

[home](#)

CDM at the Forefront of Using Technology to Track Dental Instruments

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Columbia University College of Dental Medicine (CDM) has implemented an innovative technology-driven program to track dental instruments, believed to be the first of its kind among U.S. dental schools and providing multiple benefits including cost savings, increased efficiency in inventory management and the potential to refine student training in instrument use.

Utilizing radio-frequency identification (RFID) technology, the College is tracking 10,000 dental instruments using RFID readers and software supplied by a leading dental instrument company and metal RFID tags developed by a global innovator in metal tag production and design. CDM is the first to use the RFID readers and software in the U.S.

CDM implemented the program in June 2015. Since then, the College also has tagged nearly 1,700 dental instrument cassettes (the cases in which the instruments are stored). As a result, the College has optimized its inventory and storage process, and is able to track every instrument through the sterilization process. Prior to this pilot program, it had been challenging to track instruments with 100 percent accuracy.

"This type of technology allows for complete and accurate tracking of each instrument we use from the time it is dispensed through its utilization, processing, sterilization and return to storage," states Steven M. Erde, PhD, MD, Chief Information Officer at CDM and assistant professor of oral health informatics in dental medicine and oral pathology at Columbia University Medical Center (CUMC). "Using RFID, we are able to prove that a specific item went into an autoclave for sterilization."

An abstract describing CDM's experience with RFID technology has been accepted as a table presentation at the American Dental Education Association (ADEA) Annual Session and Exhibition to be held in Denver this March.

In the near future, CDM plans to use RFID tracking as an educational tool to determine how students are using the instruments.

"With RFID, we will be able to document precisely which instruments students are using, and in what order they are being used," said Dr. Ronnie Myers, professor of dental medicine (oral surgery) at CUMC and vice dean for administrative affairs at CDM. "If a student is using the wrong instrument or in the wrong order, we'll be able to immediately tailor a remedy to that in the preclinical setting."

To date, approximately half of the instruments used by CDM students have been tagged with RFID technology. Owing to the success of the pilot program and implementation, CDM plans to tag 100 percent of its instrument inventory before the end of 2016. CDM will also evaluate technology advances from innovative partners and suppliers in the U.S. and globally in an effort to continuously improve quality and inventory management.