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PODCAST TRANSCRIPT

Speaker: Dr. Ben Johnson
Episode 22: The Most Important Skincare Ingredients: A Shopper's Guide Part 1

Hello everybody and welcome back to another Ask Dr. Ben podcast. It's my pleasure to be joining you. I'm excited to jump into today's topic, which is what are the most important ingredients in skincare, a shopper's guide.

I think this is going to be super helpful for a lot of you because you're trying to figure out, "Where do I spend my money? Who's telling the truth about what ingredients? And what hype makes sense?" I totally appreciate, the first thing you might be thinking is, "But wait a minute, he owns a skincare company. He has a bias." But I want you to know I am presenting this list without any bias. The only bias I have in relation to the ingredients I chose is that I based them on what I'm about to tell you.

So, yes, it's true that you're going to hear me explain to you which ingredients are better and why. And yes, it's true that I tend to choose those ingredients in my skincare products. You shouldn't be surprised about that. But I promise you that all the ingredients on the market today are … well, 99.9% of them are available to any formulator at any time. So, I had the pick of the litter, so to speak and I made my choices. But I want to explain to you why I would not choose other things and what I find to be a little bit deceptive in the marketplace, as far as how things are promoted. And of course, the most important thing, which is how do you create beautiful rejuvenated skin? What is the best, most cost-effective strategy to do that? And you really need to know your ingredients in order to do that.

What I find is I've run into a ton of people who are a "skincare ingredient junkie." They are fascinated by the ideas that are presented in skincare. They care about their skin. They want to get involved. So they try to dive as deep as they can. The problem is that they only get the information that's submitted to them primarily from marketing campaigns, clever writing. I'll use some of these terms here and you'll see. Let's dive right in.

I think the most recommended ingredient in skincare today is probably in the class of vitamin A. Of course, it's very easy to get sucked into these ideas about vitamins. We have already been brought up under the concept that vitamins are essential to our health and vitamins for the skin are essential. But not all vitamins are equal. And the skin is not the best place for delivery of certain things. So, we're going to dive into that a little bit.

Let us start with, how do you even know what retinol is being used in a product? I see sometimes like on the front of a bottle, they'll say "Pure retinol." And I think to myself, "What does that even mean?" That's a total marketing term. "We use 100% pure retinol." Well, yeah, I think pretty much everyone can say that, to be honest. A pure form of a certain type of retinol. But pure retinol, if it just means retinol means that it is half trans-retinol and half cis-retinol. So these are two enantiomers of retinol, which are totally different in function, totally different in purpose. Cis-retinol has no real association with collagen activity. In all the studies they found cis-retinol is not a stimulant of collagen. You may have heard me say in the past, trans-retinol is more likely to stimulate collagen. But again, we need to understand how it works in the epidermis versus how it works in the dermis versus what retinols are chosen.

It's kind of a complex idea. It goes back to the original idea, which is beta carotene can convert into retinol, which can convert into retinyl palmitate or retinyl acetate, which can convert into retinaldehyde, which can convert into retinoic acid. So, that's the chain of events essentially that goes on within the skin. But it doesn't mean that when you apply any one of those forms to the skin, they are going to be converted into the other forms. Your body does this in a very targeted way. It primarily does this through diet modifications of vitamin A ingestion. The skin itself is quite a tricky barrier to navigate. The average retinol gets 2% penetration into the skin. So very little of what retinol you use is actually functioning at a level that you think it is. And of course there's the, "Well, what are the side effects? What are the downsides to retinols? And are they an important part of my skincare routine?"

If I were to summarize it, I would tell you be very, very cautious of adding retinol to your routine. The main reason for that is that retinol is highly oxidizable. It's highly sun-sensitizing. The entire industry thought they had outsmarted the skin by applying retinols, vitamin A's at night saying, "Yes, it is sun-sensitizing. Yes, it can oxidize and harm the skin, so if you apply it at night, you avoid the sun." Well, it was a nice thought, but in reality any ingredient that penetrates past the stratum corneum, which is that top barrier of your skin, any ingredient that penetrates past that is going to stay in your skin for a while. It's not leaving, you've got a good 24 hours. You probably have 48 hours of absorption from that, especially if you keep reapplying. So a little bit more packs in and a then even a little bit more packs in.

