Optimizing Elimination: Liver and Gallbladder Function

Transcript

We are here for *Optimizing Elimination, Liver And Gallbladder Function*. In this section on *Optimizing Elimination* we've already talked a lot about the large intestine but the liver and the gallbladder are really intimately associated with elimination, so we are here to talk about those. As you know I'm Dr. Ritamarie Loscalzo and I just love sharing this. I just really geek out on explaining how the body works and how you can take charge and go in there and maneuver it around and fix it. We'll just go jump right in and get started.

Before we begin I would like to make sure that you remember that this information is not intended to replace a one-on-one relationship with a qualified health professional, it's not medical advice.

It's just a sharing from me to you from my knowledge, my experience, my research, my clinical practice and all the things that I've learned and done and experienced over the last over two decades. It's not intended for you to just jump and do everything I say.

What I want you to do is think about it, do some of the assessments and then if you are under the care of a doctor, if you are on medication just make sure you run these things by them and that it's going to be working out well for what's going on for you.

Up until this point we've looked at large intestine, we've looked at the small intestine. We've gone through the stomach we've looked at the digestive tract. If you look at the tube from mouth to anus, the order of things are basically the mouth, the esophagus, the stomach, small intestine, large intestine and exit.

Liver and Gallbladder

Where does the liver and the gallbladder fit in? Well they are accessory organs that are not actually part of the digestive tube.

If you look at this picture there is the stomach coming down from the esophagus into the stomach and then it goes back into the beginning part of the small intestine which is the duodenum, then makes its way down to the lower part of the small intestine and then the large intestine.

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The liver and the gallbladder are to the side and they have connections to the tract via secretions and via tubes. This is the gallbladder over here and it's got this tube, it's got a tube that comes into it from the liver and we'll talk about that in a moment, and then it comes out and it goes right into the duodenum. What it does is it squirts out a substance called bile; we are going to see what bile does and how important bile is not just to your fat digestion but to your elimination process.

3 Main Functions of the Liver

Let's just start by talking about the three main functions of the liver. Number one, it does ***blood filtering***. It cleans and clears metabolic waste and toxins. When we hear about detox or doing a liver detox or a cleanse, we are really talking about helping the liver to optimize the function that it has of blood filtering. Basically the blood from the large intestine, the vessel that goes from the large intestine into the liver, and the reason is our large intestine as we've discussed, has huge function in regards to elimination and in regards to getting rid of toxic waste. As the food is going through, the liquid is absorbed and it can go back into the blood stream and it's going to absorb some of the toxins that were meant to go out.

In addition to the gut getting rid of this stuff, the gut recycles it back to the liver. So the liver gets first pass in all the blood supply coming out of the intestine and goes back to the liver and the liver says 'ah, more toxins to detoxify'. The toxins are coming in, the liver does its thing and then it puts the toxins, packages them nicely into the bile, secretes the bile, and then the bile goes out into the system. That's the first function; it's blood clearing. That was a broad overview of liver cleansing.

The other piece which is what we are really going to be focusing on today is ***fat digestion***; producing bile to emulsify fats for easy absorption. We'll talk about what bile is, what does emulsify mean, and why does that make it easier for absorption.

And finally what the liver does is it ***regulates nutrients and the production of proteins and immune factors***.

Fat Digestion: What's Involved

We all eat fat, hopefully we all eat fat every day because there are essential fats that the body can't make and fat is a critical nutrient. In spite of the fact that there is a lot of press about low-fat diets or no-fat diets, we indeed need fats, we just need the right kinds of fats.

The problem with fats is fat and water don't mix real well. If you just take and pour some olive oil into a glass of water the fat sits on top, it doesn't really disperse. The bloodstream is water.

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We need to create and get the fat into a format that's going to be utilizable by the body. Because they don't dissolve in water they need to be emulsified before they get in there. What's emulsified? Well it's breaking the fat globules down into teeny, tiny little globules; little emulsified droplets that then will mix well with the water. Also in terms of getting the fats digested you need an enzyme called lipase that gets secreted from the pancreas, and then you need the bile, which is made by the liver and stored in concentrated amounts in the gallbladder, to emulsify the fats.

