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ACADEMY


A chairside story 2. / 3D printed permanent inlays

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YOU SCAN **WE DESIGN** **YOU PRINT**

VOXELTEK.LIVE provides a chairside solution in which the dentist uses digital technology to prepare permanent restorations for the patient in a single session. The procedure uses digital impression from an intra-oral scanner to create a computer-aided design and 3D printing to fabricate inlays or crowns, instantly in the office, eliminating the need for the patient to return to the dentist's office multiple times.

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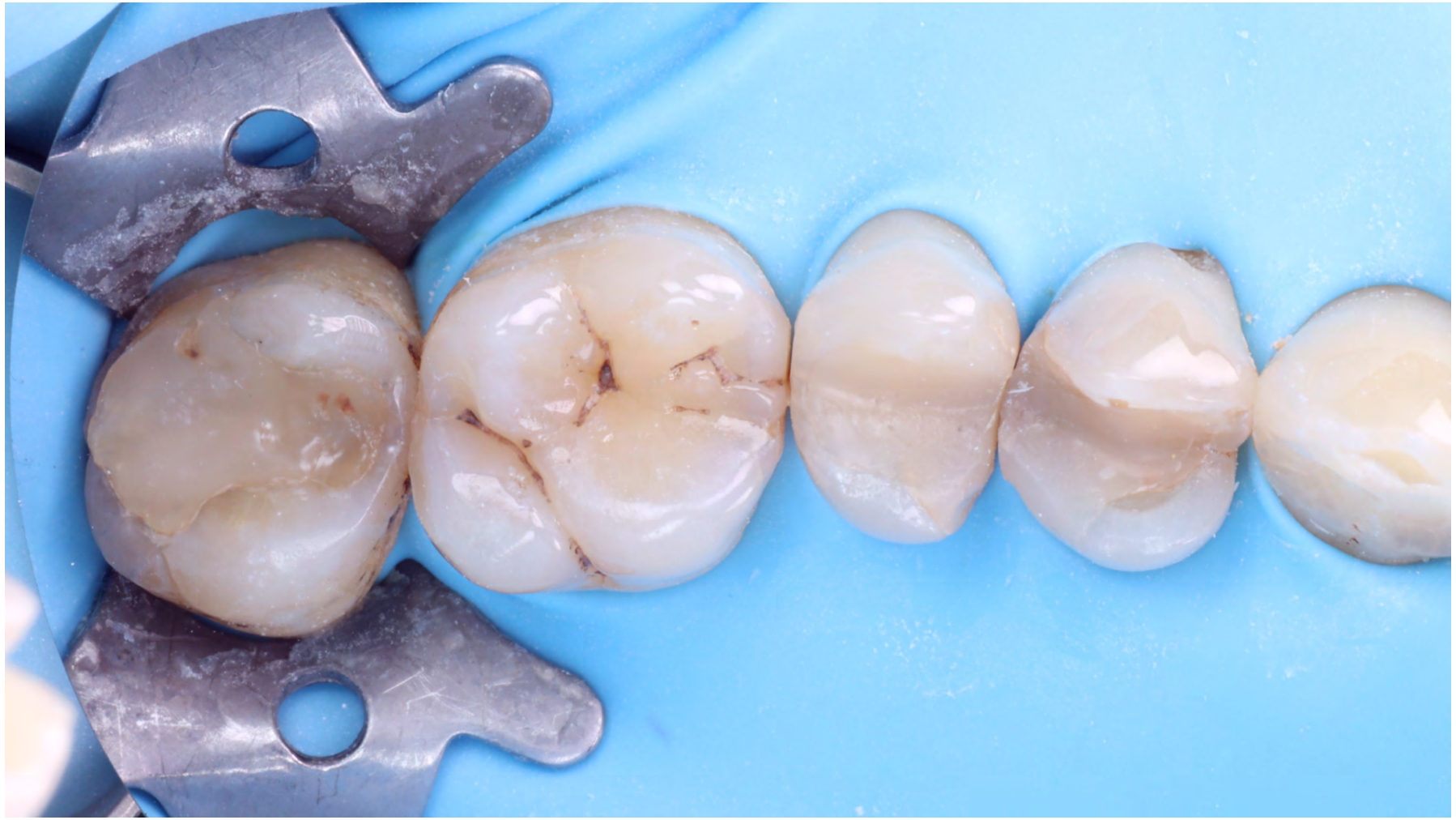

1. Initial State - Old Composite Fillings:

The original condition of the teeth with previous composite fillings.

