

NEWS | June 23, 2006

UC DAVIS PIONEERS USE OF MICROFIBER MOPS IN HOSPITALS

Mops reduce injuries, kill more germs and reduce costs

(SACRAMENTO) — The use of mops with microfiber materials at UC Davis Medical Center (<https://www.ucdmc.ucdavis.edu/medicalcenter/>) and their role in the reduction of staff injuries and workers' compensation claims were the topic of a presentation today at the Eastern Ergonomics Conference and Exposition in Boston.

The medical center switched from conventional loop mops to microfiber mops in patient-care areas in 2000. In fiscal years 1998-99 and 1999-2000, injuries related to mop use were the cause of 15-20 percent of the workers' compensation claims filed at UC Davis Health System. Of the claims filed during the current fiscal year, only 2 percent involved mop use as of May 31. And, even in those cases, other causes contributed to the injuries.

UC Davis Medical Center made the switch from conventional loop mops to microfiber mops in patient-care areas after finding through testing that **microfiber mops did a better job of penetrating surface pores and removing dust particles** than conventional string mops and cloths. For example, after a surface was cleaned with conventional tools, a bacteria culture showed a 30-percent reduction, while **microfiber materials reduced bacteria by 99 per**cent. Also, because they weigh much less than conventional mops, the microfiber mops have reduced workers' compensation claims.

Duane Hicks, manager of Environmental Services, and Hugh Parker, director of Workers' Compensation and Disability Management, made the presentation.

The medical center's conversion to microfiber mops was the subject of a 2002 report by the U.S. Environmental Protection Agency. The report noted that although the use of conventional cloth mops for patient-care areas has long been the standard in hospitals, some facilities have begun using mops with microfiber materials.

Microfibers, constructed of nylon fibers that are about 1/16 the thickness of human hair, hold six

times their weight in water. In addition, the positively charged microfibers attract dust, which has a negative charge, and the tiny fibers are able to penetrate the microscopic surface pores of most flooring materials.

The medical center first used the microfiber mops in a pilot test in summer 1999. Within one year, the medical center completely replaced conventional cloth mops with the microfiber version in all patient-care areas. The pilot program resulted in three measurable economic benefits:

- 60 percent lifetime cost savings for mops

- 95 percent reduction in chemical costs associated with mopping

- 20 percent labor savings per day

There was an initial steep cost to implement the pilot program, because a microfiber mop costs over three times more than a conventional mop. However, because a microfiber mop head can be washed 500 times, compared to 55 for a conventional mop, the microfiber mop has a comparatively low lifetime cost.

Switching to microfiber mops also allowed the medical center to reduce its purchases of quaternary ammonium chloride, a chemical used in floor cleaners, by 46 percent. The amount purchased dropped from 513 gallons in 1999 to 283 gallons in 2000.

Because the microfiber mops are easier and faster to use, the medical center saved 638 hours per year for each worker, or about \$7,665 in wages. Microfiber mops weigh five pounds less than conventional mops. In addition, the microfiber mop head is changed after every room is mopped, which benefits custodial staff in two ways. First, it eliminates the effort of wringing a conventional mop. Second, as long as the used microfiber mop head is not put back in the cleaning solution, the custodian does not have to change the solution between rooms.

A full bucket of cleaning solution can weigh 30 pounds or more and must be lifted an average of seven times a day. And, because the same mop water is not shared between rooms, microfiber mopping virtually eliminates the cross-contamination risk that floor mopping can pose for patients.

The medical center does not use the microfiber mops in areas contaminated with large amounts of blood or other body fluid, including certain areas of the emergency room and operating rooms. Microfiber mops also are not used in greasy, high-traffic kitchen areas, where the medical center continues to use mechanical floor-cleaning machines.



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