You've got these big all-fat globules and the fat goes in there and the bile comes out and it gets in-between the fat molecules and breaks them apart into teeny, tiny pieces. That's called emulsification. Once they're in teeny, tiny pieces, it makes it a lot easier for the lipase enzymes to actually work on it.

It's hard for the lipase to really efficiently break down the fat in the time it has when it's just big globs, it doesn't have a lot of surface area, it can't get inside to break that down, so the emulsification breaks right it all down into little teeny, tiny pieces. So we need both bile and lipase; it doesn't handle those big ones efficiently if you just use the lipase. A lot of people have had their gallbladders removed and we are going to talk about what that means and how you can actually have healthy life after gallbladder removal.

Liver and Digestion: The Role of Bile

Let's take a look at how these things work, this has been a theme of ours; how do these things work and then what can go wrong.

Let's take a look at the liver first. The liver is this large piece here, let's put a mark on it; this is your liver, and this little green thing that's hanging off the side is the gallbladder. Bile, the liver produces bile that's its main role in digestion but like we said there are two other roles that it has and a lot of other subsidiary roles to that.

Bile is dark green to yellowish-brown, and its fluid and it tastes really bitter. If you've ever vomited or seen somebody vomit, you know that things come up and sometimes the food looks just like they did when they come out, and other times it's just kind of this mushy, warm stuff. Well if you've ever seen bile, it's green so you'll see green vomit and that's something that they make movies out of, right, the *Exorcist*, the green vomit, squirting out of people's mouths.

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That's not exactly how it looks in real life but if someone is vomiting because of an excess of bile, or because the valve from the stomach opens up, the valve between the stomach and the duodenum opens up and the bile can go back into the stomach and then the valve between the stomach and the esophagus opens up, you've got to be pretty irritated to have that happen. But when that happens there is green bile in the vomit.

Anyway we won't talk about vomit the whole time. So it's bitter tasting, it's dark green to yellowish brown. It emulsifies fat, which we talked about, breaks it into tiny globules. But what is bile made of? Well it is 97% water, can you believe it, 97% water and only 0.7% is bile salts. 0.2% is bilirubin, which comes from spleen from breakdown of red blood cells. Only 0.51% is fat; and it contains cholesterol, fatty acids and lecithin. Bile is one of the ways that we eliminate excess cholesterol; gets into the bile. It has a small amount of inorganic acids, so it's mostly water but those bile salts are pretty effective. Now when the liver squirts the bile out it doesn't just squirt it out into the duodenum as you see, it squirts it into the gallbladder so the gallbladder can save it for later for when there is a fatty meal.

The liver is just constantly producing bile; its actually part of the detox is to put the toxins in the bile. It's not going to stop producing bile and then start when you have a meal and then stop and then start; the liver is always producing bile so we need a repository to hold that bile in-between meals. The gallbladder is that repository. It's very small, it doesn't hold a lot, it doesn't take a lot of bile and it sits there waiting. Also, so it can hold more in less space, it concentrates it, it takes a lot of the water out. It actually concentrates it to about a fifth the volume as what the liver squirts out. What the liver squirts out is very un-concentrated bile.

95% of the bile is actually reabsorbed further down in the ileum; remember the ileum is the last part of the small intestine. ***95% of the bile is reabsorbed*** so you can reuse some of those bile acids etc. It's a way that the body eliminates cholesterol. When you take the bile, which sits in the gallbladder, and you mix it with sodium bicarbonate, which has a pH of 12 it ***neutralizes the chyme*** or the food particles that have been kind of bowled up and secreted out. They are sitting in the duodenum and it neutralizes it. And why does it do that?

It does that because enzymes that digest starch, which are produced by the pancreas, need an alkaline pH. All the activities that happen in that upper duodenum need an alkaline pH. Well when that food is sitting and your stomach it's acid, we talked about that before, very acidic.

