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TEST REPORT Evaluation of the new Dyson hand dryer with integrated tap and dryer

Test question

Does the replacement of air generated during hand drying above potentially contaminated washbasins promote the dissemination of germs in the local environment?

Test set-up

See the diagram below for an explanation of the test set-up (washbasin viewed from above):

The two air samplers (Mas-Eco 100®) were installed on either side of the washbasin. Two TSA settle plates were fixed on the inner sides of the washbasin using tape.

First it was determined how long it takes to dry hands with a paper towel. It takes approximately 30 seconds to do so.

Measuring the germ count in motionless air: Without any drying of hands or performing any other action, the air samplers were switched on and switched off again after 30 seconds. The settle plates on either side of the washbasin were likewise opened for 30 seconds. The 30-second period was chosen because it takes approximately 30 seconds to dry hands.

Next, two separate procedures were tested:

- Procedure with a paper towel

The hands were washed and dried using a paper towel. The air samplers were switched on just before the washing of hands and switched off just after the hands were completely dry again. The settle plates were likewise opened just before the washing of hands and closed after the hands were completely dry again.

- Procedure with the Dyson hand dryer

The hands were washed and then dried using the Dyson hand dryer. As in the procedure with the paper towel, the air samplers were switched on just before the washing of hands and switched off after the Dyson hand dryer had blown the hands completely dry. The same applies to the settle plates. This test was repeated three times.

After a 48-hour incubation period, the number of CFUs per TSA settle plate was counted.

Results

	Left	Right Number of CFU/m ³
Basic - Mass (number of CFU/m ³) - Settle plates (number of CFU/TSA plate)	18 0	14 0
Washing and drying of hands with a paper towel - Mass (number of CFU/m ³) - Settle plates (number of CFU/TSA plate)	20 0	46 0
Washing and drying of hands with the Dyson hand dryer - Mass (number of CFU/m ³) - Settle plates (number of CFU/TSA plate)	12 – 20 – 10 2 – 3 – 3	46 – 28 – 12 1 -3 -10

Conclusion

Microbiologically, no change in air quality could be demonstrated in the immediate vicinity of the Dyson hand dryer with integrated tap.

The water drops splashing from the washbasin were documented microbiologically by the germs settling on the settle plates.

The most serious concern is the enormous replacement of air caused by the Dyson hand dryer. This was documented in a video (see separate document).

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