

P: 1300 688 522 E: info@nutripath.com.au A: PO Box 442 Ashburton VIC 3142 Date of Birth: 06-Dec-1991

Sex: F

Collected: 1/Feb/2021 Received: 02-Feb-2021 1 HARPER STREET HELENSBURGH NSW 2508 Lab id: 3718319 UR#: 6576984 STUDIO YOU 135 ROWNTREE STREET BIRCHGROVE NSW 2041

COMPLETE MICROBIOME MAPPING

General Macroscopic Description

	Result	Range	Markers	
Stool Colour	Brown		Colour - Brown is the colour of normal stool. Other colours may indicate abnormal GIT conditions.	
Stool Form	Formed		Form -A formed stool is considered normal. Variations to this may indicate abnormal GIT conditions.	
Mucous	NEG	<+	Mucous - Mucous production may indcate the presence of an infection, inflammation or malignancy.	
Occult Blood	NEG	<+	Blood (Macro) - The presence of blood in the stool may indicate possible GIT ulcer, and must always be investigated immediately.	

GIT Functional Markers	Result	Range	Units	
Calprotectin.	23.0	0.0 - 50.0	ug/g	•
Pancreatic Elastase	>500.0	> 200.0	ug/g	
Faecal Secretory IgA	<i>64.7</i> *L	510.0 - 2010	.0 ug/g	•
Faecal Zonulin	68.4	0.0 - 107.0	ng/g	•
Faecal B-Glucuronidase	3853.8	337.0 - 4433	.0 U/g	•
Steatocrit	1.0	0.0 - 15.0	%	
anti-Gliadin IgA	21.0	0.0 - 157.0	units/L	

Microbiome Mapping Summary

Parasites & Worms

Blastocystis hominis.

Bacteria & Viruses

x10^11 org/g

x10^10 org/g

RATIO

Enterococcus faecalis Enterococcus faecium Morganella species Streptococcus species Citrobacter freundii. Proteus species Proteus mirabilis. Enterohemorrhagic E. coli