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Once it gets into the duodenum we need a way to neutralize it. The pancreas will put out some bicarbonate, and the gallbladder mixes it with bicarbonate, so that it neutralizes that chyme. We go from a pH 2.2 to about a pH 8 in the duodenum, and it does that by having sodium bicarbonate which has a pH of 11.

What do you need to know? The liver produces bile, it's this greenish stuff that helps you to break down the fats into teeny, tiny globules so that you can absorb them more easily and so that they have more surface area to be broken down by the enzyme called lipase.

Gallbladder

There is the gallbladder sitting underneath, tucked underneath the liver, and there are these vessels, these ducts, that attach that come into the gallbladder from the liver, and then the gallbladder secretes the bile when it senses that. And there is actually a hormone –you don't need to know all the hormonal stuff but I'll just give you a real quickie.

There is hormones actually in the gut, there are a lot of hormones in the gut and there is a hormone called secretin and another one called cholecystokinin that actually let the gallbladder know that fat's coming and then it squirts its juices out. If you don't have a gallbladder you are subject to having the liver secreting bile all day long. When the fatty foods come in there is just not enough bile being secreted as opposed to when the gallbladder is there. There is this huge amount; this very concentrated amount that it can squirt out and get your fat digested.

We find a lot of times when people have their gallbladder removed is that they have difficulty with fatty meals. And that makes sense. But one of the things people don't realize is that they may also have trouble with starchy meals because they don't effectively digest their starch because the bicarbonate from the gallbladder isn't there to neutralize it. Yeah, you got some bicarbonate from pancreas but it's generally not enough.

Let's take a look at your gallbladder, what's its job description, what does it do for you? It stores and ***concentrates the bile,*** and then when it gets the signal that you have fat in your food it ***secretes the bile***.

And it ***secretes bicarbonate*** that mixes with the bile and it all goes into the small intestine, the part called the duodenum and that ***alkalizes the food*** that has become acidic from the stomach's actions.

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The ***alkaline environment is needed to begin the starchy food digestion*** with the amylase enzyme that the pancreas secretes. When you have this alkaline environment it ***helps maintain a healthy intestinal lining***.

What Happens When You've Had Your Gallbladder Removed?

There are a couple of things that happen when your gallbladder gets removed: you no longer concentrate the bile so you are not very efficient and effective at breaking down fats. You also don't neutralize the chyme from the stomach, the food bolus from the stomach, effectively, so you have inefficient absorption of carbohydrates. And then finally it doesn't have that alkaline secretion to help keep the digestive lining nice and healthy. It's not like they say you don't need your gallbladder let's take it out. We do need the gallbladder.

Yes you can survive without your gallbladder, just like you can survive without your tonsils and your appendix, but I think it's more important even than the tonsils and the appendix to have your gallbladder. When people have attacks of the gallbladder meaning that the bile gets congested it gets too thick and it gets stuck and forms little balls, gallstones that make their way into the ducts.

When that happens and people are doubled over in pain they go to the hospital or doctor and they immediately want to cut out their gallbladder, and there are plenty of other ways to deal with it. Not to say that all gallbladder surgery is unnecessary, but a lot of gallbladder surgery is unnecessary.

Causes of Liver Disease

Let's talk about the causes. We've been talking all along about how to keep your digestive tract healthy, so what's the biggest cause of liver disease and gallbladder issues? The liver gets congested and it gets sluggish when it's got to ***work too hard to detoxify*** alcohol, environmental pollutants, pesticides, processed fats, heterocyclic amines from charcoaled meats; all those things that the liver needs to detoxify. If you are exposing yourself to a lot of that, it's going to get tired and it's not going to be effective at producing bile, then your fat digestion is going to suffer.

Another thing that causes liver disease is a ***poor diet***, a diet that has an inadequate amount of the nutrients and excess amounts of things like hydrogenated oils, processed foods and also high fructose corn syrup. High fructose corn syrup puts a huge load on the liver and it can actually lead to fatty liver disease.

