

TIPS FROM OUR READERS

Orientation of digital casts according to facial lines

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In ideal situations, the incisal and occlusal lines are parallel to the horizontal facial lines (that is, the bipupillary line or the commissural line),¹⁻² but in many patients, the occlusal plane is canted. This makes it difficult to correctly orient digital casts according to the facial lines

in the virtual environment, because intraoral scans generally provide no references to extraoral structures.³

The present article describes a clinical tip to orient intraoral scans according to facial lines when using digital scans.

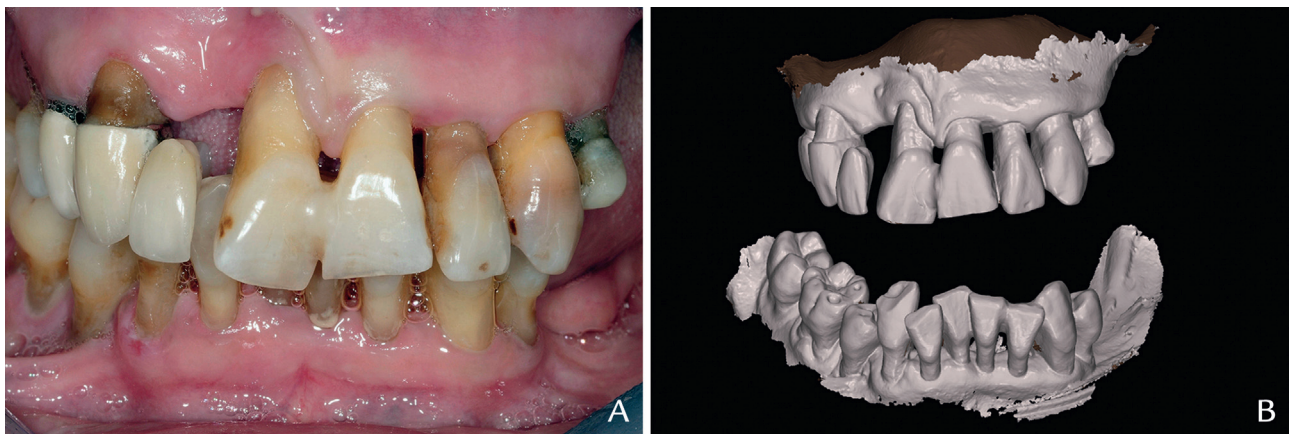


Figure 1. Initial situation. A, Frontal photograph. B, Maxillary and mandibular scans.

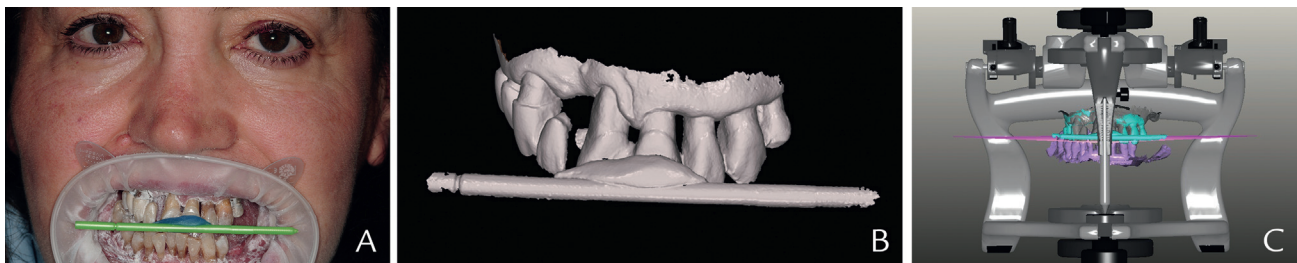


Figure 2. Brush handle fixed to maxillary arch. A, Frontal photograph. B, Auxiliary scan. C, Maxillary and mandibular arch scans superimposed on auxiliary scan.

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1. Make intraoral scans (True Definition Scanner; 3M) of the maxillary and mandibular arches, recording all teeth and their surroundings (Fig. 1).
2. Scan the buccal sulci in maximal intercuspal position, thus allowing the software to place the maxillary and mandibular arches in their correct relation but not yet aligned with facial landmarks.
3. Make an auxiliary scan of the maxillary arch with a microbrush handle (Microbrush Intl) secured with soft wax (Cera Azzurrina; Zingardi) or flowable composite resin to the maxillary incisors approximately parallel to the bipupillary line. (Fig. 2A, B)
4. Position the auxiliary scan so that the brush is parallel to the horizontal plane in the virtual articulator of the laboratory software (Modelier; Zirkozahn). Superimposition between master and auxiliary scan is easily achieved, because the 2 scans have many points in common.
5. After this phase, remove the auxiliary scan and position the mandibular scan from the intercuspal scan as described in Step 2.

The procedure provides a rapid and accurate orientation of intraoral scans according to the bipupillary line (Fig. 2C).

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