

QUIZ FEEDBACK

Investigating the Gut

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Introduction

This quiz feedback provides an opportunity to revisit the March, 2010 “Best Tests” document and accompanying quiz which focused on the role of laboratory testing when investigating the gut. All general practitioners who responded to this quiz, will receive personalised online feedback and CME points.

1. Which of the following is true about the use of a lactose free diet when investigating lactose intolerance?		Your peers	Preferred
<input type="checkbox"/>	Can be diagnostic if symptoms resolve, then return following reintroduction of lactose	98%	✓
<input type="checkbox"/>	If dietary challenge is inconclusive, it is useful to consider faecal pH test	1%	✗
<input type="checkbox"/>	Food labels must be carefully studied during the trial, to avoid “hidden” sources of lactose	86%	✓
<input type="checkbox"/>	It is useful to use both trial of diet and laboratory tests to diagnose lactose intolerance	3%	✗

Comment:

The role of laboratory tests in diagnosing lactose intolerance in primary care is limited. In most cases the diagnosis can be made on clinical grounds. The American Academy of Paediatrics recommends that when lactose intolerance is suspected, a lactose free diet should be trialled for two weeks. However, during the trial ,it is important that all sources of lactose are eliminated and food labelling should be closely studied. If symptoms resolve over this trial period and then return with subsequent reintroduction of lactose containing foods, then lactose intolerance can be diagnosed. This diagnosis can be made by a GP and further investigation is rarely needed.

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2. Which of the following is true about faecal calprotectin?		Your peers	Preferred
<input type="checkbox"/>	Can provide a definite diagnosis of inflammatory bowel disease	11%	✗
<input type="checkbox"/>	Is appropriate for routine use by GPs	1%	✗
<input type="checkbox"/>	It is expensive and not widely available	97%	✓
<input type="checkbox"/>	The antibody tests pANCA, ASCA, Anti-CBir1, Anti-Omp C, Anti-I-2 provide the same information as faecal calprotectin	4%	✗

Comment:

Faecal calprotectin may be useful to differentiate between irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD), in symptomatic patients with only slightly raised CRP, but is not helpful in determining the cause of inflammation.

Although there is no charge to the patients it is expensive for the laboratory. As the test is not currently widely available, most gastroenterologists will instead proceed directly to colonoscopy and biopsy if there are symptoms suggestive of IBD.

3. Which of the following tests are most useful for diagnosing lactose intolerance in primary care?		
	Your peers	Preferred
<input type="checkbox"/> Trial of lactose-free diet/reintroduction of lactose	98%	✓
<input type="checkbox"/> Small bowel disaccharidases	1%	✗
<input type="checkbox"/> Lactose tolerance test	<1%	✗
<input type="checkbox"/> Hydrogen breath test	2%	✗
<input type="checkbox"/> Faecal pH test	1%	✗
<input type="checkbox"/> Faecal reducing substances	1%	✗

Comment:

A trial of lactose-free diet/reintroduction is usually sufficient for diagnosis however there are a number of laboratory investigations that are available, but these are most often reserved for use in secondary care.

Small bowel disaccharide testing remains a very good test for lactose intolerance, but it is invasive requiring a small bowel biopsy. It can not differentiate between primary and secondary lactase deficiency.

Lactose tolerance test is rarely performed, due to poor sensitivity (about 75%), and may also cause unpleasant symptoms such as diarrhoea and abdominal pain.

Hydrogen breath test is an alternative to the lactose tolerance test. Although it is preferable to the lactose tolerance test in children, it is not widely available.

Faecal pH test is of limited value and no longer recommended.

Faecal reducing substances is unreliable and not recommended.



4. Why is faecal fat no longer favoured?		
	Your peers	Preferred
<input type="checkbox"/> Because it is both unpleasant for patients to collect and for laboratory staff to process	83%	✓
<input type="checkbox"/> Because the diagnosis of steatorrhoea can usually be made on patient history	76%	✓
<input type="checkbox"/> Faecal fat has low sensitivity for pancreatic insufficiency	84%	✓
<input type="checkbox"/> Other tests can provide more useful information	71%	✓

Comment:

The faecal fat test is no longer recommended because it has low sensitivity for pancreatic insufficiency, as well as being a very unpleasant test. The diagnosis of steatorrhoea can usually be made on patient history. The hallmark of steatorrhoea is the passage of pale, bulky and malodorous faeces, which often float and are difficult to flush.

The faecal elastase test is a more sensitive test for pancreatic insufficiency. Measurement of fat soluble vitamins would not normally be indicated in the first instance but may be recommended later.

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5. Which of the following is true about pernicious anaemia?		
	Your peers	Preferred
<input type="checkbox"/> Lifelong B12 treatment will be required	97%	✓
<input type="checkbox"/> It is associated with other autoimmune endocrinopathies, particularly thyroid disease and diabetes	95%	✓
<input type="checkbox"/> Parietal cell antibodies may be positive in 20-30% of first degree relatives of patients with pernicious anaemia	92%	✓
<input type="checkbox"/> Schilling test is still frequently used	1%	✗

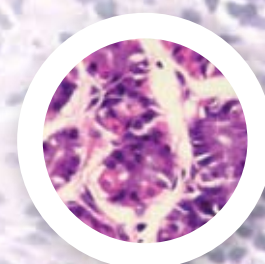
Comment:

The diagnosis of pernicious anaemia identifies the need for lifelong B12 treatment and may be associated with other autoimmune endocrinopathies, particularly thyroid disease and diabetes. There is also a small increased incidence of associated stomach cancer.

