INTRODUCTION

In recent years, the sensitivity of DNA testing has increased to the point where DNA can now be located in places we have not previously considered. DNA can now be found on objects simply from a person contacting that object and transferring it to the surface when otherwise we would have been limited to looking for DNA in places where we located a biological fluid. This type of transfer has been aptly named Touch DNA and it refers to the DNA found in the skin cells shed and trapped in the object surface are factors in this process. These, among other variables, make the consistent transfer of DNA difficult to reproduce.1,2

In our experiments, we controlled as many variables as were feasible in areas such as the loading and ejection process. We also adhered to accepted laboratory protocols in the handling of the shells that potentially contained DNA. Despite our best efforts, two samples were contaminated during our experimental process and were eliminated from our study prior to the DNA extraction process. Blank swabs were tested as negative controls for the extraction process, however no unhandled shells were tested. Each negative control had no detectable DNA present during the quantification process.

RESULTS

Each shooter handled thirty separate cartridge casings of the same type and model, thirty-six millimeter, 12 gauge shotgun shell, using a different handgun casing material. We attempted to expand the data gathered on touch DNA and its applications. It was hypothesized that the same results would hold true for cartridge casings, however this experiment was designed to test if Touch DNA could be recovered from the same type and model, thirty-six millimeter, 12 gauge shotgun shell, different handgun casing materials. We attempted to expand the data gathered on touch DNA and its applications. It was hypothesized that the same results would hold true for cartridge casings, however this experiment was designed to test if Touch DNA could be recovered from, or the effect of the firing process on the degradation of the DNA, cannot be made without further testing.

CONCLUSIONS

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REFERENCES