F26 Lip Prints: The Argument for Research in Cheiloscopy

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The goal of this presentation is to report and describe the existing research on cheiloscopy. Attendees will discern that there is sufficient evidence from the literature to determine the need for further efforts to include lip prints as a means to identification.

This presentation will impact the forensic science community by demonstrating the potential cheiloscopy has on identification as a sole or supportive paradigm. The forensic science community will be asked to accept the uniqueness and forensic value of lip prints as a legitimate identification method. The argument will be made for the need of further study in order to use cheiloscopy as a means of identification and possible adjunct in bitemark analysis.

A very different, less known, and unconventional form of identification is presented. Cheiloscopy is the study and examination of lip prints. The human lips have a pattern as do fingers, palms, and feet. They have been referred to as grooves, wrinkles, lines, and creases with extremely fine details. It is a form of impression evidence similar to ear prints and elbow prints. Of late, these have been the topic of varied research and are also occasionally mentioned in literature by a detective, crime scene investigator, or an examiner in another field of evidence comparison. Subject comparisons have been recorded in the thousands. They have been done at universities using students and in specific communities throughout the world. Research studies on lip prints have been contributed mainly by forensic dentists and anthropologists in countries throughout the world. This includes, but is not limited to, Brazil, Spain, Germany, Russia, Japan, Canada, India, Saudi Arabia, France, Italy, Great Britain, Iran, Czechoslovakia, and Poland.

One method of comparison appears often. It was designed by Tsuchihashi in 1970. The lips are divided in segments and the grooves are typed and compared. Examiners determine if the pattern is Type I—vertical, Type II—Branched, Type III—Reticular, or Type IV—Undetermined. There has been much success in identification via the recorded prints on cellophane tape and white paper. This method has been reported exclusively in the recent research. Researchers have also been studying the patterns more associated with gender and raise the possibility of determining gender from lip prints.

The search for existing studies was made through Pub Med, and Scopus using the search words “lip prints” and “cheiloscopy.” There were 35 retrieved. Thirty-three were in English, one in German, and one in Russian. These articles range from the years 1970 to 2011. In order to evaluate the latest published reports, the bulk of the articles retrieved (24) were published from 2005 to 2011. Some of the publications included: *Journal of Forensic Odonto-Stomatology, Forensic Science International*, *Indian Journal of Public Health Research & Development*, *Journal of Forensic Dental Sciences*, and *Journal of Forensic Identification*.

The key to the argument is in latent lip prints, those not made by any cosmetic material and unseen by the naked eye. These are not usually “dusted” at crime scenes. Nor have they been considered when a bitemark is present. Research would be able to aid in finding out whether or not the latent lip print can be lifted around a bitemark on human skin. A forensic pathologist, Esperanza Navarro, and others in Spain researched this on cadavers using invisible lipstick (commercially obtained cosmetic) but the need is present to test on human subjects. Studies should include lip prints using lipstick, and the latent prints made by invisible lipstick and no cosmetics at all. If this can be done, it would be an enormous adjunct to bitemark analysis. The potential to match lip prints to a suspected biter would further validate bitemark analysis. A proposal will be made to a university IRB committee in the interim.

Cheiloscopy, Lip Prints, Bitemarks

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