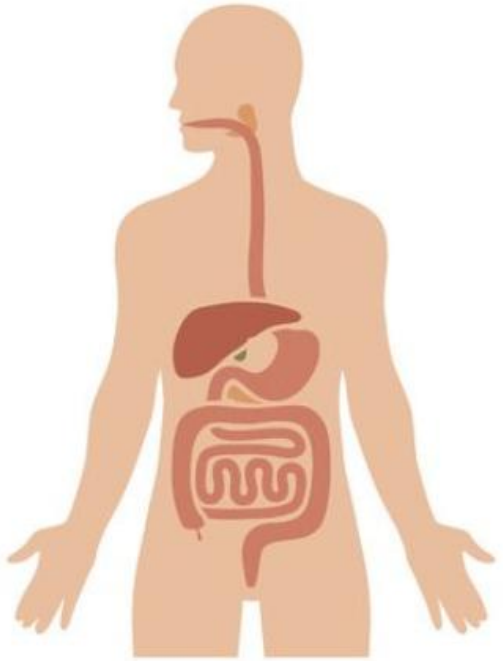
SIBO For Patients

SIBO CANADA

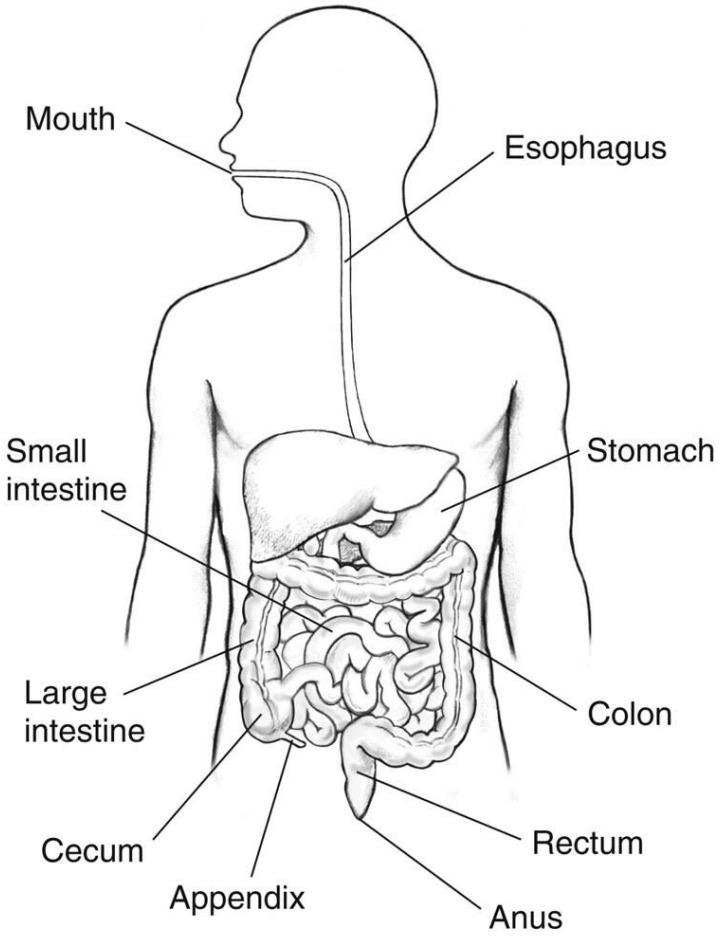
Advancing your Diagnosis



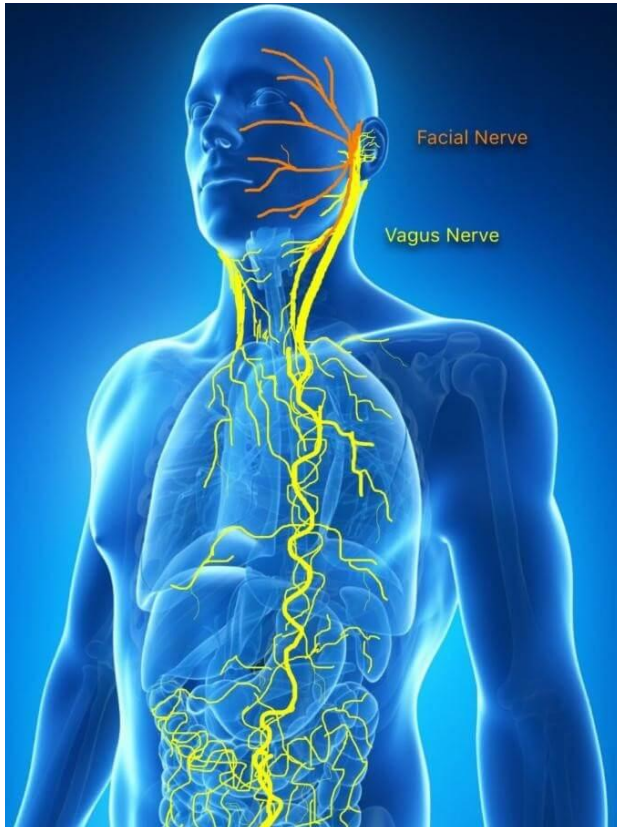
What You Will Learn In This Course

- How is our digestive system supposed to work?
- What is SIBO?
- What are the symptoms of SIBO?
- Testing for SIBO
- Treatment of SIBO options - 4 phases
  - Preparation
  - Kill
  - Prokinetics
  - Prevention
  - Relapses and what to do

