

Information leaflet for patients affected by *Clostridioides difficile* infection

Clostridioides difficile (*C. diff*) is a healthcare associated intestinal infection that mostly affects elderly patients with other underlying health problems/illnesses. It is the major cause of antibiotic-associated diarrhoea in hospitals.

Background

C. diff is a bacterium of the family Clostridioides. It is an anaerobic bacterium (i.e. it does not grow in the presence of oxygen) and produces spores that can survive for a long time in the environment.

It's usually found in the large intestine, where there is very little oxygen. It can be found in low numbers in a small proportion (less than 5%) of the healthy adult population. It is normally kept in check by the normal, 'good' bacterial population of the intestine. It is more common in the intestine of babies and infants, but does not cause infection because its toxins (poisons) do not damage their immature intestinal cells.

Although *C. diff* was first described in the 1930s, it was not identified as the cause of diarrhoea and colitis (bleeding from the colon) following antibiotic therapy until the late 1970s.

What does it cause?

C. diff can cause diarrhoea, ranging from a mild disturbance to a very severe illness with ulceration and bleeding from the colon (colitis) and, at worst, perforation of the intestine.

Generally, it is only able to do this when the normal, healthy intestinal bacteria have been killed off by antibiotics. When not held back by the normal bacteria, it multiplies in the intestine and produces two toxins (A and B) that damage the cells lining the intestine. The result is diarrhoea.

Who gets *C. diff* infection?

Patients who have been treated with broad spectrum antibiotics (those that affect a wide range of bacteria, including intestinal bacteria) are at greatest risk of *C. diff* infection. Most of those affected are elderly patients with serious underlying illnesses. Most infections occur in hospitals (including community hospitals), nursing homes etc, but it can also occur in primary care settings.

How does it spread?

Although some people can be healthy carriers of *C. diff*, in most cases the infection develops after cross infection from another patient, either through direct person to person contact, or via a contaminated environment. A patient who has *C. diff* diarrhoea excretes large numbers of the spores in their liquid faeces. These can contaminate the general environment around the patient's bed (including surfaces, keypads, and equipment), the toilet areas, sluices, commodes, bed pan washers, etc. They can survive for a long time and be a source of hand-to-mouth

infection for others. If these others have also been given antibiotics, they are at risk of C. diff infection.

How is it diagnosed?

A sample of diarrhoeal faeces is tested for the presence of the *C. diff* toxins. This is the main diagnostic test and gives a result within a few hours. A faeces sample is sent to the Microbiology laboratory requesting that a specific investigation for *C. diff* is undertaken. Usually, once a diagnosis has been confirmed, repeat specimens need not be taken unless there is a relapse following treatment, more than 4-6 weeks after the initial episode.

How is *C. diff* treated?

Fortunately, most patients develop only a mild illness and stopping the antibiotics, if clinically possible, together with fluid replacement (either by mouth or intravenous drip) usually results in rapid improvement. Sometimes, however, it is necessary to give specific therapy against *C. diff* itself. There are two main antibiotics which are known to be effective in treatment. Metronidazole taken by mouth is often prescribed as the first choice; if this is not effective or the infection is more serious then another antibiotic, Vancomycin, also taken by mouth, can be given. About 20-30% of patients may require further courses of these antibiotics.

How is the spread of *C. diff* controlled?

Patients with diarrhoea, especially if severe or accompanied by incontinence, may unintentionally spread the infection to other patients, and large outbreaks of *C. diff* infection have been described in hospitals. In addition, the ability of this bacterium to form spores (which other causes of diarrhoea, such as salmonella cannot do) enables it to survive for long periods in the environment, e.g. on floors and around toilets. Infected patients should be segregated from non-affected patients, preferably in a single room and using separate toilet facilities. Disposable gloves and aprons should be worn by staff and visitors when entering an isolation room. Rigorous cleaning with warm water and detergent supplemented with the use of a bleach disinfectant is probably the most effective means of removing spores from the contaminated environment. However, the most efficient control measure in preventing person-to-person spread of this infection is the thorough washing of hands by health care staff and visitors before and after patient contact. Patients must also wash their hands regularly (before eating/ drinking and after using the toilet). Alcohol gel on its own is not effective in this instance.

How can *C. diff* be prevented?

The selective use of antibiotics is the key to the prevention and control of *C. diff* infection. Short courses of antibiotics of only three to five days are recommended for less serious infections. Finally if a patient is identified as having *C. diff* diarrhoea the infection control measures already described above will minimise the risk of spread to others.

Discharge home following *C. diff* positive result

Can I still go home?

You will be allowed home when you are medically fit. If you are going to a nursing/residential home nursing staff will discuss with the home prior to your discharge.

What will happen when I go home?

If you are still taking prescribed treatment for C. diff you will need to **complete** the prescribed course.

If your diarrhoea does continue you will need to:

- Wash hands with soap and running water (alcohol hand gel does not kill the C. diff spores) especially after using the toilet, before eating and handling soiled linen and clothing.
- Any soiled items of clothing should be washed separately at the highest temperature the care label recommends.
- Maintain a good diet and fluid intake
- If your symptoms increase or you become unwell inform your GP immediately.
- We would recommend that following cleaning with your usual cleaning products, you use a bleach based product in the bathroom and toilet

What happens if the diarrhoea returns?

There is a possibility that the infection and associated symptoms may re-occur. If your symptoms re-occur you should see/contact your GP.

Antibiotics

If for any reason you need to be treated with antibiotics in the future, care should be taken by your care providers (GP/dentist/walk in center) when prescribing antibiotics, to minimize the risk of recurrent infection.

Are my family at risk?

Another person may acquire C. diff infection by ingesting the bacteria through contact with the contaminated environment or patient so good hand hygiene and cleaning is important. Once someone has recovered clinically they are not considered a risk to others even if they continue to carry the organism in their intestines. In most healthy people the C. diff will not be able to multiply in the gut and they will not develop the disease.

Reference

Clostridioides Difficile, NHS, 2018 - <https://www.nhs.uk/conditions/c-difficile/>



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