TRACE DNA: A COMPARISON OF DNA RECOVERY USING THE CLASSICAL SWAB TECHNIQUE VERSUS THE HYDROSOLUBLE ADHESIVE TAPE

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DNA profiling from evidence samples depends on various factors such as the amount of available DNA and the sensitivity of the analytical methods used. An essential prerequisite for successful DNA profiling is the use of a suitable method to maximize the recovery of DNA from different kinds of trace substrates. Regarding the fact that many labs tend to use more and more automated systems for the extraction of DNA from evidence samples, it would be very useful to establish methods for DNA recovery that can be easily both applied in the field and subsequently analysed in the lab utilizing standardized protocols.

We compared the recovery of DNA from samples collected using the classical cotton swab method with samples collected using a hydrosoluble adhesive tape (Hydrosoluble ScotchTM 5414 Wave Solder Tape Mask Plus II, 3M, St Paul, MN, USA). Mock casework samples were prepared using blood, saliva and direct contact on various substrates with smooth and rough surfaces, in addition to cloth and skin.

We present here our results of the comparison of the classical cotton swab method versus the hydrosoluble adhesive tape, the advantages and the disadvantages of the particular methods taking into account the nature of the trace and the problems encountered when processing real casework samples.