

Working outdoors – Protecting employees from UV radiation

29 baua: Facts

Overall, about 290,000 people in Germany get skin cancer every year. The most common cause of skin cancer is UV radiation from the sun. Working outdoors can expose workers to increased UV radiation and thus increase the risk of skin cancer. Which groups of people and occupations work outdoors particularly often? In addition, are they educated on the dangers of UV radiation regularly, as required for skin cancer prevention? The BIBB/BAuA Employment Survey 2018 was the first to collect data on these questions.

Introduction

In recent decades, the incidence of white skin cancer has increased steadily, with experts assuming that this trend will continue, given demographic developments and increasing UV exposure. Squamous cell carcinoma and actinic keratose are examples of tumours caused by solar radiation. Since January 2015, these two forms of white skin cancer have been among the recognized occupational diseases. This brings back into focus the need for strategies to effectively protect workers who work outdoors. In the BIBB/BAuA Employment Survey 2018, participants were asked whether they spend more than half of their working hours outdoors. If they answered yes to this question, they were also asked whether they are regularly informed about the dangers of solar radiation

Most affected: Building and gardening professions

The analysis of the data (N = 14,637) shows that a total of 14% of full-time employees in Germany work predominantly outdoors. The majority of these persons are men (87%) and persons with industrial vocational training (70%) who are predominantly involved in specialist activities (74%). One of the reasons why men are particularly affected is that they are more likely to work in professions that involve working outdoors. Based on selected occupations, figure 1 shows the groups of people especially likely to work outdoors: First in line are occupations in building construction above and below ground (total: 91%, men: 98%), followed by occupations in gardening and floristry (total: 85%, men: 90%) and in agriculture, forestry, and farming (total: 81%, men: 84%). By comparison, around 40% of employees working in interior construction, in building services engineering and technical building services, as well as drivers and operators of vehicles and transport equipment perform frequent outdoor work.

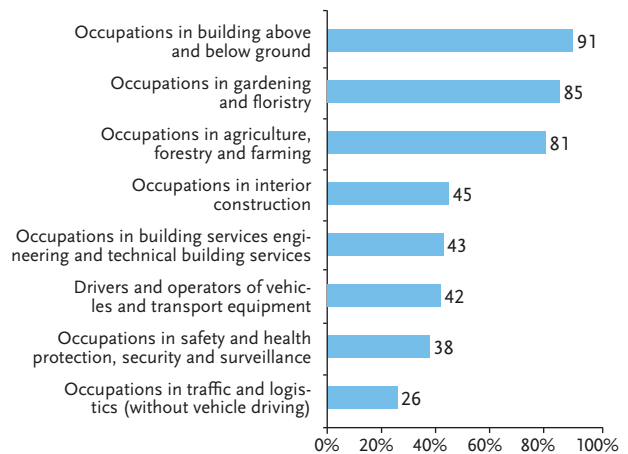


Fig. 1 Percentage of employees who spend at least half of their working hours outdoors, by selected occupations

Further stressors when working outdoors

Employees working predominantly outdoors are not only exposed to solar radiation. Figure 2 clearly shows that they are much more likely to be affected by other harmful environmental influences. More than two-thirds (69%) report frequently working in conditions of cold, heat, moisture, humidity, or draughts. Likewise, 43% frequently work with oil, grease, dirt, or grime; another 27% are exposed to smoky or dusty conditions or gases and vapours. Handling microorganisms is the only condition for which there is only a minor difference between those working mainly outdoors and other employees. Both solar radiation and the other environmental influences mentioned earlier may irritate the skin. 16% of workers who work mainly outdoors report skin irritation. Among the other workers, skin irritation occurs in 11% of cases. Further analyses show that this difference remains stable, regardless of the occurrence of other environment-related working conditions.

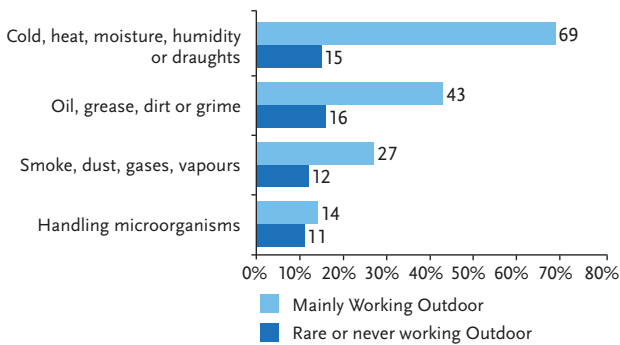


Fig. 2 Environment-related working conditions for workers who work mainly outdoors in comparison to workers rarely or never working outdoors, in %

Not all workers are educated regularly

Of the employees working outdoors, slightly more than one-third (39 %) receive regular instruction about the risks posed by sunlight. Moreover, not all those affected receive regular instruction in the same way. Education on the risks of UV radiation is provided more frequently to male employees, to employees working in building construction above and below ground, to employees in larger companies, and to employees in companies where there is a works or staff council and where health promotion measures have been carried out in the last two years (Figure 3). Age did not matter in terms of receiving regular instruction.

Conclusion

There are certain occupations in which workers are more likely to be exposed to UV radiation of the sun and therefore have a higher risk of skin cancer. These include, above all, occupations in building construction above and below ground as well as in gardening and floristry. Not all of those who are affected are also educated on a regular basis on the dangers of solar radiation. As a consequence, gaps in prevention continue to exist. Regular training, appropriate protective measures, and appropriate behaviour can help to maintain the health of employees.

Sunscreens, headgear and awnings, for example, help to reduce UV exposure during outdoor work.

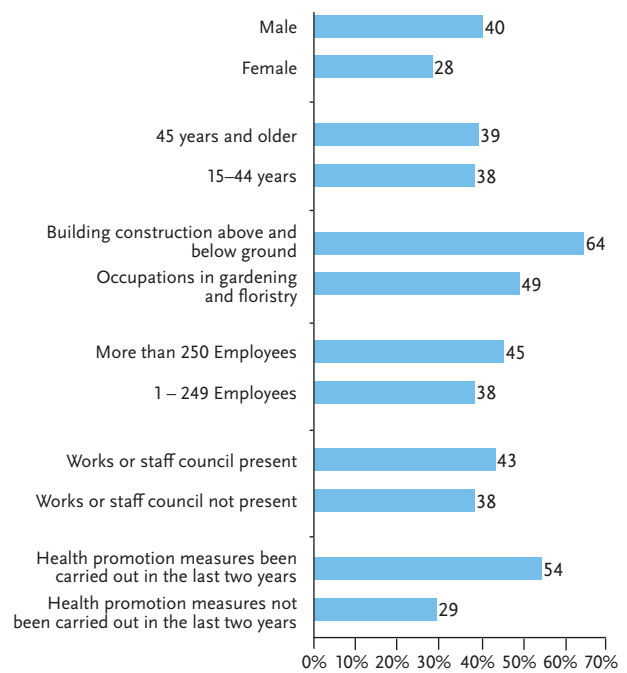


Fig. 3 Regular instruction about the risks posed by sunlight according to individual and operational characteristics, in %

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Further Information

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- 3 Schmitt, A. Seidler, T. L. Diepgen, A. Bauer, 2011. Occupational ultraviolet light exposure increases the risk for the development of cutaneous squamous cell carcinoma: a systematic review and meta-analysis. *British Journal of Dermatology* 164: S. 291 – 307