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Title: Gunshot residue contamination of the hands of Police officers following start-of-shift handling of their firearm

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Gunshot residue contamination of the hands of Police officers following start-of-shift handling of their firearm.

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Highlights for review

- High GSR contamination of Police following start-of-shift handling of firearm
- Washing of hands removes almost all GSR
- Use of self-drying hand gel appears to prevent the transfer of (GSR) particles
- Low risk of contamination from exposed grip of holstered firearm

ABSTRACT

If police officers are contaminated with gunshot residue (GSR) through the normal receiving, checking, loading, and securing of their issued firearm, there is the potential for secondary transfer of GSR to anyone those officers arrest during their shift. This 3-part study examined the level of GSR contamination of police officers following the start-of-shift handling of their standard issue firearm, the impact that hand-washing or the use of a self-drying hand-wash had on the level of GSR contamination, and the likelihood of officers re-contaminating their hands through contact with the exposed hand-grip of their holstered hand-gun.

Almost 85% (28/33) of officers sampled had 3-component GSR particles on their hands immediately following the start-of-shift handling of their firearm. There was an average of 64 such particles over the 33 officers sampled.

Of the 17 officers who washed their hands after securing their firearm, a single 3-component particle was recovered from the hands of one officer.

GSR particles (maximum of 4) were recovered from 3 of the 14 officers who used self-drying hand gel following firearm handling.

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