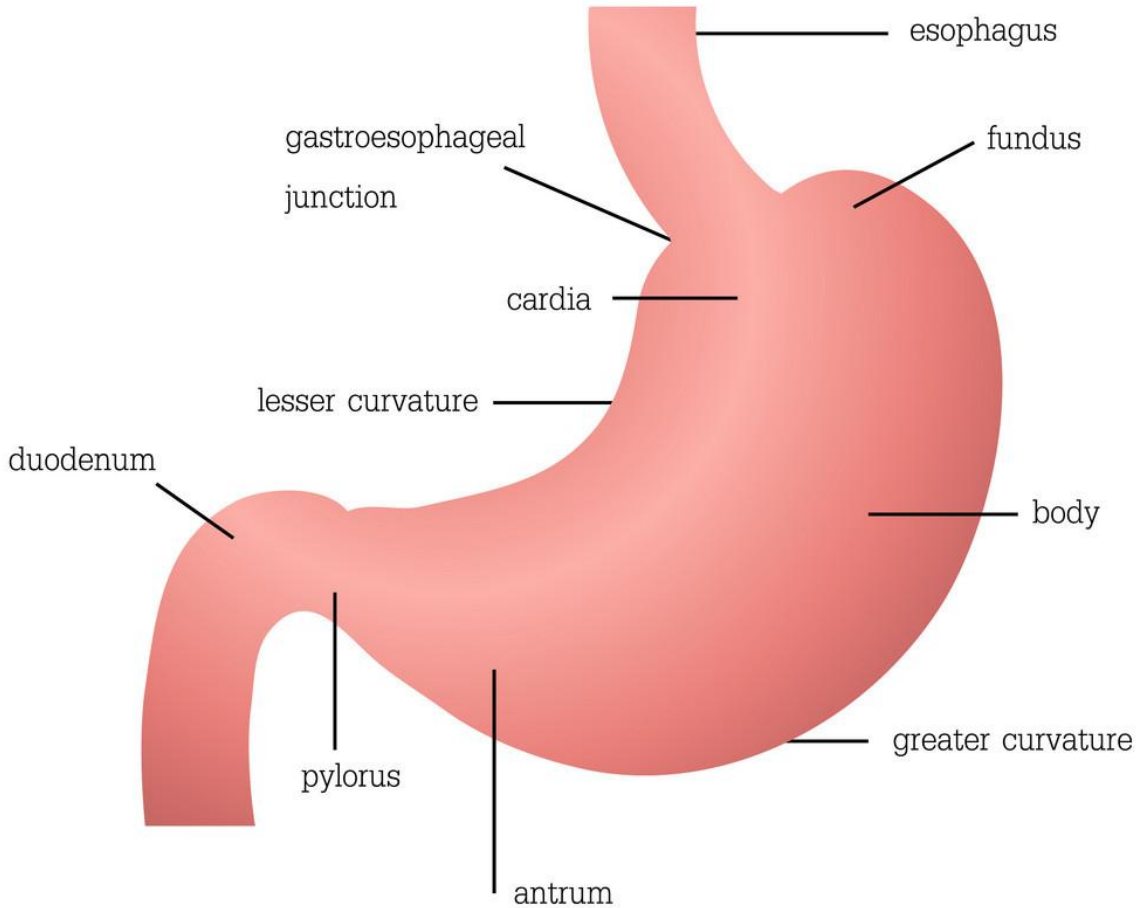
The Digestive Tract



It's important to know how the digestive system works, in order to understand what happens with SIBO.

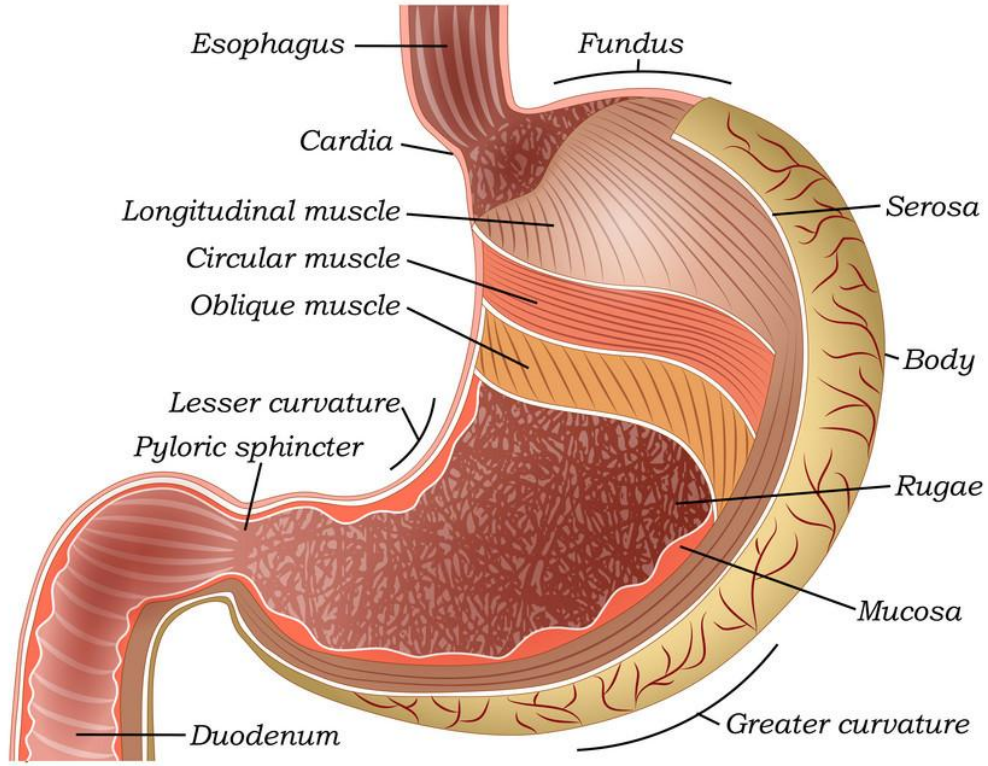


Vagus Nerve



STOMACH ANATOMY

STOMACH STRUCTURE

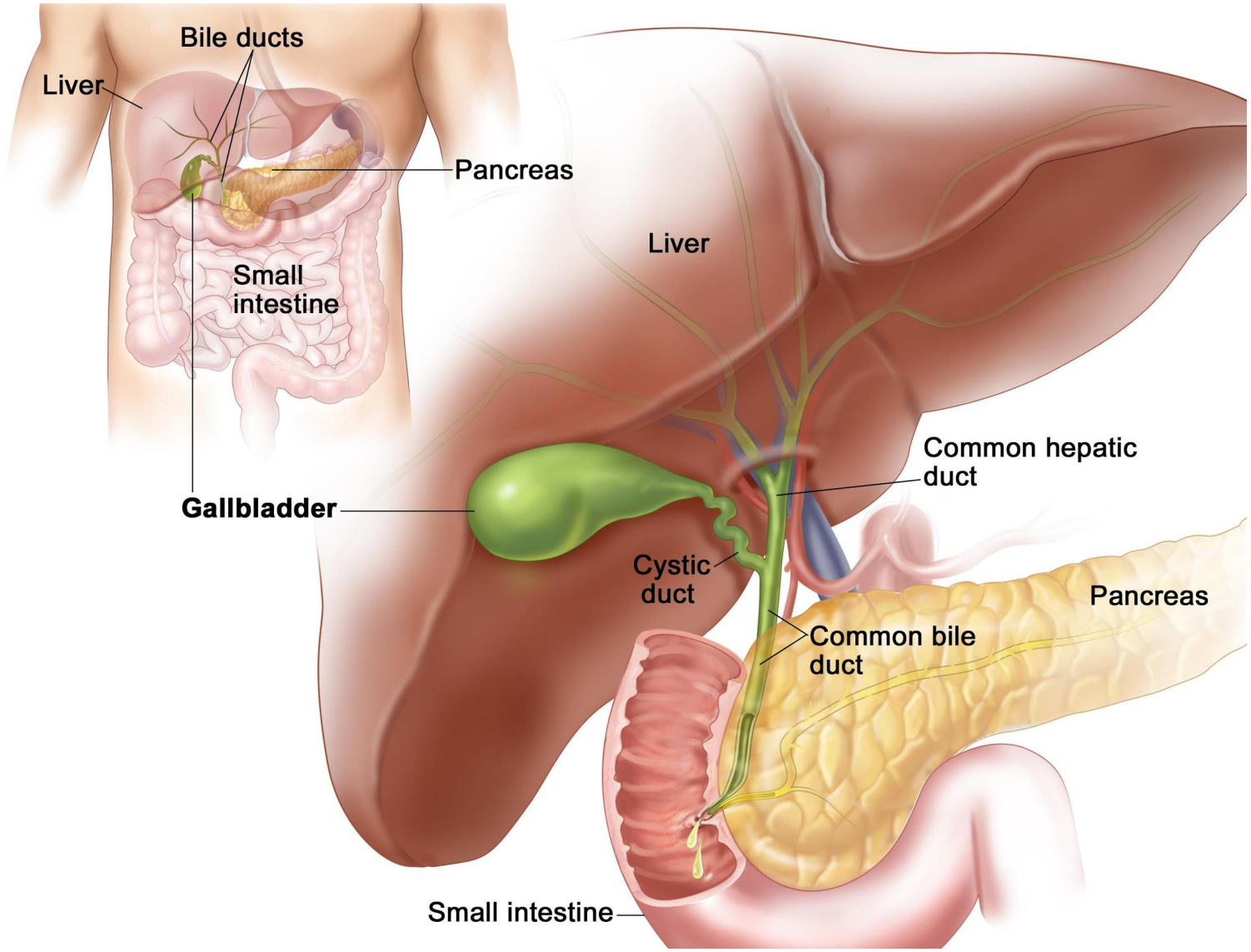


The Stomach

The stomach starts the digestive process with the uses of chemical digestion (of protein) as well as mechanical digestion, which breaks food down into smaller portions

