



3876864

COMPLETE MICROBIOME MAPPING

General Macroscopic Description

	Result	Markers
Stool Colour	Brown	Colour - Brown is the colour of normal stool. Other colours may indicate abnormal gut health.
Stool Form	Unformed	Form - Sample form is categorised using the Bristol stool chart. A comment on stool appearance can be found in the comments section.
Mucous	Not Detected	Mucous - Mucous production may indicate the presence of an infection and/or inflammation.
Occult Blood	Negative	Blood (Macro) - The presence of blood in the stool may be the result of several causes besides colorectal bleeding, including hemorrhoids or gastrointestinal infection.

Short Chain Fatty Acids	Result	Range	Units	
Short Chain Fatty Acids, Beneficial	49.9	> 13.6	umol/g	
Butyrate	16.5	10.8 - 33.5	%	
Acetate	64.0	44.5 - 72.4	%	
Propionate	16.9	0.0 - 32.0	%	
Valerate	2.6	0.5 - 7.0	%	

GIT Functional Markers	Result	Range	Units	
Calprotectin.	<5.0	0.0 - 50.0	ug/g	
Pancreatic Elastase	306.8	> 200.0	ug/g	
Faecal Secretory IgA	741.0	510.0 - 2010.0	ug/g	
Faecal Zonulin	30.9	0.0 - 107.0	ng/g	
Faecal B-Glucuronidase	799.6	337.0 - 4433.0	U/g	
Steatocrit	<1.0	0.0 - 15.0	%	
anti-Gliadin IgA	<20	0.0 - 100.0	units/L	

Microbiome Mapping Summary

Parasites & Worms

Blastocystis hominis.
Dientamoeba fragilis.

Bacteria & Viruses

Methanobacteriaceae
Shiga-like Toxin E. coli stx2

Fungi and Yeasts

Key Phyla Microbiota

Firmicutes:Bacteroidetes Ratio

0.92 < 1.00

RATIO



Relative Commensal Abundance of the 6 Phyla groups can be found on page 4 of this report





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Parasites and Worms.

Parasitic Organisms

Result	Range	Units	
Cryptosporidium.	<dl < 1.0	x10 ⁶ org/g	
Entamoeba histolytica.	<dl < 1.0	x10 ⁴ org/g	
Giardia intestinalis	<dl < 1.0	x10 ³ org/g	
Blastocystis hominis.	69.5 *H < 1.0	x10 ³ org/g	
Dientamoeba fragilis.	550.0 *H < 1.0	x10 ⁵ org/g	
Endolimax nana	<dl < 1.0	x10 ⁴ org/g	
Entamoeba coli.	<dl < 5.0	x10 ⁶ org/g	
Pentatrichomonas hominis	<dl < 1.0	x10 ² org/g	

Worms

Ascaris lumbricoides, Roundworm	Not Detected	Necator americanus, Hookworm	Not Detected
Trichuris trichiura, Whipworm	Not Detected	Enterobius vermicularis, Pinworm	Not Detected
Enterocytozoon spp	Not Detected	Hymenolepis spp, Tapeworm	Not Detected
Strongyloides spp, Roundworm	Not Detected	Taenia species, Tapeworm	Not Detected

Comment: **Not Detected** results indicate the absence of detectable DNA in the sample for the worms reported.
NOTE: Reflex testing is performed on clinically indicated samples

Opportunistic Bacteria/Overgrowth

Result	Range	Units	
Bacillus species.	<dl < 1.00	x10 ⁵ CFU/g	
Enterococcus faecalis	<dl < 1.00	x10 ⁴ CFU/g	
Enterococcus faecium	<dl < 1.00	x10 ⁴ CFU/g	
Morganella species	<dl < 1.00	x10 ³ CFU/g	
Pseudomonas species	<dl < 1.00	x10 ⁴ CFU/g	
Pseudomonas aeruginosa.	<dl < 3.00	x10 ² CFU/g	
Staphylococcus species	<dl < 1.00	x10 ⁴ CFU/g	
Staphylococcus aureus	<dl < 5.00	x10 ² CFU/g	
Streptococcus species	0.84 < 3.00	x10 ³ CFU/g	
Methanobacteriaceae	5.66 *H < 5.00	x10 ⁹ CFU/g	
Desulfovibrio piger	<dl < 18.00	x10 ⁷ CFU/g	
Oxalobacter formigenes	137.95 > 15.00	x10 ⁷ CFU/g	

