods you can see what we are working with as we get older. Testosterone declines as well.

Hormones change because of stress. And I know this is a somewhat complicated slide, but if you follow the red line between pregnenolone and cortisol, you can see what your main stress hormone response is.

It's the manufacture of cortisol when your body thinks it's under a life-threatening stress, and we are certainly chromosomally and genetically the same as when we came about 10 million years ago.

Our stress at that time and after that in prehistoric times was basically the stresses that animals encounter when they're out in the jungle or the forest and they are worried about predators.

So our stress response was designed to save us from predators and a number of things happen when we think a lion is going to come and bite us or want to eat us.

We have a number of hormonal changes that go on. The main one being the diversion of all of our other hormones to manufacture cortisol. And cortisol has a lot of life saving actions.

It shuts down all of your digestion. It closes down your blood vessels so that if you get bitten you don't bleed as much. And it diverts and creates the manufacture rapidly of sugar to feed your muscles and your brain.

Because if are faced with a predator, you really want to get the heck out of there, right? So you're going to be running or climbing. And so our entire stress response was built on this very ancient type of stress and response to stress.

Well, when you work for a boss that's stressing you out day in and day out, your body in fact doesn't know the difference between whether a predator is going to eat you or whether your boss is threatening you with a bad job performance review or more work to do.

your body has the same response and that response ends up really being detrimental in a number of ways when it goes on chronically day in and day out.

For one thing, it diverts the production of these very important what we call feel-good hormones like estrogen, testosterone, DHEA, and pregnenolone. And then there's the hormone decline that happens with women in menopause.

It starts happening in your mid-30s for women, Progesterone levels start to become erratic. Then eventually estrogen levels decline. And then eventually both estrogen and progesteron are virtually non-existent.

So hormones decline just to summarize due to natural aging changes, due the stress, and due changes with the reproductive cycle. But cortisol increases with age and with stress and we'll talk later about some of the damaging effects of cortisol because this has to do, I know you're probably thinking what has this got to with burning mouth and burning tongue, but it is connected and I'll show you how.

So I feel like I came to my understanding of burning-mouth syndrome kind of by a backdoor approach. The first patient that I encountered with burning mouth syndrome was one of my very early patients in my anti-aging and restorative medicine practice.

Her name was Jan, and she was a fitness professional. And she gave me this testimonial. She said, I noticed my increased muscle definition after just two months on my hormone program.

I'm sleeping better. My burning tongue is not nearly as bad. And so she gave me this testimonial, and I put it on my website. And I have to say, honestly, the burning mouth part of it did not sink in at that time.

I just was a little bit clueless, but I've put on the website anyway. Then somebody got in touch with me and said, you know, I saw this on your website, that I had burning-mouth syndrome, can you help me?

And at this point I decided I'd better find out what burning mouse syndrome was. And so I began researching and used the PubMed and did literature searches on hormones and burning mouth syndrome, read a lot of articles, did a tremendous amount of reading scientifically, and this is where we've come to.

So while I was doing this scientific research, it actually was on the 4th of July in 2011, I came across some literature about burning mouth and burning tongue that mentioned something called neuroactive steroids.

And I thought, well, that sounds kind of interesting. Now that might have something to do with why these women who are on a steroid replenishment program are feeling better.

And so as I was researching, I found actually there was a doctor in France, his name is Dr. Alan Woda, and he was the main one that talked about neuroactive steroids and the effects of stress in menopausal women and their connection to burning mouth syndrome.

So thank goodness for the World Wide Web. In his article on PubMed, you can get the, the main author on an article, they give you a link to their email.

And I thought, well, I'll give it a shot. So I emailed Dr. Woda and thought gosh I don't know if I will ever hear from him. It would be really nice. I would like to know more about this whole issue of steroid hormones and burning

mouth syndrome.

Four hours later I got an email back. And I told him I was an anti-aging doctor and I had observed this improvement on women with burning mouth syndrome.

And what, you know, could he help me out with trying to figure out what was benefiting them and so that we can understand burning mouse syndrome better.

He rubbed me back and said to say that I'm interested by your proposal is an understatement. is what I was expecting for so long. I've been trying several hormone treatments, either local or systemic, and I had some very impressive results on a few occasions, but I could never reproduce them in other women.

And then he sent me a paper that had not yet been published, which had a lot of good information for me. So I knew as they say that I hit painter because I could see that the whole issue of neurological function and hormones is a huge one.

And it is important not only for the millions of people that have burning mouth and burning tongue, it's important for each and every one of us because it has to do with our memory, neurological functioning and risk for Alzheimer's disease and other neurological problems.

This is from your, you know, dental literature, the International Journal of Oral Science.

Hormones, Aging, and Stress

Most clinicians dread seeing the patient presenting with a primary complaint of a burning pain. Why? And I talked to some of you before the session started.

Because nobody knows what to do with them. And none of us want to feel like failures in caring for patients, right? We want feel successful. We people to people better.

When we can't help them feel better, we feel we're letting them down. The patient with a complaint of a burning sensation of the oral mucosa presents one of most difficult challenges to the care professional.

And it's defined as a running sensation for which no dental or medical cause can be found. There are a number of times for it, I'm not going to bore you with it.

I think we all know what we're talking about. A feeling of having your mouth be scalded or burned is if you drank something that was too hot only the feeling continues.

It can be daily and deep burning, it can constant intensity or increase as the day goes on. I've had people where it varies from day to day or month to month.

The intensity is moderate to severe, similar to toothache and I think you as dental professionals would know that's significant pain. It may improve with eating or drinking.

A lot of the people I spoke to had problems with taste, and we'll get into that a little later. In some people it interferes with sleep. You are in the position as a dental professional, because this is happening in your mouth, people are coming to see you.

But I will get into later about why that may be a little unfair because it really is a neurological problem that happens to manifest in the mouth. Associated symptoms are altered taste, and I've talked to people who either feel like they're eating cardboard when they eat food or everything tastes metallic.

Some people describe a feeling of washcloths in their mouth, Some people have decreased salivation, although it's not clear that that's a routine accompaniment to this.

Some feel like their saliations decrease, but in fact, when it is measured, it does not. stress disorder, post-traumatic stress syndrome, and sometimes cancer phobia.