- B12 binding

Production of stomach acid to get rid of bacteria that is being digested



Small Intestine, Pancreas, Gallbladder

Small Intestine

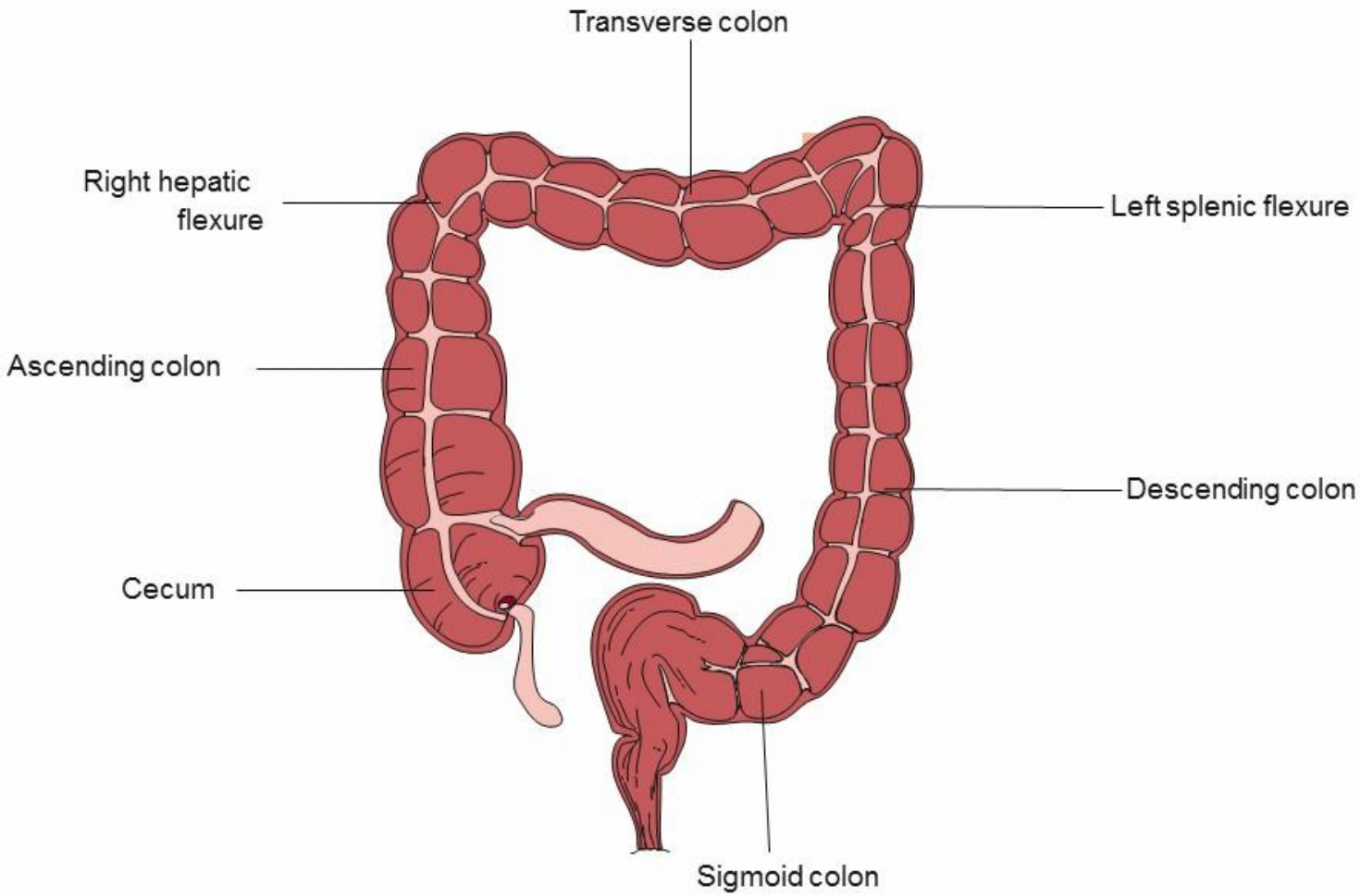
3 Main Components:

1. Duodenum - Responsible for the digestion of foods (this is where the gallbladder and pancreas release the bile and enzymes digest foods)

2. Jejunum - Absorption - lots of villa for the absorption of nutrients

3. Ilium - Bile absorption (fats) and B12

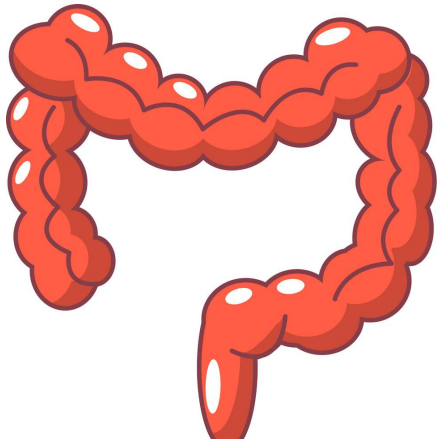
LARGE INTESTINE POWERPOINT DIAGRAM



Large Intestine

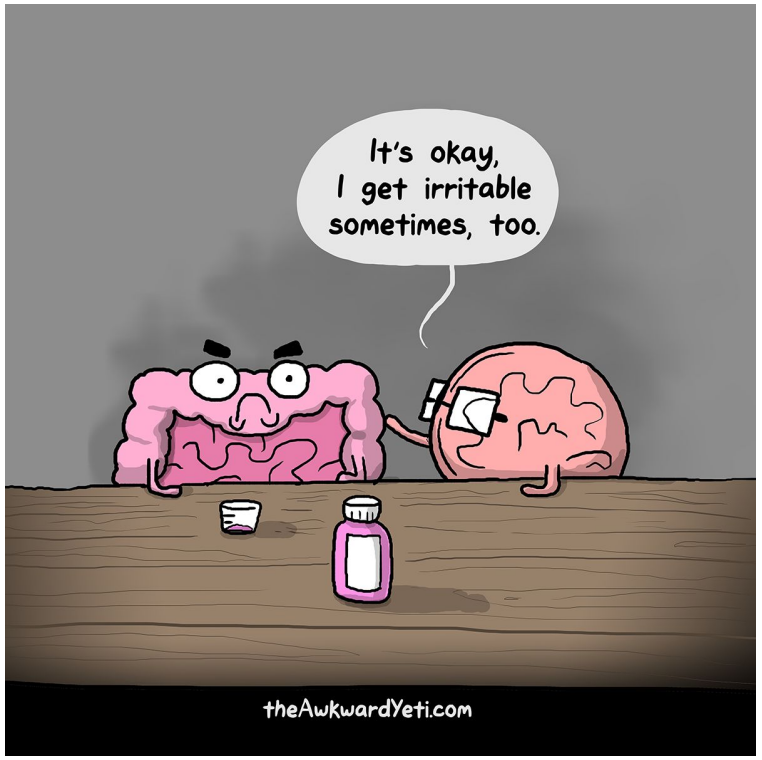
Large Intestine

- Absorption of water from the feces
- Full of bacteria that help in the production of B Vitamins and Vitamin K
- Production of short chain fatty acids, that are important for health