So it's there during the day. It's there when you go in the sun. It is there oxidizing and when retinols oxidize, they do create DNA damage. When retinols are applied, the vast majority of them do exfoliate your skin. So if you haven't heard me talk before, and this is your first podcast, well, welcome to a new reality where you should know that exfoliating your skin is not your job. It is not something you should ever attempt to do. Your skin is brilliant. It is a 24/7 AI driven machine that knows exactly when it wants to exfoliate, times it's exfoliation with incredible perfection and it does this your entire existence. It's an unbelievable system.

Here we are as skincare experts, as skin physicians, as dermatologists, I'm by the way, general practice, but a cosmetic medicine expert so to speak. Had several clinics and have been working with skincare products and patients and clients for the last 23 years. But yeah, I'm not a fan of that strategy.

One of the first reasons people say to use vitamin A is because it improves skin turnover. The only thing that is quasi-beneficial to improving your skin turnover is that you see a lightening of pigmentation. So retinols in many cases are used for uneven skin tone because they will force the skin to shed. In so doing, they will reduce the amount of pigment staining that occurs on their skin.

Now, I believe pigment staining is purposeful and protective. So exfoliating that away isn't the ideal way to go, number one. Number two, when you do exfoliate, you increase your sun sensitivity, which is another way of saying you increase your sun damage. As a result of that, you actually will worsen your uneven skin tone in the long-term by using daily retinols and exfoliating your skin. You also speed the aging process of your skin. Last but not least, in this wonderful vitamin that we think is so magical for the skin, it is dehydrating to the skin when it's an exfoliant. So in all of that mess, you have companies going, "Well, you must have vitamin A." And you'll see, like I said, the term pure retinol is actually typically a weaker

retinol, unless it's meant to describe trans-retinol. And they're trying to use the word pure for trans. So trans is more exfoliating, so it's more stimulating. So it's more potent by most people's definition.

But really what that potency is describing is how exfoliating and stimulating it is to the epidermis. Arguably, that actually might even mean that it's more inflammatory, but I haven't seen any studies that focused on that. Remember, most studies are done to try to sell ingredients or sell products, not to try to slam on the ingredient industry. It's really hard to find the right studies that are unbiased and that was certainly a challenge for me as a formulator.

Trans-retinol, oftentimes you'll find is the one that they're going to use in doses under 1%. If you are going to use a retinol and you're going to ignore everything I've just said, well shame on you. No, but if you are, you definitely want to keep your retinol below 1%. I think that ends up creating way more havoc than you want if you start using more.

Now, the funny thing is, is everybody formulates according to that. So if someone is using a 5% or an 8% retinol, that just means that retinol has been stabilized or isolated, or is not a very active form and so it's more tolerable. Very rarely do you see people throwing together a high strength retinol that just blows your skin away in the bad way, because obviously you're not going to want to keep using it.

Now, of course, the one main one that does that is retinoic acid itself, which is so poorly understood. Retinoic acid is absolutely the best collagen activating form of vitamin A hands down. But the problem is it is only meant to be made by the skin. The skin does not want any exogenous forms of it. In other words, the skin does not want retinoic acid applied from the surface, nor does it want retinoic acid in the form of isotretinoin absorbed internally in the form of Accutane. That's poisonous as all get out, Accutane.

But topically, retinoic acid, still the number one prescribed by dermatologist. The most “scientifically proven retinol, an absolute must for its proven collagen stimulation.” Well, pump the brakes on that because the studies are actually really clear. After one year of daily use of retinoic acid at several different strengths, didn't matter the strength, 0.025, 0.05, 0.1, the skin thinned and it thinned at the dermal level. What that tells you is you actually promoted aging because your skin thins at the dermal level at about 1% a year. Believe it or not, after one year of daily retinoic acid use, the papillary dermis thinned by 18%. That's arguably 18 years of aging happening.

Now, I don't think it quite looks that way. It's very confusing with retinoic acid because in the beginning, the inflammation that it causes to your epidermis is really toxic to the epidermis and it actually stops your natural maturation of your epidermis. It's really crazy. So you have these cells called keratinocytes and they go through this evolution in your epidermis over 30 days to become a corneocyte, which is the pact layer at the top. Retinoic acid interferes with that. Retinoic acid interferes with the breakdown of damaged collagen as well. Because when it's present, it's sending a chemical message of "Hey, rebuild, rebuild." So that message is drowning out the message of, "Hey, tear down the damaged stuff so that you can rebuild."

In other words, retinoic acid is supposed to show up a day later in the process of the tear down-rebuild, but because you're applying it every day to your skin, it's there giving the

message of rebuild while the other chemicals are saying tear down. That is another reason why I think your skin thins.

