

ISRP 2002 abstract

Presenter/author	Title	Abstract
Guan, Jinhua** Hsiao, Hongwei** Zhuang, Ziqing* *) National Personal Protective Technology Laboratory, NIOSH, Pittsburgh, Pennsylvania, USA **) Division of Safety Research, NIOSH, Morgantown, West Virginia, USA	Recapturing the Sizing Issues of Respirator Fit-test Panels for Emergency Response	<p>Ill-fit respirators may compromise the ability of emergency responders to act effectively in hazardous situations. This study reevaluated the Los Alamos National Laboratory (LANL) respirator fit-test panels for their effectiveness to provide sizing reference for the US military and civilian populations. The LANL panels were developed in 1974 based on the 1967-68 US Air Force Anthropometry Survey. The 1988-89 US Army Anthropometry Survey and the Civilian American and European Surface Anthropometry Resource (CAESAR) were involved in this evaluation. Data on face length and face width from the Army survey or CAESAR were fed into the full-facepiece panel, and data on face length and lip length from the Army survey were fed into the half-facepiece panel. Any individual whose bivariate dimensions fell out of panel boundaries was considered to be not accommodated.</p> <p>With adjusted racial distribution, the full- and half-facepiece panels were able to accommodate 90.1% and 93.1%, respectively, of the Army survey population. The full-facepiece panel was able to accommodate only 85% the CAESAR population. There was insufficient information for evaluating the ability of the half-facepiece panel to accommodate the CAESAR population. The LANL panels should be revised so that they can fit 95% of the current civilian population.</p>