

# VACCINATING AGAINST WELDING FUMES? HOW WELDERS PREVENT AN INCREASED RISK OF PNEUMONIA

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**Welders are exposed to a greater risk of contracting pneumococcal infections. The Standing Vaccination Committee of the Robert Koch Institute therefore advises vaccination against pneumococcae. According to researchers, this prevents weakening of the immune system and its potential consequences, including severe lung damage. In 2019, the legislators published an occupational health regulation on the subject. But despite effective vaccination, the researchers themselves say protective welding equipment measures such as welding fume extraction have priority.**

Nowadays, no-one disputes that welding fume endangers the health of workers in metal processing companies. Depending on the materials or additives to be processed, fumes and gases are produced with lung-damaging, toxic or even carcinogenic effects on the human body. This is one of the reasons why the World Health Organisation (WHO) classifies welding fumes as carcinogenic. Today, in conjunction with room ventilation systems, welding fume extraction systems are the measure of all things in order to protect employees. But can a vaccination of the welders also help the immune system? Respected institutes say yes!

## **Pneumococcal infections are favoured by the effect of welding fumes**

The key word is pneumococcus: Relevant human studies show an increased risk of infection in welders. Pneumococcae are bacteria that are the most common cause of severe bacterial infections. They can lead to serious illnesses, including:

- Inflammation of the middle ear
- Pneumonia
- Meningitis

To date, millions of people around the world die from pneumococcal infections but is the risk for welders higher? In fact, the studies indicate that pre-existing respiratory or immune system conditions, tobacco smoke and old age can all contribute to pneumococcal infection. Nevertheless, regarding the risk to welders, not only do they assume a greater risk of illness but also an increased danger of mortality for welders through pneumococcal infections.

## **The first priority is protective welding equipment measures against welding fumes**

First of all, the research institutes make it unequivocally clear: Vaccination does not release employers from



their obligation regarding other protective welding equipment. Effective welding fume extraction contributes significantly to a reduced risk of pneumonia for welders because it combats the cause of the immunodeficiency, i.e. the welding fume exposure. This also avoids the possible side effects of vaccination. The priority for welders is source extraction, so that the hazardous substances cannot spread into the general ventilation system in the first place.



The [Health and Safety Executive \(HSE\) in Great Britain](#) describes it even more precisely: Vaccinations are only necessary for high-risk groups of welders. This is the case, for example, if effective welding fume extraction is not available at all or is insufficient.

By the way, there's an all-clear after working as a welder and the associated risk of being exposed to hazardous substances in the welding fumes. After that, the risk of contracting pneumococcae drops to the level of the normal population.

## Respected institutes recommend vaccination against pneumococcae

If protective welding equipment in the form of welding fume extraction and general ventilation systems is not sufficient, respected institutes recommend vaccination against welding fumes. Since 2016, the [Standing Vaccination Committee \(STIKO\) of the Robert Koch Institute](#) – the leading body in Germany – has been advising that "persons with occupational activities such as welding and separating metals that lead to exposure to metal fumes, including metal oxide welding fumes" should be vaccinated.

Since 2014, the UK's Health & Safety Executive (HSE) has recommended vaccination for welders and other metalworkers. [To this end, it provides employers with information on how they can protect their employees on a voluntary basis.](#)

