

Gut: SIBO – Part 6

What criteria you use for interpretation of a SIBO breath test will depend on your practice and your preferences. Again, if you choose a more liberal in this case and err on the side of a false positive, that could lead to overtreatment. If you choose to be a little more conservative and err on the side of false negative, that can lead to undertreatment.

I find myself becoming a little bit more conservative over time. One of my mentors used to say if you look for something hard enough you will find it. I think there are still many unanswered questions about SIBO, a lot of uncertainty about the validity of breath testing and how accurate it is, and even recently some uncertainty about what SIBO really is and what the pathology is. The risk in false positive for SIBO is that you may miss other underlying issues. SIBO, I think can be a symptom of a deeper problem. For example, dysbiosis, imbalance of the large intestinal microbiome, or perhaps heavy metal toxicity, mold toxicity, or some other more fundamental issue such as a gut-brain axis issue that is creating an environment in the small intestine that is hospitable to bacterial overgrowth. If you just keep treating the overgrowth itself without addressing the cause that is leading to overgrowth, then that is really not functional medicine for one, and number two, it is not going to be effective, and it could even cause harm because you are treating patients multiple times with antimicrobials. Even if you are using botanicals, they are typically safer, but they can have adverse effects as well if they are overused.

If you are using rifaximin and using that over and over again, there are some issues there. One is that it is very expensive, and it is not approved in the United States for treating SIBO, even though that is how it is mostly used in a functional medicine context. It is really only approved by the FDA for certain types of liver disease and for IBS-D, or IBS with diarrhea. The other issue with rifaximin that I have seen is that even though it is generally safe and well tolerated, and it is not absorbed systemically into the circulation, I have seen a subset of patients who get worse after repeated SIBO treatment with rifaximin, not better, so they actually end up having worse symptoms than before they started the rifaximin treatment. It is something to keep in mind, and it is another reason to consider what other underlying causes might be present before treating SIBO over and over again with antimicrobials.

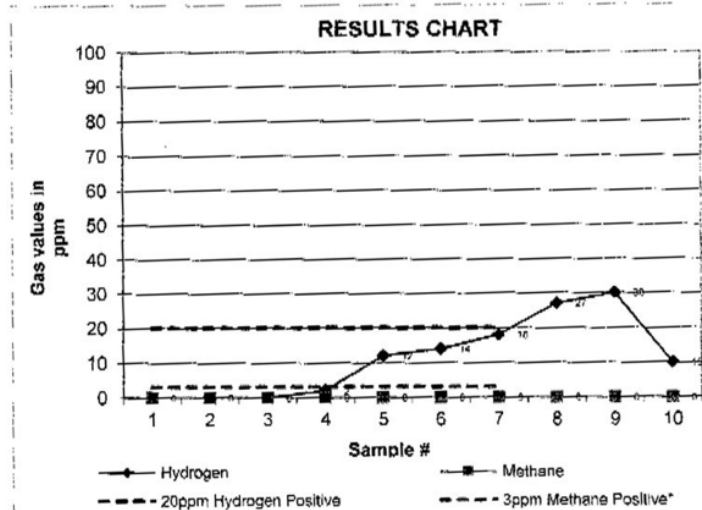
All of that said, as a starting place, I suggest using BioHealth Labs and the 900C using the North American Consensus criteria, but if the patient is treated and does not improve, especially with both botanicals and drugs, you really need to reconsider whether there might be something else going on that is driving the bacterial overgrowth.

Alright. With all that said, let's look at some lab results. These are lactulose breath tests from the three labs that I have been talking about so far.

SMALL INTESTINAL BACTERIAL OVERGROWTH REPORT SHEET - 10 SPECIMEN TEST

Patient Name.....
Patient Number.....
Date of Birth.....
Date Specimen Collected.....
Date Received.....
Physician.....
Physician ID#.....
Address.....
Date Reported.....

Sample Time	Sample #	ppm H ₂	ppm CH ₄	(f) CO ₂
Control	1	0	0	1.05
20 min.	2	0	0	1.08
40 min.	3	0	0	1.23
60 min.	4	2	0	1.16
80 min.	5	12	0	1.02
100 min.	6	14	0	1.36
120 min.	7	18	0	0.92
140 min.	8	27	0	1.13
160 min.	9	30	0	1.54
180 min.	10	10	0	0.87

