Advanced Clinical Focus: Detoxification and Biotransformation
Transcript – Class 2 Part 2

0:01
In order to understand detoxification, you have to understand the channels of elimination. I think this is one of the most important things that people get wrong. People who are inexperienced or don't know how to detoxify properly, don't take into account how we're going to get toxins from the inside of the body once we mobilize them to the outside of the body. How effective would our garbage disposal be if you didn't know where to put your garbage? So the channels of elimination are going to show us and tell us different systems in different places on how we get toxins from inside of the body to outside of the body; they have a direct path from the inside to the outside. Yes, there are other ways in which we detoxify, but the channels of elimination, are our exit doors.

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The five channels of elimination are the kidneys, the skin, the lungs, the bowel, or the large intestine or the colon, and something that we often forget about, the mind, and this can make a big difference between a successful detoxification program and a non-successful one and even health and pathology. So with these five channels of elimination, we're going to go through each one of them in more detail, and this is how we take the garbage out through these channels.

1:25
So firstly, the kidneys. The kidneys are our liquidation organs. They filter about 180 liters of blood every 24 hours, which is a huge load on the kidneys. The kidneys will then take out constituents that have been detoxified. It'll find impurities, it will take out minerals as needed, and it will excrete things like urea, uric acid, creatinine, and it excretes quite a few metabolites from Phase II liver detoxification. So we will talk about liver detoxification in great detail a little bit later on, but there's Phase I liver detoxification and Phase II. In Phase II liver detoxification, also known as the conjugation pathway. Any toxins are bound to conjugates, which make that toxin water-soluble. Once that toxins water soluble, it can then go to the kidneys to be cleared out in our urine, and that's one of the ways the body will get rid of toxins by making it water soluble, so the kidneys can excrete it. The kidneys will also excrete hormones, neurotransmitters, eicosanoids, vitamins, phytochemicals, xenobiotics and drugs. So it gets rid of not just the bad stuff, but also some of the excess of the good stuff. For example, vitamin C and the whole B vitamin family, they're all water soluble vitamins and, thus, we really only use them in about four hours after consuming them in the body, and any excess or extra are released through the kidneys through our urine. So that's one of the ways we get rid of extra nutrients that we don't necessarily need.

3:26
So for detoxification through the kidneys, we want to definitely consume at least 2 to 3 liters of clean water daily. This is one of the best ways to flush out the kidneys. And in fact, those with kidney stones, you know what the number one factor for preventing kidney stone is above any food, any supplement, any drug, any lifestyle intervention? It's drinking enough water, because the best solution to pollution is dilution, and water is the best diluter. So remember, if we go back to what we talked about in class one, a toxin really isn't a toxin until it's in a certain concentration and if we can decrease that concentration and dilute it out, it becomes less and less toxic. Water is fantastic for that. We need clean water then and where do we get clean water. My number one recommendation for water is spring water and spring water is one of the purest because not only does it filter the water for hundreds of years through the layers of the soil and the ground and the rock taking out all of its impurities, but as it comes back up through the ground into a spring, it also brings with that remineralization of that water. You can actually check that in spring water. We have spring water that we get here in Ontario and you can use a meter to see how many dissolved solids are in there or get it tested, and you see the different levels of calcium and magnesium and phosphorus and things like that. So you can actually gauge the quality of your water. You can also test that spring water to see if there are any microbes in there, anything that's going to make you sick. Spring Water is my number one recommendation. Then for most of us who might not have access to spring water, there's reverse osmosis water, and reverse osmosis is when our tap water usually goes through a two or three stage filter, very fine, and takes out all of the impurities; the chlorine, any drugs that are in there, heavy metals, and you're left with a very, very clean water. I just recommend that if you do that, you might want to add a little pinch of sea salt to remineralize that water or use a remineralization liquid. Then you have really clean water and that's usually the best for city living. Then after that we get lesser and lesser types of filters like the Brita filter and carbon filters, and those types of options, which aren't as thorough, but will still clean the water. It's better than drinking tap water, which here has fluoride and chlorine, traces of drugs, trihalomethanes, all sorts of toxins in there.

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Now what your filter doesn't filter out of the water, your body's going to filter, so the job of that reverse osmosis filter, or the ground when that spring water is going right through is doing the job that your body would have to do if the water didn't go through that process. So to keep the body clean, to keep our kidneys healthy, to keep our toxins diluted, we want to drink at least 2 to 3 liters of water per day for the average person.

7:02
Then we have all these wonderful herbs we can use for kidney health. We can use dandelion leaf, which has somewhat of a diuretic activity. Now the cool thing about dandelion leaf is that, although it's a diuretic, it repletes your body back with potassium. One of the issues and problems with conventional drug

diuretics is that they cause your body to pee more and therefore you lose large amounts of potassium. What they'll do is with a prescription that's a diuretic; they'll actually give also a prescription of potassium, usually about 500 milligrams. Interestingly enough, you could get about 500 milligrams and a banana or a glass of vegetable juice, but that's a story for another day. So back to dandelion leaf, the cool thing is its herbal action is diuretic, but that diuretic action causes you to lose some water and tonifies the kidneys, but also replete the body with potassium, because dandelion leaf has so much potassium in it. How cool is that? I love herbs and how they work.

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We also have uva ursi, and uva ursi has some very nice antimicrobial activity for the kidney and urinary tract system. Nettle is extremely tonifying to the kidneys. and of course we can drink that as a tea, which is really delicious, or we can eat or juice nettle and we can even throw nettle into our shake. We can also use a tincture, so nettles are very easily accessible. I've even made nettle chips once, kind of like kale chips, but nettle chips were quite delicious.

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We also have juniper berry, which is quite tonifying to the kidneys. Sarsaparilla, Horsetail, which is very high in silicon and helps to maintain the strength of the tissue of the kidneys. Golden Rod, Parsley, which is an herb we can pretty much grow anywhere, and watermelon as a food is really tonifying to the kidneys. So the kidneys, our filtration system, our liquidation system, really important as the first channel of elimination.