IMPACT OF PRELIMINARY WIPING OF EQUIPMENT INTRODUCED INTO A CLEANROOM ON THE CONTROL OF THE ENVIRONMENT

Durieux.F1, Nassar.C1, Lannoy.D1,2, Odou.P1,2
1CHU Lille, pharmacy, Lille, France.
2Lille university, ULR7365 GRITA, Lille, France.

Background and importance
Parenteral nutrition is a high-risk activity. It’s necessary to master and control the preparation environment. Within our parenteral nutrition unit, a decontamination airlock (Malochet®) with hydrogen peroxide (H₂O₂) (Clarus, Bioquell®) is used to bring in the equipment (medical devices, glass nutrient bottles) into the cleanroom. They are introduced directly from an ISO 8 area into the airlock, without systematic wiping.

Aim and objective
The goal is to improve environmental control by studying the impact of preliminary wiping of equipment entering the cleanroom before or after surface decontamination with H₂O₂.

Materials and methods
The same operator performed surface swabs on medical devices and glass nutrient bottles.

Before decontamination

After decontamination

4 swabs

7 swabs

4 log decontamination, 9 minute dwell phase

Results
6 cycles were performed for 70 samples

Before decontamination, number of cfu at 7 days without wiping vs with wiping:
> significant difference (p<0.01)

After decontamination, number of CFU at 7 days without wiping vs with wiping:
> no significant difference (p=0.17)

Most of the contamination found after decontamination was bacteria. A mold was found after decontamination.

Conclusion and relevance
This study shows that contamination brought by equipment is possible. Wiping reduces the risk of contamination when decontamination by H₂O₂ isn’t possible. It seems important to limit storage inside the cleanroom to avoid a release of contamination into the air.