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Welcome, everybody. Today's webinar topic is Supplements 101, this is a really big topic, so I'm going to try to keep it basic and simple today, but please know that if you have any questions about specific supplements or if you want more information about a certain topic, definitely utilize the chat bar or email me after the presentation for

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that information and those that are attending live, there will be some polling questions about three today that you'll have pop up on your screen. So feel free to participate in those and of course, any problems with WebEx or Mai.

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If you can't hear me any more, please let me know because otherwise I don't know that information. All right. Well, today again, we're talking about supplements. My name is Christy Goff. I'm a registered dietitian and yoga instructor for Pacific Medical Center.

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I work with a program called the Living Well Alliance here with PAC Med, and it's essentially a workplace wellness program offering a lot of nutrition information and support for employees around Puget Sound. So I also do individual nutrition counseling with PAC Med at the Lynwood, Northgate, Beacon Hill and Federal Way Clinics.

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So if you have any questions about private individual appointments, you can message me as well after class. All right, so our objectives today are going to be to determine the basics of what supplements provide, what they are, how they're regulated, all of that good information you'll hopefully walk away with knowing some of the benefits and risks of

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certain supplementation, as well as the safety standards and how it's kind of structured in that way. And we'll definitely review some recommendations for specific disease processes and some cautions for others so that you'll kind of walk away with an idea of what supplements might be beneficial for you, or maybe a loved one.

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So I would love to start class with typing in the chat bar. Your experience with supplements up to this point? Has it been straightforward? Has it helped you replenish a nutrient? Has it been a real good asset to your health?

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Has it been confusing? Not very helpful. Write those in the chat bar. They go to me privately and I will kind of share those as they come in. So what are dietary supplements? Dietary supplements include ingredients such as vitamins, minerals, herbs, amino acids, enzymes.

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They're marketed as in various forms like tablets, capsules, soft gels, gel caps, powders, liquids and now gummies that are really popular. There are some benefits and risks to supplementation, so let's look at those real quick. So some supplements can help assure that you're getting the certain vital substances that your body needs to function.

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Others help reduce the risk of certain diseases, so that's a little bit harder to study because, again, risk involves a lot of other factors. Supplements shouldn't replace our meals, but they can be helpful for a diet, a healthy diet.

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But unlike drug, supplements are not permitted to be marketed for the purpose of treating, diagnosing, preventing or curing diseases. So if you ever see that on a supplement label, it's illegal, and I would be really cautious of trusting some of those marketing claims.

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So again, they have some regular regulatory things that are out there showing the benefits or may show the benefit, but know that there are certain regulations about what they can and cannot say. The risks are pretty minimal. Some substances have active ingredients that do have a strong biological effect on the body, however.

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So this makes them unsafe in certain situations or for certain individuals, especially if there's a medication involved. In addition to a supplement or herb, and we'll talk a lot about those in a little bit, but some of the herbs are going to be more of a powerful impact on the body when we're talking about different supplements and

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medications, for example. So again, we'll look at some of the the risk factors and some of those more higher risk supplements versus the ones that might be lower risk for you, but know that there are some safety standards or learn about.

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And I'll put a lot of links in this PowerPoint today to kind of point you in the right direction if you have specific questions about certain things. Of course, it's important to talk to your health care provider if you are worried about a supplement.

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Typically, that is something they will ask you if you are taking a variety of supplements just in case there is some kind of risk involved in those. So going back to my initial question of like, what was your experience with supplements?

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I wanted to just take a minute to share some of what you guys have said. So magnesium has been helpful for someone experienced generally limited to multivitamins. We'll talk about those today. I'm not sure if multivitamins do anything right.

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So yeah, we'll learn about what the kind of research is around in general populations. one person says she used to take a lot, but then found out that they don't really get absorbed. So yeah, let's talk about that today.

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one person's trying collagen, another one takes vitamin C and vitamin D, and they use fish oil. Since they said, let's see, their surgeon said there is some benefits. So, yeah, great. Thanks for participating that. There's a lot of people take

supplements and the amount varies drastically, so I'll first polling question for you guys today, how many supplements

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do you take? I'm curious, do you take none one or two, three to five or more than six? So some of the reasons why people take supplements, you'll see here for energy immune help to fill in nutrient gaps, healthy aging, heart health.

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You can see that slightly more women take supplements than men, although it's fairly close. And then 83% of adults with children under 18 take supplements as well. They. This is from the 20 and 19 consumer survey. So it's really interesting.

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They have a lot of information about supplement use if you go to that link down below as well, OK, give you about 30 more seconds for the poll. Looks like a lot of you are taking one to two.

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Some nine, some B or C. All right, closing that poll, I'll share the results so you can see the distribution, although your names are not included in that, so that's great. This is another infographic that I found somewhat interesting from the National Center of Complementary and Integrative Health.

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This is looking at a lot of the products are natural products that people use that maybe are not vitamins or minerals that are more of a different other substances. So you can see fish oil is on the top of the list.

