

For the study, the researchers used POC to analyze dental records of 60 patients before and after dental treatment. The total number of pairs was 3,600. The system produced three candidates to match each patient's x-ray. Computation time averaged 3.6 seconds per pair. The recognition rate was 87 percent for the first candidate, increased to 98 percent for the second candidate and to 100 percent for the third. These top three candidates were then evaluated by forensic experts for the final matching decision, thus cutting the workload of the experts by 95 percent.

"Our testing has demonstrated the accuracy and efficiency of the image-matching system," said study co-author Koichi Ito, Ph.D., assistant professor at the Graduate School of Information Sciences at Tohoku University in Japan.

Drs. Kosuge and Ito predict that the system can be put into practice within a year.

"In the case of a mass disaster, the public will never know that this system was used," Dr. Kosuge said. "What they will know is that instead of waiting a month for their loved ones to be returned, they will wait only days."

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