

# Positive Effects for Patients Seeking Orthodontic Treatment

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## ABSTRACT

Many researchers focused on the side effects of orthodontic treatment forgetting all the psychological, social, and more important all the physical and functional benefits of this treatment, in this paper I will try to focus on these benefits. As Orthodontics is a technical and scientific area of dentistry that not only focuses on functional occlusion, but also can dramatically improve the quality of people's lives by creating an esthetic, pleasing smile, which can increase self-esteem and self-confidence. Whether the patient is a child or adult, I will try to show its bright side.

**KEYWORDS:** Braces, Health Gains, Orthodontics, Treatment Importance

## INTRODUCTION

Orthodontics comes from the Greek words "orthos", meaning correct or straight and (dontos), meaning teeth. It is a specialised branch of dentistry concerned with the development and management of deviations from the normal position of the teeth, jaws and face (malocclusions). A malocclusion is not a disease but simply a marked variation from what is considered to be the normal position of teeth. Orthodontic treatment can improve both the function and appearance of the mouth and face.<sup>1</sup> Appliances (braces) can be fixed or removable and are used to straighten the teeth and encourage growth and development. The main aims of orthodontic care are to produce a healthy, functional bite, creating greater resistance to disease and improving personal Appearance.<sup>2,3</sup> This contributes to the mental, as well as the physical, well-being of the individual.

## BRACES ARE FOR EVERYONE

Orthodontic treatment can be successful at any age. For children, it is best to be seen by an orthodontist by the age of seven to advise if orthodontic treatment is required, and if it's the ideal time for a child to be treated. The first permanent molars and incisors have, usually come in by that time, and cross bites, crowding, and other problems can be evaluated. When treatment is started early, the orthodontist can guide the growth of the jaw and guide incoming permanent teeth. Early treatment can also regulate the width of the upper and lower dental arches, gain space for permanent teeth, avoid the need for permanent tooth extractions, reduce the likelihood of impacted permanent teeth, correct thumb-sucking, and eliminate abnormal swallowing or speech problems. In other words, early treatment can simplify later treatments. For adults, the benefits of a beautiful smile are especially appreciated. One of every five

*How to cite this article:*

Adnan Y. Positive Effects for Patients Seeking Orthodontic Treatment. Int J Dent Med Res 2014;1(3):92-97.

patients in orthodontic treatment is over 21 years old. Bad bites can be detrimental to the patient's health. Restorations, crowns, or bridges are often difficult for a dentist to provide without prior repositioning of the teeth by an orthodontist. Properly aligned and supported teeth are healthier, easier to clean and therefore more likely to last throughout the patient's lifetime.

A person can actually look years younger by straightening crooked teeth or correcting and excessive overbite or underbite. A beautiful smile can increase self-confidence and, in turn, a sense of well-being.<sup>4</sup>

## IMPORTANCE OF ORTHODONTIC TREATMENT

Orthodontic treatment creates radiant smiles, but one should not lose sight that the primary goal of orthodontics is the improvement of oral and dental health by the correction of malocclusions (incorrect positions of teeth and/or jaws). Indeed, crowded teeth are difficult to clean properly, which can contribute not only to the formation of cavities, but also to the development of gum disease and, in some severe cases, to tooth loss. Also, a bad bite caused by teeth that do not fit together properly can lead to chewing and speech impediment, as well as to excessive tooth wear and worsen of certain jaw aches. Besides, the positive effect of a healthy smile on one's self-esteem must not be underestimated, at any age.<sup>5</sup>

All in all, while it is certain that a good dentition contributes to a nice physical look; it also plays an important role in one's health and well-being. Moreover, one must keep in mind that the cost of additional dental care needed to correct problems caused by an untreated malocclusion can exceed the cost of orthodontic treatment.<sup>5,6</sup>

## DURATION OF TREATMENT

Treatment time usually ranges from 1-3 years, depending on the growth of a patient's mouth and face and/Or the severity of the problem. Patients grow at different rates, and will respond variously to orthodontic treatment, so the time to complete treatment may differ from the original estimated time. The patient's diligent use of any prescribed rubber bands and/or other appliances are important factors in achieving the most efficient treatment. Interceptive, or early treatment procedures, may take as few as six months.<sup>6</sup>

## TYPES OF TREATMENT

Metal braces are the most common, and we find them to be most efficient and cost effective. Clear brackets are available for an additional cost. They are somewhat less effective, and the actual treatment time may increase.

