

Together with your treating physician we want to reduce and improve the consumption of antibiotics in Hesse, with the goal of reducing the number of antibiotic resistant pathogens.

We would be pleased if you would support us!

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Cooperation Partners:



## Antibiotics are important drugs that have saved many lives. We don't want this to change. Take part!

### Three things are to be kept in mind:

1. Antibiotics act on bacteria not viruses. This is why they should **only be used specifically for bacterial infections**.
2. Antibiotics are not selective in killing only the pathogenic bacteria causing disease. They always also kill bacteria in the gut, which are necessary for a functioning digestion. By altering the natural gut flora, **gastrointestinal disorders** may arise such as diarrhea, flatulence, nausea, loss of appetite and stomach pains.
3. Every use of antibiotics bears the risk, that bacteria may become resistant to them causing antibiotics to become ineffective. When bacteria have become resistant towards several antibiotics they are called multi-resistant pathogens.

**In order to maintain the effectiveness of antibiotics and avoid the development of resistances your doctor will specifically prescribe antibiotics only when necessary. Only together can we stop the advance of antibiotic-resistant pathogens. Take part!**

### What are multi-resistant pathogens?

Multi-resistant pathogens are bacteria, which have become resistant towards several antibiotics. The best known multi-resistant pathogens are **MRSA** (methicillin-resistant Staphylococcus aureus), **ESBL** (enterobacteria with extended resistance against  $\beta$ -lactam antibiotics), **MRGN** (multi-resistant gram-negative bacteria), **VRE** (vancomycin-resistant enterococci).

All these bacteria can colonize people unnoticed. MRSA are usually found on the mucous membranes of the nose or throat; the other multi-resistant bacteria mostly colonize the gut. Mere colonization is not dangerous for healthy people outside of the hospital. In everyday domestic life it is important to maintain good personal hygiene. In particular regular handwashing before eating food and after using the toilet is essential. Under these circumstances normal social contacts can take place.

It may be dangerous if bacteria from the skin or the gut come into contact with wounds from where they may come into contact with the blood system and cause disease. The treatment of such diseases may be difficult, because many antibiotics will not be effective.

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**Less is more**  
Only few runny noses  
need an antibiotic

*Take part!*



Have you become curious?

Your doctor will be happy to inform you and you may also find further information here:

[www.mre-rhein-main.de](http://www.mre-rhein-main.de) [www.mre-netzwerk-mittelhessen.de](http://www.mre-netzwerk-mittelhessen.de) [www.mre-netzwerk-suedhessen.de](http://www.mre-netzwerk-suedhessen.de) [www.mre-nord-ost-hessen.de](http://www.mre-nord-ost-hessen.de)



# What are respiratory diseases and what causes them?

## Acute rhinosinusitis and paranasal sinusitis

- pain in the upper jaw and forehead area
- facial pain or pressure of a dull, constant, or aching sort (Sensation of congestion in the face)
- nasal congestion and reduced sense of smell

## Rhinitis

- sudden sneezing fits
- itching, running nose and reduced sense of smell
- swollen nasal mucosa

## Inflammation of the middle ear (Otitis media)

- sudden and intense earaches
- hearing impairment
- malaise

## Pharyngitis und tonsillopharyngitis

- sore throat and painful swallowing
- reddened pharyngeal mucosa, swollen tonsils
- fever

