



Orthotropics Unveiled: Decoding Truths in Dental Growth

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I. INTRODUCTION:

Orthotropics, which derived from the Greek word orthos (straight or correct) and tropos (growth), was created in 1966 to direct the forward growth of the upper and lower jaws. The term "Facial Orthotropics" refers to the Face's Growth Guidance.^[1]

The term "orthotropics" was coined by Dr. John Mew, a British orthodontist, and his father Dr. Robert Mew^[1]. It emphasizes on early intervention and the influence of oral posture, muscle function, and breathing on craniofacial development.

Similar to Moss' Functional Matrix theory, orthotropics emphasize the importance of function in craniofacial development. They recognize that oral function, including breathing, swallowing, and posture, can influence the growth and development of the face and jaws. Both concepts share a holistic perspective on orthodontics, in the interconnectedness of functional matrices and skeletal growth.^[7]

While there are similarities, Orthotropics has faced criticism within the orthodontic community for the perceived lack of robust scientific evidence supporting its claims, especially in adults. The Functional Matrix Theory, while acknowledging the importance of soft tissues, is a broader concept that encompasses various factors influencing craniofacial growth.

HISTORY OF ORTHOTROPICS:

Early Developments: The Orthotropics philosophy began to take shape in the mid-20th century. Dr. John Mew and his father Dr. Robert Mew, both orthodontists, were inspired by observations and theories about craniofacial growth, particularly the impact of oral posture and muscle function on facial development.

1960s-1970s: Dr. John Mew began to develop his ideas and treatment approach further.

He proposed that improper tongue posture, mouth breathing, and other oral habits could contribute to malocclusions (misalignments of the teeth and jaws). He advocated for early intervention in childhood to address these issues and guide facial growth in a more favorable direction.^[2]

Functional Appliances: Functional appliances like the "Biobloc" and the "Myobrace" have been introduced which encourage proper oral posture and muscle function, aiming to influence the growth of the jaws and improve overall facial harmony. These functional appliances gained attention within the Orthotropics community.

Evolution and Adaptation: Over time, the Orthotropics philosophy evolved, and its concepts were refined based on clinical experience and patient outcomes. Advocates of Orthotropics continued to promote the idea that early intervention and proper oral posture could contribute to improved facial development and orthodontic outcomes.

Research and Continuing Development: While Orthotropics faced challenges in gaining widespread acceptance in the orthodontic community, ongoing research and developments have contributed to the understanding of craniofacial growth and the potential impact of oral posture. Some practitioners within the Orthotropics community have conducted studies and shared case reports to support their approach.

KEY CONCEPTS OF ORTHOTROPICS:

Facial Growth Guidance:

Orthotropics places a strong emphasis on encouraging natural facial growth patterns, suggesting that proper oral posture, muscle balance, and functional habits can contribute to more harmonious facial development.

Early Intervention:



Orthotropics advocates for early intervention, often during childhood, when the growing bones are more responsive to guidance. This early treatment aims to correct oral habits and posture that might negatively impact facial growth.

Breathing and Tongue Posture: [3, 4, 5]

Proper nasal breathing and correct tongue posture against the palate are considered crucial components of facial and dental development according to the Orthotropics philosophy. This approach suggests that these factors can impact the growth of the upper jaw and the alignment of the teeth, leading to an early correction of such deleterious habits, thus preventing conditions such as obstructive sleep apnea.

Avoidance of Extractions: [8]

One distinctive aspect of Orthotropics is its resistance to the extraction of permanent teeth as a routine part of orthodontic treatment. Advocates of Orthotropics believe that encouraging proper facial growth can often negate the need for extractions in cases of crowding. Although this concept can only be limited to certain cases.

CRITICISM AND CONTROVERSY:

While the Orthotropics philosophy has gained a following among some practitioners and patients, it has also faced criticism and skepticism within the broader orthodontic and dental community. Some of the criticism revolves around the lack of extensive scientific evidence supporting certain claims made by Orthotropics proponents. Critics argue that while proper oral posture and habits are important, they may not be the sole determinants of craniofacial development and orthodontic issues.

Lack of Strong Scientific Evidence: [6]

The controversy surrounding Orthotropics centers on the perceived lack of robust scientific evidence supporting its claims, particularly in adults. Skepticism arises from disagreements within the dental and orthodontic communities regarding the efficacy of orthotropics in achieving significant changes in facial shape for adults. Skeletal growth constraints in adults, coupled with potential resistance to altering habits, pose challenges for non-surgical methods. Some professionals acknowledge the potential benefits of aspects like maintaining good posture and oral habits for adults' dental health and overall well-

being. However, critics argue that the extent to which these factors influence craniofacial growth and orthodontic outcomes remains debatable. Limited large-scale, controlled studies supporting Orthotropics contribute to skepticism among orthodontists and researchers. While some aspects of the philosophy are deemed reasonable, the suitability of Orthotropics for adults seeking substantial changes in facial appearance or dental alignment is questioned, prompting consideration of alternative orthodontic approaches or surgical interventions.

Focus on Skeletal Growth:

Orthotropics places a strong emphasis on guiding facial growth and skeletal development through interventions during childhood. Critics argue that while early intervention can be beneficial in certain cases, it may not be a universally applicable approach to all orthodontic issues. Skeletal growth is influenced by complex genetic and environmental factors, and some orthodontic problems may require different treatment approaches.

Reservations About Extractions:

Orthotropics is often critical of the routine extraction of permanent teeth as part of orthodontic treatment. While some supporters believe that proper facial growth can prevent the need for extractions, critics argue that extractions are sometimes necessary to achieve proper alignment and occlusion, particularly in cases of severe crowding.

Limited Acceptance Within Mainstream Orthodontics:

The Orthotropics philosophy challenges certain established practices within traditional orthodontics. This has led to skepticism and reluctance among many mainstream orthodontists to adopt Orthotropics as a primary treatment approach. The differences in treatment philosophy and techniques have led to divided opinions within the orthodontic community.

Unconventional Appliances and Techniques:

Concerns have been raised over the efficacy and safety of some of the treatment's appliances, including the functional "Biobloc" and "Myobrace", contending that there may be little



data to support the effectiveness of these gadgets and that people may respond differently to them.

Emphasis on Myofunctional Therapy:

Orthotropics places a strong emphasis on myofunctional therapy to improve oral posture and muscle function. While proponents believe in the benefits of myofunctional exercises, critics argue that the degree to which these exercises can impact craniofacial growth and dental alignment is unclear.

Commercialization and Marketing:

Some critics raise concerns about the marketing and commercialization of certain Orthotropics products and programs. They worry that individuals seeking alternatives to traditional orthodontics might be drawn to promises of facial enhancement and alignment correction without fully understanding the evidence behind these claims.

II. CONCLUSION:

Orthotropics can be seen as a departure from traditional orthodontic approaches, which have a long history of research and established treatment protocols. As with any treatment philosophy, it's important for individuals to consult with qualified orthodontic professionals who can provide personalized recommendations based on evidence-based practices and an understanding of a patient's unique needs.

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