

Diagnostic Imaging Pathways - Irritable Bowel Syndrome (Suspected)

Population Covered By The Guidance

This pathway provides guidance on imaging in patients with non-specific or undifferentiated chronic abdominal pain who are suspected of having a functional bowel syndrome. 'Alarm features' and other indications for investigation are described.

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Date of next review: 2017/2018

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Quick User Guide

Move the mouse cursor over the **PINK** text boxes inside the flow chart to bring up a pop up box with salient points.

Clicking on the **PINK** text box will bring up the full text.

The relative radiation level (RRL) of each imaging investigation is displayed in the pop up box.

SYMBOL	RRL	EFFECTIVE DOSE RANGE
	None	0
	Minimal	< 1 millisieverts
	Low	1-5 mSv
	Medium	5-10 mSv
	High	>10 mSv

Pathway Diagram

Date reviewed: December 2012
 Please note that this pathway is subject to review and revision

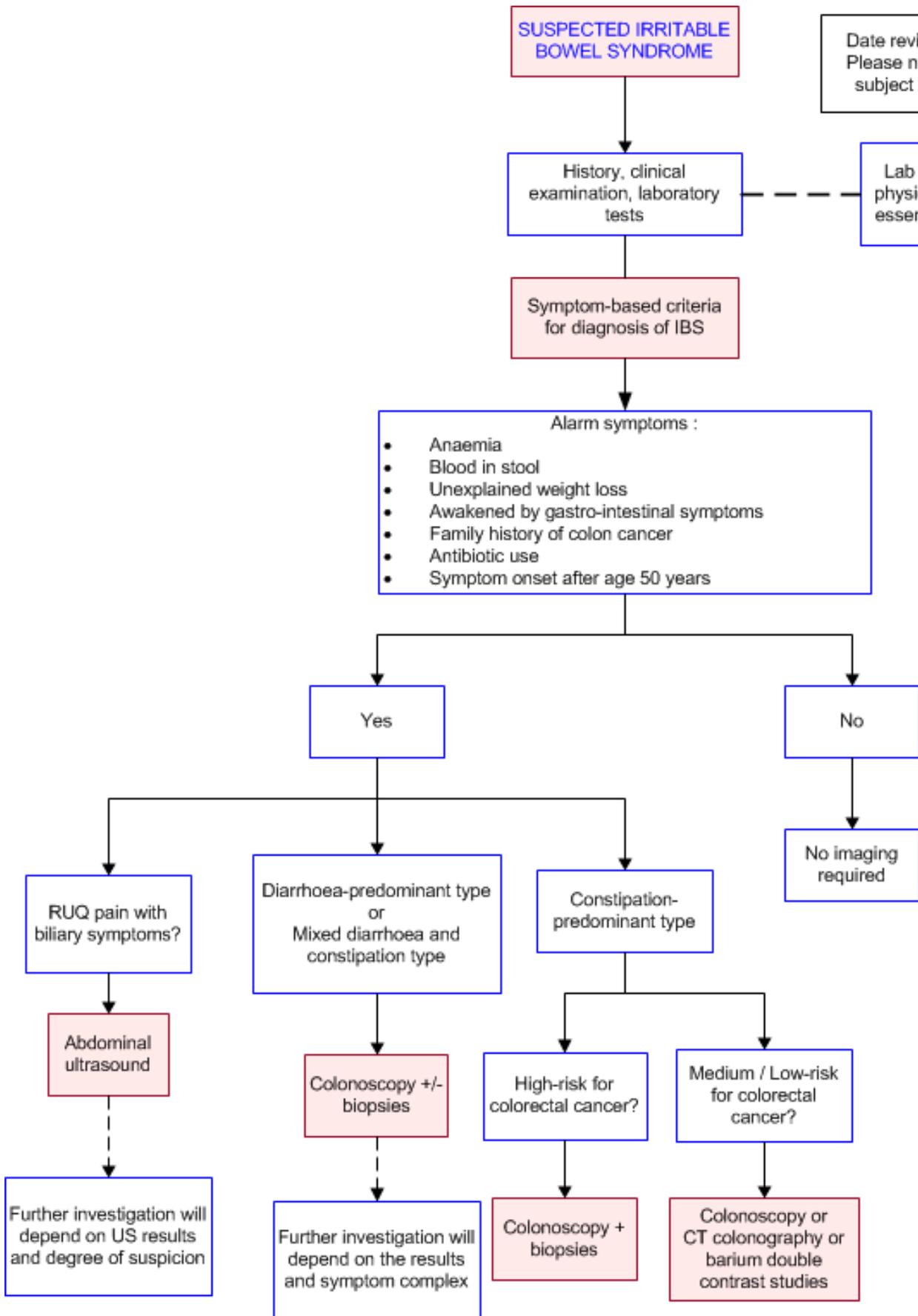


Image Gallery

Images coming soon

Irritable Bowel Syndrome (IBS)

- IBS is a chronic condition characterized by intermittent abdominal pain associated with bowel dysfunction
- The pooled prevalence of IBS is noted to be around 7% in the adult population [1](#)

Imaging in Irritable Bowel Syndrome

- A recent systematic review on the role of imaging in IBS concluded that though radiologic imaging is frequently used in the evaluation of patients suspected with IBS, there is a striking lack of strong evidence to support their routine use. The authors concluded that based on the current evidence, further investigations including radiologic imaging should only be done in patients who have alarm symptoms to rule out other structural abnormalities which may mimic IBS. They found that early referral to a physician experienced in IBS is more beneficial than embarking on imaging for structural abnormalities. Similar to the ACG Task Force on IBS, authors of this systematic review suggest no further imaging for patients suspected with IBS symptoms but have no alarm features [4](#)
- Among patients with alarm features, three different groups are identified [4](#)
 - Patients with RUQ & biliary features in whom abdominal ultrasound should be the initial investigation