## TREATMENT METHODS

- **Orthodontics-only**  
Removable appliances  
Fixed-appliances
- **Growth modification**  
A- Functional appliances  
B- Headgear
- **Orthognathic Surgery**  
Combined approach with Maxillofacial Surgery

## ORTHODONTIC SIDE EFFECTS

There are various side-effects of Orthodontic treatment. They are as follows:

1. Tooth Decay and Enamel Decalcification
2. Periodontal Disease
3. External Apical Root Resorption (EARR)
4. Patient Injuries from Orthodontic Appliances

5. Length of Treatment may vary from Estimate
6. Temporomandibular Joint Disorders may occur
7. Aspiration or Ingestion of Orthodontic Appliances
8. Injury from Dental Instruments
9. Abnormal Wear of Tooth Structure and Debonding Fractures
10. Nickel Allergy
11. Bacteremia after Orthodontic Banding
12. Pain and Discomfort
13. Impacted Teeth 3rd Molars may Still Occur
14. Tooth Mass Discrepancies may not be Resolved
15. Extraction of Teeth and Supplemental Orthognathic
16. Surgery may be Necessary
17. Abnormal Growth Patterns of the Jaws
18. Teeth with Questionable Vitality may be adversely affected
19. Post Treatment Changes in Alignment<sup>7</sup>

## HEALTH GAINS FROM ORTHODONTIC TREATMENT

**A)** Clinical experience suggests that poorly aligned teeth reduces the potential for natural tooth cleansing and increases the risk of tooth decay. Malocclusion could thereby contribute to both dental decay and periodontal disease, which would damage the long-term health of the teeth and gums. As it makes it harder for the patient to take care of their teeth properly.<sup>8</sup> However, the evidence linking periodontal (gum) disease and crowding of the teeth is conflicting. Some studies have found no associations between crowded teeth and periodontal destruction.<sup>8,9</sup>

Others have shown that mal-aligned teeth may have more plaque retention than straight teeth but socioeconomic group, gender, tooth size

and tooth surface have greater influences.<sup>3,10</sup> Studies seem to indicate that malocclusion has little impact on diseases of the teeth or supporting structures as the presence or absence of dental plaque is the major determinant of the health of the hard and soft tissues of the mouth. Straight teeth may be easier to clean than crooked ones but patient motivation and dental hygiene seems to be the overriding influencing factor in preventing gum disease.<sup>9</sup> Having straighter teeth may help moderate tooth brushes to be more efficient with their oral care.

**B)** Improvements in the overall function of the dentition: Teeth which do not bite together properly can make eating difficult. Individuals who have a poor occlusion can find it difficult and embarrassing to eat because of their poor control of either biting through food or poor chewing ability on their back teeth. Adults with severe malocclusion often report difficulties in chewing, swallowing or speech. Studies have found no causative association between orthodontic treatment and jaw joint (TMJ) problems.<sup>11,12</sup> In the main, speech is little affected by malocclusion. However, if a patient cannot attain contact between their front teeth, this may contribute to the production of a speech lisp.<sup>12</sup>

**C)** Prevention of trauma to prominent teeth: The risk of trauma/injury to upper incisors has been shown to increase to 45% for children with significantly protruding upper front teeth.<sup>13</sup> These malocclusions score a Dental Health Component of 5, indicating a “great need” for treatment. Such trauma to the mouth of an untreated child can result in a fracture of the tooth and/or damage of the tooth’s nerve (pulp). Prominent upper front teeth are an important and potentially harmful type of an orthodontic problem. Providing early orthodontic treatment for young children (aged 7-9 years) with prominent upper front teeth is of questionable

clinical significance. It may be prudent to delay treatment until early adolescence. However, important factors such as the psychological impact and the reduction of associated accidents (trauma) to the protruding front teeth need to be evaluated on an individual basis.<sup>14</sup>

**D) Treatment of impacted (buried, partially erupted) teeth:** Unerupted teeth may cause resorption (dissolving) of the roots of adjacent teeth. Cyst formation can also occur around unerupted wisdom or canine teeth. Extra (supernumerary) teeth may also give rise to problems and prevent the normal eruption of a permanent tooth. Unerupted or partially erupted wisdom teeth can often be left alone in the mouth if they are not giving the patient any problems.

