

Summary of Module 4

General Food Protocol for Gut Health

If you had to build a protocol with foods only, what would you do – Slide 2

General Rules For Foods – Slide 3

Establish the main digestive issues the clients has and determine if they have food sensitivities

The key is to work foods into the diet that help gut health

Two Client Types – Slide 4

There are two approaches to create a protocol for gut health for clients

Client Type I – this first approach is for clients who do not have extreme issues or whose gut health issues are not apparent despite having other health issues

Client Type II – has extreme gastrointestinal issues and may have a diagnosis for a specific GIT condition and may also be the type with major food sensitivities – also could be those with brain issues like autism, Alzheimer's

Client Type I – Slide 5

Have them do a food journal first so you can see what they are eating that is good and not so good

Start with the steps to good digestion – you will be adding foods and you need to make sure know there are not other factors affecting their digestion

Have a conversation with the client about fermented foods

This client type should be able to handle prebiotics foods

Client Type II – Slide 6

Have them do a food journal first so you can see what they are eating and have them make a food list of what they like to eat. Make up the list for them (see template)

Start with the steps to good digestion

Have a conversation with the client about fermented foods, glutamine-rich food and pick the ones they may add

This client type may not be able to handle prebiotics foods

Use the removed foods as a test to see progress

Where you want to get the client to be – Slide 7

A normal healthy menu balanced for carbs, protein and fats

Two portions of fermented foods a day (a portion would be at least 1/4 cup)

At least 4 known prebiotic foods

1 glutamine-rich food

Butter for butyrate (if tolerated) or sourdough for SCFA

In General – Slide 8

The goal of the food protocol is to keep the client inspired about the potential for the foods you want them to eat or that they need to eat

FERMENTED FOODS

Fermented Foods – Slide 2

Research does exist for fermented foods

The key is to helping them find what works for their diet and that they can consume on a regular basis

Does It Make A Difference – Slide 3

Studies found that those consuming the traditional diet had higher levels of lactobacillus and bifidus strains and lower levels of clostridium than people living in western urban centres

Lowering Anxiety – Slide 4

A study Found that those with high neuroticism had lowers levels of anxiety the more fermented foods they ate – exercise had a similar effect

How much per week – Slide 5

A study looked at people who consumed at least 3 different types of fermented food and had at least 5 servings per week
Quantity and diversity matter

Understanding Fermented Foods – Slide 6

Most fermented foods are made with an anaerobic process – meaning the good bacteria, and the build up of lactic acid and other acids do so without oxygen
Milk and water kefir – it is anaerobic but synergistic yeast is present
Kombucha and sourdough – is an aerobic process – oxygen is needed for the development of the wild yeasts

Sauerkraut – Slide 7 – 8

Produced in a brine and has a ph of about 4

It is antimicrobial and anti-fungal and the foods or juice can be used to preserve other foods.

Isothiocyanates in sauerkraut have cancer-protective effects in animal studies. – Slide 8

Source of Vitamin U = S-Methylmethionine – may help peptic ulcers and protect the liver

Aid digestions and helps digestion of other foods in the meal

Prebiotic

Strains in Sauerkraut – Slide 9

Kimchi – Slide 10

Has the benefits of several key foods as it is a combinations of cabbage, carrots, onions, garlic, ginger, daikon radish and hot red pepper powder (capsacin)
Isothiocyanates may also help prevent stomach cancer

Kimchi Benefits - Slide 11 - 12

A high cholesterol diet and kimchi can increase immune activity better than a normal diet alone or a high cholesterol diet alone

Garlic and red pepper powder help prevent gastritis and peptic ulcer by inhibiting H. Pylori

3 or 6 g of freeze dried kimchi capsules daily taking by obese women decreased body weight significantly

It aids digestion of all the food in the meal, has antimicrobial properties and aids intestinal health and helps prevent constipation – Slide 12

People who eat kimchi twice or three times a day had lower chances of having a heart attack

Prevents aging of the skin and is a major antioxidant with nutrients such as beta carotene and selenium

Bacillus pumilus found in kimchi helped detox carcinogen and xenoestrogen Bisphenol A
Kimchi with added mustard leaf, Korean Mistletoe and Chinese pepper inhibited human colon cancer cells 62-80 % (in a lab)

Strains (Kimchi)– Slide 13

Kombucha – Slide 14 – 15

It has anti-microbial properties

It helps stabilize blood sugar

Aid digestions

It helps with cholesterol and offers beneficial antioxidant protection – Slide 15.

