

ask DR. BEN

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Speaker: Dr. Ben Johnson
Episode 29: What Really Causes Aging

Hello, and welcome to the Ask Dr. Ben Podcast. I'm your host, Ben Johnson. As a holistic minded physician, I've spent the last 20 years looking outside the box and conducting research to find the true causes of skin conditions and other diseases. While the focus of my work has been on aesthetic medicine and unlocking the secrets to reversing skin damage, this podcast will also include many other exciting revelations pertaining to you and your family's health and wellbeing.

So let's get started. Hey everybody, and welcome to another episode of Ask Dr. Ben. My pleasure to bring you, on a weekly basis, new insights into aging and health and all the things that can help you really improve your overall life, hopefully your life span, and really just we're trying to affect the quality of life as you move into your more mature years, which I guess applies to everybody.

But obviously if you're in your 20s and listening to this, that's fantastic, and it's great to get a holistic perspective when there's so much misinformation out there about what is the right thing to do and what is dangerous or not dangerous. Well, today we are talking about what really causes the skin to age. This could be broadened to include the entire body, but I thought instead I would not focus so much on aging. Certainly, some of the stuff we talk about today can be applicable to your general aging process, but the skin itself is a bit of an enigma, and a lot of people say, "Oh, I'm aging in menopause," or, "This causes me to age faster or that." I thought I'd just take a slightly deeper dive into how I view the skin's aging process. We're going to cover a few topics that you've heard me talk about because they're really important here.

One of them is bottlenecks. Another is hormone influences. But let's start with the discussion of inflammation because it's pretty well-established by most physicians, I would say, that inflammation is the number one cause of aging and so much of the medication that we prescribe as physicians, so much of the supplementation that we take as individuals relates to try and do calm inflammation. I think that is a mistake. Things like ibuprofen or acetaminophen, which are Motrin and Tylenol, respectively are designed to reduce your body's immune system's activity. It's just been a wrong notion for a very long time that when your body is involving inflammatory cells, and I'll put an inflammatory in quotes there, that that is somehow the negative aspect of how our skin is aging. That is not true.

Your skin and your body oftentimes will activate a "inflammatory" cascade. Again, I'm just using the terms that are in the literature, in the textbooks. But in reality, it's a repair cascade, that the origin of this repair cascade comes from the immune system being triggered by a trauma, a some sort of toxic or traumatic event, something that caused damage, something that needs to be addressed by the body. We associate the fever or the redness or the swelling or the pain with a negative reaction, when in fact it's what triggered that response that we really need to identify. Again, I always remind people, when you think of

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inflammation, the real true term for inflammation should be repair because repair has all the positive meanings that you should be thinking of when you think about inflammation.

Now, you know that you've heard me say the classic example is when you let's say step off a curb wrong and you twist your knee. Well, there's damage to the ligaments of your knee that resulted from that awkward angle that was created. Let's say what happened there were a bunch of micro tears happening to the ligaments in your knee. Those micro tears sent a signal to the body to say, "Hey, we're going to need to fix this." What does the body do? The body immediately starts to increase the circulation to that area, which creates heat. It starts to allow the diffusion of nutrients, immune cells and other goodies to the region so that repair operations can be ideal, and that causes swelling. So that pain, redness, and swelling that you associate with that sprained knee all seem like they need aspirin, an ice bag.

That is a one school of thought, and it's primarily a school of thought for professional athletes who have found that if they shrink the repair response down, if they suppress it, that they can get back to functional play faster. It does not mean they healed better. In fact, I can guarantee you, they do not heal better. So, on that same tone, when you think about inflammation causing skin aging, I like to look at what are the sources of inflammation and exactly how are they causing the skin aging? I thought we would start first with diet. In the category of diet, glycation is a big thing. Glycation really speaks to this process by which what I believe to be only oxidized sugar. I do tend to separate out oxidized sugar from, say, pure cane sugar or other sources of glucose that are not damaged.

Glucose itself is not damaging. It's not particularly beneficial to the body. Obviously, the body likes glucose as a source of energy, but in excess, it is not really serving much of a purpose. It, with chronic exposure, can distort the microbiome. If the body doesn't put it to use, which there is somewhat limited utilization of glucose, then I guess potentially if it's roaming around in the circulation, it can cause some damage to the blood vessel walls. But I think that's really where it's isolated to. When I think of glycation, I actually think of primarily blood vessel involvement. I think of mostly oxidized sugar. I don't even think alcohol causes glycation. I don't think, like I said, these other forms of more natural forms of sugar that haven't been processed are causing a lot of glycation.