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And then there's a whole core amount of other things listed on there as well. So we're going to talk today about probiotics, some fish oil. I can go into melatonin. I have that little bit of research on that, but we won't go into a lot of the different herbs, although I give you lots of resources if you

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want to look up specifics around that. So some populations are more benefited by supplementation than others. So as you can imagine, people that get pregnant or that might become pregnant are advised to take a multi vitamin. This is mostly to do with folate, and also they're finding more research that having DHEA, which is a part of an

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omega three fatty acid, is also important. So usually this isn't a prenatal multivitamin. There's a lot of them out there, and there's a lot of minor differences in them. But essentially, this is trying to just catch any type of deficiency or low intake of certain vitamins that are important for that fetal development.

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Seniors over 50 or people over 50. I know that word, seniors, it's kind of jarring, do well with a multivitamin. So again, if you're just on a general multivitamin, that's usually sufficient if you're otherwise healthy. This can be important if you're over 50 to focus on bone health.

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So things like calcium, vitamin D, magnesium, even vitamin K is becoming important in bone health and then B12. So B12 is one that gets absorbed less and less as we get older. So some of you might have that in your multivitamin or you might take a separate one, especially those that are on metformin, which is a diabetes

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medication tends to inhibit absorption. People that are vegan, so some to some of the nutrients that we just can't get in abundance from a vegan diet. It's harder to meet our calcium needs again. B12 is in a lot of animal products and zinc is also in a lot of seafood and animal products as well.

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People that are dependent on alcohol will be deficient in B vitamins, so that might be a way that they can get some supplementation in, whether they're in recovery or not. Hospitalized individuals might have some specific needs for certain vitamins.

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And then people with all host of disease states so celiac disease or other malabsorption diseases, if they have an eating disorder, they're often watched carefully for certain nutrients. Kidney failure will also have vitamin on there that's specific to their needs.

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If you have a genetic variant, so my friend, that's a dietitian works with metabolic syndrome and there is a lot of specific supplements that they need to take in order to stay alive and functioning because of certain different processes, or they're not able to absorb certain amino acids.

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If people have severe food allergies and have our more restricted diet, we might recommend certain supplements for them. For access to food quality could be a reason to supplement and then other mental health or mood disorders. So there's some good research on vitamin D, omega threes and probiotics for some mental health mild mental health disorders.

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So those are becoming more and more in the public and the research. So I wanted to go over a few supplements that I personally recommend, often for certain conditions or things. And then each one of these has a link that goes to a website that tells you a lot more information about that vitamin or mineral.

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So when you get that PowerPoint, you're welcome to just click on those. Most of them are from a really good kind of report about what that vitamin does and the forms that they are best absorbed in. So I encourage you to look up those if you're curious about your own different vitamins.

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So vitamin D, I recommend for almost everybody, this is typically harder to get in our food supply. You do find some vitamin D and fish products, some fortified products like milk, some eggs I've even seen with vitamin D in that, and you can get a tiny bit from mushrooms.

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But in general, most people cannot meet their daily needs just by food intake alone. You might have guessed there's another source we can get vitamin D from. If you want to write that in the chat bar, feel free.

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But I do recommend supplementing again for almost everyone. There are a couple situations where that might not be a good idea for you, so that could be something your provider would tell you. But if you're in a general health, healthy state.

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Vitamin D is a very safe nutrient to take every day and good. You guys got it. It's from the sunshine. So we actually absorb some vitamin D from the sun through the reaction of our skin. So there's three steps for becoming active vitamin D in the body.

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first, we get some sun exposure, then our skin converts that into vitamin A precursor of vitamin D. It goes to our liver and kidney, and then it's active. So there are a few stages that can get messed up or, I guess, lessen the amount that we absorb based on our skin condition, our age, our skin color and

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also the functioning of our kidney and liver. So that's why if for a lot of cases, supplementation, we're taking the active form d three and that is going to be better absorbed and about 1000 to 2000 I use a day is sufficient for keeping your levels where they're at.

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If you ever got your levels tested, which I recommend, you can find out are you very low? You might need a higher dose, or maybe you're high because you're doing too much supplementation and it just tells you you can wean off or do it and every other day.

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So again, that's 1000 to 2000 I use daily for most people, especially in the winter when we're not getting much exposure to sunlight in the northwest. Probiotics are often recommended for specific elements around digestion, so diverticulosis is these little pockets that form in your intestine and they can get inflamed.

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So when it's in that inflammatory state, it's called diverticulitis. And oftentimes, probiotics can be a great preventative for any attacks, so it helps get things moving through as well as fiber is often prescribed for a non inflamed state.

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People that are experiencing constipation or diarrhea or have IBS irritable bowel syndrome can sometimes benefit from certain strands of probiotics in the hospital. They use probiotics a lot to treat patients with C diff, which is a bacterial infection, and that's been shown to be really helpful, especially because they're on high dose antibiotics for that disease state.

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There could be another a couple reasons for probiotics. I mentioned the mental health piece. They're studying that. However, we don't really know exactly which strands are helpful for what being at this point. So there's a lot of speculation.

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There's some really good intro studies about certain strands are better for diarrhea versus constipation, for example. However, when you're picking out a supplement, the best bet is to get about six to 9 billion f use, which is colony forming units.