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You don't have to be an alcoholic to get fatty liver disease. You don't have to be eating a ton of fat to get fatty liver disease, you can get fatty liver disease from eating high fructose corn syrup which if you read the label is in just about everything out there. The liver is also gets diseased when you have a ***sedentary lifestyle and the junk foods***. You are reaching for the fast foods, the pizza, the chips, all that processed foods. The liver has to deal with all that, it gets tired.

It has a problem when you have ***parasites***, has a lot of extra work to do when you have parasites and there are some parasites, like liver flukes, that can embed themselves into the liver. You end up with gallbladder issues.

Causes of Gallbladder Issues

This is interesting, I don't know why the connection with these particular foods but there seems to be ***food allergies*** to eggs, wheat, coffee, pork and onions, or food sensitivities I should say, can create gallbladder, it's just been studies that's shown that. When you have ***inadequate stomach acid*** you can end up with gallbladder issues.

When you have a ***lack of exercise***, you are not moving enough or you've had a recent ***weight gain*** but the other thing that's kind of interesting is when you have a ***rapid weight loss*** because you have just a lot of toxicity that the liver is dealing with and the bile tends to get thick and sluggish and you can have gallbladder issues.

Childbirth, risk during ***childbirth***, there is the old saying in medical school anyway, female, fat, fertile and forty. Females are more prone to get gallbladder disease than males because of the effects of ***estrogen and birth control pills***. Overweight, extra weight tends to contribute to gallbladder disease but it seems that the fertility like a woman who's had five kids versus two kids is more likely to have a gallbladder issues. Doesn't mean you will.

And then ***constipation***, things get backed up, things aren't being eliminated so they get backed up. It makes the bile really thick and sludgy, which causes gallbladder issues. It's not really the gallbladder's fault that it doesn't work well, it's the fault of the thick and sluggish bile that doesn't get moved through and that ends up forming stones.

Liver/Gallbladder Testing

When you address having a really healthy bile that's when the gallbladder works better. How do we test the gallbladder? There are exams that you can do that are on the body. Some of them are related to applied kinesiology, some of them are related to Chinese medicine, related to acupuncture points, and some of them are just related to lab tests.

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Oftentimes with liver and gallbladder issues we are going to have a tenderness between the sixth and seventh ribs on the right, or tenderness over the third rib, three inches to the right of mid line, or a tenderness under the right rib cage, very common, that's where it's located. With kinesiological testing you can often have somebody put a finger on those points and muscle test and see if they go weak. They are less scientific tests but they do give you some good advice.

In testing there are some enzymes related to the liver. If you look at your blood test and you see elevations of SGOT or SGPT those are sometimes called AST and ALT, they are the same.

Increased LDH, increased GGTP; these are enzyme that when the liver is having trouble and is getting damaged by oxidation etc., that these enzymes get released and elevate. Now some of them are related to other organs besides just the liver; SGOT, SGPT (which are also called AST and ALT) those are usually liver, but LDH can be related to bone, it can also be related to the gut and cardiovascular. GGT or GGTP (usually it's listed as GGT) that is a very good indicator for alcohol consumption. People will have rises in their GGT when they have alcohol, and alcohol we know affects the liver dramatically. It helps to slow it down and decrease the flow of bile etc.

The other thing that can be related to the liver or gallbladder is alkaline phosphatase, which can also be related to bone, gut or cardiovascular. A decrease in uric acid can suggest that your phase 2, liver detox is inefficient. I would suggest you have this slide, you can jot notes on it.

And the next time you get a lab test done or you have previous lab tests you've had done, take a look and see what these numbers tell you about the health of your liver and gallbladder. You can also have increased cholesterol, HDL or low HDL, increased LDL and decreased bile insufficiency.

These are all things that can happen when your liver and gallbladder aren't working well and what you can test. If you test yourself and you have high cholesterol, high LDLs, low HDLs, a little bit high or even a lot high on alkaline phosphatase; GGT, LDH, SGOT, and then you have also the uric acid that's decreased that would be a good sign that there is liver gallbladder stress. You don't have to have all of them, just a few. Those are ways that you can assess it.