Improves learning, memory, and mood. It can help alleviate anxiety and increase resilience to stress

Also protects the brain from oxidative stress and protect telomeres from damage
L-Threonine- which keeps you calm and helps produce serotonin

Strains in Kombucha – Slide 16

Acid and Others – Slide 17

Water Kefir – Slide 18 – 19

A combination of symbiotic good bacteria and yeasts that work together

Contributes to gut health, like other fermented foods

Good bacteria strains in water kefir are immune supportive

Contain antioxidants which increases as fermentation increases – Slide 19

Lowers cholesterol and triglycerides
Stabilizes blood sugar and can help provide sustained energy
Help aid digestion
Synthesizes vitamins especially the B's

Strains (water Kefir) – Slide 20

Milk Kefir – Slide 21

Kefir grains are a symbiotic combination of 32 strains of good bacteria (both lactic acid and acetic acid strains) and yeasts
Kefir has anti-inflammatory properties including it shows an ability to reduce histamine

Milk Kefir benefits – Slide 22

Stimulates the function of the immune system
Polysaccharides found in kefir have been shown to inhibit tumour growth
Anti-microbial properties – can inhibit food borne pathogens
Lower serum triglycerides and cholesterol
Beneficial for skin conditions like acne and eczema
May aid those who are lactose intolerant

Alternative Milk Kefir – Slide 23

Works best with cow and goat milk – the lactose and GOS help feed the grains
Coconut milk makes a great substitute

Strains In Milk Kefir – Slide 24 – 26

Beet Kvass – Slide 27 – 28

Beets contain nitrates but fermentation converts nitrates to nitric oxide
Nitric oxide increases blood flow to the brain which will help improve cognitive function and may help prevent dementia
Betalains are both antioxidants and anti-inflammatories – Slide 28
Beets aid the liver detoxification and support the kidney (fermenting prevents oxalates)
Beets also contain tryptophan which converts serotonin [OBJ]

Cultured Vegetables – Slide 29

Each vegetable has its own health benefits based on the vitamin, mineral and phytonutrient content
Fermented foods in a traditional diet also help keep blood sugar stable and low inflammation both in the gut and the body
Phytonutrients also appear to help regulate how the good bacteria function

Sourdough – Slide 30 – 31

The fermentation process changes how the grain is used by the body

It makes the nutrients in the grains such as zinc, iron, magnesium, B vitamins and phytonutrients more available to be absorbed into the body and the yeast actually produces the B vitamins (even in white bread) – Slide 31

It also breaks down the gluten and starches making the bread more digestible

During fermentation, protease and peptidase enzymes act on the gliadin molecule

Sourdough and The Gut – Slide 32 – 33

The phytonutrients such as ferulic acid – a potent antioxidant that blocks nitrosamines and makes Vitamin C and E more potent

Produces glucan, fructans and gluco- and fructo- oligosaccharides with prebiotic properties

Provides metabolites from LAB fermentation which influence gut microbiota such as butyrate

Lowers symptoms in IBS sufferers, who are bothered by wheat

Provides a lower blood sugar and insulin response – Slide 33

Fermenting lowers the phytic acid content making minerals such as zinc, calcium and iron more available

Purchasing Fermented Foods – Slide 34

Unpasteurized fermented foods will always be in the refrigerator case in the store – not on a shelf

Create a list of products in your area

Source local sourdough bakers

Using Them In The Diet – Slide 35

Use as a condiment, add it to dips, smoothies, top it onto soups, vegetable dishes or salads

The key point is to get them into the clients diet

YOGURT VS KEFIR

Why Yogurt? – Slide 2

It is one of the oldest fermented foods

Different cultures use different strains for making yogurt

Yogurt – Slide 3

Cow, sheep, yak, goat milk – all have been traditionally used for yogurt

Today, it is one of the most popular types of fermented foods

Yogurt Types – Slide 4

Mesophilic which is traditionally produced in cooler climates and uses raw milk and is made at a cooler temperature

