

TRICOTHECENE MYCOTOXINS: Health Care Information

Tricothecene mycotoxins are a family of toxins, including the T2 mycotoxin, that are by-products of fungal metabolism and have been produced as military weapons. They are not used in industry but may be intentionally released as a yellow aerosol, vapor, or powder or introduced into the water/food supply. Once absorbed, the toxin inhibits protein synthesis and leads to diffuse cellular toxicity.

Recognition and Triage: Tricothecene mycotoxins may produce an **initial asymptomatic period lasting minutes to hours** followed by **mucosal and dermal pain or itching**, then **redness and swelling of the skin, GI tract, mouth, nose and eyes**, and finally **ecchymosis, bullae formation and sloughing** of the skin and mucosa. **Nausea, vomiting, bloody diarrhea, cough and pneumonitis** are common. Once the mycotoxin is absorbed (through the skin, lungs or GI tract), **CNS depression, agitation, ataxia, hypotension and seizures** may occur. Patients may be triaged as follows:

Immediate: Airway swelling, coma, hypotension, seizures

Minor: Vomiting, significant mucosal/skin irritation or erythema

Delayed: Asymptomatic or mild mucosal/skin irritation

Personal Protective Equipment (PPE) (at the health care site): Personnel who decontaminate patients should wear splash-proof PPE (waterproof outer garment) and a filtered air respirator. Personnel treating patients who have already been decontaminated require no PPE other than universal precautions.

Decontamination (at the health care site): Rapid decontamination is important even in exposed patients with no symptoms. Sufficient decontamination includes removal of **ALL** clothing and jewelry and thorough washing of the skin and hair with water for 3 to 5 minutes and continued washing until visible toxin (yellow, sticky, oily liquid) is removed. Mycotoxin may be difficult to remove with water, and green soap, if available, may be helpful for decontamination. If the patient has an inadequate airway or breathing, then bag-valve mask ventilation may be performed during decontamination. Endotracheal intubation prior to decontamination is technically difficult (while wearing PPE) and is not recommended.

Diagnosis and Treatment: Treatment is supportive. **Oxygen** may be required for hypoxemia. **Early intubation** should be performed for upper airway swelling. **Bronchodilators** (e.g., albuterol) may be used for wheezing or cough. Exposed eyes should be flushed with 1 to 2 liters of water or normal saline and then be treated with lubricants, such as petroleum jelly. Massive fluid resuscitation is **NOT** necessary for dermal chemical burns. **Oral activated charcoal, 50 g PO (1g/kg PO, children)**, should be given if the toxin was swallowed. Contact the **Poison Center (1 800 222 1222)** for specific questions or advice on individual patients.

The diagnosis is made clinically. In unknown chemical events, draw and send 3 purple top and one green (or gray) top tube of blood as well as 25 mL of urine to the Oregon State Health Lab as well (see attached chemical specimen sheet).

Patient Monitoring: Continuous monitoring of pulse oximetry, blood pressure and heart rate is necessary in patients with severe symptoms.

Disposition Criteria (when to send patient home): Patients who are initially asymptomatic may develop severe symptoms over several hours. Patients who are asymptomatic after a 6-hour observation period may be discharged with instructions to return if they develop symptoms. All patients with symptoms should be admitted because symptoms may continue to progress.

Reporting/Coordination Link: Call the **Poison Center (1 800 222 1222)** for information on specific patients. Contact the local or state public health authority (**Oregon Public Health Hotline: 1 800 805 2313**) to report a mass casualty incident.

This information is current as of the date faxed and for the patient specified ONLY. Do not use this information for other patients without contacting the Poison Center at 1-800-222-1222.

Please review the CDC Collection Protocol, which should be included with this FAX.