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SIMPLIFYING

SIBO

The Latest Scoop on
Small Intestinal Bacterial Overgrowth

BY *Diane* **SANFILIPPO** | BALANCEDBITES.COM

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*To request additional information or support, please contact Diane via her website-
www.balancedbites.com.*

ABOUT THE AUTHORS



DIANE SANFILIPPO, BS, NC, HLC

- BS from Syracuse University
- Certified Nutrition Consultant from Bauman College
- CHEK Holistic Lifestyle Coach
- Creator of the popular health blog BalancedBites.com
- Author New York Times Bestselling of [Practical Paleo: A customized approach to health & a whole-foods lifestyle](#)
- Author of New York Times Bestselling [The 21-Day Sugar Detox Book & Cookbook](#).

Diane Sanfilippo holds a BS from Syracuse University and is a Certified Nutrition Consultant who specializes in blood sugar regulation and digestive health. She is The New York Times Bestselling author of “Practical Paleo” and “The 21-Day Sugar Detox” and writes for her popular health blog www.balancedbites.com, teaches nutrition seminars nationwide and has a top-rated weekly health podcast in iTunes, “The Balanced Bites Podcast.”



HOLLY MORELLO, NTP

- Certified Nutritional Therapy Practitioner from the Nutritional Therapy Association
- Special interest & additional training in chronic conditions of autoimmune diseases
- Passionate about helping others achieve optimal health

Holly’s nutrition education and certification is from the Nutritional Therapy Association (NTA). She also has a notable amount of continuing education and advanced training in nutrition. Her work in the field includes her own practice, Nourishing Excellence Nutritional Therapy LLC, and her work with Balanced Bites as content developer, researcher, and Nutritional Therapy Practitioner. Long before her certification with the NTA, she studied nutrition, was a certified racewalk coach, was a fitness instructor, and studied Reiki (she is currently a Reiki II practitioner). Her earlier career and educational background was in computer electronics, management, and project management.

SIMPLIFYING SIBO

The Latest Scoop on Small Intestinal Bacterial Overgrowth



Although there is nothing simple about it, I created Simplifying SIBO and the 1-page companion guides so I could deliver practical, actionable material about small intestinal bacterial overgrowth (SIBO) and irritable bowel syndrome (IBS) in language that is approachable and easy to digest. My goals are to give you the tools you need to talk to your practitioner, inspire you to advocate for yourself, and motivate you to take charge of your own health and well-being.

CHECK OUT THE COMPANION PODCAST TO THIS GUIDE!

BALANCEDBITES PODCAST #135
SPECIAL GUEST DR. ALLISON SIEBECKER



TOPICS

- How to tell if you have SIBO
- SIBO and leaky gut
- Diagnosis options for SIBO
- Why bacterial overgrowth occurs in the first place
- Preventing possible SIBO when you get gastroenteritis
- Treating SIBO with food
- SIBO and FODMAPs
- Treating of SIBO: beyond food
- Resistant starch and SIBO
- Prevent and avoid SIBO and maintain your gut health

(See the transcript for this podcast on page 28 of this guide.)

CLICK TO LISTEN NOW!

Dealing with the challenges of digestive issues and their consequences to health can be socially isolating and emotionally taxing. It's bad enough that you don't feel well, but others tend to cast blame on you, citing your stress and worry as the culprits. Doctors often prescribe antidepressants because "it's all in your head." We know that stress and worry can play a role, but the science is beginning to demonstrate that there are other possible causes of your digestive woes, SIBO being one of them. It's not your fault. I want to offer you hope. As you will discover, SIBO is very treatable, and there are several treatment options. *There is hope that you can feel better.*

“*Studies suggest that over half of people with irritable bowel syndrome (IBS) have SIBO.*”

You might be at your wits' end trying to figure out what to eat to alleviate your SIBO or IBS symptoms. I hear you! I've gathered as much data as I could and adapted it to be as easy as possible for you to use. Be sure to check out my 1-page companion guides for SIBO as well as the recipes in this guide.

Earlier this year, my team member Holly represented Balanced Bites at The SIBO Symposium, an evidence-based educational program on managing small intestinal bacterial overgrowth, presented by the nation's leading experts on the topic at the National College of Natural Medicine (NCCNM) in Portland, Oregon. The presenters discussed current and emerging research on the clinical diagnosis and treatment of SIBO and IBS.

BIOGRAPHIES

of the SIBO Symposium Presenters

Simplifying SIBO is a compilation of lecture notes from the the following experts.



MARK PIMENTEL MD, FRCP

Director of the Gastrointestinal Motility Program and laboratory at Cedars-Sinai Medical Center, as well as Assistant Professor in Residence for the David Geffen School of Medicine at the University of California, Los Angeles (UCLA). Dr. Mark Pimentel is the author of [The New IBS Solution: Bacteria-The Missing Link in Treating Irritable Bowel Syndrome](#).



STEVEN SANDBERG-LEWIS ND, DHANP

Practicing naturopathic physician for over 35 years. Currently at the National College of Natural Medicine (NCNM) Clinic, Dr. Sandberg-Lewis supervises clinical rotations at the NCNM Clinic and is a full-time faculty member who teaches several academic courses such as pathology, gastroenterology, and psychophysiology. He is also an investigator at NCNM's [Helfgott Research Institute](#). Dr. Sandberg-Lewis is the author of [Functional Gastroenterology: Assessing and Addressing the Causes of Functional GI Disorders](#).



ALLISON SIEBECKER ND, MSOM, LAc

Practicing naturopathic physician at the NCNM Clinic, specializing in treating small intestinal bacterial Overgrowth. Dr. Siebecker is instructor of Advanced Gastroenterology at NCNM, teaches continuing education classes for physicians, is the author of the educational website www.SIBOINFO.com, and is currently writing a book synthesizing the SIBO data into one source. In 2005 and 2013, she received the Best in Naturopathy award from the *Townsend Letter* for her articles "[Traditional Bone Broth in Modern Health and Disease](#)" (2005) and "[Small Intestine Bacterial Overgrowth: Often Overlooked Cause of IBS](#)" (2013).



LEONARD B. WEINSTOCK MD, FACP

Board certified in Gastroenterology and Internal Medicine, Dr Weinstock teaches at Barnes-Jewish Hospital, is an Associate Professor of Clinical Medicine and Surgery at the Washington University School of Medicine, and is President of Specialists in Gastroenterology and the Advanced Endoscopy Center. Dr. Weinstock is also an investigator at the Sundance Research Center and has participated in many research studies.



DANIEL NEWMAN MD, ND, MSOM

Board certified in Internal Medicine and Pain Medicine, with modern diagnostic skills and treatment options, Dr Newman is also a naturopathic and Chinese medicine physician trained at NCNM. He is President of Rising Health Wellness Center in Vancouver, Washington, where he holds a private practice.

WHAT IS SIBO?



SIBO is an acronym for small intestinal bacterial overgrowth. It's a condition in which bacteria in the small intestine has overgrown and become problematic. SIBO symptoms include (but are not limited to):

- Abdominal bloating
- Abdominal pain
- Abdominal cramps
- Gas
- Diarrhea
- Constipation
- Heartburn/GERD
- Nausea

**If you experience these symptoms intermittently (now and then), it isn't likely SIBO.*

If you experience them on an ongoing basis (3+ months), then SIBO is likely at play.

Most everyone experiences these sorts of digestive issues from time to time, but what happens when they persist and interfere with your life?

Most functional medicine practitioners will first rule out the possibility of food allergies and/or sensitivities and discuss the need for digestive support, such as appropriate stomach acid, bile acids, digestive enzymes, and probiotics. Hopefully they will also investigate the possibility of celiac disease, thyroid disorders, and life-threatening conditions. If symptoms are still not improving after those issues have been addressed for several months, then it may be time to consider the possibility of SIBO.

Studies suggest that over half of people with irritable bowel syndrome (IBS) have SIBO (up to 84% in this study by Mark Pimentel, MD). The prevalence of SIBO in celiac patients was found to be up to 50% as reported in [this article](#), published in the *World Journal of Gastroenterology*. Also noted in that same article, SIBO was documented in 90% of a small group of seniors (70 to 94 years old) with lactose malabsorption. Despite the prevalence of SIBO, many people find that their physicians simply don't recognize it or are not up-to-date on the signs and symptoms. You now have the data to enlighten your physician!

SIBO can occur when bacteria accumulates in the small intestine (SI), generally from decreased migrating motor complex (MMC, which moves bacteria down into the large intestine during fasting at night and between meals, clearing them from the SI on a daily basis), obstruction in the small intestine, or non-draining pockets in the small intestine (diverticuli). Some common culprits are:

- **Food poisoning (especially during foreign travel)**
- **Exposure to contaminated water**
- **Pathogens**
- **Previous surgery involving the small intestine**
- **Medications, including antibiotics and pain relievers**
- **Conditions that reduce gut motility**
- **Other health conditions, such as celiac disease**

As described above, SIBO compromises the basic structure and function of the small intestine. The bacteria feeds on what you eat, robbing you of nutrients as well as fermenting the food, drawing water into the small intestine, and causing bloating, gas, pain, and the other symptoms listed previously.

How do you know if you have SIBO?

Testing methods and interpretations vary among practitioners and labs. The method favored by the panel of experts at the SIBO Symposium (based on clinical trials and experience) is a fasted (12-hour) lactulose or glucose breath test done over a 3-hour period either in a practitioner's office or using a take-home kit. The test requires a 1- to 2- day preparatory diet, a baseline breath sample, and drinking a sugar solution of either glucose or lactulose. The preparatory diet removes much of the food that would feed the bacteria, allowing for a clear reaction to the sugar drink solution. Once the baseline is established, the 3-hour testing period begins, with samples collected at designated intervals via an exhaled breath through a straw-line tube attached to a collection device.

The SIBO Symposium panel prefers the lactulose breath test over a glucose test because lactulose can travel to the lower part of the small intestine, whereas glucose does not. Two types of exhaled gas should be tested: hydrogen and methane. Hydrogen is associated more with diarrhea, and methane has been shown to be associated with constipation. It's important to know which type of gas is released by SIBO for appropriate treatment strategies. According to Dr. Siebecker: "Breath testing measures the hydrogen (H) and methane (M) gas produced by bacteria in the SI that has diffused into the blood, then lungs, for expiration. H & M are gases produced by bacteria, not by humans. The gas is graphed over the SI transit time of 2 or 3 hours and compared to baseline."

Anyone can order a glucose breath test however, the lactulose test requires a prescription. For more detailed information about the pros and cons of glucose versus lactulose testing, how the tests are performed, test interpretations, and links to videos, go to SIBOinfo.com.

ASSOCIATED DISORDERS LINKED TO SIBO



SIBO not only affects the digestive system, but it also has far-reaching consequences. Bacterial overgrowth damages the lining of the small intestine, resulting in poor digestion, poor nutrient absorption, and inflammation. SIBO has been associated with conditions such as (but not limited to):

- Liver disease
- Scleroderma
- Pancreatic insufficiency
- Diverticulosis
- Diabetes
- Crohn's disease
- Celiac disease
- Rosacea
- Restless leg syndrome
- Fibromyalgia
- Parkinson's disease
- Chronic renal failure
- Hypothyroidism
- Rheumatoid arthritis

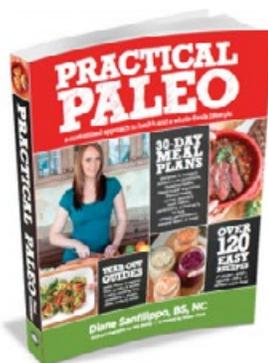
Source: "Associated Diseases and Syndromes of SIBO" by Leomard Weinstock, MD

Which came first, the dysfunction or the condition?

It isn't always clear whether the dysfunction or condition comes first. In the two studies that have tested increased intestinal permeability (leaky gut) in SIBO, at least half of the subjects demonstrates increased intestinal permeability. **Leaky gut** occurs when particles of undigested food inappropriately pass through the mucosal lining (intestinal wall) and into the bloodstream, becoming "invaders," and creating an immune response (your body attacking the invaders).

Leaky gut has been linked to many autoimmune conditions because many of these undigested proteins happen to mimic some of the cells and tissues in the body, essentially turning the body against itself. For example, gluten in a piece of toast might look a lot like thyroid tissue, so the body gets confused and attacks both, leaving an individual susceptible to hypothyroidism or maybe even Hashimoto's thyroiditis.

