

April 11, 2021

Open letter

To

The Federal Chancellor of the Federal Republic of Germany, Dr. Angela Merkel
The Prime Ministers of the Federal States
The Federal Minister of Health Jens Spahn
The Health Ministers of the Federal States

Contagion risks from an aerosol scientific perspective

Dear Federal Chancellor Dr. Merkel, dear Federal Minister Spahn, dear Prime Minister, dear ladies and gentlemen, the corona pandemic does not let go of us even after more than twelve months. It has become a heavy burden for citizens. Their emotional state fluctuates between hope and despair, as everyone knows from their personal environment. Science gives hope: From aerosol research, diverse findings on the transmission of SARS-CoV-2 viruses by air have been published, summarized and processed in a position paper published by the Society for Aerosol Research (GAeF, see Appendix) in winter 2020. Unfortunately, the essential findings of our research work have not yet been translated into practical action. Instead, more symbolic measures such as the requirement to wear a mask when jogging are issued, which do not have any noticeable impact on the infection process.

Their central component is now consensus in science: The transmission of the SARS-CoV-2 viruses takes place almost without exception indoors. Outdoor transmissions are extremely rare and never lead to 'cluster infections' as seen indoors. These group infections preferably include old people's homes, residential homes, schools, events, choir rehearsals or bus trips.

As aerosol researchers, however, we had to experience that the public debate still does not reflect the state of scientific knowledge. Many citizens therefore have wrong ideas about the potential for contagion associated with the virus. "It's dangerous outside", so their impression not least from the reporting on the measures taken by politicians to combat pandemics. Meetings in parks are forbidden, the banks of the Rhine and Main are closed, inner cities and excursion destinations are cordoned off from the public. The curfews currently under discussion must also be included in this list of misleading communications. We share the goal of reducing problematic indoor contacts, but curfews promise more than they can deliver. This does not prevent secret meetings indoors, but only increases the motivation to evade government regulations even further. The reduction of problematic contact indoors is therefore only possible with convincing arguments for successful self-protection.

If we want to get the pandemic under control, we need to make people aware that **the danger is indoors**. Measures must be taken in homes, offices, classrooms, residential complexes and care facilities. The ongoing debates about walks on river promenades, time in beer gardens, jogging or cycling have long proven counterproductive. Paradoxically, when our citizens are shown that all forms of human contact are dangerous, we aggravate the pandemic fatigue that is evident everywhere. As is well known, nothing troubles us humans more than a permanent alarm condition.

We must therefore take care of the places where the most infections occur - and not waste our limited resources on the few per thousand infections outdoors. The clever coordination

April 11, 2021

of measures can effectively reduce transfers. These are understandable even without scientific training: They are our golden rules for avoiding infection.

- 1.) Infections take place indoors so that as few people as possible outside of their household shall meet there. You must also be aware that an infection occurs indoors, even if you are not meeting someone directly, but an infectious person has previously been in a poorly ventilated room!
- 2.) You should keep the times of the meetings and the times indoors as short as possible.
- 3.) You should use frequent push or cross ventilation conditions such as in the open air.
- 4.) The wearing of effective masks is necessary inside the pedestrian zone. Wearing a mask in the pedestrian zone and then having a coffee table in your own living room without a mask is not what we as experts understand by infection prevention. It should be noted that the tight fit of the mask is at least as important for its effectiveness as the separation performance of the material.
- 5.) Room air purifiers and filters should be installed wherever people spend a long time in must stay in closed rooms (dormitories, schools, old people's and nursing homes, care facilities, offices and other workplaces).
- 6.) In large halls and rooms, the risk of infection is much lower than in small meeting rooms. So if you want to host theater, concerts and church services again, this should take place in large, well-ventilated halls or, if possible, go outside.

The combination of these measures leads to success. If this is communicated appropriately, people will regain some of their freedom of movement during this difficult time. Those who meet for coffee in the pedestrian zone do not have to invite anyone into their living room. Compliance with the well-known hygiene rules can be expected there, but not at home.

With best regards

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Appendix: Link to the position paper GAeF:

https://ae00780f-bbdd-47b2-aa10-e1dc2cdeb6dd.filesusr.com/ugd/fab12b_0b691414cfb344fe96d4b44e6f44a5ab.pdf