LUNCH & LEARN LIVE WEBINAR

Mastering MetaXplore™:

Interpret Microbiome Reports in Under 15 Minutes

Wednesday 4 September | 12PM AEST

With Dr Brad Leech

1

Meet your host

Dr Brad Leech
Nutritionist and Lead Clinical Educator

All participants have been muted

There is an optional 15 minutes for questions at the end

Add your questions in the chat to have them answered live

CO-BIOME

2

Disclaimers

- The information provided in this webinar is for the use of qualified healthcare professionals.
- The information contained in this webinar is in no way to be taken as prescriptive or to replace a healthcare professional's duty of care and personalised care practices.
- The clinical opinions and patient case studies shared by presenters are solely those of the individual presenters and do not necessarily represent the view of Co-Biome.

CO-BIOME by MICROBA

3

Objectives

1. Learn how to interpret gastrointestinal health and the health of the whole gut microbiome in under 15 minutes using the report interpretation checklist
   - ✓ Identify red flags and when to refer
   - ✓ Assess gut terrain
   - ✓ Identify functional dysbiosis
2. Understand how to save time by avoiding common roadblocks when interpreting a MetaXplore™ report
3. Learn how to confidently apply report insights to your patient's management plan
4. Discover how MetaXplore's Expert Summary is helping you interpret patient reports in just minutes

CO-BIOME by MICROBA

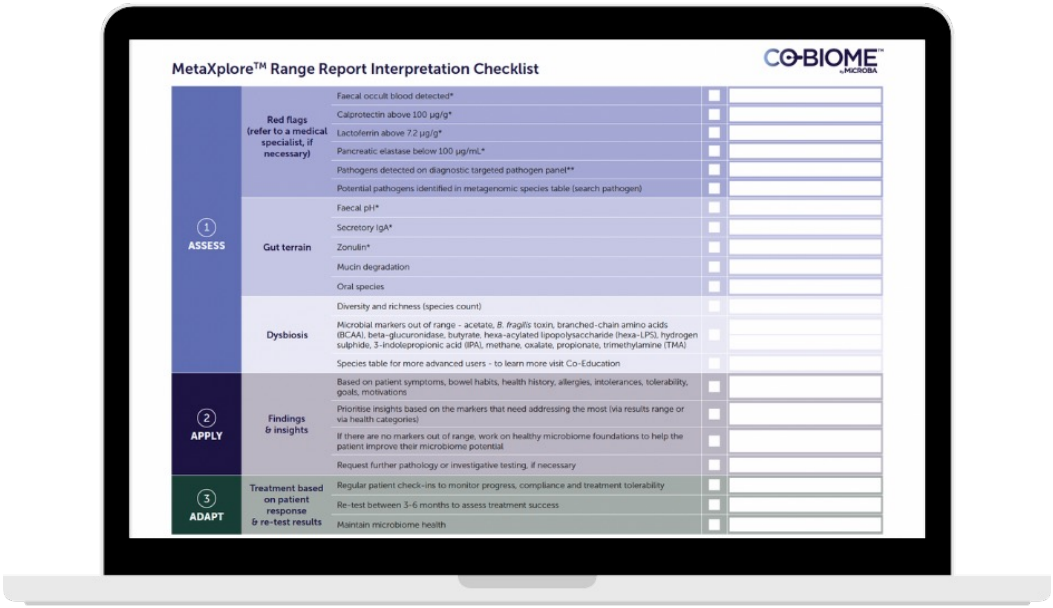
4

When to consider assessing the gut microbiome and gastrointestinal health

- Gastrointestinal disorders, including irritable bowel syndrome (IBS), intestinal permeability, and inflammatory bowel disease (IBD)
- Digestive complaints, including constipation, diarrhoea, bloating and abdominal pain
- Hormonal imbalance
- Metabolic and weight concerns
- Immune system health concerns
- Chronic inflammation

