

Exploring the GI360™ by Doctor's Data: Expert Insights and Case Study Analysis



SCIENCE + INSIGHT





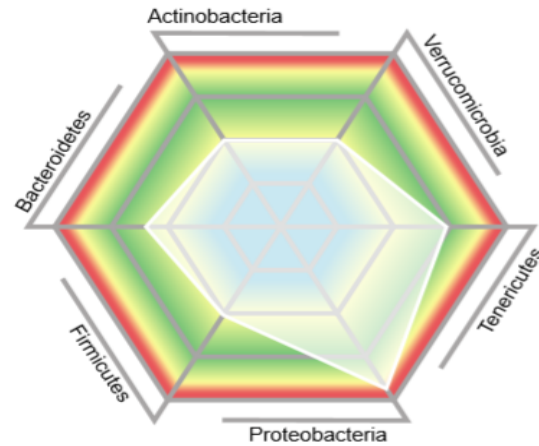
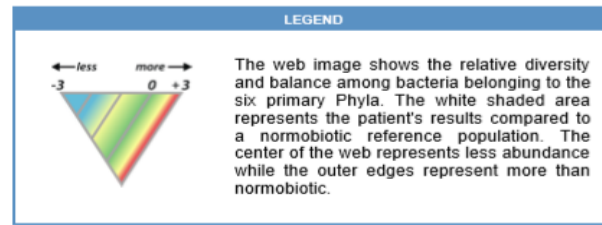
Exploring the GI360 by Doctor's Data

Expert Insights and Case Study Analysis



Microbiome Abundance and Diversity Summary

The abundance and diversity of gastrointestinal bacteria provide an indication of gastrointestinal health, and gut microbial imbalances can contribute to dysbiosis and other chronic disease states. The GI360™ Microbiome Profile is a gut microbiota DNA analysis tool that identifies and characterizes more than 45 targeted analytes across six Phyla using PCR and compares the patient results to a characterized normobiotic reference population. The web chart illustrates the degree to which an individual's microbiome profile deviates from normobiosis.

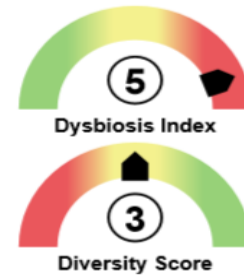


Dysbiosis and Diversity Index

These indexes are calculated from the results of the Microbiome Profile, with scores ranging from 1 to 5, and do not include consideration of dysbiotic and pathogenic bacteria, yeast, parasites and viruses that may be reported in subsequent sections of the GI360™ test.

The Dysbiosis Index the (DI) is calculated strictly from the results of the Microbiome Profile, with scores from 1 to 5. A DI score above 2 indicates dysbiosis; a microbiota profile that differs from the defined normobiotic reference population. The higher the DI above 2, the more the sample deviates from the normobiotic profile. The dysbiosis test and DI does not include consideration of dysbiotic and pathogenic bacteria, yeast, parasites and viruses that may be reported in subsequent sections of the GI360™ test.

A diversity score of 3 indicates an expected amount of diversity, with 4 & 5 indicating an increased distribution of bacteria based on the number of different species and their abundance in the sample, calculated based on Shannon's diversity index. Scores of 1 or 2 indicate less diversity than the defined normobiotic reference population.



GI 360 Key Findings

Butyrate producing bacteria	<input type="checkbox"/>	β-glucuronidase, Low
Gut barrier protective bacteria	<input type="checkbox"/>	<i>Enterobacter cloacae</i> complex, Cultured
Gut intestinal health marker	<input checked="" type="checkbox"/>	<i>Rhodotorula mucilaginosa</i> , Cultured
Pro-inflammatory bacteria	<input checked="" type="checkbox"/>	
Gut barrier protective bacteria vs. opportunistic bacteria	<input type="checkbox"/>	

= Expected = Imbalanced



Microbiome Bacterial Abundance; Multiplex PCR



	Result	-3	-2	-1	0	+1	+2	+3	Reference Interval
Actinobacteria									
Actinobacteria	-1			▲					0
Actinomycetales	-1			▲					0
Bifidobacterium family	-1			▲					0
Bacteroidetes									
Alistipes spp.	0				▲				0
Alistipes onderdonkii	0				▲				0
Bacteroides fragilis	0				▲				0
Bacteroides spp. & Prevotella spp.	0				▲				0
Bacteroides spp.	0				▲				0
Bacteroides pectinophilus	0				▲				0
Bacteroides stercoris	0				▲				0
Bacteroides zooglyphiformans	-1			▲					0
Parabacteroides johnsonii	0				▲				0
Parabacteroides spp.	-1			▲					0
Firmicutes									
Firmicutes	-1			▲					0
Bacilli Class	-2		▲						0
Catenibacterium mitsuokai	0				▲				0