The good news is that when the tests looking for intestinal permeability were repeated after four weeks of successful treatment of SIBO, which included 1-2 weeks of antibiotic treatment, 75-100% of subjects recovered their intestinal integrity. Although it is common for those of us in the holistic health field to have an aversion to antibiotics given their overuse, the prevalence of antibiotic resistance, and their potential harmful side effects, many of us recognize that they have their place at times. On SIBOinfo.com, Dr. Siebecker states: "The primary antibiotics used are rifaximin (Xifaxan) and neomycin. They are almost completely non-absorbable—which means they stay in the intestines, having a local action—and don't cause systemic side effects, such as urinary tract infections. They are chosen specifically for this property, which allows them to act only where they are needed. Metronidazole, a systemic antibiotic, is also used." Also keep in mind that traditional antibiotics are not the only option, as I will explain later.



FOR MORE ON LEAKY GUT AND AUTOIMMUNITY, REFER TO THE DIGESTION SECTION IN MY BOOK, [*PRACTICAL PALEO*](#).

TREATMENT OPTIONS FOR SIBO



If you find through testing that you do have SIBO, you should seek treatment from a healthcare practitioner, ideally one who can order prescriptions if needed. There are four different treatment options:

1. ANTIBIOTICS

Rifaximin (prescription required), with a 91% success rate for treating SIBO and 94% symptom improvement, is the antibiotic of choice of this panel of experts. Rifaximin does not travel outside the intestines, is reported to have anti-inflammatory effects, is not resistant (meaning the body does not develop a resistance to it), and does not cause candida (yeast overgrowth). When methane gas is present, the antibiotic neomycin may be added to rifaximin for a better outcome. Physicians can go to SIBOinfo.com for dosing guidelines.

2. HERBAL ANTIBIOTICS

The SIBO Symposium panel of experts reports similar success with using herbal antibiotics as a treatment option, although they have been less studied. The treatment protocol is longer than with conventional antibiotics (4 weeks versus 2) and the die-off is reported to be more drawn out. Typically, a combination of herbs is taken. Protocols vary by person and practitioner; however, the following are commonly used and at the upper limit of the suggested dose on the label:

- Berberine containing herbs
- Garlic extract (allicin)
- Oregano oil
- Neem oil
- Cinnamon

3. ELEMENTAL FORMULA OR ELEMENTAL DIET

The goal of this approach is to starve the bacteria by replacing meals with an elemental formula for two weeks. These formulas are pre-digested, easily absorbed forms of nutrients. Elemental formulas are available over the counter and contain amino acids, carbohydrates, fat, and vitamins and minerals. The brand Vivonex Plus has been studied for SIBO with an **80-84% success rate** in eradicating it. However, it is expensive, contains a high amount of carbohydrates/sugar, and is reported to have an unpleasant taste. Other downsides are that you cannot consume any food besides the formula during the treatment period, and it is likely problematic for those of low weight. Personally, I am not thrilled with some of the ingredients used, such as soybean oil and modified food starch; however, Dr. Siebecker lists a low-carb/high-fat **homemade formula** on SIBOinfo.com as an alternative. Please note that the homemade formula has not been clinically tested.

4. DIET

Dr. Siebecker presented “Dietary Treatment and Prevention for SIBO” at the symposium. She and her colleagues have discovered that the most successful framework to start with for SIBO is the **Specific Carbohydrate Diet** (SCD), which limits specific sugars and starches, in combination with the fruits and vegetables indicated in the ***Low FODMAP Diet** (clinically 75-90/95% improvement with the combo). This is essentially a low fiber and starch-free/low-carb Paleo diet with the additional recommendation to choose cooked (no raw at first) low-FODMAP fruits and vegetables and to exclude nuts and seeds during the initial phases and the allowance of lactose-free dairy. After successful treatment, expansion of the Low-FODMAP Diet or another less-restricted low-carb diet as a guide for prevention is recommended. The diet needs to be tailored to the individual, as there is no one-size-fits-all; the particular needs of each individual must be taken into account.

FODMAPS

*FODMAP stands for fermentable oligo-saccharides, disaccharides, mono-saccharides and Polyols. FODMAPs are foods that are poorly absorbed in the small intestine, which means they can be left there to ferment and therefore cause the symptoms of IBS. The Low FODMAP Diet was developed by a research team at Monash University (MU) to treat irritable bowel syndrome and control the gastrointestinal symptoms associated with IBS and other common functional gastrointestinal disorders. MU continues to research and test foods, periodically updating the FODMAP list. The most current list is available through The **MU FODMAP Diet App**.*

ADDITIONAL TREATMENTS & PREVENTION



PROBIOTICS

Supplemental probiotics were discussed, and it was noted that prebiotics as a main ingredient should be avoided due to the fact that they are a fermentable food for bacteria. A combination of bifidobacteria and lactobacillus probiotics actually contributed to the function of the cleaning wave (discussed below), a critical factor in gut motility. All said and done, probiotics depend on the individual, and Dr. Siebecker suggests that the best probiotic is from fermented food. Clinical experience at NCNM reveals most SIBO sufferers can tolerate a homemade 24-hour fermented yogurt. (Most commercial yogurt is not fermented long enough to eliminate the problematic lactose.)

PROKINETICS

Prokinetics (drugs that enhance gastrointestinal motility) are used to stimulate the cleaning wave, or migrating motor complex (MMC), which is the “housekeeper” of the small intestine, sweeping away debris and bacteria. This mechanism is often not working in people with SIBO; in fact, its malfunctioning is a primary underlying cause. Two common prokinetic agents used by this panel of experts (prescription required) are low-dose erythromycin (50mg) at bedtime and low-dose Naltrexone (2.5 mg for diarrhea, 5 mg for constipation) at bedtime. It is traditionally prescribed as an antibiotic, but *not* at the dosage used for prokinetic activity. As stated above, the combination of the probiotics bifidobacteria and lactobacillus has shown to be effective at stimulating the cleaning wave, as has acupuncture. Also of importance is allowing 4-5 hours between meals for this action to happen. Snacking all day prevents the MMC from doing its job.

PREVENTION

- Low-FODMAP Diet
- Decrease stress and get into “rest-to-digest” mode before eating to prepare the digestive cascade.
- Supplement with gastric hydrochloric acid (if needed) to kill incoming bacteria and continue the digestive cascade; with bile to properly break down fats; and with pancreatic enzymes to support further breakdown of food.
- If SIBO returns after being eradicated, investigate the underlying cause, including the reasons for a deficiency in the migrating motor complex (MMC).

CONCLUSION

I found the SIBO Symposium extremely valuable to my practice and to my work with Balanced Bites. The vast majority of the clients I work with have digestive issues whether they recognize them or not (many people have lived their whole lives with digestive issues so they do not know otherwise). It does not necessarily mean that they have SIBO; often removing grains, legumes, processed/commercial dairy, and sugar (eating a Paleo diet) is enough. Sometimes simple digestive support is needed on top of dietary modifications.

Regardless of whether someone has IBS or SIBO, the SIBO treatment recommendations for diet and lifestyle, at the very least, are worth examining for anyone with unresolved digestive issues and/or suspected leaky gut. With my clients, I often recommend a modified SCD/GAPS/Paleo protocol and use low-FODMAP fruits and vegetables during the initial phases of a healing diet (frequently using the “Digestive Health Meal Plan” in *Practical Paleo* modified for low FODMAPs).

I refer any client who displays symptoms of SIBO to SIBOinfo.com and recommend further investigation with an appropriate healthcare practitioner. The practitioners at Balanced Bites offer one-on-one coaching and can guide you through the process, offer supplemental/herbal antimicrobial support, help you sort out and tweak food options, and, equally important, offer mindset coaching. Check out coaching offerings from Balanced Bites here: www.balancedbites.com/one-on-one-coaching.

Every person is different; there is no one-size-fits-all approach to dealing with digestive issues. Finding which foods support healing and those that disrupt it involves a lot of trial and error. To continue educating yourself, check out the [Digestive Health](#) page on the Balanced Bites website and the additional information on SIBOinfo.com. Having gratitude that the information is out there for you, having faith that you can find an answer, forgiving yourself if you tend to believe your issue is a result of bad choices (most of us are just doing the best we can), and having patience that you will one day feel better will go a long way toward supporting healing.

A special thanks to Dr. Allison Siebecker, who was kind enough to provide input and an interview for this article. I am honored that she was a guest on the Balanced Bites Podcast, and I'm especially excited to know that she is in the process of writing a book about SIBO.

Please be sure to check out the companion guides I created to accompany Simplifying SIBO:

- **1-page guide to Small Intestinal Bacterial Overgrowth (SIBO)**
- **1-page guide to Real Food for Small Intestinal Bacterial Overgrowth (SIBO) Healing**

The SIBO Symposium is available as a webinar for healthcare practitioners or anyone wanting to learn more about this exploding field of medical science. I would be remiss if I didn't mention a fun educational brochure written by the very charismatic Dr. Steven Sandberg-Lewis and his wife, Kayle (illustrated by their son, Asher). Highly recommended! You can find it for only \$2 at www.functionalgastroenterology.com. If you view the webinar, you will have the honor of listening to Dr. Sandberg-Lewis play guitar and sing a song about digestion! Who says you can't learn and have fun at the same time?

GUIDE TO SIBO

SIBO is a condition in which bacteria in the small intestine has overgrown & become chronic

signs & symptoms

GI DISTRESS

most notably, IBS-related

symptoms

- Bloating
- Pain
- Cramps
- Gas
- Diarrhea
- Constipation
- Heartburn/GERD
- Nausea

NUTRIENT

MALABSORPTION

- Undesired weight loss or weight loss resistance
- Fatty acid deficiency or vitamin & mineral deficiency
 - Anemia

LEAKY GUT SYMPTOMS

(see [is your gut leaky?](#))

associated disorders linked to SIBO

SIBO is also associated with conditions

such as (but not limited to):

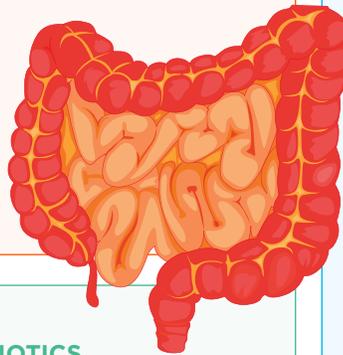
- Liver disease
- Scleroderma
- Pancreatic insufficiency
- Diverticulosis
- Diabetes
- Crohn's disease
- Celiac disease
- Rosacea
- Restless leg syndrome
- Fibromyalgia
- Parkinson's disease
- Chronic renal failure
- Hypothyroidism
- Rheumatoid arthritis

what causes SIBO?

SIBO can occur when bacteria is allowed to accumulate in the small intestine, generally from decreased migrating motor complex (MMC—moves bacteria down into the large intestine during fasting at night & between meals, clearing them from the SI on a daily basis), obstruction in the small intestine, or non-draining pockets in the small intestine (diverticuli).

SOME COMMON CULPRITS ARE:

- Food poisoning (especially during foreign travel)
- Exposure to contaminated water
- Pathogens
- Previous surgery involving the small intestines
- Medications, including antibiotics & pain relievers
- Conditions that reduce gut motility
- Other health conditions such as celiac disease



prevention of SIBO

PROBIOTICS

- Combination of bifidobacteria lactobacillus probiotics, fermented foods (probiotics are highly individual)
- Homemade 24-hour fermented yogurt

SUPPORTING THE MIGRATING MOTOR COMPLEX (MMC)

- Prokinetics prescribed by healthcare practitioner to enhance gastrointestinal motility: low-dose erythromycin (50mg) or low-dose naltrexone (see SIBOinfo.com).
- Combination of the probiotics bifidobacteria & lactobacillus (shown to be effective at stimulating MMC)
- Acupuncture
- Allow 4-5 hours between meals for MMC action to occur

DIET & LIFESTYLE PREVENTION

- Low FODMAP diet
- Decrease stress; "rest-to-digest" to prepare the digestive cascade.
- Supplement with gastric hydrochloric acid (if needed) to kill incoming bacteria & to continue the digestive cascade, bile to properly break down fats, & pancreatic enzymes to support further break down of food.
- If SIBO returns after being eradicated, investigate the underlying cause, including reasons for a deficiency in the migrating motor complex (MMC).

treatment options for SIBO

ANTIBIOTICS

Prescribed by healthcare practitioner

- Rifaximin is common but others are also used.
- When methane gas is present, the antibiotic neomycin may be added to Rifaximin for a better outcome.

