



## Functional Dyspepsia

Functional dyspepsia is a chronic disorder of sensation and movement (peristalsis) in the upper digestive tract. Peristalsis is the normal downward pumping and squeezing of the esophagus, stomach, and small intestine, which begins after swallowing. We call this disorder functional because there are no observable or measurable structural abnormalities found to explain persistent symptoms. You might hear other terms used to describe this condition, such as non-ulcer dyspepsia, pseudo-ulcer syndrome, pyloro-duodenal irritability, nervous dyspepsia, or gastritis. Various estimates suggest that 20-45% of Canadians have this condition, but only a small number will consult a physician.

The cause of functional dyspepsia is unknown; however, several hypotheses could explain this condition even though none can be consistently associated with it. Excessive acid secretion, inflammation of the stomach or duodenum, food allergies, lifestyle and diet influences, psychological factors, medication side effects (e.g., from non-steroidal anti-inflammatory drugs, such as aspirin, ibuprofen, and naproxen), and *Helicobacter pylori* infection have all had their proponents.

### Symptoms

The disturbed motility present in functional dyspepsia leads to amplified sensation in the upper gut (visceral hyperalgesia). This is due to uncoordinated and even ineffectual emptying of the upper digestive tract, with resulting symptoms of pain, fullness and bloating, and an inability to finish meals. Other common symptoms include heartburn, a sour taste in the mouth, excessive burping, nausea, and sometimes vomiting.

Characteristically, these complaints are sporadic, poorly localized, and without consistent aggravating or relieving factors. The vast majority of those with functional dyspepsia experience more than one symptom, which may come and go. Sometimes symptoms could present with increased severity for several weeks or months and then decrease or disappear entirely for some time.

### Diagnosis

In the past, some physicians would have diagnosed peptic ulcer disease in an individual complaining of upper middle abdominal (epigastric) pain and nausea. Now, using such investigative tools as detailed barium X-rays or gastroscopy, physicians can quickly rule out an ulcer diagnosis. After testing individuals with these symptoms, twice as many people will not have an ulcer as will have one.

A physician arrives at a diagnosis of functional dyspepsia when there is no evidence of structural disease and there have been at least three months of one or more of the following (with onset at least six months earlier):

- bothersome post-meal (postprandial) fullness
- early satiation
- epigastric pain
- epigastric burning

The role of investigations and testing in functional dyspepsia is often misunderstood. Current technology cannot confirm dysmotility and there is no definitive diagnostic test for functional dyspepsia. All conventional testing produces normal results; however, a normal result on X-ray or gastroscopy does

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not mean there is nothing wrong. This testing shortfall can lead to anger or frustration for individuals who continue to experience symptoms.

## Management

### Dietary and Lifestyle Modifications

Although no evidence directly links specific foods to functional dyspepsia, it does make sense to limit or avoid foods where a symptom effect is obvious on an individual basis. Some people have reported increased symptoms when consuming excessive amounts of milk, alcohol, caffeine, fatty or fried foods, mint, tomatoes, citrus fruits, and some spices. However, there is no hard and fast rule, as irritating foods vary among individuals. Avoiding large portions at mealtime and eating smaller, more frequent meals is important to normalize upper gut motility. Following meals, it may help to avoid lying down for at least two hours.

Overweight individuals might find relief when they lose weight, as the excess bulk might put pressure on the digestive tract, affecting its function. Elevating the head of the bed by about six inches might also help, but make sure to do this by propping up the mattress or bed frame, not by using pillows. Using pillows can lead to back or neck pain and the increased bending could compress the stomach and actually worsen functional dyspepsia symptoms.

### Medications

There are two main approaches to treating functional dyspepsia with medications: neutralizing acid and blocking its production.

For neutralizing acid, over-the-counter medications such as Maalox<sup>®</sup>, Tums<sup>®</sup>, and Pepto-Bismol<sup>®</sup> may subdue symptoms. Another product, Gaviscon<sup>®</sup>, neutralizes stomach acid and forms a barrier to block acid rising into the esophagus. Some find that these non-prescription antacids provide quick, temporary, or partial relief but they do not prevent heartburn. Consult your physician if you are using antacids for more than three weeks.

Two classes of medication that suppress acid secretion are histamine-2 receptor antagonists (H<sub>2</sub>RAs) and proton pump inhibitors (PPIs).

H<sub>2</sub>RAs work by blocking the effect of histamine, which stimulates certain cells in the stomach to produce acid. These include cimetidine (Tagamet<sup>®</sup>), ranitidine (Zantac<sup>®</sup>), famotidine (Pepcid<sup>®</sup>), and nizatidine (Axid<sup>®</sup>). H<sub>2</sub>RAs are all available by prescription and some are accessible in a lower dose non-prescription formulation.

PPIs work by blocking an enzyme necessary for acid secretion and have the best effect when taken on an empty stomach, a half-hour to one hour before the first meal of the day. PPIs include omeprazole (Losec<sup>®</sup>), lansoprazole (Prevacid<sup>®</sup>), pantoprazole sodium (Pantoloc<sup>®</sup>), esomeprazole (Nexium<sup>®</sup>), rabeprazole (Pariet<sup>®</sup>), and pantoprazole magnesium (Tecta<sup>®</sup>). Dual delayed release PPI capsules, in the form of dexlansoprazole (Dexilant<sup>®</sup>), deliver the medication at two intervals. PPIs have emerged as the most effective therapy for relieving symptoms and improving quality of life, as well as healing and preventing damage to the esophagus. In Canada, PPIs are available only by prescription. Longer-term and multiple daily dose PPI therapy may be associated with an increased risk for osteoporosis-related fractures of the hip, wrist, or spine.

Treatments that reduce reflux by increasing lower esophageal sphincter (LES) pressure and downward esophageal contractions are metoclopramide and domperidone maleate. A plant-based prokinetic agent, Iberogast<sup>®</sup>, helps regulate digestive motility and improve symptoms.

All of the medications discussed above have specific treatment regimens, which you must follow closely for maximum effect. Usually, a combination of these measures can successfully control the symptoms of acid reflux.

## Outlook

Functional dyspepsia is a common, long-recognized condition with a number of upper abdominal symptoms. Although diagnosing this condition can sometimes be challenging, due to the variable nature of symptoms, the prognosis for functional dyspepsia is good. There is no evidence that it leads to cancer or other serious disease. Theories as to its cause are multiple but a minor muscle motility disturbance is most likely. Typically, successful therapy involves dietary discretion and short courses of medication.

