



Preventing Infections

A Brochure for Patients, Relatives and Visitors



Preventing infections at the Bundeswehr Hospital in Berlin

Hospital staff comply with a set catalogue of basic hygiene measures. These include hygienic hand disinfection and the use of personal protective equipment (disposable gowns, aprons, etc.). Regular training courses are held on these measures.

This brochure provides a brief overview of the risks posed by infections, describes preventive measures you can take, and will hopefully motivate you to lend a hand.

How can you help us?

In general, anyone at the hospital (staff, patients, visitors, contractors, etc.) can be a source of infection. This is why we ask you to observe the measures presented in this brochure. All of us have a responsibility to ensure patient safety.

Please let us know if you feel additional measures should be taken. Our hospital hygiene staff would also be happy to answer any questions you may have (030 - 2841 26080).

Why disinfect your hands?

Disinfecting your hands will kill any germs on them, including multidrug-resistant organisms. This is done by rubbing your hands with an alcohol-based hand disinfectant.

Why is it important to disinfect your hands?

Hands are the most common vehicle for the transmission of germs. By disinfecting your hands, you can interrupt this transmission.

When should you disinfect your hands? Is it enough just to wash them?

1.) In everyday life, outside healthcare facilities, ...

... it is enough to wash your hands with soap and water. You should always do this

- if your hands are visibly dirty,
- after using the toilet,
- before eating,
- before preparing meals,
- after handling raw meat, eggs and vegetables and
- after touching animals.

If you are providing care to someone at home, we recommend that you ask your GP whether you should also be disinfecting your hands.

2.) As a visitor to the Bundeswehr Hospital in Berlin or any other health care facility...
... please disinfect your hands as follows before and after visiting a patient. After you wash your hands (e.g. after going to the toilet), **dry** your hands with a disposable paper towel **before** you disinfect your hands. Water on wet hands will dilute the effect of the alcohol.

3.) As a patient of the Bundeswehr Hospital in Berlin...

... please perform hand hygiene. Washing your hands with soap and water will suffice in the following situations:

- before eating,
- if your hands are dirty and
- after using the toilet.

As a patient, however, you generally have a higher risk of infection.

For this reason, we ask you to always disinfect your hands

- **before you leave your room and**
- **when you return to your room.**

How can I properly disinfect my hands?

Apply a sufficient amount of disinfectant to your hands when they are dry and rub it into your palms and onto the back of your hands and your wrists. Do this for 30 seconds.

- During this time, your hands must be wet with disinfectant.
- When rubbing the disinfectant into your hands, pay particular attention to the areas between your fingers, your thumbs, the areas around your fingernails, your fingertips, and the back of your hands.
- Continue rubbing your hands together until dry.



If you have any questions about hand disinfection, please contact the ward staff.

Risks posed by multidrug-resistant organisms

Bacterial resistance to antibiotics is a global problem. It becomes a personal problem when multidrug-resistant organisms (MDROs) cause infectious diseases in people we know. Severely and chronically ill people are particularly at risk.

Microbes that are reliably treated by antibiotics can, under certain circumstances, become resistant to conventional antibiotics (e.g. as a result of unsuitable antibiotic treatment). MDROs are not more likely to cause an infection than antibiotic-sensitive bacteria, but physicians have **fewer or even no treatment options available for them**.

