



Treatment possibilities of Class III malocclusions

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Semmelweis Egyetem

Gyermekfogászati és Fogszabályozási
Klinika



Outline

Diagnosis of Class III malocclusions

Treatment timing of Class III

Treatment options for Class III

Conservative tx

Semiconservative tx

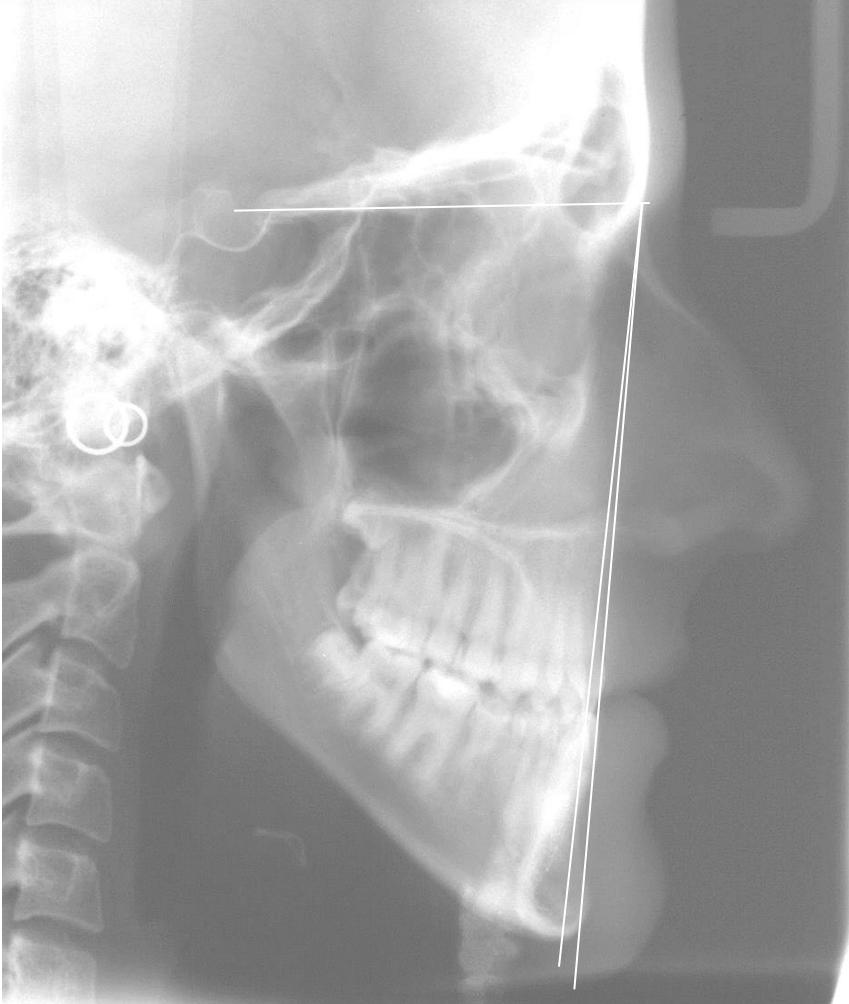
Semiinvasive tx

Surgical tx

Case presentations



Skeletal diagnosis



ANB : -2°

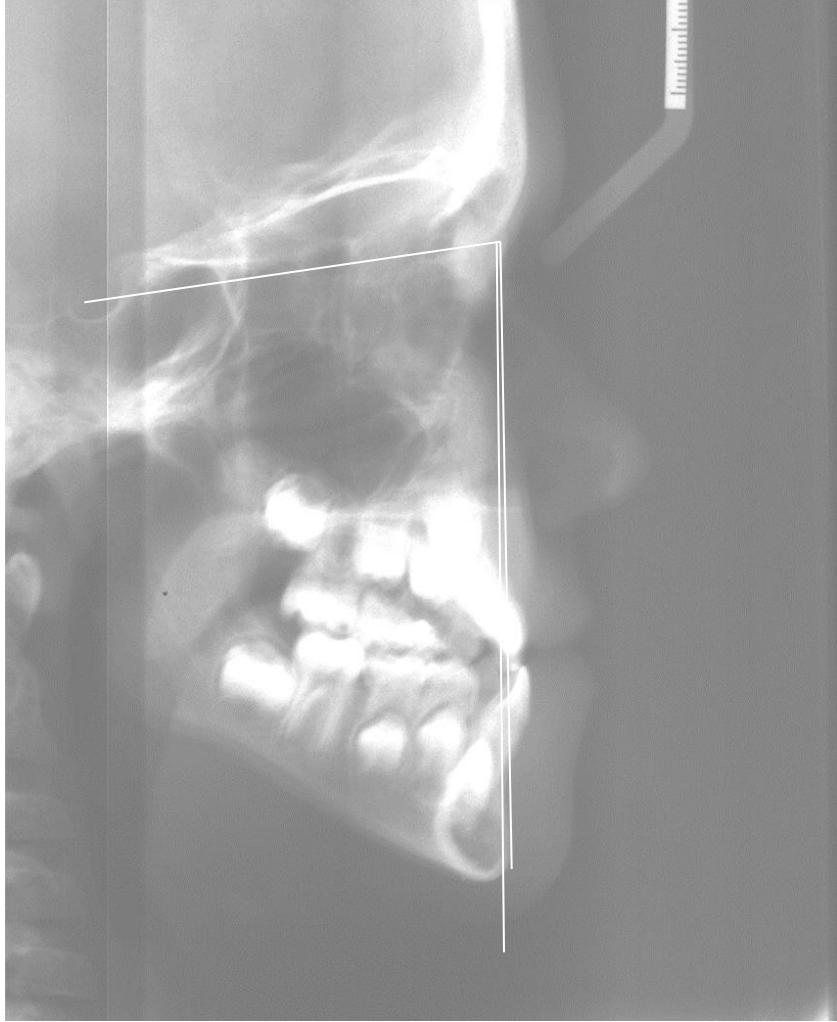
Norm. : 2°







