A Collaborative Initiative to Improve Radiographers' Hand-hygiene Compliance during Portable X-Ray in Queen Elizabeth Hospital

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Introduction
Portable X-ray is a potential source of infectious disease transmission. Radiographers play an important role in preventing disease transmission by practicing good hand-hygiene.

Objectives
To improve radiographers' hand-hygiene compliance when performing portable X-ray.

Methodology
Collaborative meetings between the Department of Radiology & Imaging and the Infection Control Team were conducted in crafting a practical, efficient and effective hand-hygiene routine.

Result
Three approaches were launched in May 2014 in Queen Elizabeth Hospital to improve the hand-hygiene compliance by radiographers when performing portable X-ray: 1) Refining the hand-hygiene protocol: The preexisting protocol included 4 hand-washing steps for each patient – [1] before establishing contact, [2] after cassette insertion, [3] before cassette removal and [4] before attending the next patient. The WHO recommendations for hand-hygiene duration are 40-60 seconds with soap and water, or 20-30 seconds with alcohol-rub. A radiographer attends to up to 50 patients per shift. In this high-volume setting, these time-consuming steps could reduce efficiency and discourage full compliance. The number of steps is reduced under the new streamlined routine, while similarly effective sterilization is maintained. Hand-hygiene is performed at 2 instances per patient – [1] before establishing contact and [2] before attending the next patient. The 'high touch' areas of X-ray machines are
kept sterile in between patients by cleansing with disinfectant wipes by X-ray assistants. The time required for hand-hygiene is reduced by 50% (up to 120 seconds reduction per patient), greatly enhancing the portable X-ray efficiency and minimizing the radiographer’s risk of developing dermatitis. 2) Enhancing availability of equipment: Alcohol hand-rub and disinfectant wipes are now placed on all portable X-ray equipment, ensuring these useful tools are within easy-reach at all times. 3) Improving education: New hand-hygiene signs and reminders are now placed on portable X-ray equipment. After implementing these changes, improvement in hand-hygiene by radiographers has been achieved. According to the Infection Control Team audit, the compliance rate was 75.0% (33 out of 44 observations) from January to May 2014. After the launch of the new scheme, the compliance rate increased to 89.2% from June to December 2014 (107 out of 120 observations). Conclusions: Overall improvement in radiographer’s hand-hygiene compliance rate is achieved under the new collaborative initiative. Development of more innovative approaches could help in further enhancing hand-hygiene compliance in our health-care environment.