Potential Autoimmune Triggers

Citrobacter species.	<dl < 5.00	x10 ⁵ CFU/g	
Citrobacter freundii.	<dl < 5.00	x10 ⁵ CFU/g	
Klebsiella species	<dl < 5.00	x10 ³ CFU/g	
Klebsiella pneumoniae.	<dl < 5.00	x10 ⁴ CFU/g	
Prevotella copri	<dl < 1.00	x10 ⁷ CFU/g	
Proteus species	<dl < 5.00	x10 ⁴ CFU/g	
Proteus mirabilis.	<dl < 1.00	x10 ³ CFU/g	
Fusobacterium species	0.30 < 10.00	x10 ⁷ CFU/g	

Fungi & Yeast

Candida species.	<dl < 5.00	x10 ³ CFU/g	
Candida albicans.	<dl < 5.00	x10 ² CFU/g	
Geotrichum species.	<dl < 3.00	x10 ² CFU/g	
Saccharomyces cerevisiae.	<dl < 3.00	x10 ³ CFU/g	
Rhodotorula species.	<dl < 1.00	x10 ³ CFU/g	



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Bacterial Pathogens	Result	Range	Units	
Aeromonas hydrophila.	<dl	< 1.00	x10 ³ CFU/g	
Campylobacter species.	<dl	< 1.00	x10 ³ CFU/g	
C. difficile, Toxin A	<dl	< 1.00	x10 ³ CFU/g	
C. difficile, Toxin B	<dl	< 1.00	x10 ³ CFU/g	
Enterohemorrhagic E. coli	<dl	< 1.00	x10 ³ CFU/g	
Enteroinvasive E. coli/Shigella	<dl	< 1.00	x10 ³ CFU/g	
Enterotoxigenic E. coli LT/ST	<dl	< 1.00	x10 ³ CFU/g	
Shiga-like Toxin E. coli stx1	<dl	< 1.00	x10 ³ CFU/g	
Shiga-like Toxin E. coli stx2	8.73 *H	< 1.00	x10 ³ CFU/g	
Salmonella species.	<dl	< 1.00	x10 ⁴ CFU/g	
Vibrio species.	<dl	< 1.00	x10 ⁵ CFU/g	
Yersinia species.	<dl	< 1.00	x10 ⁵ CFU/g	
Helicobacter pylori	<dl	< 1.0	x10 ³ CFU/g	

Comment: Helico Pylori virulence factors will be listed below if detected POSITIVE

H.pylori Virulence Factor, babA	Not Detected	H.pylori Virulence Factor, cagA	Not Detected
H.pylori Virulence Factor, dupA	Not Detected	H.pylori Virulence Factor, iceA	Not Detected
H.pylori Virulence Factor, oipA	Not Detected	H.pylori Virulence Factor, vacA	Not Detected
H.pylori Virulence Factor, virB	Not Detected	H.pylori Virulence Factor, virD	Not Detected

Viral Pathogens	Result	Range	Units
Adenovirus 40/41	Not Detected		
Norovirus GI/II	Not Detected		
Rotavirus A	Not Detected		
Sapovirus (I,II,IV,V)	Not Detected		
Astrovirus (hAstro)	Not Detected		

Normal Bacterial GUT Flora	Result	Range	Units	
Bacteroides fragilis	115.4	1.6 - 250.0	x10 ⁹ CFU/g	
Bifidobacterium species	31.5	> 6.7	x10 ⁷ CFU/g	
Bifidobacterium longum	1.5 *L	> 5.2	x10 ⁶ CFU/g	
Enterococcus species	347.3	1.9 - 2000.0	x10 ⁵ CFU/g	
Escherichia species	3950.0 *H	3.7 - 3800.0	x10 ⁶ CFU/g	
Lactobacillus species	657.1	8.6 - 6200.0	x10 ⁵ CFU/g	
Lactobacillus Rhamnosus	115.5	8.3 - 885.0	x10 ⁴ CFU/g	
Clostridium species	97.0 *H	5.0 - 50.0	x10 ⁶ CFU/g	
Enterobacter species	0.2 *L	1.0 - 50.0	x10 ⁶ CFU/g	
Akkermansia muciniphila	8.36	1.00 - 50.00	x10 ³ CFU/g	
Faecalibacterium prausnitzii	326.9	200.0 - 3500.0	x10 ³ CFU/g	



