Edit John Way OUT OF PAIN by Dr. Ritamarie Loscalzo



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TRANSCRIPT



MANAGING PAIN AND INFLAMMATION THROUGH FOOD TRANSCRIPT

his is Dr. Ritamarie Loscalzo. I'm really excited to share this information with you. Our topic is "Managing Pain and Inflammation."

Each of you has a reason for being here, whether it's that you are struggling with some sort of chronic inflammatory condition, you want to prevent chronic conditions, or you have a friend or relative that you'd like to help with the information.

What I'd like for you to do is take a piece of paper and a pen or pencil and jot down a few words or sentences about what your goal is. What would you like to accomplish and have learned by the end? Because there is so much information being presented, what can happen is that you get excited, overwhelmed, or feel that there's too much to grasp. Take a minute right now while your mind is fresh to write that down.

Also, be sure to access and print the other documents included such as the "Managing Pain and Inflammation Through Food" workbook and flowcharts. I will be referring to them often as we move along, especially the workbook and flowcharts. You will strengthen your mental connections to the material by taking notes as we cover related topics.

The more you understand the material and can remind yourself of the potential positive foods can have, the more likely you'll be to change your choices. In addition to taking notes, I recommend you also print out and even laminate the "Food & Chemical Effects on Acid / Alkaline Body Chemical Balance" chart. Place it in a highly visible area or put it right on your refrigerator door to remind you to choose more alkalizing foods. I will let you know when you'll need to refer to these documents as we go along.

What are pain and inflammation, and why is it important that we learn about this?

Statistics show that inflammation is rampant in our society. How many people do you know that are dealing with some sort of a disease or condition that ends in "itis"? It could be arthritis, osteoarthritis, or gastritis. Name any part of the body and put an "itis" at the end and that's an inflammatory disease.

A lot of times, we go to the doctor complaining about a pain over here, a pain over there. You say, "I have pain in my abdomen," and get a diagnosis of colitis. Well, what does that really mean? What that means is you have an inflammation in that area of your body.

Inflammation is the most prevalent cause of pain.

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Let's go back to the basics. What we perceive in our body is pain and when we have pain, there's a physiologic process that's going on. What is happening is that there are nerve endings that are part of our system whose job is to detect chemical, structural, or mechanical stress in an area and feed that back into the brain where it's perceived as pain.

Pain is really our body's warning system. It is similar to the beeps that happen in a fire alarm when it detects smoke. Your brain perceives irritation to the nerve endings, which are like little scavengers. They're little antennas that go out to various parts of the body and check in. "Hey, is everything okay? Is there a problem here?" If there's a problem, they beep that message back to the brain and the brain perceives it as pain.

Unfortunately, the way that we tend to deal with pain is the Western medicine approach, which is to suppress it. If you have pain, you get a painkilling or anti-inflammatory medication. What that does is it disconnects your brain from the source of trouble.

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For example, if you fall and hurt your ankle and you have pain in your ankle, if you do not suppress the pain, the signal that you're going to be getting from your brain is, "Be careful of that part. Don't put too much weight on that part. Don't bang that part into something." If we take a pain medication to stop that pain, we feel much better. That's great, but we run the risk of further

pain is so intense that you just can't function. What I recommend to people who are in that situation and taking painkillers is to act as if the pain is still there, especially in the case of acute pain right after an injury. You still have to treat that part of your body carefully even though you no longer feel the pain.

"Pain is really our body's warning system. It is similar to the beeps that happen in a fire alarm when it detects smoke."

injuring ourselves because we're disconnected from the source of trouble. We don't believe that there is trouble anymore because we're no longer getting the pain signal.

Taking pain medications without really getting at the underlying cause of a situation is a problem because a lot of times what happens is that the area that's having trouble gets worse and worse. On top of that is the fact that there are side effects to taking pain medications.

It's not clear that there's any real benefit to taking these medications except in situations where the Here's another example. If you have pain in your abdomen and you take a pain medication, that pain goes away. If you then you go out to a Mexican restaurant and eat tacos and cheese and other heavy foods, that's going to go into the area that's already irritated and make it more irritated, which will cause further malfunction and dysfunction in that area.

We've covered what pain is. So, what is inflammation?

When we look at something that's inflamed, we see swelling and redness, and we may feel heat. What's going on?

Inflammation is actually the body's protective mechanism when you have an injury. If you bang your elbow and there's some damage to the underlying tissue, your body is going to try to heal that area. It sends white blood cells (lymphocytes) into the area. These cells are part of the immune system. The blood is sent to the

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When the lymphocytes rush to the area, you get swelling. In an area like the elbow, there isn't a lot of loose space, just bone and skin. If that swells, it's going to cause pain because the swelling is irritating those pain receptors we just talked about. They're giving that signal back to the brain, so you get the perception of, "Hey, something's wrong over here!"

area to heal it.

Why are we trying to get rid of inflammation? We don't. We're going to talk about ways that you can *manage* inflammation. The key word is "manage." We don't want to get rid of inflammation. If we were to permanently get rid of inflammation and never allow it to happen again, we would soon be dead. That's not an overstatement. Inflammation protects us. What doesn't protect us is when the inflammation goes on beyond the point at which the area should be healed.

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There are a lot of reasons why that happens, and we're going to discuss several of them. What it amounts to is nutritional and biochemical imbalances, not having the right chemistry. That will interrupt the signal that says, "Oops, that's enough inflammation! Turn it off!"

Basically, we have these little biochemical firefighters. Imbalances in your chemistry can paralyze the firefighters and allow the fire of inflammation to get out of control. The good news is that you can control those imbalances by what you eat, what you think about, and how you breathe.

The little receptors I mentioned earlier are called nociceptors. They're very sensitive to mechanical stress such as pressure in a joint, but they're even more sensitive to chemical stress.

As an example, in areas like the gastrointestinal system (the stomach and intestines), there are a lot of chemicals going in there all the time. We eat foods and when the foods get broken down, they turn into chemicals. Depending on what kinds of foods we put into our system, we may irritate those little nocioceptors in the GI tract and cause a feeling of discomfort or pain.

At this time, I'd like you to refer to one of the diagrams in your flowcharts. The picture that I want you to look at is on the "Mast Cell Membrane" flowchart (page 34). It looks like a little archway. This is an important chart. You don't need to remember the names of all the chemicals, but I do give you those for your reference. What's important is that this membrane, these mast cells, are responsible for the production of a chemical called histamine. Histamine is believed to be the major chemical that results in inflammation.

We think about histamines when we think about allergies, right? People who have allergies take antihistamines to control their allergies. Histamines actually produce inflammation throughout your digestive tract

– can actually managee and
manipulate those histamines
to reduce inflammation.

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What causes inflammation?

We already talked about how the purpose of inflammation is to heal an area. What causes inflammation to start is usually an insult or trauma to the body. The body is trying to protect itself. What's involved with that, generally speaking, is the immune system. We usually think about the immune system in terms of protecting us from colds or flu, but the immune system is our protective barrier. It's responsible for modulating the inflammatory processes.

"Histamine is believed to be the major chemical that results in inflammation."

the body. Inflammation in the gastrointestinal tract and the joints is mediated by histamines, which are produced by these mast cells. Leukotrienes, D2/D3, prostaglandin, and thromboxane are all chemicals that are produced when there's inflammation.

We're going to talk about how you – through your food and supplement choices, your thoughts and exposures, and by balancing When we have an oxidative stress to the body, something called "free radicals" are produced. Many things can cause oxidative stress. When we eat fats that have been heated at high temperatures (above 118°F), the fats break down and form free radicals, which damage tissue and cause inflammation in our bodies. That's one of the causes of inflammation.

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What also happens during oxidative stress is we have damage to and depletion of our antioxidants. In the popular press, when they speak of antioxidants, they mainly talk about vitamin A, vitamin E, and vitamin C. Those are all antioxidants, but they aren't the most powerful antioxidants.

Two of the most powerful antioxidants that help us protect against injury and illness are superoxide dismutase and glutathione. The reason I'm bringing these up is because these antioxidants are depleted very rapidly by oxidative stress, by free radical damage. Also, some genetic defects have been identified recently.

In genetic research being done to see what genetic markers people have, they're finding that the pathways for producing and replenishing glutathione do not function properly in people with a specific genetic defect. You may have that defect without even realizing it.

If you have a tendency toward a lot of inflammation, you may have that genetic defect. That doesn't mean you're doomed to a life of pain and inflammation. What it means is that you have to do more work than someone who doesn't have that genetic defect to maintain your antioxidant status and thus maintain healthy tissue.

I'm giving you a lot of information, but I'm not coming from the standpoint that you should memorize it. Rather, these words will pop out at you. If you're on the internet searching around and reading a description of a vitamin or supplement, you'll recognize some of these terms and say, "Oh, that's for inflammation. I remember that."

The other reason I'm giving you this information is because I feel that information is power. I can say, "Here's a list of anti-inflammatories, a list of herbs and supplements you can take that control inflammation, and a list of foods," and we can be done in a half an hour. But when you walk away from that, you're not going to have a real sense of the chemistry behind it or that there is a real process that is happening in your body.

I could have made it up. I could say, "Ice cream is anti-inflammatory. Let's all go eat ice cream!" Even though that may not make intuitive sense to you, you may say, "She said it and she's an authority, so maybe it's true." I want to give you information that backs this stuff up. And I believe that when you understand more about the way your body works, you are more likely to stick to the anti-inflammatory diet.

If all you have in your head is, "She said that this food is good for me and that food isn't good for me," and

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three weeks later your husband, wife, or friend reads an article and says, "You know, I just read in the Wall Street Journal that Campbell's canned soup is actually one of the best foods for inflammation," because you don't have a real understanding of inflammation, you may abandon the diet I recommend for the Campbell's soup diet. You may think, "That doesn't make sense, but it's in the Wall Street Journal so it must be true."

The thing is that all these words may not make sense to you right now, but if you type them into Google, you can read more. You're primed to be able to read more and understand more about what's going on. When somebody says, "Hey, we have this great new supplement that does this, this, and this," or "This food does this and that," you can evaluate and actually make a decision based on a little bit more background knowledge.

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What diseases are caused by inflammation?

- Allergies
- Arthritis
- Appendicitis
- Bursitis
- Colitis
- Esophagitis
- Fibromyalgia (Note that this one doesn't follow the rules because it doesn't end in "itis."
 I'll tell you why in a minute.)
- Gastritis
- Headaches
- Tendonitis

Some of the things I've mentioned are acute illnesses, which means they are rapid onset, newly developed. For instance, arthritis might be something that's there for a long time. Colitis is also a chronic type of thing. You can have an acute esophagitis or acute colitis, but most of the times, those are more long-term problems.

Tendonitis is sometimes an acute problem. You've overworked, you've lifted something too heavy, and now you have some irritation and inflammation in your tendon. Sometimes it goes away and it's under control.

The bigger problem, and I see this a lot, is that when people have an imbalance in the chemistry that controls inflammation, they may get an injury that should be self-limiting and healed within seven to ten days but it goes on and on. The problem with that is your body should have been able to say, "It's healed now. Turn the inflammation off." But you're probably short in some of the required nutrients so your body can't turn the inflammation off.

I went to a seminar last weekend. A lot of experts there talked about the immune system, the nervous system, and how inflammation arises from an immune system that's out of control and confused. For instance, allergies are inflammatory. Allergies and autoimmune diseases are actually very similar. They occur when the immune system is confused.

In an allergy, a very innocuous substance-maybe it's grass or oak, something that should not be considered a threat to your body-is perceived as a threat by your immune system, so it starts to attack it. You get a runny nose, stuffy sinuses, weepy eyes, and things like that. That's mediated by a certain part of the immune system: T-helper cells There are two different kinds of T-helper cells. One causes those immediate allergic reactions. When the other is out of control, you get autoimmune disease. With autoimmune disease, your immune system gets confused and attacks your own body.

How do you measure inflammation?

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There are a lot of ways to measure inflammation. Certain blood tests can be done as well as something called a C-Reactive Protein, which is a standard blood panel that doctors will run if they suspect an inflammatory or autoimmune disease.

Another way is to measure the fats in your body. The balance between the fats controls whether you're in an inflammatory, pro-inflammatory (promoting inflammation), or anti-inflammatory state. We all want to strive for being in an anti-inflammatory state.

There's another test called the Intestinal Barrier Function, which tests to see how well our intestines are keeping us protected from the bad stuff and letting the good stuff through. We'll talk about the intestines in just a little bit.

We can also measure oxidative stress markers. We talked a little while ago about glutathione and superoxide dismutase. We can actually measure the degree of oxidative stress in our bodies.

Another way of indirectly measuring inflammation is testing our pH in both our saliva and urine. Our bodies want to be alkaline in pH. Our blood tends toward a pH of about 7.3.

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pH is a measure of hydrogen in the body. Neutral pH is 7, acid is below 7 and alkaline is above 7. Our bodies function best in a slightly alkaline environment, with a pH just a little bit above 7 (7.35 seems to be the ideal).

side effects of being too acidic is that you can get osteoporosis.

Another place it can draw from is the saliva. The mouth needs to be alkaline for the salivary amylase, which is an enzyme that helps us to digest starch.

"The balance between the fats controls whether you're in an inflammatory, pro-inflammatory (promoting inflammation), or anti-inflammatory state."

When we eat certain foods, think certain thoughts, take medications, and even exercise, it throws our body into a more acid state. These are acid by-products of day-to-day life, stressful thinking, eating certain foods, and digestion. All kinds of things produce acid in our bodies.

When we get too much acid in our body, our body has to maintain that pH in the blood, so it tries to find alkalinity. If you've eaten, exercised, or been exposed to chemicals and all of a sudden your tissues are very acid, the body knows it has to keep that blood alkaline. The blood draws from stores of minerals in your body.

The biggest store of alkaline minerals in the body is the bones, so it makes sense that one of the Tissues like your liver, GI tract, and mucous membranes do better when they are alkaline. When the blood is at risk of becoming acidic, it draws the alkaline buffers from those tissues into the blood. Blood that's too acidic is lifethreatening. When the tissues get out of balance, it's not lifethreatening immediately, but it is very uncomfortable.

You get buildup of these acid wastes in the tissues. We talked about pain receptors and how they're sensitive to chemicals. The acid wastes can create pain. The immune system then perceives an assault and inflammation results. This is why it's very important to maintain a proper pH in your system and eat foods that are very alkaline-forming.

Another thing that's very important is your mineral status. If you're eating foods that are chock full of

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minerals – drinking a lot of green drinks and eating a lot of green vegetables – and then eat a pizza, your body is more able to neutralize the acids because you have so many good minerals coming in. But most people are deficient in at least three to five of their minerals, if not more. If you're eating the Standard American Diet (SAD), which is very low in minerals, there are no mineral buffers. The body has to steal them from the tissues and we get out of balance. I see that a lot.

Autoimmune diseases

We think about our gut as just a tube that stuff goes in at one end and comes out the other. Some of it also gets absorbed into the bloodstream. Your intestinal tract is actually your main line of defense, and it has to make some decisions.

Think about this. Your body has certain genetic markers and protein structures. It looks a certain way. When you bring something into your body, for instance food going down your throat, your body has to decide, "Is it friend or is it foe?" That's a big decision.

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Is it self, or is it not self?

Obviously, when the food comes in, it's not self. Then the next level of discussion is, "Do we need to attack it, or do we need to embrace it?" It looks at the protein structure for certain patterns. It may say, "Oh, that's kale protein. That's good. That's friend. Let's break it down and let it through." It may say, "That's streptococcus. If that gets into my bloodstream, it's going to wreak havoc." Then it starts the whole cascade of T-cells and lymphocytes, which start to attack it.

What about some of the chemicals and pesticides in our food? Are they friend or foe? We used to believe that these chemicals were too small to actually trigger the same kind of an immune response as would a bacteria. But what they're finding now is that because they're coming in as part of an organic matter and they're attaching themselves to the cells, the molecules of the food that you're eating, they are perceived as enemies and the body attacks that.