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And this is usually like a good amount. I've seen really high like 25 billion or 60 billion, and that doesn't seem to be any better for the body. So really doing like a low lower dose, even though that sounds extremely high, is usually best for general health maintenance.

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I would say most people don't need a probiotic daily if there again a healthy individual, but you can focus on getting probiotics from various food sources. So things like fermented yogurt products can butcher kepa, which is like a keeper substitute.

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All of these things are helpful for replenishing the good bacteria in the body, in addition to getting lots of different sources of fiber. So from vegetables, whole grains, et cetera. Again, there's some really good information about some studies around probiotics and the different strands on that link that's that is on probiotics there.

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So you might have heard of tumor. Right? So this is a supplement that's an herb and it's a spice that we can actually use in cooking, but the supplement typically is much higher of a dose of the curcumin, which is the active form of turmeric, and it's typically treated for certain types of arthritis as well as other

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inflammatory conditions, or I've seen it used in a lot of autoimmune conditions. So things like IBD, different types of like autoimmune arthritis, lupus, that sort of thing. So there's not great, conclusive research around tumor, although there are a lot of anecdotal evidence that tumor can lessen soreness and pain, especially in the joints.

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It's also been used to treat some digestive disorders or respiratory infections. However, I do want to caution that there is too much of a good thing. So if you are supplementing with turmeric in really high doses, it can cause some liver issues.

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So it's nice always to keep going to your doctor regularly, and they'll catch anything that is concerning on just like a general metabolic lab panel. So it's good to just know that too much of any of these supplements can be harmful.

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That's why we usually promote food first, because you're probably getting a lot lower doses and too can be a fun one to

use in curries on various dishes. Salad dressings, that sort of thing. So if you have any ideas for recipes, you can share that and I'll say them in in the main presentation.

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Omega threes can be helpful for those that have high triglycerides or they want to protect themselves against dementia or Alzheimer's, so in our aging population, this seems to be helpful for a little preventative. You can get this through eating certain foods like fish and certain nuts and seeds.

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However, if you are vegan or just don't like fish, it is another way that you can supplement for it. And as I mentioned, supplementing with the specific omega three DHEA has been shown to be really helpful for those that are pregnant.

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So I've heard that lowering triglycerides doesn't work for everyone with Omega three, that could be like a genetic factor, but it can't hurt because again, it's not necessarily doing harm in the body unless you're on a blood thinner than they would probably caution you against that.

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Does anyone take Omega three supplements? Oh, and I just remembered I forgot to do my polling question around Omega three, so it's going to quiz you on some of the benefits of taking that. So now, you know, lower triglycerides helping with brain health, including some good initial research on treating mild depression as well.

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Some that I also recommend are bone building nutrients, so calcium, vitamin D, magnesium are usually all in like a bone supplement. And this is important for those that have any signs of osteoporosis typically in postmenopausal women and then men over 60.

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As our needs do change and we need a little bit higher of calcium as we enter that second half of life. So this is important because again, if you're not eating sources of calcium or absorbing your vitamin D, you need all of these three nutrients to help you with bone health.

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And then there's some good research on vitamin K as well. We'll talk about absorption, but know that you can get calcium from certain things like Tums and over-the-counter things. So that could be a cheaper way to get some of these bone building nutrients if you feel like you're falling short of calcium.

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Next on our list is vitamin B12, so this sometimes comes up as having anemia, there's a different type of anemia that's not as much focused on iron, but it's focused on B12. So they would look for this in labs.

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People that are vegan, like I mentioned, don't get any animal sources, and vitamin B12 is mostly in our animal products. And then those on metformin would be recommended to take a supplement. As we get older, there is a two step absorption process for B twelve.

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It goes through first our stomach, which needs our stomach acid to have an intrinsic factor, which is like a little body that helps it get into our bloodstream. And as we get older, that stomach acid starts to decrease.

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So the availability of those intrinsic factors actually gets less. So that's why we say over 50. It's good to start supplementing with B12 or taking a multivitamin that has it in it. You don't need very much, but it's really helpful for memory.

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Preventing numbness of severe deficiencies would be like numbness or tingling in your limbs. Forgetfulness, I know that's a hard symptom to kind of pinpoint, but all of these are really important. And then anemia often occurs if you feel really tired, very fatigued, similar to iron.

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Then the last one on my list, and I know someone said this earlier, but magnesium can be really helpful for preventing leg cramps, building bones and then better sleep. I've also seen it use a lot for chronic constipation, so having a source of magnesium helps to loosen the bowels and help things kind of flow freely through.

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So this one is one that when they've done some studies that most Americans aren't getting enough magnesium. So it's also something to look for if you're taking a multi to make sure that it's in their. So we'll pause here for any questions about any of these specific nutrients, know that there are a lot others out there, but

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these are some of the common ones and some of the safer ones that I typically recommend for certain conditions. And all of these nutrients, maybe besides turmeric or probiotics, would be included in a multivitamin. Righty, I'll keep the questions coming, if you think of them.

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one person asked about apple cider tablets, I have not heard much good research around if that's helpful for digestion, usually it's used for digestion. I know some people will utilize vinegar in their meals instead of a tablet, but tablets are better if you have like any GERD or acid reflux or heartburn.

