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## ESBL-positive bacteria

The purpose of this leaflet is to inform patients and their visitors about the nature of ESBL-positive bacteria, the diseases they cause and their treatment and to provide guidelines for preventing the spread of ESBL-positive bacteria in the hospital and after leaving the hospital.

### **What is ESBL?**

ESBL (extended-spectrum beta-lactamase) is a protein produced by some bacteria. Many antibiotics do not work for diseases (infections) caused by these bacteria, so treatment can be long and complicated.

### **In which cases does ESBL-positive bacteria cause disease?**

ESBL-positive bacteria can live in a person's digestive tract for a long time without causing disease — this is called ESBL-carrier status. Being a carrier does not lead to disease in most people and it is not treated. Over time, the body may eliminate ESBL-positive bacteria. Only under certain conditions can the bacteria cause diseases, such as in the urinary tract, abdominal cavity, or lungs as well as in wounds. It is more common in the following people:

- those who have been in the hospital for a long time and/or have received previous antibiotic or immunosuppressive treatment
- those with foreign materials in the body (such as joint prostheses, catheters, etc.)
- those who have recently undergone surgery

### **When does a person with ESBL-positive bacteria need treatment?**

Treatment is only necessary when ESBL-positive bacteria has caused a disease. The need for treatment is decided by your doctor.

### **How does ESBL-positive bacteria spread in the hospital?**

The bacteria is mainly spread via the hands of patients, hospital staff and visitors. This can happen through direct contact or indirectly by touching contaminated objects and surfaces (door handles, toilets, bed rails, etc.).

### **Why is it important to prevent the spread of ESBL-positive bacteria in the hospital?**

The spread of ESBL-positive bacteria can pose a risk to other patients in the hospital, causing diseases that are long and difficult to treat. Therefore, there are specific requirements (contact infection isolation measures) to prevent the spread of ESBL-positive bacteria within hospitals.

### **How is the spread of ESBL-positive bacteria prevented in the hospital?**

To prevent the spread of ESBL-positive bacteria, hospital staff, patients and visitors must follow certain requirements.

### Staff must undertake the following actions:

- place the patient in a single room if possible
- put a sign on the room door regarding the current requirements
- use personal protective equipment in the room, including gloves, a protective gown and, if necessary, a mask
- follow the rules of hand hygiene
- provide patients and their close ones (hospital visitors) with additional information about the bacteria and contact infection isolation measures

### The ESBL-positive patient must undertake the following actions:

- follow the staff's instructions
- follow the rules of hand hygiene

### Visitors must undertake the following actions:

- inform the ward staff of their arrival before entering the patient's room
- wash or rub their hands with antiseptic before entering and leaving the patient's room
- wear a protective gown in the patient's room
- avoid contact with other patients
- remove the gown before leaving the patient's room, following the instructions on the door

### **What should be considered after leaving the hospital?**

- A patient with ESBL-positive bacteria does not need to change their lifestyle.
- A patient with ESBL-positive bacteria does not need to limit socialising, sports activities or using public saunas and swimming pools.
- It is important to follow the rules of hand hygiene everywhere. Thorough hand washing prevents the spread of bacteria to other people and surrounding surfaces.
- Every time you go to a doctor's appointment or hospital, report the presence of ESBL-positive bacteria so that the doctor can take it into account when making a treatment plan.

### **Hand hygiene**

The best options for hand hygiene in the hospital are washing your hands with a liquid soap or rubbing your hands with an antiseptic.

### **When to wash your hands with water and liquid soap?**

Hands should be washed in the following circumstances:

- when there is visible dirt on the hands
- before eating
- after blowing the nose, sneezing, coughing
- after using the toilet

### **When to use a hand antiseptic?**

Antiseptic should be used in the following cases:

- before and after touching damaged skin (inflammation, burns, cuts)
- before touching an intravenous cannula or bladder catheter
- after blowing your nose, sneezing or coughing if there is no possibility to wash your hands
- after using the toilet (after washing and drying your hands)

### **What should you know about hand antiseptic?**

- Using an antiseptic is more effective than washing your hands with soap and water.
- The antiseptic kills 99% of germs in about 30 seconds.
- Antiseptic dispensers are located near the room door, next to the bed or in other accessible places.
- There is no need to wash the antiseptic off your hands – it is rubbed in until the antiseptic solution has dried.

### **How to wash your hands correctly how to use an antiseptic?**

#### Hand washing technique:

1. Get your hands wet.
2. Press the soap dispenser one to two times.
3. Rub your palms, fingertips and the area between your fingers for about 15 seconds.
4. Rinse your hands with running water.
5. Dry your hands and close the water tap with a paper towel.
6. Use a hand antiseptic, if necessary.

#### Antiseptic use technique:

1. Press the antiseptic dispenser one to two times.
2. Rub your palms, fingertips and the area between your fingers for about 30 seconds until the antiseptic solution has dried.

Just a quick rinse with water will not get your hands clean!

Source: Tartu University Hospital patient information on ESBL

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