Irritable Bowel Syndrome - Interesting Facts

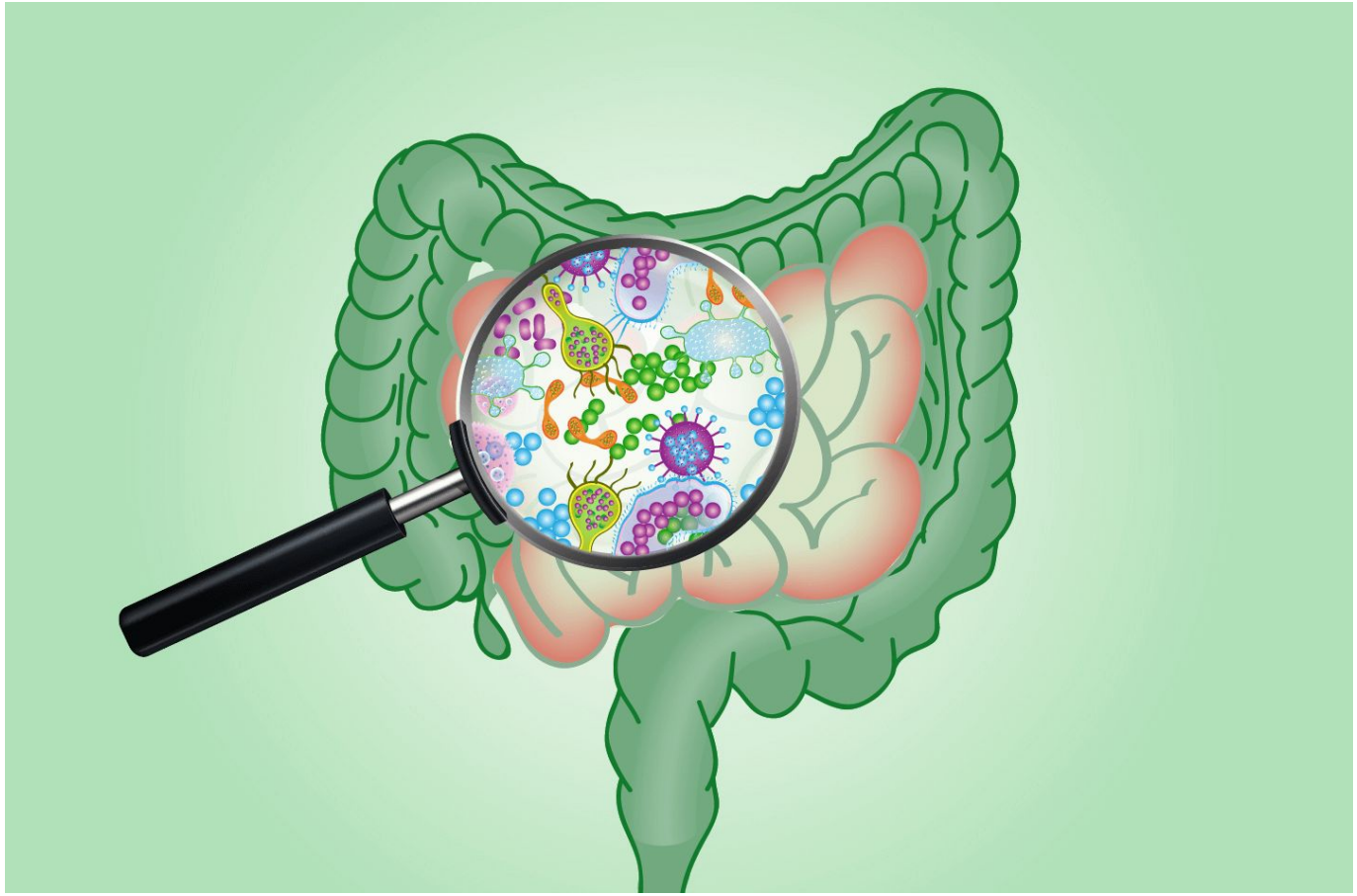
- Diagnosis by exclusion
- Not a lot of treatment options available conventionally
- Correlated with bacterial overgrowth (thought to be as high as 85%)
- What about stress?



Stress and IBS

- More neurotransmitters in out GI tract than in the brain
- Stress makes everything worse
- Not a cause but a factor for making things worse

What is SIBO?



Small Intestinal Bacterial Overgrowth

Small Intestinal Bacterial Overgrowth

- When the bacteria in the large intestine (or stomach) has migrated into the small intestine
- These are NOT pathogenic bacteria – just bacteria that are in the wrong place
- Affects the proper functioning of the small intestine, leading to symptoms of IBS

Symptoms of SIBO

- Common IBS symptoms
- Chronic constipation, loose stools, or alternating
- Bloating (better in the AM and worse throughout the day)
- Symptoms worse with eating healthy (fibres) and sugars
- Fatigue
- Brain fog
- Weight fluxuations (weight loss or weight gain)
- Anxiety
- General feeling of unwell
- Sensitivity to foods and medicines

Associated Symptoms and Conditions

- Leaky Gut Syndrome
- Acne (Skin Conditions)
- Rosacea
- Non-Alcoholic Fatty Liver
- Anxiety and Depression
- Anemia
- AL Disease
- Hormonal Imbalances
- Chronic Fatigue
- Fibromyalgia
- IBS and IBD
- Diabetes
- Celiac Disease
- Restless Leg Syndrome
- Interstitial Cystitis
- And More

Causes of SIBO

- Low Hydrochloric Acid
- Flu or food poisoning - thought to be one of the most common causes now
- Trauma (abdominal surgeries)
- Brain trauma
- Dysfunction of the Migrating Motor Complex

Migrating Motor Complex

- Most common cause of SIBO
- Has a sweeping mechanism to flush the bacteria and foods from the small intestine to the large intestine
- Best way to explain is a dishwasher mechanism

Diagnosis of SIBO

Thoughts of the 4 tests for testing bacteria in the GI tract:

1) **Stool Sample -** Shows more of the large intestine, can not differentiate where the bacteria is in the system. Can do a culture or sensitivity but irrelevant for the treatment if SIBO.
2) **Breath Test -** Will tell you the area of the GI tract where the bacteria is located. Using an indirect method to see where and what type of bacteria are in the different areas of the digestive tract.
3) **Biopsy with Culture and Sensitivity -** Very invasive and expensive; to look for the bacteria, but this would be the best way to find the bacteria in the area.
4) **Organic Acid Tests -** Uses metabolites in the urine that the bacteria releases. Does not show us where the bacteria is located.

The most cost effective, and least invasive test
Hydrogen and Methane Breath Test

- There are still some CONS to this test:

1) Does not take into account transit time - so the practitioner has to look at this when viewing the results

2) Does not test for Hydrogen Sulfide producing bacteria, but the practitioner can look for this in the test as well

Preparation For Taking The Test

1 week prior to doing the test

- Stop all enzymes
- Probiotics
- Laxatives**
- Antibiotics
- Antacids and PPIs**

**This can cause anxiety for patients so play it by year- test will still work if they have stay on these as long as these have been taking them chronically and not just started.