And I want to really address the issues of these emotional components because quite unfairly, since there's nothing that can be seen, right? There's not a lesion that you can pinpoint.

There is not test for it. It's been blame the victim and people have been accused of it's all in your head. But we don't see anything. Where else can it be?

The symptoms are often in more than one site, very typically though the anterior two-thirds of the tongue, the interior hard palate, and the mucosa of lower lip.

When I started really questioning people with it, it has ramifications far beyond the mouth and I've spoken to people. The first patient, Jan, that I mentioned to you actually had burning skin on her back and shoulders in addition to her burning mouth syndrome.

I've spoken to people with esophageal burning, burning of the nasal passages and burning eyes and, you know, excessive tearing. And all the way down into the chest and the bronchial tree.

So it involves surfaces far beyond the mouth. For some people, they wake up one morning and have burning mouth and seem to come from nowhere. Other people notice that it comes on gradually.

It'll start at the tip of the tongue and then eventually spread to more areas. About a third of patients related their symptoms to something going on, dental work they've had done and medication they started and illness.

And I'm not sure if it's coincidental or a real connection. And those of you who have treated these patients know that they've made the rounds of everyone who has anything to do with the mouth.

Allergists, ear, nose, and throat specialists, oral surgeons, family practice, alternative practitioners. On the average, it takes almost three years to diagnose somebody.

It's that long until somebody finally makes the diagnosis of exclusion. one of the patients I talked to actually, the second practitioner she saw just three months into her problem or six months in to her problems said, I know what you've got, but I don't know to do about it.

So the people who have the benefit of getting diagnosed early are left with the problem of no one knows how to help them. People spend thousands of dollars, thousands and thousands, of trying to relieve these symptoms.

I want to tell you a little bit, give you few short case histories here, the people I've talked to, and they may be reminiscent of the you have worked with.

One was a 54-year-old menopausal woman whose burning tongue began here, her menopus, in 2005. She had a tongue biopsy, it was negative. she also had burning skin all over her body and she had been on Percocet, Valium, Oxycodone, and Xanax without relief.

There was a gentleman I spoke to, although that's far less common. He was 64 years old. Um, he had had burning in his mouth for 10 months. And in addition to tongue burning, He had a metallic taste in His mouth that prevented him from being able to taste food.

His throat was sore, his voice was rough, His lips and nose were involved. He had Burning in the eyes. he found it difficult to swallow.he had seen an oral surgeon, a holistic doctor, acupuncturist and had been treated with chelation, minerals and vitamins.

And then one of the most touching people I spoke to was a 74-year-old woman with many years of burning mouth syndrome who also had developed breast cancer.

And she said evaluation and treatment for her breast was, quote, nothing compared to what I've gone through with burning mouse syndrome, unquote. Some people say there's spontaneous recovery after about six or seven years, probably a very small percentage, relatively, of patients.

When recovery happens, it seems that instead of the symptoms being as continuous, they then become more intermittent. But in fact, there have been very few studies that support patients having relief of this without some intervention.

So this is one of important questions, is who gets burning mouth syndrome? 90% are perimenopausal or menopause, and it's estimated to be anywhere from 0.7 to 4.5% population.

The incidence increases with increasing age. And depending on whose study you look at, the ratio of men to women is anywhere from three or as many as 20 women to one man who has this problem.

It's estimated anywhere 18 to 80 percent, which I honestly think is a high number, but anyhow it was in one of the studies of women whose ovaries have been removed have some sort of mouth pain.

The average age for females is age 60 of the people at getting burning mouth syndrome. For men, it's older. And it is very rare under age 30 in females and rare at under 40 in males.

So you can see it much more predominantly older women that get burning mouse syndrome So I'm going to spend a little time talking about diagnosing it.

I think this is probably fairly routine, you know, education that you get. And I don't want to spent a lot of time on it because I want get to the part that probably you're not familiar with.

We're going go through these different potential etiologies and really hone in on the last three. So the question is, are there local factors going on in the mouth that would be causing it?

Things like a rough prosthesis or a contact hypersensitivity to some dental materials or oral candidiasis or lichen planus and other mucosal disorders.

So you want to exclude these. And that's, I think, fairly obvious. Possibly allergies to foods and additives to things that people are using in rinses.

cheek biting and gastrointestinal reflux. I can tell you, as far as my reading and research, these are things I pulled out of some of the papers, I don't think that they really amount to much in terms of really people who have burning mouth syndrome.

Those are rarely the causes. So then we look at systemic factors. Nutritional deficiencies, particularly B vitamins and zinc, can affect neurological functioning.

If you buy that this is a neuropathic disorder, yes, these nutritional deficiences can certainly exacerbate them. There's Sjofren syndrome with true xerostomia.

Some medications are thought to possibly cause burning mouth and burning tongue syndrome. So you want to keep this list of medications, particularly the ACE inhibitors, the acetylcholinesterase inhibitor, like lisinopril and captopryl.

And then diabetics have neuropathies, generally though not in the mouth. They get neurophathys that affect their peripheral arms, legs, and intestinal tract.

And when these systemic and local factors were actually studied, they really were not found to be significant. So now looking at dry mouth and what's the role of dry mouths.

Dry mouth is probably not the cause of burning mouth syndrome. In fact, when salivary flow rates have been measured, they, for the most part, were not found to be decreased.

Although, like I said, some people feel that their salive flow is decreased, so there's a sensation of decreased saliva not really able to measure, in fact.

And then there seem to alterations in some of the saliver components. I'm quite honestly not sure what to make of this. It may be the result of some neurological problems that are going on.

What about taste? Is changes in taste, could that be an etiology? And there's frequent reporting that people have a metallic taste in their mouth. Changes in tastes are seen in as many as two thirds of patients with burning mouth syndrome.

And they seem to have decreased intensity rating for salty and sweet test solutions. I don't know if this is relevant or not, but women at menopause tend to lose some of their bitter taste sensation.

It does not seem to correlate with burning mouth syndrome, however. So we start looking at psychological. The things I mentioned, anxiety, depression, somatization disorder, and cancer phobia.

