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Non-ulcer (Functional) Dyspepsia

Non-ulcer dyspepsia causes pain and sometimes other symptoms in your upper tummy (abdomen). The cause is often not clear. Medication to reduce stomach acid helps in some cases. Infection with *Helicobacter pylori* may cause a small number of cases. Clearing this infection, if present, helps in some people.

Understanding digestion

Food passes down the gullet (oesophagus) into the stomach. The stomach makes acid. This acid is not essential but helps to digest food. Food then passes gradually into the first part of the small intestine (the duodenum).

In the duodenum and the rest of the small intestine, food mixes with chemicals called enzymes. The enzymes come from the pancreas and from cells lining the intestine. The enzymes break down (digest) the food. Digested food is then absorbed into the body from the small intestine.

What is dyspepsia?

Dyspepsia is a term which includes a group of symptoms that come from a problem in your upper gut. The gut (gastrointestinal tract) is the tube that starts at the mouth, and ends at the anus. The upper gut includes the oesophagus, stomach, and duodenum.

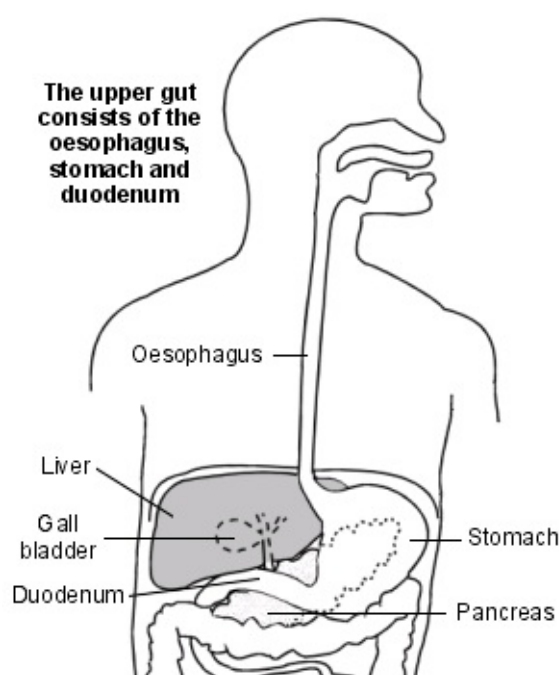
The main symptom of dyspepsia is usually pain or discomfort in the upper tummy (abdomen). In addition, other symptoms that may also develop include:

- Bloating.
- Belching.
- Quickly feeling full after eating.
- Feeling sick (nausea).
- Being sick (vomiting).

Symptoms are often related to eating. Heartburn (a burning sensation felt in the lower chest area) used to be considered a symptom of dyspepsia but doctors now classify it as part of a condition called gastro-oesophageal reflux disease (GORD).

Symptoms tend to occur in bouts which come and go, rather than being present all the time. However, some people have frequent bouts of dyspepsia which affect quality of life.

What is non-ulcer dyspepsia?



Non-ulcer dyspepsia is sometimes called functional dyspepsia. It means that no known cause can be found for the symptoms. That is, other causes for dyspepsia such as duodenal ulcer, stomach ulcer, inflamed oesophagus (oesophagitis), inflamed stomach (gastritis), etc, are not the cause. The inside of your gut looks normal if you have a test called a gastroscopy (endoscopy) - see below. It is the most common cause of dyspepsia. About 6 in 10 people who have repeated (recurring) bouts of dyspepsia have non-ulcer dyspepsia.

What causes non-ulcer dyspepsia?

The symptoms seem to come from the upper gut but the cause is not known. If you have tests, nothing abnormal is found inside your gut. The lining inside your gut looks normal and is not inflamed. The amount of acid in the stomach is normal.

The following are some theories as to possible causes:

- Sensation in the stomach or the first part of the small intestine (the duodenum) may be altered in some way - an 'irritable stomach'. About one in three people with non-ulcer dyspepsia also have irritable bowel syndrome and have additional symptoms of lower tummy (abdominal) pains, erratic bowel movements, etc. The cause of irritable bowel syndrome is not known.
- A delay in emptying the stomach contents into the duodenum may be a factor in some cases. The muscles in the stomach wall may not work as well as they should.
- Infection with a germ (bacterium) called *Helicobacter pylori* (commonly just called *H. pylori*) may cause some cases. This bacterium is found in the stomach in some people with non-ulcer dyspepsia. However, many people are carriers of this bacterium and it causes no symptoms in most people. The role of *H. pylori* is controversial in non-ulcer dyspepsia (although it is the main cause of duodenal and stomach ulcers). However, getting rid of *H. pylori* infection helps in some cases.
- Some people feel that certain foods and drinks may cause the symptoms or make them worse. It is difficult to prove this and food is not thought to be a major factor in most cases. Those foods and drinks which have been suspected of causing symptoms or making symptoms worse in some people include:
 - Peppermint
 - Tomatoes
 - Chocolate
 - Spicy foods
 - Hot drinks
 - Coffee
 - Alcoholic drinks
- Anxiety, depression, or stress are thought to make symptoms worse in some cases.
- A side-effect of some medicines can cause dyspepsia. The most common culprits are anti-inflammatory medicines such as ibuprofen and aspirin. There are various other medicines which sometimes cause dyspepsia, or make dyspepsia worse. These include antibiotics, steroids, iron, calcium antagonists, nitrates, theophyllines, and bisphosphonates. (**Note:** this is not an exhaustive list. Check with the leaflet that comes with your medication for a list of possible side-effects.) If you suspect a prescribed drug is causing the symptoms, or making them worse, see your doctor to discuss possible alternatives.