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2. Post-Composite Removal State:

After the removal of composite fillings, some underlying material is still observable on the teeth.

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3. Reduction of Molar Tooth:

Due to a crack the affected region of the mesio-buccal cusp had to be taken away.

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4. Cleaned State After Sandblasting:

After sandblasting, the teeth are prepared for adhesive treatment.

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5. Pre-Adhesive Treatment State:

The condition of the teeth before adhesive treatment, with plastic wedges replacing wooden ones between premolars.

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6. IDS (Immediate Dentin Sealing) State:

The state after IDS, where the teeth were treated with adhesive before scanning for increased bond strength.

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7. Pre-Scanning image:

A photo taken before scanning.

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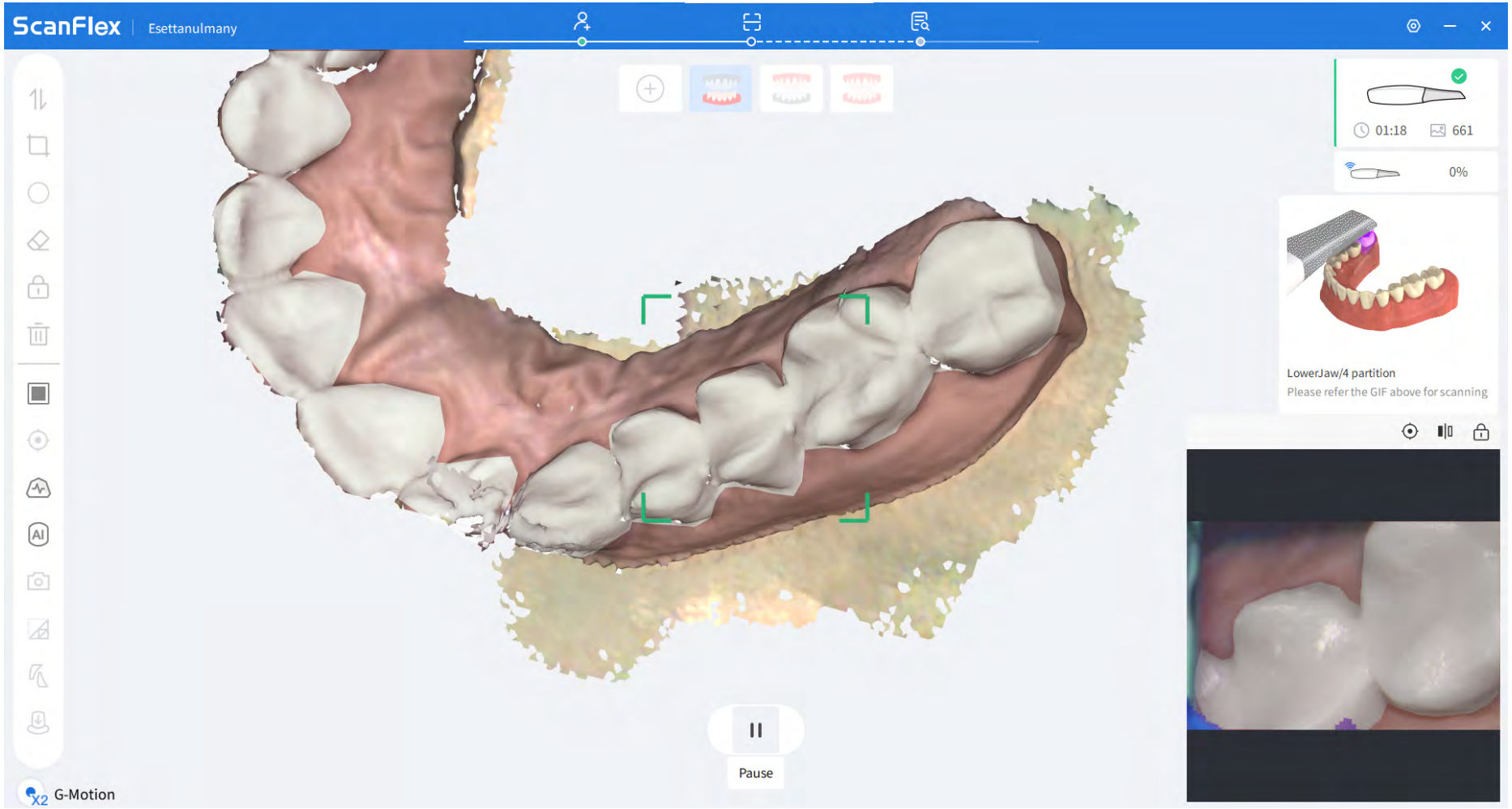