## Laryngitis

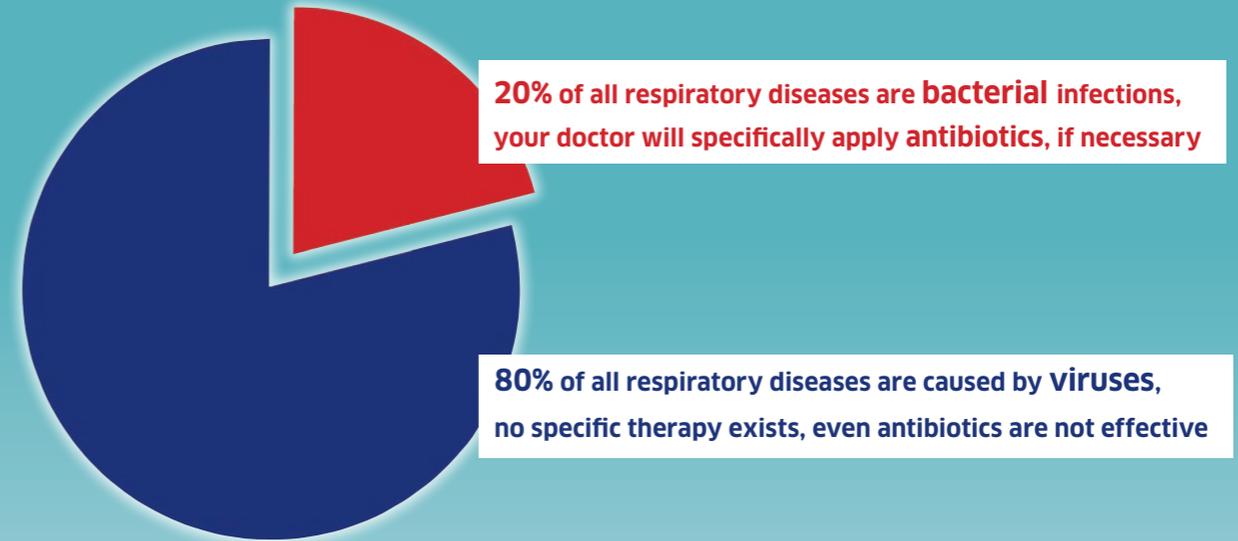
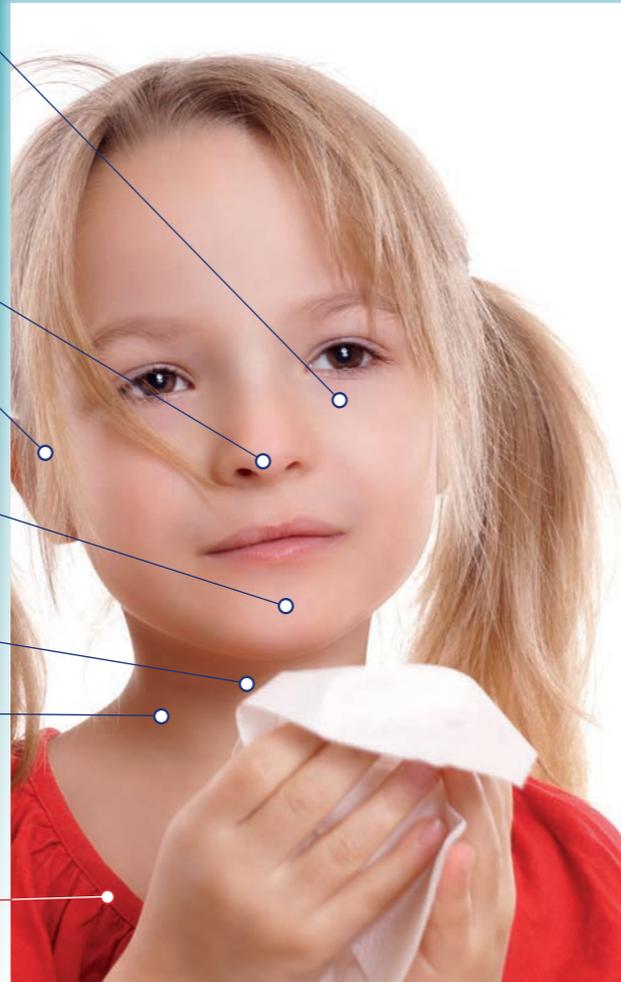
- hoarseness up to loss of voice
- dry cough

## Akute Bronchitis

- dry, often painful cough
- accompanying symptoms such as runny nose, hoarseness, headache and fever

## Pneumonia

- sudden onset of labored and rapid breathing
- coughing and fever
- fatigue, dizziness, increased pulse rate
- vomiting and chest pain



## What you can do, to relieve your symptoms of a cold or flu:



**Rest and take care of yourself.** This helps your immune system, to eliminate the pathogens quickly and effectively.



**Drink plenty of liquids!** It is important to drink sufficient amounts of liquids, because this supports the drainage of secretions from the inflamed respiratory tract. In case of fever it is particularly important to pay attention to an adequate fluid uptake, since the body dehydrates quickly due to sweating and accelerated respiration.



**Expectorants** Though the therapeutic effect of expectorants lacks clear scientific evidence, many patients with acute bronchitis report to feel better when taking expectorants. However, expectorants can only work, if one drinks sufficient amounts of liquids. By no means should expectorants be combined with cough suppressants.



**Decongestant nasal sprays** can provide quick relief for a blocked nose. They are particularly useful at night, since free nasal breathing enables a restful sleep. However, they should not be used for more than 5 to 7 consecutive days, because otherwise a rebound effect may lead to a permanently blocked nose.



**Steam inhalation** with water vapor with optional addition of chamomile or essential oils such as eucalyptus oil and chest rubs with essential oils are perceived by many patients as pleasant.



**Pain relievers** can reduce fever and resolve head-, limb- and throat pain for a couple of hours (Caution: no aspirin for children and teenagers).