Partial cell and intrinsic factor antibody tests should be requested for a patient with low vitamin B12, and signs/symptoms consistent with pernicious anaemia. Both tests should be ordered, as there are some limitations with each:

Intrinsic factor antibodies: Are very specific and virtually diagnostic for pernicious anaemia but sensitivity is low, meaning a negative result does not rule out a diagnosis of pernicious anaemia

Parietal cell antibodies: Has high sensitivity, which means most patients with pernicious anaemia will have positive parietal cell antibodies, but low specificity, means high number of false positives. For example, the incidence in healthy individuals rises from 2.5% of those in their twenties, to 10% of those in their seventies. The test may also be positive in 20–30% of first degree relatives of patients with pernicious anaemia and also in some patients with other autoimmune endocrine disorders.



6. Which of the following is true about the prevalence of <i>Helicobacter pylori</i> infection?		
	Your peers	Preferred
<input type="checkbox"/> Overall infection rates are becoming less in New Zealand as living conditions have improved	84%	✓
<input type="checkbox"/> Where prevalence is >30%, serology testing should be used for detecting <i>H. pylori</i> infection	92%	✓
<input type="checkbox"/> Māori and Pacific people have higher rates of <i>H. pylori</i> infection than European New Zealanders	96%	✓
<input type="checkbox"/> Prevalence is lowest amongst Europeans living in the South Island	85%	✓

Comment:

H. pylori infection is usually acquired in early childhood, and does not resolve spontaneously. There is a higher risk of infection with lower socioeconomic living conditions. As living conditions have improved in New Zealand, *H. pylori* infection rates have decreased. As a result *H. pylori* infection is more common in older people, due to a higher prevalence when they were children.

There is incomplete data on *H. pylori* infection rates throughout New Zealand, however it is known that rates are significantly higher in Māori and Pacific people compared to European New Zealanders.

The NZGG Dyspepsia Guideline contains the following statements about *H. pylori* infection rates:

- Rates in the South Island are well below 30%
- Rates tend to be >30% in adult Māori and Pacific peoples, and those with lower socio-economic status
- Rates in adults living in Auckland have generally been found to be greater than 30%

When testing for *H. Pylori*, serology tests and stool antigen tests are the most frequently used tests. Although both tests do have some limitations, the “rule-of-thumb” is to use serology tests where the prevalence of *H. pylori* infection is greater than 30%, and use stool antigen tests where prevalence of *H. pylori* infection is less than 30%.

7. Which of the following is true about testing for coeliac disease?		
	Your peers	Preferred
<input type="checkbox"/> People should abstain from eating gluten prior to testing	5%	✗
<input type="checkbox"/> A negative result always excludes coeliac disease	2%	✗
<input type="checkbox"/> IgA TTG is the preferred initial test	98%	✓
<input type="checkbox"/> Population screening for coeliac disease is likely in the future	1%	✗

Comment:

IgA tissue transglutaminase (TTG) is the preferred initial test for detecting coeliac disease. Testing is recommended for all symptomatic children and adults as well as asymptomatic people at increased risk. People must have consumed adequate amounts of gluten (equivalent to four slices of bread daily) for 4–6 weeks prior to testing. Negative results can not exclude coeliac disease if the patient has had a significantly reduced gluten intake.

People at increased risk include:

- Siblings of any index case (because the test may be unreliable, it may be preferable to avoid using it until the child is 2–3 years of age, unless there are symptoms)
- Those with Type I diabetes and other systemic autoimmune disorders
- Patients with IgA deficiency
- Children with Down syndrome



8. Which of the following is true about a low vitamin B12?		Your peers	Preferred
<input type="checkbox"/>	May be the result of drug therapy	93%	✓
<input type="checkbox"/>	A negative intrinsic factor antibody in a person with low B12 excludes pernicious anaemia	8%	✗
<input type="checkbox"/>	Pernicious anaemia is an unlikely cause of the low B12 in people younger than 30 years	85%	✓
<input type="checkbox"/>	Positive intrinsic factor antibodies and positive parietal cell antibodies confirm pernicious anaemia as the cause of the low vitamin B12.	90%	✓

Comment:

There are number of causes of low vitamin B12 levels but pernicious anaemia is among the most important to identify. Pernicious anaemia is rare in people under 30 years.

Other possible causes of low vitamin B12 include:

- Nutritional deficiency – main dietary sources are meat and dairy products therefore elderly patients with “tea and toast” diets, chronic alcoholics and strict vegans are especially at risk
- Gastric causes e.g. gastrectomy
- Intestinal causes e.g. ileal disease/resection
- Severe pancreatic insufficiency
- Medications e.g. oral contraceptives, metformin, long term proton pump inhibitor therapy

Partial cell and intrinsic factor antibody tests should be requested for a patient with low vitamin B12, and signs/symptoms consistent with pernicious anaemia. Approximately 90% of people with pernicious anaemia will test positive for one or both of these tests. Intrinsic factor antibodies have low sensitivity (approximately 60%); therefore a negative result does not rule out a diagnosis of pernicious anaemia.