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Liver and Gallbladder Support: Diet and Lifestyle

Let's look at how we can support it. In a nutshell, liver produces bile, the bile gets concentrated in the gallbladder and stored. When you eat a fatty meal the bile gets released, starts to break down the fats into little tiny globules, and then the lipase from the pancreas comes in and acts on it, and you are a happy camper.

If this isn't going right and you are not feeling well, you are feeling that gaseousness, sometimes you feel a right shoulder pain, you feel that pain under the right ribcage, you might have liver gallbladder problem. If you know already that you've been told that you have a liver or gallbladder problem there are some basic things that you may not have been told if you were evaluated by conventional medicine.

One is, breathing and relaxing before eating; where have you heard that one before? That's one of our favorite ways to get the digestive tract ready for food. Chewing thoroughly, we've been talking about these. Avoid sugar, refined carbs, gluten, and alcohol; they all can aggravate the system. Avoid trans fats or bad fats; trans fats are those fats that have been oxidized by heat, light or air, or they've been artificially hydrogenated in the lab.

Food allergies, so these are sounding very similar to what we've been talking about all along. Essential fatty-acid-rich foods, again because we want that balance, we want an anti-inflammatory balance. Chlorophyll-rich foods are super important as well as greens, the bitter greens, and we'll talk more about it and a few more protocols and herbs, but bitter greens are amazing for stimulating the bile flow. It thins the bile, makes it less thick and goopy and it also stimulates it to flow, and we are going to talk about how that works when we talk about some of the herbs.

It's really important not to overeat and overtax your fatty metabolism. Don't skip meals is not a bad idea if you've got some gallbladder issues because oftentimes that will cause the buildup of too much bile, you know the bile gets built up and built up its concentrated and if it's not released it can cause problems.

Liver and Gallbladder Support: Supplements

What do we do in terms of supplements? Or you can take bitters to stimulate bile production. Well you can also drink bitter juice or you can eat bitter greens.

You can take lipase enzymes to help with the breakdown but that's not going to help the bile production so it's assuming you have bile. You can take taurine which is a precursor and it's one of the amino acids that's in the bile. It's a precursor to one of the bile acids.

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Vitamin C is very helpful. Then there are some *liver cleansing* herbs and we'll go more into details about some of the liver cleansing herbs but milk thistle, which is an antioxidant helps to protect. Dandelion which is an awesome mover and shaker of the bile, as are yellow dock and burdock, and I have a whole list of these on the page coming up.

Then there are *liver stimulating* herbs. There are cleansing herbs and stimulating herbs. Cleansing herbs are more tonifying to the body and stimulating herbs will actually get the particular organs to do something.

We talk about some of what's called cholagogues, I'll share with you a little bit about the different herbs that they have. Lecithin can be helpful, lecithin is a phospholipid and it can help with the breakdown and the detoxification of fats. Peppermint oil can be very soothing, it's especially soothing if you are having a gallbladder attack and you've got some spasming of any of the ducts. The peppermint will relax the ducts and then many of the B vitamins are important for bile production.

Keeping Your Gallbladder

For those of you who have your gallbladder you want to keep your gallbladder so what are ways that you can keep your gallbladder? Fasting and juicing can be very helpful especially if you are an acute stage, if you are finding that you have a problem, just rest it and allow things to settle out.

Fasting, I've had people who have called me up doubled over in pain and they say I think it's my gallbladder and I don't want to go to the hospital, what should I do? I say well I don't want you to eat anything and go very carefully on sipping water because you don't want the duct to go into spasm and cause a blockage.

Regular cleansing like doing green juices, green smoothies, greens, greens, greens to give yourself a cleanse and a break from the heavy-duty food. Bitters, which you can take and have 5 to 15 minutes before meals, like we've talked about before. Then there are some herbs and foods that actually thin the bile like beets especially fermented beets.

I don't know if you've ever had fermented beets but they are actually quite tasty; turmeric, milk thistle, artichoke and dandelion. The other thing that can be helpful in keeping the gallbladder intact is apple cider vinegar. It contains malic acid, which softens bile. Apples also contain malic acid but if you have sensitivity to blood sugar you don't want to be making apple juice, so you can take apple cider vinegar.

