# Bijzonder Resistente Micro-Organisme (BRMO en MRSA) - Engels

## Multidrug-Resistant Organisms (BRMO and MRSA)

This leaflet explains what Multidrug-Resistant Organisms (BRMO in Dutch) are and the consequences. It also contains general information about bacteria, antibiotics and hygiene.

### What is a bacterium?

Bacteria are organisms visible only under a microscope. Every person carries bacteria, most of which do useful work. Bacteria in the intestines, for example, help digest our food. The bacteria on our skin keep out harmful invaders. However, bacteria can sometimes cause an infection that causes, for example, cystitis or pneumonia.

### What are antibiotics?

Antibiotics (medicine) can cure infections caused by bacteria. Antibiotics kill the bacteria or inhibit their growth. The best-known antibiotic is penicillin. This is the most important medicine of the twentieth century. Penicillin was the first medicine that helped humans protect themselves from harmful or deadly bacteria. Many types of antibiotics have since been added. Each antibiotic works against different bacteria.

Spaarne Gasthuis

## What are Multidrug-Resistant Organisms (BRMO)?

Multidrug-Resistant Organisms or BRMO, are bacteria that are resistant to standard antibiotics. Healthy people are rarely affected by them. People can carry these bacteria in the intestines or on the skin. This doesn't make them sick. However, people with weakened immune systems (sick) can get infections.
BRMOs are increasingly common, including in people who:

- Have been admitted to a hospital abroad.
- Work in the intensive livestock farming sector.
- Have travelled under less hygienic conditions (refugees).

## What is special about these BRMOs?

An infection caused by normally sensitive bacteria can be treated with a standard antibiotic if necessary.
An infection caused by BRMO is more difficult to treat. Standard antibiotics cannot kill the BRMO or inhibit its growth. Fortunately, BRMOs can be inhibited or killed with other special antibiotics.
There are many types of bacteria. Each bacterium has its own name, and they are often abbreviated. Examples include:

☐ ESBL bacteria (Extended Spectrum Beta-Lactamase)
☐ CPE bacteria (Carbapenemase Producing Enterobacteria)
☐ VRE bacteria (Vancomycin Resistant Enterococcus)
☐ MRSA (Methicillin Resistant Staphylococcus Aureus)
☐ The Q&A resistant-bacteria (Quinolones & Aminoglycosides)
☐ Other bacteria, such as Acinetobacter, Pseudomonas and Stenotrophomonas

The BRMO you are carrying is marked on the list above.

## How can I get a BRMO?

In the Netherlands, these BRMOs are still rare in comparison with other countries. In places where lots of antibiotics are used, there is a greater chance of catching a BRMO.
The Netherlands is actively engaged in policies to prevent BRMOs from spreading further, so people are screened. Hospital employees are also taking extra measures. If you are staying at the hospital, you will be in a single room to prevent possible spreading.

## What can I do to prevent the spread of bacteria?

Good hygiene is very important. Clean hands prevent the spread of viruses and bacteria. This also applies to BRMO. To minimise risk, it is important to wash your hands.

- In the hospital, you do this by regularly rubbing your hands with hand sanitiser.
- At home and with visible dirt, wash hands with soap and water. After washing, dry your hands carefully with a clean towel or paper towel.

### When do you use hand sanitiser or wash your hands?

- Before dinner.
- After going to the toilet.
- After you use a chamber pot or urinal.
- Before and after you care for your wound.
- After coughing or sneezing.
- Cough and sneeze into the sleeve of your shirt or a tissue, NOT your hand.

The back of the leaflet has pictures showing how to use the hand sanitiser.

## Can I be treated even though I have no symptoms?

**Carrier of an ESBL bacteria, Q&A resistant bacteria, CPE bacteria or VRE bacteria**
The bacteria you carry are found primarily in the intestines. Healthy people are rarely affected by these BRMOs.
If you are not infected with these bacteria, you will not notice that you are carrying them. This is called carrier status. It is not necessary to treat carriers without infections. There are four reasons for this:

- Treatment with antibiotics can cause the bacteria to become even more resistant.
- Antibiotics also kill other beneficial bacteria in your body, resulting in unpleasant side effects such as diarrhoea.
- Experience shows that without antibiotic use, the resistance of the bacteria can slowly weaken.
- You may also get rid of the bacteria on your own.