DIET

The Specific Carbohydrate Diet (SCD) in combination with the fruits & vegetables indicated in the ***Low-FODMAP Diet**. This is essentially a low-fiber & starch-free/low-carb Paleo diet with the additional recommendation to choose cooked (no raw at first) low-FODMAP fruits & vegetables and the allowance of lactose-free dairy.

HERBAL ANTIBIOTICS

These are commonly used at the upper limit of the suggested dosage on the label for 4-6 weeks & should be monitored by a qualified practitioner.

- Berberine containing herbs
- Garlic extract (allicin)
- Oregano oil
- Neem oil
- Cinnamon

ELEMENTAL FORMULA (OR ELEMENTAL DIET) FOR 2 WEEKS

These formulas are nutrients in pre-digested, easily absorbed forms. The commercial brand Vivonex Plus has been studied for SIBO with an 80-84% success rate in eradicating it. Dr. Siebecker has a low carb/high fat homemade formula on SIBOinfo.com as an alternative. Please note that the homemade formula has not been clinically tested.

*FODMAP stands for fermentable oligosaccharides, disaccharides, monosaccharides & polyols. See my 1-page guide to Real Food for Small Intestinal Bacterial Overgrowth (SIBO) Healing.

GUIDE TO REAL FOOD FOR SIBO HEALING

Eliminate all foods not on this list. After symptom relief (at least 30 days; however, 3 months is not unusual), reintroduce eliminated foods individually every 3-4 days, starting with a very small amount and increasing gradually with each meal. Reintroduce previously problematic foods on occasion, as tolerance changes. As a preventative measure, use this guide as a framework but not necessarily exclusively, as everyone is different. Note that some foods have limited serving sizes per meal. Quantities are for adults; adjust for children.

veggies

No starch/low FODMAP/SIBO friendly

COOK, PEEL, DE-SEED, & PUREE AT FIRST.

- **Artichoke hearts:** ½ C
- **Bamboo shoots**
- **Beet:** 2 slices/20g
- **Carrot**
- **Chives**
- **Cucumber**
- **Eggplant**
- **Endive**
- **Fennel bulb:** ½ C, leaves 1 C
- **Green beans:** 10 /2.5 oz
- **Greens:** lettuce, chard, spinach
- **Olives**
- **Peppers:** bell/sweet
- **Radicchio:** 12 leaves
- **Scallion:** green part only
- **Snow peas:** 5 pods
- **Squash:** pumpkin/butternut/kabocha: ¼ C; sunburst, yellow, zucchini: ¾ C
- **Tomato**

No starch/moderate FODMAP/SIBO friendly - introduce with caution

COOK, PEEL, DE-SEED, & PUREE AT FIRST. LIMIT 1 PER MEAL

- **Asparagus:** 1 spear
- **Artichoke hearts:** ¼ C
- **Butternut squash:** ½ cup/60g
- **Leek:** ½/42g
- **Peppers:** chili 40g
- **Spinach:** > 15 leaves/150g
- **Tomato:** soup/juice, sun-dried 2T/15g

fruit

Low starch/low fodmap/SIBO friendly

COOK, PEEL, DE-SEED, & PUREE AT FIRST.

- **Banana:** fresh (ripe), dried
- **Berries**
- **Blueberries:** < 80
- **Boysenberries**
- **Strawberries**
- **Raspberries:** 10/19g
- **Carambola**
- **Citrus:** lemon, lime, oranges, tangelos, tangerine
- **Current (dried):** 1T
- **Dragon fruit**
- **Durian**
- **Grapes**
- **Guava**
- **Kiwifruit**
- **Longon:** 5/15g
- **Melon:** cantaloupe/rock, honeydew: ½ C/100g
- **Papaya/Paw paw**
- **Passionfruit:** 4 pulps/100g
- **Pineapple**
- **Pomegranate:** ½ or 38g; ¼ C seeds
- **Prickly pear**
- **Rhubarb**
- **Jam/jelly:** homemade (no pectin or sugar)

No starch/moderate FODMAP/ SIBO friendly - Introduce with caution

COOK, PEEL, DE-SEED, & PUREE AT FIRST. LIMIT 1 PER MEAL OR AS INDICATED

- **Berries:** cranberries 1T; cherries 3
- **Citrus:** grape-fruit ½/104g
- **Longons:** 10/30g
- **Lychees:** 5
- **Melon:** honeydew > ½C/100g
- **Passion fruit:** 4 pulp/100g
- **Pineapple (dried):** 1 slice
- **Rambutan:** 4/62g

protein

Low FODMAP/SIBO friendly

- **Bacon cured with honey**
- **Broth:** homemade meat or marrow bones (no cartilage)
- **Beef**
- **Eggs** (introduce with caution, yolk first)
- **Fish**
- **Game**
- **Lamb**
- **Organ meats**
- **Pork**
- **Poultry**
- **Seafood**

Moderate FODMAP/SIBO friendly

- **Bacon cured w/sugar:** 1x week

fats & oil

Low FODMAP/SIBO friendly

- **Bacon fat**
- **Butter**
- **Coconut oil**
- **Cod liver oil & fish oil**
- **Duck fat**
- **Garlic-infused oil**
- **Ghee**
- **Lard & tallow**
- **Medium-chain triglyceride (MCT) oil**
- **Macadamia oil**
- **Olive oil**
- **Palm oil**

- Vegetables, fruits, nuts/seeds, eggs, coffee & alcohol on this list should not be introduced or consumed during bouts of diarrhea. Re-introduce foods individually as stated above. Keep a food journal.
- Coconut flour may be tolerated at earlier than 1 month.
- This food list is a guide, not intended to replace medical advice or treatment. Working with a qualified practitioner is recommended to ensure that essential nutrients are consumed. SIBO is generally not treated with diet alone. See companion guide: 1-page Guide to Small Intestinal Bacterial Overgrowth (SIBO).
- T = tablespoon, t = teaspoon, C = cup

dairy

Low FODMAP/SIBO friendly

- **Butter**
- **Ghee**
- **Yogurt:** homemade (24 hour ferment)

sweeteners

Low FODMAP/SIBO friendly

- **Honey:** alfalfa, cotton, clover, raspberry, 2T
- **Stevia:** pure (no inulin), small amounts only, occasionally

Moderate FODMAP/ SIBO friendly.

Introduce with caution

- **Honey*:** blackberry, buckwheat, citrus/ orange blossom, 1T

beverages

LOW FODMAP/SIBO FRIENDLY

- **Coconut milk** (no thickeners)
- **Coffee:** 1 C/day (weak)
- **Tea:** black (weak), white, ginger, pepper-mint, spearmint,
- **Green tea** < 2 cups/day
- **Water**

ALCOHOL OCCASIONALLY IN MODERATE AMOUNTS

- **Bourbon**
- **Gin**
- **Vodka**
- **Whiskey**
- **Scotch**
- **Wine**

LIQUOR MODERATE AMOUNTS

WOMEN: 1 oz/day, 3-5x/week
MEN: 2.5 oz/day, 3-5x/week

WINE MODERATE AMOUNTS

WOMEN: 4 oz/day, 3-5x/week
MEN: 9 oz/day, 3-5x/week

MODERATE FODMAP/SIBO FRIENDLY;

INTRODUCE WITH CAUTION

- **Seltzer/carbonated water** (CO₂/gas)

seasonings/condiments

LOW FODMAP/SIBO FRIENDLY

- **All spices** (except onion & garlic)
- **Garlic-infused oil**
- **Ginger** (fresh & dried)
- **Mayonnaise,** homemade
- **Mustard** (w/o garlic)
- **Pickles/relish:** no garlic or sweetener
- **Tabasco** (McIlhenny Co.)
- **Vinegar:** apple cider (filtered), red & white wine

nuts, seeds, & coconut

LOW FODMAP/SIBO FRIENDLY

WITH THE EXCEPTION OF COCONUT, INTRODUCE WITH CAUTION AFTER 1-3 MONTHS ON PROTOCOL

- **Almonds:** 10/.42 oz; flour 2T
- **Coconut:** flour/shredded* 1/4 C/18g
- **Hazelnuts:** 10/15g
- **Macadamia:** 20/40g
- **Peanut butter:** 4T
- **Pecans:** 10/22g
- **Pine nuts:** 1T/14g
- **Pumpkin seeds:** 2T/23g
- **Sesame seeds:** 1T/11g
- **Sunflower seeds:** 2t/6g
- **Walnuts:** 10/30g

misc ingredients

- **Vanilla**
- **Gelatin** (Great Lakes brand)
- **Baking soda**

cruciferous veggies

NO STARCH/LOW FODMAP - INTRODUCE WITH CAUTION

AFTER 1-3 MONTHS OF PROTOCOL.

- **Arugula**
- **Bok choy:** 1 C/85g
- **Broccoli:** ½ C/1.6 oz
- **Brussels sprouts:** 2
- **Cabbage:** 1 C/98g, savoy ½ C
- **Greens:** collards, kale
- **Radish**
- **Rutabaga**

NO STARCH/MODERATE FODMAP; INTRODUCE WITH CAUTION AFTER 1-3 MONTHS ON PROTOCOL

- **Cabbage** > 1 C/98g, Savoy ¾ C/73g

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EATING TO HEAL



Sometimes eating Paleo just isn't enough.

Health issues ranging from auto-immune disease to symptoms relating to IBS, “leaky gut,” or even small intestine bacterial overgrowth (SIBO) may require even further food restriction to help heal and keep symptoms at bay. If you aren't familiar or are dealing with any of the above, the terms “AIP” and “FODMAP” may seem foreign to you. However, those in the midst of these eating protocols know that food limitations can be quite frustrating and meals can become bland and boring very quickly. (See note below for where to find out more about these conditions.)

With these recipes, I wanted to take two of the most difficult ways of eating into account and give you something full of flavor to enjoy—especially something you can serve to guests and know that they will love it as well.

Food limitations don't have to be crippling when it comes to socializing.

Embrace what you *can* have while you focus on nourishing your body, and you'll be a much happier person.

Please note that some people following AIP may be sensitive to even the small amounts of seed-based spices in the recipes. Please use your own judgment and experience.

For more information about IBS (irritable bowel syndrome), leaky gut (intestinal permeability), small intestine bacterial overgrowth (SIBO), autoimmune protocol/autoimmune paleo (AIP) or FODMAPs (fermentable oligo-di-monosaccharides and polyols) check out the related articles and podcasts by navigating to the “[Healthy Digestion](#)” tab at [BalancedBites.com](#). Also know that the recipes shared on [BalancedBites.com](#), in [Practical Paleo](#), as well as [The 21-Day Sugar Detox](#) and [The 21-Day Sugar Detox Cookbook](#), all have special diet indicators.

MEATBALLS WITH TANGY CILANTRO-CHIVE SAUCE

PREP TIME
20 minutes

COOKING TIME
20-25 minutes

YIELD
6 servings

2 pounds ground lamb (beef/bison/
turkey may be used)
¼ cup finely minced green onion
(green portions only)
2 teaspoons **cardamom**
2 teaspoons **cumin**
1 teaspoon **ground ginger**
1 teaspoon **salt**

zest from 2 lemons (~1 tablespoon)
¼ cup chives, roughly chopped
(1 small bunch)
1 cup cilantro, roughly chopped and
packed (1 bunch)
Juice from ½ lemon (~2 table-
spoons)
½ cup butter or ghee, melted

SERVING SUGGESTIONS

For a FODMAP friendly side, zucchini noodles are a delicious option. If FODMAPS are not a concern, this would pair nicely with a simple mashed cauliflower or parsnip mixture or even cauli-rice as the meatballs themselves have a lot of flavor.

Try serving them as appetizers at your next get-together!

NUTS
EGGS
NIGHTSHADES
FODMAPS

Preheat oven to 375 degrees.