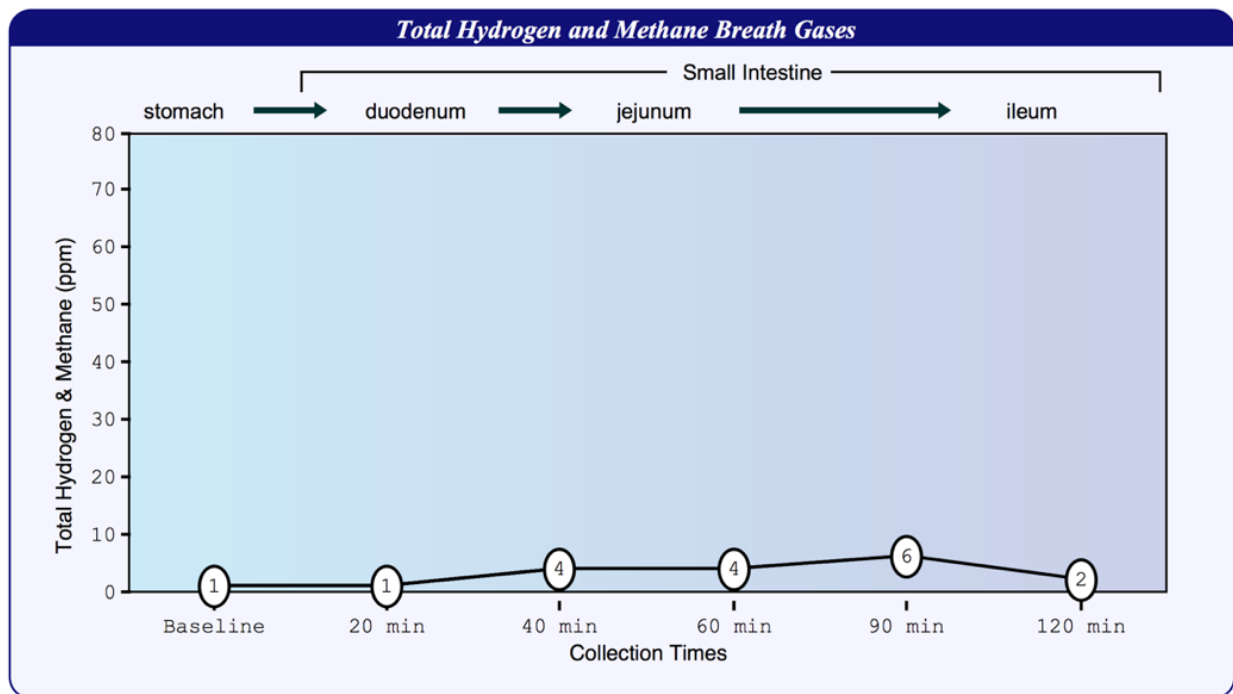


The 120 minute mark corresponds to the time the biomarker should transition from the small intestine and enter the colon.

Summary of 2 Hour Results		
<u>Peak increase values for each trace gas are presented below:</u>		
Peak Hydrogen (H ₂) Production:	18 ppm	Normal <20 ppm
Peak Methane (CH ₄) Production:	0 ppm	Normal <3 ppm*
Peak Combined Gas Production:	18 ppm	Normal <20 ppm

RESULT: BASED ON THE CRITERIA USED IN THIS STUDY, PRESENCE OF BACTERIAL OVERGROWTH IS NOT SUPPORTED*

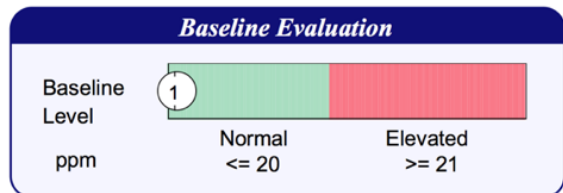
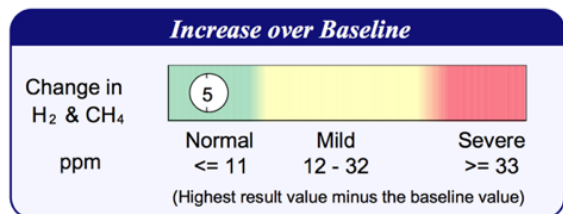
This is a completely normal result by all criteria from Commonwealth, when we were still using this lab. As you can see, there is not an increase of 20 parts per million or more at any time in this test but not before 90 minutes. We have a value of 5 at 80 and a value of 6 at 100 compared to a baseline value of 1, so that is even at 100 minutes only an increase of 5, so that is a negative result. For methane, we are seeing values of 0 all the way through the test, so this person is not a methane producer, so that, of course, leads to no increase in combined gases above 20 parts per million. This is just a totally normal SIBO breath test result.