Depression and anxiety exists in more than 50% of burning mouse syndrome patients compared to age match controls. but the incidence is very similar to other chronic pain syndromes.

Chronic pain syndrome make people depressed and anxious. This was a study that was done in 2009 and it looked at 82 women with burning mouth syndrome.

They compared it to a group of 82 woman who didn't have burning mouse syndrome and they saw more depression, more tongue thrusting and lip sucking, increased periodontal disease, and more smoking in the burning mouth syndrome group.

And certainly smoking, we all advise our patients to stop smoking particularly I'm sure if you're in a dental field. But again, I don't think that that accounts for most of what's going on with people with burning mouths syndrome.

The result of their study concluded really not based on anything was that this was a psychological origin. And that you just had to get these people to stop sucking their lips and thrusting their tongue and you could prevent it.

So again, it was a blame the victim. And then I started looking at studies in hormones. It seems like a logical place to go if 90% of the people that have this problem are menopausal women and we know that it rarely occurs in younger people.

We know there are tremendous hormone changes that occur in menopus. So I started looking for studies and I searched on PubMed for everything, an advanced search correlating Burning Mouth Syndrome with estrogen.

And throughout all of Pubmed there were 20 citations. Most of them were review studies. There were only really four studies using estrogen, so you can see there's very little research that's been done.

into the issue of burning mouth syndrome and use of estrogen or replenishment of estrogens or decline in estrogen in spite of the fact that 90% of people who have this condition are menopausal women.

So I looked at the studies and mostly they're old studies. I mean no one has looked this, only one study has been since 2000. This is one from 1989 and they looked 50 pre-menopause women 52 menopausal women and who were treated for menipause, which hormone replacement, and 47 untreated menompausal women.

Research Links Between Hormones and Burning Mouth

And when they looked at people's, what their percent was of having any type of oral discomfort. The pre-

menopausal women, as you'd expect, they were hormonally repleted.

Only six percent had any oral discomfort. But of the peri- and post- menopause women 43% had oral They also found that the group with oral discomfort had more depression and less ability to cope in life.

And the groups without discomfort have less depression, and better ability the cope. You know, what I said about chronic pain syndromes, they wear people down.

They make them depressed. Um, They made them stressed. So after two months of hormone replacement in the oral discomfort group, they found, guess what?

There was less depression, more ability to cope, and two-thirds experience decreased oral discomfort. And we see this in anti-aging and restorative medicine all the time.

When I have perimetaposil and menopausal women come in to see me and tell me that their moods are low and that they're having depression or that have always had some anxiety, but now they're getting full-blown panic attacks.

What happens when we restore their hormones? I don't give them antidepressants. I won't them Valium. We replenish hormones, and these symptoms resolve.

So hormones are very connected, we know, to mood and mood disorders. Two-thirds of these women with oral discomfort got better on hormone replacement regimen.

And this from 1975, gosh, it's almost 40 years ago, somebody took estrone gel. And estron is one of our estrogens. Women have three estregens, estragial, estradiol, and esterone.

Estrone is the weaker estrogen. I'm not sure why they picked this one. But put it in a gel and put on the tongue. Then they took estrogen with progesterones and made a jail and had women apply it to the tongues.

Well, and they all worked equally well. Okay, so that was the issue of direct placement of hormones on the tongue. This was a trial from 1992. 27 women with oral discomfort.

It was not placebo controlled. They were treated with conjugated estrogen, which is also known as Premarin, or Pregnant Marjoram, not the best thing for humans to be on.

and Madroxyprogesterone acetate, which surprisingly enough is a progesteron synthetic analog, when I talk to you later about actual progesterone, doesn't have nearly the neurological benefits of natural pro gesterones, but at any rate, even with horse urine estrogen and synthetic pro-gestero, 55% of their women with oral discomfort improved, and their cytohormonal features improved.

So some of the studies did look at tongue biopsies and look whether there were changes due to lack of estrogen. There are changes that can happen in the mouth with lack estrogen and atrophy of tongue mucosa, just as happens in vaginal muccosa linings, with which I'm so familiar.

And it's been felt possibly that the women with more estrogen receptors in mouth and tongue were the ones that possibly benefit more in terms of improvement in their cytophormonal features of their mucosal linings when they're put on estrogen.

And then the most recent study was, I lied, there has been one since 2000, it was in 2001, And there is a substance called tibolone. It's not available in the United States, it's available Europe.

And I remember hearing about tibilone when I was practicing OB-GYN probably 20 years ago or 25 years, I'm wondering when we were gonna get to get here in U. S.

and it still hasn't happened. Tibilon has both estrogenic, progestogenic and androgenic actions. So it acts like estrogen, pregesterone and testosterone And they gave it, and this was placebo-controlled, to 56 menopausal women that had burning mouth syndrome and 88% improved after six months.

So I really am hopeful that more research will go on along this line of pursuit. Let's talk about the neurological parts of burning-mouth and burning tongue syndrome, both peripheral and central.

And I know you're looking at people's mouths, but that's not the only place that this is going on. So when we look at burning mouth syndrome as a peripheral neuropathy, and this is what Dr.

Woda in France really was working on, a few things are seen. Number one, there are fewer epithelial nerve fibers in about two thirds of the people with burning tongue syndrome by biopsy.

There are altered sensory threshold in about 90% of people with Burning Mouth Syndrome, and these seem to be both small fiber and large fiber neuropathic changes.

And just to refresh your memory, or maybe you don't need it refreshed, I certainly had to go on a whole new learning curve, because I hadn't learned the cranial nerve since medical school, like, 40-some years ago.

But the court of timpani is where we get our taste of neurofibers from. and it is from a branch of the facial nerve or cranial nerve seven. And our sensory for the tongue is the fifth cranio nerve, or the trigeminal nerve.

One of theories has it that there may be damage to these taste nerves via the corded tympani. The cord of typhani acts as an inhibitor of afferent pain fibers from the tongues to the brain.

So if you're having pain fiber in your tongue, you are less likely to feel the pain if the cortotimidase is active in suppressing the transmission of those pain sensations from your tongue to your brain.