Microbiome Bacterial Abundance; Multiplex PCR



Firmicutes	Result	-3	-2	-1	0	+1	+2	+3	Reference Interval
Clostridia Class	0				▲				0
<i>Clostridium methylpentosum</i>	-1			▲					0
<i>Clostridium</i> L2-50	0				▲				0
<i>Coprobacillus cateniformis</i>	0				▲				0
<i>Dialister invisus</i>	0				▲				0
<i>Dialister invisus</i> & <i>Megasphaera micronuciformis</i>	0				▲				0
<i>Dorea</i> spp.	-1			▲					0
<i>Eubacterium bifforme</i>	0				▲				0
<i>Eubacterium hallii</i>	-2	▲							0
<i>Eubacterium rectale</i>	0				▲				0
<i>Eubacterium siraeum</i>	0				▲				0
<i>Faecalibacterium prausnitzii</i>	-1			▲					0
Lachnospiraceae	-1			▲					0
<i>Lactobacillus ruminis</i> & <i>Pediococcus acidilactici</i>	0				▲				0
<i>Lactobacillus</i> family	-1			▲					0
<i>Phascolarctobacterium</i> spp.	+1					▲			0
<i>Ruminococcus albus</i> & <i>R. bromii</i>	0				▲				0
<i>Ruminococcus gnavus</i>	0				▲				0
<i>Streptococcus agalactiae</i> & <i>Eubacterium rectale</i>	0				▲				0
<i>Streptococcus salivarius</i> ssp. <i>thermophilus</i> & <i>S. sanguinis</i>	0				▲				0



Microbiome Bacterial Abundance; Multiplex PCR



	Result	-3	-2	-1	0	+1	+2	+3	Reference Interval
Firmicutes									
<i>Streptococcus salivarius</i> ssp. <i>thermophilus</i>	-1			▲					0
<i>Streptococcus</i> spp.	0				▲				0
<i>Veillonella</i> spp.	-1			▲					0
Proteobacteria									
Proteobacteria	+2						▲		0
<i>Enterobacteriaceae</i>	+3							▲	0
<i>Escherichia</i> spp.	0				▲				0
<i>Acinetobacter junii</i>	0				▲				0
Tenericutes									
<i>Mycoplasma hominis</i>	0				▲				0
Verrucomicrobia									
<i>Akkermansia muciniphila</i>	-1			▲					0



Viruses	Result	
Adenovirus F40/41	Negative	<input checked="" type="checkbox"/>
Norovirus GI/GII	Negative	<input checked="" type="checkbox"/>
Rotavirus A	Negative	<input checked="" type="checkbox"/>
Pathogenic Bacteria	Result	
<i>Campylobacter</i> (<i>C. jejuni</i> , <i>C. coli</i> and <i>C. lari</i>)	Negative	<input checked="" type="checkbox"/>
<i>Clostridioides difficile</i> (Toxin A/B)	Negative	<input checked="" type="checkbox"/>
<i>Escherichia coli</i> O157	Negative	<input checked="" type="checkbox"/>
Enterotoxigenic <i>Escherichia coli</i> (ETEC) lt/st	Negative	<input checked="" type="checkbox"/>
<i>Salmonella</i> spp.	Negative	<input checked="" type="checkbox"/>
Shiga-like toxin-producing <i>Escherichia coli</i> (STEC) stx1/stx2	Negative	<input checked="" type="checkbox"/>
<i>Shigella</i> (<i>S. boydii</i> , <i>S. sonnei</i> , <i>S. flexneri</i> & <i>S. dysenteriae</i>)	Negative	<input checked="" type="checkbox"/>
<i>Vibrio cholerae</i>	Negative	<input checked="" type="checkbox"/>
Parasites	Result	
<i>Cryptosporidium</i> (<i>C. parvum</i> and <i>C. hominis</i>)	Negative	<input checked="" type="checkbox"/>
<i>Entamoeba histolytica</i>	Negative	<input checked="" type="checkbox"/>
<i>Giardia duodenalis</i> (AKA <i>intestinalis</i> & <i>lamblia</i>)	Negative	<input checked="" type="checkbox"/>