CO-BIOME by MICROBA

5



CO-BIOME by MICROBA

6

1. ASSESS

The Fundamentals of MetaXplore™ Report Interpretation

7

MetaXplore™ Range Report Interpretation Checklist

CO-BIOME™ by MiCROBA

1 ASSESS	Red flags (refer to a medical specialist, if necessary)	Faecal occult blood detected*	☐	
		Calprotectin above 100 µg/g*	☐	
		Lactoferrin above 7.2 µg/g*	☐	
		Pancreatic elastase below 100 µg/mL*	☐	
		Pathogens detected on diagnostic targeted pathogen panel**	☐	
		Potential pathogens identified in metagenomic species table (search pathogen)	☐	
	Gut terrain	Faecal pH*	☐	
		Secretory IgA*	☐	
		Zonulin*	☐	
		Mucin degradation	☐	
		Oral species	☐	
	Dysbiosis	Diversity and richness (species count)	☐	
		Microbial markers out of range - acetate, *B. fragilis* toxin, branched-chain amino acids (BCAA), beta-glucuronidase, butyrate, hexa-acylated lipopolysaccharide (hexa-LPS), hydrogen sulphide, 3-indolepropionic acid (IPA), methane, oxalate, propionate, trimethylamine (TMA)	☐	
		Species table for more advanced users - to learn more visit Co-Education	☐	

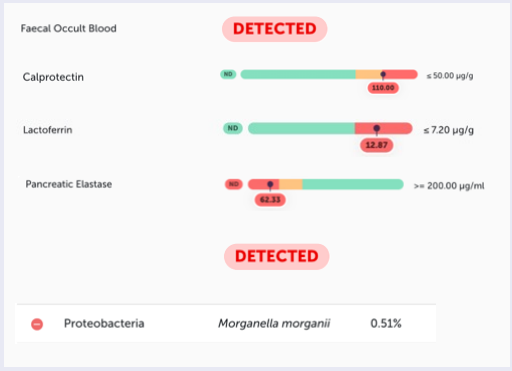
CO-BIOME by MiCROBA

8

Assess: Red flags

RED FLAGS

1. Faecal occult blood detected*
2. Calprotectin above 100 µg/g*
3. Lactoferrin above 7.2 µg/g*
4. Pancreatic elastase below 100 µg/mL*
5. Pathogens detected on diagnostic targeted pathogen panel**
6. Potential pathogens identified in metagenomic species table



*Available in MetaXplore GI & GI Plus only **Available in MetaXplore GI Plus only

CO-BIOME by MICROBA

9

Assess: Why is it important to assess red flags first?

Prioritise urgent health concerns: Identifying red flags allows clinicians to address the most pressing health issues before focusing on broader patient goals, ensuring that severe conditions are managed first.

Prevent misdiagnosis: By assessing red flags early, clinicians can avoid overlooking significant health problems, reducing the risk of misdiagnosis or inappropriate patient management.

Informed planning: Understanding the presence of red flags informs the development of a more accurate and effective plans tailored to the patient's immediate needs.

Referral to specialists: Recognising red flags may indicate the need for referral to a specialist, ensuring that the patient receives the appropriate level of care for potentially serious conditions.

CO-BIOME by MICROBA

10

Assess: When you need to refer on to a medical doctor

Detection of serious pathogens: If pathogens identified in the diagnostic panel or metagenomic species table indicate an ACTIVE infection with clinical symptoms, a referral is necessary for further investigation and management.

Abnormal inflammatory markers: Elevated markers such as calprotectin (>100 µg/g) or lactoferrin (>7.2 µg/g) suggest significant inflammation, which requires further evaluation.

Digestive enzyme deficiency: Pancreatic elastase levels below 50 µg/mL indicate possible exocrine pancreatic insufficiency, warranting a referral for specialised assessment.

Presence of occult blood: Detection of faecal occult blood necessitates immediate referral to rule out serious conditions such as gastrointestinal bleeding.

