

ISRP 1999 abstract

Presenter/author	Title	Abstract
McKay, Roy T. Freeman, A. G. Hall, C. L. Delaney, L. J. Bradley, J. C. <i>University of Cincinnati,</i> <i>Department of Environmental Health</i> <i>P.O. Box 670458</i> <i>Cincinnati, Ohio</i> <i>45267-0458</i> <i>USA</i>	Respirator User Seal Checks: Use, Limitations, and Defining a Standard Method	<p>Negative and positive pressure user seal checks are commonly used by respirator wearers to assess whether or not a previously fitted respirator continues to fit and/or function properly. When used in combination with a complete respirator program including daily inspection, the user seal check procedure can help to identify proper strap tension and respirator placement needed to obtain a tight sealing surface. Despite the importance of the user seal check procedure, very few published studies have compared the effectiveness of user seal check results to fit factors derived from quantitative fit testing or workplace protection factor studies.</p> <p>The ability to objectively compare user seal checks with fit factors derived from quantitative fit testing is limited in part by the lack of a standard definition. Evaluation of user seal check procedures is itself subjective at best and relies upon the response of the subject. Experienced respirator fit test operators frequently witness respirator wearers who appear to clearly “fail” the user seal check procedure, even when the wearer states otherwise. In other cases, the design of the respirator can prevent a user seal check from being conducted properly. Part of the ambiguity lies within the definition of an acceptable user seal check procedure itself. A review of user seal check procedures established by governmental agencies, manufacturers, and various organizations reveals inconsistencies in these procedures. Investigators at the University of Cincinnati (AG Freeman & RT McKay) have previously reported on the development of a Respirator Leak Checker that can be used to objectively evaluate the ability of a wearer to perform user seal checks. This device has been used to monitor user seal check procedures on a variety of respirator wearers using different types of respirators for the purpose of establishing information regarding depth of inspiration/expiration and breath-hold time.</p>