



Information on livestock-associated MRSA (MRSA 398)

For you and your household if you work on a weekly basis with live pigs, or if you have been found to be carrying the bacterium livestock-associated MRSA (LA-MRSA).

- *When you spend your working days on a pig farm where the pigs have livestock-associated MRSA, there is a considerable risk of being infected with LA-MRSA. Thus, there is a risk that you become a LA-MRSA carrier, and that you can spread the bacterium to other members of your household. The risk of spreading LA-MRSA to other people outside your household is negligible.*
- *Only in very rare cases does LA-MRSA cause serious illnesses.*
- *If you or anyone in your household acquires an infection or needs surgery, you should remember to tell your doctor/dentist that you are in regular contact with live pigs.*

About staphylococci and MRSA

Staphylococci are bacteria which are widespread in humans, some animals and in our surroundings. Staphylococci can be spread between humans or animals through direct contact or via objects such as door handles contaminated with staphylococci. Often, the bacteria are spread via your hands.

MRSA (Methicillin-resistant *Staphylococcus Aureus*) is staphylococci which are resistant to the penicillins that are normally prescribed to treat staphylococci infections. If the infection requires treatment, special antibiotics are therefore required.

Many people carry staphylococci bacteria in their nose either permanently or for periods of time without falling ill. In these cases, you are a healthy carrier of the bacteria. Only a small percentage of people who carry staphylococci carry MRSA.

Whether you carry LA-MRSA depends to significant extent on how often and how long you spend in places (pig sheds/surroundings) with animals that have tested positive for MRSA. A healthy person who is infected with staphylococci (whatever variant) has a low risk of becoming seriously ill, but the bacteria can cause troublesome infections such as boils and impetigo. People who are already ill or frail are more likely to suffer serious infection. A healthy person who is infected and becomes an MRSA carrier can also in rare cases become seriously ill, especially in connection with surgery, where the bacteria can infect the wound or enter the bloodstream.

Risk of becoming infected with and a carrier of LA-MRSA

- Livestock-associated MRSA is found in livestock, especially in pigs, unlike other variants of MRSA which are primarily found in humans.

- People who work on a weekly basis with pigs carrying LA-MRSA frequently become carriers of LA-MRSA.
- LA-MRSA is not spread that often from person to person, but can however be spread to other persons within a household. It is rarely found on persons who are not in direct contact with live pigs.

People who work in a stock of pigs, where the pigs are carrying LA-MRSA, are being continuously exposed to LA-MRSA. This is because the pigs carry the LA-MRSA on their skin or in their snouts. In the pig housing, LA-MRSA is in the dust, on all the surfaces and in the air. Thus, it is impossible to avoid coming into contact with the bacterium when spending time in the pig shed. And you will not be able to tell whether you are carrying MRSA.

Not all people can carry MRSA. Studies have shown that approx. 30-80 per cent of people who work with pig herds which have tested positive for LA-MRSA become carriers. People who are not regularly exposed to LA-MRSA usually lose the bacterium spontaneously within a few days. Therefore, there is basically no risk of becoming a carrier through making one-off visits to pig herds.

The risk of becoming a carrier is very small if you work with/handle dead pigs, for example at a slaughterhouse. And there are no risks associated with eating pork. There is a small risk of becoming a carrier through handling raw meat with MRSA, so also in this respect it is important to maintain good hygiene standards when handling raw meat.

It is rare that LA-MRSA is spread to people outside the household, and there is therefore no reason why you should not have visitors or visit other people, engage in sport or other social activities.

Danish Health Authority guidance

The Danish Health Authority's guidance¹ emphasises that a person who is MRSA-positive, including LA-MRSA:

- Is entitled to the same health services as everyone else
- Is able to attend school and be in childcare. If a child has symptoms of serious illness such as sores or boils, the child should generally stay at home until he or she is better².

Illness, hospitalisation or surgery

If you contract an infection or need to be hospitalised, you must remember to tell your doctor (or dentist) that you work with pigs on a weekly basis. This also applies to other members of your household.

Informing the doctor in this way ensures that you can be given the right treatment in connection with an infection or prior to surgery. It may be a good idea to bring this information letter with you to your doctor/dentist.

