

Gut News You Can Use

WHAT TO TEST • WHAT TO LOOK FOR • WHEN TO REFER

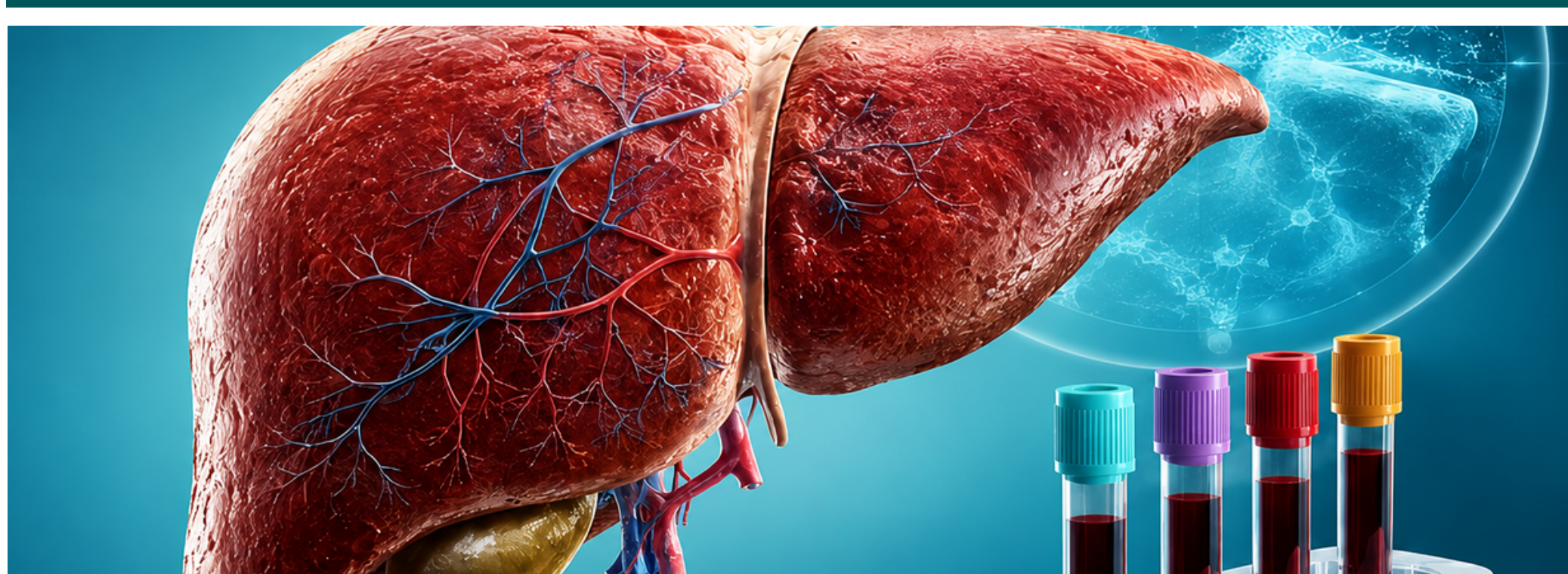


Welcome to Edition 5: Blood Tests — A Clearer Way to Read the Numbers

Blood tests and biomarkers are most useful when interpreted within the patient's clinical story. This fifth edition shares practical guidance on choosing investigations, recognising important patterns and knowing when a result warrants referral.

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Blood tests are clues.

Context gives them meaning.

A practical GP guide to common gastroenterology and hepatology investigations — focusing on interpretation, pitfalls and the point at which specialist input becomes important.

KEY TAKE-HOME

Blood-test results should never be interpreted as isolated laboratory values. Always consider the overall clinical picture, including symptoms, medical history, risk factors and changes over time. Biomarkers should be used selectively to support—not replace—clinical judgement, with early specialist referral when results suggest significant fibrosis, inflammation, bleeding, malabsorption or possible malignancy.

1. Abnormal Liver Tests — Look Beyond the ALT

Contributor: Dr Adris

What to Test :

FBC/platelets; ALT, AST, GGT, ALP, bilirubin; albumin; INR when appropriate; metabolic risk assessment; hepatitis B/C where indicated; ultrasound; calculate FIB-4.

What to Look For :

Pay particular attention to platelet count and synthetic function. FIB-4 <1.3 generally indicates low risk and ≥2.67 high risk; age-specific interpretation is required, particularly in patients >65 years.

