

# Treatment effects of the functional appliance SOS-Activator in children with Class II skeletal discrepancy

Evangelidis V., Chatzigianni A, Kolokitha O.E., Papadopoulos M.A.

*Department of Orthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece*



Aristotle  
University of  
Thessaloniki

## Introduction

Class II malocclusion is a common orthodontic discrepancy. In growing individuals, the use of functional devices to produce a forward advancement of the mandible or the use of Headgear to restrict the advancement of the maxilla by producing a distal force to the upper molars have been proposed for many years.

## Aim

The aim of the study was to study the effects of the functional appliance SOS-Activator. This appliance has a special design in order to produce both a forward movement of the mandible and a headgear effect on the maxilla. Its design allows the device to be applied concurrently with full fixed appliances on the upper arch.



## Materials and methods

Cephalometric analysis of initial and progress cephalometric radiographs of 24 Class II growing patients, treated with the SOS-Activator, at the Postgraduate Clinic of the Department of Orthodontics of the Aristotle University of Thessaloniki was conducted (Group 1-G1). The control group comprised of untreated Class II growing individuals of the Bolton Growth Study (Group2-G2).

## Results

- Both the treated and untreated groups were equivalent in gender and in anteroposterior and vertical plane at the beginning of the treatment.
- The variables that after treatment presented statistically significant differences ( $p < 0,05$ ) and showed great improvement with the use of SOS-Activator were: ANB ( $-1,64^\circ$  G1 and  $0,08^\circ$  G2), Wits ( $-1,47$  mm G1 and  $1,48$  mm G2), NA-Pog ( $-3,47^\circ$  G1 and  $-0,47^\circ$  G2), H-angle ( $-2,73^\circ$  G1 and  $0,7^\circ$  G2), SN-SGn ( $-0,67^\circ$  G1 and  $0,47^\circ$  G2) and 1i-APog ( $1,34^\circ$  G1 and  $-0,3^\circ$  G2).

## Conclusions

The SOS-Activator has an efficient effect on the Class II correction in growing patients in the short term. Class II malocclusion was reduced and the convexity of both the skeletal and soft tissue profiles were improved.

- The authors declare that they have no competing interest.