 - Patients with diarrhoea-predominant IBS or mixed (diarrhoea and constipation) IBS in whom colonoscopy should be the first line of investigation
 - Patients with constipation-predominant IBS in whom further investigations are based on their risk of having a colorectal cancer. High risk patients should have colonoscopy while medium and low risk can undergo CT colonography if available, otherwise double contrast barium enema

Diagnosis of Irritable Bowel Syndrome (IBS)

- IBS is a clinical diagnosis and further investigations including imaging are not routinely indicated
- IBS is a symptom complex and so, accuracy of individual symptoms in diagnosing IBS is imperfect
- Many symptom-based diagnostic criteria like Manning, Kruis score, ROME I, ROME II and ROME III etcetera have been developed and among these Manning, Kruis and ROME I criteria have been evaluated more extensively than others and their sensitivities range from 71% to 78% while specificities range from 72% to 89% [1](#)
- One study reported a positive predictive value of 98% for ROME I criteria for IBS in the absence of alarm symptoms [2](#)

MANNING CRITERIA [1,3](#)

- Presence of three out of the following six symptoms is considered positive for IBS
 1. Abdominal Pain relieved by defecation
 2. Looser stools with the onset of pain
 3. More frequent stools with the onset of pain
 4. Abdominal distension

5. Passage of mucous
6. Feeling of incomplete defecation (tenesmus)

ROME I CRITERIA [1](#)

- Abdominal pain or discomfort relieved with defecation, or associated with a change in stool frequency or consistency, PLUS two or more of the following on at least 25% of occasions or days for three months
 1. Altered stool frequency
 2. Altered stool form
 3. Altered stool passage
 4. Passage of mucous
 5. Bloating or distension
- The American College of Gastroenterology (ACG) Task Force on IBS conducted a systematic review of current evidence on IBS diagnosis and management and found that patients with no alarm symptoms and under 50 years of age and who satisfy one of the diagnostic criteria for IBS need no have further investigations [1](#)

Alarm symptoms [1,4](#)

- Anaemia
- Blood in stool
- Awakening at night with gastrointestinal symptoms
- Unexplained weight loss
- Family history of colorectal cancer
- Antibiotic use
- Age > 50 years

