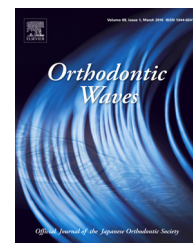


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Original article

# Treatment effects of mandibular anterior position training versus a fixed Class II corrector in growing patients with skeletal Class II malocclusion

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## ABSTRACT

**Purpose:** To compare treatment effects of Class II elastics and anterior mandibular position training against fixed Class II corrector (PowerScope™) during the correction of skeletal Class II malocclusion with fixed appliance in growing patients.

**Materials and methods:** Thirty-six growing patients with skeletal Class II malocclusion with a retruded pogonion position were randomly allocated to the Class II elastics or PowerScope™ groups. Preadjusted edgewise fixed appliances were used in both treatment groups. Skeletal, dental and profile changes were compared using lateral cephalograms taken before ( $T_0$ ), after initial alignment ( $T_1$ ) and after Class I obtained ( $T_2$ ) for 16/18 patients in the Class II elastics group and 15/18 patients in the PowerScope™ group.

**Results:** The duration of treatment was significantly longer for the Class II elastics group than PowerScope™ group. In terms of skeletal changes, Class II elastics increased mandibular length, midfacial length and mandibular plane angle significantly more than the PowerScope™. In terms of dental changes, Class II elastics increased dental height significantly more than the PowerScope™.

**Conclusions:** Both treatment modalities reduced severity of Class II malocclusion and decreased profile convexity. Class II elastics with anterior mandibular position training increased mandibular length more but required longer treatment duration. The PowerScope™ had a greater effect on maxillary dento-alveolar restriction. (ClinicalTrials.in.th: TCTR 20180220003).

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## 1. Introduction

Mandibular retrognathism is one of common characteristics in children with Class II division 1 malocclusion [1]. Young adults with Class II malocclusion who do not receive treatment

exhibit significant mandibular retrusion due to growth deficiency during adolescence [2,3]. Skeletal and dental Class II disharmony cannot self-correct [3,4]; various treatment approaches have been applied during the pubertal growth spurt [4]. Headgear, functional appliances and fixed orthodontic appliances reduce the severity of Class II relationships

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