When your body is attacking PCBs or another chemical and trying to protect you from it, the chemical is attached to a food protein. It can create an allergic reaction. In addition to attacking and neutralizing the chemical, it can also attack the food molecule. That's one way that we can end up with food allergies. It isn't the only

way, and it's not the most common way, but that is one way. That's why it is important to eat organically grown food as often as you can, so that you don't have all these foreign chemicals coming into your body to wreak havoc on the immune system.

The body has to decide, "Is this friend or foe?" If it decides that it's a foe, it creates this immune response. The chemicals that are created as part of the immune response are irritated because they're supposed to kill and neutralize the enemy. If you have tissue in the way, it's going to get a little irritated.

One of the scientists that I heard speak last week talked about the fact that there's a constant, chronic low-grade inflammation in your gut all the time. If you're eating and drinking a lot of things that are considered foe, the lining of the digestive tract gets compromised. It's supposed to be this nice, beautiful membrane. So there's this constant battle. It's almost like a war zone in your intestinal tract, where the soldiers on the front lines are trying to keep the bad stuff from entering into your bloodstream.

If you think about it as a real war, the grass would get messed up. The flowers would be trampled. A lot of things would be messed up by all of

the ammunition being fired. That's what happens in your gut. When that happens, the membranes in the gut

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lining are being compromised. Pieces of these large molecules that are normally prevented from being able to go in are now going in.

Autoimmune issues happen when our tissue gets in the way of the bad guys or when an attacking molecule is similar to the structure of a body part. Our immune system works on a kind of "lock and key" basis. Let's say you have a bacteria that has a certain structure. You have an antibody with a protein structure that's complimentary to it so that they fit together. That antibody can embrace the bad guy and mark it so the rest of the immune system can attack it.

What happens is that there are just so many different variations and combinations of the 20 immuno. acids. When there's a similarity between one of these bad guys and the lining of our gut (or our thyroid, or our stomach, or the cells in the pancreas that produce insulin), then our antibodies start to attack our own system. That's the beginning of autoimmune disease.

It is now believed that all autoimmune disease begins in the gut. Having a healthy gut, which means eating really good foods to support the gut, is really critical for the prevention and treatment of autoimmune disease.

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Some autoimmune diseases are Lupus, Hashimoto's Thyroiditis, Scleroderma, Sjogren's, and Diabetes Type 1. Diabetes is considered to be an autoimmune disease. Type 2 is actually starting to be considered an autoimmune disease in that we're attacking the insulin receptors on our cells, but that's still not as widely believed as the Type 1. There are a lot of autoimmune diseases and they're all pretty devastating. They're also all pretty much the same disease. The difference is the tissues that are attacked.

What is the role of drugs in managing inflammation?

There are several prescription and over-the-counter drugs that people take for managing inflammation. Aspirin and Tylenol are two of the most common. There are also what's called "non-steroidal" antiinflammatory drugs. Steroids are considered the cannons and nonsteroidal anti-inflammatories are considered the handguns, if you want to look at it in terms of this war that we've kind of envisioned.

Some of the other NSAIDs are Advil, Motrin, and Aleve. That's considered the old class of nonsteroidal anti-inflammatories. The newer class of non-steroidal anti-inflammatories are called COX-2 inhibitors. You're going to be hearing more and more about those. There are both synthetic

and natural COX-2 inhibitors. There are several herbs that we're going to be talking about in a little while that actually have these COX-2 inhibitors.

COX-2 stands for Cyclooxygenase 2. It's an enzyme in the body that causes inflammation. When we inhibit that enzyme, we get a reduction in inflammation.

We have this new category of drugs like Celebrex and Vioxx. Those have probably been on the news. Those are the newer class of antiinflammatories that are COX-2 inhibitors. They work much better and have many fewer side effects than the other non-steroidal antiinflammatories. However, the jury's out as to what damage they do because they're relatively new. Drugs come out and everybody says, "Wow! This is great!" Then five, ten, or fifteen years later, we find all sorts of side effects.

Wouldn't it be nice if we could get an effect that's similar to these COX-2 inhibitors from food?

Let's talk really briefly about the difference. If I take a chemical that somebody synthesized in a lab, why would that be different from getting it from food? There are a lot of reasons why it's different. One is that in nature, that active ingredient is packaged with all kinds of other chemicals like antioxidants, oxidants, and

bioflavonoids, which are demulcents that actually soothe. Think of aloe vera and how nice it feels on burned skin.

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When you take one of these plants that has COX-2 inhibitors in it, it has this big package of other ingredients that prevents the side effects you get when you just take the active ingredients. A lot of drugs are based on chemicals that occur in nature. The problem is that scientists isolate out the active ingredients. I think that the real intelligence is in nature because there are so many chemicals in these foods that we don't even know about. We get into so many problems when we isolate those chemicals out.

I wanted to introduce you to some of the drugs and how they work and also let you know that there are alternatives.

There are times when the pain is just so intense, the person is suffering so much, that it's really important to break that pain cycle. In that case, you want to choose the least invasive drug therapy to get them over the hump while they're incorporating some of these other natural therapies to help the pain.

The other classic drugs that are used are steroids. If anybody has ever been on steroids, you know that they are fraught with side effects.

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They cause weight gain, truncal obesity, muscle breakdown, and weakness. They impair the immune systems. There are a lot of reasons why you don't want to go on steroids.

On the other hand, there are some herbs that actually have a steroidal effect in terms of decreasing the inflammation, but without all the bad side effects. One such herb is licorice root. That's being used a lot more in inhalers, instead of some of the steroids. It's being used with great success to help with lung inflammation.

Steroids are usually reserved for cases where the pain is chronic and unable to be controlled by nonsteroidals.

How can we control inflammation?

Go to the "Inflammatory Cascade" flowchart (page 35). It's time to talk a little bit about how we can control the inflammation. and the best way to do that is to see what's really going on in the inflammation. This chart is as simple as I could get it. There's a lot more that goes on, but this is as simple as I could break it down to.

Down the middle of the Inflammatory Cascade it says, "Membrane Phospholipids." Phospholipids are a kind of fat that membranes refer to in your cells. The dietary fats that you eat get

broken down, and one of the chemicals that gets produced is arachidonic acid. Arachidonic acid is very inflammatory, and it's the precursor to those big, bad chemicals.

Where do we get arachidonic acid? It is in meat - any kind of flesh food, with the exception of fish. It's in eggs, dairy products, and peanuts. We're not saying arachidonic acid is bad on its own, but our body can make arachidonic acid whenever it needs to.

Let's go up to the top of the page. On the left-hand side where it says "linoleic acid," write "omega-6." Where it says "alpha-linolenic acid," write "omega-3." Who hasn't heard of omega-3s and omega-6s? They're in the news all the time. It's not just in nutritional information anymore, but all over the place. "Did you get your omega-3s today?" The balance of those fats is so important because they play a primary role in managing inflammation.

As the chart shows, linoleic acid gets converted into GLA, DGLA, and then PDE1. Do you see the fireman? He's putting out the fire. If you look down at the leukotrienes and thromboxane, you'll see the little flames coming up off of them. That's the fire: that's inflammation. If we have a good balance of omega-3 and omega-6 fatty acids,

we've got lots of these little firemen coming in with their hoses and putting out the inflammation. That's what we want. We bring all the chemicals

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the body needs in to heal the area and put out the fire.

With our Standard American Diet, which is high in processed foods, animal products, and processed vegetable fats, we get a lot of arachidonic acid and we don't get enough of the alpha-linolenic acid and EPA on the omega-3 side.

I want you to pay careful attention to this part because this is important. Omega-3 and omega-6 fatty acids need to be in balance, ideally a 1-to-1 balance. If they're in 1-to-1 balance, they work together to put out inflammation. It can go up to as much as a 3-to-1 (omega-6:omega-3) balance and they'll still do a pretty good job.

If we get more than three times the amount of omega-6s than omega-3s, the extra omega-6s get converted into arachidonic acid. If we have more than enough of the linoleic acid in relation to the omega-3 side, a big bunch of that is no longer going to be anti-inflammatory. It will actually support the inflammation.

On the other hand, if we look on the omega-3 side, the alpha linolenic acid gets converted to EPA and the EPA actually displaces arachidonic acid. It pushes it aside.

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Not only does the EPA help by producing firemen to put out the fire, but it helps by pushing the arachidonic out of the way so it can't do its job.

In your flowcharts, let's turn to "Drug Modulation" (page 36). Down toward the bottom of the page, we've got the fire again. You see the thromboxanes on the one side, then the leukotrienes, HPETE and HETE, on the other side. When we take non-steroidal anti-inflammatory medication like Aleve, Naproxen, Tylenol, and Aspirin, they prevent the conversion of arachidonic acid into inflammation. Basically, they stop the fire. But it doesn't do anything for the other side of the pathway.

If we have a mild inflammation and all we've got is these thromboxanes and we take some non-steroidal anti-inflammatories, we feel better. What I want you to see is that it's a short-lived feeling.

If you look at the chart, you see the NSAIDs again between alphalinolenic acid and linoleic acid. NSAIDS also prevent our body from converting dietary fats into EPA and creating firefighters and PGE1, which means we don't get the firefighters anymore.

On the one hand, taking these non-steroidal anti-inflammatory medications is great; it gets rid of the fire.

But on the other hand, it also gets rid of the firefighters, which means you become completely dependent on that drug to manage the inflammation. As soon as you stop taking it, the inflammation comes back because you've killed off your firefighters. It's not really a good long-term solution, even though there are a lot of people taking these medications on a long-term basis.

We talked about steroids, the big cannons. The big cannons affect everything. They turn off the good guys, they kill the firefighters, but they also kill all the fires. They don't leave even one little fire going. If you have a big old fire burning, you've got an autoimmune disease with inflammation in your lungs and you can't breathe, they give you the steroids. That just knocks it all out, But again, it's a short-lived solution.

How do we control it?

So, what do we do about it? The good news is that we can control it. Let's look at the next chart. "Nutritional Modulation."

The good news is that we can help this, and there are a lot of ways to do it. We can balance the omega-3 and omega-6 fatty acids in our diet and decrease the arachidonic acid. How do we do that? By limiting or eliminating meat, dairy, eggs, and

peanuts from our diet. That gets rid of our dietary source of arachidonic acid, but we know our body can

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make it if we have enough of the omega-6s. DGLA will convert to it whenever it needs to. We don't need to have extra hanging around to cause inflammation. If we have any fires going and we're bringing in arachidonic acid, it's just putting more flame into that fire. If you take away the dietary sources, you decrease a lot of that inflammation.

Secondly, we can make sure that we have a balance between our omega-3 and omega-6 fatty acids. If you look at the "Nutritional Modulation" chart, you'll see listed some of the sources of omega-3s. These are all foods that we can include in our diet on a daily basis to help support our body in making firefighters.

Every time you have flax, walnuts, chia, or hemp, you're feeding your firefighters. That's good news. Those firefighters do good work and they deserve to be fed.

If we don't have enough B vitamins, minerals, and vitamin C, what does this mean? That's a co-factor. It means that without B3, B6, vitamin C, zinc and the magnesium, we cannot convert the alpha-linolenic acid from flax, chia, hemp and walnuts into the EPA, which in turn converts to prostaglandin. We just can't do it.

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We have to make sure that we're eating foods that contain these nutrients.

What foods contain these vitamins and minerals? Fresh fruits, vegetables, and whole grains are good sources.

The typical American diet of white bread, bagels, and pizza for lunch, is it inflammatory or non-inflammatory? Eggs and bacon for breakfast with some toast? Inflammatory. Pizza or a hamburger for lunch? Inflammatory. Steak, mashed potatoes and green beans for dinner. Except for the green beans, that's inflammatory because the mash potatoes probably have milk in them. On a regular basis, people are eating foods that are very inflammatory.

Fruits, vegetables, whole grains, nuts, seeds, and legumes are anti-inflammatory, with very few exceptions. But when we process those whole foods, they become inflammatory. Why? Because they're robbed of their nutrition.

When you say, "What the heck? My joint pains aren't going to be affected by going out and having some pizza," or a bagel, or whatever, it's not true. It is being affected. Every time you make a choice that's inconsistent with maintaining an anti-inflammatory environment, if you have an ongoing condition, it's going to

make it worse.

Even if you don't
feel it, it's making it worse
on the inside.

One disease I forgot to mention as an inflammatory disease is heart disease, artery disease. We that's just furthering
the destructive damage to
that tissue, to your thyroid
gland, the lining of your gut, or
the cells in your pancreas that
make insulin. It's really important
to really make sense of this anti-

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"The unfortunate thing is that the inflammation in our blood vessels causes damage to the lining."

think about cholesterol as being the culprit in heart disease, but the latest research shows that cholesterol is a symptom of out-ofcontrol inflammation. Cholesterol is a very potent anti-inflammatory that our body creates to try to manage inflammation.

The unfortunate thing is that the inflammation in our blood vessels. causes damage to the lining. The cholesterol goes there to try to heal the damage, but then we get minerals that block it up. That leads to clots. The inflammation causes the blood vessels to constrict and we get narrowing of the blood vessels. Cholesterol really isn't the culprit. The culprit is inflammation. Every time you eat something that's inflammatory, it's not just your joints but your blood vessels that are also getting damaged. And it's unseen. If you have an autoimmune disease.

inflammatory diet and stick to it as much as you possibly can.

In the middle of the "Nutritional Modulation" flowchart, it says "Delta-6-desaturase." That's the enzyme that takes our food fatty acids, our food omega-3s and omega-6s, and converts them downstream to the firefighters. Trans-fats decrease the activity of that enzyme. Alcohol, coffee, and food additives all have trans-fats. We could add chemicals. mercury, and pesticides. All of those things interfere with that enzyme's ability to do its job and make firefighters. Every time you eat those things, you're killing off a firefighter somewhere.

From a nutritional standpoint, if we are not eating a diet that's rich in these foods, we need to be taking supplements.

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If somebody is on a Standard American Diet, they're eating a lot of processed foods, then they need to take supplements of these nutrients. They need to take fish oil, which is EPA that actually works in and of itself but we do need some of those enzymes to convert EPA into the PGE3.

On the "Nutritional Modulation" flowchart, we see linoleic acid and alpha-linolenic acid. If you look down between membrane phospholipids and arachidonic acid, there's a little box that says "Vitamin E and Curcumin." Curcumin is the active ingredient in turmeric, which is a yellow herb spice that's used very heavily in Indian food. It's a wonderful, wonderful herb. I can't say enough about turmeric. It has been found to be helpful in liver conditions, cancers, all sorts of inflammatory diseases, and autoimmune diseases. It's a wonderful spice. I highly recommend that you just get some turmeric and find ways to use it.

There are a lot of Indian food recipes that you can make. In the recipe section, I have a recipe for a green soup that has all the minerals from the greens plus ginger, turmeric, and coconut oil, which is good for you. It also has some of the omega-3 fats in it. I have some recipes in there that really focus on anti-inflammatories.

When you take vitamin E and curcumin, or turmeric, it actually has similar effects to steroids. Another herb that you could add that isn't quite as potent is licorice root.

Our firefighters are really happy when we intervene with inflammation from a nutritional standpoint. They still get to work. In fact, they work better than before. When we get bioflavoids, ginger, vitamin E, fish oil, selenium, and all these different nutrients, they actually help us decrease the conversion of arachidonic acids to chemicals. You're doing your body good on both fronts as opposed to just killing off the firefighters and the fire at the same time. You're much better off killing off the fire and keeping the fire fighters.

Some thoughts on turmeric

I think turmeric is a wonderful herb. It's hard to find it raw, but sometimes Central Market or Whole Foods here in Austin will carry it. Whenever I find it, I buy it, grate it up, and put it into things. For a wonderful antioxidant beverage, get a glass of water. Put some lemon in it. Grate some turmeric and ginger and add that in. If you need to, add a little stevia to sweeten it. That's both a wonderful way to start your day and a great beverage to have later in the day.

Turmeric can be added to guacamole, as well as any kind of nut or seed cheese. Turmeric can be added to a lot of things, as can ginger. I add ginger to just about all of my green soups and smoothies, and I make that by blending up fresh fruits and greens. I also add turmeric to quite a few of them.