When to Refer :

Urgent/early gastro-hepatology referral if thrombocytopenia, low albumin, raised INR/bilirubin, jaundice, ascites, splenomegaly/portal hypertension, nodular liver, or other features of advanced fibrosis/cirrhosis.

GP PEARL Do not chase the ALT alone. Ask: could this patient have fibrosis or cirrhosis?

2. Iron Studies — Read the Number, Not Just the Flag

Contributor: Dr Zaki Hamarneh

Pathology laboratories may use different assays and reference ranges. Ferritin is central to assessing iron stores, but it is also an acute-phase reactant. In chronic inflammatory disease, liver disease, chronic kidney disease and heart failure, a ferritin that appears 'normal' on the report may still be compatible with iron deficiency. Disease-specific criteria should be applied rather than a single universal cutoff.

What to Test :

FBC, ferritin, transferrin saturation (TSAT), iron/transferrin as locally reported. Consider CRP and the underlying inflammatory/chronic disease context.

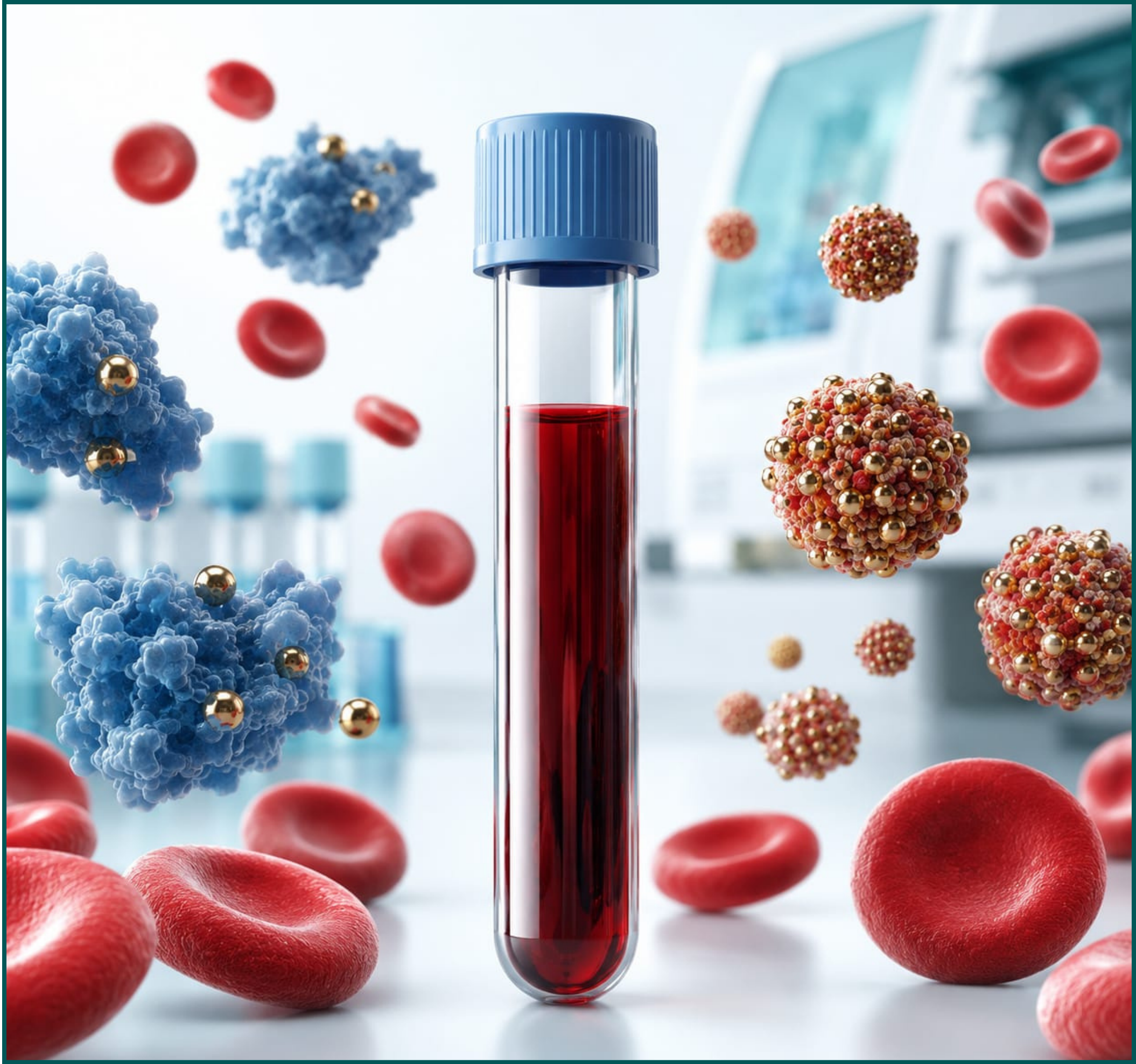
What to Look For :