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Because the vinegar is pretty pungent, man can wear away at your esophageal esophageal lining, so I don't usually recommend doing shots of it. But it has seen some anecdotal evidence, although I haven't seen any really good studies for it.

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Thanks for that question. Any other ones? Collagen supplements, yes, I have a great article that I'll share with you in the follow up email about college and supplements. Again, it's another controversial supplement because we haven't seen any concrete data from it.

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There has been small studies that show like Ambien, ambiguous results around some positive, some negative around skin health, which is an amino acid. So it's a protein source that some people will take for muscle building as well. But yes, let me put that in your follow up email with the collagen.

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And how much magnesium should be taken, so there is some great dosage recommendations in the link that's on your screen. I know you can't click on it now because we're through WebEx, but I will share that in the follow up email.

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And it's usually about three 300 and I'm going to say MG, but I might. It might be microgram. So pardon, I'm not totally aware of that. But yeah, usually about 300 milligrams, I think is good for sleep or just for if you're experiencing leg cramps.

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And I'll show you some of the the different types of magnesium and some are better for constipation versus sleep. Turmeric can be a brain food that was one question I got. It's been seen to show to help dampen the inflammatory process.

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I'll talk a lot about this next month when we talk about inflammation. So in essence, it can be a brain food in that it's just lowering inflammation in the body. But there's not like a direct association to brain health.

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Great questions. All right, yes, keep them coming if you have them. Let's talk next about multivitamins since Apollo inherit a bunch of links that you can go to afterwards. Multivitamins are probably the more common supplement that people take.

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Typically, people are taking them to fill in any gaps or because they're told by their doctor or they think that it's healthy. So this one usually makes up about \$128 billion every year in the supplement industry. So that was from 2017, so that could be even higher now.

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But what are the research saying? So a recent study found that there's insufficient evidence to recommend multi vitamin supplements to an average healthy American and that in fact, taking too much of certain vitamins can actually cause harm. Luckily, most multivitamins have very low doses of things, or if they're 100% of your daily value, it's typically because it's

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a water soluble vitamin C. You're going to just get out if you don't need it. But there is some good evidence that it can help for certain things. So there are some studies suggesting that multivitamins are correlated to a reduced risk in heart attacks and death.

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So that doesn't mean we know for sure what causes what. In general, when they look at who are taking these multivitamins in this study, it's mostly healthy people to start with. So people that are exercising more people that are more conscientious of choosing nourishing foods.

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So it's hard to tell whether those things are more preventing the heart disease or if the supplement itself is it's really hard to kind of take it out and reduce some of the factors that people are already doing.

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The Physicians Health study investigated the effects of a daily multivitamin of over 14,000 middle aged doctors that are male over decades, over ten years, and found that there was no reduction in heart attacks, strokes or maternal mortality between the group that took the multivitamin and those that didn't.

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So again, take it with a grain of salt. I don't think there's any big effects of taking a multivitamin as far as preventing disease risk. However, it can be helpful for filling the gaps, like I said, in certain areas of your life.

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So pregnancy and older age, because it contains a little bit of everything. Most of multivitamins do not correct deficiencies. If you have, say, a deficiency in calcium or iron, you're not going to get corrected from a multivitamin, but you're not going to get any worse, either.

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So it's kind of up to you, whether you want to take one or not. If you feel like you get a lot of nourishing foods and fruits and vegetables and whole grains, and you're eating a fairly healthy diet.

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I would say you can save your money and spend it more on those vegetables and fruits that we have. If you do feel like there and you have a couple of chronic conditions or you're just not able to get the amount of vegetables and nutrients that you can.

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It can't hurt. And again, they're not dangerous to be taking for most people, so they can be a good, healthy part of your diet. For athletes specifically, I got a question on I again. They can be helpful in replenishing some of your stores, but if you are deficient in anything, it's not going to correct that.

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So there is not like a yes or no for athletes, although if you have the means to afford a multivitamin, go for it, right? And then the timing of your multivitamins, it's good to take them daily as they're kind of prescribed since most of them are such low doses.

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If you do take it every other day, that's also fine. But again, once a week probably wouldn't do anything at that point, right? It's just such a low amount in most severe vitamins that it's not going to necessarily help you in any way if you're

taking it so infrequently.

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Yeah. Good questions. And the other ones up here. I'm going to talk about you as certified in the next slide, so I'm going to save that question. And I'm not sure of any good supplements for thyroid health, but why don't I put some resources for you guys in the follow up email on that?

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Yeah, there's there's definitely ones that you can take for activating thyroid or helping the thyroid. All right. And then is there a percentage of vitamins? Are the percentage of vitamins much lower than if you take the vitamin A by yourself?

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Most of the time, yes, because you're taking so many at once. There is a lot of maybe absorption, conflicting things going on. So when you take it by yourself, they're typically more targeted to fill the gaps of a deficiency.