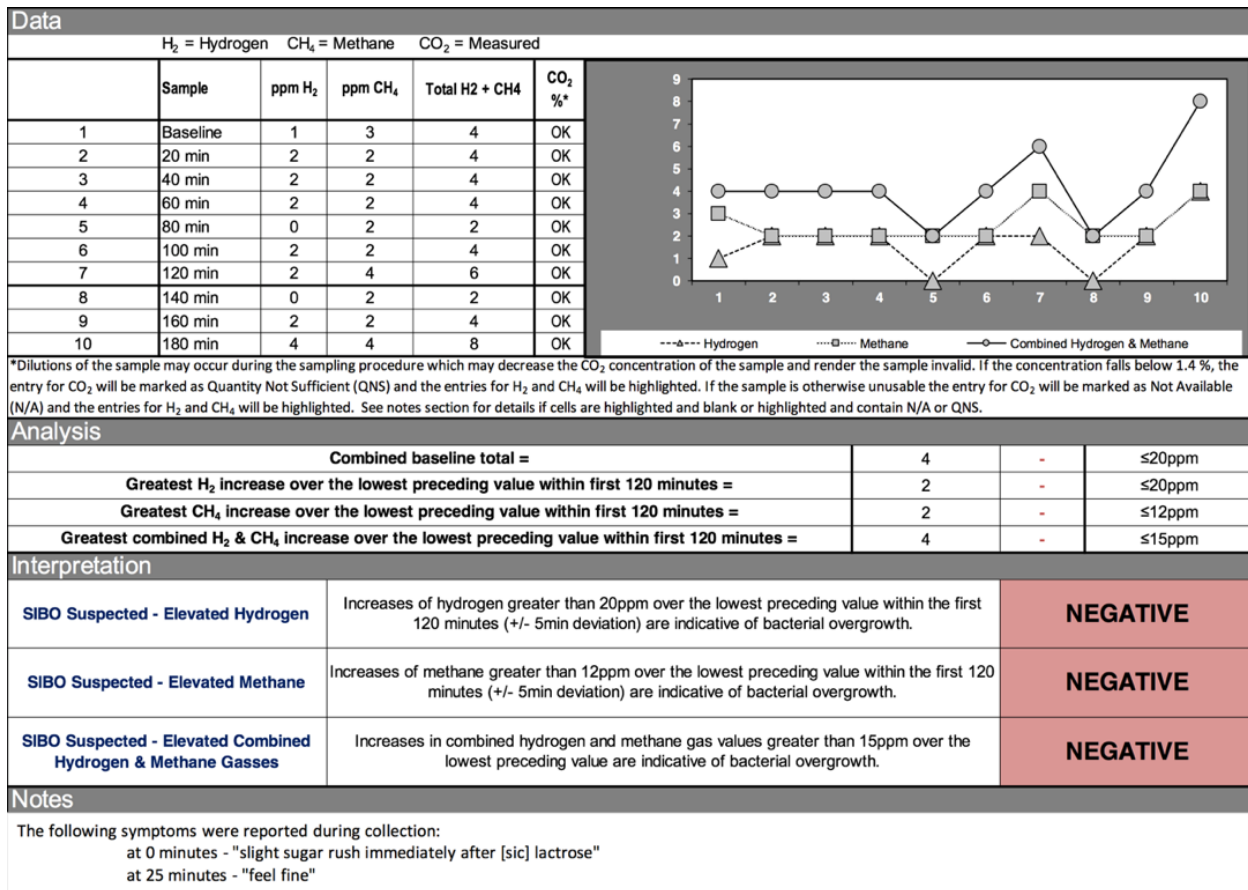
Hydrogen & Methane (ppm)

Minutes	Base-line	20	40	60	90	120
Hydrogen (H ₂)	1	1	1	1	4	2
Methane (CH ₄)	0	0	3	3	2	0
Total	1	1	4	4	6	2

