Effective Laboratory Communication: Documenting Facial Midline and Incisal Horizontal Plane

One of the most frustrating setbacks on an aesthetic dental treatment is having major discrepancies in the vertical axis of the anterior restorations at the try-in appointment, which commonly is a result of inaccurate recordings of the horizontal axis during the preparation and records appointment.

The “Esthetic CrossRef” is a very simple apparatus that allows the dentist to transfer an accurate relationship of the facial-vertical midline and incisal horizontal plane to the laboratory technician. The information provided with the CrossRef is essential in any esthetic case ranging from two central incisor units to an entire maxillary arch reconstruction. In addition, the CrossRef can be used on any patient with any articulator.

If no record or an inaccurate record is given to the laboratory, the models will most likely be mounted at a flat horizontal axis. The laboratory technician and the dentist will have no idea that the restorations are off the ideal axis until they are inserted in the patient’s mouth at try-in; thus wasting time and possibly creating disappointment to the patient. Depending on the significance of the cant, the dentist may choose to adjust the restorations chair-side subsequently eliminating some of the natural effects that the technician worked hard to create on the restorations.

One of the goals of any practice is to provide greater predictability of results. The Esthetic CrossRef provides an easy, inexpensive, and predictable solution to one the greatest frustrations for dentists, patients, and laboratory technicians: The dreaded remakes.

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Capturing Patient Data Has Never Been So Easy
Esthetic CrossRef Step-by-Step Guide

If the maxillary and mandibular midlines do not match up, the mandibular midline can not be used as a reference point for the final restoration. (Fig. 1)

The CrossRef arch is used to create a locked position between the maxillary and mandibular arches. Bite registration is inserted onto the occlusal surfaces of the teeth and the CrossRef arch. (Fig. 2 & 3)

The arch is centered on the patient’s face and the patient is asked to bite down until the bite registration sets. (Fig. 4)

Place the patient in an upright sitting or standing position. Level the horizontal arm to the patient’s interpupillary line or the horizon depending on the patient’s facial symmetry. Level the vertical arm to the patient’s facial midline. It is always helpful to take a step back and make any minor adjustment at this point (this is one of the major advantages over a stick-bite method where bite registration materials used in that method are time sensitive). (Fig. 5)

Tighten up the screw which locks the arms into the desired position. To secure the registration position during lab transportation, apply a small amount of self cure acrylic such as Luxatemp to the screw hole and lateral space. (Fig. 6)

For some patients, a nasion extender may be inserted in order to avoid contact between the nose and the vertical axis arm. (Fig. 7)

Be sure to separate the arch from the crossbars before sending the patient’s bite record to the lab for mounting.

The CrossRef can be used to mount the working models on any articulator, capturing the horizontal plane and marking the midline. (Fig. 8)

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