LIPOSUCTION CANNULAE: SCREENING OF AUTOMATIZED CLEANING

Carmen E Pozzer, pozzer@santacasa.org.br *, Heloisa H K Hoefel, hoefel@hcpa.edu.br **, Rubia Knobeloch dos Santos***, Rita C A Caregnato ***, Roberta Souza***, Suyan G Ribeiro*, Celia M Rabaioli*
Santa Casa de Misericórdia de Porto Alegre*
Rio Grande do Sul Federal University Nursing School**
Universidade Federal de Ciências Medicas de Porto Alegre***

INTRODUCTION
Cleanliness of medical devices is considered the most critical step in materiel reprocessing and, as point the literature, it is when failures most happen. The cleaning process must reach the entire surface of the medical/hospital device, including recesses, joints and lumens (often narrow), in order to avoid bioburden and reduce microbial growth. For patient safety, evidences shall be found to ensure the effectiveness of the cleaning process.

OBJECTIVE - To evaluate ultrasonic washer machine cleaning effectiveness in 4,00mm liposuction cannulae, by using a cannulae microscope device (Stericam), screening for dirt and performing microbiological analysis of Staphylococcus aureus ATCC 25923.

METHODS
Experimental study performed at the Central Sterile Services Department (CSSD) and at the Microbiology Laboratory of a Hospital Complex, located in Porto Alegre, RS - Brazil.

The available sample consisted in 22 units of 4,00mm liposuction cannulae, resulting in 14 units, after applying the following exclusion criteria: impregnated dirt, possible contamination and liposuction cannulae worn down.

The data collection consists in nine steps: 1. selection and identification of the liposuction cannulae unit; 2. cleaning process with the ultrasonic washer machine; 3. external and internal visual inspection; 4. sterilization; 5. inoculum of Staphylococcus aureus ATCC 25923 and Soil Test's impregnation; 6. drying; post inoculum ultrasonic washer machine cleaning process; 7. bacterial culture in Tryptic Soy Broth (TSB) and Plate Count Agar (PCA); and last, 9. the liposuction cannulae microscope unit inspection with the Stericam.

RESULTS AND DISCUSSION
The research begins with 22 liposuction cannulae units of 4,00mm each, randomly selected, tagged and numbered from 1 to 22. However, cannula number 1 was disregarded as functional and excluded of the study.

The second step was performed cleaning the devices in the ultrasonic washer machine.

In the third step, external and internal visual inspection have been performed in all studied units resulting in the exclusion of seven liposuction cannulae, constituting in the total of 14 samples for analysis.

The sterilization step was necessary to ensure the cannulae just received Staphylococcus aureus inoculum. After the Staphylococcus aureus inoculum and Soil Test impregnation, the liposuction cannulae dried for 24 hours. After drying, the samples have been submitted to the ultrasonic washer machine for cleaning. The culture in TSB and PCA for bacterial growth determination has evidenced that all 14 cannulae samples presented viable bacteria and five of them have showed evidences of dirtiness after inspection with the Stericam.

Conclusion
It is not possible to ensure the cleaning efficacy of the 4,00mm liposuction cannulae using the ultrasonic washer machine, since the results of the study have presented bacterial growth and visible dirt after visual inspection (Soil Test).

References: