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# An Effective Method to Shorten the Period of Lingual Orthodontic Treatment (Corticotomy Assisted Lingual Orthodontics)

**Introduction:** Most common reasons patients hesitate to receive orthodontic treatment are non-esthetic appearance of the orthodontic appliance and long treatment duration. Lingual orthodontics, which has been practiced since late 1970s, resolved the esthetic issue, but the treatment time has remained as a burden for patients and clinicians. Effective method to treat malocclusion esthetically and in a short period of time is corticotomy assisted lingual orthodontics. The authors would like to present a lingual orthodontic treatment combined with corticotomy which enabled the clinicians to finish treatment in half the usual period.

**Main issue & Clinical outcome:** Two adult patients have undergone corticotomy assisted lingual orthodontic treatment. One had Class I malocclusion and the other had Class III malocclusion. The first patient has extra two 2nd premolars in the upper arch and two 1st premolars in the lower arch. The second patient has extra four 1st premolars. Corticotomy was done under local anesthesia. The same clinician performed all procedures. Orthodontic treatment was finished in 15 months in the first patient and 13 months in the second patient. Patients did not report significant pain or discomfort during or after procedure. No side effects and complications were observed during and after orthodontic treatment period.

**Conclusion:** Conventional premolar extraction lingual orthodontic treatment in adults requires two or more extractions to finish the treatment. However, corticotomy reduced the treatment time in half. This coincides with previous research that physical stimulation to alveolar bone leads to increase in cytokines and other bone remodeling substances and results in increased speed of tooth movement. Since corticotomy requires operation with local general anesthesia of one hour or more, this method should be done upon patients' requests, and the procedure should be executed under supervision of oral surgeons and orthodontists.

## Brief Curriculum Vitae

- Jaewon Choi, DDS, PhD
- Wonkwang University College of Dentistry (1996-2002)
- Oral and Maxillofacial residency, Hallym University Kangdong Sacred Heart Hospital (2002-2006)
- Orthodontic residency, Dental School, Tsurumi University, Japan (2007-2011)
- PhD, Dental School, Tsurumi University, Japan (2007-2011)
- Clinical Instructor, Hallym University Kangdong Sacred Heart Hospital (2010)
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