

Forensic Medical Capacities of Research of Saliva Stains on Physical Evidence after Washing

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Abstract : Recent advances in genetics have allowed increasing acutely the capacities of the formation of reliable evidence in conducting forensic examinations. Thus, traces of biological origin are important sources of information about a crime. Currently, around the world, sexual offenses have increased, and among them are those in which the criminals use various detergents to remove traces of their crime. A feature of modern synthetic detergents is the presence of biological additives - enzymes. Enzymes purposefully destroy stains of biological origin. To study the nature and extent of the impact of modern washing powders on saliva stains on the physical evidence, specially prepared test specimens of different types of tissues to which saliva was applied have been examined. **Materials and Methods:** Washing machines of famous manufacturers of household appliances have been used with different production characteristics and advertised brands of washing powder for test washing. Over 3,500 experimental samples were tested. After washing, the traces of saliva were identified using modern research methods of forensic medicine. **Results:** The influence was tested and the dependence of the use of different washing programs, types of washing machines and washing powders in the process of establishing saliva trace and identify of the stains on the physical evidence while washing was revealed. The results of experimental and practical expert studies have shown that in most cases it is not possible to draw the conclusions in the identification of saliva traces on physical evidence after washing. This is a consequence of the effect of biological additives and other additional factors on traces of saliva during washing. **Conclusions:** On the basis of the results of the study, the feasibility of saliva traces of the stains on physical evidence after washing is established. The use of modern molecular genetic methods makes it possible to partially solve the problems arising in the study of unlaundered evidence. Additional study of physical evidence after washing facilitates detection and investigation of sexual offenses against women and children.

Keywords : saliva research, modern synthetic detergents, laundry detergents, forensic medicine

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