8. Intraoral scanning:

An intraoral scan is taken of the molar with the prepared cavity. As an intraoral scan may easily be ruined by bleeding, the use of a rubber dam is strongly recommended.

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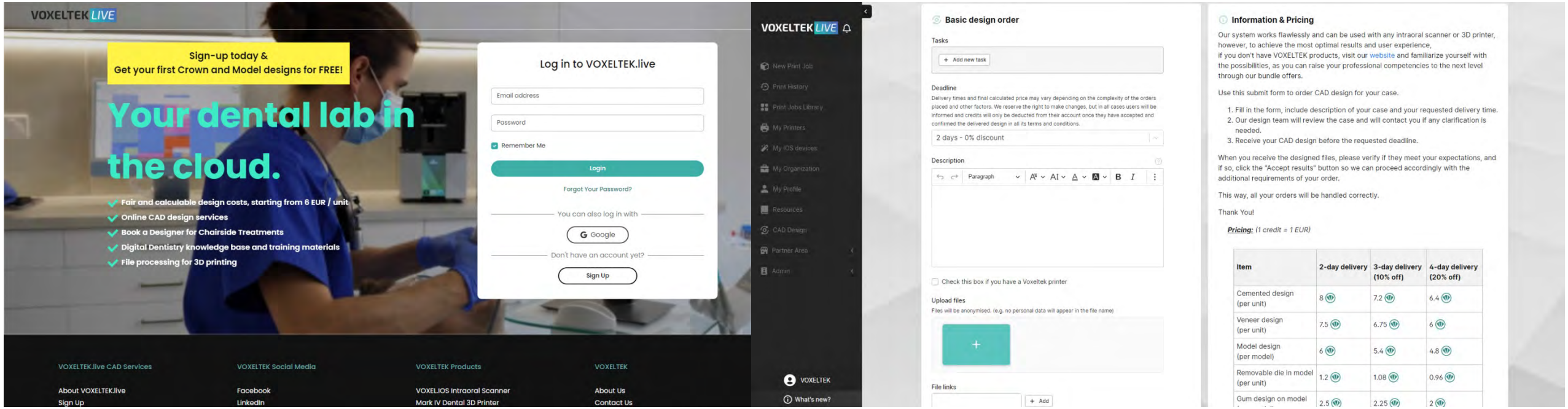

9. Submitting CAD design order:

Through the Voxeltek.live online platform, the assistant uploads the intraoral scans and, if necessary adds comments and special requests to the designer's work. Within 30 minutes the completed designs are sent back to the assistant.

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10. 3D printing the approved inlay design:

Once the assistant has received the plans and the dentist has approved them, the print file can be sent to the Voxeltek M4 dental 3D printer with the click of a button, and the restoration can be made from Class IIa biocompatible material in 30 minutes.

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11. Photo of the Inserts 3D printed on the VOXELTEK M4 printer:

A custom-printed sectional model with VOXELTEK Pro5 model material and Saremco CrownTec A2 permanent composite inlays.

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12. Post-Polymerization Process:

The process of post-polymerization for the inserts.

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13. Inserts to be Cemented:

CNC-milled hybrid ceramic overlay for the second molar and two Saremco CrownTec A2 3D printed permanent composite inlays for the small molars.