But you should know that your skin doesn't naturally go, "Oh, there's sugar around. Let me deposit some in the collagen of our face and or collagen of our skin in any part of our body." That's just not a process that is around. I think it's been a mistake in storyline to tell people that glycation of their collagen is a problem. The problem is glycation of the small blood vessels of the skin, which results in a decrease in blood flow over time, and that decrease in blood flow does lead to increased aging because a nutrient shortage is going to reduce collagen manufacturing, it's going to reduce immune cell and growth factor availability, it's going to reduce the recruitment of more fiber blast to make collagen. Glycation is important, and this idea of an ingesting processed sugar, it's pretty commonplace. Pretty much everybody recommends you stay away from it. But again, I don't think of it as wanting to reduce glycation in the collagen itself.

Typically, anti-glycation products in that story, I mean they certainly can be marginally beneficial. I personally opt to address the circulation of the skin slightly differently, and I'm

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just not sure how much we're repairing glycation. You can reverse glycation with a healthy diet, that has been proven. The body can fix some of those things on its own, but obviously the more significant the glycation, so example somebody with type 1, type 2 diabetes who's had it for a while and it's been poorly controlled, they're going to have a lot more glycation and a lot more issues with aging in that regard. But we'll talk more about dilation, vasodilation strategies here in a minute. For glycation, primarily vascular, not so much collagen. It is a relatively significant player because processed sugar is so prevalent in our Western diet.

The second area where the diet can affect an aging face is one you've heard me talk about, it's one I'm getting extremely passionate about. We have such a huge scientific breakthrough on our hands with the new [Osmosis Recovery](#) product where we are replenishing the fat pads, we are primarily barely refilling the fat pads within the face that are strategic for wrinkles, the marionette lines, the lines around the mouth (the lip pursing lines), the lines on the sides of the eyes are all heavily influenced by fat pads. I think as much as 80% of the wrinkles on your smile lines are related to fat pad losses and not so much about collagen and elastin. So fat pads are a big deal. Now again, in the diet, diet is the main source of fat pad loss.

There are people who have severe lipodystrophy from say HIV or certain conditions, but that's rare enough that it's not worth addressing here. But the fat pad losses from alcohol and oxidized sugar I believe are occurring because one of the ways that your body attempts to reduce the toxicity of fat pads is in strategically located fat pads. So that might be the breasts, that might be intramuscular fat pads. All of these areas will take on this extra sugar and process it. Again, I have a theory, again, science is not here yet, but our proof is in our results, but I have a theory that there's two ways that fat pad losses occur as we age. One is through oxidize sugar and alcohol affecting a certain zone of fat pads, the ones in the forehead, the ones around the mouth and the ones just under the eyes, excluding the lower eyelids by the way. That is a different fat pad. That's a salt fat pad. Then the other ones are our salt fat pads. Again, I would argue primarily processed salt, oxidized salt. So we see an atrophy of those fat pads, but it's much less because it is not nearly as prevalent in a lot of diets, although it is certainly prevalent in many. In any way, I just find I'm not currently designing a supplement to refill those fat pads because they tend to be the fat pads that we see when we're bloated and they're less related to wrinkles and more related to creating a rounding shape on the face. The salt fat pads to me, if they're going to atrophy, I think that actually can bode well for the look of a face because leaner faces do look better. I know I've heard the different views on that. They say, "Oh no, you don't want to get too thin, your face thins out."

Well, your face does thin out, but if you address the fat pads that are related to sugar, then the face thins out in a more attractive way. You don't have that gaunt looking facial structure. To me, it's the best of all worlds. So yeah, I do not try to replenish my salt fat pad losses, and I do try to replenish my sugar fat pad losses. That's a big part of aging. 80% of the wrinkle I estimate is related to that pad volume loss and it's a form of inflammation. There's an example of how the skin ages with inflammation. The inflammation is occurring in the fat cells themselves.

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The next dietary component that I think has the biggest play on the skin aging faster is bleached flour. So bleach flour, up there in one of my top 10 toxic chemicals that we get exposed to that causes damage in a lot of areas. But I look at this slightly differently. There is an increase of cortisol when these amino acids are present in the body. I say amino acids, flour breaks down into a variety of amino acids, and the bleaching process of this flour is what I believe causes damage to the amino acid population that our body then incorporates into various structures. To me, the aging component of bleach flour is more about dysfunctional protein manufacturing. Bleach flour could create, let's just say, collagen that's more likely to collapse, collagen that's more susceptible to trauma and breaking apart from say the trauma of certain medical procedures like acid peels or laser procedures. But it also can relate to a dysfunction in making growth factors, to making rejuvenation peptides, and to making a host of other protein molecules throughout the body.

