

A COMPARATIVE STUDY ON SHEDDER STATUS AND TOUCH DNA RECOVERY ON DIFFERENT SUBSTRATES

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Modern technology has enabled touch DNA evidence to become commonplace in crime investigation. However, with this significant increase in detection sensitivity, questions often arise in court if trace DNA detected came as a result of direct touch or secondary transfer. It is thus of great interest for forensic laboratories to investigate and determine factors that affect DNA deposition. Several studies suggest that individuals have different abilities to deposit DNA and can be categorised by shedder status. Categorising individuals by their shedder statuses has its difficulties however, as it has also been shown that the ability to deposit DNA may vary over time. Nevertheless, shedder status could provide inferences to address questions regarding touch and transfers. The present study seeks to categorise laboratory staff according to their shedder status. Using this information, we then investigate how shedder status correlates to DNA detected from mock evidence of different substrates.

To obtain their shedder status, participants were told to continue with their daily tasks for 15 minutes after washing hands. Touch DNA was then deposited by holding a sterile 50 ml plastic tube with each hand for 10 seconds. This was done daily, over three days. Participants were then categorised by their shedding ability according to the DNA detected on the tubes.

Further experiments were performed to see if DNA deposited on mock evidence by the participants corresponded to their shedder statuses. The results of this study will help to determine if it is appropriate to associate shedder statuses with touch DNA found on evidence in different case contexts with different materials.