ACG Task Force also stated in their review that the overall accuracy of alarm symptoms although poor, the presence of any should warrant consideration for further investigations [1](#)

Abdominal Ultrasound

- Initial investigation of choice for suspected acute cholecystitis and cholestatic jaundice in patients with RUQ pain with biliary features
- Ultrasonographic signs of acute gallbladder inflammation include gallbladder wall thickening/oedema, pericholecystic fluid, gallstones and positive ultrasonic Murphy's sign [5,6](#)
- >90% diagnostic accuracy for acute cholecystitis and varies with the morphologic criteria used [5,7](#)
- Also helps detect the presence of cholestatic jaundice by detecting dilated bile ducts
- >90% sensitivity and 71-96% specificity) [8,9](#)
- Advantages - no ionising radiation involved, allows evaluation of other abdominal structures (can identify an alternative diagnosis), provides preoperative information such as gallbladder size, stone size, gallbladder wall status, presence of biliary dilatation and can visualise the entire liver

Computed Tomography Colonography (CTC) and Double Contrast Barium Enema (DCBE)

- CTC is indicated in the following circumstances
 - for total colonic evaluation in a patient that has had an incomplete colonoscopy
 - In patients with an obstructing carcinoma to rule out a more proximal synchronous lesion
 - In patients who are unsuitable for colonoscopy (i.e. medically unfit for sedation, anticoagulated or who have had a previous difficult colonoscopy)
- A review of 17 studies showed that CTC had a combined sensitivity of more than 96% for detecting colorectal carcinoma [10](#)
- Meta-analysis of 7 studies using multi-detector CT scanners reporting overall sensitivity showed homogeneously high per patient sensitivity of 95% [11](#)
- CTC has been shown to be equal to or superior to DCBE for the detection of colonic neoplasms, is better tolerated, has the ability to diagnose extra-colonic pathology and where available, should be the preferred choice [12,13](#)
- Symptomatic colonic perforations associated with CTC have been reported but are rare (approximately 1 in 3000) [14,15,16](#)
- The radiation dose associated with CTC can be considerably less than other abdominal CT scans and is generally less than a DCBE study. The estimated risk of radiation induced carcinoma (fatal or nonfatal) from a CTC study was 0.14% in a 50 year old patient and 0.07% in a 79 year old patient using a low dose protocol [17](#)
- One major advantage of CT over endoscopy and barium enema studies is the ability to diagnose other causes of the symptoms being a cross-sectional imaging technique

Colonoscopy

- American Society of Gastrointestinal Endoscopy (ASGE) release guidelines on the use of endoscopy for patients with chronic diarrhoea [18](#)
- Colonoscopy and Sigmoidoscopy should be suggested for patients suspected to have colitis (ulcerative/ microscopic/ lymphocytic) or inflammatory bowel disease or colorectal cancer
- Sigmoidoscopy may be a reasonable initial test for many patients given majority of findings are within the reach of a flexible sigmoidoscope. Compared to colonoscopy, flexible sigmoidoscopy is less expensive and with fewer risks
- Major complication of sigmoidoscopy is perforation of colon and the risk is estimated to be 1 to 2 in 10,000 procedures. Mortality from sigmoidoscopy is rare
- Colonoscopy has the advantage of permitting examination and biopsy of the entire colon and the terminal ileum. Colonoscopy is preferred over flexible sigmoidoscopy when suspecting inflammatory bowel disease or in older patients or when suspecting collagenous colitis where 10% of cases occur in proximal colon
- Complications associated with colonoscopy include perforation, haemorrhage, abdominal pain following procedure, respiratory depression due to sedation and Ileus. Risk of perforation is between 0.01% to 0.3 % and bleeding is approximately 3 in 1000 procedures. Mortality risk has been estimated to be 1 to 3 in 10,000 procedures [19](#)

References

References are graded from Level I to V according to the Oxford Centre for Evidence-Based Medicine, Levels of Evidence. [Download the document](#)

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