I do associate bleached flour with a lot of aging, including skin aging, as it relates to damaged amino acid incorporation into the body. I don't think there's a ton of research on exactly how these things cause harm. They say when they introduced sugar, bleached sugar and bleached flour into third world societies, they developed all kinds of weird deficiencies that affected the health of their teeth, that affected the health of their gums, that affected their diabetes. So there's definitely the microbiome effects that we can talk about as well from taking both of these, because that is a factor. But I'm focusing today on how the skin ages, and in my take, the way bleached flour primarily affects skin aging is in the collagen and rejuvenation peptide areas. I think it has a negative impact and introducing the wrong or less efficient and effective proteins through this model.

The final aspect of diet that I think has the most impact on the skin's ability or the skin's aging acceleration is hydrogenated fats. This is something you get in processed oils, Crisco cooking and all those good things, margarines and things like that, that I'm not a fan of, but also in cooking because you tend to cause fat hydrogenation when you fry foods and things like that. This is more of an impact in my perspective. I don't again see a whole lot of clinical evidence about how these things go into the body, and you can see ... Well, does cortisol increase? Yes. Other inflammatory markers? Yes. But there's just not a lot of information that I can find on exactly how hydrogenated fats affect the body. My take is that they are incorporated into the cells. So these are damaged fatty acids that get utilized because they have a component of them is functional fatty acid.

So they're brought over and they may be incorporated into the cells, and the most important cells that they affect are the immune cells, is my take. So hydrogenated fats, particularly bad, and obviously they're going to affect your microbiome. But again, focusing on the skin. They create what I think are leaky cells. So that may be immune cells that are then less fluid-filled therefore less efficient. One of the things they talk about with cells as we age is how they become smaller and less operational, if you will. This idea of cell leakage is important. A decline in immunity and reparability of immune cells is going to affect the skin and cause aging. That's how I see aging occurring from the diet. I'm just trying to think through logically how these different components are really affecting skin age.

But obviously in speaking to the broader idea of it, yes, you want to remove oxidize sugar from your diet, you don't want to be too much excess alcohol. If you can help it, you would

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obviously want to take our fat pad protocol with our [Recovery](#). If you do a lot of sugar, one of the ways to reduce your sugar intake is to take our [Sugar Detox Elixir](#), which reduces sugar cravings, and I believe reduces damage from sugar at the cellular level, but we haven't done any studies to show that specifically. Removing bleached flour from your diet, processed flour in general. There's certainly a lot of opinions on whether or not you should remove wheat altogether, should you remove gluten? I will say this, I do think some people become sensitized to gluten.

I do think gluten appears to have been modified in a way that makes it more likely to cause harm to the digestive tract. But if you can tolerate it, you can tolerate it and your skin could be fine with it. But I don't think gluten is causing skin aging per se. But I do think that finding a good source of whatever works for you is an important part of a healthy diet, and the key here is to avoid bleached flours and process flours and using as much whole grain as you can, because the body knows how to deal with this and knows how to break it down, and ideally you're eating in Europe where they don't make wheat that has increased amounts of gluten in it, which apparently we do here in America. All righty, we're going to move on to the next big source of skin aging, which is sunburns.

Again, I believe sun exposure, unprotected sun exposure actually makes the skin younger. It triggers vitamin D, which has an absolute anti-aging benefit, but it does more than that. There's all kinds of triggers associated in the skin with rejuvenation peptides. UVA and UVB are associated with triggering rejuvenation peptides. That is proven. The only question is, is it as a result of damage and their rejuvenation peptides are really just repair and action? Not necessarily, not if you keep your skin from being burned. One of the strategies I believe wholeheartedly, and of course is [Sun Defense](#) because Sun Defense allows your skin to get all the benefits of sun exposure and still allowing the limitation of UV-related damage, which I know sounds too good to be true, but I prove it.

We've been selling for years and years with this related outcome and even shown that vitamin D is still activated through this unique pathway of protection. I do believe that [Sun Defense](#) is a great tool to allow you to experience the age rejuvenation effects of the sun without experiencing the traumas of the sun. Whereas if you're using a traditional sunscreen like zinc or titanium that reflects the sun, obviously you're not going to activate vitamin D and or other rejuvenation pathways, and same thing with chemical sunscreens, which actually trigger an increase in inflammation in some ways and a reduction in others. But they definitely again interfere with vitamin D and rejuvenation pathways. It's a challenge, and obviously I want you to be careful and not always go out in the most peak sun time.