Ferritin <100 µg/L can support iron deficiency in several chronic inflammatory settings when interpreted with TSAT and the underlying clinical condition. Persistent TSAT ≥45% raises suspicion for iron overload. Raised ferritin with lower TSAT is commonly seen with metabolic inflammation/MASLD and is not synonymous with haemochromatosis.

When to Refer :

Refer for unexplained or recurrent iron deficiency, iron-deficiency anaemia with GI symptoms or alarm features, failure to respond to appropriate iron replacement, suspected malabsorption, or persistent biochemical evidence suggesting iron overload/haemochromatosis.

Oral iron can be given on an alternate-day schedule; this may improve absorption and tolerability in some patients. Vitamin C may improve iron absorption, although routine co-administration is not required for everyone. After bariatric surgery, iron deficiency deserves particular attention and IV iron may be appropriate where oral treatment is ineffective or absorption is impaired.



GP PEARL A laboratory 'normal range' does not replace clinical interpretation of ferritin and TSAT.

3. Faecal Calprotectin — Is This IBS or Intestinal Inflammation?

Contributor: Dr Swaminathan



Faecal calprotectin is a useful non-invasive marker of intestinal inflammation and can help distinguish inflammatory bowel disease (IBD) from functional symptoms in the right clinical setting. It is also useful for monitoring established IBD. Medicare-funded testing is available under defined MBS criteria.

What to Test :

For persistent diarrhoea/IBD-type symptoms: stool microbiology as appropriate plus faecal calprotectin, after considering infection, medicines and alarm features.

What to Look For :

A low result (commonly <50 µg/g, depending on the laboratory assay/reference range) makes active IBD less likely. Borderline results 50-250 µg/g require clinical context and sometimes repeat testing. Markedly or persistently elevated results >250 µg/g increase concern for significant intestinal inflammation, but are not by themselves diagnostic of IBD.

When to Refer :

Urgent/early gastroenterology assessment for markedly elevated or persistently abnormal calprotectin, bleeding, weight loss, anaemia, nocturnal symptoms, significant systemic illness, or other alarm features.

GP PEARL In a younger patient with persistent diarrhoea, think stool infection testing + faecal calprotectin.

4. H. pylori — Test Active Infection, Then Prove Eradication

Contributor: Dr Chris Kia

H. pylori serology mainly reflects antibody exposure and cannot reliably distinguish previous infection from current active infection. Where non-invasive testing is appropriate, use a urea breath test or stool H. pylori antigen.

What to Test :

Urea breath test or stool H. pylori antigen for active infection. Use endoscopic biopsy-based testing when gastroscopy is otherwise indicated.

What to Look For :

After appropriate eradication therapy, confirm eradication ≥4 weeks after antibiotics/bismuth. PPIs should generally be withheld for about 2 weeks before breath/stool test-of-cure where clinically safe.

When to Refer :

Refer for alarm symptoms, GI bleeding, unexplained iron deficiency, dysphagia, significant weight loss, recurrent/refractory infection, failed appropriate eradication regimens, or where endoscopy is indicated.



GP PEARL DO NOT USE H. PYLORI SEROLOGY TO CONFIRM ERADICATION.

5. Tumour Markers — Monitoring Tools, Not Screening Tests

Contributor: Dr Sutharshan

CEA and CA19-9 are commonly encountered GI tumour markers, but they should not be used as routine screening tests for bowel or pancreatic cancer. CEA has an established role in selected patients with diagnosed colorectal cancer, including follow-up after treatment. A normal tumour marker does not exclude malignancy.

What to Test :

Use tumour markers selectively in an established cancer pathway or where a specialist/oncology plan calls for them. Use iFOBT for population bowel screening when eligible.

What to Look For :

Interpret trends in the context of a known diagnosis, imaging and treatment. Both false-positive and false-negative results occur.