Now, they did a study carrying forward that 18% thinning over one year and they measured 30% thinning over five years. I have both of those studies. They are unbelievably telling. I want to say, over 400 patients in the one study at 18%. So, I try to tell dermatologists about this study. I've heard some crazy responses like, "Ah, that's the papillary dermis. It's a small part of your skin anyway," and "I don't believe it. I saw myself that retinoic acid is a stimulant and makes the skin look better."

So why does it temporarily improve fine lines? Well, when you inflame the bejesus out of your epidermal layers, your surface layer, you can oftentimes cause swelling. In fact it also causes some scar tissue accumulation in the epidermis with chronic use, and that can cause some plumping. So you do get some epidermal plumping and swelling that initially looks like your skin is getting younger. You do get the turnover, so you get a lightening of pigmentation. As it turns out, retinoic acid is poisonous to the melanocytes, which are the cells involved in staining your skin and creating the pigment. So you're poisoning the melanocyte, that helps with uneven skin tone. You're shedding the skin, that helps with uneven skin tone. You're wounding the skin so it plumps up and that helps with fine lines. And so that is where the addiction began, unfortunately it's all a smoke and mirrors campaign.

I'll throw in one more thing. When you exfoliate your skin, you sun-sensitize. When you use retinoic acid, it's research proven to cause DNA damage to your epidermal cells, your DEJ, the baseline of your epidermis. It's all out there, folks, it's all out there for review. Retinoic acid is definitely something that you want your skin to have a plentiful supply of, but it is not something that you want to use topically. So stop it now. Trust me when I say, stop it now. I know it's so hard because you follow your dermatologist's advice so closely and how could he be wrong? He's a Harvard grad. Or he's so smart or he's the expert. I get it. I just don't know why they're not looking at the scientific truth of it.

As always with me, I don't look for an outcome. I look for the truth and chase it down as far as it goes. If it flies in the face of everything I knew before, I get even more excited because I'm like, "Oh my gosh, how could that be? Where are people getting confused?" So I just walked you through how it works and why it works the way that it does, and doesn't work. Topically, it is a mistake.

There are a ton of people who have used it for years and they see a more vascular skin. Their skin does look more “see-through”. I believe that the main reason for that is that it does in fact thin the skin, so we don't want to do that. The trans retinol, you don't really want to be shedding your skin. I get that most people think, "Well, that tells me it's working." But your skin is exhausted. The turnover rate of your skin is determined by the food supply to your skin. So if your skin is in a slight starvation mode, which it does progressively become more starved over time, your blood vessels diminish over time. As your blood vessels in your dermis diminish, the food supply diminishes and the skin slows down. Just like if you were to eat fewer calories, your metabolism would respond accordingly.

So that's the summary of why exfoliation is not a good idea. Think about it this way. it's like saying, "Oh, your metabolism slowed down because you're not eating anything. Go run a

marathon." That's the equivalent of putting vitamin A on depleted, starved skin. You're pushing it at a point when it's really not healthy enough to respond and that just leads to more wounds, more DNA damage, more aging. Bad news altogether.

Now there are a few other retinol forms we should discuss, like adapalene is the "acne version" of retinol. I believe it's a cis-retinol and it has antibacterial effects. You might be surprised to know most retinols don't have antibacterial effects, including retinoic acid, which is neither good nor bad. I don't subscribe antibacterial effects. It's not a broad spectrum antibiotic, the versions of vitamin A that are antibacterial. It's a selective antibacterial. Acne is not a bacteria, so if you're using it for acne, acne is not a bacterial problem.

So what do I like? I like retinols that are more stabilized. But it's also got to be something that works. So I looked at all the research and what it came down to was that the only form of retinol that did more than just thicken the epidermis, and remember, the whole goal of getting your skin younger, permanently reversing aging is thickening your dermis. So thickening your epidermis is sort of a waste of time, definitely not a good idea if you're thickening your epidermis through wounding it. All the studies on vitamin A talk about the thickening of the epidermis. The only one that makes the most logical sense to me that has the most promise, and personally, after having formulated with it for the last 13 years, I can tell you, it does permanently thicken the dermal collagen layer, is retinaldehyde.

Now the problem with retinaldehyde is it's unstable. So if you have seen a product on the market or thinking about a product on the market and you come across retinaldehyde, you want to right away look to see, is it stabilized retinaldehyde? Because I learned the hard way that retinaldehyde can last as little as 24 hours in a bottle. It's really, really unstable. I had the good fortune of working with the lab who's figured out a way to stabilize it. Why retinaldehyde? Well retinaldehyde is the immediate precursor to retinoic acid. In other words, it is what the skin uses when it wants to make more collagen, because it doesn't store retin-A in the skin. Really important understanding to have, your skin does not store retin-A. It only stores retinaldehyde. So you want retinaldehyde to be plentiful in your dermis so that when your skin wants to make collagen, it does in one step, it converts it to retinoic acid.