¹ Guidance on preventing the spread of MRSA, 3rd edition. Danish Health Authority 2016

² Infectious diseases among children and young people. Guidance on preventive measures in childcare institutions, schools etc. Danish Health Authority 2013

If you are admitted to hospital, the staff will take various measures to prevent the spread of MRSA, for example they will wear hospital gowns and gloves, and you will be placed in a private room.

Treatment of LA-MRSA carriage

The guidance issued by the Danish Health Authority³ recommends that people carrying MRSA are treated with antibiotic nasal ointment, wash with an antibacterial soap and clean their homes in order to treat MRSA carriage. For persons who have weekly contact with pigs, it makes no sense to attempt treating MRSA carriage, as they are continually being exposed to the bacterium.

Examination, treatment and follow-up

- If you are shown to have LA-MRSA, everyone in your household will have swabs taken from their nose and throat.
- People who are in weekly contact with pigs only need treatment if they stop working with pigs. If there are special factors, for example a serious illness in your family, you should discuss this with your doctor.
- Members of your household who do not regularly enter the pig sheds but who are carriers of LA-MRSA are advised to undergo treatment to remove the bacterium because the risk of reinfection is very small; see Information on treatment of MRSA carriers.

Healthcare and nursing staff

Healthcare staff who carry LA-MRSA and who are in contact with patients must, as in the case of other MRSA variants:

- Receive one-to-one hygiene instruction from their local infection hygiene unit.
- Receive treatment and follow-up. If you continue to test positive for LA-MRSA, you need to contact your local infection hygiene unit with a view to an individual treatment and follow-up plan.

Healthcare staff who lives in a household where one person is an LA-MRSA carrier but who is him/herself MRSA-negative must be tested for MRSA every six months (as for other MRSA variants).

How is it possible to reduce the spread of LA-MRSA from pig sheds?

The recommendations are relevant for people who work on a weekly basis with pigs, and do not apply to people who only occasionally enter pigs housing units.

- People who work with pigs herds which have LA-MRSA should wash their hands regularly with water and soap or disinfect their hands with sanitiser which contains glycerol. Hand disinfection is faster and gentler for the hands, but your hands must NOT be wet or moist or visibly dirty, because the sanitiser is deactivated by damp and dirt. Dirty hands must first be washed with soap and water and dried before being rubbed with sanitiser.
- Soap (preferably liquid) and sanitiser containing glycerol must be available beside all washbasins.

³ Guidance on preventing the spread of MRSA, 3rd edition. Danish Health Authority 2016

- Towels must be made of paper, because textile towels provide optimum conditions for bacterial growth.
- At the end of the day's work, it is advisable to take a shower and change into clean clothes in a clean room. Remember to store the clean clothing so it is not contaminated with dust-borne MRSA.
- Workwear should be washed in the pig shed. If this is not possible, place it in a plastic bag and seal it. The person who washes the clothes should avoid stirring up the dust (i.e. the clothes should not be shaken) before placing them in the washing machine, and must take care that the workwear does not come into contact with their own clothing. Immediately after dealing with the dirty workwear, wash your hands with soap and water, or disinfect your hands with sanitiser which contains glycerol. Avoid taking things from the pig shed into your home, for example mobile phones etc.

For further information about requirements for protection against infection in pig herds, see [Order no. 33 of 11 January 2016 re health advisory agreements for pig herds.](#)

Visits to pig herds

Short/one-off visits to pig herds are not deemed to constitute a significant risk factor in relation to becoming an LA-MRSA carrier, as you very quickly and spontaneously lose the bacterium. Farms where the pigs have tested positive for LA-MRSA can thus be used for farm visits. However, the owner must demonstrate compliance with the Danish Veterinary and Food Administration's hygiene rules.

Further information

On the website of the Danish Health Authority, you can find more information as well as guidance from the Danish Health Authority on preventing the spread of MRSA, 3rd edition, 2016, see www.sst.dk.

More information is also available on the Statens Serum Institut website: www.ssi.dk and at the website of the Danish Veterinary and Food Administration: www.fvst.dk.