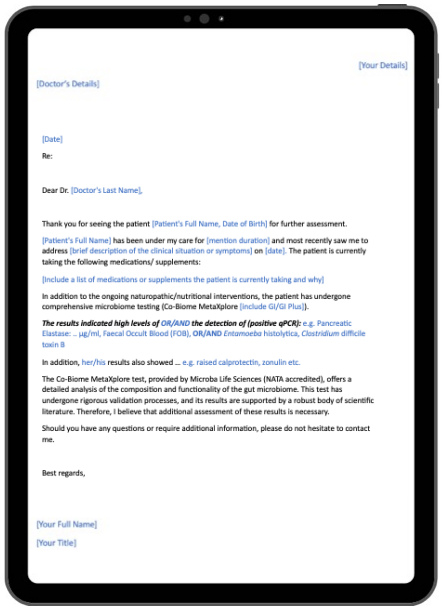
Unexplained or severe symptoms: If the patient's symptoms are severe, persistent or unexplained by the current findings, a referral is critical for comprehensive medical evaluation.

CO-BIOME by MICROBA

11

Referral letter template

Available at Co-Education


[Your Details]

[Doctor's Details]

[Date]

Re:

Dear Dr. [Doctor's Last Name],

Thank you for seeing the patient [Patient's Full Name, Date of Birth] for further assessment.

[Patient's Full Name] has been under my care for [mention duration] and most recently saw me to address [brief description of the clinical situation or symptoms] on [date]. The patient is currently taking the following medications/ supplements:

[Include a list of medications or supplements the patient is currently taking and why]

In addition to the ongoing naturopathic/nutritional interventions, the patient has undergone comprehensive microbiome testing (Co-Biome MetaXplore [include GI/GI Plus]).

The results indicated high levels of OR/AND the detection of (positive qPCR): e.g. Pancreatic Elastase: .. µg/ml, Faecal Occult Blood (FOB), **OR/AND** *Entamoeba* histolytica, *Clostridium difficile* toxin B

In addition, her/his results also showed ... e.g. raised calprotectin, zonulin etc.

The Co-Biome MetaXplore test, provided by Microba Life Sciences (NATA accredited), offers a detailed analysis of the composition and functionality of the gut microbiome. This test has undergone rigorous validation processes, and its results are supported by a robust body of scientific literature. Therefore, I believe that additional assessment of these results is necessary.

Should you have any questions or require additional information, please do not hesitate to contact me.

Best regards,

[Your Full Name]

[Your Title]

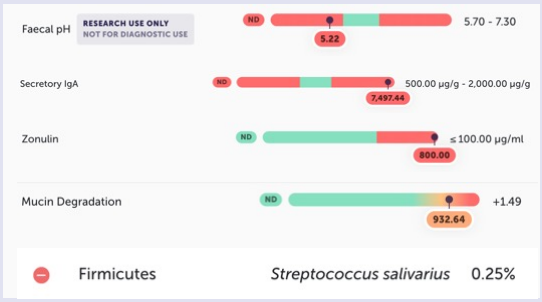
CO-BIOME by MICROBA

12

Assess: Gut terrain

GUT TERRAIN

1. Faecal pH*
2. Secretory IgA*
3. Zonulin*
4. Mucin degradation
5. Oral species



*Available in MetaXplore GI & GI Plus only **Available in MetaXplore GI Plus only

13

Assess: What are the signs of a compromised gut terrain?

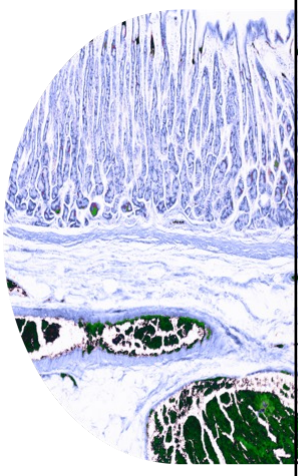
Altered faecal pH: Changes in faecal pH can indicate an imbalance in the gut environment.

