Abstract
The orthodontic correction of deep overbite can be achieved with several mechanisms that will result in true intrusion of anterior teeth. Deep overbite correction by intrusion of anterior teeth affords a number of advantages including simplifying control of the vertical dimension and allowing forward rotation of the mandible to aid in Class II correction. Intrusion of anterior teeth to correct deep overbite may be indicated in patients with unaesthetic excessive maxillary incisor showing at rest and a deep mandibular curve of Spee associated with a long lower facial height. This article highlights the treatment of deep bite with Cetlins intrusion arch.

Key words: Deep bite, Class II division 2, Intrusion

Introduction
Most Class II division 2 malocclusion manifests a deep overbite. This can be corrected by intrusion of the upper front teeth. By intruding the anteriors the roots of the incisors are brought to a wider part of the premaxilla, which makes retraction and torque control of the incisors easier and reduces the risk of encroaching on the labial or palatal cortex."

Basic principles
Intrusion of upper incisors is difficult. An appropriate, effective and clinically manageable biomechanical system is required. Burstone has listed the important principles for obtaining intrusion: light and constant force, single point of force application, sequential intrusion, good control of anchorage, analysis of forces and moments involved in different biomechanical situation.

Light constant force
About 20 gms of force is sufficient to intrude upper incisor. If heavier force is applied leads to root resorption and anchorage control could become very crucial. Therefore to intrude incisors wire with low deflection rate should be used. 0.018” Australian special plus wire is wire of choice. This intrusion arch is given by Norman Cetlin. Helices are used to engage light retraction elastics if needed. They can be opened to facilitate insertion and removal. Intrusion force is provided with two tipback bends 2-2.5mm in front of molar auxiliary tube. Bends allows sliding when incisors are intruded and retracted.
Single point of force application

Even a round wire in edgewise slot tends to produce torque due to 2 point contact. The derived force system is indefinite and unpredictable. Secondary effects vary in such system. Hence intrusion arch wire tied to sectional wire. In this way forces are applied to single point and it is easy to manage.

Anchorage control

Control of the reacting unit is crucial. On molars, extrusive forces and movements that tend to tip the crown distally are applied. To limit these undesired movements, intrusive forces are kept low. Few appliances can be added to molars to enhance the anchorage.

These are-
1. Low palatal bar to counteract extrusive components
2. High pull headgear to counteract extrusive and tipping movements
3. Sectional wire from first to second molar to prevent distal tipping

Case report

A 23 year old female reported with the chief complaint of irregularly placed upper front teeth. She had skeletal and dental class II malocclusion with upper and lower anterior crowding. She had an overbite of 7mm (100 %) and anterior marginal gingival discrepancy. (Fig 1)

Treatment progress

Only upper anteriors were bonded initially. Cetlins intrusion arch made up of sectional 0.017x.025 stainless steel wire was placed in the upper centrals. In the auxiliary tube 0.016 premium plus wire with the anchor bend was placed. Intrusion forces of 40 gm was balanced, which guided upper incisor root apices lingually, thereby reducing the need for root torque to finish the case. Though, anchor bend in upper arch wire will procline the upper incisors, because of tight cinch the incisors did not procline and there was controlled root movement of central incisors lingually. After 2 months sectional wire 0.019x.025 stainless steel wire was placed in the upper centrals. (Fig 2) In the auxiliary tube 0.018 premium plus wire with the anchor bend was placed. 4mm of intrusion was achieved in 5 months which has corrected the deep bite and anterior gingival margin discrepancy. (Fig 3) Case was treated with fixed functional appliance (Forsus) and treatment was completed in 18 months. (Fig 4) Pre and post radiographs shows absence of root resorption. (Fig 5)
**Conclusion**

There are several factors that need particular focus in class II division II malocclusions. Almost by definition, the upper incisors, being retroclined by forces from the lip morphology are likely to be also extruded. A study by Lapatki found that the upper incisor tips are indeed at a more inferior position in class II division II malocclusions than in class I. Intrusion of the incisors is therefore likely to be a sensible biomechanical aim. In some Class II, division 2 malocclusions, the incisors are so severely tipped backward that the center of resistance (CR) is in front of the point of force application (PFA). Proclination before intrusion may cause extrusion of the incisors and impaction of their roots on the palatal cortex of the premaxilla. In this biomechanical system, the PFA should be moved in front of the CR. Intrusion with this method is easier and stable.

**References**