When to Refer :

Refer based on symptoms, examination, anaemia/iron deficiency, positive iFOBT, imaging or other cancer red flags — not on tumour markers alone.

GP PEARL A normal CEA does not rule out colorectal cancer, and a raised CEA does not diagnose it.



6. Vitamin B12 — A Low Level May Be the Clue

Contributor: Dr Swaminathan



Vitamin B12 deficiency deserves a search for the cause, particularly when it is unexplained. Important GI causes include autoimmune atrophic gastritis/pernicious anaemia, bariatric or gastric surgery, coeliac disease, Crohn disease involving the distal ileum, and previous ileal/ileocolic resection. Long-term metformin and acid suppression may also contribute.

What to Test :

Serum B12 with FBC/MCV. If autoimmune gastritis is suspected, test anti-intrinsic-factor antibodies; parietal-cell antibodies may provide additional supportive evidence. If clinical suspicion remains high, consider fasting gastrin and specialist assessment. Consider coeliac serology when the cause remains unexplained.

What to Look For :

A negative intrinsic-factor antibody does not completely exclude autoimmune gastritis. Look for macrocytosis, neurological symptoms, concomitant iron deficiency and a history of gastric/bariatric or ileal surgery.

When to Refer :

Refer for unexplained/recurrent deficiency, suspected autoimmune gastritis, upper-GI symptoms, associated iron deficiency, or where gastroscopy with gastric biopsies is needed to establish/risk-stratify atrophic gastritis.

Patients after bariatric surgery are at increased risk of B12 deficiency, but it is more accurate to say the risk depends on the operation and degree of malabsorption rather than that every patient will inevitably be deficient. B12 should be monitored closely after procedures that impair intrinsic factor or absorption. Patients with Crohn disease affecting the distal ileum or previous ileal resection also merit particular vigilance.

GP PEARL Unexplained B12 deficiency can be the first clue to autoimmune gastritis or distal small-bowel disease.

7. Vitamin C — The Forgotten Micronutrient

Contributor: Dr Shahzad

Vitamin C is essential for collagen formation, tissue repair and wound healing. Deficiency can cause fatigue, weakness, bruising/bleeding, gingival symptoms and poor wound healing. It is not a routine screening test for every GI patient, but selected patients with chronic gastrointestinal disease, restrictive intake, malnutrition, malabsorption, previous surgery or advanced chronic illness may be at risk.

What to Test :

Consider plasma vitamin C when there is clinical or nutritional risk: poor/restricted intake, malnutrition, poor wound healing, easy bruising/bleeding, or selected patients with IBD, chronic liver disease or malabsorption.

What to Look For :

Interpret with the clinical picture and dietary history. Pre-analytical handling is important for vitamin C samples, so follow the collecting laboratory's instructions.

When to Refer :

Refer or seek dietetic/specialist input where deficiency is severe, recurrent, associated with significant malnutrition/malabsorption, or occurs alongside uncontrolled IBD/advanced liver disease.

Clinical experience from our gastroenterology practice: vitamin C testing has identified unexpectedly low levels in selected patients with IBD and cirrhosis. In patients found to be deficient, replacement is appropriate. In our clinical experience, correction of deficiency may also coincide with improvement in symptoms such as fatigue, although this should be regarded as targeted deficiency treatment rather than routine supplementation.

GP PEARL Think vitamin C when the patient with chronic GI disease is tired, nutritionally restricted, bruising or healing poorly.



8. Microbiome Testing — Promising, but Interpretation Is Still Evolving

Contributor: Dr Shahzad

Commercial gut microbiome testing is increasingly available and can produce extensive reports on bacterial abundance and 'dysbiosis'. The science of the microbiome is important, but the clinical meaning of many commercial results — and the treatment that should follow — remains uncertain.

What to Test :

Do conventional investigations first when symptoms suggest organic disease. Microbiome testing may be considered selectively after discussion of its current limitations.

What to Look For :

Do not assume every reported abundance, deficiency or dysbiosis score is a validated diagnosis or requires treatment. Interpret alongside symptoms, diet, medicines and established pathology/endoscopy.

When to Refer :

Refer when persistent GI symptoms, weight loss, bleeding, anaemia, abnormal inflammatory markers or other clinical features suggest underlying organic disease, rather than referring on the basis of a commercial microbiome result alone.

