

# CF Guidelines - Burkholderia Cepacia

## Burkholderia Cepacia Complex:

Burkholderia cepacia complex organisms are Gram-negative motile rods which occur in the environment - soil - and are pathogens for vegetables. These organisms can infect CF lungs with the consequences of acquisition varying from asymptomatic carriage through to rapidly progressive clinical deterioration and death.

Burkholderia cepacia complex species are isolated from the sputum of approximately 3% of CF patients - all ages - meaning an average adult clinic of 50 patients will expect to have 1 - 3 such patients.

## Complexes isolated include:

- B. cenocepacia
- B. multivorans
- Other B. cepacia complex species - much less common.

## Infection control issue with Burkholderia Cepacia:

- Burkholderia cepacia complex can be spread between patients and may be retained on skin and equipment. For this reason all Burkholderia cepacia patients should be isolated from other CF patients. This should involve seeing them in a separate out patient clinic and admitting them to a separate area/ward - one not used for non Burkholderia cepacia colonised patients.
- B. cepacia does not usually cause infection in patients with normal lungs/immunity.

## Precautions to be taken in all CF patients presenting with Burkholderia cepacia:

- All patients should be segregated as inpatients and outpatients.
- Burkholderia cepacia patients are especially discouraged from socialising with those who are not infected, both in and out of hospital.
- Equipment must not be shared between Burkholderia cepacia, Pseudomonas and any other respiratory patients, either with or without CF.
- Either use a separate stethoscope to examine Burkholderia cepacia patients or use an alco-wipe between each patient.
- Hands should be washed thoroughly after treatment or handling any equipment used by the patient.
- Physiotherapists should treat Burkholderia cepacia inpatients after treating non Burkholderia cepacia in patients where at all feasible. A change of clothing/scrubs should be used when undertaking physiotherapy treatment.

## Treatment of Burkholderia cepacia:

3 distinct consequences of colonisation with Burkholderia cepacia are recognised:

- Chronic asymptomatic carriage.
- Progressive deterioration over many months with a recurrent fever, weight loss and repeated hospitalisation.
- Rapid, usually fatal deterioration in a previously mildly affected patient.

Burkholderia cepacia is more resistant to antibiotics than Pseudomonas and resistance develops easily. At presentation the organism is typically resistant to aminoglycosides, colomycin, ticarcillin and quinolones. Treatment options are often limited but isolates may be susceptible to chloramphenicol, trimethoprim-sulfamethoxazole (Septrin), doxycycline, ceftazidime and meropenem. Discussion with microbiologists may be helpful. Treatment should be based on sensitivity patterns and will often involve

multiple antibiotics. The role of synergy testing is not fully established.

**Other issues:**

Patients colonised with Burkholderia cepacia have a worse prognosis following lung transplantation. Some centres will not consider colonised patients for transplantation.

**References:**

- 1, The Burkholderia Cepacia Complex - Suggestions for Prevention and Infection Control, Second Edition. September 2004, CF Trust.

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