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KAREN GALLO
21-Apr-1960

Female

1/9 HORT STREET
MAREEBA QLD 4880






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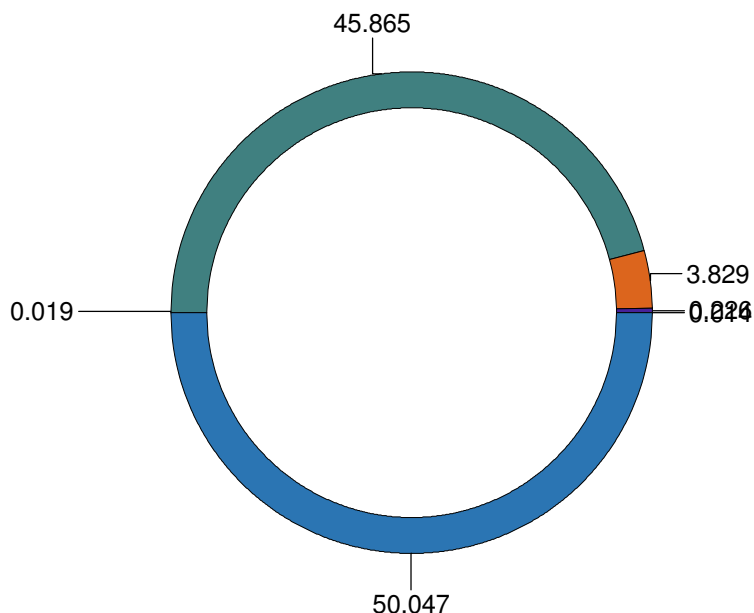
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Introduction:

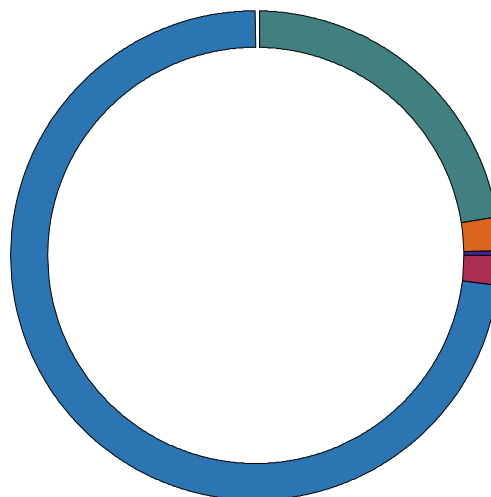
Your gut microbiome is a collective name for the 40 trillion cells and up to 1000 microbial species that include bacteria, viruses, fungi, parasites, and archaea and reside in our gut. The number of gut bacterial cells is approximately equal to the total number of human cells in our body, so if we consider only cell counts, we are only about half human. In terms of gene counts, the microbiome contains about 200 times more genes than the human genome, making bacterial genes responsible for over 99% of our body's gene content! Of all the microbial communities in the human body, the gut microbiome is by far the most dense, diverse, and physiologically important ecosystem to our overall health.

Relative Commensal Abundance	Result	Range	Units
 Bacteroidetes Phylum	50.047	50.000 - 95.000	%
 Firmicutes Phylum	45.865 *H	3.500 - 40.000	%
 Proteobacteria Phylum	3.829	0.500 - 12.500	%
 Verrucomicrobia Phylum	0.226	0.000 - 2.400	%
 Euryarchaeota Phylum	0.019	0.000 - 0.177	%
 Actinobacteria Phylum	0.014	0.001 - 4.818	%

Your Phyla:



Healthy Phyla:



References:

NOTE: Relative abundance reference ranges have been based on a healthy population study.

