

I NEED TO KNOW ABOUT BACTERIA IN BLOOD

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What are bacteria?

Bacteria are tiny single cell organisms, which are bigger than viruses. They are all around us, on us and in us. There are many different types of bacteria and some of them can cause disease.

How can fresh blood products get contaminated with bacteria?

The most common source of contamination are the bacteria that normally live on our skin. Uncommonly, a donor has a condition, which results in bacteria being in their blood stream (eg. recent diarrhoea, dental work, or if the donor has been on antibiotics). In rare cases, the collection bag or tubing is contaminated.

Can it be prevented at the point of donation?

- Skin disinfection before needle insertion is essential.
- Diversion pouch: the first 20–30mL of blood from any collection is diverted into a separate pouch. The tiny piece of skin from needle insertion, along with any bacteria on the skin, are generally captured in this diversion pouch.
- Donor eligibility criteria defer donors with any bacterial risk factors.

Which component is at the greatest risk?

Platelets have the greatest risk of bacterial contamination. Bacteria grow best at warmer temperatures and platelets are stored at 20–24°C. Red cells have a lower risk and frozen products are rarely associated with contamination.

Does the Blood Service have any tests for bacteria in platelets?

Yes. After the platelet component is manufactured it is stored for 24 hours and then a sample is taken to test for the presence of bacteria. This allows time for the bacteria to multiply, increasing our chance of detecting the bacteria.



Platelets contaminated with *Citrobacter koseri*.

What does bacterial contamination do to a patient?

Patients may have no symptoms, mild fever, a severe reaction or even death. The American Red Cross reported two years of universally testing platelets for bacteria; they had 20 reports of patients with transfusion-transmitted bacterial infection. Of these, three were fatal and involved a *Staphylococcus* bacteria.

BLOOD FACT

Bacteria are everywhere! Lots of them, too. World bacterial biomass is the same as plant biomass.