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If you can't get raw turmeric, you can use dried. When you dry it, it loses some of its activity, but it's still pretty potent. If you want to take it in a supplement form, if you really just can't tolerate the taste, you can also get capsules of turmeric. It's a wonderful, wonderful food, herb, and medicine. I have nothing but good things to say about it.

What about those advertisements that say five servings of dairy a day will help you lose weight?

This type of misinformation is appalling. What appalls me even more than that is some of the books that are out there. A good example is Barry Sears' The Anti-inflammatory Zone and The Zone Diet. He talks at length about fats and the same things we're talking about here. He talks about arachidonic acid and good eicosinoids and bad eicosinoids. Then he has recipes that have bacon and cheese in them. That, to me, is appalling. Those are inflammatory foods.

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I think a lot of the books and literature out there is trying to appeal to the tastes of the masses, and they don't want to give those types of foods up. "We want to have our cake and eat it, too." But it doesn't work that way. If you want to be healthy, have your inflammation under control, and keep autoimmune diseases at bay, there's a price to pay. You need to start feeding yourself antiinflammatory foods and get rid of the inflammatories.

There's a lot of good information out there, but you have to draw your own conclusions.

What about gluten and dairy?

We've talked about diet. We've talked about the fats. We've talked about the minerals and vitamins. Now let's talk about gluten and dairy.

We know that dairy contains arachidonic acid, which promotes inflammatory cascades. It also has a protein called casein. Casein and gluten have been implicated over and over again in medical literature as causing inflammation. And this is just not in alternative literature. There have been studies published in mainstream medical journals that talk about the role of gluten and casein in inflammation, autoimmune disease, depression, autism, and thyroid disease.

Why are these things bad? There are a couple of reasons. First, when these proteins are broken down, the intermediary peptides, which are short chains of proteins, trigger opiate reactions. When they get into the bloodstream and the brain, they put us on a high. It's almost as if we just took some morphine or cocaine, which is one of the

Have you ever noticed that if you eat a piece of bread, you might as well eat the whole loaf? You just crave more. It's the same thing with cheese. It's hard to just eat one piece of cheese or one bite of ice cream. And ice cream has sugar in it as well.

reasons why they're so addictive.

The proteins in these foods tend to create autoantibodies, which are similar in structure to antibodies in other parts of the body. I could spend four or five hours talking about gluten. I've written an extensive 30-page paper about it. Basically, gluten and casein trigger autoimmune processes. They create antibodies that cause depletion in antibodies that attack body tissues.

For anybody that has an autoimmune disease, the first thing you have to do is get off dairy and wheat. It may be a lifelong avoidance and it may not be, but you need to remove them from your diet at least during the healing phase.

Here's the deal. If you have an autoimmune reaction that's damaging your gut lining, your collagen tissue, or your thyroid gland

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and it's happening because of a cross-reaction with a gluten or casein protein, when you stop the gluten and casein you allow the inflammation to get under control.

If you then think, "One little bite's not going to hurt me," and you have that little bite, even if you don't get overt symptoms like diarrhea, nausea, or joint pain, that inflammatory cascade starts again. You don't give tissues a chance to heal. I highly recommend that anybody who has any kind of pain try this for three weeks to a month and see how it goes. You might see remarkable results. Don't do it halfway and think, "I'll just have a little bite." Give yourself the gift of doing it 100% for at least a month.

Why do we develop allergies?

Why do we develop allergies to things like gluten and casein? Most of it goes back to when we were babies. If we were breastfed, we had less of a chance of developing these conditions. If we were formula-fed, we had more of a chance of developing these conditions.

If we're breast-fed, through mother's milk we get all those protective antibodies that protect the lining of our gut.

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When we're born our guts are porous, which allows those antibodies to enter. Our gut allows molecules to pass through because the only antibodies it's expecting are antibodies from mom to help protect our immune system. When we have cow's milk or soy milk or whatever else we're feeding babies these days, those things get into the system and we start with those

established early on from the chemical components in speciesspecific milk. I don't know about you, but I think I was breast-fed for maybe a week or two before my mom gave it up and I was put on formula. I didn't really get a chance to develop that good flora that I should have developed.

"If we're breast-fed, through mother's milk we get all those protective antibodies that protect the lining of our gut."

antibodies really early on.

If we are breast-fed and our moms are not eating a good diet, or they have food allergies and they're eating the foods that they're allergic to, then some of those antibodies are going to be passed on to us. You're much better off if you are breast-fed, but you can still get exposure if you're breast-fed by a woman who is eating foods that she shouldn't eat.

Another thing that's really important, and this happens early on in our lives, is having good flora in our gut. These are good bacteria that are supposed to protect us. They create enzymes and help digestion. The gut flora is really important, and it's

All this gives us another little challenge for our immune system. Remember when we talked about how it has to make the decision on whether something is friend or foe? When deciding about bacteria versus food versus chemicals, it gets a little complicated. Just like some bacteria are actually friendly, some bacteria are not. Sometimes our immune system makes a mistake.

Other factors in inflammation

What other factors play a role in inflammation? Our attitudes, stress levels, exercise, and environmental exposures all play a role in inflammation.

Recent discoveries have shown that the lymphocytes actually have receptors for neurotransmitters. Neurotransmitters are the chemicals that our brain produces to communicate. Some neurotransmitters are excitatory and some are calming, which mean some of them make us feel really peaceful and others make us

feel angry.

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When we're angry or feel negative emotions, we've got transmitters that are not pleasant for our system. When our immune system picks up on those, it changes the ratios of the T- helper cells and the T-suppressor cells, which are really critical in maintaining proper immune balance. When those ratios are off, it can contribute to inflammation.

There's a hormone called cortisol that gets released when we are stressed, as well as a neurotransmitter called adrenaline. Cortisol is the one that wreaks the most havoc because adrenaline comes and goes really fast. It's what gives us that burst of energy and strength so that we can deal with the emergency. But once cortisol is released, it stays there for a long period of time.

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In our very busy, hectic lifestyle, it's almost as if we're being chased by a tiger 24/7. We go into this hyper-vigilant state and release a lot of cortisol. The cortisol plays havoc on the immune system. It damages some of the cells that control the balance and can lead to autoimmunity and inflammatory diseases.

Exercise is really important, but excessive exercise can contribute to inflammation. Marathon training, which I love to do, is probably not the best exercise because it contributes to inflammation. If you're doing heavy-duty training, a lot of heavy-duty weightlifting or training for a marathon or triathlon, you have to really be careful that you're replenishing all of those antioxidants, eating a lot of really good anti-inflammatory foods, and possibly taking herbs to help get the healing going all the time. Drink turmeric in your water before and after exercise. eat ginger and lots of greens, and drink green juices to replenish all those minerals. That will help to counteract the negative effects.

Not enough exercise can also contribute to inflammation. When you're sedentary, you don't move things enough. Your joints don't move, the blood doesn't flow as quickly, and the blood is not as oxygenated as it needs to be. That affects the immune system.

I want to take a few minutes to talk about environmental exposures.

There have been a lot of studies done on the effect of mercury on the immune cells and how mercury attaches itself to lymphocytes. It attaches itself to tissue and then creates autoimmune reactions. Mercury has been implicated in a lot in conditions like autism, and there's a lot of research going on in that area. It causes inflammation in the brain, which then causes the improper filing of nerve cells.

To summarize, our reactivity to some things is established really early on. That doesn't mean that we're doomed. It's just that we have to work harder at correcting it. If we were not breast-fed or if we were on antibiotics during the first three years of life, we're much more likely to develop an autoimmune or allergic condition.

If we have too clean of an environment, we can also be more likely to develop allergies. When we have kind of a dirty environment, we're always exposed to different bacteria so our body gets practice in differentiating between good and bad bacteria early on.

A lot of the good bacteria that we get can come from produce that hasn't been washed. Unfortunately, most of our produce goes through

factories and trucks and people touching it between the time it gets picked and the time that we eat it, so

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we need to wash it. The ideal would be to grow as much as you can or buy it from local growers and don't wash it.

If you have a garden in your backyard, don't wash your produce before you eat it. The good bacteria from your produce will help your immune system.

Dietary factors in managing inflammation

We've talked about the good fats, the omega-3s and, to some extent, the omega-6s. Remember, we have to be really careful about the balance.

Omega-6s are all over the place. They're in all the vegetable oils. If you go a restaurant, they're either cooking their food in peanut oil, some kind of canola oil, or generic vegetable oil. Those oils have been treated at very high temperatures, often in excess of 400°F and they've been refined. They are oxidized. They are not in any way, shape, or form in a condition that could help our bodies. They can only hurt our bodies.

If we buy any of the oils that come in clear bottles and they've been sitting on the shelf, most likely they are oxidized and contain free radicals.

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They are going to contribute to inflammation rather than antiinflammation.

When it comes to dietary fats, we really want to focus on getting our omega-6s through whole foods that have fat in them. Sunflower seeds, macadamia nuts, and almonds are good sources of omega-6s in their whole state. Once you create oils out of them, unless you're really careful about it, the oils will cause more harm than good.

On the omega-3 side, we talked about flax. I prefer whole flaxseed to flax oil, but I still use flax oil on occasion. It makes a nice additive to salad dressing. With hemp seed, again, I prefer the whole seed. Chia seed is my new favorite. I love it. It's filling and provides a lot of minerals, omega-3, and protein. It's a great addition to a smoothie. You can even make puddings out of it. There are a lot of things you can do with it. Pumpkin seeds are easy to sprinkle on salads, eat plain, or make into wonderful pestos and pates. Those are good sources.

Something that helps omega-3 fat is coconut. A lot of people are pushing coconut oil, but I prefer the whole food. I use coconut oil in some recipes, but if I'm going to recommend to somebody to therapeutically take coconut to help with their fat metabolism, I'm going to recommend that they eat whole coconut. Buy

either those young Thai coconuts that you can get at the Asian market or a whole big coconut. I don't buy those big ones anymore because it takes too long to chase them around the garage with a hammer to try to get them open.

What I do get a lot of is coconut butter. It's kind of like peanut butter, only it's coconut butter. It comes in a jar. You can get it at Whole Foods or order it online. It's really good.

When you mix coconut oil with your omega-3 fats, it enhances that conversion. If we go back to our chart where we go from alpha-linolenic acid to EPA, it increases the activity of the delta-6desaturase tenfold.

In other words, if you eat flaxseed and normally convert 10% of that flax to EPA, when you add coconut, you're going to get 10 times that amount. That's really good because it helps with anti-inflammation.

What does EPA stand for? EPA stands for one of those big, milliondollar words, eicosapentaenoic acid. Fats are chains of carbons, hydrogens, and oxygens, and eicosapentaenoic acid is just a longer chain. You don't need to know all about its chemistry, just know that you need EPA.

A lot of people will say that you have to get your EPA from fish

because flax is not very well-converted. In my experience, the reason it isn't well-converted is because we don't have enough of those cofactors – the vitamin B, B6, zinc, vitamin C, and magnesium – to be able to make that conversion.

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In cases where people have a lot of inflammation and we want to get it under control quickly, I do one of those fatty acid tests on them. If we find that their inflammation markers are way out of control, I will recommend that they take some fish oil if they're open to it short-term because that's going to give them the fastest result. But at the same time, what they're doing is feeding that whole cycle so they don't have to continue taking fish oil.

Fish has a lot of mercury in it, so it's not recommend to have it more than once or twice a week. Fish oil is very expensive, and it's hard to get good fish oil that doesn't taste kind of rancid. It's not something you necessarily want to just take for the rest of your life. If you can fix the problem by eating good, solid, whole raw nuts and seeds, you're even better off. Short-term, as a therapeutic pharmaceutical approach, rather than giving pain medications, I would recommend somebody take fish oil for their pain until we get the rest of it under control.

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We've talked about antioxidants. Antioxidants are abundant in fresh fruits and vegetables.

Minerals are one of the things that we are depleted in as a society. I would say that probably 18 out of 20 people that I test for minerals are deficient. That's a lot. The main minerals that I see deficiencies in are zinc, magnesium, and potassium. These minerals are abundant in our green foods, but we have to eat significant amounts of them.

This is where I recommend people drink green smoothies, where they take a bunch of greens and throw them in a blender with a bunch of fruit to make a delicious drink. Add some ginger and turmeric if you'd like. It's a really good, antioxidant-rich, anti-inflammatory drink.

I have a whole course on greens. If you want more information about that, you can go to my website www.drritamarie.com.

Include a green smoothie, green soup or some kind of blended greens on a daily basis, and also include some sea vegetables because those are high in minerals. That's going to help with the inflammation.

The main vitamins for inflammation are vitamins B and C. Interestingly enough, going back to the stress connection, the

tissue in the body
that uses the most
vitamin C is the adrenal
glands. You use a tremendous
amount of vitamins B and C when
you're under stress because they
modulate the neurotransmitters.

Do you see how it's all coming together?

I know I've given you a lot of information, but trust me, it really does make sense to know this stuff. Even if you don't remember all the names I've given you, you're going to have a remembrance that it's about more than just, "They're just good for you." They affect all these different parts of your body.

We touched on food allergies earlier when we talked about gluten and casein, but it's not limited to those two. You could be allergic to anything. It has to do with the state of your immune system and that whole self versus non-self/friend versus foe recognition.

If your body, because your immune system is altered and out of control, decides that broccoli protein is foe, you're going to have antibodies to it. Every time you eat broccoli, you're going to have an inflammatory response. That's not good because broccoli is so high in cancer-fighting chemicals and antioxidants. It's a wonderful food.

A lot of times what people do is they really focus on food allergies. "I'm allergic to this, this, this, and this," and they have a list of about five foods that they can eat. Do you know what happens? They start to eat those five foods. After a few months, they get allergic to those five foods. Any idea why?

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The reason that they had all those food allergies in the first place is because their digestive tract lining was compromised and inflamed. The cells aren't preventing the antibodies from going into their bloodstream. The immune system is confused, so it's not recognizing friend and foe adequately. When they go off of all those foods that they're allergic to, they get new allergies because they're eating the same five foods over and over again. They haven't fixed the cause, which is the inflamed leaky gut, so they get other food allergies.

The underlying solution is to fix the inflammation.

Sources of harmful chemicals

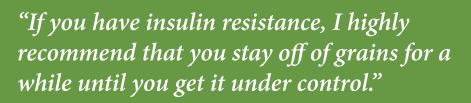
We talked about chemicals. We want to avoid pesticides as much as possible. On page 48, there is a list of the 12 foods that have the highest pesticide residue. If you can't buy those foods organically grown, I recommend that you don't buy them. Among those are grapes, strawberries, celery, and red bell peppers. I recommend that you don't eat those unless you can get them organically grown.

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If you can't get all organic food or if your budget is a concern, then stick to the foods with the lowest pesticide residues; checkout the "Clean 15" on www.ewg.org/ foodnews.

Chemicals aren't just in your food.

They're in your cosmetics as well. Read the ingredients before you put them on your skin because cosmetics are full of chemicals



What about the chemicals found in processed foods? Do you have any idea how many chemicals are in Twinkies? There's a boatload of them. What about the bread that they serve at Subway? They serve whole wheat bread that's supposed to be healthy. I got the list of ingredients. It has 20 or 30 ingredients, and I can't pronounce most of them. Chemicals are coming into our bodies all the time.

We start out with our immune system asking, "Friend or foe?" We're programed to recognize food, bacteria, and organisms. And all of a sudden, we're bombarded with these chemicals that don't occur in nature. We don't have mechanisms for handling them, so they get stored, which causes chronic inflammation and alteration of the immune system. As much as you can, stay away from chemicals.

that just are not meant to go in your body. Skin is another organ of ingestion, which is why we have nicotine patches and estrogen patches. Some skin lotions have 14 chemicals that we can't pronounce, some of which are suspected or known carcinogens. Some have antifreeze in them. And we put that on our skin and we expect it not to get into our system.

As we move more and more into this anti-inflammatory lifestyle, we need to make choices. Don't overwhelm yourself by going home and throwing everything out all at once. Just make the decision that each week, you're going to get rid of one thing and pull another thing in. Do it at a pace that you can handle. Otherwise, you'll get too stressed, which will counteract your great diet and clean-up job by feeding cortisol into your system.