What tests may be done?

Strictly speaking, non-ulcer dyspepsia is a diagnosis that is made only when no other cause can be found for the symptoms (such as an ulcer). Therefore, prior to the diagnosis being made you may have had a gastroscopy (endoscopy). In this test a doctor looks inside your stomach and first part of your small intestine (the duodenum) by passing a thin, flexible telescope down your gullet (oesophagus). If you have non-ulcer dyspepsia, the inside of your gut looks normal. However, most people with dyspepsia do not have an endoscopy. See separate leaflet called [Dyspepsia \(Indigestion\)](#) for an overview of dyspepsia and when tests are advised.

A test to detect the *H. pylori* germ (bacterium) may be done. If *H. pylori* is found then it may be causing the symptoms. See separate leaflet called [Helicobacter Pylori and Stomach Pain](#) for more details about *H. pylori* and how it can be diagnosed and treated. Briefly, it can be detected in a sample of stools (faeces), or in a breath test, or from a blood test, or from a sample (biopsy) taken during an endoscopy.

What are the treatment options for non-ulcer dyspepsia?

Reassurance and explanation

This is often helpful. Some people worry that they may have a serious disease such as stomach cancer. Worry and anxiety can make symptoms worse. It may be useful to know that you have non-ulcer dyspepsia and not some other disease. However, you will have to accept that pain, discomfort and other dyspeptic symptoms are likely to come and go.

Clearing *H. pylori* infection

If you are infected with *H. pylori*, the first treatment usually tried is to clear the *H. pylori* infection. However, as mentioned, infection with *H. pylori* is probably a coincidence rather than a cause in most cases of non-ulcer dyspepsia. For example, one study found that only about 1 in 15 people with non-ulcer dyspepsia who were infected with *H. pylori* were cured by clearing *H. pylori*. Treatment, briefly, involves a one-week course of two antibiotics plus an acid-suppressing medicine.

Acid-suppressing medicines

A one-month trial of medication that reduces stomach acid is often advised. This helps in some cases but not all. It may work because the lining of your stomach may be extra sensitive to the acid. Or, it may work because you may have very mild inflammation in your stomach that comes and goes but is never found if you have an endoscopy test to look into your stomach.

There are two groups of medicines that reduce stomach acid - **proton pump inhibitors (PPIs)** and **H2-receptor antagonists**. They work in different ways but both reduce (suppress) the amount of acid that the stomach makes. PPIs include **omeprazole**, **lansoprazole**, **pantoprazole**, **rabeprazole** and **esomeprazole**. H2-receptor antagonists include **cimetidine**, **famotidine**, **nizatidine** and **ranitidine**. There are several brands in each group.

If medication helps, further courses may be advised if symptoms continue (persist). Many people take acid-suppressing medication as required. That is, waiting for symptoms to develop before taking a short course of treatment. Some people take acid-suppressing medication regularly if symptoms occur each day.

Lifestyle changes

The National Institute for Health and Care Evidence (NICE) recommends the following lifestyle changes:

- Make sure you eat regular meals.
- Lose weight, if you are obese.
- If you are a smoker, consider giving up.
- Don't drink too much alcohol.

What is the outlook (prognosis)?

Symptoms of non-ulcer dyspepsia tend to come and go. You are likely to have times when symptoms go completely and times where they are troublesome. Non-ulcer dyspepsia does not lead to cancer or other serious illnesses.

Further reading & references

- **Dyspepsia and gastro**oesophageal reflux disease: Investigation and management of dyspepsia - symptoms suggestive of gastrooesophageal reflux disease - or both; NICE Clinical Guideline (Sept 2014)
- **Dyspepsia - proven non-ulcer**; NICE CKS, December 2012 (UK access only)
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- Ang D, Talley NJ, Simren M, et al; Review article: endpoints used in functional dyspepsia drug therapy trials. Aliment Pharmacol Ther. 2011 Mar;33(6):634-49. doi:

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Current Version:
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Peer Reviewer:
Prof Cathy Jackson

Document ID:
4622 (v42)





Last Checked:
27/10/2014

Next Review:
26/10/2017

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