



Alumina blasting on CAD/CAM materials to achieve durable bonding performance. -When and how to blast?-

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Patient demands for esthetic dental-restoration have recently made tooth-colored restorative materials a preferred choice. Computer-aided design and computer-aided manufacturing (CAD/CAM) technologies have enabled the production of dental-restoration products through numerically controlled machining, resulting in uniform material quality, greater reproducibility, and reduced production costs. CAD/CAM systems mainly use ceramic materials because of their esthetic qualities, surface finish, and long-term durability. Recently, CAD/CAM resin blocks (CRBs) have become available, thereby opening up avenues for a wider range of materials.

The clinical outcome of resin bonding procedures for indirect restorations relies on the durability of the bond between the ceramic and the resin cements. Air-particle abrasion with alumina were reported as the most common methods to improve micromechanical inter-locking through surface roughness. However, most clinicians did not pay much attention to “when” and “how” to blast indirect restorations. I would like to introduce a newly developed “chairside blaster”, and new research results to ensure our clinical procedure through this lecture.

<Curriculum Vitae>

- 2021 Associate Professor, Asahi University
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- 2011 Assistant Professor, Tokyo Medical and Dental University
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