FOR THE MEATBALLS:

Combine the ground meat, green onions, cardamom, cumin, ginger, salt and lemon zest in a medium bowl and mix your hands until well combined. Form into approximately 25-30 meatballs, about 1-1 ½ inches in diameter each. Bake for 20-25 minutes.

WHILE THE MEATBALLS BAKE, PREPARE THE SAUCE:

Combine the chives, cilantro, lemon juice and butter/ghee in a blender or food processor and process until smooth, about 1 minute.

* Some people following the Auto-immune Protocol (AIP) may be sensitive to cumin or cardamom, even in small amounts. Please use caution and trust your own experience before using these spices. An appropriate substitute for those following AIP ONLY would be to replace one or both with 1-2 teaspoons of garlic powder.



SWIRLY CRUSTLESS QUICHE

PREP TIME
20 minutes

COOKING TIME
45 minutes

YIELD
6 servings

1 large zucchini, shredded or grated
and strained

2 large carrots, shredded or grated
1 teaspoon Rosemary-Sage Salt
(recipe on page 73) (optional)

12 eggs, beaten
1 tablespoon butter, bacon grease,
or coconut oil

NUTS

EGGS

NIGHTSHADES

FODMAPS

Preheat oven to 375 °F.

Strain the zucchini with a cheese cloth or strainer bag.

Mix together the zucchini, carrots, Rosemary-Sage Salt, and eggs in a large bowl. Set aside.

Grease a 9 inch x 13 inch baking dish with butter, and pour the egg mixture into the pan. For a swirled effect, use a fork to create a circular pattern before baking.

Bake for approximately 45 minutes or until the edges are brown. The quiche will puff up while baking and will deflate when removed from the oven.



MUSTARD-GLAZED CHICKEN THIGHS

PREP TIME
5 minutes

COOKING TIME
45 minutes

YIELD
Makes 6-8 servings

1/4 cup melted unsalted butter or
coconut oil
2 tablespoons gluten-free mustard
1/2 teaspoon dried sage

1/2 teaspoon sea salt
black pepper to taste
12 bone-in, skin-on chicken thighs

KITCHEN TIP

Use bone-in, skin-on chicken breasts if you don't have chicken thighs. These are fantastic reheated in the oven or toaster-oven, and they make a delicious breakfast as well.

Preheat the oven to 425°F.

In a small mixing bowl, combine the melted butter, mustard, sage, salt, and pepper. Place the chicken thighs on a rimmed baking sheet or in a large baking dish, and brush the mustard glaze evenly over each one.

Bake for 45 minutes or until a thermometer reads 165°F when inserted into the center of one of the chicken thighs.

NUTS
EGGS
NIGHTSHADES
FODMAPS



LEMON ROSEMARY BROILED SALMON

PREP TIME

5 minutes

COOKING TIME

15 minutes

YIELD

6-8 servings

2 tablespoons butter, ghee,
or coconut oil

1 lb wild salmon,
either whole or in portions

1 lemon

1 teaspoon Rosemary Salt
(recipe on page 25)

SIDE NOTE

If you don't have a broiler or if your oven doesn't have a broil setting, you can bake the salmon at 350°F for about 15 minutes.

Preheat oven to a low broil setting.

Place thinly sliced pats of butter in a baking dish, or spread ghee or coconut oil over the bottom of the dish. Place the salmon in the dish and sprinkle with the Rosemary Salt. Add more thin pats of butter on top of the salmon, and top with slices of lemon.

Broil on low for approximately 10-15 minutes or until the salmon is cooked to your liking.

NUTS

EGGS

NIGHTSHADES

FODMAPS



BAKED KALE CHIPS

PREP TIME
10 minutes

COOKING TIME
15-20 minutes

YIELD
Makes 4 servings

1 large bunch curly kale
2 tablespoons coconut oil
1 to 2 cloves garlic, minced or
grated
1 teaspoon onion powder
1/2 teaspoon paprika (optional)

3 tablespoons Brewer's Yeast
(optional)
2 tablespoons almond meal (use
4 to 5 tablespoons if omitting
brewer's yeast)
sea salt and black pepper to taste
1/2 teaspoon granulated garlic

CHANGE IT UP

If you have a hand blender, you may use that or the mini-food processor attachment that often comes with them. If you would like to use a large food processor, I recommend doubling the recipe. You could also whisk this by hand or with beaters

Preheat the oven to 350°F.

Holding the stem of each kale leaf with one hand, use your other hand to rip both sides of the leaf from the stem. Discard the stems. Rinse the kale, then dry it thoroughly by patting it dry with paper towels and/or spreading it out and allowing it to dry for several hours.

In a small mixing bowl, combine the coconut oil, garlic, onion powder, paprika, if using, brewer's yeast, if using, almond meal, salt, and pepper.

In a large mixing bowl, toss half of the well-dried kale with half of the spice mixture, massaging it into the leaves, then arrange the kale in a single layer, on a metal-finish baking sheet (without a non-stick surface) Repeat with the second half of the kale and spice blend and spread evenly onto a second baking sheet. Sprinkle the kale with a little extra salt and the granulated garlic.

Bake for 15 to 20 minutes or until the kale becomes crispy but not browned. If after 20 minutes of baking the kale still seems a bit soggy, simply turn off the oven and leave the kale in the oven while it cools down for an additional 20 minutes. This will give the kale more time to dry out. Often this happens if the kale was not completely dry before baking.

NUTS
EGGS
NIGHTSHADES
FODMAPS



HERB SALT BLENDS

PREP TIME
20 minutes

COOKING TIME
4 hours

YIELD
1/2 cup

1 cup fresh herbs (rosemary, sage, thyme, lemon peel, etc.)
1/2 cup coarse sea salt

Preheat oven to 250°F or the lowest setting (a “warm” setting will work, too.)

Spread individual herbs on their own cookie sheets, and dry in the oven until they break apart when handled between your fingers. This takes roughly 4 hours.

Using a food processor or a mortar and pestle, grind dried herbs and salt to your desired consistency. Re-dry the herb salt in the oven if there is any remaining moisture.

Store the herb salt in glass jars.

CHANGE IT UP

You can dehydrate your herbs overnight in an oven that's off or even let them dry out for several hours on the lowest setting - just keep an eye on them so they don't burn. To allow your entire house to smell like herbs, allow the process to take longer at a lower temperature.

NUTS
EGGS
NIGHTSHADES
FODMAPS



BALANCEDBITES PODCAST #135

SPECIAL GUEST DR. ALLISON SIEBECKER



PODCAST TRANSCRIPT

[CLICK TO LISTEN NOW!](#)

Diane Sanfilippo: Hey everyone! Welcome back to the Balanced Bites podcast. Episode 135. Diane here. Giving Liz a break again this week to tend to the goats who, hilariously, seem to... goats jump on pretty much everything, it looks like. So, if you guys haven't been to Liz's Cave Girl Eats or Real Food Liz Facebook pages and Instagram and all those great places, definitely check them out. Stay tuned with what's going on over on the farmstead, as she calls it. But I'm here this week with a fantastic guest. We have Dr. Allison Siebecker, and we're going to be talking all about gut health and SIBO, which is small intestinal bacterial overgrowth, which, to those of you who are new listeners, our seasoned listeners are jumping up and down in their cars right now because they are excited about this topic, and if you're new to the show, stay tuned because I think you're going to find this really interesting information. And, we kind of rotate between Q&A episodes where Liz and I answer your questions, and these fantastic interviews where we get to ask some of our resources and the folks that we turn to for more insight on specific topics.

So, our new sponsor this week is Rickaroons . They're 100% organic, gluten and soy-free, paleo friendly, family owned company making these really, really delicious macaroons, and I think we will have a really great coupon code for you guys. We haven't figured out what that coupon will be yet, but check out the blog post for this episode, we are in number 135, so you can check that out on the blog. We have, of course, Pete's Paleo, bringing fine dining to your cave. Make your weeknights, or weekends a little bit easier. Check out Pete's Paleo meal plans. You will get a free pound of bacon with any meal plan that you order, just enter code BBLOVESBACON at petespaleo.com, and you'll get that free pound of bacon. And finally, of course, Chameleon Cold-Brew, which you can find at grocery stores nationwide. They should have website ordering back up soon; I don't know what was going on, I think they were just super slammed and had to fix some infrastructure. So, I know a couple of folks have asked me about that, but stay tuned to the website for the coupon code for that, or check them out in stores locally. We love the organic, fair trade, smooth, rich cold brew. That's it from our sponsors.

1. Updates [3:16]

Diane Sanfilippo: A couple of quick updates about events coming up. You can come see me and Liz in Denver, Colorado on Saturday April 26th, and on Sunday April 27th I will be in Boulder, just by my lonesome signing books and talking to all of you guys, answering questions and whatnot. So, come see us. What else is going on? We also have, well, this episode will be airing, hopefully we met a bunch of you at PaleoFx, what would have been last weekend. And I've got a TBD event on my calendar for April 19th in New York City, but I'm not sure what's going on with that, so stay tuned for any other details on that, and we'll keep you updated on whatever else is coming up.

2. Introducing our guest, Dr. Allison Siebecker [4:07]

Diane Sanfilippo: So, without anything further, let me get into introducing our guest today, Dr. Allison Siebecker. She has worked in the, ugh, I can't even. Tongue twisting! She has worked in the nutritional field since 1988, and is a 2005 graduate of the National College of Natural Medicine, where she earned her doctorate in naturopathic medicine and her master's in oriental medicine. Dr. Siebecker is the medical director of the SIBO Center for Digestive Health at the NCMN clinic in Portland, Oregon, where she specializes in the treatment of SIBO. She's an instructor of advanced gastroenterology at NCMN, teaching continuing education classes for physicians, and is the author of the educational website, SIBOinfo.com. She's also writing a book, synthesizing the SIBO data into one source. In 2005 and 2013, she received the Best in Naturopathy award from the Townsend letter for her articles "Traditional Bone Broth in Modern Health and Disease" (2005) and also "Small Intestine Bacterial Overgrowth: Often Overlooked Cause of IBS" (2013). So I'm very, very excited to welcome Dr. Siebecker to the show. I'm sorry for all my tongue twisting! I don't know what's going on, I think I need some water!

Dr. Allison Siebecker: {laughs} Hi!

Diane Sanfilippo: Hi, welcome!

Dr. Allison Siebecker: Thank you.

Diane Sanfilippo: I'm super excited to talk with you today, and I would love for you to just give our listeners any other information you want to tell them just about yourself and the work that you're doing, and how that relates to some of the stuff that Liz and I are doing with teaching folks about real food and lifestyle choices.

Dr. Allison Siebecker: Well, I think you covered it pretty well with the bio, but I guess what I can say on the topic of food and real food is that, I speak to all of my patients about diet, with the SIBO diets, and they all emphasize home cooking and real food and non-processed foods. And they are all basically all the SIBO diets are versions of paleo. We just see phenomenal results. I don't know what the full base of your listenership is, but I know a lot of people that I see get really frustrated with their doctors, whether it's primary care or gastroenterologists, that no one has ever talked to them about diet, so I think it might be heartwarming at least to know that myself and all my associates, we talk to our patients about diet every single time.

Diane Sanfilippo: It is comforting to know, and I think a lot of folks out there feel like they're just kind of a little lost, and they don't have great access to doctors who are doing the same type of work that you're doing. And so, I think shows like this are really what help people to take information either back to their doctor or to help find a new doc in their area who can help them, who is willing to work on nutritional approaches or perhaps some more natural approaches, if that's possible, versus some other prescription meds and things like that. So, I think a lot of our questions really center around some of the, probably frequently asked questions about SIBO, but I think we can probably get through some of them and really start to educate folks a little bit more on the topic. So, can we start with some of the basics, like, how can you tell if you have small intestinal bacterial overgrowth and what might be the difference between SIBO and something like leaky gut?