What are the best anti-inflammatory foods?

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Berries are one of your best antioxidants and antiinflammatories, as are grapes. For vegetables, all the greens are your best choices there. On the condiment side, we already talked about ginger, turmeric, and garlic. Even black pepper is really good. With nuts, walnuts have more omega-3 than any other nut. The anti-inflammatory seeds are chia, hemp, pumpkin and flax.

Non-gluten grains can be antiinflammatory, but only if you don't have a problem with insulin resistance. How do you know if you have a problem with insulin resistance? Measure your waist and hips.

If you're a man and they're equal or your waist is bigger than your hips, you know you have insulin resistance. If you're a woman, your waist should be no more than 75% of your hip measurement. For example, if your waist measures 30 inches and your hips measure 32 inches, you probably have insulin resistance. If your hips measure 40 inches and your waist measures 20 inches, you probably don't have insulin resistance.

If you have insulin resistance, I highly recommend that you stay off of grains for a while until you get it under control.

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If you can't get the insulin and the blood sugar balance under control, you're not going to get the inflammation under control.

As far as legumes, some of them are acid-forming and some are not. Lentils, mung beans, and adzuki beans tend to be the more anti-inflammatory and alkalineforming.

Anti-inflammatory herbs

Let's talk about anti-inflammatory herbs. We already talked about ginger and turmeric, which are culinary herbs. Green tea is another anti-inflammatory. Some other herbs are not necessarily things we would have in our kitchen, but they can be used therapeutically in making tea and tinctures. These include skullcap, feverfew, and holy basil.

Stinging nettle is another herb that can be used as a food. You can get nettle seed. Nettle is an amazing anti-inflammatory, antioxidant and high mineral content food. You can make a tea out of it, sprinkle it in your smoothies, and use it in soups and stews. You can also make nut and seed pates with nettle.

Other kitchen spices that are good anti-inflammatories are oregano and rosemary.

Licorice, slippery elm and cat's claw are COX-2 inhibitors. They have a therapeutic effect in reducing that cyclooxygenase

enzyme. They're more soothing or demulcent. They've got a soothing effect on the GI tract and the mucous membranes in your throat and respiratory tract.

Probiotics can be antiinflammatory because they help to establish the flora in the gut.

Glucosamine and chondroitin are natural products that you wouldn't necessarily use as a food or a tea, but you could take as supplements to help with joint healing, which would be glucosamine and chondroitin.

We talked about fish oils. Essential oils can also be used. You can use those topically for skin irritation or you can use their volatile oils in aromatherapy. These include black pepper, lavender, lemongrass, and rosemary.

If you don't have inflammation right now, you're going to have it. Also, you may have internal inflammation that you don't know about.

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A good screening test is the omega-3 and omega-6 fatty acid balance test that I talked about earlier. That's a very easy test that only costs about \$100. You prick your finger and put a little drop of blood on a plate, then send it in to the lab. They analyze it for somewhere between 9 and 12 fats and tell you what your balance is, which gives you an idea of which foods you can eat or remove from vour diet to modulate that.

If you have an inflammatory or autoimmune disease, that's a great test to use to get that information. If you don't currently have health

"When I'm working with people with really out of control autoimmune and inflammatory conditions, I usually put them on a Vitamin C supplement."

In the chart on page 32, there's a list of inflammatory foods. If you're still eating any of these foods, you need to start eliminating them, and you need to do it quickly. Otherwise, your inflammation is going to go on and on.

issues but your numbers are out of balance, you want to get them in balance before you do have problems.

MANAGING PAIN AND INFLAMMATION THROUGH FOOD TRANSCRIPT

I found a book with a chapter called The Inflammation-Free Diet Plan. The author came up with "The Inflammatory Rating of Food." A lot of us have heard about the glycemic index. This is another way of rating food to give us an idea of whether it's going to be good for our body or not. Anti-inflammatory foods have a positive IF rating and inflammatory foods have a negative IF rating. In the recipe guide and shopping list, I've listed a lot of these foods. The author has a list of 1,600. I took the most common ones and created a chart of 40 or 50 different foods to give you an idea of the ratings.

Some foods might be very inflammatory and some foods might be just moderately inflammatory. Some foods might be very anti-inflammatory. For example, acerola cherries have an inflammatory rating of 342, which is super anti-inflammatory. Broiled beef T-bone steak has -18 IF rating. It gives you an idea of what you're eating and how inflammatory or antiinflammatory it is.

We know that fruit is better than fruit juice, but what about these new goji and noni drinks that are coming out?

Some of the goji and noni drinks are really high-quality, and they have the juice that they claim

they have. If it says noni on it, it just has noni. Others are 75% pasteurized apple juice. Noni and goji are not highly sweet fruits. When you drink apple juice, it's like drinking pure sugar, especially if it's pasteurized.

Often goji and noni drinks are pasteurized. One brand of goji juice is cold processed, which is perfectly fine. If you're going to be drinking any kind of fruit juice like that, you should be drinking it with greens. Make yourself some green juice or add it to a green smoothie so you get a lot of minerals to help metabolize the sugar.

What about acai juice?

There are a lot of great claims about acai juice. They usually sell it frozen. I've seen it both in jars and frozen. It is pasteurized, although the frozen one probably isn't. In general, fruit juices are not good, but there are therapeutic fruit juices.

Which form of vitamin C do you recommend?

In theory, we want to get everything from our food. Practically speaking, we've become so far out of balance that it would take a whole boatload of food to make up for some of our deficiencies. You can do whole food forms of vitamin C. There's a

really nice supplement that has spirulina and amla. It doesn't have a really high therapeutic dosage of vitamin C, but it's a nice background dose.

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When I'm working with people with really out-of-control autoimmune and inflammatory conditions, I usually put them on a vitamin C supplement. There's some controversy over whether they would be better off with concentrated goji juice, cherries, or some of the other berries that have high levels of vitamin C. But I know that I can get very good results from people with allergies if I get them on high doses of a powdered, fully-buffered mineral ascorbate.

It would be useful to have a group of people with allergies or any inflammatory condition who may want to experiment with this so we can figure out the proper dosages of food-based vitamin C.

You're going to get a lot of vitamin C from fresh foods, but depending on your condition it may not be enough. I'd like to think that for maintenance, the strongest supplement we might need is something like a spirulina/amla fruit powder, which is a concentrated nutrient. I'm trying to get balance between what makes sense theoretically and what makes sense practically.

MANAGING PAIN AND INFLAMMATION THROUGH FOOD TRANSCRIPT

There are a lot of different types of vitamin C out there. The one that I like is fully reduced, which means you get the full antioxidants because they do it in a vacuum. It's a company called Perque, and you can get them online at www.EmersonEcologics. com. I've seen really good results with that brand. It is fully buffered, and it's a balanced buffer. It doesn't have too much magnesium. Some of the buffered ones have too much magnesium, which causes diarrhea.

Is fibromyalgia an inflammatory disorder?

Fibromyalgia is definitely an inflammatory disorder. It doesn't have "itis" at the end, but "algia" means pain.

Fibromyalgia is inflammation of the connective tissues. We have this pain throughout our bodies, usually at very specific points. It's definitely inflammation of those tissues. Inflammation in the gut is commonly seen as its preceding cause.

I'm hearing more and more about fibromyalgia and running into more and more people that have it. It's kind of a modern-day epidemic, just like all inflammatory diseases are epidemic these days.

When you look around and see what people are eating, it's mainly inflammatory foods. They are under stress. They aren't exercising.

We're bombarded with fear on the news. We're not greeted on the news with, "Everybody take a nice, deep breath and appreciate the day! Let me tell you all the nice things that happened." We're hit with, "And in the news today, we have some heartbreaking news." When I shared that just now, my whole body got all tense and stressed out about it.

We're bombarded with things that are inflammatory. It's no wonder that we have fibromyalgia, chronic fatigue, asthma, gastritis, colitis, inflammatory bowel disease. If you have alternating constipation and diarrhea, even if it's really not severe, you're on your way to inflammatory bowel disease, which is an autoimmune disease. It's your body attacking the tissue in your intestines. It could be colitis or Crohn's, depending on where it's at.

I hope I didn't overwhelm you too much with information. It's always hard to distinguish how much information to give versus glossing it over. I don't like to just gloss it over because I want the knowledge you receive to have an impact.

Minimum

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I want you to know that this is a complex problem with a relatively simple solution. It may not be simple in that you do this and you're immediately well, but I have had people who have gone on an anti-inflammatory diet call me in three days and say, "My joint pains are about half of what they were three days ago. Can that be possible?" I say, "Yes, it can, when you take out the insult."

Think about it. Start to look at incorporating more and more anti-inflammatory foods in your diet.



7 AMAZING SECRETS TO REDUCING OR ELIMINATING PAIN AND INFLAMMATION



7 AMAZING SECRETS TO REDUCING OR ELIMINATING PAIN AND INFLAMMATION

1. Make sure you have a 1:1 balance of your omega-3 and omega-6 fats

Omega-3 and omega-6 fatty acids need to be in balance, ideally a 1-to-1 balance. If they're in a 1-to-1 balance, they work together to put out inflammation. The ratio can go up to as much as a 3-to-1 balance of omega-6 to omega-3, and you'll still experience the benefits of decreased inflammation. You get omega-3 fatty acids from flax seeds, walnuts, chia seeds, and hemp seeds. You get omega-6 fatty acids from sesame seeds, sunflower seeds, almonds, and pumpkin seeds.

2. Incorporate foods rich in antioxidants into your diet

As oxygen interacts with cells, oxidation occurs. During oxidation, some cells are damaged, becoming very unstable. These are known as 'free radicals' because they are missing a molecule; therefore, they look to bond with other molecules, destroying the health of those molecules and further continuing the damaging process. You can handle a small amount of free-radical damage with antioxidants the body naturally produces; however, when external toxins overwhelm the body's natural defense, the result is inflammation. To protect against

free radicals, eat
a variety of foods
rich in antioxidants such
as turmeric and ginger. Include
foods that are rich in vitamins C
and E as well as beta-carotene.
Dark-colored grapes, blueberries,
red berries, nuts such as walnuts
and Brazil nuts, and dark green
veggies like broccoli and spinach
are good to have on your plate.

3. Eat a significant amount of green foods abundant in minerals

Recovery and repair of tissues requires a variety of minerals, and minerals also serve as antioxidants. However, we are often depleted in minerals. Approximately 18 out of 20 people are deficient. That's a lot. The main minerals that people are deficient in are zinc, magnesium, and potassium. These minerals are abundant in our green foods, but we have to eat significant amounts of greens. A green smoothie, where you take a bunch of greens and blend them in a blender with a fruit or other vegetables, makes a delicious drink. Add some ginger and turmeric if you'd like. It's a really good, antioxidant-rich, anti-inflammatory drink. Sea vegetables, like kelp, will also help reduce inflammation.

4. Vitamin-rich foods help in reducing body inflammation

Manage Contraction of the Contra

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Foods that have a high vitamin profile may help control inflammatory processes in the body. The main vitamins for inflammation are vitamins B and C. A hardworking antioxidant, vitamin C, offers two added bonuses: it helps the body deal with stress, and it boosts the activity of another outstanding anti-inflammatory, vitamin E. Vitamin C can be found in tomatoes, citrus fruit, and broccoli. Several of the B vitamins target inflammation, in particular the pro-inflammatory cytokines including vitamins B6, B12, and folic acid. B vitamins have also been found to convert inflammatory homocysteine to the essential amino acid, cysteine. A diet rich in broccoli, asparagus, romaine lettuce, sweet red peppers, and parsley will be full of B vitamins.

7 AMAZING SECRETS TO REDUCING OR ELIMINATING PAIN AND INFLAMMATION

5. Check your food sources, cleaning products, and personal care products for chemicals

Chemicals are coming into your body all the time. You start out with your immune system asking, "Friend or foe?" Your body is programmed to recognize food, bacteria, and organisms. But you don't have the built-in mechanisms to handle all these chemicals you're bombarded with, so they get stored, which causes chronic inflammation and an alteration of your immune system. Read the ingredients before you put anything on your skin. Your skin is your largest organ and absorbs these chemicals. Each week, choose one product to investigate the ingredients and make the choice to keep or throw away.

6. Avoid foods
with gluten and
dairy, as well as any
other allergy triggers

An allergy is an over-reaction of the immune system, the body's natural defense system. In short, the body responds as though it's under attack, releasing antibodies and triggering inflammation, even though the stimulus of the attack (the allergen) is normally harmless. Gluten is actually an umbrella term for a family of proteins found within the seeds or grains of wheat, rye, barley, spelt, kamut, and triticale. If you are sensitive to gluten, the immune system responds to it as if it was an intruder in the body, not a food. This reaction will eventually wear down the immune system and disrupt your metabolism, setting the stage for systemic inflammation. Dairy has a protein called casein. Casein triggers an autoimmune process where the body produces autoantibodies.

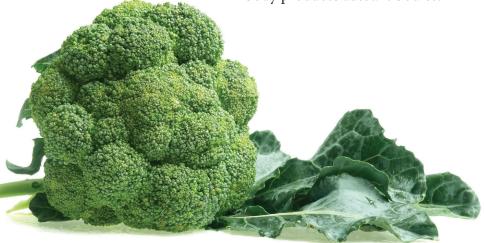
The autoantibodies attack the body's own tissues. The whole process results in a weakening of the body's natural-defense system. Other allergens you might want to avoid are eggs, sugar, peanuts, and soy.

Manage Contraction of the Contra

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7. Test your pH every day and create a diet that alkalizes your body

There is a relationship between chronic muscle and joint pain, inflammation, and saliva pH. These conditions typically develop because of improperly managed inflammation and an acid/alkaline imbalance. Excess acid-forming foods, drink, and a lifestyle of stress put an enormous strain on your digestive system, liver, kidneys, and areas of inflammation. The body's attempt to neutralize these acids creates more free radicals, which further damages tissues. By incorporating a saliva pH test every day, you can see what you need to do to create that balance. You can make an alkaline green smoothie or a salad with carrots, jicama, and sweet peppers.

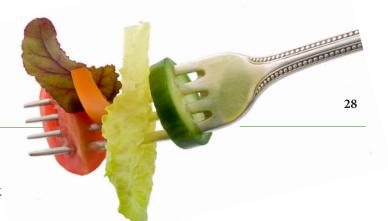




WORKBOOK



MANAGING PAIN AND INFLAMMATION THROUGH FOOD WORKBOOK



Keep this workbook handy and make notes as you work through the material.

1. What I want to do with the information I learn in this class:

2. What is pain?

3. What is inflammation?

4. What causes pain?

MANAGING PAIN AND INFLAMMATION THROUGH FOOD WORKBOOK



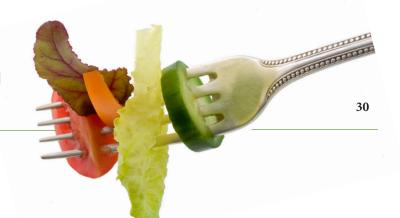
5.	What	callses	inflar	nmation?
<i>.</i>	vviiat	causes	minai	mmaliviii

6. What diseases are caused by inflammation? (hint: what diseases end with "itis"?

7. Many experts now see inflammation as arising from an immune system that's out of control.

- 8. How do we measure inflammation?
 - a. C-reactive protein
 - b. Fatty acids: omega-6 to omega-3 ratio
 - c. Intestinal barrier function
 - d. Oxidative stress markers
 - e. pH: saliva and urine
 - f. Mineral status
 - g. The role of drugs in managing inflammation

MANAGING PAIN AND INFLAMMATION THROUGH FOOD WORKBOOK



9. How can we control inflammation?

- a. Diet
- b. Attitude
- c. Stress
- d. Exercise
- e. Environmental exposures
- f. Digestion

10. What are dietary factors in managing inflammation?

- a. Dietary fats
- b. Antioxidants
- c. Minerals
- d. Vitamins
- e. Food allergens
- f. Chemicals

11. Do we need supplements to manage inflammation?

- a. What supplements have been found to be helpful in managing inflammation?
- 12. Describe chronic inflammation and its roots in the digestive system.
- 13. Name some of the foods that cause inflammation.

