



Consensus of a Panel of Experts finds towels the most hygienic way to dry hands

Cleaning and facilities management sector should provide towels in washrooms to offer staff and clients optimal protection from infection say Panel of European scientists

Brussels (Belgium), 18 November 2013 - Leading European microbiologists and hospital hygienists * have produced a consensus statement upholding evidence that hand drying using towels is associated with lower numbers of microbes on the hands and in the washroom environment than using warm air dryers or high velocity air dryers. The consensus statement provides sound advice for those offering services to offices, manufacturing plants and all workplaces to provide clients with a washroom environment that upholds the highest standards of hygiene.

The six experts, working in hospitals and universities in Belgium, Germany, Italy, Sweden and the UK have endorsed an eight-point consensus - *Hand drying: an important part of hand hygiene*. It highlights the importance of hand drying, following thorough hand washing and notes that high velocity air dryers blow water containing microbes off the hands which can contaminate others in the washroom environment.

The six scientists examined a wide selection of scientific literature and also the studies sponsored by the European Tissue Symposium in particular those undertaken by Eurofins-Inlab in Germany and the University of Westminster in the UK.**

“From the results we have examined, it appears that there may be a greater risk of exposure to microbes associated with some types of hand driers. There was an increased level of microbial contamination on and beneath air driers, particularly jet air driers. These findings have implications for the prevention of spread of microbes and infections and could result in reduced illness and time off sick and so ultimately provide economic benefit too,” said Marc Van Ranst, professor in virology and chairman of the Department of Microbiology and Immunology at the University of Leuven in Belgium, and one of the endorsers of the consensus statement. “We urge that they be explored further by companies, cleaning and facilities’ managers and beyond.”

Hand hygiene is recognised as the most important standard measure to prevent cross contamination or transmission of nosocomial hospital acquired infections. The World Health Organisation (WHO) recommends the use of single use towels in its poster on hand washing. The consensus statement will hopefully prompt further research and steer policy guidance in all workplace washrooms – particularly those where workers are involved in the preparation of food.

“Tissue paper absorbs water and microorganisms,” said Roberto Berardi, chairman of the European Tissue Symposium. “It is crucial that washrooms offer a method of hand drying that minimises the risk of re-contaminating the hands and blowing microbes onto yourself, others or surfaces around you,” concluded Roberto Berardi, chairman of the European

Tissue Symposium. "This scientific consensus is an important step in supporting our efforts to promote single use towels as the most hygienic hand-drying solution."

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Keith Redway, Senior academic in microbiology, department of biomedical sciences, University of Westminster, UK
Prof. dr. Marc Van Ranst, Professor of Virology and chairman of the Department of Microbiology and Immunology at the University of Leuven in Belgium
Professor Mark Wilcox, MD, Consultant microbiologist, Leeds Teaching hospitals, UK and Professor of Medical Microbiology at the University of Leeds (Leeds Institute of Molecular Medicine), and is the Lead on *Clostridium difficile* for Public Health England (PHE).

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<http://www.europeantissue.com/hygiene/scientific-literature-on-hygienic-hand-drying/>

Full consensus statement

Hand drying: an important part of hand hygiene - Conclusions reached by a panel of European scientists from panel meeting held 20 March 2013

- **The importance of hand washing** to prevent spread of infection is widely accepted by scientists. However, hand drying has received much less attention.
- **Some microbes remain** on the hands after washing, and these are more easily spread around if hands are not dried adequately.
- **Proper hand drying** completes the hand washing process by reducing the risk of transmission of microbes.
- **Generally available hand drying methods** in public washrooms are based on either water absorption (single use paper and textile towels) or water dispersal by several ways (warm air dryers, high velocity air dryers).
- **There is evidence** that hand drying using towels is associated with lower numbers of microbes both on the hands and in the washroom environment than using warm air dryers or high velocity air dryers.
- **Warm air dryers** are **less efficient** than other methods at drying the hands. Damp hands are more likely to transfer microbes.
- **High velocity air dryers** are particularly **likely to spread microbes** because they blow water that contains microbes off the hands. These microbes **could contaminate** the user, other persons and the washroom environment.
- These points have **implications** for the **prevention of spread of microbes** and potential infection, especially in settings where hygiene is very important. Therefore, the **choice of hand drying methods** should take into account the risk of contaminating the hands, other individuals or the environment

Notes to Editors

The Scientific consensus statement was reached based on research commissioned by ETS from the [University of Westminster](#), UK on microbiological counts on hands, and from [Eurofins-Inlab](#), Germany on microbiological counts on drying devices and floors. Key findings are:

Microbiological counts on hands:

- After washing and drying hands with the warm air dryer the total number of bacteria was found to increase on average on the finger pad by 194% and on the palms by 254%.
- Drying with the jet air dryer resulted in an increase on average of the total number of bacteria on the finger pads by 42% and on the palms by 15%.
- After washing and drying hands with a paper towel the total number of bacteria was reduced on average on the finger pads by up to 76% and on the palms by up to 77%.

Microbiological counts on the hand-drying devices:

- On average, a user of a jet air drier is likely to be exposed to over 1000 times more microorganisms than the user of a paper hand towel dispenser.
- On average the user of a jet air drier is likely to be exposed to around 800 times more potentially harmful Staphylococci than the user of a paper hand towel dispenser.
- More than half of the jet air driers were contaminated by coliforms, whereas none were found on the paper hand towel dispensers.

Microbiological counts on floors:

- The floors under jet air driers had on average 20 times greater levels of contamination when compared with the floors under paper hand towel dispensers.
- The floors under jet air driers had on average 27 times greater levels of Staphylococci when compared with the floors under paper hand towel dispensers.
- Coliforms (a class of bacteria present in faeces) were detected in 46% of the samples taken from the floors below jet air driers, whereas only 10% of the samples under the paper hand towel dispensers contained coliforms.
- The jet air dryer, which blows air out of the unit at claimed speeds of 430mph (692kmph), was capable of blowing micro-organisms from the hands and the unit an potentially contaminating other washroom users and the washroom environment up to 2 metres away. Use of a warm air dryer spread micro-organisms up to 0.25 metres from the dryer. Towels showed no significant spread of micro-organisms.

About ETS

ETS is the European Tissue Paper Industry Association. The members of ETS represent the majority of tissue paper producers throughout Europe and around 90% of the total European tissue production. ETS was founded in 1971 and is based in Brussels. For more information: www.europeantissue.com

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