The beauty of that is all the retinaldehyde in the world down there is not going to send a message to the cells to stop tearing down damaged collagen. Retinaldehyde is not highly exfoliating. Retinaldehyde, because it's stabilized and because it's so potent, it actually is proven to be as strong a collagen stimulator as retin-A. Equal in strength stimulating collagen as retin-A. That's a remarkable feat. So we use it in doses similar to retin-A, the 0.025, 0.05, 0.1. Whereas most retinols you'll see out there are going to be 1 to 3%. So you use a 10th to a 50th of the dose of a traditional retinol because it actually is a thousand times stronger than traditional retinol at stimulating collagen. What that's really signifying is the other forms of vitamin A that the skin stores like retinol palmitate, palmitate like retinol. Those other forms are not used to make collagen. They're used for other things. Vitamin A has many uses.

The skin doesn't just store four or five different forms of vitamin A in preparation to make collagen. It's got a lot of things going on. Vitamin A has a lot of roles and it's not all well understood. I don't believe that it makes sense to use a retinol since it doesn't stimulate

collagen very well, unless it's retinaldehyde. I think the risk to DNA damage, the inflammation it causes, the increased sun sensitivity, the accelerated aging, all these negative effects have only one positive, which is because it wounds the skin every time you apply it, it plumps the skin and makes your wrinkle look better.

Now you can do the zone test. So let's say you've been using a retinol that you bought into the story, hook, line and sinker, and you're feeling good about it. And you like how your skin looks on it. Well put that to the test. Stop using it. Stop using it for two weeks and tell me if your wrinkles stay improved. Because if they deflate back to where they were, or perhaps even look worse, because you've been using the same product for a year or two, and you haven't really seen it un-deflated, it's going to be a rude awakening because you're going to realize, "Wait a minute, there is no long-term collagen happening from this like I thought," and you were spending a ton of money.

So a couple of other notes here, I also believe in liposomal retinaldehyde. So I believe in stabilized, liposome delivered retinaldehyde so that I can get more penetration, no DNA damage, no exfoliation, barrier protection, a healthy epidermis while you're feeding the dermal activation of collagen. To me, it just made so much logical sense. So yes, I'm biased. But I'm biased by the science, not by some marketing campaign.

The last one I'm going to mention under the retinols is bakuchiol. Bakuchiol. It's just been in the news lately and it's a laughable marketing campaign. "Oh, this is the retinol alternative." And it's like, it's not a retinol at all. It has no function like a retinol. It is a plumping agent. I don't even know that it has any benefit to the skin. It may be harmful. I haven't done enough research to tell you whether or not it actually wounds the skin to create plumping. But it is not going to generate collagen. And it is not a retinol alternative. So, that's all marketing.

Oh, and I guess I should say that sometimes you'll see, "Well, the reason why this retinol is so good is it's been combined with vitamin C or it's been combined with alpha hydroxy acid, or it's been combined with hyaluronic acid. While I am a fan, if you know my formula, as you know, I'm a fan of maximizing each serum for the target purpose that it has. In other words, when I use my liposomal retinaldehyde in a serum, most often that serum will contain several other collagen stimulators because that's the purpose of that one serum. The purpose isn't to be a vitamin A serum. The purpose is for it to be a collagen stimulating serum. So you use all the ingredients that work in conjunction with, that work synergistically with vitamin A.

I can tell you right now, that's not vitamin C because that and those two together are going to create more wounding. Yes, they create a nice plumping from inflammation effect. It's not alpha hydroxy acid. God help us all that they even thought of the idea of putting retinol and alpha hydroxy acid together. That's a nightmare waiting to happen because alpha hydroxy acid only works by inflaming the epidermis. The turnover that it creates is from inflammation. It accelerates aging on its own. So when you combine a depleted epidermis, dehydrated from alpha hydroxys, dehydrated from retinols, and then they sell you a moisturizer because of that. But that's another point. So yeah, stay away from those combinations. You do not want that on your skin. It is not serving you.

Isn't it a tragedy that there's not more people out there speaking truth to this because I'm not just giving you opinion here. This is scientific fact here. I'm just always shocked how little conversation is given to the questionable safety of most retinols on the market today.

