

Autism Spectrum Disorder (ASD) & Special Needs

Comprehensive stool testing to help contextualize gut-brain, immune, and digestive patterns in complex neurodevelopmental conditions.

GI symptoms are common in children with ASD and related neurodevelopmental conditions—and research suggests GI symptom burden may correlate with behavioral symptom severity.^[1,2] GI360™ offers a multi-domain stool profile spanning microbial patterns, short-chain fatty acids (SCFA), inflammatory and immune markers, digestive function, and potential dysbiotic organisms that may help contextualize gut-related contributors within the microbiota-gut-brain axis framework.^[3,4]



When Might Providers Consider the GI360™ Profile?

Persistent GI symptoms: Constipation, diarrhea, bloating, abdominal pain, or variable stool patterns in patients with autism or special needs, especially when symptoms are chronic or fluctuate with behavior^[1,2]

Food selectivity or restricted intake: Narrow food choices, suspected maldigestion, or concern for downstream nutritional consequences that may intersect with gut function and symptom burden^[3,4]

Concern for dysbiosis: Clinical suspicion of altered microbial diversity, depleted beneficial organisms, or overgrowth of dysbiotic bacteria that may influence mucosal and metabolic signaling^[1,4,5]

Immune or inflammatory context: Cases with

concern for mucosal immune activation, intestinal inflammation, or barrier dysfunction that may warrant broader stool chemistry review^[1]

Behavioral changes with GI flares: Episodes where irritability, rigidity, sleep disruption, or discomfort appear to worsen alongside digestive symptoms and may benefit from gut-focused clinical context^[1,3,7]

Broader toxicant or detox questions: When clinicians are also exploring xenobiotic burden, recirculation, or metabolite-related effects and want stool data that can complement a wider functional workup^[4]

What the GI360™ Profile Measures

Analyte Class	Everyday Exposure Sources	ASD & Special Needs Relevance
Microbial diversity & dysbiosis index	Daily diet patterns, antibiotics, household exposures, illness history, and broader lifestyle factors can shape microbial community structure over time ^[1,4,5]	Altered diversity and dysbiosis patterns have been associated with ASD cohorts, though findings are heterogeneous; a profile-based view may help contextualize normobiotic vs disrupted community patterns ^[1,5]
Beneficial commensals	Fiber intake, breastfeeding history, food variety, fermented foods, and antimicrobial exposures may influence organisms such as Bifidobacterium, Faecalibacterium, Akkermansia, and Prevotella ^[4,8,9]	Lower abundance of butyrate-producing and mucosa-supportive taxa has been associated with impaired barrier support, altered immune signaling, and reduced beneficial metabolite production in ASD-related literature ^[4,7,8,9]

What the GI360™ Profile Measures (Cont)

Analyte Class	Everyday Exposure Sources	ASD & Special Needs Relevance
SCFAs	Microbial fermentation of dietary fibers and carbohydrates generates acetate, propionate, butyrate, valerate, and total SCFAs ^[4,9]	SCFA balance may help contextualize microbial function; lower butyrate and altered propionate signaling have been linked to gut barrier, neuroinflammatory, mitochondrial, and neurotransmitter-related hypotheses in ASD research ^[2,7,10]
Inflammatory & immune markers	Mucosal immune responses can reflect infection, dysbiosis, inflammatory activity, food-related antigen exposure, or broader GI tract irritation ^[1,4]	Calprotectin, lactoferrin, lysozyme, and sIgA may provide context around mucosal immune activation or defense patterns relevant to GI complaints in this population ^[1,4]
Dysbiotic bacteria & yeast	Community, food, travel, close-contact, and environmental exposures may influence acquisition or overgrowth of dysbiotic bacteria, pathogens, parasites, or yeast ^[4]	Overrepresented Enterobacteriaceae, Clostridium species, or yeast may help contextualize endotoxin exposure, toxic metabolite production, immune activation, or symptom persistence when interpreted alongside the broader panel ^[1,2,4]
Digestive chemistry & beta-glucuronidase	Diet composition, pancreatic function, bile flow, microbial activity, and gut transit all influence stool chemistry markers ^[2,4]	Elastase, fat absorption markers, and beta-glucuronidase may support clinical reasoning around digestion, malabsorption, and potential toxin recirculation ^[2,4]

Clinical Applications & Evidence Context

Condition	Clinical Encapsulation
Autism spectrum disorder	Links GI and behavioral symptoms common in ASD to altered gut microbial composition and microbiota-gut-brain signaling; evidence remains associative, not diagnostic or causal. ^[1,5,7]
Gastrointestinal symptom burden	Constipation, diarrhea, abdominal pain, and bloating are commonly reported in ASD populations, and stool markers may help contextualize inflammatory, microbial, or digestive contributors to these symptoms ^[1,2,4]
Increased intestinal permeability hypothesis	Reduced butyrate-producing or mucosa-supportive organisms such as Faecalibacterium and Akkermansia have been associated with barrier-related hypotheses that may be relevant when GI complaints are prominent ^[4,8]
Neuroinflammatory signaling	Elevated Enterobacteriaceae, altered SCFAs, and immune activation markers have been discussed as plausible contributors to endotoxin-related or neuroimmune signaling pathways in ASD literature ^[1,7,10]
Mitochondrial or metabolite stress	Clostridial metabolites, propionate-related models, and reduced butyrate signaling have been associated with mitochondrial and neuroactive metabolite hypotheses in preclinical and translational research ^[1,7,10]
Digestive insufficiency or malabsorption context	Digestive chemistry markers such as elastase and fat absorption indices may provide supportive context when selective eating, maldigestion, or nutritional concerns are part of the presentation ^[2,4]

How the GI360™ Profile Supports Clinical Reasoning

Pattern recognition:

Integrates microbial, metabolic, inflammatory, immune, and digestive markers into one stool-based profile that may help clinicians see converging GI patterns rather than isolated data points^[4,5]

Symptom contextualization:

May help connect chronic constipation, diarrhea, bloating, abdominal pain, or food-related digestive concerns with measurable stool findings relevant to the broader clinical picture^[1,2,4]

Intervention planning:

Can support individualized decisions around diet, probiotics, antimicrobial strategies, digestive support, or follow-up testing without implying that any single result confirms a diagnosis^[4,7]

Complementary insight:

May be used alongside nutritional, toxicant, or metabolic assessments when clinicians are evaluating complex gut-brain, immune, or detox-related hypotheses in special-needs care^[4]

How to Order

To order the GI360 Profile, contact your Mosaic Diagnostics representative or visit [www.mosaicdx.com]. Specimen collection kits and requisition forms are available through your account portal. For clinical support or interpretation questions, contact our clinical education team.

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References

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