Thermophilic is traditionally from warm cultures and is typically how most yogurt is made

Yogurt – Slide 5 – 6

In North America, yogurt is made with the strains *Lactobacillus bulgaricus* and *Streptococcus thermophilus*

Other strains can be added but that is not common

As the milk ferments, enzymes are produced by the bacteria that can aid the digestion of the protein and the fat in the milk – Slide 6

In order to break down enough lactose and have significant amount good bacteria – yogurt must be fermented for at least 4 hours or longer

Ingredient Comparison – Slide 7

Comparing Organic Meadow and another commercial brand, as well as Liberte Kefir

Yogurt – Slide 8 – 11

There is considerable difference between commercial yogurt and traditionally fermented in terms of CFUs for the strains of good bacteria.

Yogurt contains *Lactobacillus* bacteria (*bulgaricus*) which aids the inhibition of bad bacteria – Slide 9

It also aid immune response of the gut

Yogurt can also aid peristalsis and improve bowel movements

Many people who are lactose intolerant can tolerate yogurt (0.05)

Yogurt may also be helpful for diarrhea – Slide 10

L. Bulgaricus strains have shown the ability to inhibit cholesterol absorption

Has anti-*h. pylori* bacteria activity which can help prevent gastritis, peptic ulcer and gastric cancer

Can also reduce allergic reactions and inflammation in the gut and the body

Can also inhibit the toxic and pathogenic effects of *C. Difficile*

Contains anti-cancer benefits by aiding the detoxification of carcinogenic substances

S. thermophilus produces folic acid – Slide 11

Aids the treatment of gastritis and ulcer caused by aspirin, ibuprophen and NSAIDs

Reduces the incidence of yeast infections

L. bulgaricus and *S. thermophilus* both have anti-oxidant ability especially against the peroxidation of fats (prevent rancidity)

Kefir – Slide 12

The 32 strains and good bacteria and yeast cannot be beat.

Kefir (if the client has the grains) can easily be made with coconut milk

Date paste can be added to feed it

Yogurt – Slide 13

Yogurt does come in non-dairy forms that can be bought but it is not an easy process to make it – gums and sugar are often added

Not sure if the alternative yogurts have the same benefits as cow's yogurt but they are an easy step to recommend to clients
Consuming both is best along with other fermented foods

WINE AND BEER

Wine and Beer – Slide 2

Both are traditionally fermented foods
Both are low in alcohol (in comparison to hard liquor)

Beer – Slide 3

To be beneficial for gut health beer must be unpasteurized in order for the good bacteria and yeast be present
Contains silicon, which blocks the uptake of aluminum and may help prevent Alzheimer's
Helps reduce kidney stones
Helps affect cholesterol levels and reduce bile concentration preventing gallstones

Hops – Slide 4

Is a major anti-inflammatory
It helps stimulate gastric juices and pancreatic enzymes
Hops is a natural sedative
Beer also contains lactoflavin and nicotinic acid which help to promote sleep

Wine – Slide 5 – 6

Anti-inflammatory, antioxidant, anti-aging, anti-cancer, may help prevent heart disease
The phytonutrients – the polyphenols are prebiotics
Contain probiotics that aid digestion and can inhibit food-borne pathogen – Slide 6
Non-organic wines have been found to contain high amount of heavy metals
Wine can also slow gastric emptying

White Wine – Slide 7

Phenolic compounds in wine vary depending on variety of grapes and technical processes
Studies have found the white wines can often have higher levels of phenolic compounds than red
Another study found white wine aided weight loss
Stimulates gastric acid and lowers malonaldehydes (MDA) a natural occurring chemical that occurs when fats oxidize

Candida – Slide 8

Red and white wine have been shown to inhibit Candida Albicans, as well as strains of pathogenic bacteria
Organic, sulfite free wine is best

Wine and Beer Yeast – Slide 9

Bacteroides thetaiotaomicron is a gut microbe recently discovered that breaks down and ferments complex carbohydrates called yeast mannans
They produce short chain fatty acids to help the integrity of the gut lining and support the immune system

