

# Botulism

TEEX WMD Per 306

Incubation 12 hours – 3 days

Botulinum toxin

*Chlostridium botulinum* – anaerobic, gram positive, spore forming, heat resistant

7 serotypes

Group 1 Proteolytic A, B, F

Group 2 Non-proteolytic B, E, F

Group 3 C or D

Group 4 G

Human A, B, E, F

Animals (foul, poultry, cattle, horses, fish) C, D

In soil G

Binds to presynaptic membrane which blocks release of acetylcholine which is the signal molecule that causes muscle contraction and gland secretion

Infant – associated with honey

Food – incubation 2 hours for toxin 8 days for spore

Home canning 241F boil for 10 min, reheat to 165F

Wound – trauma, surgery, needles

4 to 14 days neurological symptoms

1. Entry
2. Multiplication in dead tissue – anaerobic
3. Toxin production
4. Disease – gas, gangrene, muscle necrosis

Inhalation

Not normal – bioterrorism

12-80 hours

Type A – more severe disease, higher fatality than B or E

A and C, weaponized

Food borne – potential terrorist act

Indicators of attack

1. Common geographic factor
2. Large number of cases exhibiting flaccid paralysis with prominent bulbar palsies
3. Toxin responsible is unusual type C, D, E, F, G
4. Multiple simultaneous outbreaks with no common source

Common symptoms

Diplopia – double vision

Ptosis – drooping eyelids

Dysarthria – slurred speech

Dysphagia – difficulty swallowing

Dysphonia – difficulty saying words

Dry mouth

Muscle weakness

Decon not a concern, aerosol residual deactivated by sunlight in 1-3 hours

Category A agents: anthrax, smallpox, plague, botulism, tularemia, hemorrhagic fever