MANAGING PAIN AND INFLAMMATION THROUGH FOOD WORKBOOK

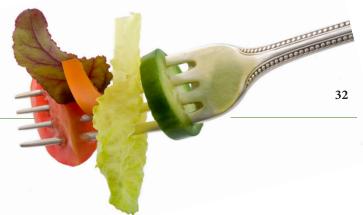


14. What is immunology and what is its role in inflammation?

15. What is the relationship between mood and inflammation? What is the role of neurotransmitters?

- 16. Create a list of anti-inflammatory foods.
 - a. Fruits
 - b. Vegetables
 - c. Condiments
 - d. Nuts
 - e. Seeds
 - f. Grains
 - g. Legumes
- 17. Create a list of anti-inflammatory herbs.

MANAGING PAIN AND INFLAMMATION THROUGH FOOD WORKBOOK



18. Inflammatory foods to avoid include:

Bagels
Breads, rolls, baked goods
Candy
Cake
Cookies
Cereals (except old fashioned oatmeal)
Cornstarch
Corn bread, corn muffins
Corn syrup
Crackers
Croissants
Doughnuts
Egg rolls
Fast food
French fries
Fruit juice— choose the fruit

Flour
Granola
Hard cheese (except for feta and grating cheeses such as Romano and Parmesan)
Honey
Hot dogs
Ice cream, frozen yogurt, Italian ices
Jams, jellies and preserves
Margarine
Molasses
Muffins
Noodles
Pancakes
Pastry
Pie
Pita bread
Pizza

uae:
Pasta
Popcorn
Potatoes
Pudding
Relish
Rice
Sherbet
Shortening
Snack foods including: potato chips, pretzels, corn chips, rice, and corn cakes, etc.
Soda
Sugar
Tacos
Tortillas
Waffles

19. How does *The IF Rating™ system* work for providing inflammatory ratings of foods?

- a. Anti-inflammatory foods have positive IF ratings.
- b. Inflammatory foods have negative IF ratings.
- c. The higher the number, the stronger the effect.

See the IF ratings of some common foods.

(http://www.drritamarie.com/go/IFRatings)

The formula used to calculate the IF Rating, as explained in *The Inflammation-Free Diet Plan* by Monica Reinagel, 2005-2007, measures the effects of more than 20 different factors that determine a food's inflammatory or anti-inflammatory potential, including:

- amount and type of fat
- essential fatty acids
- vitamins, minerals, and antioxidants
- glycemic index
- anti-inflammatory compounds

Fried foods

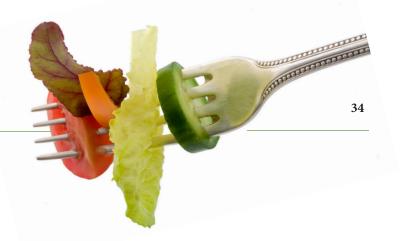
instead



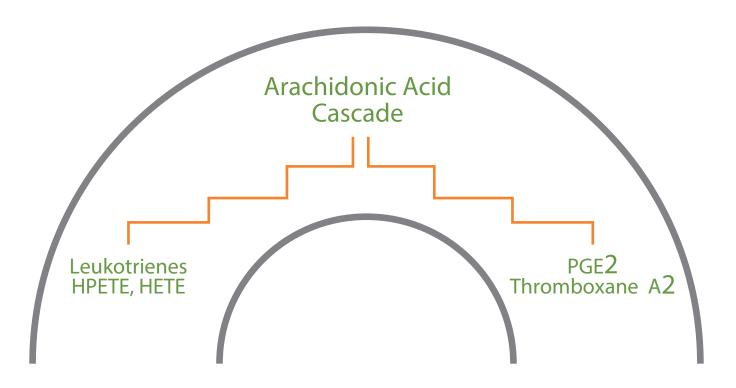
FLOWCHARTS



MANAGING PAIN AND INFLAMMATION THROUGH FOOD FLOWCHARTS

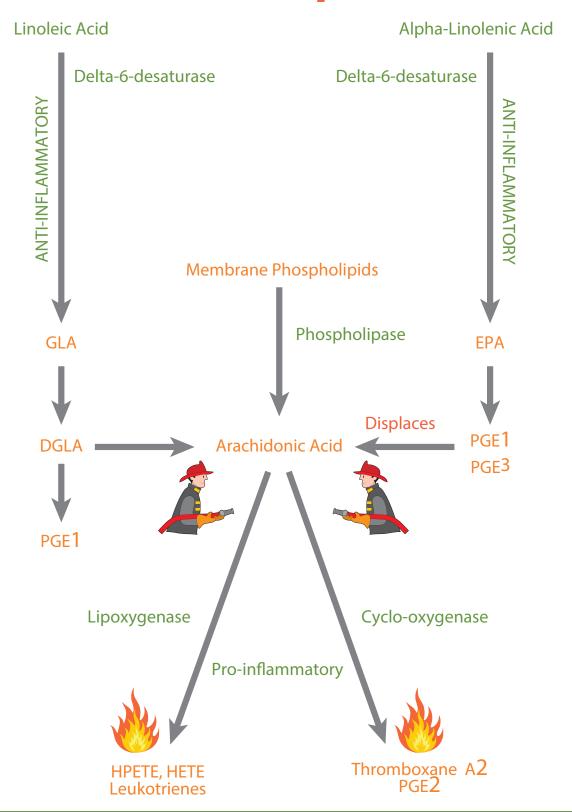


Mast Cell Membrane

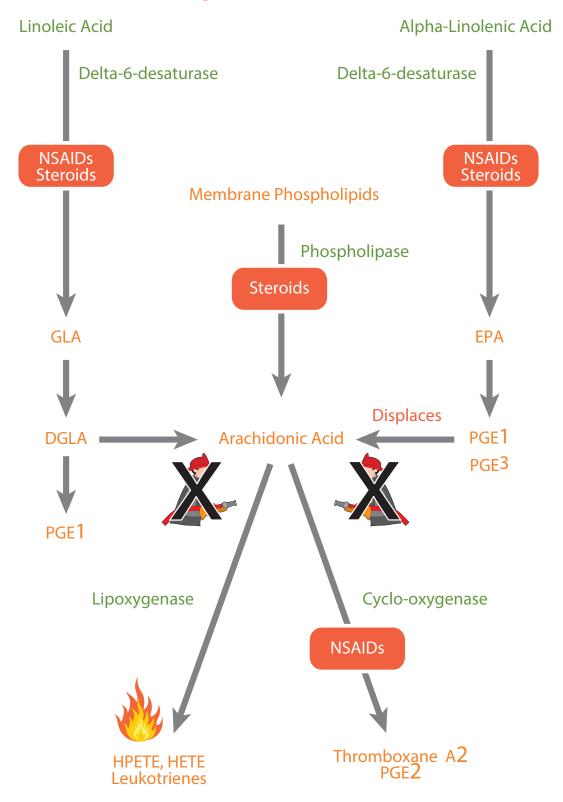


Producing Pro-inflammatory Agents

Inflammatory Cascade

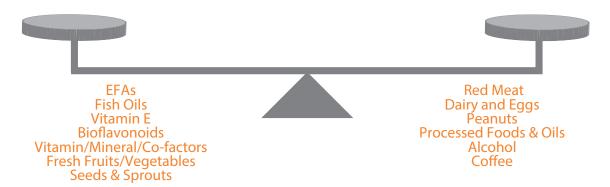


Drug Modulation



Anti-inflammatory

Pro-inflammatory



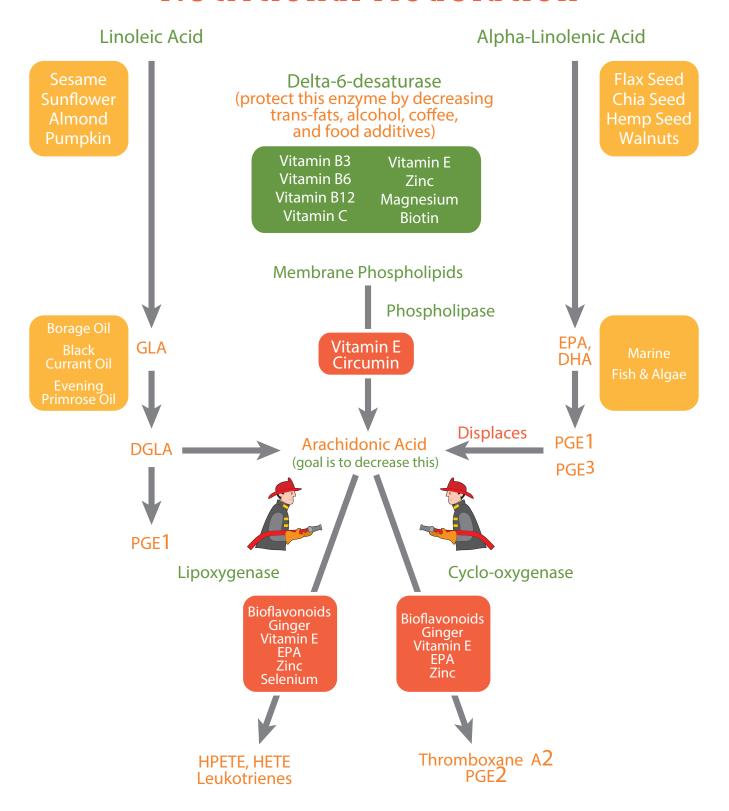
The Body's Clean-up Crew

Lungs, Lymph and Kidneys Liver (Anti-histamines, CP450, Conjugation) Circulating Digestive Enzymes (Proteases) Antioxidant Nutrients (Vitamins A, C, E, Zinc, Selenium, etc.)

Additional Anti-inflammatory Support

Acupuncture
Homeopathic Medicine
Botanical Medicine
Bodywork, Manipulation and Exercise
Physical Therapy, etc.

Nutritional Modulation



MANAGING PAIN AND INFLAMMATION THROUGH FOOD FLOWCHARTS

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Normalization of Immune Response Mechanisms
Optimize EFA's:
Optimize Co-factors:
Protect Delta-6-Desaturase:
Reduce Arachidonic Acid Intake:
Facilitate Digestion:
Minimize Exposure to Allergens/Irritants:
Normalize Gut Ecology:

MANAGING PAIN AND INFLAMMATION THROUGH FOOD FLOWCHARTS

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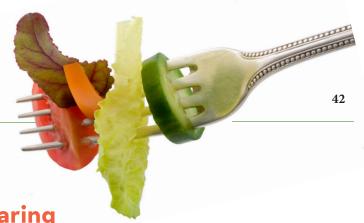
Normalization of Immune Response Mechanisms
Restore Acid-Alkaline Balance:
Enhance Kidney/Liver/Lung Function and Metabolic Clearing:
Enhance Tissue and Organ Specific Drainage/Clearing:
Enhance Anti-inflammatory and Limit Pro-inflammatory Pathways:
Resolve Any Structural Stress/Mechanical Irritation:
Normalize Blood and Lymph Circulation:
Normalize Tissue Conductivity and Energetics:



ANTI-INFLAMMATORY FOODS



ANTI-INFLAMMATORY FOODS



A Guide to Shopping and Preparing Mouthwatering Anti-Inflammatory Recipes

The foods in the table on the following pages have been shown to have an anti-inflammatory effect on your body for a variety of reasons. Some contain high levels of omega-3 fatty acids, which promote the production of anti-inflammatory prostaglandins. Others are very high in antioxidants and mineral co-factors that speed up the production of the anti-inflammatory prostaglandins from the omega-3 fats. Others interrupt the production of the inflammatory prostaglandins.

All of the anti-inflammatory foods can be thought of as promoting the activity of your body's fire department. If you consider inflammation the fire that causes pain, then it is important to have a strong fire department.

Pro-inflammatory foods (such as heated and processed vegetable fats, partially hydrogenated vegetable oils, dairy products, meat, poultry, caffeine, processed, refined grains, baked goods, and snack foods) cause the fire to grow and spread.

Taking medications to put out the fire is only effective in the short term, and they can have negative effects.

When you take Non Steroidal Anti-inflammatory medications (NSAIDs), they do a pretty good job at putting out the fire, but the bad part is that they disable the fire department at the same time. Eating anti-inflammatory foods can help put out the fire and strengthen the fire department.

The foods on the list below are anti-inflammatory. In the "comments" column, I indicated the mechanism by which each food is anti-inflammatory.

Go through the list and see which items you currently have and which you might want to get to start your journey. Regular consumption of these foods and avoidance of the inflammatory foods will help you along on the road to an active, pain-free, comfortable life.

Vegetables	
Leafy: lettuce and mixed salad greens, spinach, kale, collard greens, Swiss chard, dandelion, sunflower seed sprouts	Rich in antioxidants and anti-inflammatory flavonoids
Non-Leafy: cucumber, celery, zucchini or yellow squash, broccoli, cauliflower, mushrooms, red bell peppers, cabbage (red and/or green)	Rich in antioxidants and anti-inflammatory flavonoids
Roots: carrots, daikon radish, beets, sweet potatoes (yams), burdock	Rich in antioxidants and anti-inflammatory flavonoids
Fresh, Frozen and Dried Fruits * (choose org	ganic whenever possible especially with berries)
Blackberries	Rich in antioxidants and anti-inflammatory flavonoids
Blueberries	Rich in antioxidants and anti-inflammatory flavonoids
Cherries	Rich in antioxidants and anti-inflammatory flavonoids
Peaches	Rich in antioxidants and anti-inflammatory flavonoids
Raspberries	Rich in antioxidants and anti-inflammatory flavonoids
Strawberries	Rich in antioxidants and anti-inflammatory flavonoids
Goji berries	Rich in antioxidants and anti-inflammatory flavonoids

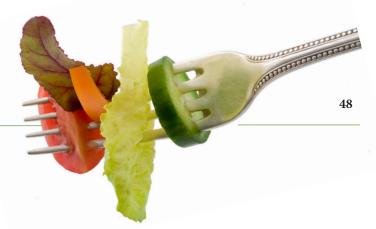
Herbs and Spices, Seasonings and Condiments							
Unrefined sea salt (Celtic, Himalayan, pink)							
Apple cider vinegar	Alkalizing						
Peppermint essential oil	Soothing and healing to inflamed intestinal tissue						
Ginger	Especially good anti-inflammatory						
Turmeric	Especially good anti-inflammatory						
Basil	Rich in antioxidants						
Onion	Especially good anti-inflammatory, contains quercetin						
Cayenne	Rich in antioxidants						
Cinnamon, ground	Rich in antioxidants						
Cumin, ground	Rich in antioxidants						
Curry	Rich in antioxidants						
Dill weed	Rich in antioxidants						
Garlic	Rich in antioxidants						
Oregano, dried	Rich in antioxidants						
Italian seasoning	Rich in antioxidants						
Cardamom	Rich in antioxidants						
Paprika	Rich in antioxidants						
Mint	Rich in antioxidants						
Garam masala	Rich in antioxidants						

Raw Organic Nuts and Seeds	
Pumpkin seeds	Good omega-3 fat source
Flax seed (golden and/or brown)	Good omega-3 fat source
Sunflower seeds	Alkalizing
Chia seed	Good omega-3 fat source
Hemp seed	Good omega-3 fat source
Sesame seed	High in alkalizing minerals, especially calcium
Almonds	Alkalizing
Macadamia nuts	Ideal ratio of omega-3 and 6 fats
Cashews	Good source of minerals, especially zinc
Pecans	Rich in antioxidants
Walnuts	Good omega-3 fat source
Brazil nuts	Good mineral source, especially selenium
Coconut flakes	Enhances uptake of omega-3 fats
Coconut, shredded	Enhances uptake of omega-3 fats
Coconut butter	Enhances uptake of omega-3 fats
Cold Dracessed Organic Oils	
Cold Processed Organic Oils	Condinuous 2 fet saures
Flax oil	Good omega-3 fat source
Coconut oil raw, virgin	Enhances uptake of omega-3 fats
Coconut oil cold processed	Enhances uptake of omega-3 fats
Olive oil	Anti-inflammatory, especially to the blood vessel walls
Pumpkin seed oil	Good omega-3 fat source
Macadamia nut oil	Ideal ratio of omega-3 and 6 fats

Sea Vegetables (very high in minerals)	
Primo kelp	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Wild arame	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Wakame	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Hijiki	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Sea palm	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Nori sheets (raw)	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Wild nori	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Dusle	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Agar	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Spirulina	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Blue green algae	Very high in minerals which helps alkalize and provide anti-inflammatory benefits
Kombu	Very high in minerals which helps alkalize and provide anti-inflammatory benefits

Grains	
Quinoa	A rich source of alkalizing protein
Millet	A rich source of alkalizing protein
Amaranth	A rich source of alkalizing protein
Teff	A rich source of alkalizing protein
Wild rice	A rich source of alkalizing protein
Brown rice	A rich source of alkalizing protein
Legumes	
Lentils	Low fat protein source, alkalizing
Mung beans	Low fat protein source, alkalizing as sprouts
Aduki beans	Low fat protein source, alkalizing as sprouts
Garbanzo beans	Low fat protein source
Kidney beans	Low fat protein source
Black beans	Low fat protein source

ANTI-INFLAMMATORY FOODS



Organic vs. Commercial Foods

Pesticides and other toxic chemicals have been found to damage the gut lining, stress the liver, and lead to inflammation due to activity by the immune system. When availability and budget make it difficult to get all organic foods, there are guidelines that will help you choose the commercially produced foods that have been measured to have the lowest pesticide residues.