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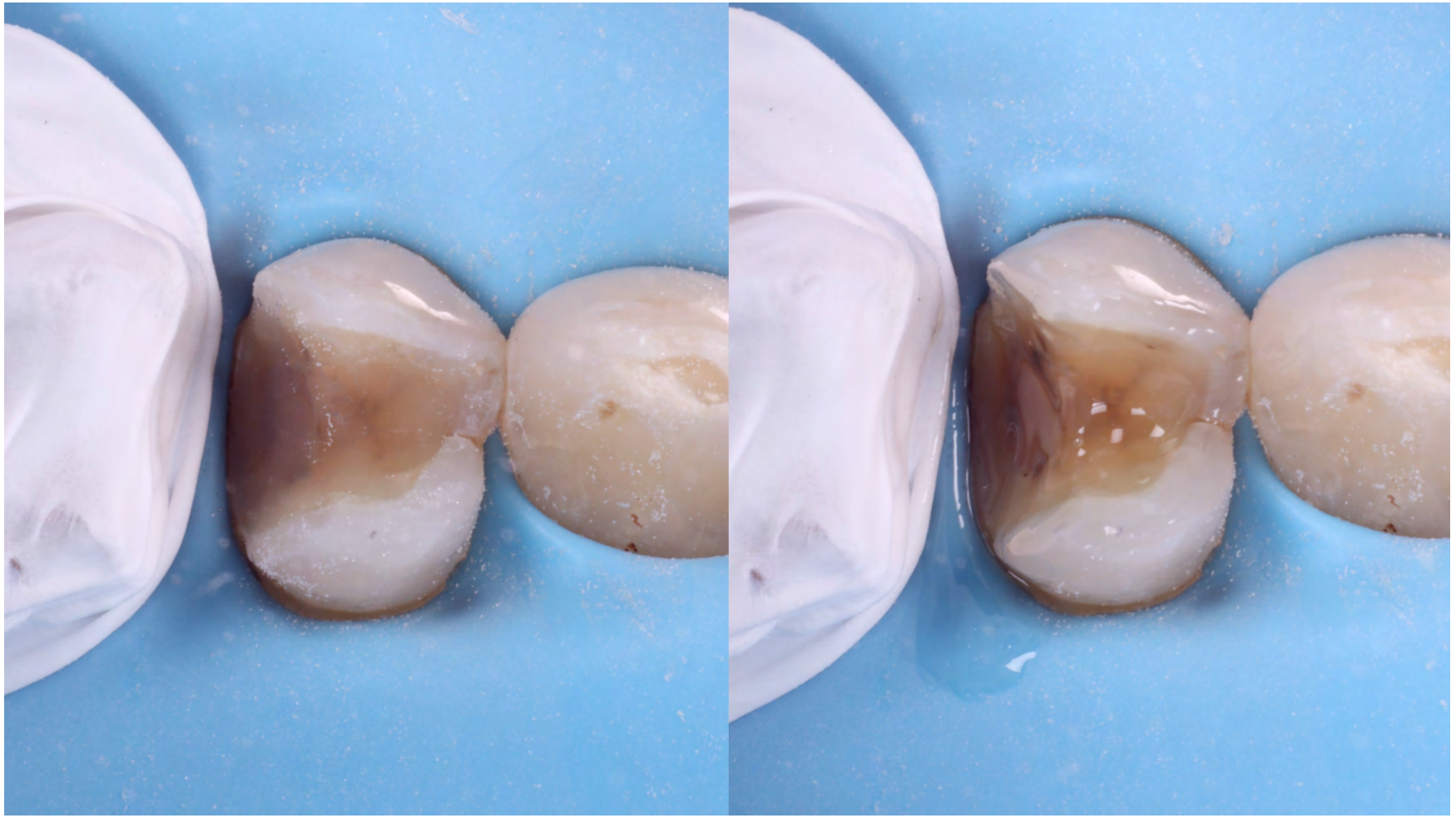

14. Cementation Process:

Activation of IDS surface by sandblasting, neighboring teeth protected with Teflon to prevent contamination. Heated composite material used for cementation.

