

# QUALITY IMPROVEMENT OF THE ENVIRONMENT IN THE CSSD: MONITORING THE CLEANLINESS OF HANDS AND SURFACES WITH THE ATP DETECTION METHOD



IPOPORTO

Portuguese Institute of Oncology Francisco Gentil, CSSD, Oporto, Portugal  
isabel.malta@ipoporto.min-saude.pt

Isabel Veiga-Malta, PhD

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## Introduction

It is well known that the common goal of all Central Sterile Supply Departments (CSSD) is the fight against infection. Therefore delivering safe medical devices and assuring a positive contribution to the control of health care associated infections form the main responsibilities of a CSSD. A flawless environment quality (EQ) regarding the preparation, assembly and packaging of medical devices prior to sterilization as well as a clean manipulation of sterilized items it is crucial to achieve safe medical devices.

The main goal of this study was to evaluate the EQ of the CSSD by monitoring the cleanliness of stainless steel working surfaces and workers hands. We aim to improve the quality environment by reducing the detected RLU levels to an acceptable pre-defined minimum.

## Methods

For monitoring the cleanliness we used the adenosine triphosphate (ATP) detection method due to its possibilities of having a quick quantifiable result. We used pre-defined ranges of Relative Light Units (RLU) values to decide if the cleanliness degree is *acceptable*, *tolerable* or *not acceptable* for hands and surfaces. The method allows timely assessment of cleanliness and possibility of real time improvement.

## Results

For 120 days always at the beginning of the working day we assessed the two chosen critical points: stainless steel working surfaces and workers hands.

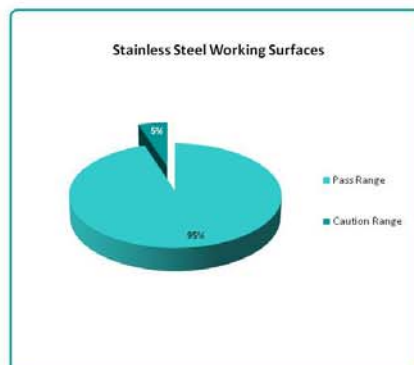


Figure 1. Evaluation of the cleaning effectiveness of the stainless steel working surfaces.

Scale used to assess the cleanliness of stainless steel working surfaces:

<200	Pass Range
200-400 RLU	Caution Range
>400 RLU	Fail Range

We obtain a 95% percentage of *acceptable* RLU values for the stainless steel working surfaces, 5% *tolerable* RLU values and 0% of *not acceptable* values.



Figure 2. Evaluation of the cleanliness of the workers hands.

Scale used to assess the cleanliness of the workers hands:

<1500	Pass Range
1500-3000 RLU	Caution Range
>3000 RLU	Fail Range

However, when we measure RLU values in the workers hands, we found that 60% shows *tolerable* RLU levels, 35% *acceptable* values and 5% *not acceptable*.

## Discussion & Conclusions

When analyzing the results we found that while the protocol for *surface cleaning* is effective the hygienization protocol of the staff hands is still poor - not satisfactory. This is in accordance with the global problem of insufficient hand hygiene that is general reported in the bibliography.

Our study concluded that:

- ✓ The protocol used for surface hygiene was appropriated, since a large percentage of the readings were *acceptable* i. e. the values were in the *pass range*;
- ✓ The RLU values found when monitoring the hand hygiene were not satisfactory once 5% fall into the *Fail range*, i. e. *not acceptable values*, and 60% in the *caution range*;
- ✓ We need to increase staff awareness of the importance of maintaining good hand hygiene;
- ✓ We need to retrain the staff on hand hygiene in order to achieve best results and improve the EQ.

## References

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