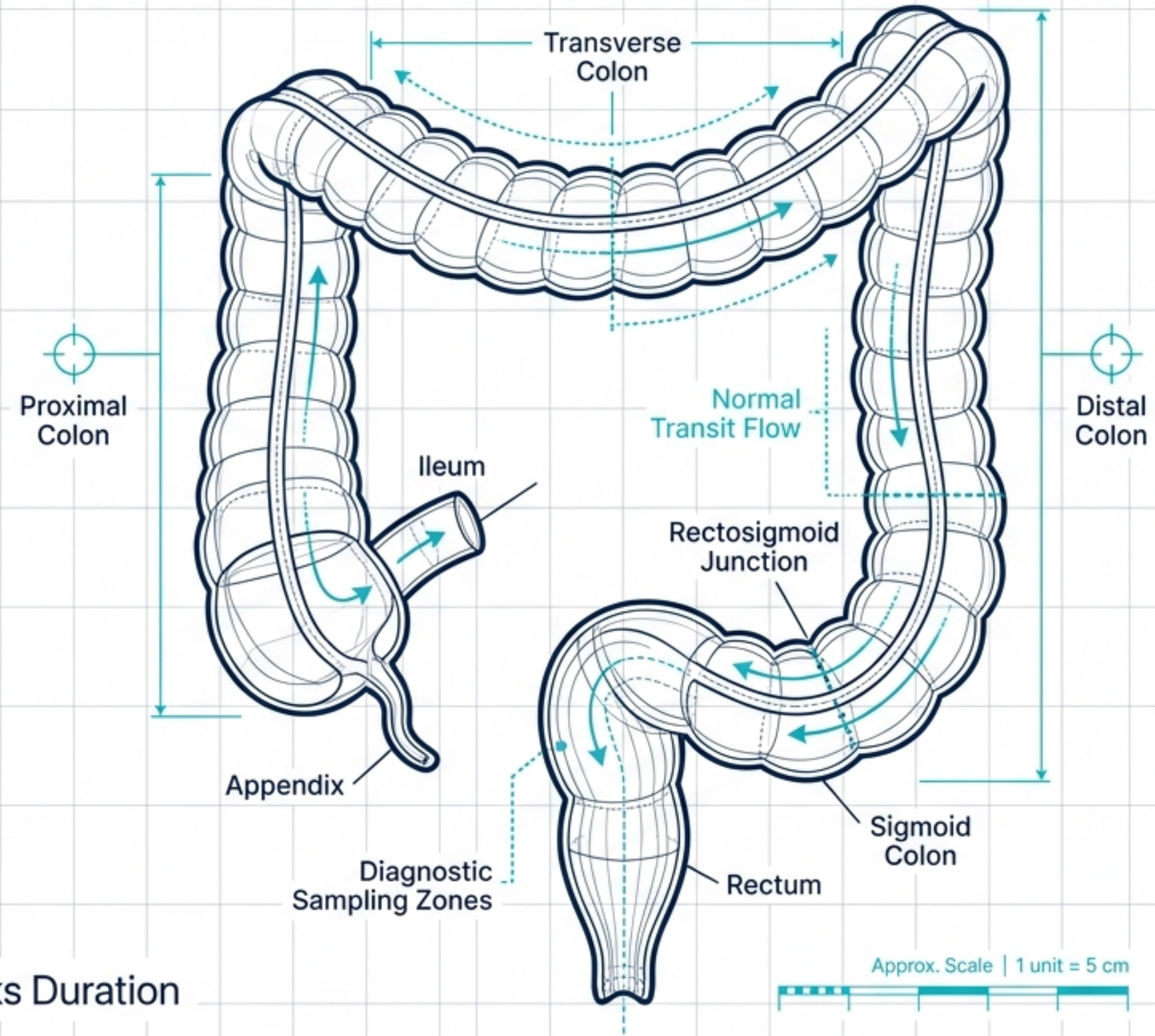
Clinical Explainer
& Pathway Reference

The Chronic Diarrhoea Blueprint

A Primary Care Diagnostic Framework for the Australian Clinician

Based on Med2Date Guidelines | Over 4 Weeks Duration



THE THRESHOLD:

Chronic Diarrhoea = Loose/watery stools **≥3x** daily OR **>200g**/day, persisting **>4 WEEKS**.