In Conclusion – Slide 10

Moderate wine and beer consumption can be part of a healthy diet and a good gut health program
The key is to explain to the client the traditional role of wine and beer to aid digestion and support gut health so they understand consumption is in moderation

FERMENTING GRAINS, LEGUMES, NUTS AND SEEDS

WHY? – Slide 2

It can aid digestion and make nutrients in the food more bioavailable.
It can also lowers any possible negative chemicals that the food may possess

Fermenting Grains – Slide 3 - 4

How to ferment flour – Slide 3

How to ferment grains – Slide 4

Video <https://youtu.be/PxJDRIKY5ws>

To Ferment Legumes and Lentils – Slide 5

Instructions on fermenting legumes and lentils

Fermenting Nuts and Seeds – Slide 6

Nuts are best fermented with a starter

<https://youtu.be/lw0gRpIB-Cg>

Seeds such as pumpkin or sunflower can also be fermented this way

Chia and flax seeds will absorb the water due to the soluble fiber. Fermenting in kombucha is a good way to ferment them

PREBIOTIC FOODS AND GLUTAMINE FOODS

Adding Prebiotics To The Diet – Slide 2

Some people have issue with prebiotics

Fermenting the prebiotics foods is an option

Food journals can be so helpful to figure out which foods may work.

Resistant Starch Foods – Slide 3 – 4

Resistant starch is found grains, legumes and nuts and seed and are needed for the production of SCFA

Nuts and seeds often have less resistant starch than grains and legumes and too much Omega 6 which is not ideal for gut health

Chia is a great option. It has a fair amount of carbs and there is a high ratio Omega 3 to 6

All grains – Slide 4

Tubers

Legumes and lentils

Bananas, plantain

To increase the resistant starch in cooked foods – cook them, cool them and then re-heat them before serving.

Oligosaccharides – Slide 5 – 6

Oligosaccharides are smaller - 3-8 chain monosaccharides

The chances that these are not present in all fruits and vegetables is unlikely but we have to wait until the research tells us this is the case

Calorie count is a guide

Jerusalem artichokes and chicory are two of the highest sources of inulin and FOS – Slide 6

Garlic and onions

Cabbages, asparagus, bananas, blueberries and other berries, citrus (especially pectin), almonds, broccoli, cabbage, kale, cauliflower, radish, tomatoes, almonds, cashews, carrots, chia, flaxseeds, wine, algae

Getting Prebiotics into the Diet – Slide 7

Ideally, consuming the prebiotics with the fermented foods is best.

The fermented food will aid the digestion of the prebiotics, which will aid the feeding of the residential bacteria.

It can also aid the production of the short chain fatty acids as transients bacteria can ferment resistant starch

Bone Broths – Slide 8 – 9

It is presumed to be great gut healing and is presumed to be an anti-inflammatory and aid joint and bone health

High in amino acids including glutamine, collagen and minerals

Other sources – Slide 10

Many foods – vegetables such as cabbage, beets, spinach, Swiss chard, parsley, legumes, nuts and seeds, fermented glutamine powder, algae

Grass feed animals are higher sources for meat and dairy

Seafood is also a source

Consuming these foods with fermented foods aids the conversion

ADJUSTING SPECIAL DIET STYLES

Diet and Microflora – Slide 2 – 3

Alterations in diet can account for 57% of structural changes in the gut bacteria (genetics only account for 12%)

Low carbohydrate diets increase Bacteroidetes and Clostridium

Calorie-restricted diets prevent the growth of Clostridium coccoides, Lactobacillus spp. and Bifidobacteria

Diets rich in complex carbohydrates lower pathogenic bacteria and increase good bacteria – Slide 3

If dysbiosis is a long-term event, then postnatal nutrition could be used to promote changes in the microbiota early in life during the development of a more stable microflora

Food and Bacteria – Slide 4

Chart of diet and how bacteria is effected

[REDACTED]

Special Diet Styles – Slide 5

You will have clients who have chosen to follow a diet style such as vegan, paleo, vegetarian or raw

Each style may have its own issues when it comes to gut health

[REDACTED]

Regular Diet – Slide 6 – 8

Meat, dairy, vegetables, fruits, grains legumes, nuts and seeds are all part of the diet (unless there are sensitivities and some foods have been removed)

