

## Common Dysfunctions of the Standard American Gut in Chronic Illness Webinar

April 23, 2020

Question Asked	Answer
Do you find any diagnostic laboratory testing for your patients (like stool testing, food sensitivity testing, SIBO breath test, etc) helpful in determining your treatment approach?	We use a combination of a whole-genome functional stool test (BiomeFx) and organic acid test to understand microbiome function, then sensitivity testing to understand if there are significant drivers of inflammation.
With the results with increase in keystone bacteria is that with the person taking it or did they stop taking the supplement before being tested.	The results are based on feeding their microbiome the prebiotic and probiotic for a 3 week period and measuring changes over that time period.
Do you recommend fasting for Endotoxemia?	Yes, fasting is a critical aspect of "fixing" the gut. A form of intermittent fasting can be really effective in increasing diversity and improving barrier healing. 14 to 16 hour fast 5-7 days per week. Basically an overnight fast with pushing the first calories of the day till the afternoon.
Reference to Lps in DRG, can that be picked up in the blood as LPS antibody	Yes, there is an LPS antibody test, however its hard to quantify true endotoxemia using an antibody test as most will have LPS antibodies and the kinetics of endotoxemia is not apparent when measure antibodies
I have a patient with Lymphocytic Colitis. Would treatment be similar to that of IBD?	Yes, although pathology of lymphocytic or microscopic colitis may be different, it is thought that disease etiology and pathophysiology is similar of the same as IBD (UC).
For MegaSporeBiotics - there has been criticism of the bacillus licheniformis strain - can you speak to this please	b.licheniformis has been used as a prescription probiotic strain for over 4 decades. It is extremely safe and a commensal organism. The EPA and other regulatory agencies have deemed it to be safe and does not present any harm to humans. Its important to note that any info questioning its safety has come from just one source and that is an uncredentialed blogger who is paid to write negative information on competitive products. There is no scientific basis for it.
How can you reverse LPS?	LPS is always generated in the digestive tract and is always present, the key is to improve the gut barrier and the mucosal immune system to prevent LPS from translocating into the circulation. Megaspore does that better than any other product. In addition improvements in diet and lifestyle will have an impact as well.
How do you access each patient...which tests?	We use a combination of a whole-genome functional stool test (BiomeFx) and organic acid test to understand microbiome function, then sensitivity testing to understand if there are significant drivers of inflammation.
How do we test and clinically follow the leaky gut .	Using surrogate immune markers, especially post-prandially, i.e. sCD14, IL-1B, IL-6, INF-g, TNF-a, these are powerful surrogate markers to leaky gut driven chronic inflammation.
Have you seen improvement in Leaky gut	We get complete restoration of the gut barrier. So not only improvements, but resolution.
What kind of testing lab you recommend to follow up ?	We use a combination of a whole-genome functional stool test (BiomeFx) and organic acid test to understand microbiome function, then sensitivity testing to understand if there are significant drivers of inflammation. We can then add the immune markers mentioned above.
Does it help in improving secretory IG A levels ?	We are launching a study on this shortly, but clinically we have seen improvements in IgA
what are the food sources og Bovine IgG ?	By nature bovine IGG comes from cows. So you get some from colostrum, but the bulk of it would be from blood. So some can be found in rare steak.
Is there research on keystone strains and removal of appendix?	We have not seen any. But keystone strains typically populate the gut before 2.5 years. So one would have some amount of them from shortly after birth.
Is the recommended protocol good for SIBO?	Yes, as it addresses the root cause of SIBO, which is endotoxemia driven stasis and gram-negative taxa shift. We recommend adding in the MegaMucosa as well for SIBO.
I have a couple of patients with HIGH akkermansia. Is that a problem?	It depends on the relative abundance. Most stool tests erroneously call things "high" or "low" using an absolute number. But that doesn't exist in the microbiome. True "high" and "low" is based on relative abundance of that species with respect to the rest. I would question the accuracy of the high call. To get a much clearer picture, use the BiomeFX test which will look at relative abundance.
Would you measure LPS plasma levels 5 hours after a meal then?	Yes, that is the standard for determining endotoxemia. However, direct measure of LPS in the blood is not possible with commercial tests. You can use LBP as a surrogate marker or LPS antibodies. LBP is likely the best option.