Fungi and Yeasts

Key Phyla Microbiota

 Bacteroidetes
 14.70
 8.61 - 33.10

 Firmicutes
 53.48 *H
 5.70 - 30.40

 Firmicutes:Bacteroidetes Ratio
 0.36
 < 1.00</th>

Page 1 of 10 Complete Microbiome Map Lab ID: 3718319 Patient Name: EMMA CARLON





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Parasites and Worms.	Result	Range	Units	
Parasitic Organisms				
Cryptosporidium.	<dl< th=""><th>< 1.0</th><th>x10^6 org/g</th><th></th></dl<>	< 1.0	x10^6 org/g	
Entamoeba histolytica.	<dl< th=""><th>< 1.0</th><th>x10^4 org/g</th><th></th></dl<>	< 1.0	x10^4 org/g	
Giardia lamblia.	<dl< th=""><th>< 5.0</th><th>x10^3 org/g</th><th></th></dl<>	< 5.0	x10^3 org/g	
Blastocystis hominis.	<i>263.9</i> *H	< 2.0	x10^3 org/g	•
Dientamoeba fragilis.	<dl< th=""><th>< 1.0</th><th>x10^5 org/g</th><th></th></dl<>	< 1.0	x10^5 org/g	
Endolimax nana	<dl< th=""><th>< 1.0</th><th>x10^4 org/g</th><th></th></dl<>	< 1.0	x10^4 org/g	
Entamoeba coli.	<dl< th=""><th>< 5.0</th><th>x10^6 org/g</th><th></th></dl<>	< 5.0	x10^6 org/g	
Pentatrichomonas hominis	<dl< th=""><th>< 1.0</th><th>x10^2 org/g</th><th></th></dl<>	< 1.0	x10^2 org/g	
Worms				
Ancylostoma duodenale, Roundworn	Not De	tected		Comment: Not Detected results indicate
Ascaris lumbricoides, Roundworm	Not De	tected		the absence of detectable DNA in this
Necator americanus, Hookworm	Not De			sample for the worms reported.
Trichuris trichiura, Whipworm	Not De			
Taenia species, Tapeworm	Not De			
Enterobius vermicularis,Pinworm	Not De			
Opportunistic Bacteria/Overgr	Result	Range	Units	
Bacillus species.	1.4	< 1.5	x10^5 org/g	
Enterococcus faecalis	2.4 *H		x10^4 org/g	•
Enterococcus faecium	2.2 *H	< 1.0	x10^4 org/g	•
Morganella species	<i>17.9</i> *H	< 1.0	x10^3 org/g	•
Pseudomonas species	<dl< th=""><th>< 1.0</th><th>x10^4 org/g</th><th></th></dl<>	< 1.0	x10^4 org/g	
Pseudomonas aeruginosa.	<dl< th=""><th>< 5.0</th><th>x10^2 org/g</th><th></th></dl<>	< 5.0	x10^2 org/g	
Staphylococcus species	<dl< th=""><th>< 1.0</th><th>x10^4 org/g</th><th></th></dl<>	< 1.0	x10^4 org/g	
Staphylococcus aureus	<dl< th=""><th>< 5.0</th><th>x10^2 org/g</th><th></th></dl<>	< 5.0	x10^2 org/g	
Streptococcus species	7.1 *H		x10^3 org/g	•
Methanobacteriaceae	3.77	< 5.00	x10^9 org/g	•
Potential Autoimmune Triggers				
Citrobacter species.	<dl< th=""><th>< 5.0</th><th>x10^5 org/g</th><th></th></dl<>	< 5.0	x10^5 org/g	
Citrobacter freundii.	11.0 *H	< 5.0	x10^5 org/g	•
Klebsiella species	<dl< th=""><th>< 5.0</th><th>x10^3 org/g</th><th></th></dl<>	< 5.0	x10^3 org/g	
Klebsiella pneumoniae.	2.0	< 5.0	x10^4 org/g	•
Prevotella copri	<dl< th=""><th>< 1.0</th><th>x10^7 org/g</th><th></th></dl<>	< 1.0	x10^7 org/g	
Proteus species	<i>6.3</i> *H	< 5.0	x10^4 org/g	•
Proteus mirabilis.	1.0 *H		x10^3 org/g	•
Fusobacterium species	0.80	< 10.00	x10^7 org/g	
Fungi & Yeast	Result	Range	Units	
Candida species.	2.9	< 5.0	x10^3 org/g	
Candida albicans.	<dl< th=""><th>< 5.0</th><th>x10^2 org/g</th><th></th></dl<>	< 5.0	x10^2 org/g	
Geotrichum species.	0.6	< 3.0	x10^2 org/g	
Microsporidium species	<dl< th=""><th>< 5.0</th><th>x10^3 org/g</th><th></th></dl<>	< 5.0	x10^3 org/g	
Rhodotorula species.	0.1	< 1.0	x10^3 org/g	



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Bacterial Pathogens	Result	Range	Units
Aeromonas species.	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Campylobacter.	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
C. difficile, Toxin A	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
C. difficile, Toxin B	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Enterohemorrhagic E. coli	<i>289.8</i> *H	< 1.0	x10^3 CFU/g
E. coli O157	<dl< th=""><td>< 1.0</td><td>x10^2 CFU/g</td></dl<>	< 1.0	x10^2 CFU/g
Enteroinvasive E. coli/Shigella	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Enterotoxigenic E. coli LT/ST	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Shiga-like Toxin E. coli stx1	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Shiga-like Toxin E. coli stx2	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Salmonella.	<dl< th=""><td>< 1.0</td><td>x10^4 CFU/g</td></dl<>	< 1.0	x10^4 CFU/g
Vibrio cholerae	<dl< th=""><td>< 1.0</td><td>x10^5 CFU/g</td></dl<>	< 1.0	x10^5 CFU/g
Listeria monocytogenes	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></dl<>	< 1.0	x10^3 CFU/g
Yersinia enterocolitica.	<dl< th=""><td>< 1.0</td><td>x10^5 CFU/g</td></dl<>	< 1.0	x10^5 CFU/g
Helicobacter pylori	<dl< th=""><td>< 1.0</td><td>x10^3 CFU/g</td></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	<dl< b=""> < 1.0</dl<>	x10^10 CFU/g
Norovirus GI/II	<dl< b=""> < 1.0</dl<>	x10^7 CFU/g
Bocavirus	<dl< b=""> < 1.0</dl<>	x10^10 CFU/g

