



Botulism infection in people who inject heroin: Additional information for those giving advice to people at risk

Wound botulism is a rare but very serious illness caused by a bacterial toxin. It is acquired when spores of the bacterium *Clostridium botulinum* get into the body through a wound. These spores then germinate and produce a powerful toxin that can be fatal. Botulism spores are found naturally in the environment (for example, they can be found in soil) so they can contaminate supplies of street drugs such as heroin.

In the UK, over the last two decades there have been a number of clusters, as well as many isolated cases, of wound botulism among people who inject drugs. These have occurred because the contamination of heroin with botulism spores from the environment is thought to be a common and ongoing problem.

People who use drugs may get wound botulism through injecting contaminated drugs into skin or muscle. The bacterium that causes botulism can grow in these tissues and produce toxin. The toxin is then absorbed into the bloodstream and leads to paralysis. The bacterium does not grow in the blood. Wound botulism is not spread from person to person, but through the use of contaminated drugs.

Symptoms of wound botulism include:

- blurred or double vision
- slurred speech, difficulty speaking
- difficulty swallowing
- difficulty with tongue and lip movements
- drooping or falling of the upper or lower eyelid
- extreme weakness
- possible inflammation at the injection site
- paralysis that can affect the arms and legs
- difficulty breathing

People who use heroin and who have symptoms that suggest botulism should be supported to seek care urgently at an accident and emergency department.

Most cases make a full recovery if treated appropriately. The recovery period can be many months if there is a delay in diagnosis. The disease is fatal in 5-10% of cases. Botulism is treated by giving botulinum antitoxin, which can reduce the severity of the symptoms if

administered early in the course of the disease. This treatment is supported by cleaning out wounds (debridement) and giving appropriate antibiotics. Prompt diagnosis and treatment are important.

Advice to give people who inject heroin on reducing the risk of botulism

- There is no way to tell if your supply of heroin (or other drugs) is contaminated.
- Smoking heroin instead of injecting may reduce the risk of wound botulism. However, some infections, such as anthrax, can result from smoking contaminated heroin. Overall smoking heroin is likely to be safer than injecting, but there are still risks.
- If possible try to stop using heroin. Talk to a doctor or someone at a drug service about starting on a prescribed substitute medicine (such as methadone or buprenorphine) and/or other treatment options.
- If you must inject, do not inject into muscle or under the skin: make sure you hit the vein - your blood is better at killing this bacteria than your muscle.
- Don't share needles, syringes, cookers/spoons or other 'works' with other people who use drugs.
- Use as little citric acid as possible to dissolve the heroin. A lot of citric acid can damage the muscle or the body under the skin, and this damage gives bacteria a better chance to grow.
- If you inject more than one type of drug, inject each at a separate place on your body using clean works for each injection. This is important because certain drugs (eg cocaine) can reduce the blood supply at the injection site and could give bacteria in heroin a better chance to grow.
- If you get swelling, redness, or pain where you have injected yourself, or pus collects under the skin, you should get a doctor to check it out immediately, especially if the infection seems different to others you may have had in the past.

Further information on wound botulism

Further information about botulism can be found [here](#).

First published: February 2015

© Crown copyright 2015

Re-use of Crown copyright material (excluding logos) is allowed under the terms of the Open Government Licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ for terms and conditions.