

Relapse

G. VAISHNAVI¹ and E. THULASIRAM²

¹Tagore Dental College and Hospital, Rathinamangalam, Vandalur post, Chennai -600107.

²Department of Orthodontics, Sree Balaji Dental College and Hospital, Bharath University, Pallikaranai, Chennai-600100, India.

*Corresponding author E-mail: yshu1111@gmail.com

DOI: <http://dx.doi.org/10.13005/bpj/738>

(Received: August 15, 2015; accepted: September 20, 2015)

ABSTRACT

Retention, to maintain position of corrected teeth, has become one of the most important phases of orthodontic treatment. When relapse occurs, simple effective strategies are required to effectively manage the problem. Relapse of teeth after orthodontic treatment has been a topic of persistent interest throughout most of this century.

Key words: Schools of thought, relapse.

INTRODUCTION

Maintaining the treatment result following orthodontic movement is the most difficult task of the entire treatment process. Orthodontic relapse can be defined as the tendency for teeth to return to their pre-treatment position, and this occurs especially in lower front teeth¹.

Causes

- 1) Periodontal ligament traction : Relapse occurs due to stretching of periodontal principle fibres and the gingival fibres encircling the teeth². Stretched fibres contract and can cause teeth to come back to original position.
- 2) Due to growth related changes : In patients with skeletal problems associated with class II and class III, there may be continued abnormal growth pattern after orthodontic therapy which leads to relapse.
- 3) Bone adaptation : Teeth moved recently are surrounded by lightly calcified osteoid bone. Thus there will be no adequate stabilization of

teeth leading to relapse.

- 4) Muscular forces : Teeth are encapsulated in all directions by muscles. The tongue applies forces which will move the teeth buccally/labially and the cheeks and lips oppose these forces. If muscular imbalance occurs at the end of orthodontic therapy, relapse observed.
- 5) Persistent etiology : If the cause of malocclusion such as tongue thrusting/thumbsucking/mouthbreathing, if not eliminated, relapse occurs.
- 6) Third molars : If third molar erupt after orthodontic treatment, it exerts pressure on teeth leading to anterior teeth crowding³.

Dealing with relapse

Very minor relapses following the discontinuation of retainer use can be treated by re-use of same retainer or fabrication of new one. Minor relapses can be treated using spring aligners. Relapse in the form of re-crowding need re-proximation reduces the chances of future relapse. Relapse that has occurred as a result of

habits are often given habit breakers, tongue or lip therapy to reduce the chances of future relapse. Very severe relapses may require rethinking about the diagnosis. Extraction of third molars for the purpose of preventing lower incisor relapse is not justified. Relapse of the overjet and overbite are observed due to changes in incisor inclination. The tendency to relapse is slightly greater in class II div 2 cases than in class I div 1 cases⁴.

Schools of thought for relapse

- 1) The occlusion school: 'The occlusion of the teeth is the most potent factor in determining the stability in a new position'. (Kingsley 1880)
- 2) The apical base school: 'Apical base was one of the most important factor in correction of malocclusion and maintenance of corrected occlusion'. (Axel Lundstrom 1925)
- 3) The mandibular incisal school: Mandibular incisors must be kept upright and over basal bone. (Grieve 1944 Tweed 1925)
- 4) The musculature school: Rogers in 1920 introduced a consideration of the necessity

of establishing proper functional muscle balance⁵.

DISCUSSION

Almost most of the conditions like mandibular anterior crowding, arch length and width, arch form, deep bite, anterior open bite, tooth rotations, intrusion, arch expansion, extractions, functional appliance therapy, orthopedic treatment and orthognathic surgeries showed the tendency for relapse after treatment over prolonged period of time⁶.

CONCLUSION

The rapid-to-slow relapse, occurring during the period of remodeling of periodontal structures must be distinguished from late changes occurring during the postretention period⁷. The retention after orthodontic intervention is as important part as active treatment. Relapse happens and the need for prevention is vital.

REFERENCES

1. Cochrane Database syst Rev. 2013 sep6;9:CD008734. doi:10.1002/14051858.CD008734.pub2.
2. Retention and relapse in orthodontics Dr. Ekta Chaudhary.
3. Riolo, M. and Avery, J. EDS., Essentials for orthodontic practice, EFOP Press of EFOP, LLC. Ann Arbor and Grand Haven, Michigan, U.S.A., 2003.
4. Encino place N.E Albuquerque, New Mexico 87102.
5. Angle, Edward H.: Malocclusion of the teeth. Seventh edition, Philadelphia, S.S. White Dental Mfg., co., 1907.
6. Relapse in orthodontics/certified fixed orthodontic courses by Indian Dental Academy.
7. Proffit WR. Relapse in orthodontics.