1-2 days before doing the test

-Severe constipation do for 2 days

Prep Diet:

- Plain coffee
- White rice, white bread
- Protein (fish, eggs, chicken, beef, etc)
- Oils
- Water
- Salt and pepper
- Keep it simple - Vegan can have small amount of soy
- Type 1 Diabetic - take their insulin throughout the prep phase to make sure that sugars are staying in correct levels

SIBO Breath Test – The Day Of

- 10 tubes – Sample every 20 minutes
- Takes 3 hours to do
- Should be fasting in the AM
- Baseline test then immediately drink the lactulose (can be taken straight up, or in water)
- Do 1 vile every 20 minutes until complete
- Ship off and wait for the results to come back!

SIBO Breath Test Samples

What do they mean for diagnosis?

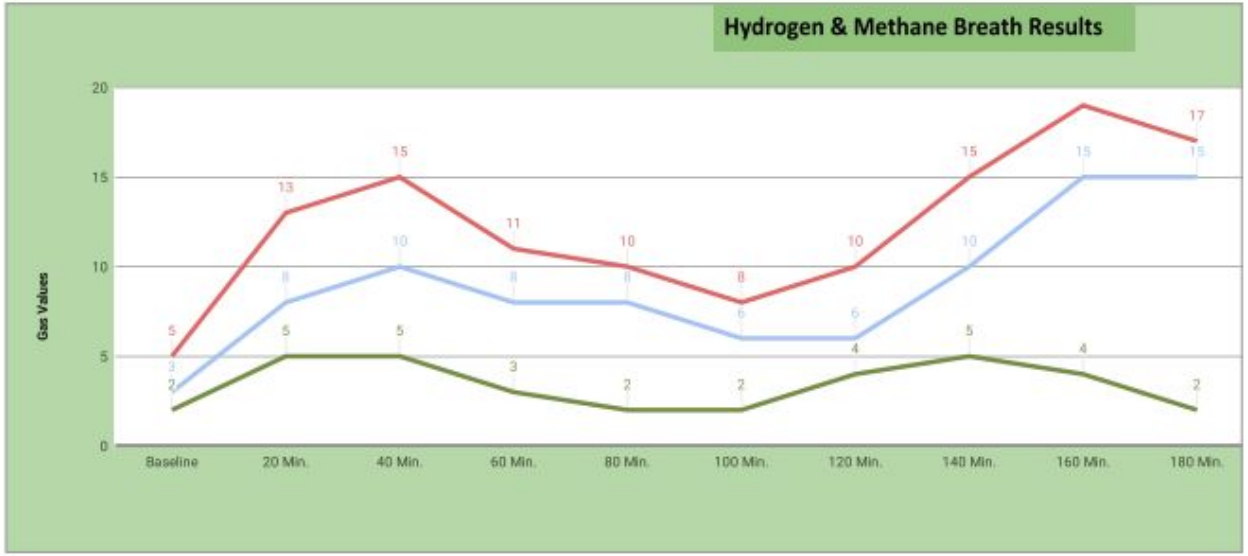
NORMAL SIBO TEST

Summary Report Of Hydrogen & Methane Breath Analysis with Carbon Dioxide Correction

Gasses Analyzed:	Patient Result (ppm)		Expected (Small Intestine Only)
Increase in Hydrogen (H2) Level:	12	Normal	<20 ppm
Increase in Methane (CH4) Level:	3	Normal	<12 ppm (<3 ppm**)
Increase in Combined H2& CH4 Level:	15	Normal	<15 ppm

Analysis of the above data suggests:	Data does not suggest Bacterial Overgrowth

Number	Collection Interval	ppm H2	ppm CH4	Combined	Sample Norm-illution* ppm CO2	f CO2
1	Baseline	3	2	5	3.5	1.57
2	20 Min.	8	5	13	3.5	1.57
3	40 Min.	10	5	15	3.5	1.57
4	60 Min.	8	3	11	3.2	1.71
5	80 Min.	8	2	10	3.1	1.77
6	100 Min.	6	2	8	3.1	1.77
7	120 Min.	6	4	10	3.4	1.61
8	140 Min.	10	5	15	3.3	1.66
9	160 Min.	15	4	19	3.8	1.44
10	180 Min.	15	2	17	3.4	1.61

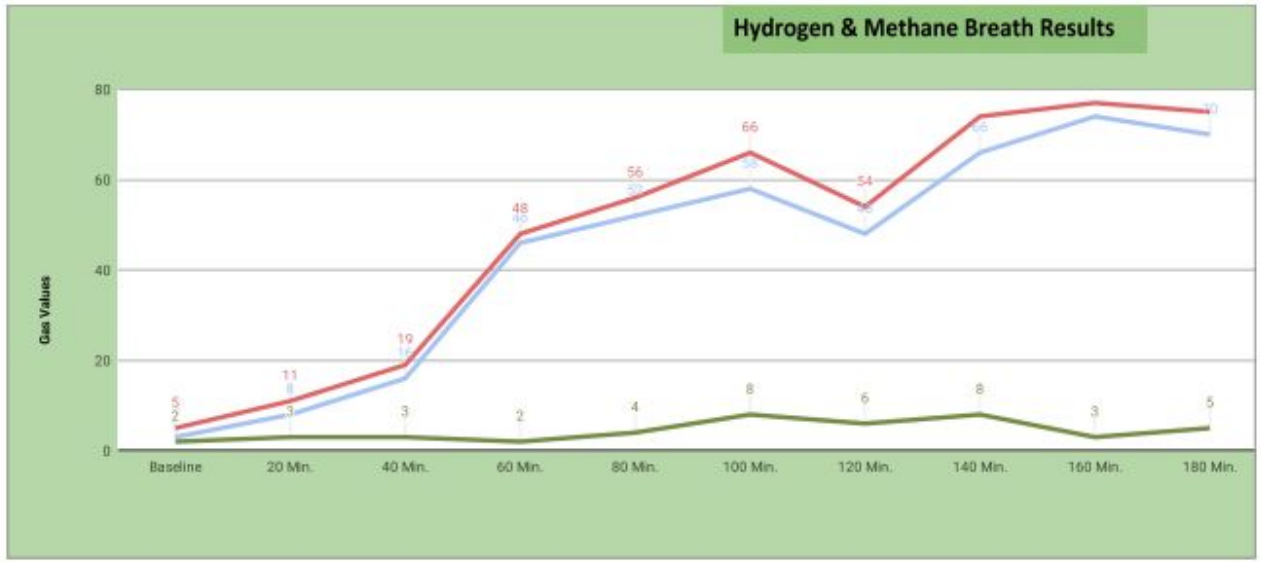


HYDROGEN POSITIVE TEST

Summary Report Of Hydrogen & Methane Breath Analysis with Carbon Dioxide Correction

Gasses Analyzed:	Patient Result (ppm)		Expected (Small Intestine Only)
Increase in Hydrogen (H2) Level:	71	HIGH	<20 ppm
Increase in Methane (CH4) Level:	6	NORMAL	<12 ppm (<3 ppm**)
Increase in Combined H2& CH4 Level:	77	HIGH	<15 ppm
Analysis of the above data suggests:	This tests Suggests Bacterial Overgrowth		

Number	Collection Interval	ppm H2	ppm CH4	Combined	Sample Norm-illution* ppm CO2	f CO2
1	Baseline	3	2	5	3.5	1.57
2	20 Min.	8	3	11	3.5	1.57
3	40 Min.	16	3	19	3.5	1.57
4	60 Min.	46	2	48	3.2	1.71
5	80 Min.	52	4	56	3.1	1.77
6	100 Min.	58	8	66	3.1	1.77
7	120 Min.	48	6	54	3.4	1.61
8	140 Min.	66	8	74	3.3	1.66
9	160 Min.	74	3	77	3.8	1.44
10	180 Min.	70	5	75	3.4	1.61