And so one of the theories of burning mouth syndrome is that somehow there is danger to these damage to the taste nerves and the cordotimpidate is damaged and no longer can suppress these afferent pain nerve sensations and we end up with a burning sensation seeming to emanate from the tongue.

We, however, do see evidence of some central nervous system changes. So, the coordinate tympani and cranial nerve 5 are not the only nerves that may involve.

PET scanning actually shows decline in neurotransmitter function in burning mouth syndrome, PET scans of the brain. So we think that there may be some altered signal processing in the brain in people who have Burning Mouth Syndrome and possibly in all neuropathic disease processes.

And so I really feel that a unifying theory of Burning Mouse Syndrome is that it's a combined psychological neuopathic and hormonal problem. I'll explain to you how.

And this is just a thank you to Dr. Woda, who was in the department of endodontic and restorative dentistry in France, and is now actually surprisingly no longer working on burning mouth and burning tongue syndrome.

He's working chronic fatigue syndrome, another mysterious disease. What I think happens, in the vast majority of people that have burning mouth syndrome is what I call a perfect storm.

A combination of psychological, hormonal, and nerve damaging events that come together and end up as burning mouse syndrome. Well, that's interesting.

Good. This is a rather complicated slide. this is one of Dr. Woda's slides he was kind enough to give me. And what he's trying to show is that up at the top left, chronic anxiety, which could be from post-traumatic stress disorder, affects your adrenal glands.

And as I showed you in the slide very close to the beginning in hormone crash course, When you're stressed and you are producing a lot of cortisol, you don't produce so much DHEA, pregnenolone, and progesterone.

And then on the bottom you have menopause coming up with losing your estrogen and your progesterone and those two things end up in the middle of the slide.

The neuroprotection that you've gotten from those hormones and neuroactive steroids ends up creating first, you know, ectopic activity, abnormal activity.

Eventually, irreversible lesion in the small fibers and then eventually the burning, the taste problems and the changes in saliva composition. And I'm going to skip this one.

This basically goes over the same thing, except actually there's one thing I will mention. One of the ways that neuroactive steroids act is through membrane receptors.

And the GABA-A receptor is one of prime ones and has to do with one the very few effective treatments for burning mouth syndrome. GAB-a receptors are the receptors that valium activates, so the things that we use to sedate people for anxiety.

The GABA-A receptors, progesterone, is a strong, strong agonist of GAB-a receptors and this will be important later as we go over the effects of hormones on neurological function.

So like I said, there are psychological factors. They may be the cause of lower hormones, they may the result of low hormones but this combination of psychological factor, decreased hormones.

Some type of nerve damage that we still don't know why that happens ends up resulting in somebody with Burning Mouth Syndrome, along with depression and anxiety.

The unanswered question is, you know, which came first, the chicken or the egg? Does depression or anxiety modify somebody's pain perception? We know that can happen.

Is the depression, and the anxiety the result of chronic pain, or do they share a common etiology? And I really feel that the last one is probably really what's happening.

So I'm going to go over some of the treatments that have been based on randomized controlled trials, RCT, looked at. And so one of them is cognitive behavioral therapy, which has been used for a lot of chronic pain syndromes and does help people deal with their pain, framing their symptoms, putting it in context.

and doing psychological awareness about the place of pain in their lives and trying to diminish it through psychological exercises. So that type of cognitive behavioral psychological therapy along with alpha lipoic acid has been somewhat effective.

Alpha liproic a type of fatty-derived acid that has been found to be effective in diabetic neuropathy, quite effective. It's a nutritional supplement that you can, it's easy to obtain, and does seem to help diabetic neuropathy and was looked at for burning mouth syndrome, assuming it is a neuapathy.

And we'll talk a little bit more about the results of those types of studies later. Antidepressants were found not to effective Topical clonazepam, now clenazapam is in the Valium family of medications and it does activate those GABA-A receptors and using clonazepam as an oral trochee on the tongue has been found to be at least partially effective in relieving burning symptoms.

alpha lipoic acid along with gabapentin. And again, gabipentin is a medication that activates these GABA-A receptors. It's been found to be somewhat effective.

This is one of Dr. Alan Woda's slides, and he showed that cognitive behavioral therapy partially gave relief that

lasted for more than six months. And when it was used with alpha-lipoic acid, it got, again, some improved results.

Not dramatic. A little bit more about alpha lipoacid, which I've already mentioned. It's a potent antioxidant. It helps to regenerate other antioxidants.

Glutathione is one of our most potent antioxidants in our body. And it stimulates the production of nerve growth factors, which are very important. I don't know if you're aware or not.

For many years, the medical field felt that in terms of nerves cells, you had what you were born with, particularly in your brain. If they got destroyed, that was it.

Remember the ads, here's your brain, and here is your brains on drugs, you know, with the fried eggs? Well, it turns out that we're able to regenerate new nerve cells in our brain.

And there are a number of factors that will help us with this regeneration. One of them is alpha lipoic acid. It's also neuroprotective, because we are talking about trying to prevent further decline in the nerve function.

It's been proven to be effective, like I said, with diabetic neuropathy and somewhat inconsistent results when it's being studied for burning mouse syndrome.

And Semiano in Italy is the main person that has looked at alpha-litoic acid and he got great results on four studies, but there was no detail, no details about blinding, recruitment, outcome, and dropout levels.

When people, he claimed there a proof in anywhere 76 to 90% of the cases. But when people tried to reproduce his results, they did not get the same results.

So hard to say what alpha lipoic acid is doing for people. And here's Dr. Wode. He's confirmed this in two studies. They were not blinded. Putting topical clonazepam on the tongue in the form of a trochee, letting it melt.

The good thing about it is that people don't get high blood levels from this because, you know, one of the concerns you have about using clonazepam and drugs in the valium family of medications is people get addicted.

And then you get two problems.

Neurological Mechanisms and Treatment Options

Then they have the burning mouth syndrome and then your dealing with addiction problems So he had people clonazepam, one milligram, they sucked it for three minutes, didn't swallow it, spit it out, did that three times a day.

And that has provided partial relief for people. So, you know, going through all of this and trying to figure out again, what was I doing in the hormone restoration programs?

I had patients on that was making them feel better. I want to go over what these different hormones do in terms of neurological function. Well, cortisol, remember, I said, goes up with age and it goes with stress.