King CH, et., al. (2019) Baseline human gut microbiota profile in healthy people and standard reporting template. PLoS One. 2019 Sep 11;14(9):e0206484.



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Pathogen Summary:

Macroscopy Comment

BROWN coloured stool is considered normal in appearance.

UNFORMED/LIQUID stools may indicate the presence of infection and/or inflammation.

Consider dysbiosis, food sensitivity, high dose vitamin C and magnesium, infection, intestinal permeability, laxative use, malabsorption, maldigestion, stress. Other causes: bacterial, fungal, viral and other parasitic infections.

Treatment:

- Investigate and treat possible underlying cause.
- Assess other gut markers (e.g pH, pancreatic elastase 1, etc).

Faecal Occult Blood Negative:

Faecal occult blood has not been detected in this specimen. If the test result is negative and clinical symptoms persist, additional follow-up testing using other clinical methods is recommended.

Metabolism Comment

In a healthy gut Short Chain Fatty Acids (SCFAs) exhibited in the following proportions; Butyrate, Acetate, Propionate (16%:60%:24%).

The primary SCFAs butyrate, propionate and acetate are produced by predominant commensal bacteria via fermentation of soluble dietary fibre and intestinal mucus glycans.

Key producers of SCFAs include *Faecalibacterium prausnitzii*, *Akkermansia muciniphila*, *Bacteroides fragilis*, *Bifidobacterium*, *Clostridium* and *Lactobacillus* Spp.

The SCFAs provide energy for intestinal cells and regulate the actions of specialised mucosal cells that produce anti-inflammatory and antimicrobial factors, mucins that constitute the mucus barriers, and gut active peptides that facilitate appetite regulation and euglycemia. Abnormal SCFAs may be associated with dysbiosis, intestinal barrier dysfunction and inflammatory conditions.

SCFA PRODUCTION TABLE

BACTERIA	BUTYRATE	PROPIONATE	ACETATE
<i>Akkermansia muciniphila</i>		▲▲▲	▲▲
<i>Anaerostipes caccae</i>	▲▲▲		
<i>Bacteroides</i> spp.		▲▲▲	
<i>Bifidobacterium</i> spp.		▲	▲▲▲
<i>Blautia obeum</i>		▲▲	▲▲▲
<i>Coprococcus eutactus</i>	▲		
<i>Escherichia coli</i>			▲
<i>Eubacterium rectale</i>	▲▲		
<i>Faecalibacterium prausnitzii</i>	▲▲▲		
<i>Lactobacillus</i> spp.	▲	▲	▲
<i>Roseburia homini</i>	▲▲		
<i>Ruminococcus bromii</i>	▲		▲
<i>Subdoligranulum variabile</i>	▲		

KEY

▲ Low Producers

▲▲ Moderate Producers

▲▲▲ High Producers

GIT Markers Comment

PANCREATIC ELASTASE: Normal exocrine pancreatic function.

Pancreatic Elastase reflects trypsin, chymotrypsin, amylase and lipase activity.

This test is not affected by supplements of pancreatic enzymes.

Healthy individuals produce on average 500 ug/g of PE-1. Thus, levels below 500 ug/g and above 200 ug/g suggest a deviation from optimal pancreatic function.

The clinician should therefore consider digestive enzyme supplementation if one or more of the following conditions is present:



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Loose watery stools, Undigested food in the stools, Post-prandial abdominal pain, Nausea or colicky abdominal pain, Gastroesophageal reflux symptoms, Bloating or food intolerance.

CALPROTECTIN Normal:

Faecal calprotectin values <50 ug/g are not indicative of inflammation in the gastrointestinal tract. Subjects with low faecal calprotectin levels normally do not need to be further investigated by invasive procedures. In patients with strong clinical indications of intestinal inflammation, repeat testing may be useful.

Test performed by Phadia ELIA Fluorescence enzyme immunoassay (FEIA).

SECRETORY IGA NORMAL:

Secretory IgA is within range.

Secretory IgA represents the first line of defence of the gastrointestinal mucosa and is central to the normal function of the gastrointestinal tract as an immune barrier. Review this level with other pathogenic bacteria and normal commensal flora. Lower levels within reference range should be interpreted clinically.

