

## EARLY VS LATE TREATMENT FOR CLASS II MALOCCLUSIONS: What does science tell us?

**Historical PREMISE for early class II treatment:** Early class II treatment normalizes the skeletal and dental pattern making later (adolescent) treatment simpler (time and complexity).

In deciding whether or not to provide a 1<sup>st</sup> phase of treatment for class II malocclusion, the following questions are pertinent:

1. Can we modify growth to improve a class II malocclusion?
2. Is there a benefit to modifying growth for a class II patient early (pre-adolescence)?
3. Do appliances (HG, Removable FA, and Fixed FA) differ in modifying growth for this purpose?
4. Is there a benefit to modifying growth early (2-phase) compared to later (1-phase)?
5. Is there a decreased risk of incisor trauma by early compared to later treatment of class II malocclusion?
6. Do appliances (HG, intra-oral distalizing) differ in movement of maxillary teeth to improve class II?

What are the evidence-based answers to these questions?

1. A discussion of the randomized trials providing answers to these questions.
2. A discussion of why randomized trials provide the best evidence for treatment efficacy.
3. A discussion of the evidence-based hierarchy and its application to clinical orthodontics.

Given the weight of evidence toward the answers to the above questions, why is there still debate?

1. The historical debate regarding growth modification for improvement of class II malocclusion – the quality of evidence and the lack of consensus.
2. The debate on the role of evidence in making clinical decisions.
  - a. Criticism of RCT's. Is it fair?
  - b. RCT internal and external validity. Are results always generalizable to practice?
  - c. To what extent does information from RCT's reduce uncertainty?
  - d. Uncertainty tolerance versus treatment risk.
  - e. What knowledge should be used for clinical questions for which no RCT exists or can be applied?
  - f. What knowledge is most important in clinical decision-making? (Art vs. Science)
  - g. Clinicians as consumers of evidence and educators on treatment choice.
  - h. The similar debate in medicine.

What questions about early treatment of class II malocclusion remain unanswered by randomized trials? What evidence exists providing guidance?

1. The exact role of patient variation in growth and compliance on class II treatment outcome
2. The use of fixed-functional appliances in the correction of class II
3. The early treatment of severe class II
4. The early treatment of class II malocclusion with associated vertical problems
5. Male versus female differences

Review and Conclusions