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Anti-inflammatory herbs and we've talked about a number of anti-inflammatory herbs as we've gone through. Things like turmeric and ginger and boswellia and quercetin. There are also antispasmodic herbs; things that calm things like valerian and chamomile and others that we talked about already.

I want to make sure that you are aware that I am not suggesting that you treat a gallbladder problem on your own. It's really a good idea to have a practitioner on board that knows how to guide you. It's important to do ultrasounds to diagnose the size and location of the stones and following up is so critical. It's amazing how few people actually follow up when they've done some testing, to see if it worked.

Living Without a Gallbladder: Special Considerations

What do you do if you've already lost your gallbladder? What are the considerations? You need to avoid fried foods and trans fats those are going to damage it. You need to minimize, if not avoid, dairy. I always go for eliminate until proven not guilty. Fats cooked with sugar somehow form some chemical compounds that are aggravating to the liver and the gallbladder so you avoid those.

You significantly reduce your grains when you don't have a gallbladder because the digestion of it is just not that effective without the gallbladder's bicarbonate. Bitters are awesome, bitters can be a tincture from, I think Mountain Rose has one, Herbalist Alchemist, Geyer and other brands that do reputable and organically sourced herbs can be good. You can make bitters. And what are bitters? We talked about it before but bitters is a series of bitter herbs and they stimulate a reflex in the tongue that says 'hey, produce more bile', 'hey, produce more stomach acid.' It's really good digestive stimulant.

Let's look at supplementing with lipase. Lipase is a fat-digesting enzyme and just like we've talked about supplementing with protease before (that's a protein digesting enzyme) we can actually supplement with lipase.

We can also supplement with bile salts and most people without a gallbladder do well to supplement with bile salts and what that basically is, is more concentrated bile that you are taking before your meals at the very beginning of your meals. What's the reason for that? If you've had your gallbladder removed remember what we said the gallbladder concentrates the bile: the liver produces it, and the gallbladder stores it.

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If you don't have the gallbladder, the bile is just on drip feed from the liver and it's not real concentrated and there is not a lot of it and there is no way to control it from the amount of fat you eat, whereas with the gallbladder intact it gets stimulated by the food and oh I need this much lipase. When you put in the bile salts when you don't have, it helps to do that emulsification that we talked about. We talked about that a little bit ago. You need to emulsify the fats. If you supplement with the bile salts when you have no gallbladder it's going to help your body to do that emulsification because without it, it's not going to do a whole lot of good emulsification, it's just going to have a little dribble, that's why they say don't eat too many fats.

Oftentimes when I have people take bile salts, I have them take it with all fatty meals and they can do five days on and two days off. It's really important not only for the entire digestive tract, but especially for the liver and gallbladder, that you avoid late night snacking because that diverts the attention away from healing, away from detoxifying, and into the digestive tract to deal with the food. So avoid late eating and snacking, and also get to bed by midnight.

The other reason is that the liver in Chinese medicine is on between 1:00AM and 3:00AM. And when the liver is on it's doing it's thing but if you are out partying between 1:00 and 3:00 you are not getting a good liver detox, it's not going to be as efficient at other hours.

We are going to decrease the toxic load: we are going to be avoiding late night snacking, get to bed by midnight decrease the toxic load. It's really important once you've done that to do what I call an oil change. You get rid of your fried foods, your oxidized oils, you add hemp seeds, Chia seeds, algae, flax, walnuts, you add the essential fats, simple and easy to handle, and you monitor how you are feeling, how you are doing without all the bad stuff and by adding in the new stuff, you'll be amazed at the differences.

And then finally we need enough protein. We don't want 250 protein grams a day diet. The reason we want more in protein in general, and that we need to make sure that we have enough protein, is that oftentimes we are having an issue with stomach acid when you are having liver issues.

You want to be able to have enough protein to repair that lining. If you need it you can supplement with protein powder, or green powder, or spirulina powder, if you need it.

