

# Powered Air Purifying Respirator Use By First Receivers: Personal Performance Issues

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**Abstract:** Non-tight Fitting Powered Air Purifying Respirators (PAPR) are the respiratory protection most likely to be utilized by First Receivers (hospital-based personnel involved in triage, decontamination, medical treatment, security and clerical duties) ministering to the needs of victims of terrorism or toxic industrial chemical (TIC) exposures. Though PAPR offer a number of user-friendly features (e.g., no fit test requirement, greater comfort, cooling capability, use with facial hair and eyewear, less respiratory resistance, etc.), there are associated negative aspects that can impact First Receivers' personal performance in the delivery of healthcare. PAPR-related visual impairment issues include narrowed peripheral fields of vision, lens condensation, and desiccating effects on contact lenses. Hearing can be diminished by the dampening effects of shrouds and the background noise of the PAPR motor. Verbal communications are hampered by auditory impairment, speech intelligibility, background PAPR motor noise, and the loss of non-verbal communication capabilities by virtue of varying degrees of facial concealment. Psychological issues associated with wearing a PAPR include claustrophobic reactions, frightening appearance to pediatric victims, and victim intimidation by staff wearing PAPR. Familiarization of staff with PAPR and the use of a number of simple techniques can ameliorate or eliminate most of these problems, thereby ensuring greater adaptation for the wearer and enhanced effectiveness in carrying out medical tasks.