

 MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES	Division of Community and Public Health	
	Section: 4.0 Diseases and Conditions	Revised 5/16
	Subsection: TSS (other than Streptococcal)	Page 1 of 5

Toxic shock syndrome (Other than Streptococcal)

Table of Contents

- [Overview](#)
- [Toxic shock syndrome – Medline Plus](#)
- [2016 Nationally Notifiable Condition and Case Definitions – CDC](#)
- [Information Needed for Investigation](#)
- [Public Health Partner Notification](#)
- [Control Measures](#)
- [Laboratory Procedures](#)
- [Reporting Requirements](#)
- [References](#)
- [Disease Case Report \(CD-1\)](#)
- [Toxic Shock Syndrome, Non-Streptococcal Case Report \(MO 580-3114\)](#)
- [Missouri Outbreak Surveillance Report \(CD-51\)](#)

	Division of Community and Public Health	
	Section: 4.0 Diseases and Conditions	Revised 5/16
	Subsection: TSS (other than Streptococcal)	Page 2 of 5

Toxic shock syndrome (Other than Streptococcal)

Overview^{1, 2, 3, 5, 6, 7}

Toxic shock syndrome (TSS) is a severe life-threatening complication of certain types of bacterial infections. The following bacteria commonly cause TSS; *Staphylococcus aureus* (*S. aureus*), and *Clostridium sordellii*. A similar condition, called Streptococcal Toxic shock syndrome (STSS) can be caused by Streptococcal bacteria. These bacteria release toxins into the blood stream, which then spreads the toxins to body organs. Not all staph or strep infections cause toxic shock syndrome. **NOTE:** *This document will discuss TSS; for more on Streptococcal Toxic Shock Syndrome (STSS), visit the [following link](#).*

TSS is characterized by the sudden onset of high fever, generalized erythroderma, rapid-onset hypotension, and signs of multisystem organ involvement, including profuse watery diarrhea, vomiting, conjunctival injection, and severe myalgia. There are two clinical forms of TSS: menstrual TSS, which accounts for 55% of cases currently reported, and nonmenstrual TSS. Menstrual TSS occurs in menstruating women, often in association with the use of high absorbency tampons. Nonmenstrual TSS can affect men, children and postmenopausal women, and has been associated with a variety of infections, including postoperative wounds, cutaneous wounds, burn wounds, postpartum complications, and *S. aureus* respiratory infections, often after viral influenza. A special feature of wound colonization is that the affected tissues often do not appear inflammatory. Nonmenstrual TSS has also been associated with the use of contraceptive diaphragms, vaginal contraceptive sponges, infection following childbirth or abortion and dialysis catheters. For a complete description of TSS, please refer to the following sources:

- *Control of Communicable Diseases Manual* (CCDM). 20th ed. Washington, D.C.: American Public Health Association, 2015.
- American Academy of Pediatrics. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL. American Academy of Pediatrics; 2015.
- *Mandell, Douglas, and Bennett's Principles and Practices of Infectious Diseases: Vol. 2*. 8th ed. 2015.

[2011 Case Definition—Toxic Shock Syndrome \(other than Streptococcal\) \(TSS\)⁴](#)

NOTE: *[Streptococcal Toxic-Shock Syndrome](#) has a different surveillance case definition.*

Information Needed for Investigation

Verify the diagnosis. What laboratory tests were conducted and what were the results? Verifying the diagnosis can be accomplished by referring to the Case Definition provided above. Complete the [Disease Case Report](#) (CD-1) by obtaining the information from the attending physician, hospital, laboratory, patient and/or a knowledgeable family member.

 MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES	Division of Community and Public Health	
	Section: 4.0 Diseases and Conditions	Revised 5/16
	Subsection: TSS (other than Streptococcal)	Page 3 of 5

Establish the extent of the illness. Determine if household members, co-workers, or other close contacts are, or have been ill with a similar illness? If so, urge them to contact their health care provider for a medical evaluation.

Determine the source of infection. Obtain demographic, clinical and other epidemiological information necessary to complete the [Toxic Shock Syndrome Case Report](#). The information may be obtained from the patient, health care provider, or a knowledgeable family member.

***COMMENT:** Sometimes the specific source of the infection will not be identified.*

Provide TSS information to persons at risk of infection and the general public as needed.

Efforts should be made to promote TSS awareness, see [MedlinePlus](#) or [Johns Hopkins Medicine](#) for additional information.

TTS Surveillance. Review WebSurv to determine whether there have been other TSS cases. When cases are related by person, place or time, efforts should be made to identify a common source. Information obtained through the public health investigation will be used to identify possible sources of infection and to characterize persons or areas in which additional efforts are needed to raise awareness and reduce disease incidence.

Notification

Immediately contact the [District Communicable Disease Coordinator](#), or the [Senior Epidemiology Specialist for the District](#), or the Missouri Department of Health and Senior Services (MDHSS) – Bureau of Communicable Disease Control and Prevention (BCDCP), phone (573) 751-6113, Fax (573) 526-0235, or for afterhours notification contact the MDHSS/ERC at (800) 392-0272 (24/7) if an outbreak* of TSS is suspected.

