

Burkholderia Cepacia Complex (B. Cepacia)

Burkholderia cepacia complex (*B. cepacia*) are a group of different species of bacteria that have been found in the airways of people with CF. It rarely causes infection in healthy people. The most commonly found organisms are: *B.cenocepacia*, *B. multivorans*. In healthy cells, harmful germs are digested by special cells in the immune system. However, in people with CF the *B.cepacia* bacteria seem to be able to survive inside these immune cells.

Sources of *Burkholderia cepacia* complex

It is a bacterium resistant to many antibiotics that can be found in:

- The natural environment, most commonly soils and water
- Hospital setting
- The lungs of people with CF

It is difficult to avoid contact in the natural environment however, infection control precautions are very effective in preventing spread in hospital environments and reducing the risk of the infection spreading. Among those with CF, germs are most commonly spread by direct contact such as kissing, touching objects with germs on them, eg desks, door handles, benches or at social events. In many cases there is no known contact with others with CF before contracting the infection. Sometimes there is a long delay between contact with an infected person and when the infection is diagnosed.

People with CF are affected differently by *B. cepacia* complex, some may have a faster decline in lung function whereas others may not have any obvious changes.

Prevention

- Limit exposure time/avoid cleaning out pet litter, stables, fish tanks
- Limit exposure time to handling garden mulch
- Keep bathrooms as dry as possible, leave window open to reduce humidity
- Avoid water/bath toys with holes that trap water inside
- Service air conditioning units annually

Reducing the transmission risk

To reduce the transmission risk, it is recommended people with CF:

- Observe the 4 metre rule: all those with CF should keep at least 4 metres apart if not living in the same house
- Do not share equipment
- Cough and sneeze into your elbow
- Wash hands before entering a clinic or hospital room; after coughing/sneezing, lung function tests, touching shared objects e.g. toys, pens, keyboards, gym equipment
- Use alcohol-based hand sanitiser as a quick way to prevent transmission of germs
- Events and activities: CFWA advise only one person with CF should attend camps, educational events or CFWA sponsored indoor events
- Hospitals will advise precautions necessary which may include wearing a mask or attending a separate clinic

Can you get rid of *Burkholderia cepacia* complex?

Some antibiotics will work for a period of time. Some species develop a strong outer cell wall making it more difficult for antibiotics to penetrate and do their job. Research is currently underway to find new ways of treating lung infections in those with CF. New antibiotics are being studied for this group of organisms so hopefully in the future it will be easier to treat.

Useful resources

<https://www.cff.org/Life-With-CF/Daily-Life/Germs-and-Staying-Healthy/What-Are-Germs/Burkholderia-Cepacia-Complex/>

<https://youtu.be/cibUxH6qUio>

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