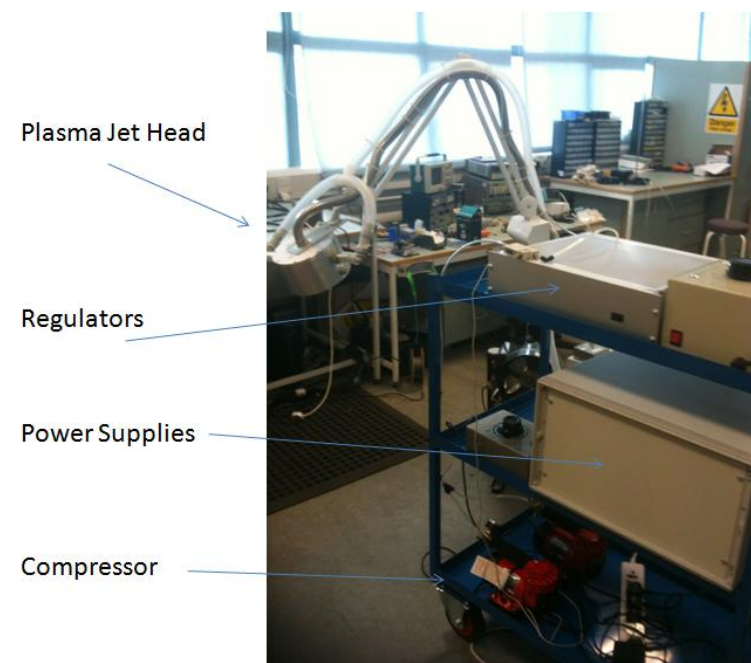


## Background

- Cleaning regimens are often not effective to remove hospital bacteria.
- Novel approaches are required to augment traditional methods.
- Previous *in vitro* studies have demonstrated good activity for cold air atmospheric pressure plasma (CAPP).

## Objective

To evaluate the efficacy of CAPP prototype (figure 1) on patient tray tables over eight weeks.



## Methods

- Petrifilms (25 cm<sup>2</sup>) were used to sample 6 controls & 6 tests
- Sampling occurred three times weekly, one-day before CAPP, straight after CAPP (x 5 min) and one day afterwards.
- The plasma plume extended to the surface and the distance of the plasma jet nozzle to the surface was 1 cm.
- Aerobic growth was expressed in colony-forming units per cm<sup>2</sup> (CFU/cm<sup>2</sup>).

## Results

- Figure 2 shows the microbial contamination recovered from patient tray-tables, one-day before, straight after & one-day after CAPP treatment.
- The baseline levels of microbial aerobic contamination varied between 6 and 8 CFU/cm<sup>2</sup>.
- Following CAPP aerobic contamination was significantly ( $P \leq 0.05$ ) reduced.

## Conclusions

- These results confirm previous *in vitro* studies
- CAPP may augment traditional cleaning methods.
- Further research is required to make the device more and easy-to-use & to evaluate on different surfaces.

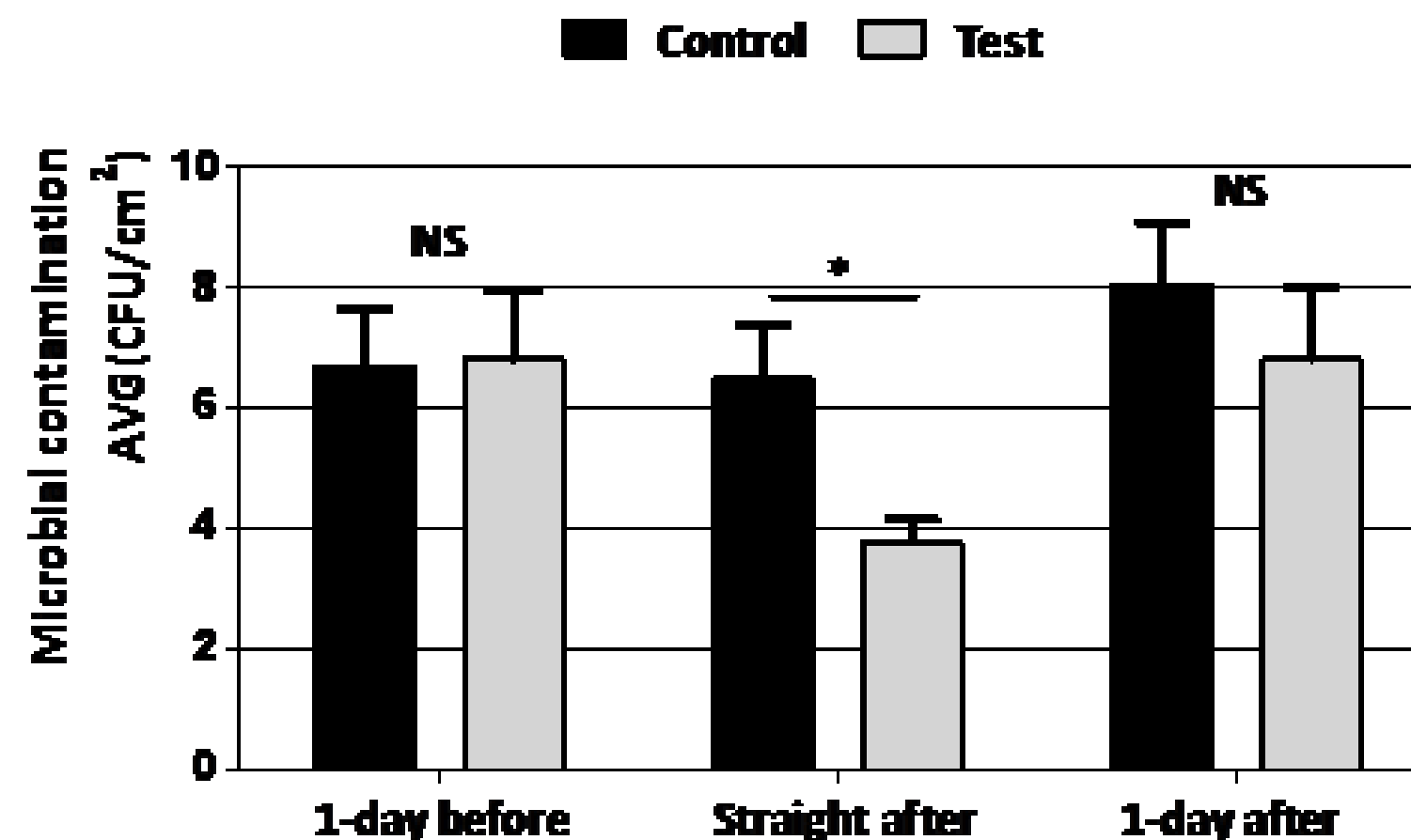


Figure 2. Microbial contamination before & after CAPP