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Normal Bacterial GUT Flora	Result	Range	Units	
Bacteroides fragilis	2.0	1.6 - 250.0	x10^9 CFU/g	•
Bifidobacterium species	4823.6	> 6.7	x10^7 CFU/g	•
Enterococcus species	119.7	1.9 - 2000.0	x10^5 CFU/g	•
Escherichia species	<i>7040.0</i> *H	3.7 - 3800.0	x10^6 CFU/g	•
Lactobacillus species	237.5	8.6 - 6200.0	x10^5 CFU/g	•
Clostridium species	<i>58.8</i> *H	5.0 - 50.0	x10^6 CFU/g	•
Enterobacter species	<i>258.4</i> *H	1.0 - 50.0	x10^6 CFU/g	
Akkermansia muciniphila	0.30	0.01 - 50.00	x10^3 CFU/g	•
Faecalibacterium prausnitzii	1070.5	1.0 - 500000	x10^3 CFU/g	•
Short Chain Eathy Acids	Dogulk	Danas	Heite	

Result	Range	Units	
52.1	> 13.6	umol/g	•
12.1	10.8 - 33.5	%	•
67.3	44.5 - 72.4	%	•
17.2	0.0 - 32.0	%	•
3.4	0.5 - 7.0	%	
	52.1 12.1 67.3 17.2	Result Range 52.1 > 13.6 12.1 10.8 - 33.5 67.3 44.5 - 72.4 17.2 0.0 - 32.0	Result Range Units 52.1 > 13.6 umol/g 12.1 10.8 - 33.5 % 67.3 44.5 - 72.4 % 17.2 0.0 - 32.0 %

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Pathogen Summary:

Macroscopy Comment

BROWN coloured stool is considered normal in appearance.

Metabolism Comment

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

VALERATE:

Valerate is a short chain fatty acid that is important for gut health. Although Acetate, propionate, and butyrate make up the the most abundant SCFAs in gastrointestinal tract (95%), Valerate and other SCFA's make up the remaining and work optimally when within range.

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: 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.

FAECAL SECRETORY IgA:

Production of sIgA is important to the normal function of the gastrointestinal mucosa as an immune barrier.

It represents the first line immune defense of the GIT.

Elevated levels are associated with an upregulated immune response.

LOW sIgA LEVEL:

The primary function of secretory IgA (sIgA) is an antibody protein secreted into the gastrointestinal tract as a first line of immune defence against pathogenic microorganisms. sIgA binds to invading micro organisms and toxins and entrap them in the mucus layer or within the epithelial cells, so inhibiting microbial motility, agglutinating the organisms and neutralising their exotoxins and then assist in their harmless elimination from the body in the faecal flow. sIgA also 'tags' food as acceptable, so low sIgA leads to increased sensitivity to foods.

Several studies link stress and emotionality with levels of sIgA. Production is adversely affected by stress, which is mediated by cortisol levels.

**Reduced sIgA levels may be associated with sub optimal adrenal output. Consider an Adrenocortex Stress profile.

Treatment: Investigate the root cause of inflammation. Consider the use of probiotics (saccharomyces boulardii), choline, essential fatty acids, glutathione, glycine, glutamine, phosphatidylcholine, Vitamin C and Zinc which are all required for efficient production of sIgA.

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Parasites/Worms Comment

ELEVATED BLASTOCYSTIS HOMINIS LEVEL:

Significant copies per gene of Blastocystis hominis have been detected in this stool sample. The role of B. hominis in terms of colonisation and disease is still considered controversial. When this organism is present in the absence of any other parasites, enteric organisms or viruses, it may be considered the etiological agent of disease. Symptoms can include diarrhoea, cramps, nausea, fever, vomiting and abdominal pain. B. hominis has been associated with irritable bowel syndrome, infective arthritis and intestinal obstruction.

Treatment:

Metronidazole (Flagyl) is considered the most effective drug. Iodoquinol and paromomycin are also effective medications. Recommended therapy can also eliminate G. lamblia, E. histolytica and D. fragilis, all of which may be concomitant undetected pathogens and part of patient symptomology.