And it will shrink your brain. It will shrank the hippocampus, which is the memory part of your body. High cortisol levels are neurodegenerative. and high cortisol levels impair cognitive function in humans.

So cortisol certainly has adverse effect on nerves, and that may be some of the connection between the post-traumatic stress disorder that we see and the depression and anxiety that you see.

Cortisol also, through inflammation, cortisol ends up being inflammatory in high amounts. is bad for nerve function, so it causes something called inflammatory neurodegeneration.

Like I said, it directly affects the hippocampus. The hippo-campus is where new memory gets laid down. You really

don't want to shrink your hippokampas.

And I dont know if youve ever noticed that when you get really stressed it gets kind of hard to remember things sometimes. Thats cortisol effects on your brain.

And it makes neurons more vulnerable to excitotoxins like glutamate. Things like monosodium glutimate are what's called an excitotoxin. They're excitatory to the nerve cells in your brain.

And if your nerve cell get too excited, they die. So excitatoxins will kill nerve sales in you brain, that's why we recommend that you don't ingest MSG.

Cortisol will increase the vulnerability of your nerves cells to excite toxins. So what are we doing when we do a full hormone restoration program? These are the things I showed you before.

These were the eight different things that we utilize when are restoring deficient hormones. Neuroactive steroids are a little bit different than systemic steroids.

I want to tell you a bit about them. They're actually produced within the nerve. So your nerves in your brain are making estrogen and testosterone and DHEA all by themselves.

They fluctuate in response to stress. There is a study, it seems really cruel, but they take rats and they ligate the sciatic nerve or they crush the Sciatic Nerve in order to study nerve damage.

and then look at what happens, adding different things back to that nerve function. Does the nerve functions improve or can they protect the neurodegeneration that happens from that ligation?

So, neuroactive steroids, when they study them, seem to fluctuate in response to injury. And they act a little differently than steroids act in the rest of our bodies.

They have a very rapid action by activating membrane receptors. Most of the time when we're talking about hormonal activation and the benefits of hormones, it's processes that take place due to activation of chromosome inside the cell and making different messenger RNA and different RNA, and eventually different proteins.

This is a very rapid response that happens with just activity in the membrane. So it is extremely rapid. The other thing about neuroactive steroids, they cross the blood-brain barrier.

They cross in both directions. So steroids that we give people go to the brain. Steroids that are made in the brains come to this systemic nervous system.

There are affected by psychotropic medications. We talked about Valium and Clonazepam. The act via GABA and other receptors. Neuroactive Steroid are neuroprotective and neurotrophic.

It's like miracle growth for your nerves. It nourishes your nerve and helps them grow. Inducing neuroplasticity, meaning that nerves are more resilient to damage and increasing myelin formation and inducing dendritic and axonal growth and I'll show you some parts of the nerves These are the neuroactive steroids and these are things that we use in hormone restoration.

We use pregnenolone, DAGA, Progesterone has two very potent metabolites, allopraminolone and tetrahydrodioxicoricosterone, and those two metabolite are just like miracle-grow-on steroids for the brain.

We see progesteron when we replace it in women, progeteron is like nature's valium. It's a very safe way to calm the brains, it's very a safe to improve neurological functioning.

Testosterone, estrogen, vitamin D all have benefits on nerves and we'll talk about them one by one. Pregnenolone I already mentioned in terms of your memory.

It enhances maturation of the synapses which are the places where one nerve communicates with another. The metabolites of pregnenalone are neuroprotective.

Metabolites are 17-hydroxyprogesterone and progesteron and then on down. the cascade to estrogen, testosterone, DHEA. And the metabolites of pregnenolone decrease the sensitivity to painful messages following peripheral nerve injuries.

So when you have pregnenolones and its metabolite and you create a nerve injury, the pain sensation is decreased. DHEA is another major neuroprotective agent.

Again, after these nerve transsections in rats, it decreases neuronal damage. And higher levels of DheA are associated with higher nerve growth factor in humans.

People with Alzheimer's disease are found to have lower DHeA levels than people without Alzheimer disease. So very possibly there is a protective effect in terms of maintaining nerve grow.

Yeah, I already went over this. There was a study with DHEA that was done with 30 patients with VMS and 30 controls. And it turns out people with burning mouth syndrome had lower salivary D HEA levels as well as more problems with taste and low amounts of saliva than control subjects.

So looking at progesterone, and this is really where a tremendous amount of implementation needs to be done. Progesteron is a potent anti-inflammatory and anti apoptotic agent.

Apoptosis is programmed cell death. It reduces damage after a traumatic brain injury in rats. And more importantly, when humans with traumatic injury are given progesterone within 72 hours of the injury, They not only have lower amounts of neurological and brain damage as a result that can be measured on imaging, they in fact have much improved functional outcomes.

So this for me was a huge bit of evidence in terms of the importance of progesterone in neurological function. I'm lobbying to get progesterone on the football field and the battlefield where people get head injuries and traumatic brain injuries because they need to be getting pro gesterones in 72 hours in order to preserve as much brain function as possible.

Progesteron decreases diabetic neuropathy in rats. Post-stroke, induced strokes in rats, there's better neurological outcomes. So progesterone and its metabolites are really key in maintaining neurological function when there is neurological damage.

Allopregnanolone is one of these metabolite. It has analgesic effects, meaning pain killing effects. Its neuroprotective, so it protects nerves against damage, and we also see that it's an anti-depressant and anti anxiety agent, which I mentioned before, that's something I've observed over and over clinically.

They have used synthetic analogs and people are always, you know, pharmaceutical companies are looking for synthetic analogue because they can't patent the natural product.

So you can use natural progesterone, you could use allopraminolone but you're not going to make a million bucks doing it, so you want to find a synthetic analog.

And to my disappointment, that was what I have seen through all the neuro-immuno-endocrinology literature is the searching for the pharmaceutical agent that will do what we already have does excellently.

Anyhow, they're looking for synthetic analogs, and found when they found them, that there was pain-reducing properties when used. In the central nervous system, allopregnenolone increases endorphins and opiate receptors, which are our natural pain relieving substances.