ZONULIN NORMAL:

Zonulin is a protein that modulates intestinal barrier function. This results is considered normal.

BETA-GLUCURONIDASE NORMAL:

B-Glucuronidase is considered normal and is within reference range.

Parasites/Worms Comment

ELEVATED BLASTOCYSTIS HOMINIS LEVEL:

Blastocystis hominis may be the cause of persistent, mild diarrhoea. It is endemic in Australia, although it may also be associated with recent overseas travel. Detection suggests the ingestion of contaminated material or contact with farm animals. Continued symptoms may require further testing for the detection of bacterial, viral and/or parasitic co-pathogens.

TREATMENT SUGGESTIONS:

Mild symptoms are self-limiting.

If treatment is warranted, metronidazole 400 - 750mg (child 12-17mg/kg up to 750mg) three times daily for at least 10 days.

Lower dosages are usually associated with treatment failure.

Paromomycin has also shown to be effective as an alternative treatment option.

Rule out allergy to above medication before prescribing/taking. Consult ID specialist if patient is showing severe symptoms or immunocompromised.

ELEVATED DIENTAMOEBIA FRAGILIS LEVEL:

Dientamoeba fragilis appears to be extremely common and may have a cosmopolitan distribution, although there are large variations in prevalence. Dientamoeba fragilis has been linked to intestinal symptoms, especially in children. The most common symptoms associated with this organism are abdominal pain, intermittent diarrhoea, bloating and anorexia.

TREATMENT SUGGESTIONS:

Mild symptoms are self-limiting.

If treatment is warranted, metronidazole for 10 days or a single 2g dose of Tinidazole may be used. Tetracycline has also proven effective in adults.

Rule out allergy to above medication before prescribing/taking. Consult ID specialist if patient is showing severe symptoms or immunocompromised.



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Opportunistic Bacteria Comment

METHANOBACTERIACEAE ELEVATED:

PHYLUM: Euryarchaeota

DESCRIPTION:

Methanobacteriaceae are methane-producing microbes that play an important role in the gut ecosystem by facilitating carbohydrate fermentation and production of short-chain fatty acids by commensal bacteria. Elevated levels may be associated with abdominal bloating, constipation, flatulence, inflammatory bowel disease (IBD), irritable bowel syndrome (IBS), colorectal cancer, diverticulosis or obesity and often correlate with a positive SIBO test.

TREATMENT SUGGESTIONS:

Elimination of methanogenic flora using antibiotic treatment may contribute to therapeutic benefits and include neomycin or rifaximin. Antimicrobial herbs may also be beneficial in treatment (including garlic and oregano). Rule out allergy to above medication before prescribing/taking.

Bacterial Pathogens Comment

SHIGA TOXIN-PRODUCING ESCHERICHIA COLI STX2 ELEVATED:

PHYLUM: Proteobacteria

DESCRIPTION:

Shiga toxin-producing Escherichia coli (STEC) are defined as strains of E. coli that produce Shiga toxins (stx1 and 2). STEC is seen in faecal contamination of food (undercooked beef, raw milk, and unpasteurized juice) and water. It may also be seen in farm workers/agricultural families/pet farms. Implicated in haemorrhagic colitis, with fever, abdominal cramping, fatigue, nausea, and frank fresh bloody diarrhoea with no faeces, lasting up to a week. May complicate to haemolytic uremic syndrome (HUS), causing hepato-renal shutdown.

TREATMENT SUGGESTIONS:

Managed conservatively with supportive therapy and monitor for warning signs of HUS. B lactam (cell wall active) antibiotics are contraindicated with mild symptoms as can precipitate HUS, which warrants in-patient IV non B lactam antibiotics.

PLEASE NOTE:

STEC is a Notifiable Disease. This result has been notified to the Department of Health.

NOTIFICATION BY THE REFERRING PRACTITIONER may also be required under the Public Health and Wellbeing Act 2009.

