

Toxic shock syndrome

Toxic shock syndrome (TSS) is a rare and potentially life-threatening illness, believed to be caused by infection with particular bacteria including *Staphylococcus aureus* and *Streptococcus pyogenes*.

Menstruating women are most susceptible and it is thought that the infection is associated with tampon use. The underlying mechanisms aren't fully understood, but one theory is that the bacteria naturally present in the vagina can overpopulate in the presence of a blood-soaked tampon. However, one-third of menstruating women who develop toxic shock syndrome are found to have no staphylococcal bacteria in their vaginas.

There have been isolated cases of men contracting toxic shock syndrome, with associated staphylococcal infections of the skin. Toxic shock syndrome can also occasionally develop as a complication after surgery or childbirth.

Symptoms

The symptoms of toxic shock syndrome include:

- Fever
- Vomiting
- Diarrhoea
- A skin rash that looks similar to sunburn
- Peeling patches of skin on the feet and hands
- Muscular aches
- Headache
- Sore throat
- Red eyes
- Mental confusion
- Drop in blood pressure
- Joint pains
- Sensitivity to light
- Kidney failure
- Collapse.

The risks of tampon use

It is the toxin produced by the bacteria that causes toxic shock syndrome, rather than the presence of the bacteria themselves. *Staphylococcus aureus* is a common type of bacterium that lives on the skin and inside the nose. In most cases, it is harmless. However, it can cause a wide range of infections if it gains access to deeper tissues and the bloodstream.

For toxic shock syndrome to occur, particular strains of the bacteria must first overpopulate and produce large amounts of the toxic shock syndrome toxin as a by-product. Then, the toxin has to enter the bloodstream.

Tampons may contribute to the risk of toxic shock syndrome in two important ways:

- **Super-absorbent varieties** – tampons that are left in the vagina for long periods of time may encourage the growth of the bacteria.
- **Adhesion** – tampons can adhere to the vaginal walls, particularly when the menstrual flow is light, and cause minute abrasions when they're removed.

Treatment

If you think you may have toxic shock syndrome, stop using tampons immediately and go to the emergency department of your nearest hospital. Treatment for toxic shock syndrome includes:

- Admission to hospital
- Antibiotics to kill the infection
- Intravenous fluids to boost blood pressure and treat dehydration
- Medical treatment for any complications, such as kidney failure.

Reducing the risk

Considering the number of women worldwide who regularly use tampons, toxic shock syndrome is a particularly rare condition. Suggestions to reduce the risk include:

- Change tampons regularly, at least every four hours.
- Avoid using high absorbency tampons.
- Only unwrap the tampon if you are going to use it straight away.
- Don't handle the tampon unnecessarily.
- Wash hands thoroughly before and after inserting a tampon.
- Be gentle when you insert and remove your tampons.
- Avoid applicator tampons, as the applicator may scrape the vaginal walls.
- Wear sanitary pads instead of tampons overnight.
- Pay particular attention to personal hygiene during your period.
- Don't wear tampons when you aren't menstruating.
- Consider using sanitary pads or panty liners during the last day or so of your period when your flow is light.
- Use a lubricating jelly when inserting tampons in the last day or so of your period when your flow is light.

Please note there are no clinical trials supporting the use of menstrual cups to reduce the risk of toxic shock syndrome.

Where to get help

- In an emergency, always dial triple zero (000) to call an ambulance
- Your doctor
- Emergency department of your nearest hospital

Things to remember

- Toxic shock syndrome is a rare and potentially life-threatening illness, caused by infection with staphylococcus bacteria.
- Menstruating women are most susceptible and it is thought the infection is associated with tampon use.
- Suggestions for reducing the risk include changing tampons frequently and wearing sanitary pads instead of tampons overnight.

This page has been produced in consultation with, and approved by:

Family Planning Victoria

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