Using a combination of herbs that contain berberine (e.g. Golden seal, Coptis chinensis, Barberry, Oregon grape and Phellodendron) is desirable for the treatment of certain organisms. It is important to investigate the percentage of berberine contained in the dry weight extract of the berberine containing herb and then dose accordingly for the therapeutic dose of berberine.

Total therapeutic dose of berberine: 200mg four times daily.

Further Investigation:

PCR stool analysis should be considered in 4 weeks' time to ensure infection has cleared.

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Opportunistic Bacteria Comment

ELEVATED BACILLUS SPECIES LEVEL:

Bacillus species are spore forming, gram-positive rods belonging to the Bacillaceae family. There are currently 50 valid species within the genus.

It has been noted that some strains are used as probiotics.

Sources:

Meat dishes are a common source of infection in other species of Bacillus such as B. subtilis and B. licheniformis.

B. cereus food poisoning includes meats, pasta, vegetable dishes, desserts, cakes, sauces and milk.

Pathogenicity:

As yet, no toxins or other virulence factors have been identified in association with the symptoms that accompany non-B. cereus species.

Symptoms:

B. licheniformis and B. subtilis are associated with food-borne diarrheal illness.

Treatment

It should be noted that the level of Bacillus spp should be considered in context of clinical symptoms. The level may be neither beneficial nor pathogenic. Where present, often inadequate levels of beneficial bacteria are also noted. These organisms may become dysbiotic at high levels where treatment may become necessary.

Natural Microbials:

In high levels of Bacillus spp, a combination of berberine and plant tannins have shown a high susceptibility success for treatment. Antibiotics:

B. species is almost always susceptible to clindamycin, erythromycin and vancomycin.

ELEVATED ENTEROCOCCUS FAECALIS LEVEL:

Enterococcus faecalis is a gram-positive bacterium that can cause a variety of infections of which urinary tract infections are the most common. These infections can be exceptionally difficult to treat because of drug resistance of many E. faecalis isolates.

Sources:

E. faecalis infections spread from person to person through poor hygiene. Because these bacteria are found in faeces, people can transmit the infection if they don't wash their hands after using the bathroom. The bacteria can get into food or onto common touched surfaces.

Treatment:

Enterococcus faecalis is challenging to treat due to its drug-resistant mechanisms. However, Ampicillin is the preferred antibiotic used to treat E. faecalis infections. For further treatment information, refer to the 4R treatment protocol located at the end of this report.

ELEVATED MORGANELLA LEVEL:

Sources:

M. morganii originates from the gill and skin of fish. It is possible that it may cross-contaminate during handling of fish in processing plants and restaurants.

Pathogenicity:

The role of Morganella as an etiological agent in diarrheal disease is controversial. Although Morganella constitutes part of the normal flora, in certain hosts it may be a potential pathogen.

Recently it was shown that the majority of clinical isolates of Morganella belonged to the subspecies Morganii.

Symptoms:

Diarrhea has been associated with infection of this organism.

Treatment:

Currently, standard texts provide no specific antimicrobial guidelines for GI overgrowth of Morganella.

Carbapenems, 3rd and 4th generation cephalosporins and fluroquinolones are the agents recommended for Extra-intestinal infections. For further treatment suggesstions, refer to the 4R protocol at the end of this report.

STREPTOCOCCUS SPECIES:

Description:

Streptococcus is a gram-positive bacteria in the Firmicutes phylum. Streptococcus is generally a common isolate from gut flora. However, emerging research suggests that high levels in the intestine may result from low stomach acid, PPI use, reduced digestive capacity, SIBO or constipation; Elevated levels may also be indicative of intestinal inflammatory activity, and may cause loose stools.

Sources:

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Recent infections with streptococcus pyogenes or scarlet fever can be linked to the presence of this species in faeces.

Treatment:

Treatment of streptococcus in gut flora is not always recommended. A practitioner may take into consideration a range of patient factors and symptoms to determine if treatment is necessary. In this case please refer to the 4R treatment protocol located at the end of this report.