Washing well and using one of the veggie sprays or a few drops of hydrogen peroxide help to remove the residual pesticides from the surface of the food, but do nothing about the accumulated pesticides inside the flesh that gets absorbed from the soil through the plant's roots.

Use the following information as a guideline when it is necessary to purchase commercially grown produce.

Always buy these foods organically grown

What: Apples, bell peppers, celery, cherries, grapes, nectarines, peaches, pears, potatoes, red raspberries, spinach, and strawberries

Why: The U.S. Department of Agriculture's own lab testing reveals that even after washing, some fruits and vegetables consistently carry much higher levels of pesticide residue than others.

Based on an analysis of more than 100,000 U.S. government pesticide test results, researchers at the Environmental Working Group (EWG), a research and advocacy organization based in Washington, D.C., have developed the "dirty dozen" fruits and vegetables, above, that they say you should always buy organic if possible because their conventionally grown counterparts tend to be laden with pesticides. Among fruits, nectarines had the highest percentage testing positive for pesticide residue. Peaches and red raspberries had the most pesticides (nine) on a single sample. Among vegetables, celery and spinach most often carried pesticides, with spinach having the highest number (10) on a single sample. (For more information on pesticide levels for other types of produce, go to www.foodnews.org.)

What: Meat, poultry, eggs, and dairy

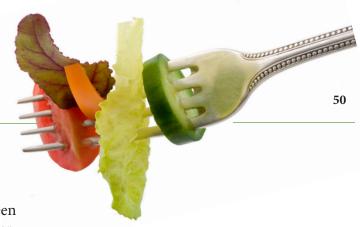
Why: You greatly reduce the risk of exposure to the agent believed to cause mad cow disease and minimize exposure to other potential toxins in nonorganic feed. You also avoid the results of production methods that use daily supplemental hormones and antibiotics, which have been linked to increased antibacterial resistance in humans. Meats, poultry, and eggs are inflammatory foods and should be minimized.



RECIPES



ANTI-INFLAMMATORY RECIPES



Green Drink

Place a handful of green leafy vegetables, such as dark green lettuces, kale, spinach, parsley, or any others, in the blender. Cover with water and blend until vegetables are completely pureed. Add enough water to fill the blender and blend until vegetables are completely dissolved. Pour liquid into a $1\frac{1}{2}$ to 2 quart container and fill with water. Shake well before drinking. Sip throughout the day in place of water. Adding fresh ginger root, lemon, or mint to the blend adds a nice flavor. The resulting beverage should be a pale green, translucent color.

Lemony-Mint Energy Soup

INGREDIENTS

2 apples

1/2 lemon

2 cups spring salad mix

1 avocado

1 cup fresh mint

4 cups water

DIRECTIONS

Blend ingredients in a blender until creamy. This soup is very refreshing and can be eaten any time of day.

Below is a variation

INGREDIENTS

1 apple

1 lemon, juice of

1 head of romaine lettuce

1 handful of fresh mint leaves

1/2 avocado

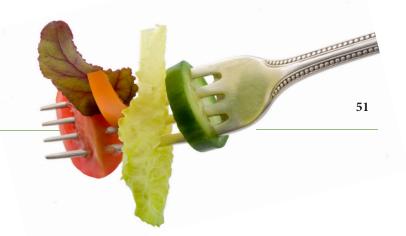
2 cups of water

PERSONAL NOTE

Make up your own version. Use different herbs. Add other green vegetables. I have made it without the avocado, without the apple, and without the mint. I always find it refreshing and very energizing.

I have made a version of this that is basically a blended salad. Lots of lettuce, tomato, cucumber, celery, flax oil, apple cider vinegar and herbs. It is an easy way to eat lots of fresh, raw vegetables.

ANTI-INFLAMMATORY RECIPES



Anti-Inflammatory Green Soup

INGREDIENTS

2 - 4 cups kale

1 cup mixed greens

1 cup water

1 pear

1/2 of a red bell pepper (without seeds)

2 limes

1/2 teaspoon kelp

1/4 teaspoon curry powder

1/4 teaspoon cayenne

2 cloves garlic

1-inch piece of ginger

1 tomato

4 lime leaves

1 thin long dry stick of lemongrass

1 piece of turmeric root approx. 1 1/2 inches long

or 2 teaspoons powdered turmeric

2 tablespoons chia seed

2 tablespoons coconut butter for thickness

DIRECTIONS

Blend well.

Add an avocado if a creamier soup is desired.

Add salt to taste.

ANTI-INFLAMMATORY RECIPES



Creamy Green Soup

Steam a bunch of favorite vegetables along with some potatoes and/or sweet potatoes. Place vegetables and steam water in blender and blend until creamy. Add flax oil, sea salt, sea vegetables, herbs, additional water until the taste is delicious and texture is creamy. As a starting point, here's a recipe.

INGREDIENTS

1 bunch of broccoli

1 zucchini

1 stalk of celery

1/2 - 1 medium-sized onion

1 large potato

1 bunch of green leafy veggies, such as spinach, chard, collards, kale or dandelion greens water for steaming

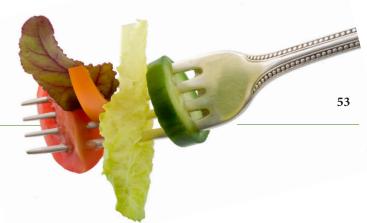
DIRECTIONS

Steam veggies until just tender and place in blender along with steaming water. Be careful not to burn yourself. Blend until creamy.

Add additional water if too thick.

Add a pinch of sea salt and a tablespoon of flax oil. Season to taste with basil, cilantro, or other favorite herbs. Sweet potatoes and squash give the soup a sweeter flavor.

ANTI-INFLAMMATORY RECIPES



Crispy Onions

INGREDIENTS

1 -2 large onions, cut in half and thinly sliced either by hand or using a food processor or mandolin

1 teaspoon sea salt

1 tablespoon olive oil

1 lemon or lime, juice of

1/2 cup sesame seeds

3 tablespoons paprika

other seasonings and additional salt if desired

DIRECTIONS

Place onions in a bowl and sprinkle with salt.

Massage the salt into the onions until they have wilted.

Allow to sit at room temperature for 10 minutes so that they soften a bit.

Combine olive oil and lemon juice in a small bowl and pour over the onions.

Mix with hands to be sure all onions are coated. Allow to marinate for at least ½ hour.

Grind the sesame seeds to a powder in a coffee grinder.

Add paprika and additional seasonings as desired.

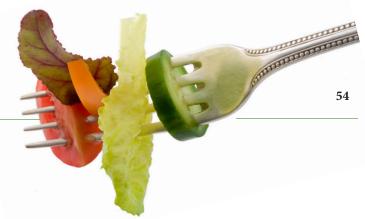
Put paprika/sesame mixture in a paper or plastic bag.

Squeeze excess liquid from onions and place in bag with sesame mixture. Do not over fill the bag or the onions will not get evenly coated. You may need to process the onions in several batches.

Shake the onions in the bag until they are well coated.

Place on mesh dehydrator trays and dehydrate at 105° F until crispy, usually around 18 to 24 hours.

ANTI-INFLAMMATORY RECIPES



"Braised" Garlic Greens

INGREDIENTS

- 1 head kale, de-stemmed and shredded or chopped into small pieces
- 1 head collard greens, de-stemmed and shredded or chopped into small pieces
- 4 cups baby spinach, washed and drained
- 2 lemons, juice of
- 3 cloves garlic
- 1/4 cup macadamia nut or olive oil
- 1 teaspoon salt

DIRECTIONS

Rinse and chop greens and place in a bowl.

Cover greens with salt and massage until they wilt. Continue until the greens have shrunk in size and there is green water in the bowl. Drain the liquid, reserving for later.

Add ½ the lemon juice and massage again.

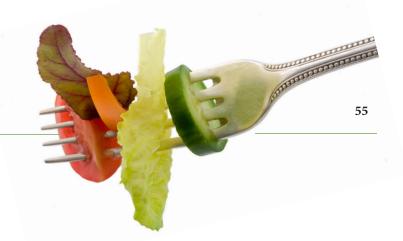
In a separate bowl, combine remaining lemon juice and oil with a few teaspoons of the reserved liquid.

Press garlic into the juice/oil mixture and stir or shake well.

Pour dressing over greens and toss well, squeezing with hands so that the marinade penetrates the greens.

Allow to sit at room temperature for 15 minutes or longer, preferably in a salad press, or warm in dehydrator at 140° for 15 - 30 minutes before serving.

ANTI-INFLAMMATORY RECIPES



Creamy Onion Dip

INGREDIENTS

1/2 cup cashews, preferably soaked for 4 hours
1/2 cup macadamia nuts
1 large lemon, juice of
1/2 cup water
1/4 tsp sea salt
1/2 - 1 cup minced onions

DIRECTIONS

Put all ingredients into blender or Vitamix.

Blend on high speed for several minutes. Mixture should be thick and creamy.

Adjust amount of water for desired consistency.

Stir in minced onions.

Deep Green Pesto

INGREDIENTS

3 cloves raw garlic
1/4 cup pine nuts
2 cups kale
1/2 pound raw spinach
1/8 cup flax or hemp oil (optional)
1 cup fresh or 1/4 cup dried basil
1 cup dulse or kelp, or a combination of the two
1/2 teaspoon unrefined sea salt

DIRECTIONS

Put all ingredients into blender or Vitamix. Blend until desired consistency.

ANTI-INFLAMMATORY RECIPES



Warm Curried Vegetable Soup

INGREDIENTS

- 1 cup almonds
- 2 cup water
- 2 red bell peppers
- 2 tablespoons coconut butter
- 4 carrots
- 3 cloves garlic
- 1-inch piece of ginger
- 1 teaspoon turmeric or 1/2 inch piece fresh turmeric
- 1 teaspoon cumin
- 1 teaspoon curry powder
- 2 lime leaves
- 1/4 cup lime juice
- 2 tablespoons kombu or kelp powder

Your choice of vegetables, pulse chopped or diced: broccoli, kale, cauliflower, zucchini, carrots, cabbage, and other greens

DIRECTIONS

Place diced vegetables in a large bowl. Sprinkle with salt and massage well until the vegetables begin to wilt and reduce in size. This process breaks down the cell walls and makes the vegetables not only more digestible, but tastier and more tender as well.

Blend all ingredients except chopped vegetables to make soup base.

Adjust seasonings to desired level of spiciness.

Pour over vegetables.

ANTI-INFLAMMATORY RECIPES



Creamy Nut Cheese

INGREDIENTS

1 cup cashews, macadamia nuts or a combination, soaked 4 - 6 hours if possible

1 large lemon, juice of

1/2 cup water

1/4 teaspoon sea salt

1 tablespoon nutritional yeast (optional) – gives a more "cheesy" flavor

1 teaspoon turmeric

DIRECTIONS

Put all ingredients into blender or Vitamix.

Blend on high speed for several minutes. Mixture should be thick and creamy.

Adjust amount of water for desired consistency.

OTHER VARIATIONS:

Other nuts, like pine nut, Brazil nuts or almonds can be substituted for the cashews or macadamia nuts. The resulting cheese will not be as white and creamy as when using cashews and macadamia nuts, and the taste will be somewhat stronger.

For "cheddar cheese", use red bell pepper instead of all or part of the water. Put the red bell pepper in the blender and blend until liquefied. Add a little bit of water if needed to get the blender moving. Add the remaining ingredients, except the water, and blend. Add water if needed to thin to desired consistency.



ALKALINE DIET



THE IMPORTANCE OF AN ALKALINE DIET

he internal environment of your body is maintained at a pH just above 7.0. Your blood pH must be maintained within a very narrow range or serious illness and death can result.

This means that your internal environment is slightly alkaline. Your enzymatic, immunologic, and repair mechanisms all function their best in an alkaline environment.

Your metabolic processes – the processes of living, tissue repair, and the metabolism of food – produce a great deal of acid. In order to maintain your internal alkaline state, you need oxygen, water, and acid-buffering minerals available as you are eliminating waste products.

For example, when you exercise or move you produce lactic acid and carbon dioxide.

Lactic acid is by its nature acid and the carbon dioxide becomes acidic, turning into carbonic acid in water. Digestion of foods generates acids. For example, phosphoric acid and sulfuric acid are produced from the metabolism of the phosphorus and sulfur contained in many foods such as meats, grains, and beans. Immune system

responses, such as allergies and hypersensitivities, directly and indirectly generate substantial amounts of acidic products. Many factors relating to lifestyle and environment also influence acid-alkaline balance.

For example, when you are under tremendous stress, your acidity will likely increase because of the demands on your cells to become more active. Chronically hectic schedules, inadequate sleep, and rushed, imbalanced meals can all contribute to this unhealthful condition. An underlying metabolic acidity is a common denominator among, and a likely contributing factor to, all degenerative and autoimmune diseases. An acid condition has several adverse effects on cell metabolism including: impaired energy production, fluid accumulation and edem, and a likely increase in free radical production.

The countless chemical reactions necessary for life can only occur within a very specific pH range, thus the body has many checks and balances to maintain pH within a narrow range. Re-establishment of the health-promoting alkaline

state is essential to the regeneration of your immune competence and your overall health.

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To regain the life-supporting alkaline state, acids from all sources must be buffered or neutralized through combination with alkaline minerals. The alkaline minerals include calcium, magnesium, potassium, sodium, chromium, selenium, and iron. The most readily available pool of alkaline minerals is in the bone, and as your body works to maintain optimal blood pH, minerals are depleted from the bone, leading to increased risk of osteoporosis.

Dr. Susan Brown, leading researcher in the area of osteoporosis, and author of the book, *Better Bones, Better Body*, has found that the single most important factor in changing your bone density and decreasing your osteoporosis risk is maintaining optimal pH through an alkaline diet and lifestyle.

When your dietary consumption patterns generate excessive acidic by-products and provide insufficient buffering capacity, your body buffering mineral pools can be depleted.

THE IMPORTANCE OF AN ALKALINE DIET

The intracellular environment becomes acidotic. Many organs and systems – especially the kidneys, adrenals, and lungs - play important roles in maintaining proper pH.

Diet, however, is especially important. That's why a diet that is predominantly alkalineforming is essential to the maintenance of your good health. When you eat a balanced whole-foods diet, your net acid/ alkaline balance is maintained in proper proportion.

Foods that are high in protein - including milk, meat, and even whole grains – are acid forming.

Most fruits are alkalineforming but some – like prunes, plums, and cranberries - are acid-forming because your body can't break down the types of acids they contain. Highly refined foods - such as oils. sugars, soft drinks, and simple starches - are acid-forming. If you are like most people in our society, you probably consume a very imbalanced diet high in acid-forming foods. This imbalanced diet pushes you towards an acid state, and your body responds by taking calcium and other alkalinizing minerals from the blood, bone, and tissues.

