

# *Facial Type in Relation to Masseter Muscle Thickness and Maximum Bite Force*

*Among Iraqi adult females*

A thesis

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## ***Abstract***

Orthodontics pay a lot of attention on craniofacial morphology during diagnostic phase but the lateral cephalograms and photographs didn't provide enough information about the relation between facial soft and hard tissue or between form and function which are complexly interrelated. The purpose of this study was to evaluate the relation between different facial type, masseter muscle thickness and maximum bite force in Iraqi adult females.

The sample consisted of 75 Iraqi adult female aged 18-25 years with different facial types. It was classified into three groups. Each group consists of 25 females. The first group had a short facial type. The second group had a normal facial type. The third group had a long facial type. Facial type determination was performed for each individual by anthropometric measurements of the facial width and facial height. Then masseter muscle thickness measurements were performed by an ultrasonography and maximum bite force measurements were performed by a digital device (**GM10**, Naganokeiki, Japan) which was used especially for this study.

The following results were obtained:

1. The masseter muscle thickness during contraction was higher than that during relaxation in all facial types.
2. The masseter muscle thickness during contraction and the masseter muscle thickness during relaxation were higher in short face than other two facial types.
3. The maximum bite force was higher in short face than other two facial types
4. There were highly significant differences in masseter thickness during contraction, masseter thickness during relaxation and maximum bite force between different facial types.