

## Advantages and benefits

- Non-invasive sampling using saliva and stool
- Home collection—No office visit
- Economical and insurance-reimbursable
- Comprehensive—Detects a broad spectrum of common pathogens and includes digestion efficiency evaluation
- Improved wellness—General GI complaints identified and resolved
- Modular—Retesting of one or several abnormal findings is available without repeating the entire panel

## Common applications of this panel

- Individuals with chronic and vague GI symptoms including:
  - Frequent bloating, gas, cramping and constipation
  - Frequent travel within US and/or overseas
  - Frequent eating outside the home
- People who get exposed to feces through sexual contact
- Food handlers (to protect others)
- Food preparers at restaurants, homes, schools, etc.
- Institutionalized individuals
- Uniformed services
- Dormitory residents
- Children who go to daycare centers

## Who needs the GI Health Panel™?

To determine if the GI Panel™ is appropriate for your gastrointestinal and other health problems, consult with your healthcare provider.

Get to the bottom of these complaints that keep coming back. No one enjoys heartburn, bloating or diarrhea.

You don't have to travel to another country to contract a parasite; they are all around us, both in big cities, and in small towns.

Using antibiotics without an evaluation to reveal the type of infection can result in using an inappropriate antibiotic. This can actually strengthen the offending microbe and make it more difficult and expensive to treat.



## Gastrointestinal Health Panel™

The Science of Laboratory Medicine



### Major Accreditation

Diagnos-Techs is the only salivary-based lab that is accredited by the Joint Commission and is committed to providing its healthcare professional clients with lab testing that is highly accurate, based on pure science and designed to assist in restoring optimal health and promoting overall wellness for patients.

### Licensure and Proficiencies

Also accredited and licensed by the State of Washington (License No. MTS-0327), subject to the Clinical Laboratory Improvement Act of 2003 (CLIA-2003) certification. Our Federal CLIA Number is 50D0630141. External proficiency testing obtained from the College of American Pathologists, American Proficiency Institute and American Association of BioAnalysts.

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## Gastrointestinal Health Panel™

The gastrointestinal tract is essentially an external part of the body. This is the reason we do not have to sterilize our food, but only be sure it is clean and wholesome. Presently, the risk of being



infected or infested by pathogenic organisms through food and water is ever-increasing. This is due a variety of reasons including: immigration, frequent overseas travel, importation of vegetables and fruits, lack of a public health policy to screen food handlers for transmissible pathogens, outdoor and wilderness excursions, alternate lifestyles, agricultural pollution and pets at home.

Currently, World Health Organization studies indicate that about a half a billion individuals are infected annually by amoeba histolytica and a similar number are infected by giardia and cryptosporidium. Considering all parasites, more than one quarter of the earth's population is infected at any one time. More serious efforts must be made to prevent, identify and treat these widespread and debilitating infections.

### Mode of transmission and who is at risk

The predominant method of transmission of parasites is the fecal-oral route through hand contact with infected individuals or via contaminated water and food. Many parasites are highly transmissible within a household environment. All family members should be tested if one member is positive for GI infection.

People with suppressed immunity—such as T-cell (white cell) dysfunction and defects in intestinal antibody (IgA) secretion—are predisposed to protracted and heavy infections with GI pathogens. Individuals with cancer and those receiving chemotherapy for cancer are very susceptible to parasitic infections. Frequent and excessive overutilization of antibiotics renders the GI tract more susceptible to chronic overgrowth of harmful microorganisms. These can produce a wide range of systemic toxins and/or cause severe irritation of large areas of fragile, nutrient-absorbing intestinal tissue.

### Bodily functions affected by GI pathogens

Intestinal pathogen infections cannot be clinically differentiated solely on the basis of medical history, physical exam and/or symptoms. Specific diagnosis requires laboratory evaluation and confirmation. In most laboratories the general request for stool ova and parasite screening does not include the specialized testing and confirmation provided by the GI Health Panel™. Asymptomatic, mild symptomatic and overt GI pathogen infections can affect and deter gastrointestinal function and, if undetected, will lead to chronic illness.

### Treatment and prevention

Detection and specific diagnosis of the pathogens, including a broad spectrum of microflora and common parasites, is of paramount importance. This is because successful therapy is dependent on two primary issues. First, there must be an accurate and specific diagnosis of the causative agent in a patient who presents with otherwise general and non-specific complaints and symptoms. Second, specific therapeutic agents can be targeted to eradicate offending microorganisms with an extremely high success rate, with minimal side effects.

### Results of Stool Specimens Examined for Intestinal Parasites by U.S. State Public Health Laboratories, 1987

Organism	# of stool specimens w/the organism	% of stool specimens w/the organism	# of state labs w/the organism identified
Giardia lamblia	15,497	7.2	49
Entamoeba coli	9,146	4.2	49
Endolimax nana	9,086	4.2	47
Blastocystis hominis	5,685	2.6	31
Entamoeba hartmanni	3,069	1.4	38
Entamoeba histolytica	1,841	0.9	45
Iodamoeba buetschlii	1,275	0.6	37
Dientamoeba fragilis	1,142	0.5	24
Chilomastix mesnili	542	0.3	27
Cryptosporidium sp.	499	0.2	25
Trichomonas hominis	21	<0.1	10
Isospora belli	14	<0.1	7
Balantidium coli	7	<0.1	3
Unspecified protozoa	184	0.1	2

### Prevention notes

- Observe strict personal hygiene habits.
- Eat cooked food when outside your home.
- Wash fresh fruits and vegetables with soap and water.
- Avoid drinking potentially contaminated surface water.
- Before overseas travel, contact the CDC for tips.
- Restrict pets to designated parts of the home.
- Wash hands after touching pets.

### Gastrointestinal Health Panel™

The GI Health Panel™ is a non-invasive screen of the gastrointestinal tract and its function. It includes 15-22 individual, yet related tests. Stool and saliva samples are submitted by the patient after home collection.

### Logic of testing

To ensure high sensitivity and specificity of pathogenic organism detection, Diagnos-Techs employs a variety of methods in the GI Health Panel™ tests. These tests utilize proven biochemical and state-of-the-art immunological testing and other methods.

The panel includes:

- Pathogen screening for bacteria, fungi, yeast and various parasites.
- Digestion-related screens for enzyme levels and immunochemical markers for intolerance to common offending foods.
- Intestinal function markers to evaluate irritation and inflammation; markers indicate overall status of gut immunity and integrity, such as occult blood.

The GI Health Panel™ strikes a balance between comprehensive screening and economy by bundling appropriate individual tests that would otherwise cost over \$700 at current prices. All the tests are insurer-reimbursed with the appropriate provider documentation.