Could this mechanism be involved with someone who cannot gain weight in spite of adequate caloric intake?	Yes, cachexia is driven by LPS endotoxemia, so it has a significant impact on inability to gain weight or wasting.
Are there any samples of the powders available? I have many patients who don't tolerate Stevia, and would like to test first.	Unfortunately we don't pack the powders in samples
Dosing of the supplements?	Megaspore = 2 caps per day taken at the same time with a meal. MegaMucosa = 1 scoop per day mixed in about 16-18oz of water and consumed over a few hours if possible. The same for MegaPre
What effect on Mucin-1 and Mucin-2 layers occurs, due to Colonoscopy Preps that clear "everything" out?	It is believed, with some research, that there can be disruption of the mucin1 layer due to prep. This can act as a driver of dysbiosis. We have always recommended that patients do a cycle (30 days) of all 3 products in the TGR post colonoscopy
Can you share a "Post- Colonoscopy Prep" protocol using your products?	We recommend 30 days of all 3 products, Megasporebiotic, MegaMucosa and MegaPrebiotic.
What lab can test for LPS in the blood?	No commercial labs do that. LPS is not very stable in the blood over time. You can measure LBP (LPS binding protein) and you can use a LPS antibody test.
What lab can test for LPS-Binding-Protein (LBP) in the blood?	Siemens Immulite test
Low Akkermansia is associated with many chronic illnesses. I have heard, though, that high levels are associated with Alzheimer's. Is this true?	There is little evidence of this and the missing piece is relative abundance. So far, having akkermansia is quite beneficial.
Are there any contraindications to using Mega Mucosa (such as positivity on Cyrex Food Sensitivity array for citrus)?	We have not seen any issues. In fact, the repairing of the gut would build tolerance.
Will you be providing a more specific list of recommended probiotics that we can recommend for people that come in to our practices with specific disease states? Ex - depression vs diabetes - Thanks!	The idea here is that although these conditions present quite differently, the underlying problem in the gut is the same. There is significant benefit in repairing the gut the same way for all those conditions
Were the studies correlated with implementation of dietary changes or no dietary changes?	No dietary changes at all. We were looking to understand the true impact of just the intervention
Are the three supplements (megaspore, megaprebiotic, megamucosa) appropriate for most people or are there any contraindications that need to be kept in mind?	For highly sensitive patients (those that react to everything) we simply have them go slower on the dosing of each. If they are anaphylactic to dairy or corn, we ask them to be cautious. 2 of the prebiotics are derived from corn or dairy, although there are no proteins from any of those foods in the product. But if someone is anaphylactic, we always urge an abundance of caution. If they are simply sensitive, there is no issue.
Is it possible to test for LPS in plasma? Is there a recommended level to stay under?	It is not possible to test for it commercially. You can test for LPB as a surrogate marker and what you are looking for is a concentration that is under 6.7-7 micrograms/ml
Do you consider "Leaky gut" to be a diagnosable syndrome, or a cause of/symptom of these deeper chronic illnesses?	It is diagnosable if you can measure LBP. However, it is also safe to assume that most people in the western world have some degree of leaky gut. It is the root cause of most chronic health disorders
Can we give bovine IgG to patients who are allergic to casein	Yes, because it is serum derived, there is no dairy component
How does someone increase their keystone bacteria when they eat an extremely varied diet and only organic, grass-fed, wild-caught, etc.?	The best way is the combination of Megasporebiotic and MegaPre, the combination specifically increases keystone strains independent of diet.
Should people do a cleanse before they start 'Total Gut Reset'?	We don't recommend it.
Does Kiran Krishnan's company do clinical assessments of the "Total Gut Reset" for people directly? Can people work with them directly rather than go thru a doctor and do they offer support?	We can provide lots of support for clinicians and health practitioners, but we don't work directly with patients.