3. How to tell if you have SIBO [7:31]

Dr. Allison Siebecker: Oh, sure. The main ways you could tell would be the symptoms. The symptoms of SIBO are the same as irritable bowel syndrome, although not everybody necessarily knows what they are. The symptoms are abdominal bloating and distention. Most people use the word bloating to mean distention, and distention means physical swelling. But it is possible to have a feeling of bloating without the swelling. Either one would classify. So bloating, and altered bowel movements. So either constipation, or diarrhea, or a combination or a mixture of the two, and then abdominal pain. And the pain could be severe, but it could be mild. It could be a mild discomfort, or maybe a cramping pain. Those are the three main problems. But additionally what could go along with it are acid reflux, nausea, excessive farting or burping, and other sorts of digestive symptoms, but the main ones you're looking for would be bloating, pain, and constipation or diarrhea. So, that's main reason you're going to suspect it. Now, in terms of what would make SIBO symptoms different from leaky gut, the primary symptoms of leaky gut are not going to be gastrointestinal. They're going to systemic. Because what leaky gut is about is opening in the intestinal

wall that allows larger particles of food and other substances that are not normally supposed to get through into the blood where the immune system then reacts to them. So, we're thinking more about immune generated symptoms. And so, these are symptoms that could be anything. It could be skin symptoms like rashes, respiratory like a stuffy nose, or maybe asthma gets triggered, body pain is classic, joint pain, muscle pain. Honestly could go on and on. It could be headaches; that's very, very common, headaches. So, it's more the systemic symptoms that are associated with leaky gut, and the gastrointestinal symptoms that are associated with SIBO.

4. SIBO and leaky gut [9:50]

Diane Sanfilippo: So, can SIBO cause leaky gut?

Dr. Allison Siebecker: Yeah. There are many, many things that can cause leaky gut. And I learned, my big list of things that could cause leaky gut from Dr. Datis Kharrazian

Diane Sanfilippo: I did too.

Dr. Allison Siebecker: Yeah, ok {laughs}. So, you know it's very humbling because I specialize just in this one thing, which is bacteria, only bacteria, overgrown in just one area of the body, and when I look at his huge chart, it's one tiny little speck on his chart. So many other things can cause it. But SIBO can cause it. Now, what's really interesting is, there are only two studies on SIBO and leaky gut to show it's relationship. And both of those studies that showed about 50% of people with SIBO get leaky gut. So, that's lower than what I think a lot of people imagine. I think a lot of people imagine it's 100%. But only half the people with SIBO will actually have leaky gut. And what's really astonishing to me is that once the SIBO is irradiated, and in both of these studies they did this with antibiotics, and then what they did was they retested them one month later. So, they knew that the SIBO was gone, and they knew that they had leaky gut when they first had SIBO. Then they retested them one month later on the leaky gut, and in one study, in 75% of the people the leaky gut was healed, and in the other study, 100% of the people the leaky gut was healed. And no leaky gut supplements were given. So, I think it's so important for all of us to remember that simply removing the cause is often all you need to do. We don't have to throw a whole ton of supplements at something, and the way I like to think of it is, the intestinal membranes are similar to the skin, because they sort of are our protective barrier from, technically the outside of the body is the inside of the intestinal tract. And so when we cut our skin, it heals. Unless you have excessively high blood sugar, or some other sort of disease, the skin heals. And that's what happens with all of these

people, too. I think in the study where 75% of them healed, and 25% of them didn't, I think those 25% probably fit into Dr. Kharrazian's big chart. There are some other causes going on. So, pretty interesting information.

Diane Sanfilippo: Yeah, I think that's really interesting, because I think a lot of folks may work on trying to heal a leaky gut with, I know a lot of folks will take a basic paleo approach where they remove what they consider to be potentially offending foods, and it's just not working. And there's also other steps to heal the gut that, if they don't have the SIBO infection causing their leaky gut, some of this can really help, there's a lot they can do. But, if it turns out that this is the cause of their leaky gut, it's something that they really will probably need to get tested and find out that that's the cause, because they'll be spinning their wheels trying to heal it and never really getting anywhere. One quick question I had before I kind of get a little deeper on that is, when you talk about the symptoms being the distention, the bloating, the gas, even belching, and potentially diarrhea, did you also say constipation? Just pretty much broad spectrum seemingly like IBS symptoms.

Dr. Allison Siebecker: Yes, absolutely.

Diane Sanfilippo: Ok.

Dr. Allison Siebecker: So let me just say them again. The key symptoms of IBS and SIBO are bloating, constipation or diarrhea or a mixture of the two, and then pain which could be discomfort. And let me just make a comment on that. Many, many people who hear about IBS they think that equals diarrhea. They think that what IBS is is a person who suffers from diarrhea.

Diane Sanfilippo: Mm-hmm.

Dr. Allison Siebecker: And that is not the case. And, honestly, I did not even know myself until I was in medical school that IBS has a diarrhea type, a constipation type, and now what's called a mixed type.

Diane Sanfilippo: Yeah.

Dr. Allison Siebecker: It used to be called alternating, but that definition was a little too narrow, because that definition implies that you have constipation for a few days, and then you have diarrhea, and then you go back and forth. Mixed means that you could have a mixture that is not like that. Maybe you go to the bathroom 8 times a day, but only, whenever you do, comes out one tiny small ball.

Diane Sanfilippo: Right.

Dr. Allison Siebecker: And you feel incomplete, and it's hard, and rough. That is a mixed type. Another type could be you only go every 4 days, but when it comes out, it's watery.

Diane Sanfilippo: Right.

Dr. Allison Siebecker: So that could be a way it could be mixed. You could also have that alternating type, where it's constipation for some days and diarrhea for other days. But it's very, very important for people to know that constipation is a feature of IBS and SIBO.

Diane Sanfilippo: So, my one other question there, when it comes to, because I get this question a lot about poop, {laughs} because I have a chart about poop in Practical Paleo. Sometimes people ask, if it's a one-off sort of, you know, I'm going long for a week or two weeks, and everything seems to be "normal" they're eliminations are looking like Miss Ideal in Practical Paleo, and then there's a day or two where it's just not really right, you know. Things are a little bit weird. Is that a case where you just, you know, maybe there was something that you ate that just wasn't balancing right for you, or is that a time when any disruption is maybe a sign that something is not right, or does this really have to show for a consistent time period to really identify with something that could be a bigger issue.

Dr. Allison Siebecker: Yeah, it needs to show. It needs to show for a consistent time. It needs to be a really longer term, consistent problem. I think you'd need to be having that problem for a good 3 months before you'd consider you'd moved into a state of a syndrome like IBS.

Diane Sanfilippo: I think that's really important to know, because I think a lot of folks have an intermittent experience, maybe they are eating paleo but maybe nightshades don't work for them and they haven't yet learned that, you know, and they eat nightshades once or twice a week and then they're having a disrupted bowel movement, and they don't realize that it's not necessarily SIBO or leaky gut, it's just you ate something that you don't really do too well with once or twice.

Dr. Allison Siebecker: That's such a good point. No reason to get all worried when a little something is out of the ordinary. That's really normal for human beings. We live in a dynamic world with changes all the time, and our system has to adapt to things. Of course, there are some people that are like clockwork and always have been their entire life and they're amazing, but most people it's not like that. And I think it's really good that you bring up the point of, you know, some more simple solutions. If it's not an ongoing problem, simple solutions should be looked at before considering IBS or SIBO.

Diane Sanfilippo: I think those are all really good points because we have a lot of really smart listeners. A lot of people who are taking action, and they've changed their diets, and they're working on different types of supplements because those things can help them. They don't have a deeper underlying issue, perhaps, but I think what I see in practice and in working with folks who are asking questions at book signings or seminars, a lot of times people are talking themselves into having these conditions.

Dr. Allison Siebecker: {laughs}

Diane Sanfilippo: And I'm like, you guys, everybody needs to just calm down. If you had one off bowel movement; one off bowel movement does not an infection make.

Dr. Allison Siebecker: Yes. We called that second yearitis in medical school.

Diane Sanfilippo: {laughing}

Dr. Allison Siebecker: Because in second year, everybody has pathology, and they get shown every disease described, seen all the pictures, and everyone leaves every class going, oh my god I have that, oh my god I have that.

Diane Sanfilippo: That's hilarious. That happened in nutrition school, as well. In holistic nutrition school. It's like you go through; well first of all, you go through every lesson and then you want to stop eating 5 more foods, or all of a sudden you start eating chlorella, because there was one nutrient that seemed like you might be deficient in it. Anyway, it's pretty crazy. {laughs} That's funny, second yearitis. Oh, boy. Ok, so, we have a lot of questions from my readers, and I think, I'm trying to just kind of see what's making the most sense in terms of the order to go through here. So, I think what would be next is, if somebody thinks they have SIBO, what would be the best way to de

tect it? And then what is the best way to really get rid of it, combining options that are more natural and then perhaps going to prescription medications?

5. Diagnosis options for SIBO [18:34]

Dr. Allison Siebecker: The best way to test for it is going to be the lactulose breath test. And this can be ordered by doctors in most states. I can't remember; it's state by state as to who gets to order this test. And so because of that, some practitioners who aren't allowed to order it, they wind up using a test that actually can't diagnose SIBO, and that is the urine organic acid test. I think in lieu of having access to that breath test, that's what practitioners are using, but it's important to know that it can't diagnose SIBO. And there are two problems with thinking that it could, or why can't it. The two problems are, according to the researchers who helped develop that test, they've published some articles saying you can't really distinguish the organic acids that indicate a bacterial abnormality, you can't distinguish between the small and large intestine very well on that test. That's one thing. And the second thing is that it hasn't been studied or validated yet. So, there's been about six studies that have looked at that test to see if it correlates with breath test or culturing, and I'll explain culturing in a minute. Six is not very many, and they found all the way from zero correlation to really excellent correlation! So, it hasn't been figured out if this test can be used yet, so I just want to mention that because it's important to know that can't actually diagnose SIBO. It could lead you in the direction of either a small or large intestine bacterial problem. But the breath test, when you talk about the breath test there's a couple of different sugar drinks you can use to figure out if you have SIBO.

Over in Europe, they prefer using the glucose breath test, and here in the US we prefer the lactulose breath test. And the difference is, glucose is absorbed in the first 2 feet of the intestines, and so it can only diagnoses SIBO in the top 2 feet of the small intestine, so that's the duodenum. So it can only diagnose duodenal overgrowth. Whereas lactulose travels the whole way down. It doesn't get absorbed, it actually goes all the way through into the large intestine, so that one is better for diagnosis SIBO anywhere in the small intestine. And it turns out most people have the overgrowth in the lower, or distal part, of the small intestine. But, the reason why some people like to use the glucose breath test is because it is even more accurate than the lactulose for the one location it's doing. I mention that just in case if that comes up for people wondering which test to do, the glucose test can be ordered by anybody. So that could be done; anybody, even just a regular person can order it for themselves and do it. It's just that if that test comes back negative, then you have to do a lactulose breath test. And it's very unfortunate that the lactulose breath test isn't available

to anyone who wants to order it, I wish it was. And the problem is that lactulose is a prescription item, and I don't believe it should be. I think that's a mistake, {laughs} and it should be taken off of the prescription only list. But currently, that's the situation. And just to specify here, it sounds like your listeners are very well educated, but lactulose is different than lactose. They are two different things, so let's not confuse them.

Diane Sanfilippo: Awesome. I think that's really great information.

Dr. Allison Siebecker: Oh, and you know what I didn't mention culturing. Let me just mention that really quick. Culturing is when you go in for an endoscopy, which is a tube that is put down through the mouth and samples the upper small intestine. And, fluid from the intestine, can be gathered and then bacteria can grow, and we can see how much overgrowth of bacteria there is. That is considered to be the gold standard, but it's considered to be a very poor gold standard because, once again, it only reaches the top portion of the small intestine, this time about 3 feet, maybe a teeny bit more, and there's all sorts of problems with culturing. Oftentimes the anaerobic bacteria that are overgrown in SIBO, the oxygen is fatal to them so once removed from the body, they won't grow. So we can't culture them. And also, there can be contamination as the tube is taken out of the mouth. It's considered the gold standard, but there's problems. So the two main tests are going to be culturing which is invasive, and it's not done very often, and then the lactulose breath test, and that's very common, it's inexpensive, and it's easy to do.

Diane Sanfilippo: Ok. In a minute, I'll jump ahead to some of those other follow-ups on healing and treatment and things like that, but actually I want to go backwards for just a minute, because I think that, while a lot of our listeners are pretty well versed on what this whole thing is, can you explain why we would even get an infection in our small intestine to begin with?

Dr. Allison Siebecker: Oh, yes.