Phyla Microbiota Comment

FIRMICUTES (PHYLUM) ELEVATED:

DESCRIPTION:

Firmicutes are a phylum of diverse bacteria which are primarily grouped into classes, Bacilli, Clostridia, Erysipelotrichia and Negativicutes. They are found in various environments, including the intestinal tract, and the group includes some notable pathogens. Firmicutes are involved in energy resorption in the gut microbiome and levels may be affected by diet. Elevated levels and disturbance of gastrointestinal microbiome balance, particularly Firmicutes/Bacteroidetes ratio, have been associated with inflammation, obesity, diabetes and with a high sugar/ fat diet.

TREATMENT SUGGESTIONS: Consider using Bifidobacterium or Saccharomyces containing probiotics. It may also be suggested to optimise the patient diet. A lower fat diet may help to normalize Firmicutes levels.



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Normal Bacterial Flora Comment

BIFIDOBACTERIUM LONGUM LOW:

PHYLUM: Actinobacteria

DESCRIPTION:

Bifidobacterium longum is a Gram-positive, catalase-negative, rod-shaped bacterium present in the human gastrointestinal tract and one of the Bifidobacterium species. It can induce and regulate immune responses, reduce the expression of inflammatory cytokines, and maintain the normal intestinal barrier function.

Bifidobacterium longum is a clinically effective, well-established, multifunctional probiotic that has a long history of human use in alleviating gastrointestinal, immunological, and infectious diseases such as constipation, antibiotic associated diarrhoea, irritable bowel syndrome and ulcerative colitis. Low levels may be associated with irritable bowel syndrome, asthma, autism, depressive disorder and with pathogenic bacteria infection.

TREATMENT SUGGESTIONS: Treatment may involve the use of Bifidobacterium longum containing probiotics and treatment of any intestinal infections.

BIFIDOBACTERIUM SPECIES LOW NORMAL:

PHYLUM: Actinobacteria

DESCRIPTION:

Bifidobacterium is a genus of gram-positive, nonmotile anaerobic bacteria that are ubiquitous inhabitants of the gastrointestinal tract and considered a probiotic. Bifidobacterium species prevent diarrhea and intestinal infections, alleviate constipation, and stimulate the immune system. Whilst, the Bifidobacterium species level is in range, it is below the average mean.

Lower levels may result from low fibre intake or reduced mucosal health. Additionally, Lower levels may be associated with irritable bowel syndrome or with pathogenic bacteria infection.

TREATMENT SUGGESTIONS: Treatment may involve the use of Bifidobacterium containing probiotics and treatment of any intestinal infections.

ESCHERICHIA SPECIES ELEVATED:

PHYLUM: Proteobacteria

DESCRIPTION:

Escherichia is a genus of Gram-negative, non-spore-forming, facultatively anaerobic, rod-shaped bacteria and normal inhabitants of the gastrointestinal tract. Species include E. albertii, E. fergusonii, E. hermannii, E. marmotae and most notably E. coli. High levels may be indicative of increased intestinal inflammatory activity and be associated with irritable bowel syndrome, Crohn's, ulcerative colitis and diarrhea. Studies have also revealed that chronic psychological stress may be associated with an increase in E.Coli colonisation.

TREATMENT SUGGESTIONS: Commensal probiotic cocktails are suggested to prevent and reverse gut elevated colonization.

LACTOBACILLUS SPECIES LOW NORMAL:

PHYLUM: Firmicutes

DESCRIPTION:

Lactobacillus species is below average.

Lactobacillus is a genus of Gram-positive rod-shaped, non-spore-forming bacteria which constitute a significantly important component of the human gastrointestinal system.

Lactobacillus exhibits a mutualistic relationship with the human body, as it protects the host against potential invasions by pathogens, and in turn, the host provides a source of nutrients. Lactobacilli are among the most common probiotic found in food such as yogurt, and it is diverse in its application to maintain gut health and to help treat ailments clinically such as diarrhea and obesity.

Lactobacillus species promote the anti-inflammatory response, thereby supporting the improvement of symptoms pertaining to asthma, chronic obstructive pulmonary disease, neuroinflammatory diseases, cardiovascular diseases, inflammatory bowel disease (IBD) and chronic infections in patients. Reduced levels increase the risk of infections and inflammation. Studies have also revealed



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that chronic psychological stress and alcohol use may be associated with a decrease in Lactobacillus species, as well as antibiotic / medication use.