Okay. Well, my goal here was to probably split this episode into two sessions. I'm a little nervous to start right in on the next ingredient category, which is vitamin C's because we're so close to the line here. What I think I'm going to do is do a quick conversation on the moisturizer choices that you make and explain to you how you should invest in your moisturizer. Let's just cover that topic because it's a short and sweet ingredient discussion.

The funny thing about your skin moisture is the most important thing you can do to preserve moisture in your skin is leave it alone. That's the God's honest truth. Leave it alone. Don't exfoliate. Don't use aggressive cleansers. Don't use alcohol toners. Don't use devices. Don't scrub. That is the number one way to keep your skin moisturized. It's so crazy, the world's a bit obsessed with moisturizers and the primary reason why is that they are using other products that are dehydrating their skin, so they are finding this desperate need to have moisture.

Now, moisture is a deep conversation. I've done an Insta live on it because there is a way to affect your skin from the inside out, taking the proper Omega oils in your diet, which I believe are 3, 6, 7, and 9. Taking those oils internally will absolutely help restore the barrier and that's one way to do it. But keeping your skin healthy and well fed is the other way to do it. Moisturizers in general are marketing gimmicks, marketing gimmicks. So hyaluronic acid is a big selling point. But the thing is, is if you're using a hyaluronic acid in a dry climate, it can pull moisture from the skin. If you're using it in a humid environment, it works better, let's just say.

Then you have the emulsification systems in general, like almost all moisturizers are either an oil in water or a water in oil emulsification. What that simply means is one part of the formula is a little more dominant than the other, so typically a water in oil moisturizer is going to be a heavier moisturizer. It's going to feel heavier on the skin. Whereas a water in oil is going to feel a little bit lighter in the skin. That's always a personal preference.

Then it's like, how occlusive is it? What ingredients are being used that might be occlusive to the skin? Things like mineral oils should be avoided. But I'm a big believer in phosphatidylcholine as a great moisturizing component because it creates a temporary barrier function that keeps moisture in the skin, but still allows the skin to breathe. Other people put ceramides in moisturizers. I don't do that because the studies show that if I apply ceramides to the top of my skin, that in fact my skin will slow down its turnover rate because it'll read that as there's a problem. So there's a feedback loop is what I guess I'm telling you with ceramides that I think make them not the ideal lipid to put on the surface skin.

Now oils are fine. Then when it comes to moisturizers, if you're choosing the right ones, I'm a fan of a host of different ones, including see buckthorn and avocado oil. You're trying to use organic wherever you can. Macadamia nut oil has good moisturizing properties. There's several oils that you might find helpful. I generally would say stay away from putting a direct application of any essential oils because those do become irritating in high concentration.

Moisturizers, the funny thing about them is they tend to make your skin leak water more easily. That's the whole nature of what an emulsifier is. It allows water to get through lipid. So if you have your lipid barrier and you put an emulsifier on top of it, you could literally encourage water evaporation from your skin. I'm not a huge fan of moisturizers in general, which might sound funny because I make and sells a handful of them. But my goal is barrier

restoration and spend your money on the serums that make your skin permanently younger. That is a better solution than these plumpers.

Now that being said, most people feel their skin is dry. Most people feel better with a moisturizer on their skin. It just is something they become used to. So, have at it. Remember though that moisturizers go on last, so they're least likely for the actives in moisturizers to get good penetration. Most of the time I don't focus too much attention on which active ingredients I'm putting into a moisturizer because of that fact. I find you want to put the great ingredients into systems that have delivery systems. Moisturizers typically do not.

Now, plumpers like I mentioned, can be fine in certain instances, if they can make their way in enough to generate a plumping effect. But all that plumping from moisturizers is not reversing aging. It's not keeping you young. It's not helping you protect from the sun, obviously, unless of course, it's got zinc or titanium in it. You don't want to use a moisturizer that has artificial sunscreen in it because those wound the skin. So you don't want to apply something to your skin every day that wounds the skin. Even alpha hydroxy acid moisturizers are a mistake unless you're using L-lactic acid at maybe up to 2% because it is a natural moisturizing factor. At that level of percentage, it won't exfoliate or harm the skin. But there's no reason to have salicylic acid or glycolic acid in your moisturizer.

Again, the whole purpose of a moisturizer is a feel more than anything else. It does not have much of a functional purpose. That's why I'm biased against them. So on that note, we will finish today's podcast and remind you that next week we will have round two of the most important ingredients in skincare, a shopper's guide. I look forward to seeing you then. Thanks so much.

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