SystemSURE Plus ATP Cleaning Verification System: Establishing RLU Pass/Fail Limits

Determining RLU Pass/Fail limits is a fundamental element of a successful ATP cleaning verification program. Setting RLU limits that are too high may allow contamination to persist on surfaces, endangering patients and personnel. Setting RLU limits that are too low may result in over-use of cleaning supplies and excessive labor from cleaning staff. Though there is no regulatory standard for acceptable RLU limits, peer reviewed studies and data from hospitals that have implemented the Hygiena system offer insight to help hospitals set appropriate RLU Pass/Fail limits according to industry - accepted practices.

Literature Review

In a recent five-year study conducted by North Tees and Hartlepool Hospitals, data showed that by monitoring cleaning performance with the Hygiena SystemSURE Plus system, these two hospitals experienced a 20% increase in Pass scores. In this study, Pass scores were categorized as any score below 100 RLU. During this time, the hospitals also experienced a 35.24% reduction in reported post-48 hour C. difficile infections. (Hygiena, 2012) Mulvey, et al validated the Hygiena SystemSURE Plus ATP system and reported " An ATP benchmark value of 100 relative light units [RLU] offered the closest correlation with microbial growth levels <2.5 CFU/cm² " (Mulvey, 2011) Willis, et al compared visual inspection, microbiological analysis and ATP bioluminescence test results using Hygiena's system. This study found that of all sites samples, 36% gave unsatisfactory microbiology results. Using a benchmark of 100 RLU, ATP bioluminescence test results delivered 37% unsatisfactory (Fail) results. (Willis, 2007) Gauci, et al validated the 100 RLU benchmark, showing that ATP monitoring objectively quantified a 77-92% increase in cleanliness. (Gauci, 2012)

Recommendations

Based on clinical experiences and current literature, Hygiena recommends Pass/Fail RLU limits according to broad risk categories listed in *Table 1*. Pass/Fail limits for test locations in near patient areas such as a call button, bed rail, patient room door handle, tray table, television remote, etc., are critical areas that should be held to the highest standard of clean. In these areas, Hygiena recommends aiming for cleaning levels that are stricter than the limits benchmarked in the discussed studies.

Table 1: Broad-Risk Category RLU Limit Recommendations

Surface/Application	Pass	Fail
Hospital Public Areas	<50	50+
Near-patient Areas	<25	25+
Sterile Services	<10	10+
OR & ICU	<10	10+
Food Preparation/Catering	<10	10+

*To add a Caution zone, simply double the Fail RLU.

Custom Limits

While most hospitals use the recommendations above, it is possible to create custom limit for test locations. For detailed instructions on determining custom RLU limits, refer to the instructions available at www.hygiena.com/rlulimits-hc.html

Using SureTrend Software to Improve Cleanliness

SureTrend software comes preset with reports, graphs, and charts that help management make cleaning improvements, train personnel, and clearly illustrate performance. Once testing has begun, results can be immediately analyzed to give feedback on cleaning performance and areas for improvement. Continuous improvement is an essential part of an ATP cleaning verification program. SureTrend software helps by driving data-based decision making.

For more information on establishing Pass/Fail limits or using Hygiena's ATP cleaning verification system, call Hygiena at 1-888-HYGIENA or visit www.hygiena.com

References

Gauci, et al (2012). Rapid objective measurement of cleanliness delivers improvements. Welsh NHS.

Hygiena. (2012). Case Study: North Tees and Hartlepool Hospitals, United Kingdom. *Two Hospitals Improve Cleaning Scores and Experience Lower Infection Rates* .

Mulvey, et al (2011). Finding a benchmark for monitoring hospital cleanliness. *Journal of Hospital Infection* , 25-30.

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