METHANOBACTERIACEAE:

Family of bacteria-like microbes that produce methane. Facilitates carbohydrate fermentation and short-chain fatty acid production by beneficial bacteria.

LOW levels may indicate reduced production of short-chain fatty acids and may be associated with inflammation.

HIGH levels linked to chronic constipation, as well as some types of SIBO and IBS.

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Potential Autoimmune Comments

ELEVATED CITROBACTER FREUNDII LEVEL:

Sources:

Citrobacter is a gram-negative bacteria in the Enterobacteriaceae family. Common in the environment and may be spread by person-to person contact. Several outbreaks have occurred in babies in hospital units. Isolated from water, fish, animals and food.

Pathogenicity:

Citrobacter is considered an opportunistic pathogen and therefore can be found in the gut as part of the normal flora.

Symptoms:

Citrobacter has occasionally been implicated in diarrheal disease, particularly C. freundii and C. diversus and C. koseri

Treatment:

Treatment is not generally required in low amounts. However, where high levels are present and patients are symptomatic. A combination of oregano, plant tannins and oregano has shown high susceptibility.

For further information, refer to the 4R treatment protocol located at the end of this report.

ELEVATED PROTEUS SPECIES LEVEL:

Sources:

Food has been implicated as a vehicle of infection.

Pathogenicity:

Part of the normal flora of the GI tract, though has been shown to be an independent causative agent of intestinal disorders. May also play a role as an opportunistic organism in enteric infection due to other pathogens.

Symptoms:

Occasionally implicated in diarrheal disorders.

Recently, it has been suggested that P. mirabilis may be an etiological agent in rheumatoid arthritis.

The mechanism may be related to the molecular cross reactivity between P. mirabilis and the HLA antigens, specifically HLA-DR4.

Treatment:

Currently, standard texts provide no specific antimicrobial guidelines for GI overgrowth of Proteus.

Ampicillin is recommended for extra-intestinal infections of P. mirabilis, followed by trimethoprim/sulfamethoxazole.

For further treatment suggestions, refer to the 4R treatment protocol located at the end of this report.

ELEVATED PROTEUS MIRABILIS LEVEL:

Sources:

Food has been implicated as a vehicle of infection.

Pathogenicity;

Part of the normal flora of the GI tract, though has been shown to be an independent causative agent of intestinal disorders. May also play a role as an opportunistic organism in enteric infection due to other pathogens.

Symptoms

Occasionally implicated in diarrheal disorders.

Recently, it has been suggested that P. mirabilis may be an etiological agent in rheumatoid arthritis.

The mechanism may be related to the molecular cross reactivity between P. mirabilis and the HLA antigens, specifically HLA-DR4.

Treatment:

Currently, standard texts provide no specific antimicrobial guidelines for GI overgrowth of Proteus.

Ampicillin is recommended for extra-intestinal infections of P. mirabilis, followed by trimethoprim/sulfamethoxazole.

For further treatment suggestions, refer to the 4R treatment protocol located at the end of this report.

FUSOBACTERIUM SPECIES:

Fusobacterium species is a gram-negative bacteria in the Fusobacteria phylum. The bacteria is a common member of the human oral microbiome, this pro-inflammatory bacterium can also be found in the human gut. In the mouth, high levels are strongly linked to oral hygiene. In the gut, high levels have been observed in individuals with colon cancer and appendicitis.

Sources:

It primarily uses protein as its main source. However, research also shows that it can thrive from sugar.

Treatment:

Antimicrobial botanicals such as berberine, oregano, quercetin, curcumin, green and black tea extracts, blueberry extract, cinnamon and rosemary have shown to decrease levels.

Bacterial Pathogens Comment

ELEVATED ENTEROHEMORRHAGIC E. COLI LEVEL:

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Source:

Faecal contamination of food (undercooked beef, raw milk, and unpasteurized juice) and water. Implicated in hemorrhagic colitis, may progress to hemolytic uremic syndrome (HUS).

Symptoms:

Symptoms include fever, abdominal cramping, fatigue, nausea, and diarrhoea lasting up to a week.