Diane Sanfilippo: Why we even have this bacterial overgrowth, because I don't know if most people understand. I've mentioned it a bunch of times that when we talk about gut health and gut bacteria, and correct me if I'm misstating this, please, most of what we're talking about is going to be more in the large intestine, we shouldn't have much of a bacterial colony, at least in this way, in the small intestine? Is that correct?

6. Why is there a bacterial overgrowth in the first place? [24:25]

Dr. Allison Siebecker: Yes. You're absolutely right. I think the reasons why we get SIBO is the most fascinating part of the whole thing, so I'm glad you asked me. You're absolutely right; the small intestine should be relatively clear of bacteria. As it gets towards the bottom portion of it, it gets closer to the large intestine, there is more bacteria from natural reflux through the ileocecal valve from the large intestine into the small intestine, that's just natural. And so there's more down there. But still, we know what level they should generally be at, and we can see when it gets too high. So, let me tell you how it occurs. I like to classify it into 3 main underlying causes. And these are going to be anything, it's really anything that allows bacteria to back up and accumulate in the small intestine. And the first one is the most important one I think, it's decreased motility in the small intestine itself. And you could think of this like peristalsis. Peristalsis is the downward movement that mixes and moves food downward. So you could think of this as a form of peristalsis, but really we're not talking about the food moving down, we're talking about another motion that's called the migrating motor complex that happens in the small intestine in between meals. And I'm going to explain it to you more, but let me just tell you the other two. So we've got decreased motility, and then we have obstruction.

So basically, anything that would block the pathway for bacteria to move down and out of the small intestine. So that would be things like a tumor, a scar band, an adhesion, a hairpin turn, something like that. So, a physical obstruction impeding the path of clearing away bacteria out of the small intestine. And then the last one is what I call non-draining pockets. And so this would be something like a surgical blind loop that gets created, or a diverticuli or many of them in the small intestine. Diverticuli are little out pouch pockets off the side of the tubing in the small intestine, and so is a blind loop, essentially. All it means, imagine a little, like a half full balloon or something, off the side of a tube. It can collect water, and it can collect all kinds of debris; there's no way to clean it out. So they can accumulate like that.

So, one other thing before I go back to the motility, is that bacteria come into us all the time with every swallow we take and all the food we eat, they are just naturally in the environment, and we're constantly swallowing down bacteria, with our food or without. And so that's why this is essential to keep the small intestine clear. The other thing is that we have this huge, as you mentioned, huge colony of bacteria that we're meant to have in the large intestine. And without a downward pressure movement against it, those bacteria, where do they have to grow, if they keep eating and keep multiplying, they can only go backward and go up into the small intestine. So you need a downward movement to keep them in their place, as well as some other factors. So let me just go back to the

motility. The obstruction and the non-draining pockets I think I've described; something like cancer or surgery could cause those, and diverticulosis. But the motility is really interesting. There's a couple of ways this can happen, this decreased motility. The primary way, it turns out, is from acute gastroenteritis. Which is otherwise known as food poisoning, stomach flu, or traveler's diarrhea. So this is when you get acutely sick and have vomiting and diarrhea, or at least one of them. And it lasts a day or two, and you wish you would die because it's so awful. I'm sure we've all experienced this; have you ever had this, Diane?

Diane Sanfilippo: Yeah, actually, not long ago. A couple of months ago, and I had so much compassion for friends of mine who've suffered from things like ulcerative colitis because I had a minor experience that seemed similar for one day. You know, not months on end, so it was rough.

Dr. Allison Siebecker: It's so awful. Well, it turns out, this is probably one of the primary causes of SIBO. And, I want to explain it to you because it's so fascinating. What happens is, when we get sick like that with gastroenteritis, it's caused by a pathogenic bacteria. And a really important point is that SIBO is an overgrowth of nonpathogenic bacteria. It's an overgrowth of the bacteria that's normally within us. Pathogenic bacteria are not normally within us. When they come into us, they give us gastroenteritis. We have diarrhea and vomiting until we expel them all. So, these pathogenic bacteria common names are Salmonella, E. coli, certain type of E. coli, Cholera, and Yersinia. Things like that. When these bacteria come in, they secrete a toxin, and it's called cytolethal distending toxin. And it's abbreviated as CDT. All these bacteria have the same toxin. It turns out that the B portion of this CDT toxin; there's an A, B, and C portion of this toxin. The B portion looks like a protein on one of the nerve cells in our small intestine. And so through an autoimmune process, an autoimmune mediated process of cross-reactivity or molecular mimicry, as it's also called, our immune system attacks the protein on our nerve cells in our small intestine at the same time that it's attacking the CDT toxin, because they look very similar.

Diane Sanfilippo: That's fascinating.

Dr. Allison Siebecker: It's unbelievable. This is like one of the greatest discoveries {laughs} for me of all time.

Diane Sanfilippo: That's fascinating, yeah.

Dr. Allison Siebecker: We actually know, now, and this is all the work of Dr. Mark Pimentel, who is the lead researcher on SIBO, and he's just doing the most amazing job at helping us all understand

how this happens and what is happening. So, what happens is, this protein on the nerve, it's called vinculin, and the nerve cell is called the interstitial cell of cajal, and abbreviated as ICC. And these cells are pacemaker cells in the small intestine that are necessary for doing the migrating motor complex. And what they have been able to figure out is that the damage is successive oftentimes, so it depends on how severe the gastroenteritis was, or is. So, these cells will be damaged by a bout of gastroenteritis. But they may not get to the threshold at which SIBO develops.

It's actually been figured out exactly the amount of cells that need to be damaged, and that need to be still there when a person will then develop SIBO. So I think what can happen for a lot of people is, most everyone has had gastroenteritis in their life multiple times. In fact, young children get sick like this a lot, you know vomiting and diarrhea, and I think we even lose count, who even knows before 5 if we can even remember, we probably all had it, you know? {laughs} So I think damage can accumulate for people, setting a stage. Which is why some people don't get SIBO or IBS until adulthood, and it might just be that they have a triggering event, like one last bout of gastroenteritis, and that was enough to do it. But it's important to think about this, because why then, you know if there's two people standing next to each other, they both get this gastroenteritis, how come one goes on to develop SIBO or IBS and the other doesn't? Well, it might have to do with the accumulation of damage that one person had and the other didn't. So this is what's considered to be the primary underlying cause. This is also called post infectious IBS. And what Dr. Pimentel's theory is is that post-infectious IBS is none other than SIBO. They are one and the same thing.

And a really interesting thing to talk about here is the recovery rate. So, what has been found is that about 50% of the people who develop post-infectious IBS or SIBO, will spontaneously recover within 5 years. It can take some time; it can take quite a bit of time. But after 5 years, it doesn't seem any more people are improving. After 5 years, that's about it. {laughs} So then, the 50% of people who didn't recover, it seems that it's permanent nerve damage. Now, why would the 50% that could recover, why did they recover? Well, it turns out the interstitial cells of cajal are very plastic. They have a high degree of plasticity, which means they have an ability change and heal. And what they do is really phenomenal. When there's some sort of assault to them, they switch from a nerve cell into a muscle cell. Now, they can no longer do the nerve cell function anymore, which is why you see that you don't have those cells, but there's the potential for them to switch back. And clearly, in 50% of people in a time period of over 5 years, they're switching back. And those people recover. So, what Dr. Pimentel is doing right now is conducting a lot of research to see if he can help the 50% of the people who don't recover. Is there any way he can stimulate those ICCs to turn back into nerve cells? And I just cannot wait to hear his results.

Diane Sanfilippo: The face I just made went from my jaw on the floor, to holy cow, what? That's crazy! Our bodies are crazy!

Dr. Allison Siebecker: It's unbelievable.

Diane Sanfilippo: {laughs} That is wild.

Dr. Allison Siebecker: When I read this stuff, I feel like I'm reading an esoteric sci-fi novel.

Diane Sanfilippo: Sci-fi. It does. It sounds so crazy. So, wow. That's really interesting, and I think one of the reasons why these types of infections and bacterial overgrowths are so, sometimes seem intangible and weird and made us is that because they do have these different root causes. They do have these different triggers for different people where, as you said, it could develop over time, and how it may spontaneously heal for some people, so pinpointing these things becomes really tricky. Because it's not a black and white cause and effect, and here's what to expect for every person, you know? And I think that just gets really confusing, and it's almost like {laughs} the beauty and the curse of human bodies, you know. It's awesome, and it's also so frustrating.

Dr. Allison Siebecker: Yes! And when you don't know what the underlying cause is, and you're just looking from the bird's eye view, like you just described, it is too confusing to make any sense of. But thank goodness we're finally getting to the understanding of what the heck is going on now, it can all fall into place, you know? {laughs}

Diane Sanfilippo: I still have, for folks listening, when is she going to talk about what to do about it?

Dr. Allison Siebecker: Oh, sorry.

Diane Sanfilippo: And eating and all that. No, no, no. We will get there. It's in my notes, so don't worry. But one thing I want to ask, because I know this is probably something people are wondering, if you know that you've had an issue with gastroenteritis, maybe recently, or if you're anticipating, ok what do I do when. We've got blog posts on what to do when we feel like we're getting a cold, or that type of thing. But what if we are struck with some type of infection, a gastroenteritis, are there tips for dealing with the pathogenic bacteria when it hits and helping to prevent SIBO by doing whatever we can to either support our bodies in flushing that out or perhaps if there's any sort of benefit to repopulating certain gut flora or helping to encourage that. Anything we can do if we're like, ok, I think I just got food poisoning, you know. How do I keep myself on track?

7. Preventing possible SIBO when you get gastroenteritis [36:46]

Dr. Allison Siebecker: I know. This is so important. Doctors are looking at this, because now that this information is out, we are realizing how very serious gastroenteritis can be. Now, we did already know this, because in the non-industrialized world, gastroenteritis is still a major cause of death, actually. It's very sad, particularly for children. But in the industrialized countries, it isn't fatal. Usually we can get past it, but now we realize there's these serious chronic long-term consequences. So what doctors are saying to do is basically take some kind of antibiotic, whether it's natural or pharmaceutical, as soon as you think you're having this. In fact, what a lot of doctors is recommending is to take them prophylactically when you go traveling. Because it's very common to get gastroenteritis when traveling, particularly in a non-industrialized countries. So, for the pharmaceutical option, what's recommended is the same antibiotic that is used to treat SIBO, which is rifaxamin. And then, if you're wanting to do the natural option, then you could use any of the natural antibiotics we use for SIBO as well. One doctor I know recommends, we use Allicin that is extracted out of garlic. Is it ok if mention brand names?

Diane Sanfilippo: Oh, sure. Yeah, whatever you feel comfortable.

Dr. Allison Siebecker: I always have to be so careful, because whenever I teach continuing education classes, I'm not allowed to mention brand names, or we lose our CE, so I have to be so careful! {laughs}

Diane Sanfilippo: No, you can. I mean, this is really, we make sure that everybody knows that this is not direct medical advice, and everybody should be seeking help from their own practitioners, but I think it is great for them. They will ask us, what are the brands that are out there at least, at least that they can trust, even if you're not saying, this is the one that you should only buy.

Dr. Allison Siebecker: Yeah!

Diane Sanfilippo: If you trust it, that's good information.

Dr. Allison Siebecker: Yeah, so the one we use is called Allimed. It's the strongest concentration of Allicin, the antibacterial ingredient in garlic, concentrated on the market that I know of. So, one of my doctor friends recommends to his patients that are traveling that they prophylactically take that daily. I think he recommends 6 a day, which is a very high dose, but I can understand why he's recommending that.

Diane Sanfilippo: Yeah.

Dr. Allison Siebecker: You do not want to get these consequences. And before we move on, I did just want to make one other point about causes. Because I spoke a lot about acute gastroenteritis, because that's the number one cause that we know of so far. But the other causes are important too, which are there are many diseases which slow that migrating motor complex. And many people get SIBO because of having a disease that slows motility. And some common ones are diabetes and hypothyroid. So I just wanted to mention those. I have all this listed on my website and in other places, and lastly surgery. We talked about how there can be obstructions created; but there could also be nerve damage done in surgery that affects the migrating motor complex. And also drugs. There are some drugs that can bring this on, particularly opiates. Opiates, if anyone has ever been on a pain med after surgery, you know that they shut the gut down and people become constipated. And that is another underlying cause. It usually needs to be in combination with one of the other factors, but it can be a big triggering event.