The absorption of alkalinizing mineral salts from your diet or supplement program depends upon proper digestion in your stomach and upper small intestine. When long-term pH trends indicate depletion of alkaline reserves, it is also important that the status of your digestive function be assessed. Furthermore, overgrowth of certain abnormal bacteria can impair the lining of your stomach, and food allergy and other factors can impair the lining of your upper small intestine. These conditions can be harmful to your digestion and absorption of key nutrients. It is sometimes helpful to fortify your system with supplements of some or all of these alkalinizing mineral compounds when your body has a tendency toward acid accumulation.

The table of acid/alkaline foods is a guide to show you what foods will help create a more alkaline, and therefore healthier, environment for your body. Your diet should be weighted in favor of the foods on the left-hand side of the chart. Usually, to regain an alkaline environment, 80-90% of your foods should be chosen

from the alkaline side of the chart. Once you achieve optimal pH, you can usually maintain it by eating 60-80% of the diet as alkaline forming foods.

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A good way to measure your average body pH is to measure the pH of your first morning urine. When your first morning urine is between 6.5 (slightly acidic) and 7.5 (slightly alkaline), it indicates that the overall cellular pH is appropriately alkaline. The best time to check pH is in the morning. Urine pH is tested on a specimen of your first morning urination. You can also test your urine pH later in the day, and this will indicate the impact of foods and supplements which you have taken earlier in the day. You should check your morning saliva pH immediately after arising, before you think about or eat your breakfast and while in a calm state of mind. After a meal, your saliva should normally become alkaline. Checking saliva pH after a meal can indicate whether or not this normal mechanism is intact. Optimal range for first morning saliva pH is 6.8 to 7.2.

FOOD & CHEMICAL EFFECTS ON ACID/ALKALINE BODY CHEMICAL BALANCE

							—				——————————————————————————————————————
Most Acid	Pudding/Jam/Jelly	Table Salt Beer, "Soda", Yeast/ Hops/Malt Sugar/Cocoa White/Acetic Vinegar	Antibiotics	Processed Cheese Ice Cream		Beef, Lobster	Pheasant	Barley Processed Flour	Cottonseed Oil Hazelnut, Walnut Brazil Nut Fried Food	Soy Bean, Carob	
More Acid	Nutmeg	Benzoate Alcohol Black Tea Balsamic Vinegar	Psychotropics	Casein Milk Protein Cottage Cheese New Cheese Soy Milk		Pork/Veal Bear, Mussel/Squid	Chicken	Maize, Barley Groat Corn, Rye, Oat Bran	Pistachio Seed Chestnut Oil Lard, Pecan Palm Kernel Oil	Green Pea, Peanut, Snow Pea, Legumes (other), Carrot, Chickpea/ Garbanzo	Cranberry, Pomegranate
Low Acid	Vanilla Stevia	MSG Kona Coffee Honey/Maple Syrup Rice Vinegar	Antihistamines	Cow Milk Aged Cheese Soy Cheese Goat Milk		Lamb/Mutton Boar/Elk Shellfish/Mollusks	Goose/Turkey	Buckwheat, Wheat Spelt/Teff/Kamut Farina, Semolina White Rice	Almond Oll Sesame Oil Safflower Oil Tapioca, Seitan or Tofu	Split Pea, Pinto Bean, White Bean, Navy/ Red Bean, Aduki Bean, Lima or Mung Bean, Chard	Plum, Prune, Tomato
Lowest Acid	Curry	Preservative Beverage Sweetener Vinegar		Cream/Butter Yogurt Goat/Sheep Cheese	Chicken Egg	Gelatin/Organs Venison, Fish	Wild Duck	Triticale, Millet, Kasha Amaranth, Brown Rice	Pumpkin Seed Oil Grape Seed Oil Sunflower Oil Pine Nut Canola Oil	Spinach, Fava Bean, Kidney Bean, Black- eyed Pea, String/ Wax Bean, Zucchini, Chutney, Rhubarb	Coconut, Guava, Pickled Fruit, Dry Fruit, Fig, Persimmon Juice, Cherimoya, Date
Food Category	Spice/Herb	Preservative Beverage Sweetener Vinegar	Therapeutic	Processed Dairy Cow/Human Soy Goat/Sheep	Egg	Meat, Game Fish/Shellfish	Fowl	Grain, Cereal Grass	Nut Seed/Sprout Oil	Bean Vegetable Legume Pulse Root	Citrus Fruit Fruit
Lowest Alkaline	White Willow Bark Slippery Elm Artemesia Annua	Sulfite Sucanat Umeboshi Vinegar	Algae, Blue-Green	Ghee (Clarified Butter) Human Breast Milk	Duck Egg			Oat, "Grain Coffee" Quinoa, Wild Rice Japonica Rice	Avocado Oil Seeds (most) Coconut Oil Olive Oil Linseed/Flax Oil	Brussel Sprout, Beet, Chive, Cilantro, Celery, Scallion, Okra, Cucumber, Turnip Greens, Squash, Lettuce, Jicama	Orange, Apricot, Banana, Blueberry, Pineapple Juice, Raisin, Currant, Grape, Strawberry
Low Alkaline	Herbs (most): Arnica, Bergamot, Ephedra, Feverfew, Goldenseal, Lemongrass	Green or Mu Tea Rice Syrup Apple Cider Vinegar	Sake		Quail Egg				Primrose Oil Sesame Seed Cod Liver Oil Almond Sprout	Potato/Bell Pepper Mushroom/Fungi Cauliflower Cabbage, Rutabaga Salsify, Ginseng Eggplant, Pumpkin Collard Greens	Lemon, Pear, Avocado, Apple, Blackberry, Cherry, Peach, Papaya
More Alkaline	Spices/ Cinnamon Valerian Licorice Black Cohosh	Kombucha Molasses Soy Sauce							Poppy Seed Cashew, Chestnut Pepper	Kholrabi Parsnip/Taro Garlic, Asparagus Kale/Parsley Endive/Arugula Mustard Greens Ginger Root, Broccoli	Grapefruit, Cantaloupe, Honeydew, Citrus, Olive, Dewberry, Longanberry, Mango
Most Alkaline	Baking Soda	Sea Salt Mineral Water	Umeboshi Plum						Pumpkin Seed Hydrogenated Oil	Lentil, Broccoflower Seaweed (Nori/Kombu/ Wakame/Hajiki) Onion/Miso Daikon, Taro Sea Vegetables (other) Burdock, Lotus Root Sweet Potato/Yam	Lime, Nectarine, Persimmon, Raspberry, Watermelon, Tangerine, Pineapple



GLUTEN-FREE DIET



FOODS TO AVOID ON A GLUTEN-FREE DIET

- Wheat, wheat flour, sprouted wheat, white flour or anything that includes the word wheat
- Barley, barley malt, barley flour, and anything that includes barley, including beer
- Rye, rye flour, pumpernickel flour, or anything that includes the word rye
- Spelt
- Kamut
- Triticale
- Einkorn
- Semolina
- Durum
- Bulgar or bulghar
- Cracker meal
- Couscous
- Tabbouleh
- Malt, unless specified as being made from a non-gluten source (such as corn)
- Flour including instant, bread, cake, enriched, graham, and all-purpose flours unless it says gluten-free.
- Oats, oatmeal, oat flour, and oat groats may be a problem and can be cross contaminated with gluten(if you would like to eat oats, look for gluten-free oats)

Avoid foods containing the following unless the label indicates they are from a nongluten source:

- Hydrolyzed vegetable protein
- Modified food starch
- Vegetable starch or vegetable protein
- Gelatinized starch or pregelatinized starch
- Natural flavorings
- Soy sauce (look for wheat-free tamari as an alternative)

Be especially alert for the presence of wheat and gluten in the following:

- Breads, pastries, cakes, cookies, crackers, doughnuts, pies, pretzels, and all other baked goods – the majority are made from wheat flour (look for alternatives by allergy-safe manufacturers)
- Breakfast cereals, both hot and cold
- Pasta, including gnocchi, spaetzle, chow mein, lo mein, and filled pastas (rice noodles, pure buckwheat soba noodles, and pastas from allergyfriendly manufacturers are usually good alternatives)

 Snack foods, especially if seasoned or highly processed

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- Soups, gravies, and thickened sauces
- Breaded meats or vegetables, such as fried chicken or okra
- Dumplings, meatballs, lunch meats, meat loaves, and similar foods (often held together with breadcrumbs or flour)
- Beer (gluten-free beers are available)
- Salad dressings, Worcestershire sauce, and other condiments

Points to be mindful and aware of when choosing your foods:

- "Wheat-free" does not necessarily mean "gluten-free."
- Be careful about bad advice from well-meaning but misinformed health food store workers, friends, relatives, and even doctors! DO YOUR HOMEWORK!
- Many rice and soy beverages

 (i.e. Rice Dream) use barley
 malt or enzymes for flavorings.
- Almost all mass-marketed rice and corn-based cereals contain malt flavoring or some glutencontaining ingredient(s).
- Grills in restaurants can be contaminated with gluten.

FOODS TO AVOID ON A **GLUTEN-FREE DIET**



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GLUTEN-FREE DESSERTS



Without Feeling Heavy and Tired from the High Fat, High **Sugar Processed Ingredients Used to Prepare Them**

In Dessert: Making it Rich Without Oil, you'll learn to make delicious delicacies like S'mores, cheesecake, layer cake, brownies, "ice cream", cookies, candy, pies, tarts and so much more. All ingredients used are 100% glutenfree, dairy-free, whole, unrefined and good for you. We sneak vegetables in wherever we can, but your dessert-loving fans will never know it!

NO SUGAR, GLUTEN, DAIRY, OR SOY







GET YOUR COPY NOW AT www.drritamarie.com/makeitrich/

- Contamination can occur among the flours and grains in open bins in the bulk section of the market. It's the scoops. Flour in the air in a bakery can contaminate previously glutenfree food.
- Baking ovens, counters, and utensils can become contaminated. Wheat-bread crumbs can be left in butter. jams, toaster or on the counter.
- Don't just take the croutons off the salad. Send the salad back and instruct the waitstaff that you need a new salad. There may be enough crumbs left to set off a reaction.
- French fries can be contaminated with gluten if fried in the same oil with breaded things.
- Lotions, creams, and cosmetics can contain gluten. This is especially a problem if one of your challenges is a skin issue like dermatitis herpetiformis.
- Stamps, envelopes or other gummed labels may contain gluten.
- Toothpaste and mouthwash may contain gluten.
- Many medications, both overthe-counter and prescription medications, contain gluten

as a binder or filler. Laxatives such as Metamucil are not gluten-free.

- Some brands of rice paper and rice noodles may contain gluten. Imported brands do not have to adhere to the US labeling laws. Japanese and Chinese imports, for example, do not need to list an ingredient if it comprises less than 2% of the total content.
- Anything with a sauce or gravy such as canned soups or packaged sauces is most likely going to contain gluten.
- Oriental soy sauce and other sauces usually have wheat in them unless you get gluten-free brands.
- Catsup, mustard, and salad dressings may contain gluten unless you get gluten-free brands or make your own.
- Ice cream usually has a glutencontaining thickening agent.
- Mixed or ground spices often contain wheat flour to prevent clumping.
- Commercially-produced potato chips may contain flour used to separate them even if it's not on the label!

Rule of thumb - if in DOUBT. leave it out!

FOODS TO AVOID ON A GLUTEN-FREE DIET



Abyssinian hard wheat (triticum durum)

Alcohol & spirits (some ok, some not)

Amp-isostearoyl hydrolyzed

Amp-isostearoyl hydrolyzed wheat protein

Artificial coloring (depends on brand or source)

Artificial flavoring (depends on brand or source)

– B –

Barley grass (can contain seeds)

Barley hordeum vulgare

Barley malt

BBQ sauces (often have wheat &/or corn)

Beer (barley malt; rare ones are gluten-free)

Bleached flour

Blue cheese (made with bread)

Bran (only use rice bran)

Breading on meats

Broth

Brown flour/brewer's yeast/ bread flour

Brown rice syrup

Bulgur (bulgar wheat/nuts)

Bulgur wheat

- C -

Canned soups (almost never safe because of thickening agents)

Caramel color (usually ok if made in USA)

Cereal

Cereal binding

Chilton

Club wheat

Cold cuts (read labels)

Coloring (depends on source)

Corn (some celiacs can't tolerate corn in any form including corn oil, corn starch, corn sugar, baking powder, powdered sugar)

Common wheat (triticum aestivum)

Communion wafers

Cough medicine (may not have on label)

Couscous

Croutons

- D -

Dextrimaltose

Dextrins (depends on source)

Dinkel (wheat, spelt)

Disodium wheatgermamido peg-2

Durum wheat (triticum durum)

- E -

Edible starch (can be wheat or mixture)

Emmer (triticum dicoccon)

Einkorn (triticum monococcum)

- F -

Farina

Farina graham

Filler

Flavoring (depends on source)

Flour (wheat)

Food starch (wheat or mixture)

French fries (can be contaminated if fried with breaded items and frozen ones often have flour on them to keep them separated)

Fried foods (breading)

Frozen potatoes (most use flour to separate the chips EVEN if it's not on the label and most use corn oil)

Fu (dried wheat gluten)

- G -

Germ

Gliadin (gluten peptides)

Gluten (protein of wheat, barley, rye, and oats)

Gluten peptides

Glutenin

Graham flour

Granary flour (can be combined with wheat)

Gravy (thickened with flour)

Gravy cubes

Grilled food (possible contamination)

Grits (sometimes mixed with grains)

Groats (crushed barley, wheat)

Ground spices (depends on source, sometimes mixed with flour or starch to prevent clumping)

– H –

Hard candy (read labels)
Hard wheat

Hemp (may be ok, not sure)

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Hot dogs (usually not ok, have fillers mostly corn based but sometimes wheat-based)

Hulls

Hydrolyzed vegetable protein HVP

Hydrolyzed plant protein HPP

Hydrolyzed wheat gluten

Hydrolyzed wheat protein pg-propyl silanetriol

Hydrolyzed wheat starch

Hydroxypropyltrimonium

Hydrolyzed wheat protein

-1-

Ice cream (read labels, often has gluten to thicken) Imitation bacon

Imitation seafood

- J - K -

Jelly beans

Kamut (pasta wheat)

- L - M - N -

Licorice candy (some brands ok)

Malt (usually made of barley)

Malt extract

Malt syrup

Malt flavoring

Malt vinegar

Maltodextrin (usually ok if made in USA)

Macha wheat (triticum aestivum)

Marinades

Matza

FOODS TO AVOID ON A **GLUTEN-FREE DIET**

A-Z Glossary (continued)

Matzo semolina

Matzah

Medications (use brand name that you check on websites or with manufacturer)

Metamucil

Mir

Mironovskaya (wheat and rye cross)

Miso

Modified food starch

Mustard powder (depends on manufacture)

Natural flavoring (depends on source)

Oat bran

Oat fiber

Oat gum

Oats (unless labeled gluten-free)

Oriental wheat (triticum turanicum)

OTC (over-the-counter) medications (look up ingredients on websites)

-P-Q-

Pasta

Pearl barley

Persian wheat (triticum carthlicum)

Polish wheat (triticum polonicum)

Poulard wheat (triticum turgidum)

Potato chips (most use flour to separate the chips EVEN if it's not on the label and most use corn oil)

Prolamine (amino acid strings high in praline from wheat)

Processed meats

-R-

Rice Chex (has malt)

Rice Krispies (has malt)

Rice malt (if barley or koji are used)

Rice noodles (imported, may have up to 2% other ingredients not listed)

Rice paper (imported, may have up to 2% other ingredients not listed)

Risotto (often made with gluten-containing soup stocks)

Roux

Rye

Salad dressings (frequently have thickening agents)

Sauces

Seitan (wheat)

Self-basting poultry

Semolina (wheat)

Semolina triticum

Shot wheat (triticum aestivum)

Shoyu (soy sauce often

has wheat) Small spelt

Soba noodles

Soup bases

Soy sauce (gluten-free brand available)

Strong flour

Suet in packets

Spirits (some ok, some not)

Spelt (triticum spelta)

Spice combinations (may have anti-caking agents)

Spices (be careful, can have anything for ingredients)

Sprouted wheat or barley

Starch (depends on source Stearyldimoniumhydroxypropyl hydrolyzed wheat

protein

Stock cubes

Stuffing

Tabbouleh

Teriyaki sauce (usually contains wheat)

Textured vegetable protein - TVP

Thickeners

Timopheevi wheat (triticum timopheevii)

Triticale (wheat and rye hybrid)

Triticum vulgare (wheat) flour lipids

Triticum vulgare (wheat) germ extract

Triticum vulgare (wheat) germ oil

- U - V -

Udon (can be corn or wheat noodles)

Vanilla extract (get glutenfree brand)

Vavilovi wheat (triticum aestivum)

Vegetable starch Vitamins (depends on brand and source)

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- W -

Wheat, abyssinian hard triticum durum

Wheat amino acids

Wheat berry

Wheat bran extract

Wheat, bulgur

Wheat durum triticum

Wheat germ extract

Wheat germ glycerides

Wheat germ oil

Wheat germamidopropyldimonium hydroxypropyl hydrolyzed wheat protein

Wheat gluten

Wheat grass (can contain seeds)

Wheat nuts

Wheat protein

Wheat starch

Wheat triticum aestivum

Wheat triticum monococcum

Wheat (triticum vulgare)

bran extract

White bread of any kind

Whole-meal flour

Wild einkorn (triticum boeotictim)

Wild emmer (triticum dicoccoides)

- X - Y - Z -

Yogurt (most flavored ones have gluten)



HIDDEN SOURCES OF DAIRY



HIDDEN SOURCES OF DAIRY

List compiled from http://www.godairyfree.org

asein is the most problematic ✓milk protein. Whey is also a milk protein. Lactose is milk sugar.

