

THE EFFECT OF TIME ON THE INTEGRITY OF BUCCAL SWAB SAMPLES COLLECTED FOR DNA ANALYSIS

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Field agency personnel often contact our crime laboratory with concerns about expiration dates on buccal swab packages and the suitability of "expired" buccal swabs for sample collection. Package expiration dates may have less impact on sample quality than storage and handling practices, however, the integrity of such samples can nonetheless be questioned and could pose defense challenges. We conducted a study where duplicate samples were collected from laboratory staff volunteers using "expired" and "non-expired" swabs. All buccal swabs used in this study came from intact packages and were from the same manufacturer. Package integrity was verified by visual examination of the outer seal. If a seal was found to be damaged, the swab was deemed unsuitable for DNA collection (irrespective of the expiration date) and was not used for this study. To standardize DNA quantities, all samples were quantitated prior to amplification. No discrepancies were observed in allele calls, and all genetic profiles from each source and swab type were complete and concordant. No contamination or degradation was detected in any of the samples or controls in either swab set. Our observations indicate that buccal swabs can be used regardless of the printed expiration date, provided the package seal is intact.