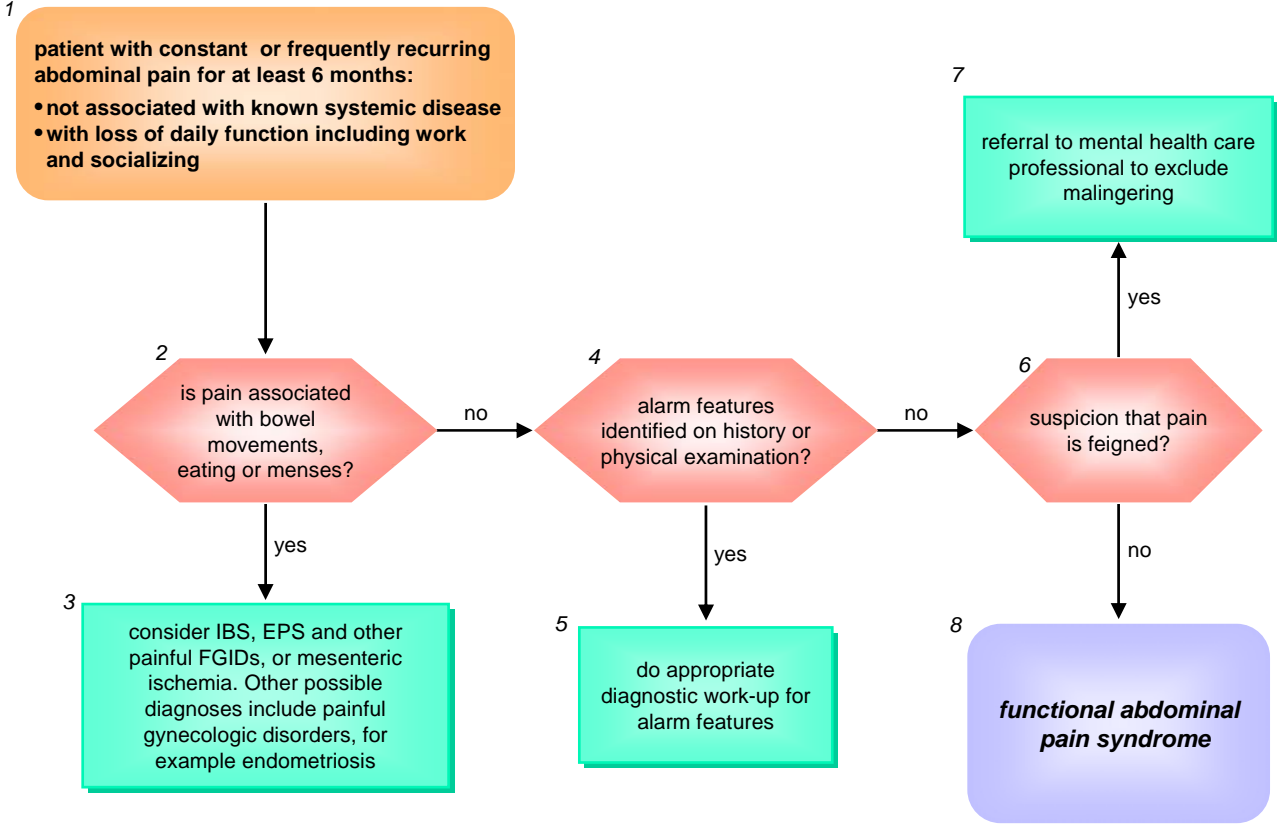


# Figure 1: Constant or frequently recurring abdominal pain



## **Constant or frequently recurring abdominal pain**

### ***Case history***

A 33 year old woman is referred to a gastroenterologist by her primary care physician(PCP) because of a long history of constant and severe abdominal pain refractory to all prior treatments; she has associated loss of daily functioning and is unable to work (Box 1, Fig 1). She has no known systemic disease that has explained the pain.

The gastroenterologist obtains the history that the patient first developed recurrent episodes of abdominal pain at the age of 6 years, and these episodes led to school absence. The frequency and severity of the episodes of pain increased after menarche. Over the last 10 years the pain has become more frequent and more severe, and for the last 5 years, has been present constantly, occurring on a daily basis. It is described as dull or cramping in character and is usually located in the mid to lower abdomen. Specifically, the pain is not related to or affected by bowel movements, eating or the menstrual cycle (Box 2). The patient communicates intense pain by wincing and holding her abdomen, and she requests that diagnostic studies be done to “find and fix” the problem (Box 1). Her records indicate that physical examinations in the past and diagnostic studies have been negative for other medical disorders (Box 3). The tests have included two colonoscopies, upper gastrointestinal endoscopy, computerized tomography (CT) scan of the abdomen, capsule endoscopy, pelvic ultrasound, and abdominal magnetic resonance imaging (MRI). An exploratory laparotomy 5 years earlier suggested endometriosis, leading to an unsuccessful trial of leuprolide acetate. She also underwent cholecystectomy 3 years ago due to a low ejection fraction on DISIDA (isotope) scan. There are no alarm features (Box 4).