Allopregnenolones may help with maintaining regenerative ability in the brain and not mind progression of

Alzheimer's, something being studied now. Testosterone as well may have a role in neurodegenerative diseases.

We see that depletion of testosterone leads to functional impairment and increased disease risk in the brain. And that testosterone may play a roll in development of Alzheimer's that is low testosterone levels.

Estrogen we see altering the excitability of the afferent fibers, these pain fibers and sensory neurons to Nox's stimulation of craniofacial tissue. That means when women are on estrogen, they don't feel the pain as much when there's noxious stimulation around the face and mouth.

Estrogen also helps to prevent neuronal cell death by maintaining mitochondrial function. Mitochondrial are the little energy packets in our cells, and one of the reasons that we undergo decline with aging is that lose mitochondria function, so if you can maintain mitochondrion function you maintain cell viability.

And estrogen also protects and regenerates peripheral nerves. And it induces the neuroactive steroid, neuroprogesterone, in the astrocytes. The astrocytes are the cells in brain of the most active neuro-steroid producing cells of entire central nervous system.

Things that we see with lack of estrogen. There have been studies showing that women who have their ovaries removed lose 15% of their brain processing speed.

Clearly estrogen has tremendous neurological effects, and it seems to be a critical survival and nerve-sparing growth and protective factor in the substantia nigra in brain, which has to do with part of the brain responsible for Parkinson's disease.

We know that there is tremendous benefit of hormones in prevention of Parkinson. Estrogen also modulates the stress response. There is not as much cortisol produced, not a big spike in pre-menopausal women who have their estrogen of competition.

And so estrogen helps to modulate that stress respond. You don't get as cortisol produce, you don' get much neurological damage as when you have adequate estrogen.

Estrogens also supports mood. by supporting serotonin, which is one of our important neurochemicals that prevents depression. And then talking about vitamin D, like I told you, it is really a steroid in disguise, masking itself, masquerading as a vitamin.

Vitamin D also helps neurotrophic factors. It's more of a miracle growth for your nerve cells. Enhances glutathione. Glutathion is a very potent antioxidant that helps maintain the health of ourselves.

So it has no potential in treating neurodegenerative and neuroimmune disorders and it's being studied currently for that. And then what about the non-steroids?

Even melatonin we see stimulates peripheral nerve regeneration because it is very potent antioxidant properties. And thyroid, which has been studied, and I want to show you a study in just a minute, it increases BDNF, brain-derived neurotrophic factor, Which is very important to maintaining the health of your brain cells and preventing things like Alzheimer's disease.

And triiodothyronine, which is our active form of thyroid, has similar protective effect on brain cells as studied in an experimental model of traumatic brain injury as progesterone, So there was a study done, and there's been some debate about thyroid and burning mouth syndrome.

There's one school of thought that says if somebody has a thyroid problem and it corrects their burning-mouth syndrome, then they didn't really have burning mouse syndrome so I'm not going to get into that debate because I think it's really not to the point of how do we help these people get better.

So a study that was done in 2008 by Femiano, he evaluated the role of low thyroid with oral burning disorders. And

by eliminating those with low-thyroid function, they, again, like I said, were trying to find those that they said had primary burning mouth syndrome.

They did this case control study, 123 with burning-mouth syndrome and 123 without. Of the group with burning mouth syndrome, 58 they called hypothyroid.

They didn't really define what they meant by hypathyroid, so that was a little bit unclear. And in the groups without oral burning, 13 were hypothyroid The people who were defined as hypthyroid when they got thyroid replacement, 64% of them had resolution of their symptoms, which is huge.

And 38, of the 38 who had normal thyroid that they did not treat with thyroid medication, they had about a 10% improvement with alpha lipoic acid. What this says to me is that thyroid might be part of what is going on that is improving people that I've witnessed clinically.

So I want to tell you a little bit about what I see clinically, I have a database of 112 private patients. 107 are female, five are male. I was an OB-GYN originally, and so my practice tends to be largely women.

And in this practice, I've seen six perimenopausal and menopauseal women with burning mouth syndrome that have had their symptoms anywhere from months to years.

All of them are on a hormone restoration program with the things that I already described to you. In all but one person, their symptoms completely resolved.

That was 83%. And it took anywhere from one to four months for their systems to resolve. One of the patients, the one who was my very first patient with burning mouth syndrome that I mentioned at the beginning, had a recurrence during a time of severe stress.

She was getting divorced. And even though she was on her hormone restoration program, her burning tongue returned. However, she had good success at that point with alpha-lipoic acid.

So you can see the stress hormone connection and how it affects burning mouth really, you know, very graphically with her. So when I saw that a lot of women felt better who had burning-mouth syndrome when they were on a full hormone restoration program as my private patient, I tried to figure out what could I put together that people could get who did not come to see me as a private person either because of financial reasons or they lived too far away.

And a lot of the hormones are prescription, and so I can't prescribe somebody that's not a patient. And I pulled out things that I knew were very important in terms of neurological functioning that could be used as a nutritional supplement.

So DHEA and pregnenolone, although they're potent hormones, they are available as nutritional supplements. They have not been categorized as medications that require a prescription.

Vitamin D, of course, is available as a nutritional supplement. And I also added alpha lipoic acid to the mix because it's unclear whether it has benefit or not.

I thought I would put it in there and I put into a supplement and did a small pilot study with it.

Clinical Experience and Supplement Approach

And their symptoms, one of them had very short duration of symptoms. So I don't think that really counts. Some of the men had symptoms as long as 12 years.

And they served as their own controls. I was not in a position to do a full double blinded randomized control study. Part of what I'm going to ask you, if any of you here are in academics and in position help that happen, I really would like to know.

So we did the supplement kit that had the items that I mentioned, DHEA, pregnenolone, alpha lipoic acid, and vitamin D. And I gave people a symptom questionnaire asking them the location of their symptoms, the severity of the symptoms and the variety of symptoms.

So we asked about the variety and severity of pain, burning, whether they interfered with sleep, if they felt they had excess salivating, any dry mouth or altered taste.

I asked where their symptoms happened because in my observation it often goes beyond the mouth, beyond oral cavity. And the results we got in terms of symptoms, and we did a pain score, zero to 10, 10 being the worst, 0 being no pain at all.

