



Extended spectrum beta-lactamase (ESBL) producing organisms

What are Extended spectrum beta-lactamase (ESBLs)?

ESBLs are enzymes produced by bacteria such as *Escherichia coli* (*E. coli*) and *Klebsiella*. ESBLs can be resistant to a range of frequently used antibiotics including penicillins and cephalosporins. As a result, infections caused by these bacteria can be difficult to treat and the prevalence of these bacteria and infections caused by them are becoming more common in both community and healthcare settings.

Who is at risk?

There are several factors that make a person more likely to become colonised or infected with ESBL-producing organisms (bacteria). These include:

- Having an underlying illness that makes a patient more susceptible to infection.
- Taking repeated courses of antibiotics.
- A prolonged stay in hospital.
- Having a urinary catheter.

What symptoms might I have?

The most common bacteria that produce these enzymes are *E. coli* and *Klebsiella* which are bacteria that can live in your bowel without you being unwell or showing any signs or symptoms of infection (this is referred to as colonisation). These bacteria cause infection if they get into an area of the body where they are not normally found, such as the urinary tract. Urine infection is the most diagnosed infection, but infection in the lungs (chest), wounds and blood can also occur. Infections caused by ESBL-producing bacteria can be more difficult to treat because of antibiotic resistance, as there are fewer effective antibiotics to use.

Can illnesses caused by ESBL producing bacteria be treated?

Despite being resistant to many antibiotics, there are still antibiotics available to treat infections should they occur. Your clinical team will discuss your antibiotic treatment options with you. Antibiotic treatment is not generally recommended for people who are colonised and who do not have signs or symptoms of infection.

How can ESBL producing bacteria be spread?

As with other bacteria, ESBL-producing bacteria can be passed directly or indirectly via contamination of hands or objects (e.g., through poor hand hygiene after going to the toilet), and then introduced into the mouth. It can also be spread on the hands of patients, relatives, and healthcare workers after contact with an infected patient or contaminated equipment. As patients in hospital are much more vulnerable to infection than patients in their own homes, special precautions are required to prevent the spread of ESBL between patients in hospital.

What happens if I am found to be colonised or infected with ESBL producing bacteria?

You will be moved to a single room with your own toilet to prevent the bacteria spreading on the ward and for your own privacy. If you have an intravenous drip or catheter, it is important that you try to avoid touching them, particularly at the point they are inserted into the body or skin.

The most important method of preventing spread is hand hygiene. It is vital that you wash your hands after you have been to the toilet and before eating. Anyone who comes into contact with you, or your environment must wash



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their hands. Staff will wear personal protective equipment (PPE) when caring for you.

It is not known how long colonisation with ESBL-producing bacteria persists but in most circumstances, it is not necessary to re-test or swab you to check whether these bacteria are still present.

Can I have visitors?

Yes. It is not a risk to healthy people. Ask a member of the clinical team for advice if you are worried. We ask that visitors wash their hands before they leave your room and don't mix with other patients on the ward. This makes it easier for us to prevent the spread of infection. Visitors do not have to wear gloves and aprons unless they are helping you with your care (e.g., personal hygiene). If they are visiting someone else apart from you, it is best if they see them first.

Can I still go home?

You will not have to stay in hospital any longer than necessary, you will be allowed home when medically fit.

Further information

If you have further questions, please speak to a member of the clinical team, or ask them to contact the Infection Prevention and Control team.