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15. 3D Printed Composite Inlay Cemented in the First Small Molar

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16. Condition Before Cementing the Second Small Molar

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18. Quadrant Photo of Cemented Replacements:

17 CNC-milled overlays, 14 OD 3D printed composite inlays, 15 MO 3D printed composite inlays.

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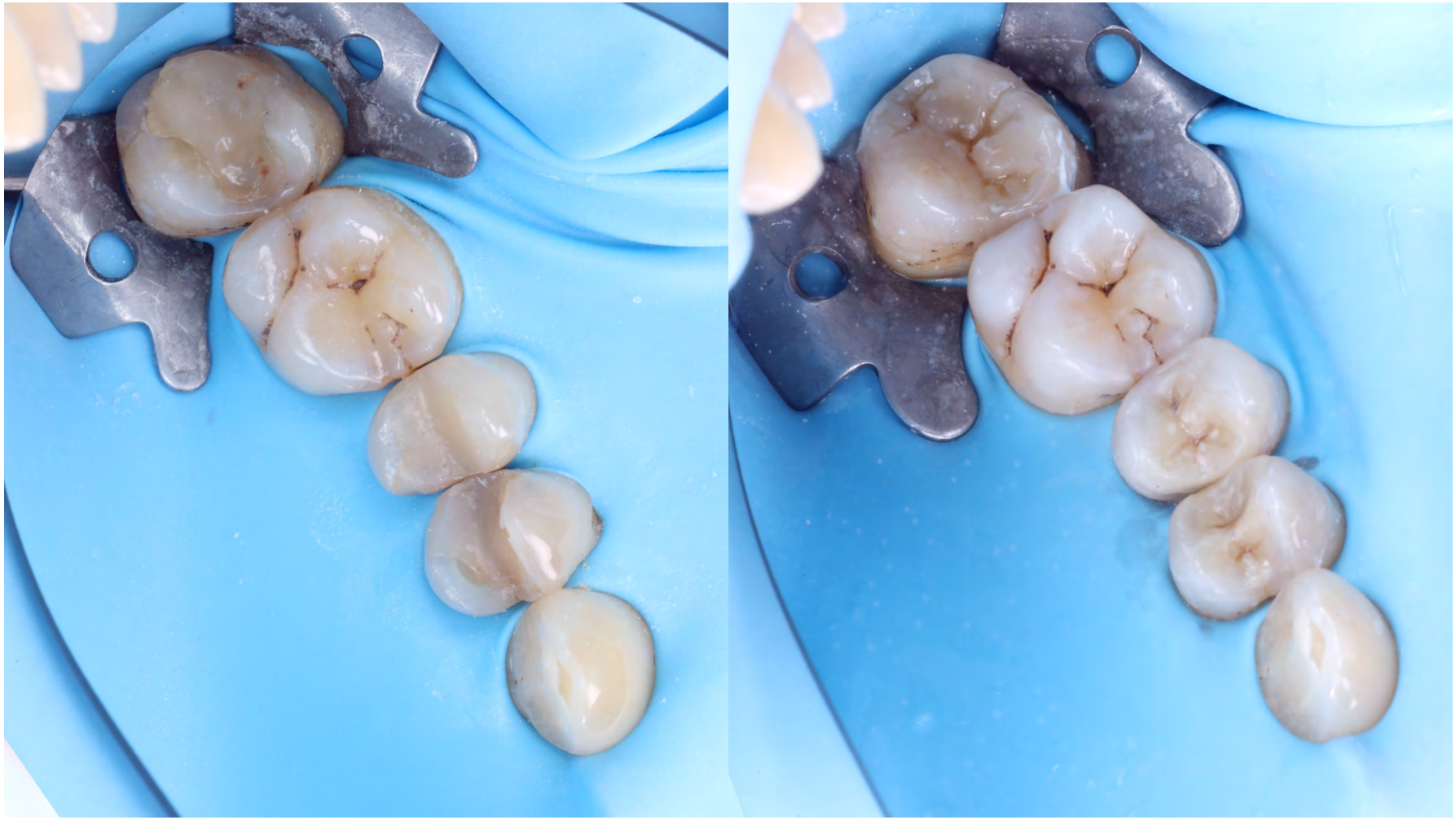

19. Before and After Photo:

A comparative photo showing the condition before and after the inserts were cemented.

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Putting smiles on faces.