

Decapping Solutions

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Case Study

Laboratory managers are faced with an ever-increasing workload while at the same time dealing with decreased staffing levels, austere operating budgets, shortage of capital funds and an aging workforce. In this environment, efficiency, productivity and employee safety are important aspects of the workplace that must be cost-effectively maximized.

Repetitive motion injuries are a significant cause of lost work time, medical expenses and worker's compensation claims in the U.S. A single employee unable to work due to repetitive motion injury can result in thousands of dollars in worker's compensation claims and medical bills. Over 15,000 cases per year of healthcare workplace-

acquired CTS/tendonitis are reported annually to the Department of Labor.¹ Manual decapping of blood or urine collection tubes exposes laboratory staff to significant biohazardous risks from splashes or aerosol exposure and physical injury from broken tubes or repetitive motion. Using a face shield, gloves and Plexiglas shield between the gloved hands and face during decapping is laborious, time consuming and inefficient. Implementation of automated decapping solutions alleviates injuries and increases productivity and worker satisfaction.

Safer Labs

The Pluggo Decapper System from CLINICON[®] Sweden, and produced by LGP Consulting Inc., the North American Center for Pluggo, is a safety device that automatically decaps tubes and eliminates worker exposure to aerosols and splashes and reduces repetitive motion injuries. A support arm stabilizes tubes while the decap arm removes caps, which are safely disposed into a chute. The system can decap both conventional rubber and Hemogard-type caps using either plastic or glass tubes. And it works for different sized tubes (i.e., 10-16 mm in diameter and 75-100 mm in length).

A variety of systems are available, including carousel-based, rack-handler and individual tube systems. Used in blood banks, chemistry, nucleic amplification testing (NAT), immunology, serology, virology, microbiology, coagulation, hematology, urinalysis and physician office laboratories, the systems have been installed in thousands of hospital labs, blood donor centers, reference labs and pharmaceutical labs.

Vandana Reddy, BS, MT(ASCP), technical director at the Heartlands Blood Centers, Aurora, IL, where over 160,000 units of blood are collected per year, has implemented four carousel-based Pluggo Decappers, beginning with the first one in 2003. "The system was easy to implement; it was easy to train the staff, and the system has been operating for over five years with minimal issues," Reddy says. "We rarely have to call for service. It has been a very good investment for our lab, improving efficiency and providing for the safety of our staff."

Improve Efficiency

Cheryl Mill, clinical laboratory manager, Middlesex Hospital Laboratory, Middletown, CT, says her lab has been using the Pluggo for four years. "We have had no issues with it," Mill says. "It decaps approximately 600 tubes per day for us and is a fabulous piece of equipment."

In addition to its safety benefits, customers have found the carousel-based decapper to be very fast (up to 50 tubes per minute). Automated decapping allows specimen-processing personnel to multitask, rather than standing over the tubes and using a safety shield, gloves and safety gauze to manually decap.

The rack-handling systems include automated lab analyzers from a variety of manufacturers (e.g., Olympus America Inc., Abbott Laboratories, Iris Diagnostics, Sysmex America Inc., etc.). Lee Baxevanidis, MLT, chemistry operations supervisor at LifeLabs, Burnaby, Canada, recently implemented a rack-based Pluggo Decapper for her lab's IRIS urinalysis system.

For smaller laboratories or physician-office based laboratories, the Pluggo Solo[™] provides a cost-effective and safe device for decapping many different sizes of tubes. Silvan Sung, MSCIS, MT(ASCP), CLS(NCA), administrative director at Sequoia Hospital, Redwood City, CA, has implemented the Pluggo Solo decapper in one of the hospital's smaller labs.

Contamination Prevention

Preventing cross contamination between tubes, which can lead to erroneous results, is an important consideration. In addition to a safety cover, the Pluggo Decapper is fitted with a disposable tube cover that slides in and out for easy replacement, and provides extra protection against possible splashing or cross-contamination.

The Pluggo prevents employees from coming into direct contact with the blood as tubes are uncapped. The actual decapping occurs under a closed Plexiglas hood for safety and ergonomic-friendly operation. "We have uncapped over a million tubes using the Pluggo Decappers and wouldn't live without them," Reddy says.

Rodney G. Day, is a senior manager of Laboratory Consulting Services at LGP Consulting Inc., Wood River, IL.

Reference

U.S. Dept. of Labor, Bureau of Labor Statistics, Workplace Injuries and Illnesses in 2007, USDL 08-1498. October 2008. Available at: <http://www.bls.gov/iif/oshwc/osh/os/osnr0030.pdf>

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