TREATMENT SUGGESTIONS: Treatment may involve the use of Lactobacillus containing probiotics and treatment of any intestinal infections.

CLOSTRIDIUM SPECIES ELEVATED:

PHYLUM: Firmicutes

DESCRIPTION:

Clostridium is a genus of anaerobic, Gram-positive bacteria found in the environment and the intestinal tract. This genus includes several species and can utilize large amounts of nutrients that cannot be digested by host and produce short-chain fatty acids (SCFAs), which play a noticeable role in intestinal homeostasis. Colonisation of Clostridium species may be affected by diet (carbohydrate and protein in diet) and general health and may be protective against inflammation and infection. However, some species may act as potential pathogens. Elevated Clostridium species may indirectly damage the intestinal epithelial cells. Another symptom may include constipation.

TREATMENT SUGGESTIONS: Treatment may involve the use of probiotics, treatment of any intestinal infections and dietary modification (reduce consumption of different fibres, such as inulin, oligofructose, arabinosyran, guar gum and starch).

ENTEROBACTER SPECIES LOW:

PHYLUM: Proteobacteria

DESCRIPTION:

Enterobacter is a genus of common Gram-negative, facultatively anaerobic, rod-shaped bacteria, commonly found in the environment as well as the gastrointestinal tract. There are many species and intestinal colonisation may exert a probiotic effect for some, whereas some may act as potential pathogens. Decreased levels may increase risk of pathogenic infection and fungal colonisation as well as inflammation or be subsequent to antibiotic or medication use.

TREATMENT SUGGESTIONS: Treatment may involve the use of probiotics, treatment of any intestinal infections and dietary modification.



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The Four “R” Treatment Protocol

REMOVE	Using a course of antimicrobial, antibacterial, antiviral or anti parasitic therapies in cases where organisms are present. It may also be necessary to remove offending foods, gluten, or medication that may be acting as antagonists. Consider testing IgG96 foods as a tool for removing offending foods.	ANTIMICROBIAL	Oil of oregano, berberine, caprylic acid
		ANTIBACTERIAL	Liquorice, zincarnosine, mastic gum, tribulus, berberine, black walnut, caprylic acid, oil of oregano
		ANTIFUNGAL	Oil of oregano, caprylic acid, berberine, black walnut
		ANTIPARASITIC	Artemesia, black walnut, berberine, oil of oregano
		ANTIVIRAL	Cat's claw, berberine, echinacea, vitamin C, vitamin D3, zinc, reishi mushrooms
		BIOFILM	Oil of oregano, protease
REPLACE	In cases of maldigestion or malabsorption, it may be necessary to restore proper digestion by supplementing with digestive enzymes.	DIGESTIVE SUPPORT	Betaine hydrochloride, tilactase, amylase, lipase, protease, apple cider vinegar, herbal bitters
REINOCULATE	Recolonisation with healthy, beneficial bacteria. Supplementation with probiotics, along with the use of prebiotics helps re-establish the proper microbial balance.	PREBIOTICS	Slippery elm, pectin, larch arabinogalactans
		PROBIOTICS	Bifidobacterium animalis subsp. lactis, lactobacillus acidophilus, lactobacillus plantarum, lactobacillus casei, bifidobacterium breve, bifidobacterium bifidum, bifidobacterium longum, lactobacillus salivarius subsp. salivarius, lactobacillus paracasei, lactobacillus rhamnosus, Saccharomyces boulardii
REPAIR & REBALANCE	Restore the integrity of the gut mucosa by giving support to healthy mucosal cells, as well as immune support. Address whole body health and lifestyle factors so as to prevent future GI dysfunction.	INTESTINAL MUCOSA IMMUNE SUPPORT	Saccharomyces boulardii, lauric acid
		INTESTINAL BARRIER REPAIR	L-Glutamine, aloe vera, liquorice, marshmallow root, okra, quercetin, slippery elm, zincarnosine, Saccharomyces boulardii, omega 3 essential fatty acids, B vitamins
		SUPPORT CONSIDERATION	Sleep, diet, exercise, and stress management