If you do, you need to do short bursts of the sun. But again, as far as skin aging, I go back to it's all about the sun burns, the DNA damage, it's the damage to the vascular tissue which leads to aging. I don't know if there's a significant loss of collagen per se post-sun. Actually, I haven't seen a lot of research on that, whether or not if you go out and get a sunburn, what is the main loss that occurs there? Because the trick about DNA damage is it's like brain damage. If you get slow and steady brain damage, you're going to become less and less capable, like someone with a box or something say who's seeing declines accumulate in their mental function, the same way with the sun. Repeated DNA damage to various cells within the skin are going to lead to declines in reparability, declines in production capacity.

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Let's say we're talking about the dermal-epidermal junction, which is that layer between the epidermis and the dermis. You're going to see a repeated DNA damage to that, it's going to show a decline in the turnover rate, it's going to show a decline in the health of the epidermis. You might see texture changes because it's not quite sitting as compactly as it used to. You might see a thinning in the volume, you might see, of course, age spots developing, all of that, just related to this progressive wounding and more permanent wounding. That's the thing about DNA damage, it's more permanent wounding. I know it's a pretty out there opinion in today's day and age when the sun is just thrown under the bus for just about everything. But we cannot forget the massive number of studies that show that sun exposure reduces cancer rates overall. It appears to increase life expectancy and many other diseases appear to be benefited from it. Again, this whole conversation is about what really causes the skin to age, and it is definitely sunburns, even mild ones. That's the challenge, is always being out in the sun long enough, but not too long. But had to mention that, of course, in this aging conversation.

The next one that follows right along with that, of what causes the skin to age, it has to do with burning and poisoning the skin. Again, depending on the ingredients you use, I think of the number one poisoning agent on the planet for the skin right now is retinoic acid because of its popularity, and it does cause DNA damage, and yes, other retinols besides retinaldehyde tend to cause DNA damage, and that is a long-term thing. That does definitely poison the skin. Now, if you're going in and getting frequent acid peels, you're also causing DNA damage and that is going to have long-term aging effects on the skin. I know everyone does it for the short term effect of peeling off the epidermal layer and whatever firming effect happens from the inflammation from an acid peel. But I worry more about the long-term real causes of aging. Because just lifting your epidermis with some acids is not going to make it younger, and it really shouldn't make it older on its own. It's about how deep that acid penetrates if it reaches all the way down to the DEJ. In some cases, of course it can reach past the DEJ.

If you burn the skin with a laser, that's going to create long-term damage at a DNA level, it could create long term damage if you have a device like a CO2 laser, but it is something that actually heats and damages the fat cells of the face. This can include, of course, the fat pads. The very, very delicate and declining fat pads that you do not want to melt away. The idea of melting away fat, not a good idea in any stretch in my mind, especially in the face, and something should be avoided with lasers. Phenol peels, I don't think they reach quite that deep to the subcutaneous fat layer. But oh my gosh, they do burn the bejesus deep, deep, deep into the tissue. Things to be avoided that I think will create long-term skin aging. Then we're going to move on to the category that I talk about a lot, which is this category of bottlenecks. Are there any bottlenecks that really cause the skin to age as we get older?

There's so many people we know where we see them getting older and their skin seems like it's still really youthful. When I talk about aging, I'm talking about the decline of dermal density, so the amount of collagen in your dermis, the decline of the epidermal health and the DEJ and how much that impacts texture and age spots and may cause the formation of capillaries called telangiectasias, which are just little red capillaries on the face. We're talking about the decline in overall volume of the fat pads and the muscles that leads to laxity as

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gravity pulls on the face and creates these folds like the nasal labial folds or the marionette lines around the mouth, or decreases on the lips, or of course the wrinkles under the eyes, the smile lines or the wrinkles between the brows and the forehead.

All this stuff has a lot to do with volume losses. But when it comes down to actual bottlenecks, I identified a couple here. Let's cover them. First of all, I do think retinaldehyde is a bit of a bottleneck in the skin, and that's why retinaldehyde is to me the only vitamin A you should be considering using. The others tend to have no evidence of really being dermal collagen stimulators. They have a lot of evidence of being DNA damaging and inflammation promoting because of the quantities that have to be used to generate any kind of response in the skin and the fact that the sun triggers their change even if you use the product at night. We've talked about this in other podcasts. Retinaldehyde is interesting because the way retinaldehyde is made is the precursor to retinaldehyde is retinyl palmitate and retinyl acetate.

