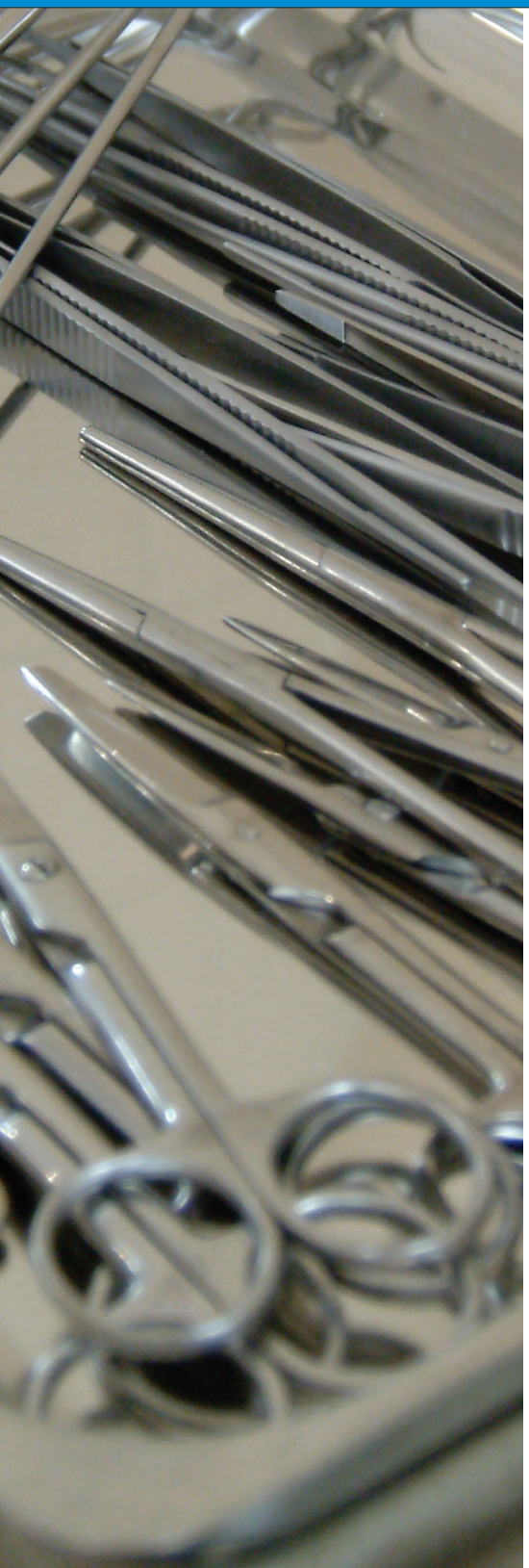
Ecolab and Nalco Deliver Waste, Water and Asset Savings while Delivering Cleaning Performance for Instrument Reprocessing

ECOLAB®

CASE STUDY – HEALTHCARE

CH-1572



BACKGROUND

A large Northeast US hospital was experiencing both cleaning and staining issues with their surgical instruments. The instruments were having white deposits on them after the cleaning and sterilization process and physicians were rejecting them and sending them back for reprocessing. This had been a problem since the hospital opened and it was costing them significant dollars. The department was forced to perform intensive manual cleaning of instruments before the sterilization process. When this was not successful, the stained instruments were thrown out and replaced with new ones. The hospital was spending $130 per day on additional staff for the excess manual cleaning and had spent more than $24,000 on new instruments since the problem began.

As they reviewed their cleaning chemistries, the hospital saw that there may be an opportunity to not only help improve cleaning results, but also reduce packaging waste, employee error and the risk of employee injury. Hospitals in the US produce more than 5.9 million tons of waste annually or 33 lbs per staffed bed per day[1] and many U.S. hospitals have waste reduction efforts in place to minimize and recycle waste.