The key here is to compare the proportion of meat to plant based foods to get more prebiotic foods into the diet

3/4 of the plate plants – 1/4 meat, fish

Watch their Omega 6 to 3 ratio – Slide 7

Omega 3 lowers inflammation of the mucosa and increases good bacteria

Increase complex carbohydrates in the diet

The key is to add more fermented foods – Slide 8

Up to 2 fermented a day (with proper portion size) – they can do more if it works for them

The other key is to add prebiotic foods

Fermenting grains, nuts and legumes may be an option (see video)

Vegetarian – Slide 9

Hopefully they eat dairy (cow and/or goat) as this allows for all the fermented dairy sources to be added to their diet

Yogurt, kefir, raw milk cheeses

Fermenting grains, legumes, nuts and seeds may an option

Make sure they are getting sufficient glutamine (glutamic acid in plants)

[REDACTED]

Vegan – Slide 10

TVP is a source of glutamate (ion for of glutamic acid – usually attached to a mineral)
The GOS source is going to have to come from legumes which need to be fermented
Make sure they are getting their resistant starch – sourdough bread is a good option
EFAs – plant-based need vitamin-mineral cofactors

Paleo – Slide 11

Biggest issues – no legumes and grains
Resistant starch is going to have to come from nuts and seeds – which is not as substantial
Must ensure they increase their portions of the fruits and vegetables
Some paleo people will do quinoa which is not technically a grain and is a source of resistant starch as are sweet potatoes

Raw – Slide 12

Biggest issue is not enough calories and not enough grounding foods
Fermented foods can be extremely helpful to increase nutrient density and aid digestibility of the other raw foods
Make sure they get a cross-section of fibres
Resistant starch can come from sprouted legumes and grains, nuts, seeds and raw sweet potatoes

Focusing On Their Diet – Slide 13

Food journals are essential – do not take their word for what they eat or how they eat
Respect their choices and help them be the best paleo, vegan, vegetarian

[OBJ]

FOOD SENSITIVITIES & FOOD INTOLERANCE

Slide 2

The key to gut health is going to be food
To do this the client needs as many food options as possible

What is a food sensitivity? – Slide 3

Many practitioners refer to IgG as sensitivities
Does not involve the blood stream

Is Intolerance Real? – Slide 4

Two studies contradict each other

What does this mean? – Slide 5

We also know that there are many players
It is not the foods fault

Are foods inflammatory? – Slide 6

One human study showed that whole grains lowered IL-6, improved gut bacteria diversity include improved firmicute/bacteroidetes ratio and increased bifidobacterium

It is important to remember – Slide 7

The food is not the problem

We need clients to consume as many gut bacteria-feeding foods as possible

What Causes A Food Sensitivity? – Slide 8

Eating too much of the food and not chewing

Lack of good bacteria

An overstressed pancreas

Eating too much of the same food

Damaged intestinal wall lining

What to do – Slide 9

Pancreatic enzymes

Probiotics and fermented foods (try one with each meal) and a combination of raw and cooked

Our Role – Slide 10

We should not be perpetuating the myths about foods, especially whole foods

By blaming the food – they think they have answer and do not resolve the real issue which is the dysbiosis/digestive issues leaving them vulnerable to developing further health issues.

CULINARY HERBS AND SPICES

Using Culinary Herbs and Spices – Slide 2

Each culinary herb plays a role in the GI tract

Every herb and spice has several phytonutrients giving each numerous benefits

Antimicrobials and Good Bacteria – Slide 3

There is no evidence that natural antimicrobials can interfere with good bacteria

Consuming herbs in food everyday is going to aid inhibition of bad bacteria and not affect good bacteria

Action of Herbs on Bacteria – Slide 4

Bad bacteria can form biofilms

Enzymes such as hemicellulase, cellulase, glucoamylase, chitosanase, and beta-glucanase can digest

Extracts of various berries were effective as quorum sensing inhibitors (QSIs) (involved in biofilm signaling pathway) as were oregano, basil, rosemary and thyme, turmeric, ginger and kale