PREVALENCE

5–7%

of the Australian adult population affected at any given time.

COELIAC DISEASE

1 in 70

Australians affected. Only 1 in 5 are currently diagnosed.

IBD INCIDENCE

>85,000

affected individuals; peak incidence ages 15–29 and 60–69.

EMERGING THREATS

- *C. difficile* (ribotypes 027, 014/020) rising in aged care.
- **Bile Acid Diarrhoea (BAD)** affects 1-2% of adults.

Diagnostic Timeframe

Acute (<4 Weeks)

Causes: Viral, bacterial, parasitic, food poisoning.

Action: Supportive care; Stool MCS if fever/blood/travel; *C. diff* if recent antibiotics.

Chronic (>4 Weeks)

Causes: IBS-D, IBD, Coeliac, BAD, Pancreatic insufficiency.

Action: Structured diagnostic workup.

Urgent Red Flags

- Age >50 at new symptom onset
- Nocturnal diarrhoea waking the patient
- Weight loss >5%
- Blood or mucus in stool
- Family history of Colorectal Cancer or IBD

The 20% Rule: Iatrogenic Diarrhoea

Up to 20% of chronic diarrhoea cases in Australian primary care are drug-related. Always conduct a polypharmacy review first.

- Metformin & Acarbose
- Proton Pump Inhibitors (PPIs)
- Selective Serotonin Reuptake Inhibitors (SSRIs)
- NSAIDs & Colchicine
- Magnesium-containing antacids
- Angiotensin Receptor Blockers (specifically Olmesartan)

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M - Medications: Metformin, PPIs, SSRIs, NSAIDs, colchicine, olmesartan.

D - Duration & pattern: Nocturnal vs daytime, fasting vs postprandial.

E - Eating patterns: FODMAPs, lactose, artificial sweeteners (sorbitol, mannitol).

A - Alarm features: Weight loss, blood, age >50. **(URGENT)**

I - Infections & travel: Giardia, parasites, *C. difficile*

T - Type & consistency: Watery, fatty/bulky, bloody

C - Comorbidities: Diabetes, thyroid, HIV, previous GI surgery

E - Family history: IBD, Coeliac, Colorectal cancer

Stool Osmotic Gap $= 290 - 2 \times (\text{stool } [Na^+] + \text{stool } [K^+])$

Mechanism	Clinical Characteristics & Gap	Examples
Osmotic	Gap >125 mOsm/kg. Improves with fasting.	Lactose intolerance, Coeliac, Mg laxatives.
Secretory	Gap <50 mOsm/kg. Persists with fasting.	Bile acid malabsorption, Microscopic colitis.
Inflammatory	Gap Variable. Blood/mucus, ↑CRP/Calprotectin.	Crohn's, UC, CRC.
Malabsorptive	Gap >125 mOsm/kg. Steatorrhoea, weight loss.	Pancreatic exocrine insufficiency, SIBO.
Motility	Gap Variable. Rapid transit.	IBS-D, Hyperthyroidism.

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The Baseline Blood Protocol

FBC (Item 65070)

Assess for iron deficiency anaemia (low MCV), eosinophilia (parasites), thrombocytosis.

EUC (Item 66500)

Assess dehydration, renal function, hypokalaemia.

LFTs (Item 66515)

Screen for hypoalbuminaemia (protein-losing enteropathy/malabsorption).

CRP (Item 65070)

Elevated in IBD/infection; typically normal in functional diarrhoea/Coeliac.

TSH ± free T4 (Item 66715)

Exclude hyperthyroidism (an under-recognised cause).

Coeliac Serology (Item 66811)

tTG-IgA + total IgA. Screen all patients; must be on gluten-containing diet.

