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[Am J Orthod Dentofacial Orthop](#). 2010 Mar;137(3):324-33.

### **Dental effects of interceptive orthodontic treatment in a Medicaid population: interim results from a randomized clinical trial.**

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#### **Abstract**

**INTRODUCTION:** There are disparities in access to orthodontic treatment for children from low-income families. Systematic programs of limited-care interceptive and preventive orthodontics have been proposed as a solution. The purpose of this randomized clinical trial was to compare dental outcomes and funding eligibility from a group of Medicaid patients randomized to receive interceptive orthodontics (IO) in the mixed dentition or observation (OBS).

**METHODS:** One hundred seventy Medicaid-eligible children were randomized to receive IO or OBS and followed for 2 years, when complete data were available on 72 and 74 children, respectively. The 2-year changes in the peer assessment rating (PAR) were compared using the Student t test. The proportions of children no longer eligible for Medicaid funding as defined by handicapping labiolingual deviation (HLD) scores less than 25 at the 2-year follow-up were compared with the chi-square test.

**RESULTS:** The IO patients had significantly greater decreases in the PAR scores—50%—compared with the OBS subjects, -6% (P <0.001). Negative and positive overjet and maxillary alignment were the components most affected by IO; they decreased by 11.0, 7.2, and 3.7 PAR points, respectively (P <0.001). Overbite showed little change. At the 2-year follow-up, 80% of the IO patients' malocclusions that qualified initially were no longer deemed medically necessary by the HLD index, compared with 6% in the OBS group (P <0.001).

**CONCLUSIONS:** IO significantly reduces the severity of malocclusions and moves most from the "medically necessary" category to elective but does not produce finished results for most patients. Overjet and alignment were most readily corrected by interceptive treatment. Deep overbites were the least susceptible to IO correction.

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#### **Comment in**

[J Evid Based Dent Pract](#). 2011 Mar;11(1):31-2.

PMID: 20197168 [PubMed - indexed for MEDLINE]

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 (May 2005)

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### The effectiveness of phase I orthodontic treatment in a Medicaid population

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Received 15 December 2003; received in revised form 9 February 2004; accepted 9 February 2004.

**Background:** The effectiveness of early orthodontic treatment for Medicaid-enrolled children in the mixed dentition was assessed and compared with results in a population of private-pay patients. **Material:** Pre- and posttreatment casts from 196 subjects treated with interceptive orthodontics in the mixed dentition were evaluated by using the peer assessment rating (PAR) index and the index of complexity, outcome, and need (ICON). Ninety-six of the patients were treated at Odessa Brown Community Clinic in Seattle; their treatment was paid by Medicaid. One hundred private-pay patients were treated at the University of Washington graduate orthodontic clinic. The Medicaid and private-pay populations were comparable with respect to initial severity of malocclusion, as assessed by both indexes. **Results:** PAR and ICON scores fell by similar amounts in the Medicaid (44.1% and 37.5%, respectively) and private-pay (46.8% and 37.3%, respectively) populations. Thus, the groups exhibited similar degrees of improvement with interceptive orthodontic treatment. According to the PAR and ICON, midline discrepancy, overjet, and esthetics exhibited the greatest improvement. The Medicaid population missed significantly more appointments and had poorer oral hygiene than the private-pay group, but these factors did not appear to worsen the outcomes, as measured by the 2 indexes. An appliance with 2 bands and 4 brackets was the most commonly used, and it produced the most significant treatment effect. **Conclusions:** Phase I orthodontic treatment significantly reduces malocclusion severity in Medicaid and private-pay populations. There was no difference in initial severity or final outcome, as assessed by the PAR and ICON, between Medicaid and private-pay populations. The degree of improvement in PAR scores did not appear to be associated with compliance.

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Funded by the University of Washington Orthodontic Memorial Fund.

P11 S0889-5406(04)01105-9