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So you can have a little bit more control over dosage. So a lot of times, yes, they'll be. They'll be more in a solo vitamin than in a multi. It depends on the vitamin, though, because again, B vitamins, since we pee them out, they usually put 100% in most multivitamins, so it's almost the same as taking like

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your own B vitamin that was separate. Performance boosting supplements, we will talk about a little bit, so I'll save that one for that slide to. And then is marinated vegetables good for stomach lining? I have not really heard that they're better or you're like probiotics because they're in the brine.

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Unknown

If it's a fermented pickle or fermented vegetables that haven't been pasteurized, you will get some probiotics in that. So know that those could be beneficial for your gut. But in general, just pickled things are often what's called pasteurized, so they're probably going to kill whatever's in their.

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All right, great questions. Yes, please keep them coming. Again, we. We know a lot about vitamins, but we also don't know a ton about them, so it's still one of those areas that quite studied. And actually I I had only one class about supplements in my whole nutrition career at this point.

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So it's something that is not always learned about unless you're in the field or really studying biochemistry and a lot of factors in that. OK, so let's move on to safety and efficacy, so with supplements, this is challenging because the process for certifying safety in our country is pretty lacking.

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So the FDA is in charge of regulating supplements for their identity and safety. They, however, don't look at how they work. So the efficacy part is usually missing in the FDA oversight. The supplements are also regulated on the food side of things.

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Unknown

So again, it's not always going to be an expert on the absorption of these supplements or even testing the product once it's made. So there's some kind of guidelines that companies utilize, but in general, a lot of the regulatory process is left to the company themselves.

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Unknown

They must keep records, they must follow the regulatory laws, but they're only regulated. You're regularly audited. So meaning that there's not much oversight and they might be able to get away with a lot before they're actually audited. So that being said, I just want to throw out some statistics, so between October 2018 and September 2019, the FDA

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audited almost 600 companies in the US and abroad. 52% of those in the US received a GMP noncompliance letter, meaning there was something that wasn't right about their supplement. That is, half of all of those that they audited for the United States had some kind of thing come up that was in that non-compliant zone.

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Unknown

Oh, it's kind of scary, right? And so the numbers did continue to go down. They looked at 2012. They had 70%, had received letters for noncompliance and then 2015, they had 62%. So now we're at the 52%, which is better, but it's still not great.

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Unknown

And then 42% abroad of those companies abroad also got those noncompliance letters. So what can you do instead? Good supplement companies will start vetting their products through a third party agency that will perform ingredient testing. They'll look at safety again.

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Unknown

They'll also look at how the product works. Right? So whether or not the probiotic you're buying, it has an actual live bacteria in it. That's a big one. Whether or not your omega three supplement has anything extra in it, like Mercury, for example.

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Unknown

So those things again, are most likely left to the company. And I will say most companies try their best right. They don't want to harm us. But there's not a lot of oversight in it. So there's several companies that do this third party testing, and you can see them their logos on the screen.

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And again, I'll put some more information about these guys. Consumer Lab was developed because they kept finding that when they tested random supplements, they weren't always what they said they were. So the levels weren't the same. Maybe some things were degraded over time.

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Unknown

Maybe there wasn't as much live probiotics, for example. So they actually have a whole website where I think you have to pay for a subscription, but you go on and you can actually look up your supplement that you own and see if it's gotten good or bad ratings.

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Unknown

So that's an interesting one. The rest of them are actual companies that oversee different supplement companies, and they kind of give it their seal of approval if they pass the inspection. Other companies do it in-house. And again, that's great that they're testing their products.

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Unknown

However, we don't know how often or if they're covering up anything. So it is better to have that third party seal on it. In addition to kind of the safety of the actual supplement, you want to make sure that your supplement isn't interacting with any type of drug that you're taking.

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Unknown

So a lot of them go through the same process for getting them broken down and out of the body. So this website below will be you'll be able to put your medication in and see if there's any supplements that are advised not to eat or drink.

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For example, grapefruit juice is often on that list. So again, if for some reason there's grapefruit extract in something or there's different herbs that will interact with the efficacy of your medication. So one big example is St John's wort.

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That one is really contraindicated if you're on any type of medication because it kind of goes through the same again process and can reduce the activity of that medication. So great sites to check out there, and I encourage you to actually call your supplement companies and just ask if their third party tested if you don't see that

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Unknown

seal right away. Again, many of them are on their website will highlight it if they are because they're paying for this service. So it's something that you could investigate on your own. All right, so like I promised, someone asked about performance boosting supplements, the three most risky supplements that we see the most harm done are usually things

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that involve weight loss supplements, performance enhancements, which is Earl Gennych and then sexual enhancement supplements. So these usually have the most emergency room trips, the most kind of warnings against them. And there are certain compounds that are even banned now from some of these different compounds that can be really harmful to the body.

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Unknown

So check check to see if you're on any of those. first of all, and especially if you're getting them online, there is even less safety and kind of oversight to those. So again, it's brand specific, but you want to make sure you have a trusty supplement company that you are using.

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Check that drug, nutrient, interaction, buying reputable brands when possible. So again, look for those seals that have the third party tested and then also look for companies that test every single batch. So that's one thing that's really interesting is that some companies will test like every ten products that they make, every product they make, but oftentimes the

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better companies are testing on every batch. Now, most of these are going to be a little more expensive because they're paying for these tests and also that third party verification. So know that sometimes price matters. Other times, not so much, right?

