

Visualization of latent fingerprints on used condoms: Powdering method perspectives

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Despite emerging DNA techniques, fingerprint evidence remains to be valuable in criminal investigations. Many fingerprinting techniques have been developed over the years; however, previous forensic work has limited research studies geared at the examination of fingerprint visualizing methods for the forensic analysis of condoms. Using common fingerprint powdering techniques, we are attempting to determine the optimal method of visualizing fingerprints on this specific substrate of vital importance in sexual assault crimes. All of the methods consist of prolonged cyanoacrylate exposure followed by application of black fingerprint powder, bi-chromatic powder, and phosphorescent powder using the fiberglass brush. Another method consists of cyanoacrylate exposure followed by application of black magnetic powder using the magnetic wand. Novel approaches being presented in this study is the handling of the 'used' condoms prior to treatment. The samples being analyzed are placed over large plastic tubes after cyanoacrylate treatment prior to powdering application. This handling procedure has proven to be instrumental in attaining quality results. Furthermore, the analytical methodology also evaluated four different time variables after fingerprint deposition to assess the effect of fingerprint aging with respect to the tested powdering techniques. The analytical validation of various fingerprint powdering techniques for condom substrate samples can improve and further validate the use of this trace evidence and help establish the availability of fingerprint details that may lead to increased rates of prosecution within the criminal justice system as it relates to sexual assault crimes.

Biography

Michael Radford is a graduate student at Texas Tech University Institute for Forensic Science. He has a BS degree in Criminal Justice from University of Maryland University College. He served on active duty in the United States Marring Corps from 2005 to 2009 and is currently employed as a detective at the Lubbock Police Department.

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