- If a case(s) is associated with a long-term care facility, BCDCP or the LPHA will contact the Section for Long Term Care Regulation, phone (573) 526-8524, Fax (573) 751-8493.
- If a case is associated with a hospital-based long-term care facility. BCDCP or the LPHA will contact the Bureau of Health Services Regulation phone (573) 751-6303, Fax (573) 526-3621.

*An outbreak is defined as the occurrence in a community or region, illness(es) similar in nature, clearly in excess of normal expectancy and derived from a common or a propagated source.

Control Measures^{1, 2, 3}

Menstrual TSS can be prevented by avoiding the use of high absorbent vaginal tampons and the risk may also be reduced by using tampons intermittently (not all day and all night throughout the period) and using less absorbent tampons. Women who develop a high fever and vomiting or diarrhea during menstruation must discontinue tampon use immediately and consult their health care provider.

Nonmenstrual TSS prevention and control has focused on prevention of intraoperative contamination and on sterile insertion of intravascular and intraperitoneal catheters and other

	Division of Community and Public Health	
	Section: 4.0 Diseases and Conditions	Revised 5/16
	Subsection: TSS (other than Streptococcal)	Page 4 of 5

prosthetic devices. Instruction for vaginal sponge use, advising that these devices should not be left in place for more than 30 hours is important.

Laboratory Procedures⁶

No single test can diagnose toxic shock syndrome. Ruling out similar illnesses (such as Rocky Mountain spotted fever, leptospirosis, or measles, among others) is critical in diagnosing TSS. Other diagnostic tests may include: blood cultures, blood tests, urine tests and lumbar puncture.

Reporting Requirements

TSS is a Category III reportable disease and shall be reported to the [local public health agency](#) or to the MDHSS within three (3) days of first knowledge or suspicion, by telephone, facsimile, or other rapid communication.

As a Nationally Notifiable Condition, all confirmed and probable cases are a **STANDARD** report to CDC. MDHSS will submit these reports to the CDC by electronic case notification (WebSurv) within the next reporting cycle.

1. For all reported cases of TSS complete a [Disease Case Report](#) (CD-1) and a [Toxic Shock Syndrome Case Report](#).
2. Entry of the completed CD-1 into WebSurv negates the need for the paper CD-1 to be forwarded to the District Health Office.
3. Send the completed Toxic Shock Syndrome Case Report to the District Health Office.
4. MDHSS will report to CDC following the above reporting criteria (see box).
5. All outbreaks or “suspected” outbreaks must be reported as soon as possible (by phone, fax or e-mail) to the District Communicable Disease Coordinator. This can be accomplished by completing the [Missouri Outbreak Surveillance Report](#) (CD-51).
6. Within 90 days from the conclusion of an outbreak, submit the final outbreak report to the District Communicable Disease Coordinator.

References

1. American Public Health Association. *Toxic Shock Syndrome*. Harbarth S, In: Heymann, D L (ed), *Control of Communicable Diseases Manual*. 20th ed. Washington, DC: American Public Health Association, 2015: 579-580.
2. American Academy of Pediatrics. *Staphylococcal Infections*. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL. American Academy of Pediatrics; 2015: 715-732.
3. Elsevier Inc. *Staphylococcus aureus (Including Staphylococcal Toxic Shock Syndrome)*. Que YA, Moreillon P In: Bennett JE, Dolin R, Blaser MJ eds. *Mandell, Douglas, and Bennett's Principles and Practices of Infectious Diseases: Vol. 2*. 8th ed. 2015: 2237-2271.
4. Centers for Disease Control and Prevention's (CDC) National Notifiable Diseases Surveillance System (NNDSS) and Case Definitions. <https://ndc.services.cdc.gov/case-definitions/toxic-shock-syndrome-2011/> (5/25).
5. U.S. National Library of Medicine, Bethesda, MD, U.S. Department of Health and Human Services, National Institutes of Health. *Toxic shock syndrome*. In: MedlinePlus. <https://www.nlm.nih.gov/medlineplus/ency/article/000653.htm> (2/16).

 MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES	Division of Community and Public Health	
	Section: 4.0 Diseases and Conditions	Revised 5/16
	Subsection: TSS (other than Streptococcal)	Page 5 of 5

6. The Johns Hopkins University. The Johns Hopkins Hospital and Johns Hopkins Health System. In: Johns Hopkins Medicine.
http://www.hopkinsmedicine.org/healthlibrary/conditions/adult/infectious_diseases/toxic_shock_syndrome_tss_85,p00653/ (5/16).
7. Patient Care & Health Info; Disease and Conditions – *Toxic shock syndrome*. In: Mayo Clinic online. <http://www.mayoclinic.org/diseases-conditions/toxic-shock-syndrome/basics/definition/con-20021326> (5/16).

Acknowledgements

State of California-Health and Human Services Agency, California Department of Public Health, Center for Infectious Diseases, Division of Communicable Disease Control, Infectious Diseases Branch, Surveillance and Statistics Section, MS 7306, P.O. Box 997377, Sacramento, CA 95899-7377 for our adaptation of the Toxic Shock Syndrome , Non- Streptococcal Case Report form for use in Missouri.