The comparison between the amounts of artifacts produced by 5 cements in cone-beam CT

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Objective: The purpose of this study is to evaluate the artifacts produced by different cements with different density using cone beam computed tomography (CBCT).

Materials & Methods: Samples of 5 cements with different density including Glass Ionomer (Chemfil Rock), Mineral Trioxide Aggregates (MTA), Zinc Oxide Eugenol (ZOE), GI (Fuji IX) and Tempbond and the control sample (polyester) were scanned by CBCT Newtom VGi machine and analysed by on demand 3D application software. The amount of artifacts was measured by Δ gray scale value (ΔGSV) which was achieved by subtracting the gray level of the samples from the control group.

Results: According to the mean GSV of five different materials, the majority of artifacts produced were as follow: Tempbond > ZOE > MTA > GI (Chemfil Dentsply) > GI (GC, Fuji IX).

Conclusion: The type of materials can influence the obtained GSV. Different materials cause various amounts of artifact due to density and atomic number.

Biography
Hamidiaval Shadi has completed her MD from Shahid Beheshti University of Medical Sciences and Post-doctoral studies from Shahid Beheshti University of Medical Sciences in Oral and Maxillofacial Radiology. She is Assistant Professor in Khorramabad Dental Faculty, Lorestan University of Medical Sciences. She has published many articles in journals and a book in process.

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