Low/high secretory IgA levels: Out-of-range secretory IgA suggests weakened mucosal immunity or activation, making the gut more vulnerable to infections and dysbiosis.

Elevated zonulin levels: High levels of zonulin are associated with increased intestinal permeability.

Mucin degradation: The presence of mucin-degrading species indicates compromised gut barrier function, which is essential for protecting the gut lining.

Presence of oral species in the gut: Finding oral species (>4) in the gut may suggest an altered gut environment.



14

Assess: What does the gut terrain tell me about my patient?

Gut transit time (faecal pH):

- Low pH might suggest rapid transit, which could lead to malabsorption or diarrhoea.
- High pH might indicate slow transit, possibly indicating constipation or increased fermentation in the gut. It can also help you understand SCFA absorption, crucial for maintaining gut health.

Intestinal permeability (secretory IgA and zonulin):

- Elevated SIgA and zonulin levels may indicate a "leaky gut," which could lead to systemic immune activation or autoimmune conditions.
- Low SIgA might suggest a weakened mucosal defence, potentially leading to infections or poor response to pathogens.

Mucosal protection (mucin):

- High levels of mucin-consuming microbes might signal an imbalance that could compromise the protective mucus barrier, leading to increased susceptibility to inflammation.

Oral species:

- The presence of oral species in the gut may indicate translocation, suggesting compromised oral hygiene, stress, improper digestion or lack of stomach acid.

CO-BIOME by MICROBA

15

Assess: Dysbiosis

DYSBIOSIS

1. Diversity and richness (species count)

2. Microbial markers out of range –

- acetate
- *B. fragilis* toxin
- branched-chain amino acids (BCAA)
- beta-glucuronidase
- butyrate
- hexa-acylated lipopolysaccharide (hexa-LPS)
- hydrogen sulphide
- 3-indolepropionic acid (IPA)
- methane
- oxalate
- propionate
- trimethylamine (TMA)

3. Species table

CO-BIOME by MICROBA

16

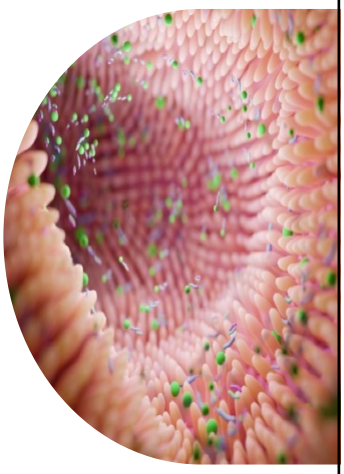
Assess: What are the signs of functional dysbiosis?

Diversity and richness imbalance: Low species diversity and richness are signs of dysbiosis, potentially leading to decreased resilience of the gut microbiome and associated health issues.

Imbalance of short-chain fatty acids (SCFAs): Dysbiosis is often accompanied by an imbalance in SCFAs like butyrate, which is crucial for maintaining gut health and preventing inflammation.

Overproduction of harmful compounds: Overproduction of harmful compounds like hydrogen sulphide, hexa-acylated lipopolysaccharide (hexa-LPS), methane, and trimethylamine (TMA) indicates an imbalance in the gut environment, often linked to functional dysbiosis.

Species overabundance: An overabundance of certain microbial species, which can outcompete beneficial microbes, is a sign of functional dysbiosis.



CO-BIOME by MICROBA

17

Assess: What does dysbiosis tell me about my patient?

Microbial imbalance: Dysbiosis indicates an imbalance in the gut microbiome, with a disruption in the balance of beneficial and harmful microbial species, which can impact overall health.

Inflammatory potential: The presence of dysbiosis suggests an increased potential for inflammation, both locally in the gut and systemically, potentially contributing to chronic conditions.

Compromised gut barrier: Dysbiosis may indicate a compromised gut barrier, increasing intestinal permeability and the risk of conditions such as IBS or autoimmune disorders.