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Unknown

If they're kind of just marketing to a certain thing, but there's certain aspects you can look for in your supplement. And certain stores that you go to will also make sure to only sell these types of brands. So I know for sure PCC does a lot of work with making sure the supplements that they sell all have

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33rd party tested certificates. And then I believe some other, like holistic foods markets, will also do the same. So you could always ask employees at those types of stores as well, and they should know some of these information.

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Unknown

There is an FDA warning letter database that you could actually go to to see about any compounds that have been banned by the FDA. There is a couple that are still out there in the market, especially around weight loss or performance enhancing ones.

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one example is the MHRA. It's di methyl Texel amine, and that one has been banned by the FDA for a potential safety risk. And that one is still active in a lot of supplements out there, especially the online ones.

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Unknown

So knowing those can be helpful or just looking up, if you do have anything, those can be kind of the more the more dangerous ones to consume. All right, a couple of questions came in that I just want to mention here.

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So our B12 shots available to different patients, yes, so some people will prefer a B12 shot because it bypasses the absorption in the stomach. Some people will also take a sublingual supplement, so again, bypass that stomach acid problem that I mentioned earlier.

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Unknown

So these would be done at your doctor's office specifically, and they'll do a blood test to determine that you are actually low. It wouldn't be something necessarily that you need to do preventatively. I know a lot of like naturopathic offices will get you when to do free B12 shots, and it can help some people with their energy

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. But if you're if you have adequate amounts, you probably won't feel any different. So it's not like a magical one. It's going to help everyone. It's just if someone is actually low and needs it, it can be really a direct way to get that supplement in you.

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Unknown

And another question was about prostate supplement, and I am not aware of any specific ones, but again, let me write

that one down and I will see if I can find any information about that. Any other questions around safety?

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Unknown

A couple other ones that have been banned are standardized red yeast rice. So that one, it's been used for cholesterol, and again, it's probably the type of standardized red use, a lot of people have reactions to it, so that one is not considered as safe.

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Unknown

And a lot of the weight loss drugs are performance, drugs also contain some kind of caffeine. So knowing if you are sensitive to caffeine, some of these will cause extreme heart rate anxiety or just feelings of like too much caffeinated, especially if you're combining it with your normal coffee or tea intake.

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Unknown

All right. Here's a couple other supplements that deserve some caution, so I'll and I'll let you look over this if you are kind of in any of these groups. But for example, B carotene beta carotene supplements is vitamin A precursor, and if you're a smoker, it does increase your risk for lung cancer.

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Unknown

So this one is not recommended to do. If you have high dose vitamin A or beta carotene, food doesn't matter. Right, so keep eating your vitamin A from food sources. It's just the higher dose vitamin supplements. We also know that a lot of vitamin A in the retinol form, so not in the beta carotene form, will increase

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Unknown

the risk for birth defects in pregnant women. So that's usually not recommended. That's why drugs like Accutane and some retinol products for skin are very high vitamin A, and they would be one you would want to be discontinuing those if you got pregnant.

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Unknown

Another one on here says folic acid excess in cancer. So folic acid is typically fortified in a lot of our processed foods since we used to have really low deficiencies of this. And they're now finding if you're on a high dose, like doing an actual supplement for folic acid, it can be helpful preventing cancer.

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Unknown

But once you have cancer, it actually can speed up the cancer growth itself so that when we have this question mark, because there's still some studies coming out from it. But I just want to mention that usually supplementation during cancer treatment is a really it's really recommended to talk to your doctor and your care team because there

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are some things that we just don't want you to eat at this point. Potassium is not great for those with kidney disease because you're not able to pick it out is usually water soluble, but in kidney health, you're storing a lot more of that fluid.

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Unknown

Same with high dose vitamin C or D, and those can be at risk for kidney stones. Is there any other ones that you're like, Oh, please tell me more about that. I personally experience high vitamin B3 and flushing, so if any of you've heard of nutritional yeast, that one has a lot of B vitamins, and I took

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Unknown

a little too much in one day one time and I got hives all over my body and this like flushing around my throat. So it didn't necessarily cause me to, like, have an anti-epileptic shocker, anything, but it was a little uncomfortable and I took a Benadryl and slept for the rest of the day.

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Unknown

So this one's common in like drugs that claim to lower cholesterol. OK. And then are there different types of iron supplements like where it comes from, how it's absorbed? Yeah. I should have put that one in our next slide, but I forgot.

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Unknown

So let me get back to you on that one. And there are certain forms that are more easily digested because of the risk of like constipation and stomach upset from some of the cheaper forms of iron. So I'll get that to you guys, too.

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Unknown

And liquid is typically more absorbed for iron supplements than the pill form. I don't usually recommend niacin. It had some good preliminary research on lowering cholesterol, but typically because of the side effects to it and the fact that we're paying out most of it, if we're taking an excess that I don't necessarily recommend that one on its

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Unknown

own for anything particular. All right, yeah, so niacin is B three. OK, so finally, how do you even pick a supplement? I still get overwhelmed in the supplement store because there's just so much variety. There's so many claims there is the marketing things out there, and it's really hard to sort through the amount of data that's in

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Unknown

front of you when you're at like a supplements specific store. So knowing you can ask questions, a lot of times whoever's working there might have some insight on the third party tested or some of the the types of supplements.

