

# Helicobacter Pylori & Stomach Pain

Infection with *H. pylori* is the cause of most stomach and duodenal ulcers. *H. pylori* also causes some cases of non-ulcer dyspepsia. Infection with *H. pylori* can be confirmed by a test done on a sample of faeces, or in a 'breath test', or from a blood test, or from a biopsy sample taken during an endoscopy. A one week course of two antibiotics plus an acid-suppressing drug will usually clear the *H. pylori* infection. This should prevent a recurrence of a duodenal or stomach ulcer that had been caused by this infection.

## What is *H. pylori* infection and who does it affect?

*Helicobacter pylori* (commonly just called *H. pylori*) is a bacterium (germ). It can infect the lining of the stomach and duodenum. It is one of the most common infections in the UK. More than a quarter of people in the UK become infected with *H. pylori* at some stage in their life. Once you are infected, unless treated, the infection usually stays for the rest of your life.

## What problems does *H. pylori* cause?

### Usually none

Most people who are infected with *H. pylori* have no symptoms and do not know that they are infected. A number of these bacteria may just live harmlessly in the lining of the stomach and duodenum.

### Stomach and duodenal ulcers

*H. pylori* is the most common cause of duodenal and stomach ulcers. About 3 in 20 people who are infected with *H. pylori* develop an ulcer. An ulcer is where the lining of the stomach or duodenum is damaged by the acid which is made in the stomach, and the underlying tissue is exposed. If you could see inside your gut, an ulcer looks like a small, red crater on the lining of the stomach or duodenum.

The exact way *H. pylori* causes ulcers in some infected people is not totally clear. Your stomach normally produces acid to help with the digestion of food and to kill bacteria. This acid is corrosive so some cells on the inside lining of the stomach and duodenum produce a natural mucus barrier which protects the lining of the stomach and duodenum. There is normally a balance between the amount of acid that you make and the mucus defense barrier. An ulcer may develop if there is an alteration in this balance allowing the acid to damage the lining of the stomach or duodenum. In some people *H. pylori* causes inflammation in the lining of the stomach or duodenum. This causes the defence mucus barrier to be disrupted in some way (and in some cases the amount of acid to be increased) which seems to allow the acid to cause inflammation and ulcers.

### Non-ulcer dyspepsia

This is a condition where you have recurrent bouts of indigestion (dyspepsia) which are not caused by an ulcer or inflammation. It is sometimes called functional dyspepsia. *H. pylori* is sometimes found in people with non-ulcer dyspepsia. Getting rid of *H. pylori* cures some cases, but makes no difference in most cases. The cause of most cases of non-ulcer dyspepsia is not known.

### Stomach cancer

The risk of developing stomach cancer is thought to be increased with long-term infection with *H. pylori*. However, it has to be stressed that more than a quarter of people in the UK become infected with this bacterium, and the vast majority do not get stomach cancer. The increased risk is small. Your risk may be greater if you have *H. pylori* in addition to having a first degree relative (mother, father, brother, sister or child) who has been diagnosed with stomach cancer.

## Gastric mucosa associated lymphoid tissue lymphoma - a MALToma

This is a rare and unusual type of stomach cancer. Infection with *H. pylori* is thought play a role in this condition developing.

## How is *H. pylori* diagnosed?

Various tests can detect *H. pylori*:

- A 'breath test' can confirm that you have a current *H. pylori* infection. A sample of your breath is analysed after you take a special drink. Note: prior to this test you should not have taken any antibiotics for at least four weeks. Also, you should not have taken a proton pump inhibitor or H2 blocker drug for at least two weeks. (These are acid suppressing drugs.) Also, you should not eat anything for six hours before the test. The reason for these rules is because they can affect the test result.
- An alternative test is the 'stool antigen test'. In this test you give a pea-sized sample of your faeces (stools) which is tested for *H. Pylori*. Note: prior to this test you should not have taken any antibiotics for at least four weeks. Also, you should not have taken a proton pump inhibitor or H2 blocker drug for at least two weeks. (These are acid suppressing drugs.)
- A blood test can detect antibodies to *H. pylori*. This is sometimes used to confirm that you are, or have been, infected with *H. pylori*. However, it takes six months or more for this test to become negative once the infection has cleared. So, it is no use to confirm whether treatment has cleared the infection (if this needs to be known). If needed, the breath test or stool antigen test are usually used to check if an infection has cleared following treatment.
- Sometimes a biopsy (small sample) of the lining of the stomach is taken if you have a gastroscopy (endoscopy). The sample can be tested for *H. pylori*.