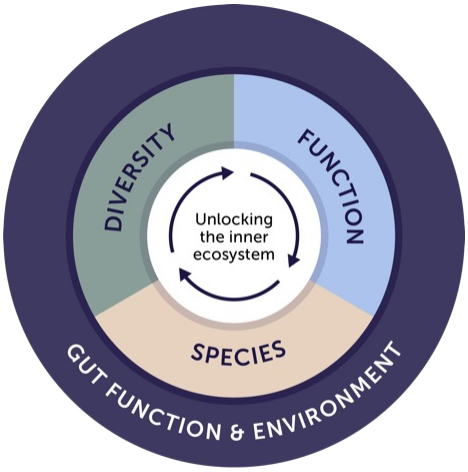
Need for targeted interventions: Dysbiosis suggests the need for targeted dietary, lifestyle, or supplement interventions to restore balance and improve the patient's overall health.

CO-BIOME by MICROBA

18

Whole microbiome approach

- It is important to consider both gut terrain and dysbiosis in the context of the whole microbiome, as well as your patient's symptom picture and case history.
- Which species are providing the functions you need? Rather than looking for one specific species, look at the functions being performed by the species present.
- Is your patient's diet and lifestyle impacting the potential for the microbiome to produce certain microbial markers?



CO-BIOME by MICROBA

19

2. APPLY

Clinical Application of MetaXplore™ Report Interpretation

20

MetaXplore™ Range Report Interpretation Checklist

2 APPLY	Findings & insights	Based on patient symptoms, bowel habits, health history, allergies, intolerances, tolerability, goals, motivations	☐	
		Prioritise insights based on the markers that need addressing the most (via results range or via health categories)	☐	
		If there are no markers out of range, work on healthy microbiome foundations to help the patient improve their microbiome potential	☐	
		Request further pathology or investigative testing, if necessary	☐	

21

How to prioritise insights for your patient management plan

1. Address red flags:

- Start by focusing on any red flags identified in the report. Provide insights or refer as required.

2. Prioritise managing gastrointestinal health markers that are out of range:

- Select insights that address gastrointestinal markers that fall outside the normal range.

3. Prioritise the microbial markers linked with the patient's clinical presentation:

- Address microbial markers where clinical symptoms are reported.

4. Identify any insights that can be applied across multiple markers:

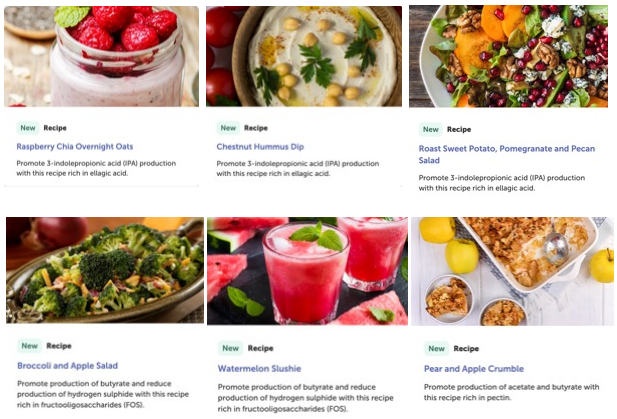
- Look for insights that can positively impact several markers at once.

5. Consider which available insights the patient can follow/implement:

- Evaluate the practicality and feasibility of the insights from the patient's perspective. Consider factors such as the patient's lifestyle, preferences and ability to adhere to the recommendations.

22

Support patient behaviour change with patient handouts and recipes



CO-BIOME by MICROBA

Access Education via the Practitioner Portal

23

Common roadblocks to avoid when interpreting your MetaXplore™ report

Getting bogged down in the species table: Overfocusing on the species table can lead to missing the broader functional insights that are more clinically relevant.

Looking at the microbiome as individual parts: Treating the microbiome as separate, individual species rather than as an interconnected ecosystem can lead to a fragmented understanding.

