



To: CAHAN San Diego Participants
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From: Public Health Services, Epidemiology and Immunizations Services Branch

Wound Botulism Associated with Black Tar Heroin

This health alert informs providers about two recently reported wound botulism cases associated with black tar heroin use in San Diego County and provides recommendations on management.

Situation

In the past two weeks, one confirmed case and one highly suspect case of wound botulism associated with black tar heroin injection have been reported in San Diego County. The hospitalized cases are apparently unknown to each other and presented with wound infections and a recent history of skin popping black tar heroin. Other symptoms included diplopia, bilateral ptosis, bilateral extraocular palsy, slurred speech, and generalized weakness.

The patients were treated with botulism antitoxin released by the California Department of Public Health (CDPH). The sources of the black tar heroin remain unknown and additional cases may occur. Clusters of botulism cases associated with black tar heroin injection have occurred in Southern California in the past, including five cases in San Diego County, in 2010.

Supportive care is the mainstay of treatment for wound botulism. To reduce the incidence of respiratory failure, the botulism antitoxin should be administered as early as possible, prior to wound debridement, and ideally within 12 hours of presentation. Antibiotics are also recommended (e.g., penicillin or metronidazole). More information about botulism and guidance for clinicians are available on the Centers for Disease Control and Prevention (CDC) [botulism website](#).

Recommendations for Healthcare Providers

- Be alert for suspect cases of wound botulism, especially in injection drug users.
- Immediately report suspect cases to the Epidemiology Program at 619-692-8499 (Mon-Fri 8 AM to 5 PM) or after hours and County-observed holidays at 858-565-5255. Epidemiology Program staff can facilitate release of botulism antitoxin from CDPH.
- Conduct a thorough search for wounds when examining patients with a history of injection drug use.
- Consider prompt Neurology, Infectious Disease, and surgical consultation as indicated.
- Obtain pre-antitoxin serum for toxin assays (in serum separator tubes). Instructions for specimen collection and submission are attached to this alert, and they may also be found [here](#). Note that approval for testing by the Epidemiology Program must be obtained prior to specimen submission.
- Warn patients who inject drugs, particularly black tar heroin, about the risk of wound botulism and other potentially life-threatening infections and conditions associated with drug use. Cooking or cleaning the drug will not prevent botulism infection. Risk reduction strategies for patients are available [here](#).

- Educate patients about the symptoms of wound botulism and advise them to go to the nearest emergency department should symptoms develop. Fact sheets are available in [English](#), [Spanish](#), and [Chinese](#).
- Illicit drug users are at increased risk of contracting hepatitis A and B, and they should be offered immunization for both if not already immune, especially in light of the local outbreak of hepatitis A. More information about this ongoing outbreak may be found at the [County hepatitis A website](#).
- Due to their higher risk for tetanus, patients who inject drugs should receive tetanus vaccine every 5 years.

A useful checklist developed by CDPH is available to health care providers relating to the diagnosis and management of wound botulism. A modified version of the checklist is attached to this alert (see next page). Providers are strongly encouraged to use this checklist when managing patients suspected to have wound botulism.

Thank you for your continued participation.

CAHAN San Diego

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CHECKLIST: DIAGNOSIS AND MANAGEMENT OF WOUND BOTULISM

Diagnosis

- Establish the presence of signs and symptoms consistent with the descending paralysis of botulism. *Did the symptoms begin with cranial nerve palsies (ptosis, diplopia, dysarthria) and progress distally?*
- If the diagnosis is in doubt, consider an infectious diseases consult, a neurology consult, and/or EMG testing which should show augmentation of muscle action potential at 20-50 Hz.
- Determine if the patient has risk factors for wound botulism. *Is the patient an injecting drug user, especially a person who skin-pops black tar heroin?*
- Look for infected wound(s). Some patients with wound botulism may not have an obvious site of infection.

Obtaining antitoxin

- Call the County of San Diego Epidemiology Program at 619-619-8499 (after hours 858-565-5255).
- Receive call from the California Department of Public Health (CDPH) Division of Communicable Disease Control Duty Officer (DCDC DOD) who will discuss the case and release of antitoxin. (Note: the state's DCDC DOD should not be contacted directly from the hospital initially.)
- Alert the hospital pharmacy that antitoxin is being released from the Los Angeles Quarantine Station.
- Arrange for the transport of antitoxin (the admitting hospital is responsible for transport).

Required pre-antitoxin administration laboratory testing

- Draw 30 cc's of whole blood into red top tubes (this will take more than one tube).
- Label each tube with the patient's name, "pre-antitoxin serum," and the date and time of collection.
- Bundle the tubes.
- Indicate if the patient is taking any of the following interfering medications: neostigmine bromide, neostigmine methyl sulfate, pyridostigmine bromide, edrophonium chloride, ambenonium chloride.
- Send the tubes to the hospital laboratory with instructions to refrigerate and ship to the San Diego County Public Health Laboratory.

Antitoxin administration

- The only antitoxin currently available is the BAT [Botulism Antitoxin Heptavalent (A, B, C, D, E, F, G) – (Equine)]. It is a mixture of immune globulin fragments indicated for the treatment of symptomatic botulism following documented or suspected exposure to botulinum neurotoxin serotypes A, B, C, D, E, F, or G in adults and pediatric patients. The most current information on BAT can be found [here](#). The [package insert](#) which includes information on dosage and administration, and how to report adverse events is also included on this site.

Wound debridement

- Debride the patient's wound(s) if any. (CDPH recommends hanging antitoxin prior to wound debridement.)

Other considerations

- Treat with high-dose antibiotics effective against anaerobes.
- Vaccinate against tetanus if not up to date.

Post antitoxin laboratory testing

This is no longer done routinely as the amount of antitoxin is generally much more than needed to neutralize the circulating toxin. If the patient does not respond to antitoxin or has an exacerbation of symptoms consider whether there may be an ongoing source of toxin such as an ongoing infection or abscess. Repeat toxin testing can be considered on a case by case basis.