The patient states that she has had over 30 emergency room (ER) visits where she usually receives intravenous morphine and phenergan, and is discharged with a week’s supply of oral narcotics, hydrocodone or oxycodone. In the letter of referral, her PCP states that she often needs to refill these prescriptions to prevent

the patient returning to the emergency room. She has had 5 hospitalizations for the abdominal pain when ER treatments were unsuccessful.

Further history reveals that at age 16 the patient left home before finishing high school, and after becoming pregnant, married at age 17. After 4 years she left her spouse when he became physically abusive. The patient and her daughter are currently living with her mother. For the last 2 years she has been unable to work (Box 1) and is currently receiving disability payments. The gastroenterologist notes that a psychiatry consultant diagnosed major depression with post-traumatic stress disorder resulting from a childhood history of family deprivation, and sexual and physical abuse. The pain is thought to be consistent with a Pain Disorder Associated with Psychological Factors (DSM-IV 307.80), and there is no evidence for malingering (Box 7). The psychiatrist recommended treatment with paroxetine 20 mg per day and follow up at a local mental health center. She was discharged with paroxetine and also oxycodone 10 mg three times per day.

Upon presentation on this occasion, the patient is lying on her side on the examination table with hips flexed. She complains of severe cramping abdominal pain in the mid and lower abdomen with nausea. The examination is again negative (Box 4) except for a positive Carnett's test (see Figure legend #5). She is asking to be hospitalized to determine the cause of the pain and to receive intravenous medication to relieve the pain. A diagnosis of **Functional Abdominal Pain Syndrome** is made (Box 8).

## Figure legend

1. Constant or frequently recurring abdominal pain in this context refers to pain that is constant, nearly constant, or at least frequently recurring, with pain or discomfort occurring every day, and where the pain has been present for at least 6 months.

The pain is associated with some loss of daily functioning such as work or school absenteeism and limitations in social activities. Systemic disease that may be associated with this type of pain is not known to be present. The history should also include clinical/psychosocial features (1). During history taking symptom-reporting behaviors should be noted (3). These include verbal and non-verbal expression of varying pain intensity, urgent reporting of intense symptoms, minimizing or denying a role for psychosocial factors, requesting additional diagnostic studies, focusing attention on complete recovery, seeking health care frequently, taking limited personal responsibility for self-management, and making requests for narcotic analgesics. While behavioural communications are not criteria for the diagnosis, they are a commonly observed feature in this context.

2. The history should elicit specific features of the pain, especially associations with bowel movements and eating, and also any relationship to the menstrual cycle.

3. If the pain is associated with bowel movements and leads to frequent, looser stools or infrequent harder stools with relief upon defecation (any combination of two) then a diagnosis of irritable bowel syndrome (IBS) should be considered (11) (see 'chronic or recurrent abdominal pain/discomfort with disordered bowel habit' algorithm). If the pain is located in the epigastrium or right upper quadrant, is severe, interrupts daily activities and recurs at different intervals (ie. not daily) a diagnosis of functional gallbladder or sphincter of Oddi disorder should be considered (12) (see 'recurrent biliary-like pain' and 'post-cholecystectomy biliary-like pain' algorithms). If the pain is localized to the epigastrium, is intermittent and does not fulfill criteria for gallbladder or sphincter of Oddi disorder, functional dyspepsia (specifically epigastric pain syndrome [EPS]) should be considered (13) (see 'recurrent dyspepsia' algorithm).

The diagnosis of chronic mesenteric ischemia should be considered. Characteristic features may include pain exacerbated by eating (intestinal angina) and pain out of proportion to the physical examination. This is a difficult determination to make but should be considered in the context of new onset in a patient of older age with a history of vascular disease along with symptoms of nausea, vomiting, and weight loss. Diarrhea may also be present. Upper abdominal pain may reflect celiac axis involvement. If the pain is associated with and worsened by menses, it might indicate conditions such as endometriosis, dysfunctional uterine bleeding or another gynecological pathology, and should be evaluated by pelvic examination, pelvic ultrasound and/or referral to a gynecologist. A pelvic examination will help in this determination, first examining pelvic structures intra-vaginally and then comparing to bimanual examination. When in doubt evaluation by a gynecologist is suggested.