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Unknown

But typically, I always say we can do a lot with disease states through our nutrition and nutrition alone. So know that like they can be super helpful for certain things. But a lot of times they are a money suck that's not really proving or doing anything really great for the body.

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Unknown

Again, unless you're, like, really deficient in something or have a chronic disease that really recommends one. OK, so going to do the last polling question, I almost forgot this one to you. Open, Paul, so what affects absorption, do you think of certain vitamins or supplements in general, so you can take more than one on this question?

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Unknown

So it's a quality of raw ingredients, chemical form of vitamin or mineral added ingredients to a supplement timing and the food is eaten with it or not. So choose all the ones that you think affect our absorption of this supplement, because this oftentimes will help us pick the one that's going to be right for us.

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Unknown

Give you about 30 more seconds to do that in the meantime, feel free to ask a couple more questions. Right, I'm closing in the poll, it looks like my assembly chose all of them, which is great because that's what I wanted to do to do.

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Unknown

So all of them affect the absorption of a supplement quality of raw ingredients I put out there. This does matter because sometimes the the benefit from a nutrient is only as good as where it came from. So this is really important for certain herbs to where they get it, what's processing it.

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Unknown

And you can kind of go into the weeds trying to find out this information, but just know that it's part of why some supplements might be more expensive than others, depending on where they're getting their ingredients from. Absorb ability, so different vitamins will interact differently with with various things, so there's some vitamins that need the presence of

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other nutrients in order to be absorbed. So an example is that vitamin C tends to help the non heme iron absorb better than if you didn't have vitamin C with it. Vitamin D helps improve the absorption of calcium, which is why it's always recommended in a bone health supplement.

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Unknown

And we also know that magnesium is important for this absorption as well. There are some nutrients that like to be with fat. So, for example, anything that has vitamin A, D K will need some kind of fat to be absorbed.

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Unknown

So maybe your supplement will have some of that with it, too. In addition, like omega three fatty acids will have some fat in it, too, because they're fat soluble and they're absorbed better in that way. Other ones that we want to look at is when we take high levels of zinc so safe or immune health or a

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Unknown

cold that can decrease our iron and copper absorption. So we only want to do high doses and really for a short amount of time, like if we're experiencing a cold. High doses is recommended for like one to four days and then trying to go back to no supplementation or very low.

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Unknown

There's other things in food that can help inhibit absorption, so you might have heard of oxalates before. This is in things like spinach that will inhibit absorption of certain things and then fight dates, which is in a lot of seeds.

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Unknown

And this will kind of eliminate or bind to certain minerals, and they won't be absorbed as well. So when you're thinking about a supplement, most of this thought is already done for you, which is great. You'll see that certain things are just automatically with each other when you're buying a supplement to help absorption or decrease absorption.

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Unknown

But it is good to know about those, and we'll go over some of the types of vitamins that are better absorbed versus

others. And then expect excipients, I knew I was going to mess that word up. Different additives in supplements could be a problem for folks that maybe have allergies or just a lot of fluff and certain

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Unknown

things that you're paying for that fluff rather than for the actual vitamin, which is why oftentimes you can find really cheap certain things because there's a lot of additives in it kind of filling it up, so to speak.

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Unknown

So let's look a little bit closer at observability. And again, we see that different nutrients bind well together, some don't bind at all. But the ones I want to highlight are different forms of vitamins and minerals. And again.

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There is a great website that I'll link to that you can go and look up every vitamin and mineral and see what types of forms there are. Because again, the more expensive supplements might have a more absorbable form for those that make have a digestive concern or a malabsorption concern.

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Unknown

That's but most people with healthy gut health and healthy stomach acid can handle some of the harder to absorb ones. So examples are up here. Folate is typically in the form of folic acid, and this one is really cheap.

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Unknown

It's also pretty observable in most people. But if you have a genetic variant that doesn't allow you to absorb folic acid and very few people test for this, so sometimes it's just you don't know until you have a problem with it.

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Unknown

But there is a form called methyl folate that's in an active form that can bypass this genetic variant. It's not super common, but it's something that the supplement companies have know about. And so if you see methyl folate, it's just a really observable form of Folate.

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Unknown

one person asked about magnesium. So here's a little answer on that magnesium. It comes in two major forms. The citrate is probably the more common form, and then the glycine is that other form glycine it has been used more for like the calming anxiety, sleep type issues and then citrate is usually used for constipation or if you

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Unknown

just have low sources. So they say citrate is probably the most absorbed out of the four that are listed here, but they all do a little bit different something in the body. So again, around that 250 to 300 mg if you're supplementing for a specific element is usually the recommended amount.

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Unknown

Let's see. So the two different types of D vitamin D I mentioned before D two and three D three is going to be the more active form. So I just always just recommend everyone get D three unless you're D three is made with sheep's wool.