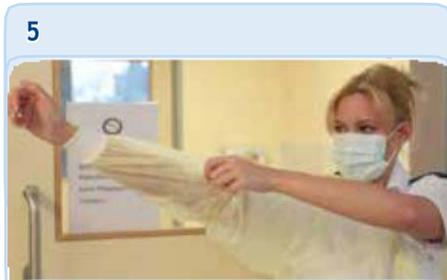
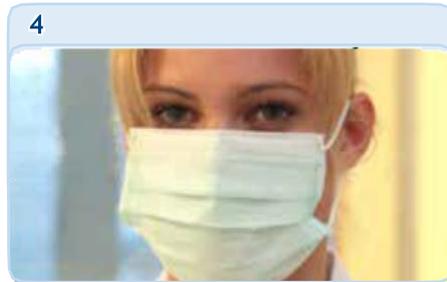
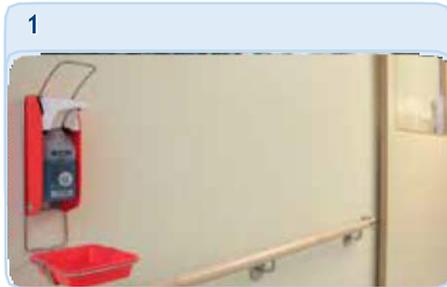
MDROs can colonise the body without at first causing a disease. As a consequence of globalisation, MDROs are already part of the normal intestinal flora, and less frequently even the skin flora, in some people. This is the case even in our part of the world. As many as 80% of multidrug-resistant organisms found in hospitals are brought in by patients.

At the Bundeswehr Hospital in Berlin, we screen **all patients before admission** to determine whether they belong to any of the risk groups identified by the Robert Koch Institute. Risk patients then undergo a microbiological diagnostic test – preferably before they are admitted to their ward– involving swabs from specific body regions. This early **MDRO screening** allows us to introduce effective and timely preventive measures.

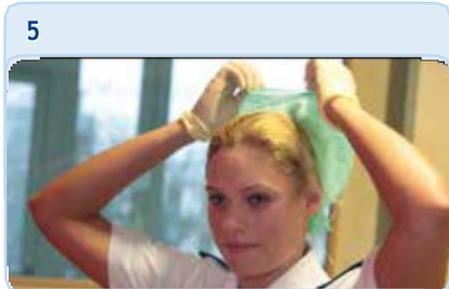
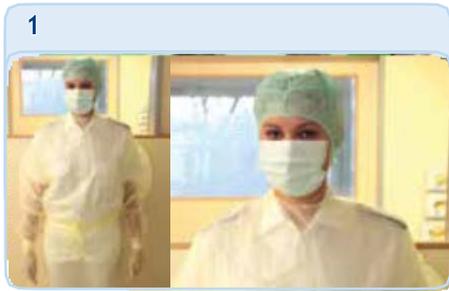
As with similar hospital infections, MDROs are mainly transmitted **by hands and through direct close contact** with colonised or infected patients. Hand disinfection and the use of aprons or protective gowns in situations that involve close contact with patients are the most important measures for preventing infections at the Bundeswehr Hospital in Berlin. Please ensure that these measures are carried out correctly, and contact ward staff if you have any questions.

If a patient is colonised or infected with an MDRO, further measures may be taken, e.g. isolation of the patient in a private room. Gowns, masks, gloves, and if necessary head coverings are kept available for visitors and relatives in such cases. The following two pages show you how to use these items properly. **If you have any questions, please ask the ward staff.**

Putting on protective clothing before entering a patient's room



Removing protective clothing before leaving a patient's room



MDROs: Some definitions

MRSA – Methicillin-resistant *Staphylococcus aureus*

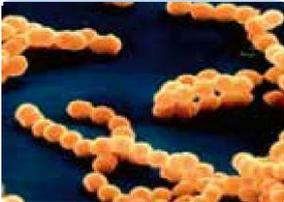
Some people have a bacteria called *Staphylococcus aureus* in their nose and possibly on their skin as well. MRSA is a resistant strain of this bacteria for which there are considerably fewer antibiotics available. Outside their natural environment, sensitive *Staphylococcus aureus* and MRSA can cause diseases in the human body, e.g. wound infections and pneumonia.

MDR GNB – Multidrug-resistant Gram-negative bacteria

Gram-negative bacilli are normally found in gut flora. They include *E. coli*, *Klebsiella pneumoniae* and many other bacteria. If they spread outside of the intestines, Gram-negative bacilli can cause diseases such as wound and urinary tract infections and pneumonia. MDR GNB are the resistant strain of these bacteria. Depending on how many of the four main classes of antibiotics they are resistant to, they are referred to as 3 MDR GNB or 4 MDR GNB.