Protozoa	Result	
<i>Balantidium coli</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Blastocystis</i> spp.	Not Detected	<input checked="" type="checkbox"/>
<i>Chilomastix mesnili</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Dientamoeba fragilis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Endolimax nana</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Entamoeba coli</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Entamoeba hartmanni</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Entamoeba histolytica/Entamoeba dispar</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Entamoeba polecki</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Enteromonas hominis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Giardia duodenalis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Iodamoeba bütschlii</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Isospora belli</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Pentatrichomonas hominis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Retortamonas intestinalis</i>	Not Detected	<input checked="" type="checkbox"/>
Cestodes - Tapeworms	Result	
<i>Diphyllobothrium latum</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Dipylidium caninum</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Hymenolepis diminuta</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Hymenolepis nana</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Taenia</i>	Not Detected	<input checked="" type="checkbox"/>
Trematodes - Flukes	Result	
<i>Clonorchis sinensis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Fasciola hepatica/Fasciolopsis buski</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Heterophyes heterophyes</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Paragonimus westermani</i>	Not Detected	<input checked="" type="checkbox"/>
Nematodes - Roundworms	Result	
<i>Ascaris lumbricoides</i>	Not Detected	<input checked="" type="checkbox"/>





Nematodes - Roundworms

Result

<i>Capillaria hepatica</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Capillaria philippinensis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Enterobius vermicularis</i>	Not Detected	<input checked="" type="checkbox"/>
Hookworm	Not Detected	<input checked="" type="checkbox"/>
<i>Strongyloides stercoralis</i>	Not Detected	<input checked="" type="checkbox"/>
<i>Trichuris trichiura</i>	Not Detected	<input checked="" type="checkbox"/>

Other Markers

Result

Reference Interval

Yeast	Not Detected	<input checked="" type="checkbox"/>	Not Detected – Rare
RBC	Not Detected	<input checked="" type="checkbox"/>	Not Detected – Rare
WBC	Not Detected	<input checked="" type="checkbox"/>	Not Detected – Rare
Muscle fibers	Not Detected	<input checked="" type="checkbox"/>	Not Detected – Rare
Vegetable fibers	Rare	<input checked="" type="checkbox"/>	Not Detected – Few
Charcot-Leyden Crystals	Not Detected	<input checked="" type="checkbox"/>	Not Detected
Pollen	Not Detected	<input checked="" type="checkbox"/>	Not Detected

Macroscopic Appearance

Result

Reference Interval

Color	Brown	<input checked="" type="checkbox"/>	Brown
Consistency	Soft	<input checked="" type="checkbox"/>	Soft
Mucus	Negative	<input checked="" type="checkbox"/>	Negative



Pathogenic Bacteria	Result	NG	1+	2+	3+	4+	Reference Interval
<i>Aeromonas</i> spp.	NG	▲					No Growth
<i>Edwardsiella tarda</i>	NG	▲					No Growth
<i>Plesiomonas shigelloides</i>	NG	▲					No Growth
<i>Salmonella</i> group	NG	▲					No Growth
<i>Shigella</i> group	NG	▲					No Growth
<i>Vibrio cholerae</i>	NG	▲					No Growth
<i>Vibrio</i> spp.	NG	▲					No Growth
<i>Yersinia</i> spp.	NG	▲					No Growth
Imbalance Bacteria	Result	NG	1+	2+	3+	4+	Reference Interval
<i>Microbacterium paraoxydans</i>	4+					▲	No Growth
<i>Staphylococcus aureus</i>	1+		▲				No Growth
<i>Streptococcus parasanguinis</i>	2+			▲			No Growth
Dysbiotic Bacteria	Result	NG	1+	2+	3+	4+	Reference Interval
<i>Enterobacter cloacae</i> complex	4+					▲	No Growth
Yeast	Result	NG	1+	2+	3+	4+	Reference Interval
<i>Rhodotorula mucilaginosa</i>	3+				▲		0+ – 1+