**Carrier of an MRSA bacterium**
You are carrying an MRSA. MRSA is short for ‘Methicillin Resistant Staphylococcus Aureus’. Staphylococcus aureus is a ‘normal’ skin bacterium found in about 30% of people. MRSA bacteria have become resistant to several types of antibiotics. Healthy people are rarely affected by MRSA. An infection caused by MRSA is more difficult to treat.
Fortunately, MRSA bacteria can be inhibited or killed with other special antibiotics.
If you are not infected with MRSA, you will not notice you are carrying it. This is called carrier status. Even if you are a carrier of MRSA and have no other symptoms, your doctor may still decide to treat the MRSA. In this case, your roommates will also be checked to see if they carry the MRSA bacteria.
If you are going home but have not been treated for MRSA, we will consult your GP to see if you can still be treated.

**Carrier of another Multidrug-Resistant Organism**
There are several other types of BRMOs, which can occur in different places. These different bacteria have also become resistant to different types of antibiotics. These various other types of BRMOs can occur, for example:

- In water and soil. The bacteria are also frequently found in patients admitted to hospitals, for example: Acinetobacter.
- On damp spots on the skin and in wounds, for example: Pseudomonas.
- In your respiratory passages, for example: Stenotrophomonas.

If you are not infected with these bacteria, you will not notice that you are carrying them. This is called carrier status. It is not necessary to treat carriers without infections. There are four reasons for this:

- Treatment with antibiotics can cause the bacteria to become even more resistant.
- Antibiotics also kill other beneficial bacteria in your body, resulting in unpleasant side effects such as diarrhoea.
- Experience shows that without antibiotic use, the resistance of the bacteria can slowly weaken.
- You may also get rid of the bacteria on your own.

## How does a BRMO affect my daily life?

- If you are a BRMO carrier, you can go to work or school or visit friends and family as usual. What may be a risk to fellow patients with weakened immune systems in the hospital need not be a problem for healthy people.

- If you are receiving physiotherapy or other care, this is not a problem. The basic hygiene practised by health workers is sufficient to prevent the spread to other patients outside the hospital.
- If you are a carrier and you or your roommate work at a hospital, nursing home or in a different caring profession, consult with the occupational health department or infection prevention expert at your place of work or that of your roommates.
- If you know you are a BRMO carrier and are admitted to a hospital or nursing home, report it. Employees can take extra measures. You can read about this in the ‘Nursing in Isolation’ leaflet.
- When visiting the outpatient clinic or for day treatments, basic hygiene is usually sufficient. Sometimes employees take extra measures.
- If you visit another hospital, the measures may differ from what you are used to.
- If you are a carrier and live in a healthcare facility or receive home care, additional measures may also be taken here. Healthcare facilities house many, often vulnerable, people.

**Additional measures for if you are carrying MRSA**
If you are a carrier of MRSA, there are some additional points to consider:
- Take extra care when visiting a healthcare facility. Wash your hands when you arrive at the healthcare facility. Consult with doctors or nurses at the healthcare facility if you visit more than once a week.
- Do not share personal items that have been in contact with your skin with others. For example, hand cream or hand soap.
- Whenever possible, wash clothes at a minimum of 60ºC. This kills bacteria in clothing and other textiles.
- Keep wounds covered with clean, dry bandages. A wound can also contain MRSA.

## How long will these additional measures remain necessary at the hospital?
How long you will need additional measures at the hospital is unknown. Sometimes the BRMO goes away. A culture may be taken on any subsequent admission to the hospital. The laboratory will then see if you are still carrying the bacteria. Your doctor may also decide to have laboratory tests carried out to see if you are still a carrier at another time. Until then, the staff will take extra measures where necessary when you visit the hospital.

## Questions and telephone numbers
It's important that you receive clear and accurate information. If you have any questions after reading this leaflet, ask the doctor's assistant, nurse or doctor.
You can also direct your questions to the Infection Prevention Department on +31 23 224 0961 or via email:
infectiepreventie@spaarnegasthuis.nl

**Our locations**

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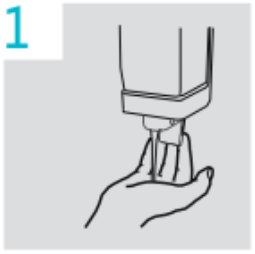
# Hand hygiene instruction card

May I have 30 seconds of your time?

1



Put hand sanitiser in the palm of your hand

2

Spread the hand sanitiser over your hands and wrists

3

Rub the right palm on the back of your left hand and vice versa

4

Rub your palms together and between your fingers

5

Rub your knuckles in your palms

6

Rub your left and right thumbs

7

Rub your left and right fingertips on your palms and then around your wrists

8

Keep rubbing until your hands are dry

This hand hygiene instruction card accompanies the 'Hand Hygiene' working procedure.