SITUATION

During a site assessment, the Ecolab Account Executive (AE) discovered that the combination of the cleaning products and equipment was not operating at the optimal level, impeding proper cleaning. The Ecolab AE proposed trialing the OptiPro™ Solid Enzymatic System which features Ecolab's patented solids technology to deliver optimal results. After a trial, the hospital's Central Sterile Department decided to switch to Ecolab to help enhance their cleaning results.

Environmental Indicator	eROI	Economic Results
Estimated packaging waste reduction of 65% (50.5 lbs) when using Ecolab solid detergents compared to the baseline liquid detergents.	WASTE	50.5 lbs annually (77.5 lbs of packaging waste for baseline products compared to 27 lbs for the OptiPro products).
Water savings of 500,000 gallons annually by reducing excessive manual cleaning steps.	WATER	$2,800 annual water savings ($5.60 per 1,000 gallons).
Labor reduction of 80%. Chemical use reduction. Instrument replacement cost reduction.	ASSETS	$25,120 annual labor savings $850 in chemical savings annually. $19,200 annual instrument replacement savings.

Ecolab reports eROI outcomes to consistently communicate environmental results along with performance and total cost of operational impact.

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SITUATION (CONT.)

After implementing the OptiPro Solid Enzymatic System, the department saw improved cleaning results but wanted to explore ways to further improve instrument staining issues.

The Ecolab AE felt that the deposits on the instruments may have been caused by the water quality and decided to have a water analysis done. He enlisted the help of the Ecolab representative from our Nalco water treatment division, bringing a holistic approach to solving instrument reprocessing challenges. They introduced a DI bottle exchange program that delivered low hardness, high quality water to the instrument washing machines. This helped eliminate the staining problem and allowed the customer to reduce the level of manual cleaning of instruments and minimize disposal of instruments.

SOLUTION

The combined solution brought both cleaning and water treatment offerings to help solve the customer issue. OptiPro Solid Enzymatic System is Ecolab's innovative instrument reprocessing solution that combines advanced solids technology with comprehensive training and Nalco's DI bottle exchange program is a turn-key non-mechanical method for removing naturally present minerals from a water supply to improve water quality. The combination of both solutions key benefits include:

- Innovative enzymatic solid system that provides outstanding cleaning performance
- Best in Class training program provides tools and training for optimized processes
- Reduced packaging waste and decreased transportation and storage costs
- Phosphate-free formulas to help reduce environmental impact
- Consistent quality of water entering instrument cleaning machines
- Customized systems to meet water quality and quantity requirements
- No capital investment
- No on-site regeneration helps eliminate on-site chemicals and hazardous waste
- A team of trained service technicians
- 20+ years of expertise in delivering water solutions through DI exchange services

ENVIRONMENTAL/ECONOMIC RESULTS:

Ecolab implemented the OptiPro program along with the DI water treatment program to deliver the desired cleaning results at this facility. Additionally, the customer saw a significant reduction in waste and helped minimize issues with safety and employee error.

Waste: Based on a 1 year period of product consumption compared to the previous concentrate program, the hospital will potentially see 65% less packaging waste (50.5 lbs reduction).
Water: Excess water use is estimated at 500,000 gallons annually with a savings to the facility of $2,800 and chemical cost savings is estimated at $850.
Assets: High quality stainless steel surgical instrument life is 10+ years. $24,000 was spent on replacing instruments that were less than 1 year old. $31,400 annually spent on manual instrument cleaning was reduced by 80%. Hours spent inspecting and hand cleaning instruments reduced 80%. The Central Sterile department used twice the water and cleaning chemicals necessary for re-processing of instruments with their previous program compared to the first three months using the OptiPro program.

CONCLUSION:

The hospital's success with the OptiPro solids program and DI bottle exchange technology is another reason why they view Ecolab as a long-term strategic partner. The hospital continues to deepen their relationship with Ecolab with other cleaning, water treatment, environmental hygiene and surgical solutions

1. https://practicegreenhealth.org/topics/waste

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