The obvious dairy foods are cow's milk (chocolate, whole, skim, malted, evaporated, etc.), buttermilk, half and half, cream, butter, cheese, ice cream, milk shakes, and yogurt. These are usually fairly easy to detect and avoid.

The hidden sources of dairy present a greater challenge. There are so many foods that you wouldn't even suspect had dairy.

Unless you only eat unprocessed food, you will need to carefully read labels and ask questions to avoid the hidden sources.

The majority of processed foods also contain dairy. Some are fairly easy to spot, such as that macaroni and cheese or creamy ranch salad dressing. But milk proteins and lactose, the main culprits of milk allergies and lactose intolerance respectively, are frequently found in the strangest places. The list below is a partial list of manufactured foods where dairy

ingredients may be hiding. Read labels carefully.

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Milk can be hidden in gum, toothpaste, at your dentist's office, and in many other strange places. If you are allergic to milk protein, even a small amount can negatively affect your health. Even if there are no obvious signs of an allergic reaction like wheezing, hives, or intestinal distress, you may be having a hidden reaction. The antibodies can affect your brain, joints, pancreas, and any organ or gland.

DEFINITELY DAIRY INGREDIENTS

Acidophilus milk Ammonium caseinate Artificial butter flavor

Butter Butter fat

Butter oil

Butter solids

Buttermilk

Calcium caseinate

Casein

Caseinate

Cheese (all)

Condensed milk

Cottage cheese

Cream Curds

Dry milk solids

Evaporated milk

Goat's milk

Half-and-half

Hydrolysates

Hydrolyzed casein

Hydrolyzed milk protein

Iron caseinate

Lactalbumin

Lactalbumin phosphate

Lactate

Lactoferrin

Lactoglobulin

Lactose

Lactulose

Magnesium caseinate

Milk powder Milk protein

Milk solids

Nougat

Potassium caseinate

Pudding

Recaldent

Ready sponge

Rennet casein

Sodium caseinate

Sodium lactylate

Sour cream

Sour milk solids

Sweetened condensed

Milk

Whey

Custard

Delactosed

Whey demineralized

Whey

Dry milk powder

Malted milk

Milk (whole, low fat,

and skim)

Milk derivative

Milk fat

Whey powder

Whey protein

Concentrate

Whey protein

Hydrolysate

Yogurt

Zinc caseinate

HIDDEN SOURCES OF DAIRY

List compiled from http://www.godairyfree.org



Artificial flavors / flavoring: Vague ingredient, it may be derived from a dairy product

Brown sugar flavoring: Depends upon the manufacturing process

Caramel color: Depends upon the manufacturing process

Caramel flavoring: Depends upon the manufacturing process

Coconut cream flavoring:

Depends upon the manufacturing process

Galactose: Lactose by product, digestible for most, but some may have an intolerance to it

Ghee: Supposedly pure butter fat, no protein or sugars, but it may contain traces

High protein flour: Vague ingredient: it may be derived from a dairy product

Hydrolyzed vegetable protein:

The processing phase may use casein; only a concern for highly sensitive allergies

Lactic acid starter culture:

Different from Lactic Acid; may contain milk

Margarine: Milk proteins are commonly found in most brands

Natural egg flavor: Depends upon the manufacturing process

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Natural flavors/flavoring:

Vague ingredient; it may be derived from a dairy product

Protein: The added protein in foods, particularly "high energy" foods, is often milk protein

Fat replacers: Brands such as Dairy-Lo® and Simplesse® are made with milk protein

Soy cheese: Typically lactose free, but often contains milk protein

Non-dairy: This does not mean milk-free; it indicates ½% or less milk by weight

SURPRISINGLY DAIRY-FREE INGREDIENTS

Calcium lactate
Calcium propionate
Calcium stearoyl lactylate

Cocoa butter Cocoa powder Cream of tartar Lactic acid Lecithin oleoresin Sodium lactate

Sodium stearoyl lactylate

FOOD SOURCES OF HIDDEN DAIRY

Artificial sweeteners: Some are derived from dairy foods.

Baby formula: Read the labels carefully on this one. Babies can have much more severe allergic reactions to milk than adults.

Bakery goods: This is a hard one to verify, although many fresh bakery goods do come labeled with ingredients.

Baking mixes (cakes, biscuits, pancakes, etc.): Read up; there are some okay brands.

Bath products (shampoo, conditioner, soap, etc.): Your skin is permeable. A small amount of what you put on your skin can get into circulation. If you tend to have skin reactions to milk products, like i.e. eczema, you may want to avoid topical application.

Bread: Whey is a common

preservative in breads. Also, other milk proteins and possibly cheese or butter may be included, depending on the type and brand.

Breath mints: Not all, but a few do contain casein related ingredients.

Candy: Much of the candy world (of the non-chocolate variety) is dairy-free, but there are a few to watch out for.

Canned tuna fish: Some contain hydrolyzed caseinate.

HIDDEN SOURCES OF DAIRY

List compiled from http://www.godairyfree.org

Caramel: This is a highly suspicious food and ingredient. It may either be made from sugar and water or milk. Caramel coloring and caramel extract can be made with milk protein. Caramel coloring can be used in some vegetarian dishes to give product the color of meat. Caramel coloring can be found in soya sauce, dark colas, artificial maple syrup, and even some packaged meats. However not all caramel has milk in it.

Cereal: Dry and instant cereals vary significantly in ingredients. Even the same type of cereal may contain milk ingredients in the brand name, but not in the generic version.

Chewing gum: Some brands do actually contain milk protein ingredients.

Chicken broth: Several brands use milk proteins or solids.

Chocolate: Milk chocolate is a given, but some semi-sweet and dark chocolate brands have milk ingredients as well.

Chocolate drinks: Even the nonmilk varieties frequently have some dairy protein.

Coffee whiteners / creamers:

These say non-dairy, but if you look at the label, you will find sodium caseinate, a form of casein, in them.

Cookies & crackers: Often the most processed foods of them all.

Cream liqueurs:

These may have solid milk ingredients or caseinates.

Custard / pudding: Most contain milk products, although a few are dairy-free.

Drugs / medications: Lactose is used as the base for more than 20 percent of prescription drugs and about 6 percent of over-the-counter medicines and vitamins.

Eggnog

Fat replacers: Some are derived from milk, such as Simplesse® & Dairy-Lo®.

Fondues

Fried foods: The breading on fried foods can contain dairy. Also, cheese is commonly added for flavor and texture.

Ghee: This is technically pure butter fat (no proteins or sugars), but some argue that trace amounts may still linger.

Goat's milk: Although slightly different, goat's milk has proteins similar in structure to cow's milk proteins, and thus is often an allergen for those with cow's milk allergy. Also, goat's milk contains a significant amount of lactose, just a touch less than cow's milk, and thus not suitable for those with lactose intolerance.

Granola & nutrition bars: Just like cookies, various milk additives could be in there.

Gravies: Some utilize milk ingredients for flavor and texture.

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Hot cocoa mix: The best varieties are pure cocoa and sugar, but some have milk ingredients added for a creamier drink.

Hot dogs

Imitation maple and other syrups

Instant potatoes: Particularly the au gratin varieties.

Kosher parve desserts: Most parve foods are okay, but those with highly sensitive milk allergies may have a problem with the desserts.

Lactose-free milks: These will still be loaded with milk proteins.

Lunch meats & sausages: Some "meat allergies" are actually dairy allergies in disguise. Lactose and caseinates are common in these foods, as well as ingredient crosscontamination.

Margarine: Most are not dairy -free, and many are rich in hydrogenated oils.

Meal replacement / protein powders & beverages: Those instant breakfast mixes and muscle beverages may contain powdered milk or other milk derived ingredients.

Peanut butter: A very few may contain milk solids.

HIDDEN SOURCES OF DAIRY

List compiled from http://www.godairyfree.org

Potato chips: Particularly risky among the flavored varieties, although several brands and flavors are dairy-free.

Salad dressings: Most natural brands have good dairy-free flavors.

Sherbet: This is different from sorbet (usually dairy-free), and usually contains milk/cream.

Soup: Obviously the creamy varieties, but even some of the tomato and chicken based soups are not dairy-free

Soy "meat" products: Those veggie hot dogs, sausages, and patties are also guilty of harboring milk proteins. These products are typically safe for the lactose intolerant, but allergy sufferers should read the labels carefully.

Soy cheeses: Yep, the very products combating the milk industry often contain milk proteins for a more cheese-like consistency.

Spice mixes: Several contain whey powder.

Whipped toppings: You know those packages in the dessert section that say "non-dairy topping"? Let's just say that term is used rather loosely. These products contain casein and are not okay for the milk-allergic.

Egg substitute: Some brands of commercial egg substitute have whey in them.

Artificial

sweeteners: Some artificial sweeteners are made with milk components.

High protein shakes and energy bars: The protein in these shakes and bars can be partly milk-based.

Waxed fruit and vegetables: Canadian apples are generally waxed with soy while American apples are coated with casein, a

milk protein.

At the dentist: Prospec MI and prescription strength Recaladent has milk protein in it.

Street drugs: Some have lactose in them.

Enriched flour: Some enriched flour is enriched with milk protein.

Paint: Milk protein and lactose can be found in some household and craft paint - mostly antique paint. This can be a problem for very sensitive people who have a contact allergy or can react to smell of milk protein.

Pet food: Pet food, such as dog and cat food, can contain milk protein. Consider your risk level, especially if you have a very sensitive child who might handle or eat food or kitty litter. Some bird seed contains small amounts of milk protein. If you Google "vegan pet food" you can find milk-less dog and cat food or make your own pet food. There are cookbooks for vegan pet food as well.

Latex gloves: Some disposable gloves have milk protein in them. If you're very sensitive and have contact reactions, this powder inside some gloves may be a problem.

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Gum and tooth paste: Dairy protein may be in chewing gum, sometimes under the name Recaldent. Look out for packages that say "whitening"; these are likely to have milk. Similarly in tooth paste, mention of "whitening" is a clue the toothpaste might have milk protein. Contact the manufacturer or choose a different tooth paste.

The term "may contain" is voluntary and can mean anything from packaging or cooking allergen and non-allergen containing foods with the same equipment with unknown levels of cleaning between batches. *Or different sections of the factory* may be producing allergen and non-allergen containing foods. "May contain" can simply mean that employees are allowed to consume allergen-containing foods in their lunch room. You can call the manufacture for details and then assess your risk level. Some people claim "may contain" is sometimes an excuse for poor cleaning between food batches.

MEET DR. RITAMARIE LOSCALZO, MS, DC, CCN, DACBN





Dr. Ritamarie Loscalzo, the **founder of the Institute of Nutritional Endocrinology**, is fiercely committed to transforming exhausted high achievers all over the globe into high energy people who love their lives and live to their full potential.

As a Doctor of Chiropractic with Certifications in Acupuncture, Nutrition, Herbal Medicine and HeartMath®, she's also a certified living foods chef, instructor, and coach and has trained and certified hundreds of others in the art of living foods.

A bestselling author, speaker, and internationally recognized nutrition and hormone health authority, Dr. Ritamarie combines the ancient healing wisdom of whole, fresh foods and herbs with modern scientific research to inspire people everywhere to recharge their energy and reclaim their lives.

Dr. Ritamarie offers online courses, long distance coaching and counseling, as well as in-person classes and hands-on healing methodology.

To learn more and get started on **7 Simple Strategies to Jumpstart Your Energy Practically Overnight**, visit www.JumpstartYourEnergy.com or access Dr. Ritamarie's extensive collection of vibrant living health resources at www.DrRitamarie.com.

If You Love Your Carbs But Hate That No-Energy, Foggy-Brain, Bloated-Belly Feeling, Then We Have Great News For You!

If you love chips, crackers, breads, pizza and other crunchy, traditionally carbohydrate-rich treats, you owe it to yourself to invest in a food dehydrator and learn to make your own treats from whole, fresh vegetables; fruits and sprouted nuts, seeds, and grains. It's easier than you think, and you can make a month's worth of treats in just a couple of hours.

By learning the ancient art of dehydration, which is, in essence, "low temperature baking", you'll be able to eat guilt-free breads, loaded with veggie goodness, and have them taste similar to your old favorites. Gluten-free raw foods like pizza, enchiladas and tacos will become your favorite staple foods once you discover how easily you can make them at home.

The teachings in our Home Study System will allow you to:

- Create nutritious and delicious alternatives to all your favorite comfort foods using only fresh, whole, plant-based ingredients that are good for you
- Make your life easier
- Achieve your perfect body without feeling deprived
- ✓ Drop unwanted pounds and achieve a slim, trim waistline
- Enjoy your foods knowing that they not only taste great but are good for you
- Enjoy pizza, lasagna, bread, crackers, chips and dip without the guilt
- ✓ Wow your friends and family with your delicious creations
- Save the money you'd be spending on expensive dehydrated snacks
- ✓ Save money on doctor bills
- ✓ Fall in love with your food and yourself!

You'll soon be enjoying 100% gluten-free, dairy-free, sugar-free, whole plant-food comfort!

No guilt. No shame. No bloating, indigestion or headaches. No 15-pound spare tire around your waist.

You owe it to yourself to invest in learning to make delicious, nutritious comfort foods and get off the roller coaster ride

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The foods you eat every day could easily be the culprit behind the pain and inflammation that keep your body in a constant state of imbalanced health.

In *Eat Your Way Out Of Pain*, Dr. Ritamarie Loscalzo decodes the body's response to acidic, gluten, and dairy -filled foods that promote disease causing inflammation throughout your system.

She couples delicious recipes with helpful lists of exactly what foods to avoid and enjoy, making your journey to wellness a guided tour. With her no-nonsense approach to reclaiming your health, Dr. Ritamarie teaches you how to create a diet rich in the kind of nutrient-dense foods your body needs to work at its optimum level. Reclaim your health and eat your way out of pain today!

About the Author



Dr. Ritamarie Loscalzo, MS, DC, CCN, DACBN, author, teacher, and founder of the Institute of Nutritional Endocrinology, is a leading authority on health and nutrition. With more than 25 years of experience in helping people create a state of

balanced health, Dr. Ritamarie is known as an energy recharge specialist with a passion for creating delicious foods that support optimum health. Her personalized approach unravels the mystery of your unique biochemistry, and she and works with you to design lifestyle and nutrition programs that are simple, easy to follow, and effective in creating the level of health you deserve.