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Liver Supportive Foods

This is a list, isn't that interesting some of the same foods that support your gut also support your liver. Some of these we've already been talking about, the citrus peels with the limonene, the brassicas, caraway, turmeric, avocado, beets, basil, leafy greens, can't say enough about that, really amazing for the liver gallbladder connection.

Mushrooms, cardamom, cayenne, chlorella, cilantro, cinnamon, dandelion, dill, fennel, garlic, ginger, grapefruit, green juices, Jerusalem artichoke, onion, peppermint, rosemary, sea vegetables, thyme, radishes and wheatgrass. Those are all the liver supportive herbs. You can glance through the lists and you can see what they do.

I've given you some more information in other presentations here about what some of these do, but you don't have to do all of these every day. Just pick a handful to do every day to really help your body.

Superfoods for the Liver

There are also some super foods for the liver, some foods that are concentrated that you don't necessarily need in large amounts for general day-to-day maintenance, but that are special in supporting the liver in really great ways.

Spirulina and chlorella; they are really good at helping to absorb some of the toxins, which takes a burden off the liver. Green matcha tea beneficial. Chlorophyll, which you get in your green leafy vegetables and seaweeds (if you have to take a supplement), those are things you can get in your food really easily.

We have milk thistle, I love milk thistle, and it's an antioxidant for the liver. Burdock, which grows in the ground; dandelion, which grows wild out of a lot of people's lawns, you know those little yellow flowers that you blow. Those dandelions; the roots are phenomenal for liver detox, the leaves are phenomenal as bitters, as it's awesome stuff.

And finally hawthorn, hawthorn is super important, they say in China people actually can make hot tea out of hawthorn and wipe the counters down with it. Green tea, green tea extracts have been studied a great deal with a lot of generative diseases and with liver disease, so it's something that you can look into.

Chlorophyll; you can take chlorophyll. Seaweeds are awesome for the liver and you can use kelp, dulse, or nori; you can use sea vegetables in great ways. The seeds in this picture, by the way, are milk thistle seeds.

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Cholagogue Herbs

There is a term you are going to hear often if you listen to digestion seminars or read about digestion, it's a word called cholagogue.

Cholagogue is basically an herb that stimulates the flow of bile from the liver. It also stimulates the secretion of bile from the gallbladder. It's good because not only does it help to strengthen the liver, but it also helps to enhance detoxification.

What are some of these cholagogue herbs and how would you take them? Some of them you could take as tinctures, some of them you could take as liquids. When would you take them? You might take them beginning of the day and the end of the day, you might take them right before meals, whatever you do, just take them.

There is one on this list called greater celandine pictured over on the left. It's one of the classic herbs for the liver and it's used in a lot of formulas, both Chinese and otherwise. When you use it you have to be really careful not to use too much, just use a little bit because it really can have a stimulating effect. It can be helpful but you don't want to overshoot the mark.

Some of the others, artichoke, it's mainly the leaves of the artichoke that are useful. Others that I haven't used a whole lot of: blue flag (iris versicolor), it's been said to have lots of good effects on the liver and it's cholagogue that moves things out. Boneset, people think of boneset as something you take when you have broken bones. Boneset is actually really good for fevers, and it's a really good liver cleanser. And dandelion root; dandelion grows as wild as wild can be. I remember as I was a kid just always seeing those flowers that turn to the white and we blow them.

Some of the others that you may or may not know about; one is fringetree bark, I haven't used it much; ginseng which is used a lot in bitters; golden seal, greater celandine which I mentioned already. There is rosemary, wild indigo, wild yam and yellow dock. Those are your cholagogue herbs. And the way that you would take them, you could take them as a cup of tea with some of them. Artichoke, you can actually simmer up the leaves, you can simmer up the whole thing, you can make the artichoke if you want to eat it and then you can drink the liquid, that's a good way to do it.

Barberry and blue flag usually come as tinctures, boneset similarly. Dandelion root, easy to get, you make a cup of tea, and you do this on a regular basis and you get the leaves, you eat them on a regular basis.