I think both of them can be converted to retinaldehyde. The process that converts it is an oxidation process. Remember what I keep saying, how critical is oxygen to our youth? So many people say, "Oh no, it's the free radicals that are making us old." Well, there in lies the very, very delicate and masterful balance that the body maintains at all times. It's not going to free up too much oxygen that you overwhelm your system with free radicals, but it's also not going to have nearly as much oxygen present if your metabolism is slowing for other reasons. So it's measuring and assessing the amount of oxygen available. What's happening in the skin is that reduction in overall metabolism, the overall activity of your skin, does decline over time as the blood vessel volume declines.

So oxygen is going to decline, which makes sense, oxygen would decline when your blood vessels decline. But it also has to do with the skin adjusting. One of the things you've learned from me hopefully is that when your skin sends oxygen to your epidermis, which is like the war zone, right? Because the UV light is so present there, especially UVC has more activity at that epidermal level, but UVB as well, of course. That creates this oxygen-free radical that we do definitely want to try to avoid. Well, the good news is your skin, as its capacity reduces, it also reduces the oxygen that it presents to the epidermis. It still sends it over with an antioxidant bodyguard, so to speak, something that stays on the ready in case the oxygen does get triggered by UV light.

Oxygen is controlled. So when it's controlling oxygen, that means it's going to reduce the amount of retinaldehyde as well, and that's something we can influence by putting more retinaldehyde. I definitely think retinaldehyde, which remember is the only ingredient your skin uses to make retinoids when it wants to make collagen. When your skin wants to make collagen, retinoic acid is the molecule it prefers and it doesn't store it, doesn't keep it around. It only activates it on demand. When the skin says, "Hey, time to make more collagen," retinaldehyde is called upon. If there is a shortage of retinaldehyde, that would be a bottleneck and I do believe that is the case. That's why I think the Osmosis strategy of delivering stabilized liposome delivered retinaldehyde makes the most sense.

The reason why retinaldehyde is in shortage as opposed to the other vitamin As, because your vitamin A population is essentially provided by your diet, and it's rarely a shortage, Vitamin A is so prevalent that there's very few diets where there's a shortage of vitamin A.

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All the vitamin As your skin uses naturally are going to be present, but the ones that is the most subject to being bottlenecked is retinaldehyde because of that final oxidation process that converts those other retinols into retinaldehyde. Secondly, in the bottom of that category is circulation and the fact that nutrients and oxygen are going to be in shortage with the reality that 1% of your blood supply shrinks away and disappears every year after age 25. By age 50, you have 25% less supply of these vital nutrients.

Well, what are the main nutrients being delivered? They're mainly going to be amino acids and fatty acids and minerals like copper and zinc. Those are going to be the main functional ones when it comes to your skin keeping its epidermis maintained and keeping collagen levels maintained. Increasing circulation is something you want to address, and that's one of the causes, one of the real causes of aging skin. The other one that I think is a bottleneck is vitamin C. We do get some vitamin C in our diet. We don't get a ton of vitamin C. To me, supplementing vitamin C in your topical regimen is ideal, and I do think you can make a case for supplementing vitamin C in your daily supplements. But I want to overemphasize that vitamin C is another one of these things that is not meant to be controlled or is not beneficial in megadose.

In megadose, it will reduce reactions, it'll reduce ATP production, it'll reduce your skin's ability to fight pathogens and your body's ability to fight pathogens. I'm a big believer in modest, if not minimal, vitamin C supplementation to your diet, just based on what foods you might eat. Also, in this category would be AKG. AKG is alpha-ketoglutarate, and it's an ingredient I use in our [vitamin C serum](#). It does the same function to make collagen, the vitamin C does which is called hydroxylation. One of the coolest things about it is that it's proven to increase collagen manufacturing when it is supplemented. Clearly the body has a bottleneck reserve supply of it, and so that's coming out in our new Regenerate collagen and liver renewal supplement.

