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Timing of Orthodontic Treatment

The American Dental Association has recommended that a child's first dental visit be at two years of age. By this time, the primary dentition is fully developed and the oral health can be fully ascertained. In the proper environment, such an experience can prevent a lifetime of dental anxiety and pave the way for a future of good oral health. Similarly, the *American Association of Orthodontists* has recommended that the proper age for a child's first visits to the orthodontist is seven years, or earlier if a problem is noted by the family dentist or the parents.

There are two general causes of malocclusion and facial disharmony. *Genetic inheritance* may include such things as the pattern of facial growth, congenitally missing teeth or supernumerary teeth. *Environmental factors*, such as thumb sucking or mouth breathing, not only affect the alignment of the teeth but may also affect the growth and development of the entire dentofacial complex. For these reasons it is usually desirable to see the patient as soon as possible so that the timing of treatment can be correlated with the best skeletal, dental and psychological maturation level for the individual patient. This newsletter will outline four broad developmental stages and give examples of some of the therapy commonly carried out in these stages.

Stage I: Early Treatment

This period of development can be said to encompass ages two to six, or until the eruption of the permanent incisors and first molars. At this age, the severity of the problem will dictate the necessary treatment.

Preventive treatment, such as maintenance of arch length in a case of premature tooth loss (due to trauma or dental disease), may be required. Controlling habits such as finger or thumb sucking is often the best done prior to the eruption of the permanent teeth. The correction of anterior crossbites should be initiated as soon as they develop because they can lead to future developmental skeletal problems.

As a general rule, any treatment during this age period is kept simple. Since the child has a limited understanding of the problem and limited ability to comply with the prescribed treatment.



Fig 1 (right)
Skeletal discrepancy : Posterior cross-bite with anterior open-bite. Patient was treated with rapid palatal expansion and a habit appliance.

Stage II: Mixed Dentition

With the eruption of the permanent incisors and the first permanent molars, the child enters the mixed dentition stage of development. This usually occurs ages six to twelve, and represents an excellent time for the correction of dental and skeletal malrelationships. There are several reasons for this:

- Improved psychological development and better understanding of treatment goals.
- Severe skeletal discrepancies may require the orthodontist to have as much control as possible over the magnitude and direction of facial growth.
- During this time, sixteen permanent teeth will erupt, and guidance of this eruption can facilitate the correction of many malocclusions.

Treatment planning for these patients usually emphasizes correction of skeletal problems, as well as any severe dental problems. Fixed appliances such as Rapid Palatal Expander and Herbst appliances may be used. Removable functional appliances, such as twin blocks, biteplanes and protraction face masks, are commonly used during this stage of development. Limited braces and the use of extraoral orthopedic forces (headgears) offer yet another treatment modality to align the dentition in preparation for further jaw



Fig 2:
Skeletal discrepancy : Class III
Patient treated with rapid palatal
expansion and protraction face
mask.

The American Association of Orthodontists recommends all children get a check-up with an orthodontist specialist no later than age 7.

Stage III: Adolescent Treatment

This age group constitutes the majority of the orthodontic patients treated. Two factors contribute to this. First the permanent dentition is present and the orthodontist now has control over the development of the final occlusion. Second, the patients in this age group are undergoing pubescent growth, and this represents an excellent time for correction of most dental and mild skeletal discrepancies. Ages 10 to 14 for females and 11 to 16 will normally present the ages during this period of development. Braces or full fixed appliance therapy, is the most common treatment of choice in the age group, but it may be augmented by any number of fixed or removable appliances.



Fig 3: Before and after of an
Adolescent
bimaxillary crowding case.

Stage IV: Adult Treatment

Orthodontic treatment can be performed at any age, and adults are seeking orthodontic care in increasing numbers. It is estimated that adults make up 25 percent of all orthodontic patients today.

The biggest difference between adult treatment and adolescent treatment is the lack of jaw growth in the adult patient. For this reason, some adult treatment may require orthognathic surgery to perform the jaw movements that are provided by growth in the younger age groups. Some adults seek orthodontic treatment for esthetic reasons, whereas other requires orthodontic treatment as a corrective procedure in case of TMJ dysfunction. Whatever the reason the fixed appliance therapy or braces are the most common appliances used in these patients.

Recently with the introduction of Invisalign, an increased number of adults are seeking treatment. Invisalign offers a virtually invisible appliance for adults. Oral hygiene issues are greatly reduced with this removable appliance system. Although there are certain limitations, Invisalign has proven to be effective in many adult cases.

Other special concerns in adult patients include appliance esthetics, the interrelationship of restorative dental treatment and the maintenance of periodontal health.

Final treatment decisions for adults should be made in conjunction with the family dentist, the orthodontist and other specialists, if necessary.



Fig 5: Before and after of an adult Class II surgical case.



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Fig 4: Adult patient treated with Invisalign. Mandibular crowding corrected.

*****Please note : all cases shown in this newsletter were treated by The Brace Place Doctors*****

Conclusion

The timing of orthodontic treatment is highly variable and depends on the individual problem. The advantages of early treatment and early referrals are:

1. Correction of skeletal discrepancies through control of growth direction and magnitude.
2. Arch development procedures can lead to a decreased incidence of severe crowding in the permanent dentition requiring extractions.
3. Increased self esteem and improved psychological development in the teen years due to an improved appearance.

A basic fact to remember is that malocclusions are not self-correcting. Simply waiting for a patient to grow out of a situation may be harmful by wasting precious treatment time when growth can be utilized to its fullest extent. This does not suggest that everyone is in need of early phase orthodontic treatment, but suspected skeletal problems and severe dental problems should be seen as soon as possible by an orthodontist so that an appropriate treatment plan may be initiated.

References

1. Orthodontics and Dentofacial Orthopedics, : Current Concepts in Orthodontics, 1992
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Orthodontic Update Continuing Education Credit

Orthodontic Update Continuing Education program is designed for the general dentist, dental specialist, and staff members. Readers can earn 2 hours of continuing education credit for each issue. Here's how it works:

1. Read the issue of Orthodontic Update
2. Complete the quiz and return it to the Freehold office. Copies of the quiz will be accepted. **No fee is required.**
3. Upon receipt The Brace Place will process the quiz and issue a continuing education credit report. To facilitate learning through self-instruction, correct answers will be published in the following issue.

Two hours of credit will be awarded for completing this quiz. Continuing education requirements vary from state to state. According to the New Jersey State Board of dentistry, a limit exists on the number of eligible credit hours from a home study course:

Dentists:	10 Credits every 2 years
RDA:	4 Credits every 2 years
RDH:	4 Credits every 2 years
CDA:	Unlimited



Our next issue will be on Impacted Maxillary Canines

Q U I Z

1. T F There are two general causes of malocclusion and facial disharmony: Genetic inheritance and environmental factors.
2. T F The American Association of Orthodontists recommends all children get a check up with an orthodontist specialist no later than age 10.
3. T F The majority of patients treated in this country are in the adolescent group. Two factors contribute to this: 1. The permanent dentition is present, and 2. The patients in this age group are undergoing pubescent growth.
4. T F The biggest difference between adult and adolescent treatment is the lack of jaw growth in the adolescent patient.
5. T F The basic fact to remember is that malocclusions are not self-correcting. Simply waiting for a patient to grow out of a situation maybe harmful by wasting precious treatment time when growth can be utilized.