**E) Improvement in dental/facial aesthetics:** Often resulting in improved self-esteem and other psychosocial aspects of the individual. Until recently, this aspect has been harder to measure and quantify. A number of studies over the years have confirmed that a severe malocclusion can be a social handicap. Social responses, conditioned by appearance of the teeth, can severely affect an individual's whole adaptation to life (Fig No.1 & 2).

This can lead to the concept of a patient's malocclusion being "handicapping". One of the most significant effects of a malocclusion is its psycho-social impact on the individual patient. There is little doubt that a poor dental appearance can have a profound psycho-social effect on children.

Shaw et al. (1980) found that children were teased more about their teeth than anything else e.g. clothes, weight, ears. A person's dental appearance can have a significant effect on how they feel about themselves.<sup>15</sup> Children and adolescents with poor teeth can often become

targets for teasing and harassment from other children. This results in these patients being unsure of them in social interaction and having lower self-esteem.

Adolescents who complete orthodontic treatment report fewer oral health impacts on their daily life activities than those who had never had treatment. Groups of children who need orthodontic treatment exhibit significantly higher impacts on their emotional and social well-being<sup>16</sup>. Malocclusion has a negative impact on the oral health-related quality of life of adolescents. Children aged between 11 and 14 years.<sup>16</sup>

Old with malocclusion demonstrate significantly more "impacts" i.e. worse quality of life, compared with a minimal malocclusion group based on the IOTN.<sup>17</sup> Johal et al. (2006) investigated the impact that a malocclusion has on a child's quality of life by assessing the effect of an increased over jet (>6mm) or spaced front teeth. These groups of children also had more significant social and emotional issues than Children with well-aligned teeth.<sup>18</sup> Their research also found that both these occlusal traits had a significant negative impact on the quality of life of their parents and other family members.<sup>18</sup>

Shaw et al. (2007) carried out a major multidisciplinary longitudinal study in Cardiff back in 1981 of the initial sample of (1018) 11-12-year-olds. A 20-year follow-up study looked at the dental and psycho-social status of individuals who received, or did not receive, orthodontics as teenagers.<sup>19</sup> Unfortunately, only a third (n=337) of the original sample could be re-examined in 2001 due to a 67% dropout rate. Those patients with a prior need for orthodontic treatment, who had treatment completed as a child, demonstrated better tooth alignment, better self-esteem and (satisfaction with life)

scores. However, orthodontics seemed to have little positive effect on psychological health and quality of life in adulthood. Unfortunately, this long-term study suffered from problems of an archaic treatment regime (mainly removable appliances being used), antique methodology and short retention regime. Its relevance to 21st century orthodontics is, therefore debatable. In summary, it appears that both psycho-social and functional handicaps can produce a significant need for orthodontic treatment in addition to the dental health benefits described.

The benefits of orthodontic treatment include an improvement in dental health, function, appearance and self-esteem. Prospective patients (and their parents) seem to be confident of the gains that they expect to achieve by undergoing a course of orthodontic treatment. The benefits of orthodontic treatment often go beyond improving a person's dental health. People may feel they look better, which can contribute to self-esteem and one's overall quality of life.<sup>20</sup>



Fig No.1: Pre and Post Op pictures of patient



Fig No.2: Pre and Post Op pictures of patient

## CONCLUSION

Orthodontic treatment is still the treatment of choice for any age ranging from children to adults, while there are risks with any treatment modality; those associated with orthodontic treatment are minimal compared to other medical and dental procedures. We live in a society that places a tremendous emphasis on first impressions. Studies have shown how first impressions can influence job recruiting as well as salary offers. It is generally understood that your smile is one of the first characteristics noticed by others. A smile filled with beautifully aligned pearly whites will make a better impression than one that is poorly aligned, so its side effects can be minimized and ignored if we consider the great psychological, social and functional positive effects.

## ACKNOWLEDGEMENT

I would like to take this opportunity to say warm thanks to all my beloved friends, who have been so supportive along the way.

I also would like to express my wholehearted thanks to my family for their generous support they provided me throughout my entire life.

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Source of Support: Nil

Conflict of Interest: Nil