Those are the things to think about when you're thinking about what's really causing your skin to age. I'm going to add in a couple of things. Exercise is critical for keeping your skin from aging quickly. It has to do with the oxygen levels. It has a little bit to do with circulation. It has a little bit to do with hormones, which we'll discuss as well. But I absolutely believe if you can't exercise, your skin is going to age faster. Again, I'm a guy that believes in three to five days a week that you're exercising. I'm not a big fan of ozonating. Although, I think ozone can serve a role in certain pathogenic processes and the hit of all the free radicals that come with the ozone therapy is justified by the anti-pathogen effects and or the oxygenation of tissue effects that it might cause. But it's not ideal, it's not something I would say you should do as a regular therapy.

I think it's really meant more for just certain classes of disease. Excess oxygen as well, not good for the skin and creates more free radical damage than it creates benefit. Same thing's true with excess oxygen when you breathe it in your lungs, it causes too much free radical activity to be beneficial. There's different people that talk about ways of supplementing oxygen. Our [Immune Activator](#) is one of the better ways to do it because of the stabilized trioxolane, tri-molecule structure. But if you're going to go with other forms of oxygen supplementation, I mean, like I said, nasal cannula oxygen actually hurts your lungs, excess

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oxygen at the skin level hurts your skin, and ozone is a little too harsh. It's not easy to do. This is why exercise is the go-to, if you can do it.

All right, and then in the final category of what age is your skin, well, first of all, let me just say chemotherapy obviously is going to age your skin because of the DNA damage that most chemotherapy causes, also the immuno-suppressing effects collagen production. Radiation clearly would cause rapid skin aging to the areas that are exposed to radiation, and so that's going to be on that list of things that really do cause aging. Then finally, in the hormone category, it's not all fully understood yet, so I'm going to give you my take, which is essentially that if you are aging as a normal person and you get into your 50s, it's in your 50s where your skin can start to show signs of a decline in your estrogen.

I actually think that muscle is primarily affected by testosterone levels declining, and I'm not speaking to hot flashes, I mean, this is all about skin aging here, but I was analyzing if there's any evidence to show that low testosterone impacts the skin. It just seems to have a minimal impact really. Now, of course, we can talk about how people with sebaceous skin types seem to age more gracefully because of the volume that they're enlarged spacious glands produce, but I'm not really speaking to that. I'm really talking about does a shortage in testosterone change how the skin behaves? I don't think it does. I think it's more about the muscle behavior there. Same thing with progesterone. I don't think progesterone has significant impacts on aging.

What seems to be the most dominant player in how the skin looks, and again I don't think this is a reflection of collagen manufacturing levels, but it's how the skin looks, is the estrone, which is one of your estrogens in your body, and it's the main estrogen that's present after menopause, and it's the one most impacted by these estrogenic toxins that I talk about so much. Equilin sulfate's a classic example. We get a lot of equilin sulfate in our diet, and it's a quasi estrogen mimicking component. That lowers your estrone, and when you lower your estrone, especially when you're going into your late 40s and 50s and 60s, then we can really see that in the skin. The secret again is [Skin Defense](#) binding up the estrogenic toxins, eating organic to reduce the exposure to things like equilin sulfate, not taking hormone medication in your later years, not chasing hormone numbers that don't apply to you anymore because you're 50 plus, and recognizing that you can thrive and live an amazing life if you exercise well past your 50s.

By the way, exercise increases your hormone production. So it's another benefit to the skin in that regard. But mainly where I see estrone having its impact is not on collagen manufacturing but more on fat cell volume. I think there's an influence on fat cell volume, and maybe not so much on the fat pads per se, but on other fat cell volume in the skin. When you lose volume, your skin starts to show its textural losses more obviously, so people see texture changes. Their wrinkles look more obvious with less volume, and the sagging looks more obvious with less fat cell volumes. I think it has to do with fat cell volume. I think it can be addressed. I think the secret is getting your natural estrone up to its levels.

Again, I put healthy levels which are not 20-year-old levels. Healthy levels is healthy for a 50 year old. Again, I'm not buying into the idea that there's any part of our design that needs that extra hormone as we get older. So here's the good news/bad news, and it's one of the explanations because a lot of people are like, "Wait a minute. I'm now in menopause. My

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skin's looking much worse. I need to generate more collagen." Your collagen is not what could have possibly been the problem because it happens so fast. I'm amazed in some people how quickly their skin changes, and that's not a collagen thing. That is a plumping thing. I am working on a menopausal moisturizer that addresses some of the changes in the fat content in the face and the fat volume. Of course, the [Hormone Relief Elixir](#) is a nice benefit on top of [Skin Defense](#) for a lot of you in that age range. That pretty much covered it. Those are what I think are the real causes of skin aging. I do hope this helps you, and I look forward to talking to you next week. Thanks for joining me.

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