

## Infection Risks through Tattooing

BfR Opinion No. 017/2014 of 1 February 2014

Tattoos are a growing trend. It is estimated that between 10 and 25 % of people in the western, industrialised countries have at least one tattoo. Tattoos involve health risks. The undesired side-effects consist of non-infectious and infectious reactions. With the growing number of tattooings, the side-effects could become an increasing problem. It is therefore necessary to assess the risks of tattooing more thoroughly. In BfR Opinion No. 013/2013 of 28 August 2013, the Federal Institute for Risk Assessment presented risk assessment criteria for the assessment of the safety of tattooing agents which focused mainly on the non-infectious risks. In this opinion, the BfR outlines the infection risks involved in tattooing.

The most common non-infectious reaction is intolerance (allergy) to one of the applied pigments or the heavy metals contained in them, such as chromium or nickel. Moreover, it can be assumed that significant quantities of the dyes do not remain stable in the tattoo and that they are decomposed in the skin and migrate to other regions of the body where undesired effects can develop. Hardly any findings are available to date on the long-term health effects of these processes.

During tattooing, colour pigments are inserted into the skin with needles, thus causing multiple puncture wounds. These are the entry portals for germs which can lead to infectious reactions. The wound itself can become infected or the body can be systematically infected as germs can enter the bloodstream. Pathogens can enter the wound via non-sterile equipment, from the skin of the person receiving or applying the tattoo or from contaminated tattooing agents.

Persons with immune deficiencies have an increased risk of infection or delayed wound healing. In the view of the BfR, people under antibiotic or immunosuppressive therapy or with other risk factors, as well as persons with heart disease, diabetes or blood clotting disorders, should either refrain completely from tattooing or seek medical advice before doing so. This also applies to expectant mothers.

To avoid infections, knowledge of and strict compliance with hygiene rules is important. This applies not only to the tattooing process itself but also to the type and handling of the tattooing agents and the after-treatment of the wounds. Professional tattoo artists in Germany have formed umbrella organisations and orientate themselves on their guidelines concerning hygiene requirements during tattooing.

The full version of this BfR Information is available in German on <http://www.bfr.bund.de/cm/343/infektionsrisiken-durch-taetowierungen.pdf>