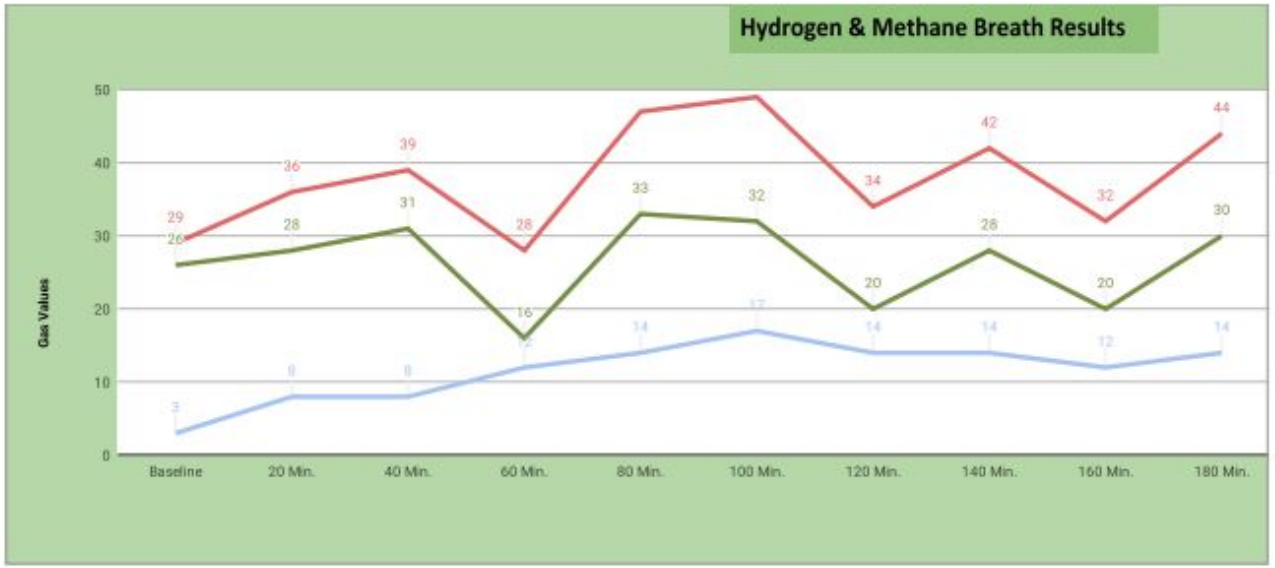


METHANE POSITIVE TEST

Summary Report Of Hydrogen & Methane Breath Analysis with Carbon Dioxide Correction

Gasses Analyzed:	Patient Result (ppm)		Expected (Small Intestine Only)
Increase in Hydrogen (H2) Level:	14	NORMAL	<20 ppm
Increase in Methane (CH4) Level:	7	HIGH	<12 ppm (<3 ppm**)
Increase in Combined H2& CH4 Level:	21	HIGH	<15 ppm
Analysis of the above data suggests:	This tests Suggests Bacterial Overgrowth		

Number	Collection Interval	ppm H2	ppm CH4	Combined	Sample Norm-illution* ppm CO2	f CO2
1	Baseline	3	26	29	3.5	1.57
2	20 Min.	8	28	36	3.5	1.57
3	40 Min.	8	31	39	3.5	1.57
4	60 Min.	12	16	28	3.2	1.71
5	80 Min.	14	33	47	3.1	1.77
6	100 Min.	17	32	49	3.1	1.77
7	120 Min.	14	20	34	3.4	1.61
8	140 Min.	14	28	42	3.3	1.66
9	160 Min.	12	20	32	3.8	1.44
10	180 Min.	14	30	44	3.4	1.61



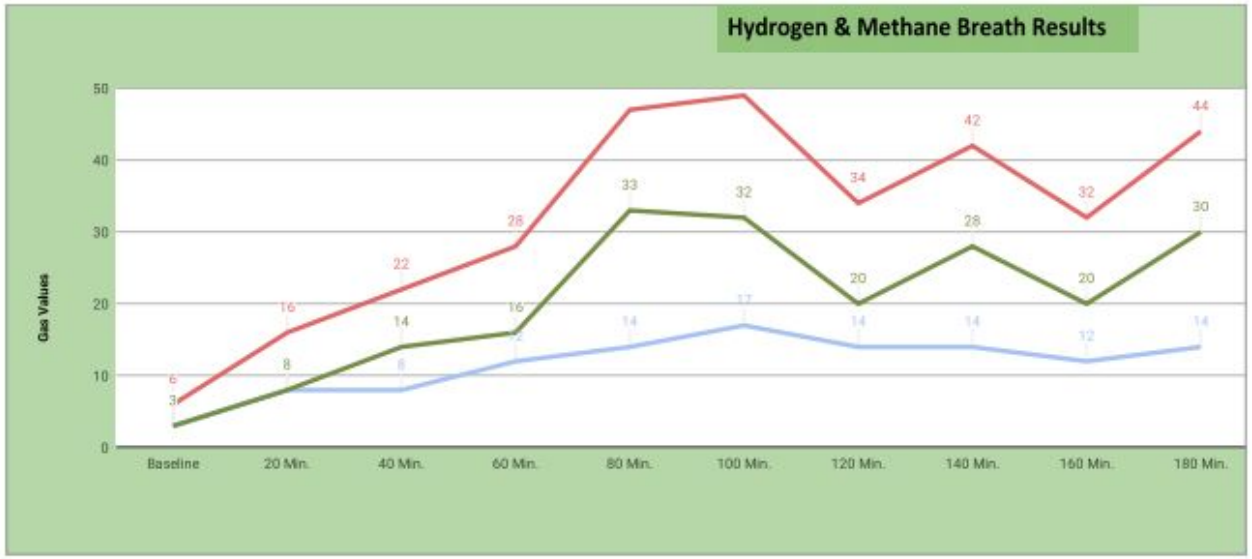
ANOTHER METHANE POSITIVE TEST

Summary Report Of Hydrogen & Methane Breath Analysis with Carbon Dioxide Correction

Gasses Analyzed:	Patient Result (ppm)		Expected (Small Intestine Only)
Increase in Hydrogen (H2) Level:	14	NORMAL	<20 ppm
Increase in Methane (CH4) Level:	30	HIGH	<12 ppm (<3 ppm**)
Increase in Combined H2& CH4 Level:	44	HIGH	<15 ppm

Analysis of the above data suggests:	This tests Suggests Bacterial Overgrowth

					Sample Norm-illution*	
Number	Collection Interval	ppm H2	ppm CH4	Combined	ppm CO2	f CO2
1	Baseline	3	3	6	3.5	1.57
2	20 Min.	8	8	16	3.5	1.57
3	40 Min.	8	14	22	3.5	1.57
4	60 Min.	12	16	28	3.2	1.71
5	80 Min.	14	33	47	3.1	1.77
6	100 Min.	17	32	49	3.1	1.77
7	120 Min.	14	20	34	3.4	1.61
8	140 Min.	14	28	42	3.3	1.66
9	160 Min.	12	20	32	3.8	1.44
10	180 Min.	14	30	44	3.4	1.61