Two categories – Slide 5

Some herbs and spices are antimicrobial

Some aid digestion and other aspects of GI tract function

Forms of Herbs and Spices – Slide 6

Supplements

Tinctures

Dried herbs and fresh herbs

Essential oils

Pepper – Slide 7

Is an antioxidant and antibacterial

It is also an anti-inflammatory

1 Benefit: Aids the absorption of other nutrients

Oregano – Slide 8

Antimicrobial and anti-inflammatory

Helps with IBS and diarrhea

Inhibits bad bacteria, yeast and fungus

Antioxidant

Dill and Parsley – Slide 9

Dill stimulates gastric juices, bile production and aids peristalsis

Has anti-microbial properties including being an anti- fungal

Can act as a diuretic

Parsley aids the kidneys and help flush toxins and prevent kidney stones

Relieve gas, bloating and has anti-inflammatory properties

Thyme – Slide 10

Supports the good bacteria and inhibits bad bacteria

Helps with smooth muscles contractions, aids gas and bloating

It is also antimicrobial, antispasmodic and an antioxidant

Helps to prevent production of excess bile, mucous and gastric juices

Has anti-cancer properties

Basil – Slide 11

Antibacterial and anti-inflammatory - includes helping with IBS)

Can aid cholesterol and improve circulation

Is helpful for acne and skin issues

Aids digestion

Cinnamon and Fennel – Slide 12

Cinnamon helps with a sluggish digestive system and aids, gas, bloating and flatulence, increases appetite, soothes muscles and aids contractions

Is anti-microbial including anti-fungal (inhibits h pylori)

Fennel has helped with colitis and IBS

Has several anti-inflammatory phytonutrients that can ease stomach pain and help babies with colic

Anise is not fennel but has similar properties

Ginger, Cloves and Nutmeg – Slide 13

Ginger prevents nausea and indigestion

It also soothes inflammation

A combination of honey and ginger inhibits superbugs and it is also anti-fungal

Cloves, known as “thieves” is anti-microbial and is used for Candidiasis and parasites

Relieves, gas, bloating and flatulence

Nutmeg is similar to ginger and cloves for the GI Tract

Coriander and Cilantro – Slide 14

Coriander is from the seed of the cilantro plant and cilantro are the leaves of the plant

It acts like an antispasmodic drug and relaxes by gut muscles

Cilantro is anti-bacterial and aids nausea, gas, bloating digestion and heartburn

Cumin and Cayenne – Slide 15

Cumin contains cuminaldehyde which activates the salivary glands

Also contains thymol prevents food from fermenting in the digestive tract

Cumin also stimulates the release of bile and digestive enzymes

Cayenne helps with muscle contractions in the GI tract and helps promote the secretion of gastric acids

Stimulates mucosal blood flow and mucus secretions which helps heal ulcers and the gut lining

Turmeric – Slide 16

It is a powerful anti-inflammatory and can aid digestion

It inhibits gastric acid and helps with ulcers and reflux

It has strong astringent properties and can help heal the gut lining and prevent leaky gut

Improves liver function and bile stimulation

Soothes muscles and helps with cramping

Decreases congestion and inflammation of the mucous membranes

Peppermint – Slide 17

Can aid with digestive upset by increasing bile flow

Also is helpful for IBS discomfort

Best herb for gas and gas pain.

Aids tooth and oral health

Spearmint also helpful but not as effective

Marjoram – Slide 18

Anti-bacterial, anti fungal, and antiviral
Increases digestive enzymes and saliva
Helps with stomach and intestinal cramps
Relieves diarrhea and constipation
Anti-inflammatory
Reduces stress, anxiety and insomnia
Marjoram tea

Tarragon – Slide 19

Stimulates appetite
Helps with gas and flatulence
Helps stimulate bile in the liver
Helps with toothaches
High in phytonutrients and antioxidants
Supports heart health and female reproductive function
Helps calm stress and anxiety

Sage – Slide 20

Help with mild gastrointestinal issues and can soothe the gut lining
It is antifungal and antibacterial
Helpful for throat infections, and oral health
Beneficial for the liver and helps with nausea caused by excess bile
Rosmarinic acid (also found in rosemary) is an antioxidant and anti-inflammatory