Focusing on just the celebrity species: Placing too much emphasis on well-known or "celebrity" species instead of understanding the overall function of the microbiome.

Searching for "missing" species: Expecting specific species to be present in every microbiome and overlooking the fact that if a species isn't listed, it's not part of the patient's microbiome profile.

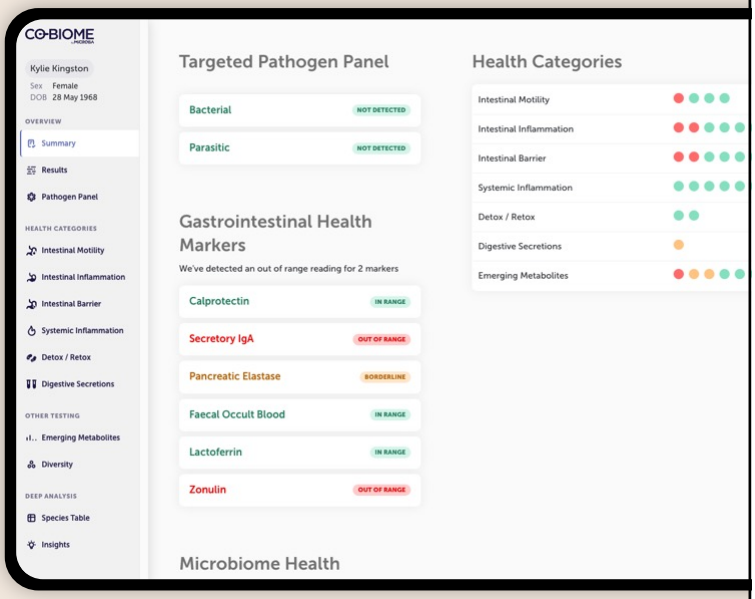
Neglecting patient history: Not integrating the patient's full medical history, including previous treatments and conditions, which can influence the interpretation of the report.

Ignoring lifestyle factors: Failing to account for lifestyle factors such as diet, stress and sleep that can significantly influence microbiome composition.

CO-BIOME by MICROBA

24

Live Demonstration



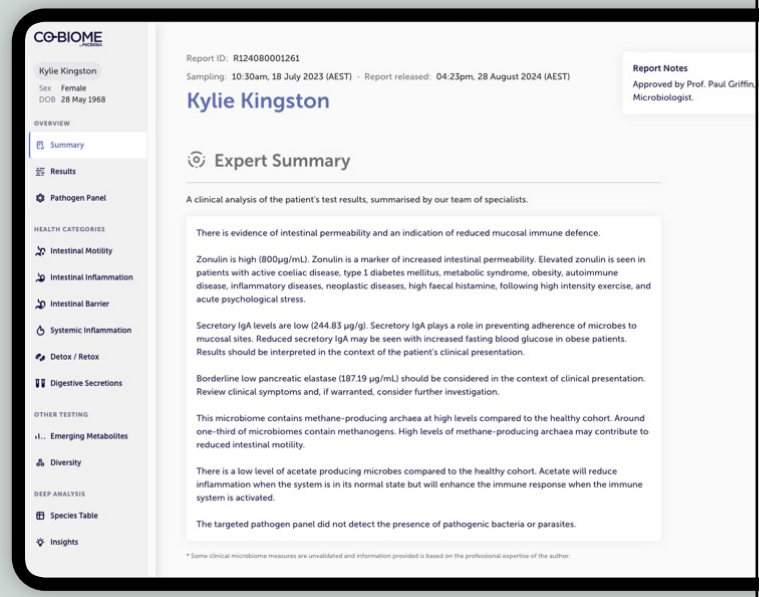
CO-BIOME by MICROBA

25

COMING SOON
MetaXplore™ Expert Summary

Your fast track to microbiome interpretation

- A clear summary of results, right at the top.
- Understand indications quickly and save time.
- Informed by cutting-edge Microba science.