GP PEARL Our ability to measure the microbiome currently exceeds our ability to interpret every result clinically.



9. Pharmacogenomics — When the Medication Doesn't Behave as Expected

Contributor: Dr Shahzad



Pharmacogenomic panels are increasingly accessible. They may be helpful in selected patients with repeated medication intolerance, unusual adverse effects or apparent treatment failure. In gastroenterology, CYP2C19 variation is particularly relevant to the metabolism of several proton-pump inhibitors (PPIs).

What to Test :

Consider a validated pharmacogenomic panel selectively when repeated adverse effects, intolerance or unexpected treatment failure suggests altered drug metabolism. SNP and QML both offer this test at a cost.

What to Look For :

Interpret genotype in the context of the specific medicine, dose, adherence, interactions and the strength of evidence linking that gene to clinical response.

When to Refer :

Seek gastroenterology/pharmacology input when reflux remains uncontrolled despite appropriate therapy, there are multiple PPI intolerances, or the genomic result is complex and would materially alter treatment.

GP PEARL When an apparently appropriate treatment repeatedly fails, drug metabolism may occasionally be part of the explanation.

QUICK REFERENCE — WHEN TO THINK GASTROENTEROLOGY

Liver: High/indeterminate fibrosis risk; thrombocytopenia; impaired synthetic function; portal hypertension/cirrhosis features.

Iron: Unexplained or recurrent deficiency; GI red flags; suspected iron overload/haemochromatosis.

Calprotectin: Marked/persistent elevation or inflammatory/alarm features.

H. pylori: Failed eradication, recurrent infection, alarm symptoms or need for gastroscopy

B12: Unexplained/recurrent deficiency, suspected autoimmune gastritis or significant malabsorption.

Vitamin C: Severe/recurrent deficiency or significant malnutrition/malabsorption.

Microbiome / PGx: Complex results or testing likely to influence specialist GI treatment.

Selected evidence base: Australian Prescriber (2026) vitamin B12 review; Healthdirect Australia vitamin C deficiency; NICE NG239; AGA atrophic gastritis guidance; ECCO-ESGAR IBD guidance; and current Australian MBS faecal calprotectin requirements.

Educational resource only. Investigation and referral decisions should be individualised to the patient's clinical context and current Australian guidelines/MBS requirements.



Dr Sutharshan Kannuthurai is an experienced gastroenterologist and interventional endoscopist, providing advanced endoscopic care including EUS (Endoscopic Ultrasound) and ERCP at St Andrew’s Ipswich Private Hospital.

He is also available to assist with urgent and complex gastroenterology cases, helping ensure patients can access timely specialist assessment and advanced procedures when needed.



Dr. Sutharshan Kannuthurai

MBBS, FRACP

Gastroenterologist and Interventional Endoscopist

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OUR SPECIALISTS



FOUNDER

Dr. Asif Shahzad

MBBS, BSc, FRACP, AFRACMA
Gastroenterologist and Hepatologist



Dr. Zaki Hamarneh

MD, FRACP
Gastroenterologist & Interventional Endoscopist



Dr. Akhilesh Swaminathan

MBBS, FRACP
Gastroenterologist and Hepatologist



Dr. Samapriya (Pasan) Hewawasam

MBBS, FRACP
Gastroenterologist and Hepatologist



Dr. Chris Kia

MBBS, FRACP
Gastroenterologist and Interventional Endoscopist



Dr. Niwansa Adris

MBBS, FRACP
Gastroenterologist and Hepatologist



Dr. Szymon Ostrowski

MBBS, FRACP
Gastroenterologist and Hepatologist



Dr. Terry Holt

B.AppSc, MBBS, FRACP, Ph.D
Gastroenterologist and Hepatologist



Dr. Mark Cornwell

MBBS, FRACP
Interventional Gastroenterologist

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- ✓ Fecal Microbiota Transplantation (FMT)
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- ✓ Balloon Enteroscopy

CONTACT US



07 3517 6222



07 3517 6221



admin@mygutcare.com.au



www.mygutcare.com.au



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- 📍 QGOS, Suite 110, 1808 Logan Road, Upper Mount Gravatt.
- 📍 Suite 2, 18 Limestone Street, Ipswich.
- 📍 St Andrew’s War Memorial Hospital, Specialist Suites.
- 📍 Mater Health Centre Redland

Procedures

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