Rosemary – Slide 21

Relaxes the smooth muscle of the GI tract
Helps gas, bloating and constipation
Reduces colon tissue lesions for colitis and has analgesic and anti-inflammatory properties
It is also an antimicrobial and an antioxidant
It is also a high source of cysteine which can convert to glutathione

Using Herbs – Slide 22

if you or clients have allergies, be sure to check to make sure they are not in the same family – chamomile and ragweed belong to the same family
If cooking is not your or client's thing, then all these herbs and spices can be made into a tea – one teaspoon herb to one cup water
Tea clients to add an herbal tea after a meal

Chamomile and Green Tea – Slide 23

Chamomile: Has anti-inflammatory and anti-cancer properties
Aids colic, diarrhea and eczema and helps with gas and bloating
Green tea: An antioxidant and anti-inflammatory with anticancer properties

Tea catechins can help you excrete more calories
Helpful with IBS

Other Teas – Slide 24

Many other teas have digestive and intestinal benefits

Gentian root: Stimulates the secretion of digestive juices,
and helps gall bladder function

Dandelion root stimulates bile and improves intestinal excretion and the leaves help
with reducing bloat

Lemon Verbena helps with gas, stomach and intestinal cramps

Milk thistle supports liver health which is connected to gut health

Steps – Slide 25

Always start small when adding to your recipes and work up

Start experimenting and combining

Understand that the smell and taste mean something

Final Thoughts – Slide 26

Lack of herbs and spices in the diet is new

Using them will increase client compliance with new foods and help aid healing

GMOS AND THE GUT

GMOs – Slide 2

Organisms whose genetic material has been artificially manipulated in a laboratory
through genetic engineering

Different from a hybrid which is a natural process that can be done for good and bad
reason

GMOs – Slide 3

There are some animal studies that show issues such as cancerous tumors

70% of the GMO corn and soybeans are fed to animals

Animals – Slide 4

.Independent studies of farm animals show no difference

Are farm animals healthy?

Current GMO Crops – Slide 5

Alfalfa (first planting 2011)

Canola (approx. 90% of U.S. crop)

Corn (approx. 88% of U.S. crop in 2011)

Cotton (approx. 90% of U.S. crop in 2011)

Papaya (most of Hawaiian crop; approximately 988 acres)

Current GMO Crops – Slide 6

Soy (approx. 94% of U.S. crop in 2011)

Sugar Beets (approx. 95% of U.S. crop in 2010)

Zucchini and Yellow Summer Squash (approx. 25,000 acres)

Approved but not available: Apples, Potatoes

****Wheat is not genetically modified****

Two types – Slide 7

Herbicide-resistant and Pesticide-containing

BT Corn, canola, cotton contain BT toxin

BT cotton shows decline in yields

Glyphosate – Slide 8

Herbicide used to kill weeds (Round-Up)

Round-Up ready crops are impervious to Round-Up

Glyphosate – Slide 9

A non-selective herbicide

Prevents plants from making specific amino acids needed for the growth of the plant

GMO's – Slide 10

Glyphosate has been linked to lowering good bacteria at levels lower than recommended for commercial agriculture

On study found that glyphosate affected 3 families - lactobacillus, bifidobacterium and basillus bacteria but salmonella, and clostridium strains were resistant

Shikimate Pathway – Slide 11

It is a 7 step metabolic pathway that bacteria, fungi, and algae use to biosynthesize amino acids

Glyphosate – Slide 12 – 13

Some theories link this to health issues we may experience as a result of GMO

This allows the farmer to spray generously, the glyphosate residue is on our foods, something that was limited before – Slide 13

This could be a factor in the increase of allergies but again it is due to the lack of good bacteria

Desiccation is a process of spraying glyphosate on wheat and barley two weeks before harvest to essentially “kill” it so it can dry evenly

To Avoid – Slide 14

Buy organic

Look for non-GMO sticker on non organic product

Buy heritage varieties

Read labels (many companies advertise that they do not use GMO ingredients)

<http://www.nongmoproject.org/>
<http://nongmoshoppingguide.com/>

What To Do – Slide 15

Avoiding GMOs is ideal but we now have extra strategies to support gut health to help counter the damage

Client Gut Health Avatar Explained

Explains the Client Gut Health History forms

Food Chart Explained

How to use the food chart