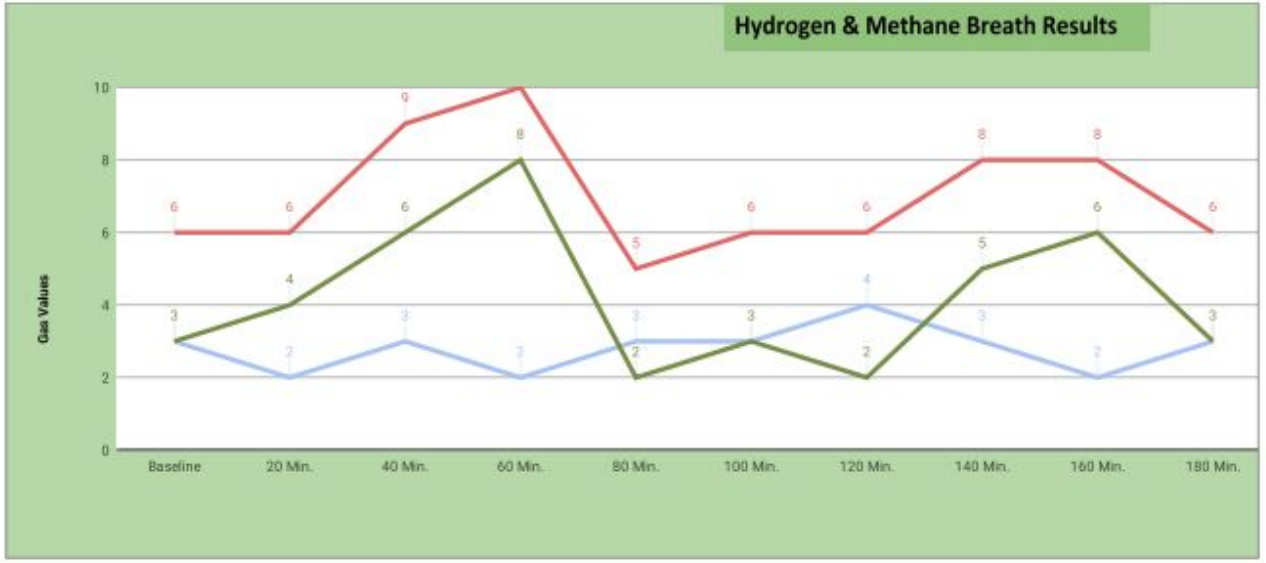
HYDROGEN SULFATE POSITIVE TEST

Summary Report Of Hydrogen & Methane Breath Analysis with Carbon Dioxide Correction

Gasses Analyzed:	Patient Result (ppm)	Expected (Small Intestine Only)
Increase in Hydrogen (H2) Level:	1 NORMAL	<20 ppm
Increase in Methane (CH4) Level:	5 NORMAL	<12 ppm (<3 ppm**)
Increase in Combined H2& CH4 Level:	6 NORMAL	<15 ppm

Analysis of the above data suggests:	This tests Suggests Bacterial Overgrowth

Number	Collection Interval	ppm H2	ppm CH4	Combined	Sample Norm-illution* ppm CO2	f CO2
1	Baseline	3	3	6	3.5	1.57
2	20 Min.	2	4	6	3.5	1.57
3	40 Min.	3	6	9	3.5	1.57
4	60 Min.	2	8	10	3.2	1.71
5	80 Min.	3	2	5	3.1	1.77
6	100 Min.	3	3	6	3.1	1.77
7	120 Min.	4	2	6	3.4	1.61
8	140 Min.	3	5	8	3.3	1.66
9	160 Min.	2	6	8	3.8	1.44
10	180 Min.	3	3	6	3.4	1.61



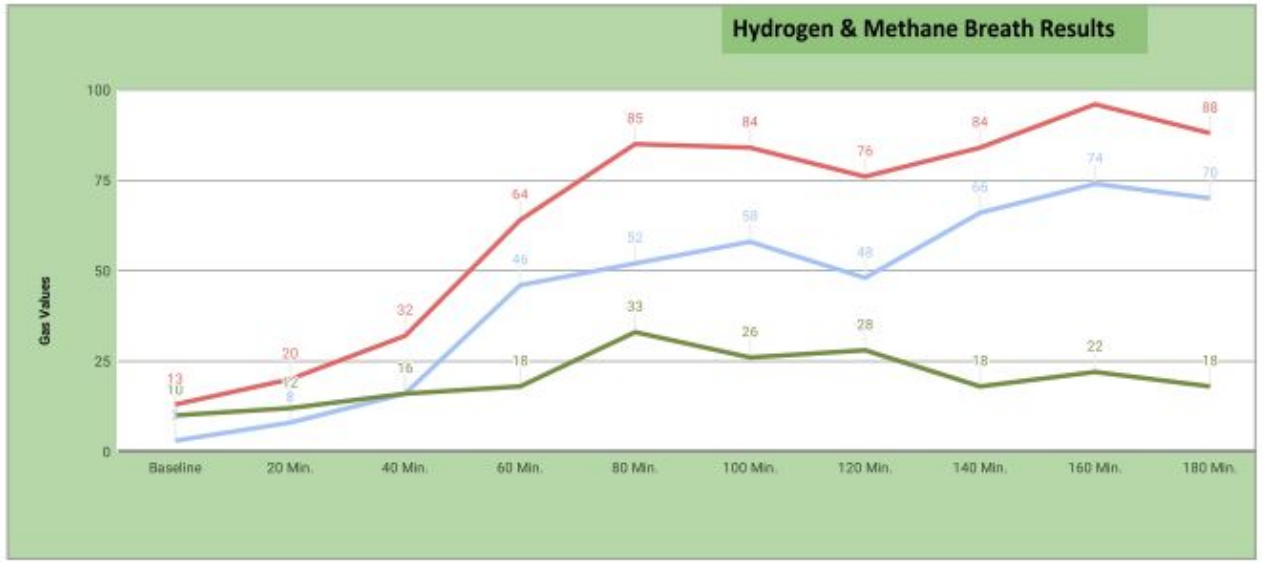
BOTH POSITIVE HYDROGEN AND METHANE POSITIVE TEST

Summary Report Of Hydrogen & Methane Breath Analysis with Carbon Dioxide Correction

Gasses Analyzed:	Patient Result (ppm)		Expected (Small Intestine Only)
Increase in Hydrogen (H2) Level:	71	HIGH	<20 ppm
Increase in Methane (CH4) Level:	23	HIGH	<12 ppm (<3 ppm**)
Increase in Combined H2& CH4 Level:	94	HIGH	<15 ppm