4. A complete physical examination should be conducted. The minimal diagnostic work-up includes CBC, ESR/CRP, biochemistry panel, fecal occult blood (over the age of 50 years). Alarm features can include abnormal findings on physical examination, unintentional weight loss, family history of abdominal cancer and laboratory abnormalities such as anemia, hypoalbuminemia, abnormal liver function tests, elevated ESR, and positive fecal occult blood.
5. If alarm features are identified by history, physical examination or laboratory screening investigations, other sources of abdominal pain should be considered. An appropriate level of suspicion also may be required to differentiate chronic abdominal wall pain from pain of visceral origin. The pain is usually localized and increases with contraction of the abdominal muscles. Carnett's sign in which pain or tenderness increase with intentional tensing of the abdominal muscles can be elicited on physical examination in these cases (14). Although a positive Carnett's sign could indicate abdominal wall pain as the source of this patient's symptoms, and if elicited might be taken into account it makes more sense, in the context of the history and clinical course, that her pain is related to central hypersensitivity with hypervigilance. Thus, in the context of the present case, a positive Carnett's sign would be taken as negating visceral pain as the pain source and

supporting a central hypersensitivity more than abdominal wall pain. In effect, the original Carnett's sign, in this application, is being modified to differentiate visceral from central pain mechanisms.

6. Feigned pain or malingering relates to the intentional production of false or grossly exaggerated physical (or psychological) symptoms, motivated by external incentives. This may relate to avoiding work, obtaining financial compensation or obtaining drugs. The DSM-IV indicates that malingering should be strongly suspected if any combination of the following is noted (15):

- medico legal context of presentation (i.e., referred by an attorney to the clinician for examination).
- marked discrepancy between the person's claimed stress, symptoms or disability and the objective findings
- lack of cooperation during the diagnostic evaluation and in complying with the prescribed treatment regimen
- the presence of Antisocial Personality Disorder. Based on the DSMIV criteria, three or more of the following are required for this diagnosis: a pervasive pattern of disregard for and violation of the rights of others as indicated by: a) unlawful behaviours, b) deceitfulness and lying, c) impulsivity or failure to plan ahead, d) irritability and aggressiveness with physical fights or assaults, e) reckless disregard for the safety of oneself or others, f) irresponsibility with failure to sustain consistent work behaviour or honor financial obligations, g) lack of remorse for being indifferent to having hurt, mistreated or stolen from another.

Feigned pain or malingering differs from Factitious Disorder in that the motivation for the symptom production in malingering is an external incentive, whereas in Factitious Disorder external incentives are absent. It differs from Conversion Disorder or Somatoform Disorder since the symptoms are intentionally produced and thus in contrast to these conditions relief is not often obtained by suggestion or hypnosis.

7. It is recognized that feigned pain is not easy to detect so it may be appropriate to refer to a mental health professional to confirm this suspicion. It should not be presumed unless there is clear evidence for its presence.

8. In the absence of alarm features or screening abnormalities and in the presence of long-standing stable symptoms, the diagnosis of functional abdominal pain syndrome (FAPS) is highly probable if all criteria for this diagnosis have been met.

**Rome III diagnostic criteria for FAPS are: 1) continuous or nearly continuous abdominal pain, and 2) no or only occasional relationship of pain with physiological events (eg. eating, defecation, or menses), and 3) some loss of daily functioning, and 4) the pain is not feigned, and 5) insufficient symptoms to meet criteria for another functional gastrointestinal disorder that would explain the pain, and 6) criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis.**

If these criteria are met, reassurance concerning the diagnosis of FAPS and symptomatic treatment should be followed by reassessment in 3 to 6 weeks (16).

Psychosocial factors including major depression or anxiety disorder, somatoform disorder, maladaptive coping and life stress including physical, sexual or emotional abuse are common in patients with FAPS. These disorders can be screened through the psychosocial history or in some cases through psychological testing (17). The *Rome III Psychosocial Alarm Questionnaire for Functional Gastrointestinal Disorders* (Appendix A), which identifies “red flags” or more serious markers of psychosocial disturbance that would prompt psychiatric or psychological referral, is a useful tool for clinical practice. These issues are discussed in detail by Creed et al (18), including a treatment algorithm with red flags for mental health consultation.

Primary treatment options for FAPS include TCA or SSRI therapy, or non-pharmacological therapy such as cognitive-behavioral therapy (CBT), hypnotherapy, or dynamic or interpersonal psychotherapy (19). An algorithm to guide treatment decisions for FAPS appears in Clouse et al (3). In patients with marked disability,

opiate misuse, and/or multiple and widespread pain problems in addition to FAPS, in whom little or no improvement is seen with these treatment strategies, referral to a specialized multidisciplinary chronic pain program might be considered. Another compelling issue to address that occurs in patients with FAPS is the injudicious use of narcotic agents that may lead to the development of narcotic bowel syndrome (20). This condition is characterized by accelerated use of narcotic medications for pain relief, but which paradoxically is associated with hyperalgesia. The treatment requires detoxification from narcotics and substitution of the treatments as noted above.