On average, the symptoms of pain prior to using the supplement was seven on a 10-point scale and reduced to 3.4 afterwards. The burning part was 7.8 on 10 point scale reduced Preventing sleep occurred with a problem for about half the patients, and the score was 4.8 on a 10-point scale, reduced slightly.

Excess alivating, 5.2 out of 10, reduce slightly, dry mouth, 4 point 8 on the scale of ten, we do slightly and altered taste, 6.7 on 10 point scale reduced to 4.9. Looking at it overall, eight subjects felt significantly better.

Two subjects had resolution of their symptoms, and two people, there were no change at all. And one person actually got improvement, but the supplements in the compounded formula made her so hyper, she had trouble sleeping, so she couldn't continue to take it.

So what I want to do is conclude and then have some time for questions. So the one thing I hope I've got across to you is that this is a neuropathic pain syndrome that's exacerbated by deficiencies in both neuroactive and systemic steroids.

Steroid deficiencies could be the underlying cause of the depression and anxiety that we so frequently see in burning mouth syndrome. That treatment with hormones likely replenishes systemic steroids, that I know, likely replenishes neuroactive steroids and has the potential to provide relief for patients with burning mouths and burning tongue syndrome Given the large number of people with burning mouth syndrome, and it is many millions worldwide, it's really essential that further studies be done to examine the role of neuroactive steroids and systemic steroids in burning mouse syndrome.

And very importantly, don't assume it psychogenic just because you can't see anything. When I gave this talk last year at the California Dental Association, Somebody waited until everybody else had left after the talk and asked me all the questions and came up to me.

She was a dental hygienist with burning mouth syndrome. And she started crying because she said, finally, somebody's realizing that it's not all in my head.

There's really something going on here. So that was really touching and that's the most important thing. It's just because we can't figure it out doesn't mean it's all in somebody's head.

The other thing is looking beyond the oral cavity. I know people come to see you because your experts in the oral cavity and that's where they're feeling it, but really looking beyond it to the whole issue of what other mucosal and skin surfaces are involved and understanding that this is a peripheral nerve as well as a central nervous system issue.

The things that are done to relieve problems in oral cavities are helpful to people for sure and don't stop doing those. But really, looking behind that for truly relieving the problem And then consider referring patients to an anti-aging specialist.

There are thousands of us across the country who deal with hormone replacement. And really encouraging more research into hormone solutions. It was very, it's pitiful that there were only four studies on estrogen in all of the literature when it so clearly is a hormone related issue.

Anyhow, so if we can keep getting people to open wide and let us do our work, I guess we could continue on. So I'm happy to answer questions. And I do want to mention if people are not able to access the slides in the handout, if you take one of my cards, my email is on there.

You can email me. I'd be happy send it to you as an attachment. Do we have questions? Yes. In your pilot studies, did you deal with the patients that didn't have Sjogren's syndrome?

Is there any relief with your replacement therapy in those cases? The question is about Sjoegren syndrome. The people I've dealt with. I wonder if there was any belief with that.

Yes, the question's right. Is hormone treatment going to help people with Sjeogran's Syndrome? I didn't deal with any people with Sjogren's syndrome. I was pretty much dealing only with burning mouth syndrome patients.

And so I can't answer that question for you. But it's certainly something to look into. We know that in anti-aging and restorative medicine, Sjovrens is an autoimmune disorder.

That again is in the area where conventional medicine. just kind of throws their hands up and says, well, I don't know why this happened. I have autoimmune disorders.

One of the whole reasons I got into this field was my own auto-immune disorder. And we know that auto immune disorders start in the intestine, believe it or not.

So we do a lot in anti-aging and restorative medicine to get at the intestinal causes, food allergies, gluten intolerance. And hormones certainly play a role in reducing inflammation with autoimmune disorders.

Whether they particularly, that's something I don't know, we have to look into, whether they reduce the dry mouth and some of the other symptoms of children's, I honestly, dont know.

Any other questions? Yes, over there. Well, how long did I keep people on the over-the-counter kit? It takes up to three months to see benefits, so I encourage them, you know, I had a buy three for the price of two thing going on, to encourage people to use it for three month.

And after that, people need to be on it indefinitely. Just like any, our hormone replacement that we do for anti-aging, If you stop your hormones, your body goes back to the hormone deficiencies that it was in before.

So it's presumably something that people would need to be on long-term. Second question. Do you see this burning kind of as a side effect to radiation therapy or cancer patients?

Right. A question of burning mouth syndrome and radiation. I actually… Post-radiation. Basically, I did not work with people who contacted me that had post-radiation because it was too confounding for me, you know, to know.

But I'd be happy to give you information to see if it would help them. Yes? So the prescribed hormones, are these by identical so-called? Right, how do we do hormone restoration?

Are they bioidentical? Yes, I think it's really important that the hormones we use are the same ones that your own body makes. We see improved effectiveness, fewer side effects, and the medroxyprogesterone, that was the progesteron synthetic analog used in that one study, doesn't have near the neurotrophic and neuroprotective effects of natural progesterone in its metabolites.

And how the hormone are given, I tend to use progesterone in an oral form, in a pill, because it gets more breakdown into its metabolites than when we use it as a topical cream.

Estrogen is used most safely as the top of the cream because then you don't get the increased risk of clotting that leads to increased strokes and cardiovascular disease.

And testosterone, again, we used as topicle or injection because oral testosterone has increased risks of liver cancer. We use the various forms depending on our goals and risks and side effects.

Yes, in green. Could you tell me which product the alpha-lipoic acid recommend, because you have a lot of variants and supplements that are on the market.

Is there a certain one you like and a dosage? Yes. A question about which alpha lipoacid. There's a company that makes a product called Rallapur, R-A-L- A-P-U-R-E.

And it has R-lipoic acid. There's two isomers of lipoacid. The L-form and the R form. I think it's L, D? D and R? I'm not sure. Anyhow, there's the r- form and another form, and when you get lipoacic in nature, you'll get both forms.

And this company has purified their liporicacids into only being the ar-lipoic acids. I do. And people start out using, honestly, I don't remember the dosage off the top of my head.