Analysis of the above data suggests:	This tests Suggests Bacterial Overgrowth

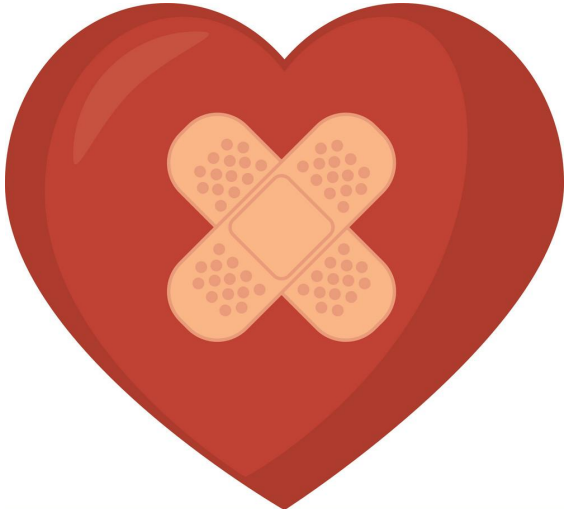
Number	Collection Interval	ppm H2	ppm CH4	Combined	Sample Norm-illution* ppm CO2	f CO2
1	Baseline	3	10	13	3.5	1.57
2	20 Min.	8	12	20	3.5	1.57
3	40 Min.	16	16	32	3.5	1.57
4	60 Min.	46	18	64	3.2	1.71
5	80 Min.	52	33	85	3.1	1.77
6	100 Min.	58	26	84	3.1	1.77
7	120 Min.	48	28	76	3.4	1.61
8	140 Min.	66	18	84	3.3	1.66
9	160 Min.	74	22	96	3.8	1.44
10	180 Min.	70	18	88	3.4	1.61



TREATMENT OF SIBO

I treat using the 4-Step Approach:

1. Preparation Phase
2. Kill Phase
3. Prevention Phase
4. Healing Phase



Preparation Phase

Through the first 2 phases - do not restrict the diet
We want the bugs to be active to soak up the medications

Liver Support (not detox) - can use herbs and nutrients to help with this
ie: Sansandria, Milk Thistle, NAC

Biofilm Buster - NAC is really good for this

For Methane Positive - I also use Rosmarinus

Should take for at least 2 weeks before starting the kill phase

Can take during the kill phase as well if needed

Patients should feel well on this - if not some things to keep in mind

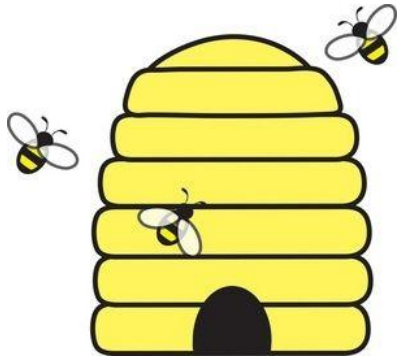
If The Patient Doesn't Feel Well On The Prep Phase

- Drink more water (add lemon and rosemary to it)
- NAC can cause kidney stones, so patients need to be very hydrated
- Toxic - more liver support needed before starting the kill phase
- Biofilm Breakdown occurring too fast:

  Hit the bees nest and break it

  Want to weaken the biofilm but not break it

  Slow it down



Hydrogen Treatment

Hydrogen Positive

About 20 points down per 2 weeks
Then 20 points for herbal for about 3 weeks

Pharmaceuticals:

Zaxine (Rifaximin)

*Expensive but works well and can be used long term without needed to alternate

Herbal:

Berberines, Thyme, Oregano, Myrrh

Recommended to alternate as works better

Can use single herbs or in combinations

Methane Treatment

Methane Positive

Usually takes about 3 weeks to move 20 points on the test

Pharmaceuticals:

Zaxine with either Metronidazole or Nystatin

*Can cause side effects and would not use the Nystatin or Metronidazole long term due to side effects and risk factors

Herbal:

Garlic (Allicin) and Oregano – Top herbs for the Methane bacteria

Possible to use SCFA and Soy Lecithin as well

Hydrogen Sulfate Treatment

Hydrogen Sulfate Positive

Pharmaceuticals:

Amoxicillin - Clavulanate

Ciprofloxacin

Herbal:

Grapefruit Seed Extract

Prevention Stage

Migrating Motor Complex

All should be taken at bedtime - MMC stimulated when we go to sleep

Pharmaceutical Prokinetics:

- Low dose Resotran
- Low dose Erythromycin
- Low dose Naltrexone

Nutraceutical Prokinetics:

- Chamomile, 5-HTP, Ginger, D-Limonene

Taking A Look At Other Causes

Concussion - Still use Prokinetics, treatment of the brain injury

Keep moving, physiotherapy, amino acids

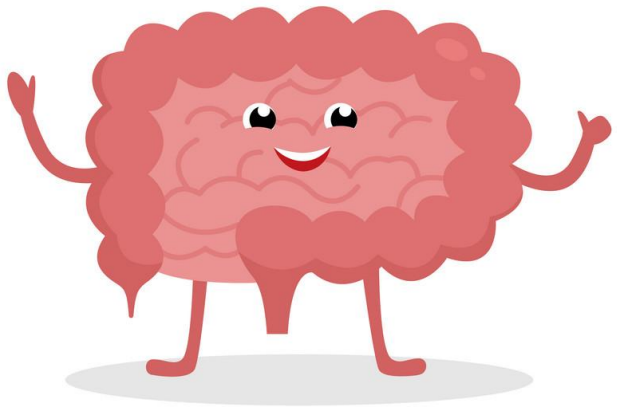
Bile and enzyme dysfunction - Supplementation

Abdominal adhesions through surgery - Physiotherapy

Low stomach acids - Stimulation

Healing The Gut

- Just been through a kill phase that is hard on the gut
- Can use DIET, herbs, and nutrients to help heal
- Combination of L-Glutamine, Slippery Elm, DGL, Chamomile, Marshmallow (Demulcents)
- Fish oils, Omega 3, fatty acids



Diet

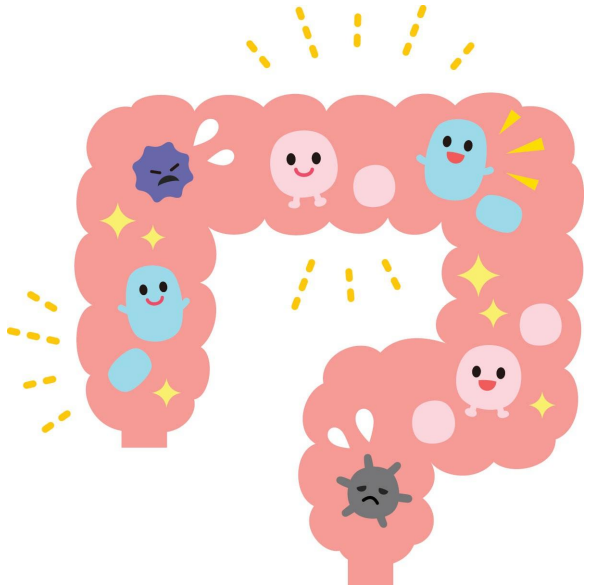
- Lots of controversy with the use of diets for the treatment and prevention of SIBO
- MY OPINION is that – Low FODMAP diet keeps the bacteria at bay, but does not kill the bacteria. I find that over time the patient will feel better, but it will make it harder later to kill the bacteria off
- Elemental Diet - Works but find that the bacteria come back as well, only after kill phase not working
- Good Diet - Putting foods back in diet slowly and eating more varied diet
- Avoiding dairy and gluten can be helpful for some

Diet – If Patient Not Feeling Well

- Retest for relapse of SIBO
- Should be able to eat a variety of different foods with less intolerance

Probiotics

- I don’t use until the prevention or gut healing phase
- I only use the Bifido strain in patients



Relapse

- Very common
- Re: Test at the first sign of symptoms
- Most people will need to go back to the prep phase again - if very quick after the last treatment can start the kill phase
- Can take years to eradicate SIBO, but should feel better through the process
- If relapse is occurring – start with low FODMAP or Biphasic diet and then put foods in slower in the prevention/healing phase
- Always eat normal diet during the kill phase

Thank-you!

Thanks for following along with our SIBO Presentation!

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