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# CS 3700 Intraoral Scanner Ranked High for Reliability When Scanning Implants Study Shows

**ATLANTA**—Reliability during all steps of the digital implant planning process is crucial for successful outcomes. However, there is one step that can change the course of planning for better or worse: Virtually replacing the mesh scanbody captured by an intraoral scanner with a library file within the CAD software. In its first scientific study since being launched, the CS 3700 intraoral scanner placed extremely high for how well its mesh scanbodies matched library files, making it one of the most reliable scanners tested.

"[Congruence between Meshes and Library Files of Implant Scanbodies: An In Vitro Study Comparing Five Intraoral Scanners](#)" sought to assess and compare how reliably five different intraoral scanners performed in capturing implant scanbodies, which was determined by the dimensional congruence between the meshes, or, the virtual reconstruction of the scanbodies, and the corresponding library files. According to the study, "if dimensional congruence is not exact between the library file of the scanbody with the corresponding mesh acquired with the intraoral scanner, problems can arise in the superimposition in CAD, which may result in positional errors."

Among the five scanners, the CS 3700 was among the top two with one of the lowest mean deviations ($27.0 \pm 4.3$ μm), with the difference between the top two scanners being statistically insignificant. The study highlighted that CS 3700 showed a significantly higher congruence than the other three scanners.

For the study, the intraoral scanners—as well as a highly accurate desktop scanner for reference only—were used to scan a fully edentulous maxilla with six implant analogues and scanbodies in positions #6, #14, #11, #21, #24 and #26. The model was scanned 10 times by each scanner and three times by the desktop scanner.

Then, the digital meshes were trimmed for consistency across scanners and uploaded to reverse engineering software where each scanbody library file was superimposed onto each scanbody mesh. To determine the reliability of each scanner, the deviations between the meshes and library files were quantitatively and qualitatively evaluated.

"Digital dentistry is obviously more advanced than analog, but we forget that—whether we're using a digital scanner or PVS—the result is a copy, and there's always a chance it won't perfectly match the original," Ed Shellard, D.M.D., chief dental officer, Carestream Dental, said. "Therefore, the less deviation between the scan or 'mesh' and the ideal CAD file, the more precise the result."

The CS 3700 is powered by CS ScanFlow, Carestream Dental's newest scanner acquisition software. It's designed to be faster and more powerful than previous generations, giving users more flexibility and control over the scanning and design process.

For more information about the CS 3700, or any of Carestream Dental's innovative solutions, please visit carestreamdental.com

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## About Carestream Dental

Carestream Dental is committed to transforming dentistry, simplifying technology and changing lives. In this pursuit, we focus on providing the latest in high-quality scanning technology, the smartest chairside systems, the most intuitive practice management software, incredibly accurate imaging software and the data intelligence that helps continually refine patient outcomes. And we offer these solutions for the full range of dental and oral health professionals. For more information please visit carestreamdental.com.