EUROPEAN TISSUE SYMPOSIUM

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Press Release

Amsterdam - April 26, 2010

Research supports strong health profile of paper towels

If you want to preserve the highest hygienic standards, it is not enough to wash your hands well; equally important is how you dry them. Are paper towels your best choice? A Westminster University study shows that using hot-air hand dryers increases the average number of bacteria on the hands, which may have negative consequences. The study discovered that the average number of bacteria decreased by more than a half when using paper towels for drying hands while when using hot air, the bacterial numbers can increase up to 2.5 times compared to the level observed directly before washing and drying.

The University of Westminster studied the effects of hand drying with hot-air dryers, jet air dryers and paper towels. When using a jet air dryer, where the hands are completely inserted into the machine, the average numbers of bacteria on the finger pads and palms increased: 42% on fingers and 15% on hand palms. The standard warm-air dryer produced even greater increases: the average numbers of bacteria increased by 194% on finger pads and by 254% on the palms. Conversely, it was shown that drying the hands with paper towels reduced the average numbers of bacteria on finger pads and palms by up to 76% and 77% respectively.

Spreading

According to the researchers, drying hands with paper towels is a more hygienic option than air dryers, both for the person washing his/her hands and for the immediate surroundings. The movement of air actually induces the spread of bacteria throughout the public washroom.

The powerful cold air stream from the jet air dryer is capable of blowing microbes on the hands into the washroom area up to a distance of two metres.

Paper towels remove the bacteria from the hands, contain them and send them off into the bin.

Recommendation
The findings of the research suggest that the use of paper towels is the preferred option in public areas where hygiene standards are of vital importance. Facilities that come under this consideration are schools, hospitals, nursing homes and buildings in which food is prepared.

Note for the editors:
'A comparative study of three different hand drying methods: paper towel, warm air dryer, jet air dryer' was conducted by Keith Redway and Shameem Fawdar of the School of Life Sciences, University of Westminster, London towards the end of 2008. The independent research was commissioned by the European Tissue Symposium (ETS), a trade body representing 90% of Europe's tissue industry.
For the part of the experiment concerning bacteria on the hands, researchers counted the total numbers of bacteria on both finger pads and palms. They also tested specifically for staphylococci (bacteria typically found on skin, hair and in the nose) and for coliforms, which are faecal or gut bacteria. Following a visit to a public washroom, test subjects were asked to press their finger pads directly onto the surface of various types of agar plates before and after washing with soap and water and drying. Metal formers and swabs were used to sample bacteria from the palms of the hands before and after washing with soap and water and drying. The bacteria were then transferred to agar plates, allowed to grow and the resulting colonies counted.
To establish whether there was any potential for contamination of users and the washroom environment caused by each type of drying method, a model micro-organism (yeast) was used to artificially contaminate the hands of volunteers before they used the different methods of drying. Yeast was used as this would accurately represent the transmission of the harmful bacteria often present on hands without the risk of harming the volunteers.

Full details of the study and also a summary can be viewed on the ETS web page at:

www.europeantissue.com/facts-studies/research/hygiene

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