Stool Chemistries

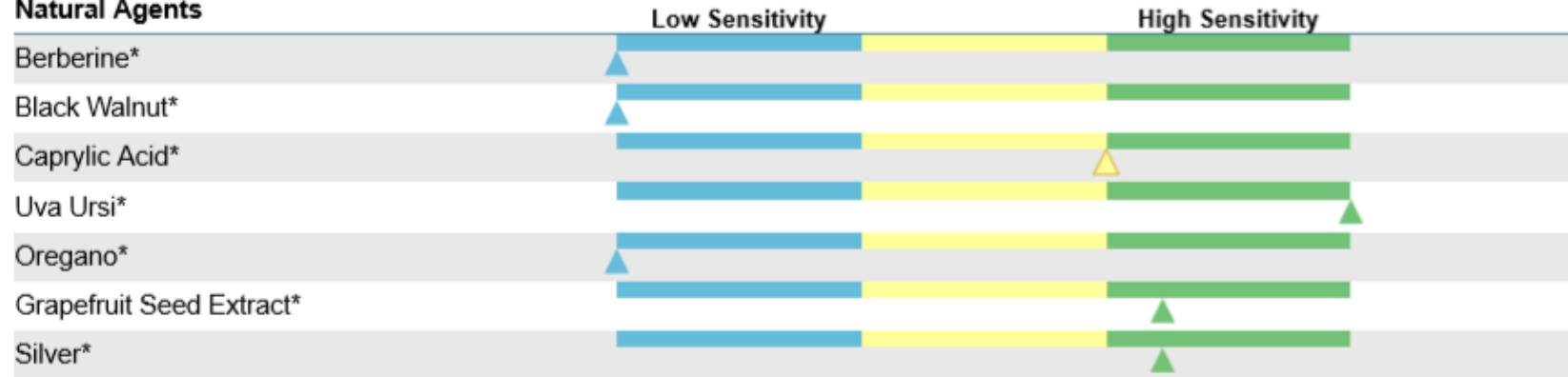


Digestion / Absorption	Result	Unit	L	WRI	H	Reference Interval
Elastase	467	µg/g				> 200
Fat Stain	None					None – Moderate
Carbohydrates†	Negative					Negative
Inflammation	Result	Unit	L	WRI	H	Reference Interval
Lactoferrin	0.8	µg/mL				< 7.3
Lysozyme*	434	ng/mL				≤ 500
Calprotectin	<10	µg/g				< 80
Immunology	Result	Unit	L	WRI	H	Reference Interval
Secretory IgA*	67.3	mg/dL				30 – 275
Short Chain Fatty Acids	Result	Unit	L	WRI	H	Reference Interval
% Acetate‡	62	%				50 – 72
% Propionate‡	19	%				11 – 25
% Butyrate‡	18	%				11 – 32
% Valerate‡	1.3	%				0.8 – 5.0
Butyrate‡	1.9	mg/mL				0.8 – 4.0
Total SCFA's‡	10	mg/mL				5.0 – 16.0
Intestinal Health Markers	Result	Unit	L	WRI	H	Reference Interval
pH	6.0					5.8 – 7.0
β-glucuronidase*	<2600	U/h*g				4000 – 9400
Occult Blood	Negative					Negative

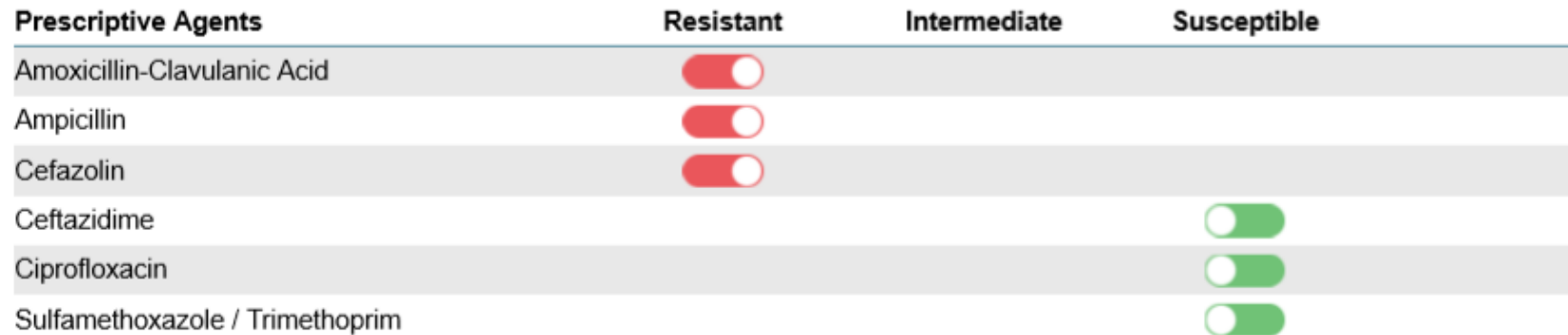


Enterobacter cloacae complex

Natural Agents



Prescriptive Agents





Rhodotorula mucilaginosa

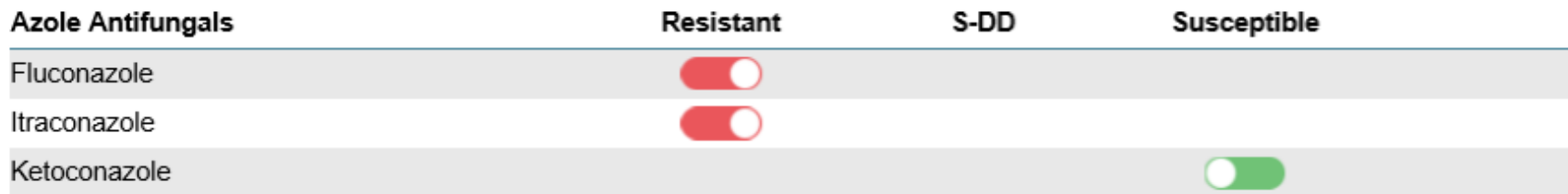
Natural Agents



Non-Absorbed Antifungals



Azole Antifungals





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