

## Hand Drying and Hygiene in the Health Care Setting

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Health care-associated infection (HCAI) is a major problem for patient recovery and continued health and safety. According to the World Health Organization report, the overall prevalence of HCAI in developed countries varies between 5.1% to 11.6% and approximately the same proportion of hospitalised patients acquire at least one HCAI from their stay in hospital. The burden of HCAI in developing countries is much more severe. The impact of HCAI implies increased length of hospital stay, high costs for patients and their families, additional financial burden for health care systems, more serious illness and excess deaths.

Hands are the most common vehicle to transmit health care-associated pathogens. Hand hygiene has been identified as the single most important way to prevent HCAI and limit the spread of antimicrobial resistance. With good attention to hand hygiene, lower incidence of HCAI has been well documented in medical literature. The transmission of bacteria and other micro-organisms is more likely to occur from wet skin than from dry skin. Careful hand drying is a critical factor determining the level of touch-contact-associated bacterial transfer following hand washing. Hence, the proper drying of hands should be an integral component of effective hand hygiene procedures in health care settings.

Cloth towel, paper towel and electric air hand dryer are commonly used to dry washed hands. Although there is wide consensus that hand drying is an essential part of hand hygiene process, there is much less consensus regarding the most effective method of hand drying in terms of hand hygiene in health care settings.

Generally, cloth towels are not recommended for use because of the evidence that micro-organisms are less effectively removed. There is also the risk of cross-contamination. In addition, there appears to be little agreement regarding the relative effectiveness of air hand dryers. Some studies suggest that air hand dryers are of inferior effectiveness when it comes to the issue of hygiene, while others show they are a safe and effective means of hand drying. Therefore, until conclusive evidence in support of air hand dryers is available, their use in critical care settings cannot be recommended because their hygiene efficiency is questionable and such dryer is relative slow and noisy.

Most research indicates that paper towels can dry hands efficiently, remove bacteria effectively, and cause less contamination of other users and the washroom environment. From a hygiene viewpoint paper towels are considered superior to other hand drying methods. Thus, paper towels should be recommended in locations where hygiene is paramount, such as hospitals, clinics and other health care institutions. However, the choice of paper towels and the maintenance of a clean environment around towels are essential for hand drying. Poor quality paper towels may damage skin by abrasion and ineffective drying. Good quality, soft and absorbent paper towels are more acceptable to users and may contribute to compliance with hand hygiene recommendations in health care settings. Paper towel dispenser is also important and this may include the choice of dispenser allowing ease of delivery, correct use of the dispenser, site of dispenser in relation to sinks and splash zones.

So far, there is no clear victor in this debate. However, from a hygiene standpoint paper towels are generally considered superior to electric air hand dryers. It is difficult to draw a conclusion now, and more extensive literature review of research regarding the hygiene, safety and environmental impacts of different hand drying methods is indicated.