EVALUATION OF TAPE LIFTING VERSUS SWABBING FOR COLLECTION OF TRACE BIOLOGICAL SAMPLES FROM VEHICLE HEADRESTS

Kevin Tang[1], John Bond[2], Ian Fitch[3], Jocelyn Weart[3], and Steven B. Lee[1]

[1]Forensic Science Program, San Jose State University, [2]Criminology Department University of Leicester, UK, [3]Santa Clara County Crime Laboratory,

Adhesive tape and swabs are two methods of collecting biological samples commonly used by in the UK and US to investigate vehicle crimes. Determining the most optimal collection method may lead to an increase in generating DNA profiles and crime-solving. The object of this study is to evaluate the efficiency of the adhesive tape and the double-swab collection methods for investigating vehicle crimes and touch samples. To determine this, we will test touch sample recovery from different materials used in vehicle headrests with varying amounts of biological samples and storage times. Specifically, we will collect biological material from mock vehicle headrests made of 3 different vehicle material samples for DNA analysis. Samples of different headrest material have been collected and include leather, vinyl and cloth. Control samples of known biological material will be placed on the substrates and subsequent evaluation of the efficiency of collection methods will be performed. Additional sample set up and testing will be conducted once a baseline of efficiency is established through replicate and optimization testing. By optimizing this collection technique, we aim to aid the investigation of vehicle crimes and other crimes where touch evidence is present.