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An evaluation of hospital cleaning regimes and standards using ATP bioluminescence

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Abstract:
A four-part study assessing cleanliness in up to 113 environmental surfaces in an operating theatre and a hospital ward was reported. Surfaces were assessed visually, using microbiological methods and ATP bioluminescence. Results from a preliminary random survey indicated variability in cleanliness. These results were then used to select sites for monitoring before and after routine cleaning, over a 14-day period. Using published microbiological and ATP specifications 70 and 76% of these sites were unacceptable after cleaning. Visual assessment was a poor indicator of cleaning efficacy with only 18% considered unacceptable. Sites most likely to fail in the ward were in the toilet and kitchen, areas which are frequently implicated in the spread of infectious intestinal disease. Operating theatre sites had lower ATP results but 61% of sites would be considered unacceptable. There was no significant difference in general microbiological or ATP results overall before and after routine cleaning. Although some important hand contact sites showed no significant difference, overall there was a significant decrease in staphylococcal and enterobacteria counts in the ward but not in the operating theatre after cleaning. The routine cleaning programmes used did not include a biocide and cleaning using a hypochlorite based sanitizer gave much lower values. The results are discussed in relation to infection control, cleaning audits and cleaning schedules: an integrated cleaning monitoring programme using ATP bioluminescence in conjunction with visual and microbiological assessments is recommended.

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