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For immediate release

Is hand washing enough to stop the spread of disease? *Published in Journal of Applied Microbiology*

Not drying your hands thoroughly after washing them, could increase the spread of bacteria and rubbing your hands whilst using a conventional electric hand dryer could be a contributing factor. Frequently people give up drying their hands and wipe them on their clothes instead, but hand-hygiene is a key part of infection control and drying hands after washing is a very important part of the process.

A study by researchers at the University of Bradford and published today in the Journal of Applied Microbiology looked at different methods of hand drying, and their effect on transfer of bacteria from the hands to other surfaces. The different methods included paper towels, traditional hand dryers, which rely on evaporation, and a new model of hand dryer, which rapidly strips water off the hands using high velocity air jets.

Our bodies naturally have bacteria called commensals all over them. However, bacteria from other sources, such as raw meat, can also survive on hands, and can be easily transferred to other surfaces, increasing the risk of cross-contamination. When hands are washed the number of bacteria on the surface of the skin decreases, but they are not necessarily eliminated. If the hands are still damp then these bacteria are more readily transferred to other surfaces.

In this study the researchers quantified the effects of hand drying by measuring the number of bacteria on different parts of the hands before and after different drying methods. Volunteers were asked to wash their hands and place them onto contact plates which were then incubated to measure bacterial growth. The volunteers were then asked to dry their hands using either hand towels or one of three hand dryers, with or without rubbing their hands together, and levels of bacteria were re-measured.

Dr Snelling and her team found that rubbing the hands together whilst using traditional hand dryers could counteract the reduction in bacterial numbers following handwashing. Furthermore, they found that the relative reduction in the number of bacteria was the same, regardless of the hand dryer used, when hands are kept still. When hands are rubbed together during drying, bacteria that live within the skin can be brought to the surface and transferred to other surfaces, along with surface bacteria that were not removed by handwashing. The researchers found the most effective way of keeping bacterial counts low, when drying hands, was using paper towels. Amongst the electric dryers, the model that rapidly stripped the moisture off the hands was best for reducing transfer of bacteria to other surfaces.

Dr Snelling says: *“Good hand hygiene should include drying hands thoroughly and not just washing. The most hygienic method of drying hands is using paper towels or using a hand dryer which doesn’t require rubbing your hands together.”*

Notes to Editors:

1. The article referred to is: Snelling, A.M., Saville, T., Stevens, D. and Beggs, C.B. (2010) Comparative evaluation of the hygienic efficacy of an ultra-rapid hand dryer vs conventional warm air hand dryers. *Journal of Applied Microbiology*, doi: 10.1111/j.1365-2672.2010.04838.x

2. The full article is freely available to download online:
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2672.2010.04838.x/full>

3. To arrange an interview with the authors, please contact Dr Lucy Harper, Communications Manager, at the Society for Applied Microbiology [Office: +44(0)1234 326661; Mobile 07920 264596; email: lucy@sfam.org.uk] or Clare Doggett, Communications Officer [Mobile: 07807 267101 email clare@sfam.org.uk]

4. *Journal of Applied Microbiology* publishes high quality research and review papers on novel aspects of applied microbiology; including environmental, food, agricultural, medical, pharmaceutical, veterinary, taxonomy, soil, systematics, water and biodeterioration. Papers reporting work on all microorganisms, including viruses, are welcomed providing they demonstrate new findings of significance to the field as a whole. The journal is published by Wiley-Blackwell on behalf of the Society for Applied Microbiology..

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