## How is *H. pylori* cleared from the stomach and duodenum?

*H. pylori* is killed by certain antibiotics. However, a combination of drugs is needed to completely get rid of it. You need to take two antibiotics at the same time. In addition, you need to take a drug to reduce the acid in the stomach. This allows the antibiotics to work well in the stomach. You need to take this 'combination therapy' for a week. It is important to take all the drugs exactly as directed, and to take the full course.

Combination therapy clears *H. pylori* in up to 9 in 10 cases **if it is taken correctly for the full course**. If you do not take the full course then the chance of clearing the infection is reduced. A second course of combination therapy, using different antibiotics, will usually work if the first course does not clear the infection.

Combination therapy is sometimes called 'triple therapy' as it involves three drugs - two antibiotics and an acid-suppressing drug.

## Who should be tested for *H. pylori*, and treated if it is found?

### If you have recurring 'dyspepsia' (recurring indigestion symptoms)

If you have recurring dyspepsia, it is common practice to test for *H. pylori* before doing any other tests. If *H. pylori* is found, then combination treatment is often given. The exact diagnosis may not be known. For example, it might not be clear if the dyspepsia is caused by a duodenal or stomach ulcer, or non-ulcer dyspepsia. These can only be confirmed by having a 'look down' into the gut with a test called gastroscopy (endoscopy). However, if symptoms go after treatment for *H. pylori*, then that is the end of the matter. You do not need further tests such as gastroscopy. You will not know exactly what caused the symptoms, but it does not matter: if the symptoms have gone, whatever was causing them will have gone!

### Other reasons for testing

If you are in one of the following groups, you may be offered a test for *H. pylori* and offered treatment with combination therapy if it is found. If you:

- Have a duodenal or stomach ulcer. Combination therapy will usually cure the ulcer.
- Have non-ulcer dyspepsia. Combination therapy may work and clear symptoms, but it does not in most cases.
- Have a first degree relative (mother, father, brother, sister or child) who has been diagnosed with stomach cancer. Treatment is advised even if you do not have any symptoms. The aim is to reduce your future risk of stomach cancer.
- Are taking, or are about to take, long-term anti-inflammatory drugs such as ibuprofen, diclofenac, aspirin, etc. The combination of these drugs and *H. pylori* increases the risk of developing a stomach ulcer.
- Have a MALToma (mucosa-associated lymphoid tissue lymphoma).
- Have atrophic gastritis (inflammation of the stomach lining).
- Have had an operation to remove a stomach cancer.
- Have unexplained iron deficiency anaemia.
- Have a condition called chronic idiopathic thrombocytopenic purpura. This is an uncommon blood condition where the number of platelets in the blood becomes very low. Some research suggests a possible connection between *H. pylori* infection and this condition.

### Follow up

After 'combination therapy', a test may be advised to check that *H. pylori* has gone (has been eradicated). This test will usually be a breath test or a stool antigen test (described earlier). If a test is done, it needs to be done at least four weeks after the course of combination therapy has finished. In most cases, the test is 'negative' meaning that the infection has gone. If it has not gone, then a repeat course of combination therapy with a different set of antibiotics may be advised.

Some doctors say that for certain situations, this 'confirmation of eradication' test is not necessary if symptoms have gone. For example, after using combination therapy to treat a duodenal ulcer. In this situation, the fact that symptoms have gone usually indicates that the ulcer and the cause (*H. pylori*) have gone. But, some doctors say it is needed to play safe. However, for some conditions such as a stomach ulcer, a 'confirmation of eradication' test is usually always advised. Your own doctor will advise if you should have this test following treatment.

### Are there any side-effects of combination therapy?

Up to 3 in 10 people develop some side-effects when they take combination therapy. These include: indigestion, feeling sick, diarrhoea, and headaches. However, it is worth persevering for the full course if side-effects are not too bad. A switch to a different set of drugs may be advised if the first combination does not clear the *H. pylori*, or if it caused bad side-effects and you had to stop taking it.

### References

- [Dyspepsia - proven peptic ulcer](#), Clinical Knowledge Summaries (June 2008)
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