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The role of intercuspation in the regulation of transverse maxillary development in *Macaca fascicularis*

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ABSTRACT

The role of intercuspation of the teeth in transverse maxillary growth and dental arch development was investigated radiographically with the aid of implants in *Macaca fascicularis* monkeys. Fourteen animals were randomly allocated to a control group (n=7) and an experimental group (n=7) and were followed from 29 to 100 weeks of age.

Intercuspation was eliminated in the experimental group by grinding the canines and molar cusps in both dental arches as soon as possible after emergence. Maxillary occlusal radiographs were taken at regular intervals. Linear and angular analyses of skeletal changes revealed that midpalatal sutural growth seems to be independent of intercuspation. The developing dental arch, however, showed a significantly greater increase in width in certain areas in the experimental group than in the control group. Most findings support the hypothesis that the width of the maxillary dental arch is guided by the width of the mandible through the intercuspation of the posterior teeth.

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