



STAPHYLOCOCCAL ENTEROTOXIN B (SEB)

What is Staphylococcal enterotoxin B?

Staphylococcal enterotoxin B (SEB) is a harmful toxin produced by the bacterium *Staphylococcus aureus*. It is a common contributor to food poisoning in humans. The bacteria grow and produce toxins in unrefrigerated meats, dairy, and bakery products.

Who gets Staphylococcal enterotoxin B?

Anyone can be exposed to SEB.

How is Staphylococcal enterotoxin B spread?

People can be exposed to SEB by either eating or drinking it or by inhaling it. SEB is not spread from one person to another.

What are the symptoms of Staphylococcal enterotoxin B?

Symptoms of SEB exposure are similar to that of the flu. They can include sudden onset of fever, chills, headache, sore throat, and muscle pain. Additional symptoms are specific to the way that SEB enters the body. If the toxin comes into contact with the eyes, irritation, redness, and facial swelling may occur.

People who have swallowed SEB typically experience symptoms common to food poisoning, including nausea, vomiting, and diarrhea. If SEB is inhaled into the lungs, symptoms include a dry cough, shortness of breath, and chest pain. In severe cases, fluid may build up in the lungs. The symptoms associated with exposure to SEB through the air might distinguish a biological attack from a natural occurrence, because it would be rare for the toxin to be inhaled naturally.

How soon do symptoms appear?

After swallowing SEB, symptoms would be expected to show up four to 10 hours later. After breathing it in, symptoms usually appear three to 12 hours later.

Following exposure to inhaled SEB, about four out of five people get sick. A fever tends to last two to five days; coughing may last up to four weeks. SEB is rarely life threatening, though a significant exposure could possibly lead to death. SEB exposure is generally determined from a patient's symptoms, though lab tests may show the toxin in the blood, urine, or nasal swabs for a short time following exposure.

Should an infected person be excluded from work or school?

It is not required to exclude individuals from work or school if they were exposed to SEB. SEB is not spread from one person to another.



What is the treatment for exposure to Staphylococcal enterotoxin B?

People exposed to SEB usually get better on their own. The only available treatment is medical care to ease the symptoms. Supportive care (intravenous fluids, medicine to control fever and pain) is the standard treatment.

What can a person or community do to prevent the spread of SEB?

- **Leave the area where the SEB was released and move to fresh air.**
- **Quickly remove clothing that may have SEB on it.**
 - If possible, cut off any clothing that is usually pulled over the head so the SEB does not get near the eyes, mouth, or nose. When helping people remove their clothing, try to avoid touching areas that may have SEB on them.
- **Quickly wash affected areas with lots of soap and water.**
 - If the eyes are burning or vision is blurred, rinse the eyes with plain water for 10 to 15 minutes.
 - Remove contact lenses and put them with the clothing. Do not put the contacts back in. Wash eyeglasses with soap and water. Eyeglasses can be put back on after they are washed.
- **Discard contaminated items.**
 - Get a plastic bag and turn it inside out. Use it to discard contaminated clothing, anything that touches the clothing, and other items that may have come into contact with SEB. Avoid touching contaminated items by wearing rubber gloves and use the plastic bag, tongs, tool handles, sticks, or similar objects to pick up items.
 - Seal the bag, and then seal that bag inside another plastic bag.
 - Immediately contact the Division of Public Health's Office of Infectious Disease Epidemiology at 1-888-295-5156.
- **Reduce the risk of SEB food poisoning. Properly prepare meat products and use appropriate refrigeration to store meat and dairy products. Wash your hands before preparing or serving foods and after handling raw meat**

There is currently no human vaccine available to protect against SEB exposure. Protective masks would be effective in protecting emergency personnel who have been alerted to the possibility of SEB in the air.

Resources

New York City Health, <https://www1.nyc.gov/site/doh/health/health-topics/staphylococcal-enterotoxin-b.page>

<https://www.cdc.gov/foodsafety/diseases/staphylococcal.html>

**Office of Infectious Disease Epidemiology
24/7 Emergency Contact Number: 1-888-295-5156**

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