Diane Sanfilippo: So, really important for me to mention now is that one of the team members I have, Holly, she's an NTP, nutritional therapy practitioner, and she attended a conference that you were teaching at, I believe. She's writing up a review for us on the conference, all about SIBO. We are going to have a recap of that as well as some guides available to our emailing list subscribers only coming up soon. So, if you're not on the emailing list yet, some of the changes we have in the pipeline is that we're going to have a lot more exclusive content just for folks who are subscribed, so make sure that you go ahead and subscribe to that. If you're really curious about a lot of the stuff that Dr. Siebecker is talking about today, and really getting it in an easy to understand, sort of listed out visual way as well as a little bit more information of a recap there.

A couple of questions I just wanted to follow up on that. This has been my understanding, that sort of the more natural form of antibiotics, while they can be very, very potent and effective, they're also not necessarily going to be as detrimental in the longer term. So, if you've got someone prophylactically taking the Allicin, or the Allimed, or even something like what I use typically is oil of oregano. I'll use that now and then, I just thought the other day I might be getting a cold and I'll take it for a couple of days. It's been my understanding that if you're not abusing that, it won't have the same negative, perhaps, consequences. Is that accurate, or we don't know?

Dr. Allison Siebecker: I think that's true. I think that's what all of us are believing. I don't know if we have proof for it yet. I don't know if there are any studies to prove that. Maybe there are. But

I tend to think that way. I will say that the one main antibiotic, Rifaximin, that's used has been studied to be shown to be not very damaging at all, and that really puts my mind at ease, because I do need to use it with many of my patients. And that's because it stays only in the intestines. And that's really important. It just treats right where we want it to. In fact, it's activity is fairly localized just to the small intestine, which really puts a lot of people's mind at ease, which means it's not going to carpet bomb out the large intestine.

Diane Sanfilippo: It's not the same as those broad-spectrum.

Dr. Allison Siebecker: It's not. Well, it is broad-spectrum, but it doesn't absorb into the blood system.

Diane Sanfilippo: Gotcha.

Dr. Allison Siebecker: So that means you're much less likely to get urinary tract infection or some other thing as a side effect from the antibiotic, so that's good. And also, rifaximin is anti-inflammatory, and it's been studied and shown that it doesn't cause yeast overgrowth, and lastly it's been studied for up to, I think, 6 repeats without antibiotic resistance developing.

Diane Sanfilippo: Very interesting.

Dr. Allison Siebecker: It's just good to know; I mean, I'm a naturopath so you'd think I would be opposed to antibiotics.

Diane Sanfilippo: Yeah, and you're not being paid to tell anyone to...

Dr. Allison Siebecker: No, I'm not on Salix, you know, I don't get any money. I've done my own research. If I was going to use it, I needed to find out if it was bad or not. And you know, I just am practical, and I don't like black and white thinking. I don't like the thinking that all antibiotics are bad, and all natural substances are good. The world just isn't like that, you know? {laughs} And there's no reason for these divides. Let's figure out what's what with each thing we're talking about. I generally love the idea of using the natural antibiotics, but what I can say is that there are pros and cons to each, and the patients that I see, because I'm a specialist in SIBO, I happen to see often more severe patients, particularly patients who have been to many other doctors for the SIBO, and the treatment has failed. So I get a lot of complicated cases, and I have to use anything and everything I can. I need my toolbox to be as big as it can to help these people. So, I think, for someone

who is starting out with someone who has never had any treatment, please by all means, start with the naturals! Go with the least offensive thing first. But, just know that there's other options if that fails.

Diane Sanfilippo: I think that's really good advice. So, let's talk quickly about what you typically recommend nutritionally, either if somebody suspects they have SIBO and they want to maybe test avoiding certain foods, and if they feel better, that's kind of maybe a sign that it is SIBO, or what you have them eating once they've been diagnosed and they're doing treatment. Some of the questions I've had are, would they be eating low FODMAP, or just low carb in general, or none of the above? What kind of approach do you typically take?

8. Approach to treating SIBO with food [44:39]

Dr. Allison Siebecker: Ok. So, {laughs} there were so many questions in there!

Diane Sanfilippo: I know, I have a lot. I'll recap them if we get off track, no worries.

Dr. Allison Siebecker: Ok, so first you're wanting to know which diets help SIBO. Is that right?

Diane Sanfilippo: Yeah, what do you usually recommend. Because our listeners are pretty familiar with the fact that you're going to be recommending that folks aren't eating processed refined foods. Perhaps grain free, I don't know, so I want to check out what your approach is.

Dr. Allison Siebecker: Oh yeah. Absolutely.

Diane Sanfilippo: And if there are different levels to that, too. You know, if there's a basic approach that if the person responds to you stick with that, or if there are different layers to that.

Dr. Allison Siebecker: Yeah, this is a good question. So what I typically use are grain-free diets. And there are a few standard SIBO diets. And what I have to do is just customize it to where the person's at. I mean, I think that's the best thing. I just recently had an interesting conversation with someone, it helped me so much. A gastroenterologist who sees patients who have never done any dietary alterations, so I don't see people like that. I usually get to see people who have been on one of the SIBO diets, and I'll explain them in a minute, for many years actually without enough help. So he and I were at 2 ends of the spectrum, and it really helped me to hear his experience, because it solidified for me the importance of taking a look at where someone is starting from, and choosing a diet based on that.

So, the main diets for SIBO are grain-free, and that would be the specific carbohydrate diet; so that's grain-free, and therefore, of course, gluten free. It does emphasize all home cooking, and it takes away all sugars except honey and maybe a little bit of stevia. Technically, on that diet they allow saccharin, but nobody that I know chooses to use that {laughs}.

Diane Sanfilippo: {laughs}

Dr. Allison Siebecker: And then it limits the starchy tubers, so no starchy tubers. Carrots are allowed, but no potatoes or sweet potatoes. But, winter squash is allowed and summer squash. Beans are eliminated at first, and then as a person heals and gets better, then there are only some beans that are allowed back in. And let me just think if there are any other main; oh, and nuts and seeds are allowed, but a person may not do well with them at first, so they have to be careful with them.

Diane Sanfilippo: Can you touch on the issue of home cooking and why that is something you recommend?

Dr. Allison Siebecker: Yeah, the home cooking is recommended because of basically, how do you call it, it's like food fraud. Mislabeling.

Diane Sanfilippo: Oh yeah.

Dr. Allison Siebecker: I think a lot of the people who first started using the specific carbohydrate diet did have celiac disease. And I think then they were getting contamination. But it's true for even people without celiac disease. Often things aren't put on the label that are in there. And so she just felt like labels just can't be trusted, and don't even risk it, and just make all your own food. You have control, you know what's what. Don't buy anything in a bottle. So she even recommends making your own tomato sauce.

Diane Sanfilippo: And she would be Elaine Gottschall.

Dr. Allison Siebecker: Yeah, sorry.

Diane Sanfilippo: Breaking the Vicious Cycle is her book, correct?

Dr. Allison Siebecker: That's exactly it, thank you.

Diane Sanfilippo: So that's the root of some of the dietary recommendations. And I think SCD and

paleo have some cross over and some, like you had mentioned, legumes and things like that that don't necessarily cross over, but it's very, very similar.

Dr. Allison Siebecker: It's very similar. I think the biggest, because I lectured on this at AHS, what's the difference here, between the SIBO diets and the paleo diets. I tell you it was hard, because there are so many versions of paleo these days. I don't know, and there's a lot of different SIBO diets. It's like, well which ones am I talking about here? But, I think one of the key interesting things to point out in the difference, which I didn't yet mention, is that the specific carbohydrate diet recommends to cook all your fruits and vegetables at first, and even peel and deseed them, to reduce the fiber and to make them more digestible. Just imagine baby food, essentially. You don't give a baby, a brand new little baby without teeth, raw fruit and vegetables. And the paleo diet, I think for many people, they emphasize a lot of salads and a lot of raw fruits and vegetables and getting a lot of fruits and vegetables, and that can make the key difference for people. Honestly. It's just not doing raw when you're having digestive distress.

Diane Sanfilippo: Yeah.

Dr. Allison Siebecker: And, one other thing is that also a lot of people on paleo add a lot of fiber on purpose, like chia seeds or psyllium or other things like this. And the SIBO diet deemphasize and decrease fiber because fiber is an exclusive food for bacteria. So it can worsen the problem. I think those are some key differences.

Diane Sanfilippo: That is something that I touched on and boy, you'll find this after your book comes out when you get a little bit of book blackout where you wrote so many things, and you're like, I'm pretty sure I said this. I'm pretty sure I addressed this in the book.

Dr. Allison Siebecker: {laughs}

Diane Sanfilippo: Because you talk about it all over, and you're like, did this get into the book? But I did talk about that in the digestive health meal plan that focusing on more well cooked foods is always helpful, because it's sort of that predigestion of cooking. That's what the cooking is doing, it's sort of predigesting, prebreaking down the food for us, making that a little bit easier, and as you mentioned breaking down some of that fiber. So, I think we've covered a lot of really good questions. I'm trying to see what else. So, if they are doing a paleo or SCD approach, again, are there some gradations where perhaps if somebody is in a situation where they're really struggling, do you see that avoiding more FODMAP foods, and for folks who haven't researched that or don't know what it is, I wouldn't worry too much about it, but specific categories of carbohydrates, are you finding that avoiding those, if someone

is avoiding those and feeling better, that that could be a sign that they're dealing with SIBO or is it just kind of too tough to call?

9. SIBO and FODMAPs [50:57]

Dr. Allison Siebecker: No, I do think so. Honestly, patient after patient tells me; it's almost like a keynote of how you could know if you have SIBO, is basically carbs bother me.

Diane Sanfilippo: Mm-hmm.

Dr. Allison Siebecker: And the carbs could be anything, but honestly for the most part I find it to be grains and baked goods. That's the number one thing that bothers people. The simple sugars, the single sugars, if it's really just that that's bothering someone, I tend to think a little bit more about yeast.

Diane Sanfilippo: Mm-hmm.

Dr. Allison Siebecker: Yeast overgrowth. But in terms of the FODMAPs and the gradations, yes. For anyone who is interested, they can buy any of the lectures that we had at the SIBO symposium. I did a lecture just on diet where my whole premise was that there's a spectrum of which diet you use based on the severity of the person. And what I would say is, when someone is really having a lot of trouble with their diet, nothing is much working, what I go to is a combination of the specific carbohydrate diet with a low FODMAP diet.

Diane Sanfilippo: Mm-hmm.

Dr. Allison Siebecker: And I find that has really, really helped the more different patients. Somewhere in the middle would be the specific carbohydrate diet and GAPS. And you know, I'm not mentioning paleo because there are so many different versions. You could fit any version of paleo probably anywhere along the continuum. And then over on the other side, where people have a little better tolerance would be more like just the regular low FODMAP diet, because that allows gluten-free grains. It has the wonderful thing of lowering the fruits and vegetables that are highly fermentable are lowered, and that's great, but I find that most people can't tolerate the grains when they're not doing very well. But if they have a less severe case, then they might be able to just be on the low FODMAP diet. So, I would say, anyone who goes on, say a low FODMAP diet, specific carbohydrate, this sort of thing, if they go on paleo and are grain free, so long as they're not overeating fiber and raw foods, and they feel better, absolutely they should be thinking about SIBO.

Diane Sanfilippo: I think that's a good tip, and a good sort of heads up for people. And again, if you want to get that deeper information, will point you to the website that Dr. Siebecker is talking about, and we will also have more information available in these guides that we're creating here. There was something that you just kind of spurred me to think about, and you know, one thing that happens pretty frequently on my 21-Day Sugar Detox program, which is not exclusively paleo, but it is gluten-free, soy-free, all of that good stuff. I sometimes will have folks who, a week or two into it, so they've reduced their sugar intake, they're eating very limited fruit, if any, very limited starch, and some of them are finding that they are experiencing more bloating. And just perhaps some constipation, some bloating, and I've found for a lot of them, as you had mentioned, it becomes an issue that they've started taking in a lot more fiber and a lot more raw foods. Is that something you've seen commonly happen with people who kind of just, you know, they just go ahead and reduce sugar and starch or grains, and all of a sudden it sort of has this effect that they weren't expecting?