He only has one dose in Rallipura, and you use three of them three times a day to start, or two, three, times the day. People need to be on quite a bit initially.

Then they can taper off as they get relief of their symptoms, not go off totally, but they dont need as intense treatment. Yes? Two questions. You said we need Do you think that most OBGYNs should be able to handle that sort of thing?

It sounds like maybe not, because you used to be one, but what do you say to an endocrinologist? What should we do if we find somebody? We may not be finding an anti-aging specialist in the relay.

And the second question was, are there long-term hazards of hormone replacement therapy? Okay, two great questions. Okay. Would an OB-GYN or an endocrinologist know how to do this?

Very unlikely. I was an ob-gyn for 25 years and I worked a lot with hormones, you know, hot flashes and testosterone in women for libido and had absolutely no idea about the anti-aging and restored the whole side of it.

So, as a POBGYN and, you know, well-versed in hormones was limited to like using three hormones and I thought, Well, GYNs think if a woman's had a hysterectomy, she doesn't need to be on progesterone, even though she's on estrogen, and that's absolutely not true.

So the OB-GYN are not going to get you where you want to go. The endocrinologist, I've had patients come back and say the endocynologist had signs in their office, no bio-identical hormones, we don't do that here, don' ask.

very narrowly doing diabetes and thyroid. Our national organization, the American Academy of Anti-Aging Medicine, has a website called worldhealth.net.

Q&A on Hormones, Safety, and Related Conditions

And there is a locator on there for doctors who do anti-aging medicine. I also work with people remotely, so that's another option. Then as far as safety, Yeah, let's get to the safety issues because this is frequently what hangs people up from using hormones.

How much time do we have? Oh. There is so much out in the media about the dangers of hormones, both estrogen for women and testosterone for men, right?

So estrogen is breast cancer and testosterone is prostate cancer. And you have to realize something about media. Why does the mediate exist? to make money.

And what are they going to publish? Things that aren't sensational that will make you want to buy their publication. So there's tons of stuff on there and I did a research project.

There's far more information in the media about the dangers of hormones than the benefits of The dangers of hormones in women largely come from concerns from the Women's Health Initiative, this very large E8000 women's study that was started in the late 90s, and came to the conclusion they did use conjugated estrogens.

Premarin, the horse here now, was talking about estrogen and midroxyprogesterone acetate, synthetic progesteron, found that women had a 30% increased risk of breast cancer.

And so that got widely publicized and then they kind of narrowed it down. So that was the first splash that came out in 2002. It scared the heck out of everybody and two-thirds of the women on hormones went off.

And then as the literature and the study has unfolded, you all come to find out really it's the medroxyprogesterone acetate. I think it should be off the market.

Its carcinogenic. When you use natural progesteron with estrogen, no increased risk of breast cancer. And so I think the misguided use of a synthetic analog took us down a really bad pathway.

They figured out somebody did a kind of an algorithm and figured in the ten years after the Women's Health Initiative, because of the non-use of hormones in women who had hysterectomy, there were probably 50,000 unnecessary deaths from premature cardiovascular disease because the women did not get the benefit of their hormones to preserve their cardiovascular system.

the studies that we see now and now, and I see in my gynecology literature, people are now backpedaling and saying, well, you know, really it's not so bad and really, it is not as bad as we thought it was and maybe for a short time, maybe in certain subsets of women, trying to back pedal from that position of saying that it dangerous.

So the estrogen even had a black box morning on the prescription. I would say from my perspective, if given properly, it's balanced with progesterone, testosterone, and we also test how women and men metabolize their estrogen production because some estrogen metabolites are carcinogenic and some are protective.

And you can actually find out if you're metabolizing down the carcinogenic pathway and correct it. So there are lots of ways to get hormones safely and the whole issue of testosterone and prostate cancer is something that came out of a case study in 1948 that somehow got completely blown out proportion and we have huge amounts of evidence in the literature that show that testosterone does not cause prostate cancers.

And there's too much to go into, but I have a number of articles if anybody really wants to know, I can send you some information about it. So my perspective is not only aren't hormones dangerous, that they are life preserving and health preserving.

And we see it in so many ways. Cardiovascular, men with low testosterone or increased risk of cardiovascular disease. increased risk of Alzheimer's, and the same goes for women and low estrogen.

So from my perspective, as an anti-aging and restorative medicine physician, I only see benefits and really very little in the way of any risk. Let's see, okay, we'll take you.

Do you have any studies as far as vitamin D deficiencies in African American women, because I know my mother had burning mouth syndrome, Yes. The issue of vitamin D deficiency in dark skinned people.

You, dark-skinned people do not get the amount of conversion of sunlight into vitamin-D as light-skinned and tend to have very low vitamin levels. So it is extremely important.

Actually, everybody should get your vitamin D level checked. And don't go by what the lab says is an OK value. They'll say anything between 30 and 100 is OK.

You want to be minimum 60, but more likely 80 to prevent your cardiovascular and brain function as you age. And sometimes it means taking 10,000 international units a day.

Well, the guidelines are between 400 and 800 international unit a days. This is not going to get you where you want to be as far as your vitamin D level.

So usually it's 10 thousand a and then you need to recheck after about three months. And if your level is up at 60 to 80, then can be on a maintenance dose of say 5, 000 international day of vitamin B3.

You want B 3. And there have been tons of studies, are we running out of time? Close. Close, there've been a ton of study on vitamin D levels and how they correlate to disease and health.

And it's clear that 60 to 80 for multiple sclerosis and other autoimmune prevention, cardiovascular, Alzheimer's, cancer prevention with vitamin B. Would you like to take one more question?

Sure. Okay. Gentlemen, way way in the back. Yes, I have them on my website. Reflect sympathetic dystrophy. What was the last one? don't know oh wow that's a whole other field and I will be looking into that yeah it's very deep in there's this neuro cycle endo immunology literature and so all these things may They'd be in there, and I'll definitely start looking into it, because I think that's a whole other group of people.

Good. Well, thank you. I don't know about you, but I find that very interesting, as I know, like many of you I've had patients with burning mouths. And I learned a lot today, cause I didn't how to help them.

So, Thank you Dr. Smart. Appreciate it very much.