

The hand  
disinfection takes  
30 seconds.

Put the disinfection liquid  
into the palm of your hand  
(roughly 3 - 5 ml = 2 - 3  
sprays ) and rub your  
hands together until hands  
are dry.

**Make sure you generously  
treat your fingertips,  
the thumb, palms and in  
between your fingers.**



The MRE-Netz Rhein-Main e.V. is a registered society of health departments, hospitals and other players in the public health sector of the Rhein Main region.

You can receive further information

- From our hospital staff
- Telephone MRE - Netz Rhein-Main - **069-212-4 88 84**
- Email [mre-rhein-main@stadt-frankfurt.de](mailto:mre-rhein-main@stadt-frankfurt.de)
- Internet [www.mre-rhein-main.de](http://www.mre-rhein-main.de)

Informationen  
for patients, family  
members & friends



**MRCGN**  
Multidrug-resistant  
gram-negative bacteria



# MGRN

Multidrug-resistant **g**ram-**n**egative bacteria

## What are MRGN?

Several different types of bacteria are found in the human intestine as well as on the human skin and mucosa. Some of these bacteria can be subsumed as gram-negative rod-shaped bacteria based on their appearance under the microscope. These include gut bacteria (Enterobacteria) and other pathogens (e.g. Acinetobacter baumannii and Pseudomonas aeruginosa), which may acquire resistance against many antibiotics. In this case they are referred to as **MRGN** bacteria (multidrug-resistant gram-negative bacteria). Bacteria that have become resistant towards three classes of antibiotics are called **3MRGN**, those with resistance towards four classes of antibiotics are referred to as **4MRGN** bacteria.

## When do MRGN become a health threat?

The mere colonization of the intestine or the skin with these bacteria is not dangerous for healthy people or their contacts. However when MRGN bacteria from the intestine or skin find entry into wounds, the blood stream or other body compartments serious infections may arise. These may be difficult to treat since for **3MRGN** only a few and for **4MRGN** almost no antibiotics will be effective.

## When is treatment indicated?

It is not necessary to treat MRGN if there are no symptoms of illness. Your doctor will only treat you with one of the few effective antibiotics if you develop disease symptoms. An eradication of bacteria in the gut is not possible.

## What MRGN-patients should know:

### In the hospital

**Hand hygiene is particularly important to avoid the spread of pathogens.**

Patients with **4MRGN** are generally isolated in all hospital departments. Patients with **3MRGN** are only isolated in units of a hospital that are associated with a higher risk of infections due to the type of medical intervention performed there (intensive care unit or cancer wards).

**In case** your doctor has decided that **you need to be isolated,**

- You should only leave your room according to prior agreement with the medical staff,
- Visitors should contact the medical staff before entering your room and follow certain hygiene requirements,
- Medical staff will be wearing protective clothing (e.g. surgical gowns, gloves) to avoid further spread of the infection.

### Outside the hospital

**In nursing homes, residential facilities and homes for the disabled**

**In nursing homes, residential facilities and homes for the disabled a good basic hygiene, particularly hand hygiene is the most important measure to avoid further spread of the pathogens.** Nursing homes and other residential facilities are normally not considered a risk area. Isolation is not required.

### At home

**Make sure you wash your hands regularly and maintain good personal hygiene.** This will significantly reduce the risk of spreading the pathogens. Lead a normal life! Tell your healthcare providers that you have MRGN bacteria.

## How do you get MRGN?

Today **3MRGN** bacteria can be isolated from many healthy people, no matter where or how they live and often after a stay abroad or after having taken antibiotics. **4MRGN** are more frequently found after a serious illness with a long period of antibiotic treatment with different kinds of antibiotics.

## How are MRGN spread?

High concentrations of MRGN bacteria can be found in faeces and sometimes in wounds or in specific cases in urine. In addition Acinetobacter baumannii and Pseudomonas aeruginosa can also be found on the mucosa and the skin.

From there the bacteria are mainly transferred to other people via contact **through hands**. A spread is possible if infected wounds are not covered or basic hygiene rules are not followed.

## What is the primary objective and how can it be achieved?

**The main objective is to avoid the spread of MRGN bacteria to other people.**  
**The most important, most effective and at the same time easiest measure is to practice correct hand hygiene!**