Dr. Allison Siebecker: Well you know, I don't usually get to see that. Because, by the time people come to me, they've already read my website. They've put themselves on the specific carbohydrate diet, and when people chose one of the SIBO diets, like SCD, that won't happen because it's tailored for digestion. So I don't get to see it, but I am not surprised at all you're seeing that. I mean, I have had a couple of patients; well, more than a couple, who just say "I went paleo" and they come in and we have to tweak it, we have to now get them on really like a SIBO diet.

Diane Sanfilippo: Gotcha. Ok, so.

Dr. Allison Siebecker: One thing you did ask me a while back that we didn't answer was basically how to treat it.

Diane Sanfilippo: Yep, that's kind of my last couple of wrap up questions.

Dr. Allison Siebecker: Ok!

Diane Sanfilippo: Treatment and the approach, if anybody can heal it, just kind of with food, and the most natural approach beyond food, and then beyond that, the prescription which we have talked about a little bit.

10. Treatment of SIBO [55:09]

Dr. Allison Siebecker: Ok. So let me just give you an overview of treatment. How I like to classify it is that there are 4 treatment options, but really more so 3. And I think I can answer the first and second question with this. The four options are: antibiotics, herbal antibiotics, elemental diet, and diet. Now, what I haven't been able to see, because I see more of the challenging cases, I have never been able to see diet alone, like the specific carbohydrate diet or a combination with low FODMAPs, that sort of thing. I haven't ever been able to see that cure someone's SIBO. I don't believe that it couldn't, I just don't get to see it. So I can't comment on it, because I see more severe cases. Now, this gastroenterologist I was talking to I was mentioning, about a week ago he has seen it. He takes people who have never done any dietary modification; they're really new to this kind of thing. I don't think they know what a carbohydrate is, kind of thing. {laughs} And he puts them on a slightly broader version of the specific carbohydrate diet, not quite as strict, and they're having like 90% symptomatic relief. That's fantastic. And he's testing their SIBO, and it's working. So, now I know from someone else that it could happen. So I think that is where you start from. But the patients I see often have been on specific carbohydrate diet, low FODMAP for 2 or 3 years. And then I test them, and they're still positive for SIBO. So, in these people's cases, pretty much all the patients I see, diet alone has not been enough to get rid of their SIBO. So then, we go to the three other options. Antibiotics, herbal antibiotics, or elemental diet. And these I think of as the more quick-killing methods. Just to reduce that bacteria quickly, get it out of that small intestine. So we know about antibiotics, we just talked about that. There are particular ones that are used. Herbal antibiotics, what we've been using is the Allimed, we use oregano like you do, we use goldenseal or other berberine containing herbs, and we use neem, and sometimes cinnamon.

What we haven't found to work as well is those big combination formulas, with everything but the kitchen sink in there. A lot of times they'll have antivirals, they'll have antiparasitics, and a lot of real antifungal focused herbs, and I think it just waters down the potency of the treatment. We have to use pretty dang high doses of the herbal antibiotics I just mentioned, and we usually have to do it for 4 weeks, if not longer, and that's only one treatment course. One round. When people come in with a pretty severe case, where the gas is very high, it could take multiple treatment courses to get their SIBO gone. So, the last one is one to consider in a case like that, and that would be is elemental diet. What that is it's like space age nutrition; it's all the nutrients in powder form. Predigested, and then in powder form that you then mix with water, and you take as a drink so that you are feeding yourself, and the idea is that it will absorb so quickly so high up in the small intestine, it won't get a chance to feed the bacteria. And, so it kills the bacteria by starvation. So in a certain way, you could think of this as one of the most natural options for getting rid of them. That it kills them by starvation, but yet you get fed. But this treatment is very tough, because you're not actually eating for 2 weeks. And that's hard to do. Plus the drink tastes very bad.

Diane Sanfilippo: {laughs}

Dr. Allison Siebecker: This is a drink that is used... {laughs} Really bad, actually. This is a drink...

Diane Sanfilippo: Sounds like the soylent stuff.

Dr. Allison Siebecker: It's used in the hospital a lot for people who need a break from their digestion process. It needs a break, it needs a rest. But it's extremely effective. Extremely effective. So, what's good to know about this, is if somebody has very, very high gas levels, like in the 100s, normally if you're going to use antibiotics or herbal antibiotics it could take multiple courses to get that gas level down, where as elemental diet might be able to do it in 2 weeks. So that's an important thing to know and consider. So those are the options.

Diane Sanfilippo: That elemental diet sounds worse than the master cleanse.

Dr. Allison Siebecker: {laughs}

Diane Sanfilippo: Which, I don't know if people are familiar with that, but I've never done it. I just am familiar with what it is. It's like lemon juice, maple syrup, and cayenne pepper in water and that's all they drink for days or, I don't know, longer? Sounds crazy.

Dr. Allison Siebecker: That's right.

Diane Sanfilippo: Oh my goodness. Anyway. Ok, so, I think we're coming up on about an hour. I'm trying to see if there were any other questions that we didn't get to. I think there were a couple that were a little more general to gut health and not super specific on the SIBO stuff. I guess one or two, there are two last questions. I'll start with this one. Do you know anything about resistant starch and the ability for that to either help or hinder small intestinal bacterial overgrowth.

11. Resistant starch and SIBO [1:00:09]

Dr. Allison Siebecker: Oh, that's so funny you brought that up. I saw, just in the last couple of weeks, Mark Sisson had posted.

Diane Sanfilippo: Yeah, everybody is talking about resistant starch in paleo, so.

Dr. Allison Siebecker: I was really concerned about that. And I followed all the links through to see, when there was someone saying that they thought resistant starch could actually help SIBO, that was disturbing to me.

Diane Sanfilippo: Mmmm.

Dr. Allison Siebecker: I followed all the links through and found so many mistakes and so many erroneous, so much erroneous information. And the links were so tenuous, it was like someone else posting someone else's comments from something.

Diane Sanfilippo: Right.

Dr. Allison Siebecker: It was like, oh my, I don't even know who came up with these things. But when I read this study that, whomever it was that was quoting, it had actually gotten quite a lot of the information directly backward.

Diane Sanfilippo: Mmm.

Dr. Allison Siebecker: From the study. So I was thinking to myself; oh for goodness sakes, do I need to make a comment here? I don't like to do that, I have a lot of professional work, you know {laughs}

Diane Sanfilippo: Mm-hmm.

Dr. Allison Siebecker: And even taking the time to follow this through took a lot of important time out of my day {laughs} But I thought, people are asking me about resistant starch, I need to see what they're saying. Well then, thank god, my friend, Dr. Norm Robillard, who wrote Fast Track Digestion, I saw that he wrote the most extensive, thorough posting replying to this on his own site.

Diane Sanfilippo: Ok.

Dr. Allison Siebecker: Replying to this resistant starch issue, so I would just love to be able to send everyone.

Diane Sanfilippo: Yeah, what's his website? Yeah.

Dr. Allison Siebecker: Well, I guess you could find it under Fast Track Digestion, or I don't know the actual name of his website. And his last name is Robillard. He wrote a part one and a part two on this resistant starch. Apparently, he's been going back and forth with all the people who are posting on resistant starch. I'll say resistant starch experts; he's been having a lot of discussion with them. So I think his post would be a really good source. But I'm just going to, very briefly, tell you that resistant starch is a fiber. So, there are many different definitions of fiber, but one of the key definitions is indigestible to humans, which means we don't produce the enzymes to break the bonds that hold the sugars that make up the fiber. We don't have the enzymes to break that apart. So indigestible to humans, but digestible to bacteria. That is one of the core definitions of fiber, and that is what resistant starch is. There are four types; I'm sure you've all been reading about it. So, resistant starch is a fiber, and it is fermentable. There were some comments about people saying it only feeds good bacteria, that doesn't matter. Because normal bacteria is what is overgrown in SIBO. And also, certain prebiotics, they get touted as only feeding a certain type of bacteria, and that's just not the way it works, and there's plenty of studies to show that. So, what I would say is this. We don't have to make it be a scientific thing, really. All that matter is, if a person wants to try it, go right ahead and see how it affects you.

Diane Sanfilippo: Mm-hmm.

Dr. Allison Siebecker: That's what really matters, you know? {laughs}

Diane Sanfilippo: That's your own, N=1 science. Well, I think that's good information, and usually our transcriber and the girls on my team are pretty good at digging up links to add to the post, so hopefully we'll be able to grab at least one of the introductory links to the blog post that you're talking about there, and give folks a little more information there. So, my last question is just, any long-term strategies for folks to keep SIBO at bay, and to avoid it, and do what we can to kind of be aware and avoid it, I guess?

12. Prevention, avoidance, maintenance of SIBO [1:03:44]

Dr. Allison Siebecker: Yeah. So, you mean for somebody who doesn't have it, how can they?

Diane Sanfilippo: Hopefully, yeah?

Dr. Allison Siebecker: Yeah! {laughs} Yes. Don't take a proton pump inhibitor. That's a major risk factor. Or any acid blockers, if you can help it. If you're on one, see if you can get off. It's hard, because

there's a rebound problem there, and you may even need it. But that's a major risk factor. Next would be if you have any of the diseases that decrease motility, do whatever you can to treat those diseases. That's hard, these are complicated diseases. But to keep them in balance. For instance; if someone has hypothyroid, get it treated. And then, let me just think; in terms of diet, it probably doesn't even need to be said for your podcast and who's listening, but don't over consume carbohydrates, particularly processed ones. I think everyone's got that one in the bag. And then, let me think if there's anything else. Don't overindulge in alcohol. Probably everyone's got that one covered. A higher intake of alcohol has been correlated with SIBO. And then, maybe if you're traveling, or if you do get gastroenteritis, take some Allimed to see if you can prevent anything from happening. Let me scan my brain here for one second; that's mostly it.

Diane Sanfilippo: Anything about the types of bacteria that we're eating that can either help or hinder that? So, are fermented foods any help or not. Things like that, or not really?

Dr. Allison Siebecker: The jury is totally out on that one.

Diane Sanfilippo: Ok.

Dr. Allison Siebecker: Well, I wouldn't say totally. I would say that it's split. There are some studies that show that probiotics really help in the treatment of SIBO, and then there are some expert doctors that think that they may not be so good. So the jury is out, but I generally think it's a good idea to eat fermented foods and probiotics because there are studies that show they help motility.

Diane Sanfilippo: Ok. I like that. So, anything else you want to tell folks before I wrap us up for the day. This has been really fantastic, very fascinating for me, and self-indulgent partially, as well. So I appreciate you taking the time with us, now. But anything else you want to tell people before we close out?

Dr. Allison Siebecker: Yes. You're so sweet to ask. I just want to encourage for anyone who thinks they have SIBO, or has SIBO and has trouble with it, to just not give up. Because so many doctors, they're not methodical about they're treatment. And many patients aren't either. Life overwhelms us, and we have to stop what we were intending to do. But particularly when it comes to your working with a doctor. If somebody gives you one treatment, and that's it and they don't see you again, don't stand for that and don't give up. Go back, get yourself retested, keep going until you get it gone. That's what I would say.

Diane Sanfilippo: Awesome. Well, I know you have a book forthcoming at some point, hopefully early next year. And we will definitely bring you back on. I'm sure there will be lots of new things to talk about with regards to SIBO. I know I actually heard your interview with Dr. Lowe, probably years ago at this point, well over a year ago, and I was really interested and I remember you talking about the migrating motor complex, and I sensed Todd about that a bit in my seminar, so I appreciate everything you've done to get the word out. I also appreciate folks like you who are sharing what you know as you learn it to the best of your ability, and with the understanding that new information is going to come out, and we appreciate that you are doing the best you can to translate from the literature and from what you've seen in your practice to those of us who are just kind of out there trying to figure it all out. So, we appreciate that. That is all for today, and for this week. So we'll be back next week with more of your questions, or perhaps, another fantastic interview. If you've been enjoying the podcast, we ask that you please subscribe in iTunes. It just takes one click, and you'll ensure that you don't miss a beat from us here every single week. Until next time, you can find Dr. Siebecker at her website, which is SIBOinfo.com. You can find me, Diane, at <http://balancedbites.com/>, and Liz at realfoodliz.com. Thanks for listening. We'll be back next week.