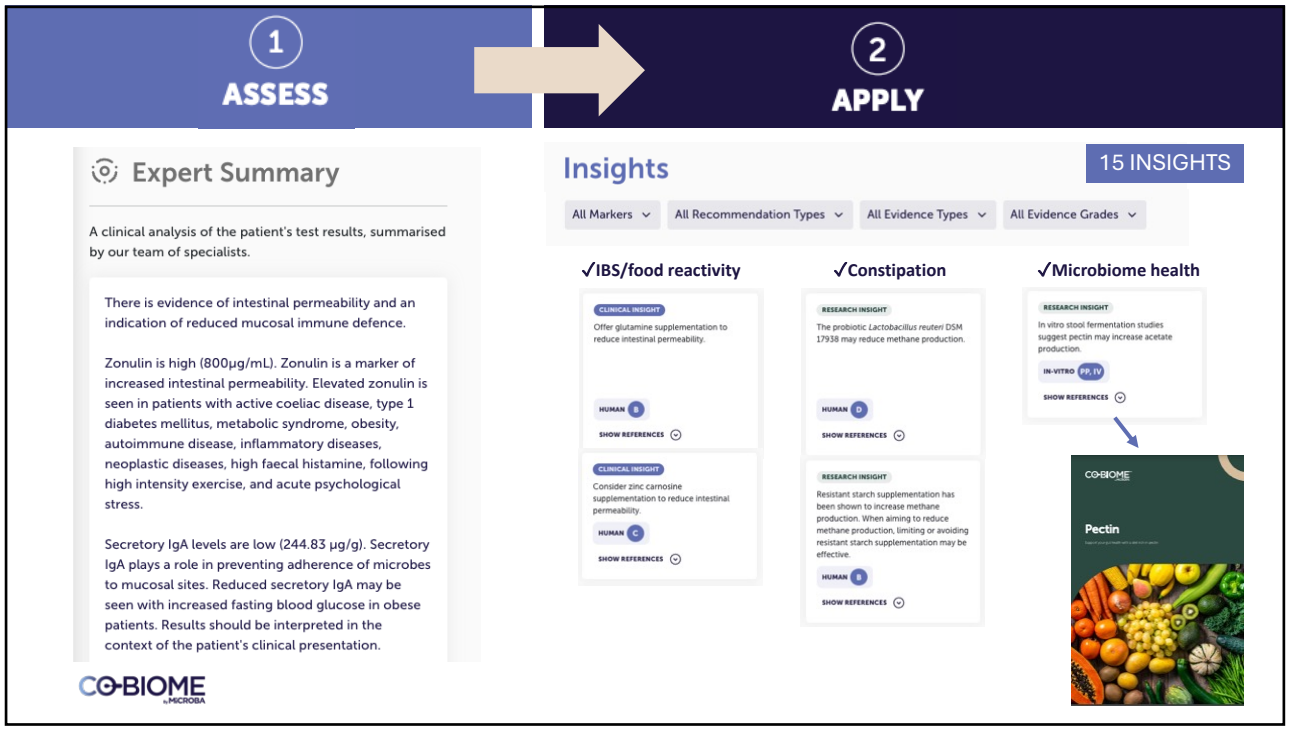


CO-BIOME by MICROBA

26


1
ASSESS
Expert Summary
Cutting down interpretation time to just minutes
A clinical analysis of the patient's test results, summarised by our team of specialists.
There is evidence of intestinal permeability and an indication of reduced mucosal immune defence.
Zonulin is high (800µg/mL). Zonulin is a marker of increased intestinal permeability. Elevated zonulin is seen in patients with active coeliac disease, type 1 diabetes mellitus, metabolic syndrome, obesity, autoimmune disease, inflammatory diseases, neoplastic diseases, high faecal histamine, following high intensity exercise, and acute psychological stress.
Secretory IgA levels are low (244.83 µg/g). Secretory IgA plays a role in preventing adherence of microbes to mucosal sites. Reduced secretory IgA may be seen with increased fasting blood glucose in obese patients. Results should be interpreted in the context of the patient's clinical presentation.
Borderline low pancreatic elastase (187.19 µg/mL) should be considered in the context of clinical presentation. Review clinical symptoms and, if warranted, consider further investigation.
✓ Gut terrain
This microbiome contains methane-producing archaea at high levels compared to the healthy cohort. Around one-third of microbiomes contain methanogens. High levels of methane-producing archaea may contribute to reduced intestinal motility.
There is a low level of acetate producing microbes compared to the healthy cohort. Acetate will reduce inflammation when the system is in its normal state but will enhance the immune response when the immune system is activated.
✓ Dysbiosis
The targeted pathogen panel did not detect the presence of pathogenic bacteria or parasites.
✓ Red flags
* Some clinical microbiome measures are unvalidated and information provided is based on the professional expertise of the author.

27


1
ASSESS
2
APPLY
Expert Summary
A clinical analysis of the patient's test results, summarised by our team of specialists.
There is evidence of intestinal permeability and an indication of reduced mucosal immune defence.
