PORTACOUNT® PRO+ RESPIRATOR FIT TESTER
Executive Summary

[Adapted from the report by KU NURHASNI KU ABD RAHIM]

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Introduction

A fit-test is used to assess whether a specific type, model and size of respirator can adequately fit a specific operator. This is because there are a wide variability in the physical dimensions and characteristics of both human and respirators. The ability of respirator to perform a satisfactory seal between wearer and the contaminated environment may be affected by this variability. In all cases, the individual must be fit-tested in the same model and size of respirator that they will actually use in their work place. These fit tests are available as qualitative and quantitative fit test.

PortaCount® Pro+ Respirator Fit Tester is the respirator fit tester that can quantitatively fit test all types of respirators namely Self- Contained Breathing Apparatus (SCBAs), gas masks, P1, P2, P3 and N95 respirators. This device uses a technology known as condensation nuclei counting (CNC) or condensation particle counting (CPC).

This technology review was conducted following a request by the Director of Hospital Sungai Buloh to assess the safety and efficacy/effectiveness of PortaCount®Pro+ Respirator Fit Tester for fit testing of N95 respirators in healthcare workers.

Objective/Aim

The objective of this systematic review was to assess the accuracy, safety and efficacy/effectiveness of PortaCount®Pro+ Respirator Fit Tester for fit testing of N95 respirators in healthcare workers.

Results and Conclusions

From the systematic search, ten titles were identified to be possibly related to the topic. Among those titles, only one abstract was included in this review in view of the accuracy of PortaCount® Pro+ Respirator Fit Tester. However, the quality of this study was uncertain as the full text was not retrievable. The practical application of PortaCount® Pro+ Respirator Fit Tester was reported in two studies.

Safety

Findings from the review showed that PortaCount Plus with the N95 companion may be suitable for fit assessment as recommended in the Guidance for Industry and FDA Staff Class II Special Controls Guidance Document: Filtering Facepiece Respirator for Use by the General Public in Public Health Medical Emergencies.

Efficacy/Effectiveness

The PortaCount Respirator Fit Tester has also demonstrated practical application of fit testing using various models of N95 respirators in adult. Passing a fit test may improve the probability of wearing an individually fit respirator. Hence, it will increase the level of respiratory protection for the health care workers.

Face dimensions, user's training, size and type of respirators are among the possible factors that contribute to the fit of respirators. Individual fit test using different N95 respirators may be needed for each healthcare worker to determine the best fitting respirator based on the factors that affect each individual.

Methods

Electronic databases were searched through the Ovid interface: Ovid MEDLINE® In-process and Other Non-indexed citations and Ovid MEDLINE® 1946 to present, EBM Reviews - Cochrane Central Register of Controlled Trials - December 2014, EBM Reviews - Cochrane Database of Systematic Reviews - 2005 to December 2014, EBM Reviews - Health Technology Assessment – 4th Quarter 2014, EBM Reviews-NHS Economic Evaluation Database 4th Quarter 2014,EBM Reviews-Cochrane Methodology Register 3rd Quarter 2012, EBM Reviews- Database of Abstracts of Review Effects 4th Quarter 2014, EBM Reviews- ACP Journal Club 1991 to December 2014, EMBASE – 1996 to 2015 January 19.

Google was used to search for additional web-based materials and information.. Additional articles were identified from reviewing the references of retrieved articles. Last search was conducted on 10th February 2015.