VRE – Vancomycin-resistant *Enterococcus*

Enterococcus is a genus of bacteria commonly found in the gut flora of humans. Recent years have seen an increase in enterococci that are resistant to vancomycin, an important antibiotic. If they spread, such VRE can cause infections that are difficult to treat, especially in severely ill people.



Things to know about norovirus

What is norovirus and what illnesses does it cause?

Norwalk-like virus has been known around the world for a long time. A few years ago, it was renamed norovirus. It is responsible for the majority of infectious gastrointestinal illnesses and is often the cause of acute outbreaks in shared facilities such as nursing homes, residential care facilities, and hospitals. Symptoms often include severe discomfort, abdominal pain, nausea, headaches, muscle pain, and fatigue. Body temperature may be slightly elevated. In otherwise healthy patients, the acute phase of the disease lasts 12 to 72 hours. It can last longer in patients with a weak immune system.

How is norovirus transmitted?

The virus is spread in large quantities via the stool and vomit of infected people. It is predominantly transmitted by touch or via aerosols produced when an infected person vomits. The risk of infection is high because just a few viruses (3–10) are enough to cause infection.

Incubation period

1–3 days

Infection period

People are particularly infectious during the acute phase of the disease and for at least 2 days – sometimes for up to 14 days – after the symptoms have subsided.

Preventive and control measures

1. General hygiene rules, particular hand hygiene, are particularly important.
2. Symptomatic individuals must be isolated or cohorted as long as they are infectious.
3. Wear a face mask to avoid inhaling droplets if you are nursing an infected person or come into contact with vomit. At the hospital, you must put on protective clothing before entering the isolation room.
4. Persons who have come into contact with the stool or vomit of an infected person – at the hospital or at home – should maintain strict hand hygiene for the following two weeks.

Clostridium difficile in the hospital

What is *Clostridium difficile* and what illnesses does it cause?

Clostridium difficile (*C. diff.*) is a bacterium that produces toxins. By forming spores, it is able to survive outside the human body for a long time. In some people, *C. diff.* is naturally present in their intestines but does not cause symptoms. It therefore has no pathological significance in healthy people. Certain factors (e.g. antibiotic use) can, however, alter healthy intestinal flora, enabling *C. diff.* to proliferate and thus produce more bacterial toxin. This can cause severe diarrhoea accompanied by stomach cramps, fever, and eventually severe damage to the intestinal wall along with complications.

How is *Clostridium difficile* transmitted?

Infected individuals will excrete large numbers of spores with their stool. The virus is transmitted directly from person to person (by the faecal-oral route) or indirectly via contaminated surfaces and objects. As a spore, the bacteria can remain infectious for a long time and can also survive hand disinfection.

Are illnesses caused by *Clostridium difficile* treatable?

Diarrhoea and intestinal inflammation caused by *C. diff.* can be treated effectively with the right antibiotics. The disease can, however, recur and become chronic, and this can unfortunately be life threatening in some cases.

Please note: Colonisation of the intestines with a small number of *C. diff.* does not require treatment provided the patient has no symptoms.

Prevention and control

1. Good general hygiene, in particular hand hygiene, is important. Hygienic hand disinfection must always be followed by hand washing with soap in order to sufficiently remove spores.
2. In the hospital, infected patients must be isolated in private rooms or cohorted.
3. Visitors of isolated or cohorted patients must put on protective clothing before entering the patient's room. Please ask nursing staff for assistance. When your visit is over and you have removed your protective clothing, please disinfect your hands while still in the isolation room. Then wash your hands again to remove any remaining spores.



Sources

Recommendations of the Commission for Hospital Hygiene and Infection Prevention at the Robert Koch Institute

Clean Hands Campaign, a national campaign to improve compliance with hand disinfection measures

German National Reference Centre for the Surveillance of Nosocomial Infections

MDRO Network Berlin

We wish our patients
a speedy recovery
and would like to thank
their visitors and relatives
for their cooperation.

The Hospital Hygiene Team

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