## Evaluation Of The Clinical Efficiency Of Two Different Techniques For Maxillary Canine Retraction. (A Comparative Clinical study)

## A Thesis

Submitted to the College of Dentistry, University of Baghdad In Partial Fulfillment of the Requirements For the Degree of Master of Science In Orthodontics

> By Firas Farouq Qulonchy B.D.S

Supervised by Prof. Dr. Ausama A. Al-Mulla B.D.S, Dr.D.Sc. (Ortho.), France

Baghdad-Iraq

2005

## Abstract

A clinical study of maxillary canine retraction by using canine retraction spring (sectional mechanic) and Nickel Titanium closed coil spring (sliding mechanic) was performed to evaluate the clinical efficiency of both of them.

The sample of this study consist of 25 Iraqi orthodontic patients class ii division 1 (11males, 14 females) with age group (12-25 years) who attended the orthodontic department in the College of Dentistry, University of Baghdad.

After extraction of the two first upper premolars each patient was subjected to two different mechanisms for upper canine retraction, the sectional canine retractor used in the right side with initial force of 150 gm and the Nickel Titanium closed coil springs used for the canine retraction in the left side with initial force of 200 gm which was measured by clinical force gauge. Sliding mechanism along 0.018 inch stainless steel archwire in 0.022 x0.028 inch edgewise-stainless steel brackets system was used. The distance traveled by the canine was measured by using stone model and acrylic plug. The amount of canine rotation after retraction was measured by a special computer program. The sample was divided into two age groups (12-17) &(18-25) to evaluate the effect of age on the rate of tooth movement. The obtained results were:

1. There is no significant difference between the Nickel Titanium closed coil spring and the sectional canine retractor in the rate of canine movement although the sectional canine retractor is slightly faster.

2. There is no significant difference between the Nickel Titanium closed coil spring and the sectional canine retractor in the rate of anchorage loss although the sectional canine retractor tended to cause slightly more anchorage loss.

3. There is no significant difference between the Nickel Titanium closed coil spring and the sectional canine retractor in the degree of canine rotation although the canine retractor tended to show more rotation than the Nickel Titanium closed coil spring in the degree of rotation during the retraction.

4. The younger the age groups are, the faster the rate of canine movement