



### **B91 DNA-Typing of Sperm Collected From Skin and Clothes After Washing**

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The goals of this presentation are to call the scientists' attention to traces of sperm on the victim's skin or clothes, which might still be useful for DNA typing even after showering or machine-washing, respectively.

Sexual assaults are some of the most frequent criminal cases nowadays that the forensic DNA analyst that has to deal with. Fortunately, the perpetrator often leaves strong evidence from seminal fluid. Thus, many cases can be solved, if the evidence is collected carefully, taking every trace and every possible piece of evidence into account. However, and understandably, the victims of rapes feel the urge to take a thorough shower and clean themselves and their clothes as soon as possible. If this is the case, most of the biological traces are lost and, at this point, the investigators have discontinued sampling and DNA-typing since these data may no longer be considered useful.

In an experimental study, female volunteers took swabs from different areas of their bodies after having had sexual intercourse followed by a shower. DNA-typing was done by STR analysis using the AmpFISTR Kit SGM+ (Applied Biosystems).

In the second part of the study, seminal fluid was applied to pieces of cotton cloth that were air dried and then cleaned in a washing machine using different programs.

The results of DNA-typing of samples from either experiment show that neither showering nor laundering by washing machine removed all of the sperm cells. Most of the samples from the skin were typed successfully and even showed high amounts of male DNA. Similarly, most of the samples of laundry showed full DNA profiles of the sperm donor. Depending on the temperature program used, DNA stayed on the pieces of cloth more or less. The highest amounts of DNA were found when using the 60°C program.

The findings suggest reassessing some of the routines practiced in rape investigation when collecting evidence. Obviously, it might be worthwhile to take swabs from victims even after showering and to collect pieces of laundry such as underwear or bed linen even after machine washing.

#### **DNA-Typing, Sperm, Sperm After Washing**