

P2077**Comparison of showering protocols effectiveness for human volunteers' skin decontamination**

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Background: The «Orchids project» is an EU funded research project aimed at providing evidence-based guidelines for decontamination following a mass casualty incident. It includes in vitro and in vivo studies, the latter being performed on animals following exposure to toxic chemicals or on human volunteers exposed to non-toxic surrogates of these compounds. In vitro studies have shown that shorter showering durations (0.5–1 min) could improve the effectiveness of decontamination. **Objectives:** Compare the effectiveness of showering protocols: (1) “Orchids” vs. “French” which differed in the showering duration: 1.5 min vs. 6 min, water temperature: 35 °C vs. 25 °C, water washing flow-rate 10 L/min vs. 30 L/min and use of a wash cloth vs. without; (2) use of wash cloth by the victim or by a rescuer during the “Orchids” showering protocol. **Methods:** This study was approved by the Ethics Committee Sud Est V (Grenoble, France). It included 86 volunteers (males, age range 18–55 year) randomly assigned to each group. Each volunteer was exposed to a fluorescent compound (“invisible Red S”), simulating radioactive particles, or to methyl salicylate, simulating the vesicant agent sulphur mustard. The decontamination process was performed in a specific shelter (Utilis[®]) provided by the Fire Service (SDIS57). The decontamination effectiveness was evaluated from the amount of simulants recovered from the skin depots or from body surface fluorescence imaging analysis. **Results:** The “Orchids” and “French” decontamination protocols had similar effectiveness. Decontamination of casualties by a rescuer did not significantly improve the “Orchids” protocol decontamination effectiveness.

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P2078**Validation of comet assay for detecting DNA damage in whole blood samples**

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The alkaline single cell gel electrophoresis technique (SCGE), also known as comet assay, is genotoxicity evaluation method for estimation of DNA damage and repair at the cellular level. In order to measure DNA single-strand breaks, alkali-labile sites and DNA cross-linking in individual cells, this assay is used. Comet assay is a simple, sensitive, and rapid method; however the protocol variability and many test variables can affect its results. When standardized and validated, comet assay can provide invaluable information in the areas of hazard identification and risk assessment of environmental and occupational exposure, diseases, monitoring the effectiveness of medical treatment and investigating individual variation in response to DNA damage that may reflect

genetic or environmental influences. In this study, the method was validated for the four comet assay parameters including the tail moment (TM), tail intensity (TI), olive tail moment (OTM) and DNA tail (DNA_t) using the seven different volume samples of blood ranges from 2.5 ml to 2.5 µl diluted with PBS or RPMI. For this purpose, six blood samples were collected from genetically unrelated and healthy volunteers. According to the intraclass correlation coefficient (ICC) analysis, ICC results of the study were $r = 0.87$, $p < 0.001$ for TM; $r = 0.86$, $p < 0.001$ for TI; $r = 0.73$, $p < 0.05$ for OTM and $r = 0.87$, $p < 0.001$ for DNA_t. Highly statistically significant ICC was found among the all studied 14 different test conditions. Considering the results of this study, the determination of DNA damage using comet assay via less blood samples and less consumables can contribute worthwhile knowledge to future studies.

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P2079**Detection of ibuprofen in postmortem rat tissues**

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The quantitative estimation of ibuprofen residue in postmortem albino rat organs was done by high performance liquid chromatography (HPLC) using methanol: water (80:20) as solvent and eluent at $\lambda = 274$ nm with flow rate 2 ml/min and C18 column. The concentration of ibuprofen residue in different tissues and blood was obtained where brain and kidney were found to be the organs which have the highest concentration. Ammonium sulphate method was used for extraction and purification for blood and tissue specimens. The present study would be of great importance for investigation of any overdose toxicological mystery death of ibuprofen and we can conclude that the best organ of postmortem sampling as it has the highest concentration of ibuprofen and it can help us in extracting ibuprofen to be identified and detected.

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P2080**External telemetry might improve ECG assessment in non-human primates more than in dogs**

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The use of external telemetry for ECG assessments in dog toxicology (TOX) studies has been shown to be more sensitive than the historical restrained short ‘snapshot’ sessions (Prior et al., 2009; Guth et al., 2009). Similar methodology is also available for non-human primates (NHP) but has not been compared to historical methods using restrained animals. Using data extracted from 20 regulatory studies, baseline heart rate (HR) values were compared in freely moving telemetered (TEL, $n = 222$) or restrained (RES, $n = 447$) monkeys. HR values (mean \pm SD) were 236 ± 29 and 155 ± 29 bpm for RES and TEL, respectively. Training of NHP to restraint (up to 4 sessions) did not prevent stress-induced tachycardia. Invasive (154 ± 29 bpm, $n = 147$) and external telemetry (158 ± 30 bpm, $n = 75$) provided similar values, indicating that jacketing animals has little influence on HR data. A statistically significant tachycardia ($p < 0.05$, 80% power, $n = 6$) would then require