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Gentian is a very, very bitter herb, golden seal is used more frequently. Golden seal, good old friend and I think part of it is the berberine concentration. Rosemary, is a really good one.

Sage is in the song *Parsley, Sage Rosemary and Thyme*; it's one of the herbs used for a continental type of a seasoning flavoring. It's something that people use when they're making turkey and things like that. I think it's an underused herb myself, I think it's a really powerfully effective as a liver detoxifier.

Maybe you have another use for one of these herbs and that's okay; that would be really great because you can read and go 'oh that's good, I can use this for my liver and help to support that.' 'I know that dandelion also can work as a diuretic, I need that too.' Look at the list and just pick a couple that you are familiar with, or pick one or two that you are not familiar with, learn about them, and see if it's something that applies.

Whenever I'm trying to figure out if a particular herb applies to me, I will evaluate it based on what it's said to do, what are the effects it has. If I'm trying to figure out, let's just say yellow dock for example. I'm working with yellow dock. Oh, okay, I heard that it's a really good cholagogue it's going to help me move my bile. What else does it do that I might need? Yellow dock also helps stimulate stomach acid; oh I need that. What else does yellow dock do? It's been associated with growing thicker hair and nails; oh, I like that.

You see, you may not get that each of these different herbs that have multiple uses, and in the folklore it's really easy to find. I love yellow dock, I think yellow dock is one of the most underused, not only is it good as a cholagogue and it's supportive of the liver but it help the stomach acid, and it helps with iron deficiency, and it actually contains iron and some other minerals; really good herb.

Gentle 5-Day Liver/Gallbladder Cleanse

I'm going to finish with a little cleanse and I'm going to just present this to you and let you sit with it and let you kind of stew with all of the things that we've presented so far, and then next week I'm going to be pulling it all together for you. We have an extra call next week, I'm going to be pulling it together.

If you can't make that call, no problem, it will all be recorded but I'm going to summarize and review getting your small intestine working, getting your leaky gut handled, getting rid of bugs both small and large, and making sure you are eliminating properly the right number of times a day, and helping your liver and gallbladder. So I've got a little really gentle 5-day liver gallbladder cleanse; very easy to do.

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You are going to take some herbs for your liver.

I've listed HealthForce Nutritionals *Liver Rescue* because I like that company, I like what they do, I like that they use wholefoods concentrates, awesome stuff. You can use other favorite liver rescue/antioxidant formulas if you like. That one is one I particularly like.

You are going to continue to take a gut rejuvenator, you are going to take green drinks one quart-a-day unless you have sensitivity to some of the foods in there. You are going to eat easy-to-digest foods; so not a lot of heavy fat, not a lot of starches, it's really simple meals for five days. Bitters with every meal and then as many of the liver support herbs as you can, as what makes sense, you can make it in teas, you can make it in tinctures. I have people who call it their liquid lunch. You put all your nutrients and herbs together and they have a liquid lunch.

There is a specific natural cleanse cholagogue. This is not one of those 'drink a cup of olive oil and get rid of all your stones' deals. Those can work but I recommend that you do one of those in a supervised fashion if you've never done it before. This is much more gentle, much more doable.

You are basically going to have this drink three times a day: a tablespoon of lemon juice, a tablespoon of olive oil (organic), and a tablespoon of apple cider vinegar; and you are going to shake it up really well, mix it up really well, and drink it three times a day. Why are we doing this? Well, these components will help to stimulate the flow of the bile. That along with the *Liver Rescue* formula is going to help things to flow.

Do that you for five days, you do it three times a day and then you continue to take your liver formula, whatever it is. And if you don't want to take a formula, you can usually just go through the list of herbs and just put together a formula yourself, but I really recommend this is whole food stuff it's really, really good and well done, or if you have another favorite herb.

During maintenance, after the five days, you can continue to take the liver formula twice a day for a whole month; and then look at consuming probiotics. Start looking at your flora and add the probiotics, follow the diet guidelines, and you are going to be good to go. That is it for my presentation on the liver and gallbladder.

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