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Unknown

So if that's a concern for you, you can take D two, but you just might not absorb it as quickly. And then the last one on their calcium carbonate versus citrate, so carbonate is the form that you would find in tons.

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Unknown

It's really cheap. It is absorbable, but it takes a little bit more stomach acid. So in a healthy individual, carbonate is totally fine if you're more sensitive or if you have a lot of chronic diseases. Citrate might be a better option for you.

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So this one is also recommended for just if you have poor absorption. All right, and then I'll get some information on iron for you. Is there any other supplements that would be of use for you as far as like the absorption or the mineral or vitamin form?

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So if you're worried about bone health, I got a question, do you take it K2 with the three and K2 is really recommended for a bone health supplement. As far as just getting your levels of vitamin D3 up, you don't necessarily need vitamin K with it.

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Unknown

It's not helping the absorption at all. It's just good for bone health. So if you have a bone health supplement, see make sure it has some vitamin K as well as magnesium and vitamin D. Great questions. And the other, again, vitamins that I can.

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Unknown

Add in your follow up email, so I got vitamin E. Right. Yes, and there are a lot of different fiber supplements out there. So depending on what you're taking it for, some can be better for constipation, some can be better for diarrhea.

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Unknown

So I can put that information to in Nepal female. Now, so much information around supplements, right? There's also what's known as lated mineral supplements that are typically bound with something else that have been shown, you can take them without food without causing any gastro upset.

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Unknown

However, most vitamins you want to take with food just to have additional very variables to help you absorb it like the fat, for example. It also helps with any stomach pain, especially iron and calcium. You want to make sure those are taken with food.

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Unknown

And then if you do have, like a chelating version that could be done on an empty stomach. Lots of label reading. But again, if you're at the store and feeling really overwhelmed, know that a lot of the companies are doing a lot of this absorption on their own.

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Unknown

So they'll be certain brands that pride themselves on, like helping with better absorption so they might just have different types of the forms of minerals and that that you might only need if you have any digestive disorder or if you have a lot of chronic diseases.

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Unknown

Question around when to take supplements. Yes, so is there a preference to take it with a certain meal? No. Oftentimes, if you do get nauseous with supplements, I know some people do. It's better to take them at night with dinner.

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Unknown

But if you only remember in the morning, take them with breakfast. And if you feel fine that that's just a great time to do it. Some people will take them periodically throughout the day so you can break up your dosage if you require like two for your multi vitamin, you can take one with breakfast and one with

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Unknown

dinner. Sometimes that helps with the absorb ability, too, because lower doses are often absorbed and not paid out if you have excess. But yes, any time with food is best. If you're taking a fiber supplement, I would not do your multivitamin with that fiber supplement because the whole thing with fiber is it's pulling things out and kind

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Unknown

of pushing it through the body, so you probably won't get much benefit to your vitamin or medication. So fiber supplements could be should be taken on their own. Or at least with like a few hours in between. Yes, do not take any vitamin K if you're concerned about blood clots, especially if you're on warfarin.

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Unknown

Warfarin will basically inhibit clotting, and vitamin A makes clotting happen. So they're like kind of two things that you don't want in. You don't want vitamin K to be higher than your warfarin. Your your body or your doctors will test her levels initially.

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Unknown

But you want to stop all vitamin K supplements and then watch your intake of vitamin K foods like dark, leafy greens. A lot of the healthy foods, unfortunately, but you can still eat some as long as it's a consistent amount.

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Unknown

Are there some vitamins that are a bunch of sugar? Some will have a lot of sugar added to it, so gummies because they want them to taste good, often have more sugar in it. So yes, look for those, that's the next slide excipients, which is just additives that bind ingredients together.

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So I like this diagram because it shows you some of the common ones that are in your supplements. A lot of them have like a coating because the vitamins taste really horrible. So if you can have just the coating, go on your tongue and then you swallow it, it's usually people will buy them more often.

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Unknown

And then gummies know some gummy vitamins know that they're going to have. They're going to limit the amount. It's not going to be a complete vitamin. So are certain vitamins that just taste a lot worse than others, and those are usually pulled out of multivitamins, so you can take a look at some of those.

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Unknown

And you'll have this to refer back to as well. Our ratings, so I hope I gave you a good amount of intrigue around the topic of supplements. Of course, if you have any questions, feel free to email me.

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Unknown

I also put some resources at the end of the slide that I use for the presentation. one of the best ones that I was looking at a lot is this bottom one. It's from the NIH National Institute of Health, and it's a list of all vitamins and minerals, and you can click on them.

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Unknown

You can show the forms that they usually come in the absorbable factor of them, what they might be better for, what research they have around them. So these are great. There's also an herb one that you can search for, like turmeric and ginkgo.

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Unknown

And what else? There's tons of other ones out there, so you can see the efficacy of some of those. So I encourage you to do some further research on what would be helpful. And then again, know that there are some interesting science around multivitamins and certain supplement companies.

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Unknown

But if you feel like they're helping you, that's going to be the best bet. So if definitely keep doing it, if you feel benefits from them, if you're not sure, you can always chat with your primary care doctor or your dietitian about them as well.

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Unknown

All right. I'll stay on for a few more minutes. If you have questions.