

## DNA-TYPING OF EPITHELIAL CELLS AFTER PHYSICAL CONTACT OF DIFFERENT STRENGTH

**C. Nussbaumer and W. Denk**

*Institute of Forensic Medicine, Wien, Austria*



During the past few years DNA typing of epithelial cells e.g. from saliva has become a well-established method in the forensic field. Moreover, typing of other epithelial cells after transfer between two people during attacks such as strangulation have been described. However, no data about transfer of epithelial cells between people during common physical contact are available so far.

In an experimental study, several pairs of people were investigated for estimating the typing success either after physical attack such as strangulation or after less intense contact comparable to a massage. In these experiments the "perpetrator" applied either strong friction or little friction to the upper arm of the "victim" using his bare hands. The epithelial cells were removed from the upper arm of the "victim" by sterile cotton swabs moistened with aqua dest. right after the application and 6 or 12 hrs. later respectively.

In several cases DNA typing of these swabs led to the detection of mixed pattern, which matched the pattern of the "victim" and the "perpetrator". Although the chance of successful DNA typing was lower in cases of less intensive contact, typing was still possible.

Concerning forensic casework these results suggest that sampling by taking swabs of the skin regions in question has to be considered even in cases where no physical violence causing visible marks of skin injury is involved.