Zonulin is high (800µg/mL). Zonulin is a marker of increased intestinal permeability. Elevated zonulin is seen in patients with active coeliac disease, type 1 diabetes mellitus, metabolic syndrome, obesity, autoimmune disease, inflammatory diseases, neoplastic diseases, high faecal histamine, following high intensity exercise, and acute psychological stress.
Secretory IgA levels are low (244.83 µg/g). Secretory IgA plays a role in preventing adherence of microbes to mucosal sites. Reduced secretory IgA may be seen with increased fasting blood glucose in obese patients. Results should be interpreted in the context of the patient's clinical presentation.
CO-BIOME
Insights
15 INSIGHTS
All Markers
All Recommendation Types
All Evidence Types
All Evidence Grades
✓IBS/food reactivity
✓Constipation
✓Microbiome health
CLINICAL INSIGHT
Offer glutamine supplementation to reduce intestinal permeability.
SHOW REFERENCES
CLINICAL INSIGHT
Consider zinc carnosine supplementation to reduce intestinal permeability.
SHOW REFERENCES
RESEARCH INSIGHT
The probiotic Lactobacillus reuteri DSM 17938 may reduce methane production.
SHOW REFERENCES
RESEARCH INSIGHT
Resistant starch supplementation has been shown to increase methane production. When aiming to reduce methane production, limiting or avoiding resistant starch supplementation may be effective.
SHOW REFERENCES
RESEARCH INSIGHT
In vitro stool fermentation studies suggest pectin may increase acetate production.
IN-VITRO
SHOW REFERENCES
CO-BIOME
Pectin

28

"The new Expert Summary is a game changer, really insightful and can reduce the time taken on treatment decisions."

— Practicing Naturopath

In a recent user testing session

Register to join the Early Access Program, today!

CO-BIOME by MICROBA

29

Key takeaways

✓ Confident interpretation

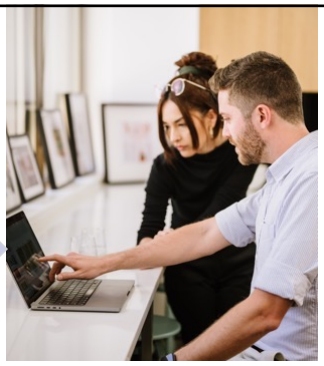
Interpret MetaXplore™ in under 15 minutes using the report interpretation checklist

✓ Informed clinical decisions

Assess a patient's gastrointestinal health and the health of their **whole** gut microbiome

✓ Save time

Register for the MetaXplore™ Expert Summary early access program to spend just minutes on interpretation, so you can spend more time providing patients with personalised care



CO-BIOME by MICROBA

30

Live Q&A

Dr Brad Leech

Complete our survey and register for the MetaXplore™ Expert Summary Early Access Program

https://t.maze.co/278981197

31