

PLENARY SESSION PRESENTATION

FIT TESTING: WHAT DOES IT ACHIEVE?

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Quantitative Fit Testing (QnFT) is required in the UK for the selection of RPE. HSE note 282/28 describes fit testing as a “method of checking that a tight fitting facepiece matches the person’s facial features and seals adequately to the wearer’s face” whereas BS 4275 stated that “fit tests only identify gross misfits and do not guarantee adequacy of fit”

Which, if either, of the above descriptions is supported by the scientific literature?

For QnFT to have a valid role in assessing the adequacy of fit of a given device to an *individual* it would be necessary that either:

- 1) The correlation of QnFF and WPF permits likely individual WPF, to be accurately predicted from the QnFF, or:
- 2) A specified QnFF could be assumed to demonstrate that a specified workplace protection factor could be achieved, e.g. a QnFF of 2,000 for a PAPR would “guarantee” a WPF >40 for the individual.

Note that to achieve the either of the above it would be necessary for the r^2 in the correlation equation or ranking equation respectively to exceed about 0.9-0.95.

The literature was searched to determine whether the above criteria have been achieved in practice.

The presentation will assess whether the literature supports the view that fit testing can significantly improve the performance of RPE in the real word.