

Antibiotic associated diarrhoea – *Clostridium difficile* infection (CDI)

This leaflet aims to answer some of the most commonly asked questions about *Clostridium difficile* for patients who are diagnosed and treated in the community

What is *Clostridium difficile* infection?

People taking antibiotics often develop diarrhoea. The major cause of this diarrhoea is an infection of the bowel caused by a bug called *Clostridium difficile*.

The *Clostridium* family includes the bacteria that cause tetanus, botulism, and gas gangrene. Lab tests have identified over 100 different types of *Clostridium difficile*. It is an anaerobic bacterium, which means it does not need oxygen and therefore can survive in the bowel. It also produces spores (a form of cell that is highly resistant to chemicals), that can survive for a long time in the environment.

Clostridium difficile is common in the bowel of babies, infants and 10% of healthy adults. It is usually kept under control by the good bacteria that break down and digest food. Bacteria live in a state of balance, but some antibiotics kill the good bacteria disturbing the balance. This allows the *Clostridium difficile* to grow and produce toxins (poisons) that damage the cell lining of the bowel resulting in diarrhoea. At this point, a person is said to be suffering with *Clostridium difficile* infection (CDI).

Most people who get CDI have symptoms while they are taking antibiotics. However, symptoms can appear up to 10 weeks after finishing a course of antibiotics.

Clostridium difficile – background and a short history

Clostridium difficile was first described in the 1930s, but it was not identified until the late 1970s as the cause of diarrhoea following antibiotic therapy. Even once this was recognised, laboratory diagnosis was difficult and the number of cases was not monitored. Since January 2004, *Clostridium difficile* has been part of the mandatory surveillance programme for healthcare associated infections.

Who is at risk of getting CDI?

Most infections occur in places where people take antibiotics and are in close contact with each other, such as hospitals and nursing homes, but it can occur in the community.

Patients who are most at risk are:

- Those recently treated with antibiotics, especially antibiotics that affect a wide range of bacteria, including bowel bacteria;
- The elderly, particularly those over the age of 65 years;
- Those debilitated with a serious underlying illness or condition and a weakened immune system;
- Those with a long stay in a hospital or regular attenders to hospital; or
- Those having repeated enemas, bowel surgery or bowel disease.

Symptoms of CDI

The symptoms of CDI can include:

- Mild to severe diarrhoea which may be frequent, watery, offensive smelling with urgency;
- Bleeding from the colon and blood-stained stools;
- Loss of appetite and nausea;
- Abdominal pain and cramps; and
- Fever.

These symptoms are caused by swelling and irritation of the lining of the bowel. In rare cases, CDI may require hospital admission.

How do I know I have got it?

A sample of diarrhoeal faeces has been sent to the laboratory and the toxin related to *Clostridium difficile* has been found in the sample. This means that you have the infection.

In outbreaks, or for surveillance of the different strains circulating in the population, *Clostridium difficile* can be cultured from faeces and the isolates sent to a laboratory for typing and testing for susceptibility to antibiotics.

Is it catching?

It is unusual for *Clostridium difficile* to affect your family or friends, but when you have diarrhoea, cross-infection, either through direct person to person contact, or via a contaminated environment can occur.

Sufferers of CDI shed large numbers of the spores in their diarrhoea. The spores contaminate the environment: especially bathroom surfaces, commodes or toilet areas, bedclothes, skin and clothing. They can survive for a long time and transfer on the hands from an infected to an uninfected person as a source of hand-to-mouth infection for others, especially if they have also been given antibiotics.

Socialising and advice for visitors

Individuals with no symptoms of diarrhoea present no risk to others and can continue with their normal lifestyle with no restrictions. It is safe for you to have social contact with any adult or child. Visitors who are healthy are unlikely to become infected with *Clostridium difficile* provided simple hygiene measures are observed.

Ask visitors to wash their hands with soap and water after helping you and before leaving your home.

You should avoid visiting healthcare environments if you are feeling unwell or have recently had diarrhoea.

How is it treated?

You will only need treatment for a CDI if you have symptoms. No treatment is needed if the bacteria are living harmlessly in your gut. Symptoms may subside with no treatment other than stopping the antibiotics. Your doctor will review your medication and make any necessary changes.

If symptoms are more severe, you may need to take medication to clear the infection. Your GP may start you on a course of Metronidazole, a different antibiotic, to treat the CDI. The symptoms should start to ease within 2-3 days, but it is important to complete the course, usually 10-14 days. Possible side effects of these antibiotics are stomach ache, nausea and vomiting.

In rare and serious cases of CDI hospital admission may be required.

Do people with CDI need special care at home?

Maintain a healthy diet if you are able to. Some patients enquire about the use of probiotics drinks: at present there is only a limited amount of research to confirm whether their use is of benefit or not.

What can we do to prevent infection?

It may not be possible to prevent the bacteria from spreading altogether. However, a number of precautions can be taken to reduce the risk of infection such as routine personal hygiene, laundering and maintaining a clean environment.

Whenever possible, people who have CDI should have their own room and toilet facilities to avoid passing the infection onto others.

If you are receiving support from health or social care workers then they should wear gloves and aprons, especially when they are assisting you to use the toilet.

Hand washing is of the utmost importance.

The spores or bacteria are spread by the hands of people who come into contact with infected patients or contaminated surfaces. To stop the spread of CDI it is important to wash your hands with soap and water after using the toilet or commode, and before eating. Alcohol hand gel is not effective against *Clostridium difficile* spores, so the use of soap and water is essential.

Environment

The environment should be kept clean at all times as the spores can survive for a long time outside the body until they are removed or destroyed by thorough cleaning. They can also be spread through the air (during bed making, for example).

To reduce environmental contamination, clean all surfaces that may have come into contact with the bacteria or spores, such as toilets, the floor around toilets, bedpans and beds, thoroughly, using hot soapy water and disposable cloths, rinse and then clean surfaces using products containing sodium hypochlorite (bleach).

Outlook

Most cases settle within 1–2 weeks however you may continue to carry the toxin in your faeces for a while. Once your symptoms have settled there is a small risk that you may have a repeat of them. If you have diarrhoea again you should consult your doctor immediately as other treatments may be required. Your doctor will review your medication and may alter any antibiotics.

A repeat specimen is usually not required.

Antibiotics

To prevent future episodes some antibiotics should be avoided as this may trigger a return of symptoms. Please tell any doctor, pharmacist, dentist or other health professional to consult with the local microbiologist prior to prescribing antibiotic therapy.

The Department of Health advises that doctors prescribe antibiotics cautiously to try to reduce the total amount being given to patients. This is to help cut down the number of people who are vulnerable to an infection. To keep cases of CDI down, healthcare workers are advised to avoid prescribing broad-spectrum antibiotics, as far as possible, so that patients' natural protection is not weakened.