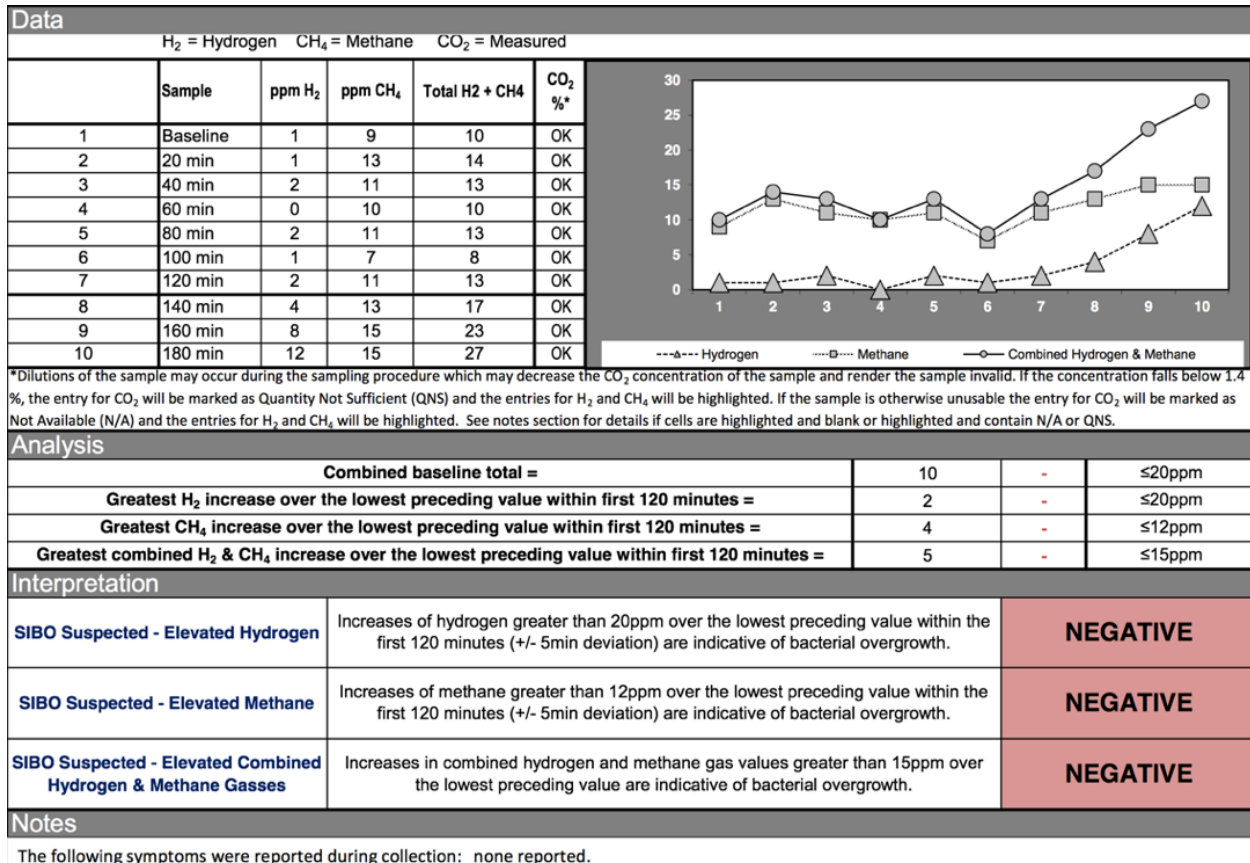
This test was developed and its performance characteristics determined by Genova Diagnostics, Inc. It has not been cleared or approved by the U.S. Food and Drug Administration.



This is a normal Genova result, but as you can see, it only goes out to 120 minutes, two hours instead of three hours that I recommend, which is why I'm not a big fan of this test. Genova also uses their own criteria. They have a scale. I'm not entirely sure where they've gotten it, but they combine hydrogen and methane together, and they define normal as below 11 parts per million increase over the baseline value. Then, they define mild as 12 to 32 parts per million, and over 33 parts per million is severe. They also interpret baseline hydrogen level of above 20 as abnormal, 20 parts per million. Using traditional criteria, elevation of methane alone above 12 parts per million would trigger a positive result on the Genova test because of their threshold for combined hydrogen and methane, and maybe that's why they use the lower threshold. In this test, though, as you can see, there's no increase in total gases. The total increase in gases is 5 parts per million, which is well below the 11 parts per million threshold they've defined, and the methane was only 1, so this is a completely normal result according to Genova.



Here's a test result from NCMN, and you can see that it's normal for hydrogen. Looking at the chart, the line with the triangles represents hydrogen, the line with the squares represents methane, and the line with the circles represents combined hydrogen and methane, so you'll see normal results for hydrogen. It pretty much stays below 2 parts per million for the entire 120-minute period. You'll see a normal result for methane, if it starts at 3 parts per million and never goes above 4 below 120 minutes, and then you see normal for total methane and hydrogen, 4 parts per million for most of the test and then 6 parts per million for 120 minutes. That's still totally normal, so this is negative using all of the established criteria.



Now, this result is normal according to the Quintron machine-generated criteria, as you can see here. This is NUNM. It used to be called NCNM. You can see there in the upper right. They changed their name to NUNM. You can see this is marked negative, but if we use the new 2017 consensus criteria, you can see that there is a methane value of 13 at 20 minutes, so that is above 10, and that would be a positive result for methane.