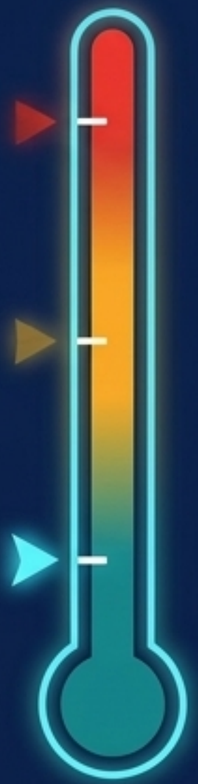
Targeted Stool Testing Algorithm

All Patients:
Baseline Bloods + Stool MCS/C. diff
(if infectious features)

- **Inflammatory Features (Blood/Mucus/↑CRP)** → **Test: Faecal Calprotectin**
- **Fatty/Bulky Stools or Weight Loss** → **Test: Faecal Elastase-1 (Confirm with 72h faecal fat if <200 µg/g)**
- **Travel, Eosinophilia, Risk Factors** → **Test: Stool OCP x 3 + Giardia Antigen**
- **Normal Results & Persistent Watery Diarrhoea** → **Test: Rule out Bile Acid Diarrhoea (SeHCAT) or SIBO (Hydrogen breath test)**

Faecal Calprotectin
(Differentiating IBD from IBS-D)

- **<50 µg/g:** Low probability of IBD (NPV >95%). Apply Rome IV criteria for IBS.
- **50–200 µg/g:** Indeterminate. Repeat in 4–6 weeks.
- **>200 µg/g:** High probability of mucosal inflammation. Urgent GI referral for colonoscopy.



Faecal Elastase-1
(Detecting Pancreatic Exocrine Insufficiency)

- **Requirement:** Requires formed stool sample (watery stool gives false low). No fasting required.
- **<200 µg/g:** Moderate PEI.
- **<100 µg/g:** Severe PEI.
- **Action:** Initiate Pancreatic Enzyme Replacement Therapy (PERT); refer to GI/HPB.

Rule-Out #1: Coeliac Disease

The Critical Pitfall: Patients MUST be on a gluten-containing diet (≥2 slices of bread daily or equivalent) for at least 6 weeks prior to testing. Testing on a gluten-free diet causes false-negative results.

First-Line Screen

Tissue transglutaminase IgA (tTG-IgA) (Sensitivity 93-98%). Must pair with Total Serum IgA to exclude selective IgA deficiency (present in 2-3% of patients, falsely lowers tTG-IgA).

Backup Protocol

Deamidated gliadin peptide IgG (DGP-IgG) is used ONLY if total IgA is deficient.

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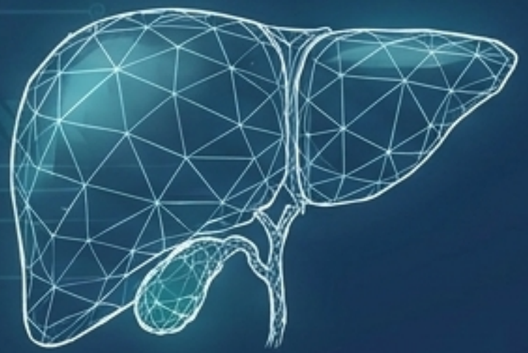
Coeliac Serology Diagnostic Logic

Serology Result	Interpretation	Next Step
⊕ tTG-IgA elevated + IgA normal	Likely coeliac disease	GI referral for duodenal biopsy **(Do NOT start GFD yet)**.
⊖ tTG-IgA negative + IgA normal	Coeliac unlikely	Consider other diagnoses.
⊖ tTG-IgA negative + IgA deficient	Uninterpretable	Order DGP-IgG; GI referral.
? tTG-IgA weakly positive (1-2x ULN)	Indeterminate	Confirm with DGP-IgG/EMA; GI referral.

Rule-Out #2: Hyperthyroidism

Accelerated gut motility often precedes tremor/weight loss.

Action: Always check TSH.
Suppressed TSH + Elevated free T4 = Hyperthyroidism.



Rule-Out #3: Bile Acid Diarrhoea (BAD)

Affects 1-2% of Australians. Highly prevalent post-cholecystectomy (up to 20%).

- **Type 1:** Ileal dysfunction (Crohn's, resection). **Type 2:** Idiopathic. **Type 3:** Post-cholecystectomy / Coeliac.
- **Diagnosis/Action:** SeHCAT scan (tertiary centers only) OR empirical trial of Cholestyramine 4g PO once/twice daily for 2-4 weeks.

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Gastroenterology Triage Dashboard

URGENT (Colonoscopy <30 days)

Rectal bleeding / blood in stool • Unintentional weight loss >5%
• Nocturnal diarrhoea (waking from sleep)
• Age >50 with new-onset change in bowel habit.

SEMI-URGENT

• Elevated faecal calprotectin (>200 µg/g)
• Elevated inflammatory markers (CRP/ESR) with diarrhoea
• Positive coeliac serology (requires biopsy).