Treatment

Review patient's calprotectin and Secretory IgA levels to determine GI inflammation and immune response. Antibiotics may be contraindicated as they can initiate hemolytic uremic syndrome (HUS) Consider high-dose probiotics (300+ billion CFU/g) such as: Lactobacillus acidophilus, Bifidobacterium bifidum, Bifidobacterium longum, Lactobacillus rhamnosus, Bifidobacterium breve, Lactobacillus casei, Streptococcus thermophilus Consider bacteriophages, broad-spectrum antimicrobial herbs, and 4R Protocol

Phyla Microbiota Comment

ELEVATED FIRMICUTES LEVEL:

Gram-positive Firmicutes are bacterial phyla that make up a large proportion of the entire human digestive tract, including the mouth, nose, throat, and colon. Elevated Firmicutes may suggest microbial imbalance which may be related to increased caloric extraction from food, fat deposition and lipogenesis, impaired insulin sensitivity, and increased inflammation.

Treatment:

Consider using Bifidobacteria probiotics and Saccharomyces boulardii primarily. It may also be suggested to optimise the patient diet. A lower fat diet may help to normalize Firmicutes levels.

Normal Bacterial Flora Comment

ELEVATED ESCHERICHIA SPECIES LEVEL:

The Gram-negative genus in the Proteobacteria phylum, which are considered normal gut flora. Escherichia coli (E. coli) is the primary species in this genus. Most E. coli are non-pathogenic. Elevated levels may be indicative of increased intestinal inflammatory activity.

ELEVATED CLOSTRIDIUM SPECIES LEVEL:

Organism of the Firmicutes phylum. The Clostridium genus is diverse and consists of both pathogens and normal commensals that perform a wide variety of functions (beneficial and potentially harmful). High levels may result from reduced digestive capacity or constipation.

ELEVATED ENTEROBACTER SPECIES LEVEL:

Organism of the Proteobacteria phylum. Closely related to E. coli (in the same taxonomic family). High levels may indicate increased intestinal inflammatory activity.

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EMMA CARLON



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Sex : F

Collected: 1/Feb/2021 Received: 02-Feb-2021 1 HARPER STREET HELENSBURGH NSW 2508

Lab id: **3718319** UR#: 6576984

STUDIO YOU 135 ROWNTREE STREET BIRCHGROVE NSW 2041

The Four "R" Treatment Protocol

	Using a course of antimicrobial, antibacterial, antiviral or anti parasitic therapies in cases where organisms are present. It may	ANTIMICROBIAL	Oil of oregano, berberine, caprylic acid
		ANTIBACTERIAL	Liquorice, zinc carnosine, mastic gum, tribulus, berberine, black walnut, caprylic acid, oil of oregano
REMOVE	also be necessary to remove offending foods, gluten, or	ANTIFUNGAL	Oil of oregano, caprylic acid, berberine, black walnut
REM	medication that may be acting as antagonists.	ANTIPARASITIC	Artemesia, black walnut, berberine, oil of oregano
	Consider testing IgG96 foods as a tool for removing offending foods.	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
ш	Recolonisation with healthy, beneficial bacteria.	PREBIOTICS	Slippery elm, pectin, larch arabinogalactans
REINOCULATE	Supplementation with probiotics, along with the use of prebiotics helps re-establish the proper microbial balance.	PROBIOTICS	Bifidobacterium animalis sup lactise, lactobacillus acidophilus, lactobacillus plantarum, lactobacillus casei, bifidobacterium breve, bifidobacterium bifidum, bifidobacterium longum, lactobacillus salivarius ssp salivarius, lactobacillus paracasei, lactobacillus rhamnosus, Saccaromyces boulardii
BALANCE	Restore the integrity of the gut mucosa by giving support to healthy mucosal cells, as well as immune support. Address whole	INTESTINAL MUCOSA IMMUNE SUPPORT	Saccaromyces boulardii, lauric acid
& RE	body health and lifestyle factors so as to prevent future Gl dysfunction.	Intestinal Barrier Repair	L-Glutamine, aloe vera, liquorice, marshmallow root, okra, quercetin, slippery elm, zinc carnosine, Saccaromyces boulardii, omega 3 essential fatty acids, B vitamins
REPAIR		SUPPORT CONSIDERATION	Sleep, diet, exercise, and stress management