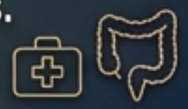
ROUTINE

Persistent unexplained watery diarrhoea (>4 weeks)
• Suspected microscopic colitis (requires random biopsies)
• Suspected Pancreatic Exocrine Insufficiency / BAD.

Context: Aboriginal & Torres Strait Islander Health

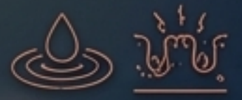
The Burden

- 2–3x higher rate of gastroenteritis hospitalisations.
- High prevalence of *H. pylori* and environmental enteropathy in remote communities.



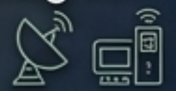
Environmental Enteropathy

- Chronic exposure to poor water quality/sanitation leading to low-grade intestinal inflammation, malabsorption, and growth faltering.



Structural Barriers

- Specialist GI services are severely limited in remote Australia.
- Emphasizes the need for Telehealth (RFDS) and point-of-care calprotectin testing at ACCHSs.



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Culturally Safe Clinical Protocols

Baseline Workup Additions & Actions

- [x] Add Stool MCS & Giardia antigen routinely.
- [x] Add Strongyloides stercoralis serology (Endemic to Top End/Cape York; prevents fatal hyperinfection if immunosuppressed).
- [x] Lower threshold for *C. difficile* testing.
- [x] Ensure culturally safe stool sample explanation and consider cold chain logistics.
- [x] Medication Access: Prescribe via Remote Area Aboriginal Health Supply Scheme (RAAHS) for agents like cholestyramine/loperamide.

Key Recommendation

Cultural Safety Note:

Coeliac disease is less common but not rare in Aboriginal and Torres Strait Islander populations. Do not omit screening based on ethnicity.

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Special Populations: Life Stages

Pregnancy

- **Serology:** tTG-IgA may be mildly elevated in normal pregnancy—interpret cautiously.
- **Medications:** Avoid cholestyramine (impairs folate absorption). Loperamide is Category B3 (avoid 1st trimester).
- **Procedure:** Defer colonoscopy unless red-flag symptoms exist.

Paediatrics (<5 Years)

- **Causes:** Post-infectious, cow's milk protein allergy, toddler's diarrhoea.
- **Testing Adjustments:** Use DGP-IgG if <2 years old (tTG-IgA has lower sensitivity). Faecal calprotectin is naturally elevated in infants <12 months (up to 300 µg/g is normal).
- **Red Flag:** Consider Cystic Fibrosis (sweat test + elastase) if failure to thrive.

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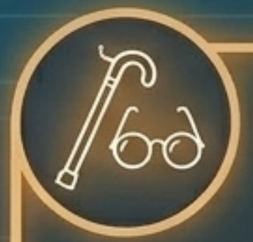
Special Populations: Complex Comorbidities



Patient Profile
Elderly (>65)

- High risk of medication-induced diarrhoea.
- Microscopic colitis highly prevalent in women >60; requires colonoscopy to diagnose. Lower threshold for scope overall.

Patient Profile
Renal Impairment

- Risk of diarrhoea-induced AKI.
- Critical danger: Magnesium-containing laxatives/antacids. (Cholestyramine is safe/not systemically absorbed).

Patient Profile
Hepatic Impairment

- Consider Bile Acid Diarrhoea in cholestatic liver disease (PBC/PSC). Note: Coeliac disease can cause mild transaminitis.

Patient Profile
Immunocompromised

- Broad differential (CMV, Cryptosporidium, MAC). Mycophenolate is a major drug culprit. Biologics for IBD can paradoxically cause infectious diarrhoea (rule out C. diff).

The Final Synthesis: Diagnosing IBS-D

The Golden Rule: Do NOT perform a colonoscopy for chronic diarrhoea in patients <45 years old without alarm features, providing they have negative calprotectin and normal coeliac serology.

The Diagnosis of Exclusion: These patients are highly likely to have Irritable Bowel Syndrome with Diarrhoea (IBS-D).

Action: Apply **Rome IV Criteria**. Initiate a therapeutic trial (dietary, antispasmodics) only after the diagnostic blueprint is complete and organic pathology is **ruled out**.

End of The Clinical Blueprint.