Skeletal diagnosis



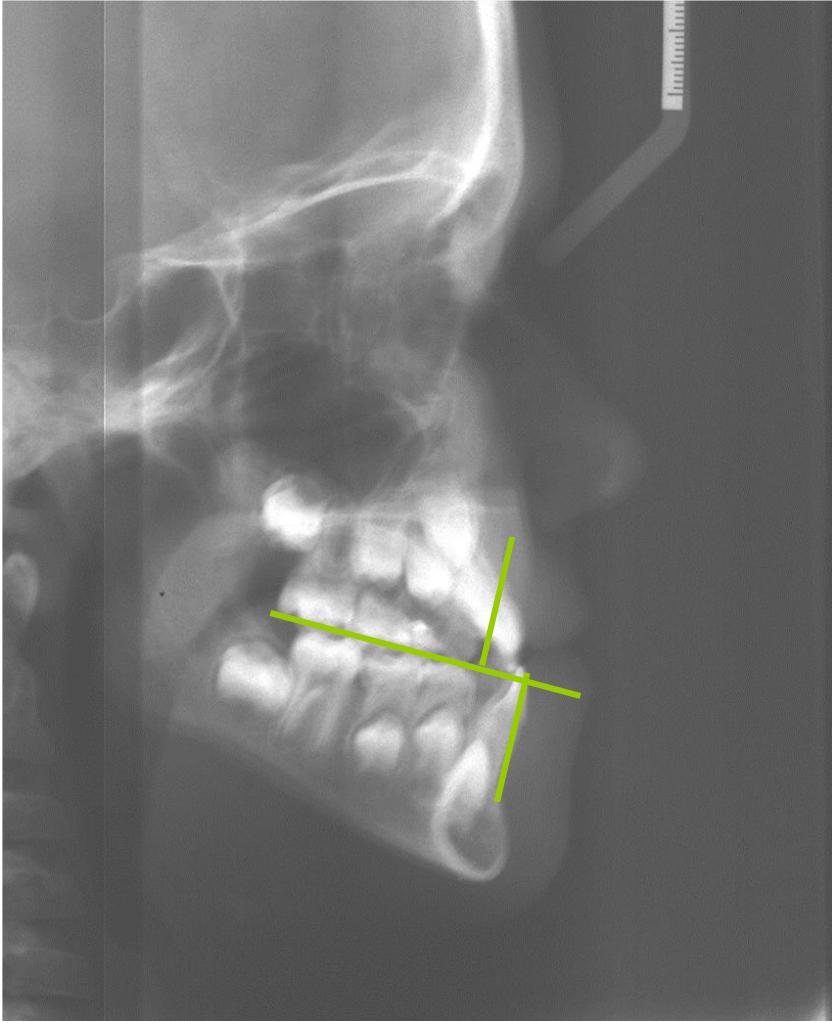
$ANB = +0.5^\circ$

Norm. : 2°





Szkeletális diagnózis

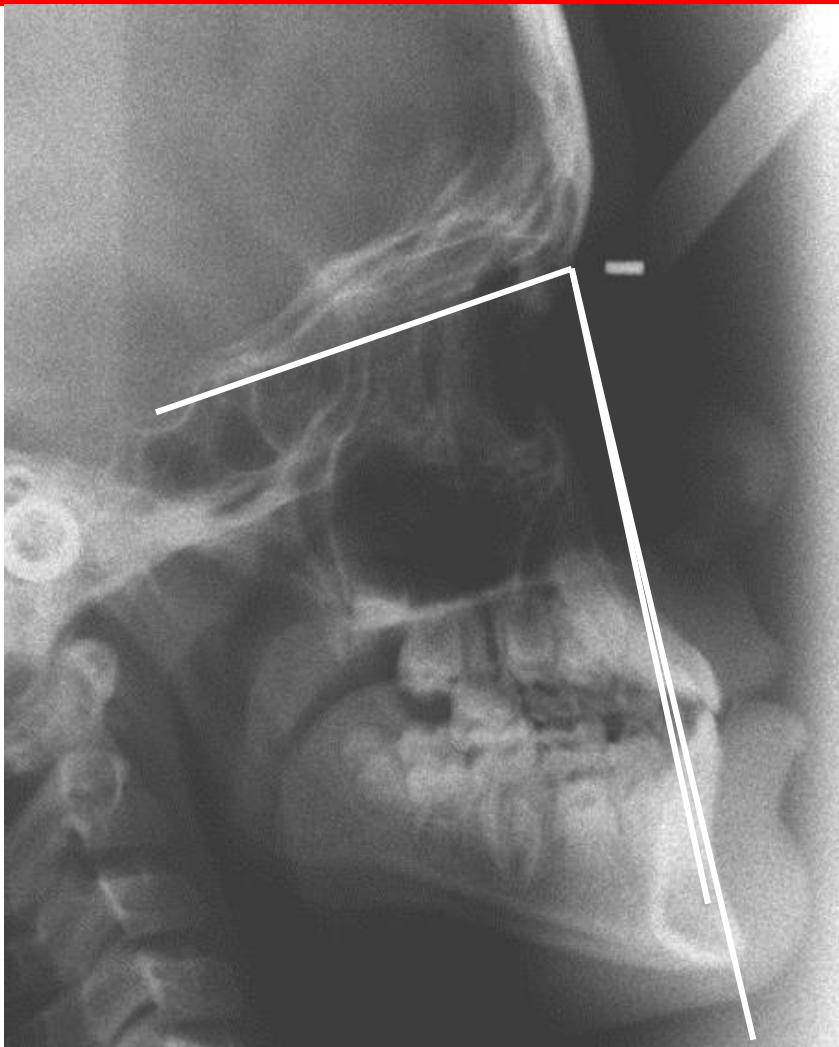


WITS érték: -9mm
norm:0 -2 mm



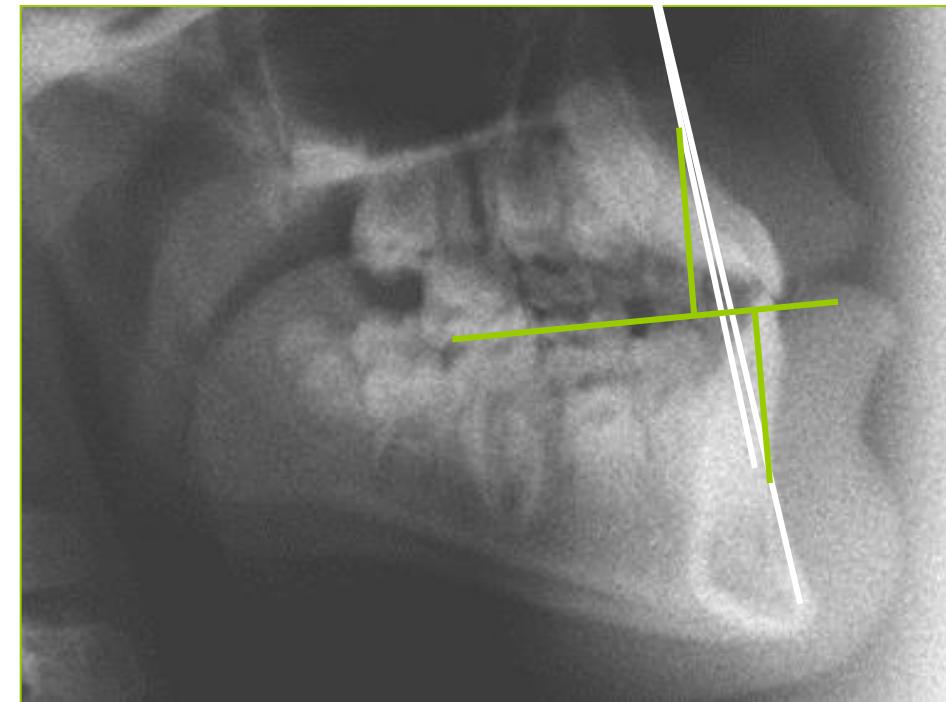


Szkeletális diagnózis



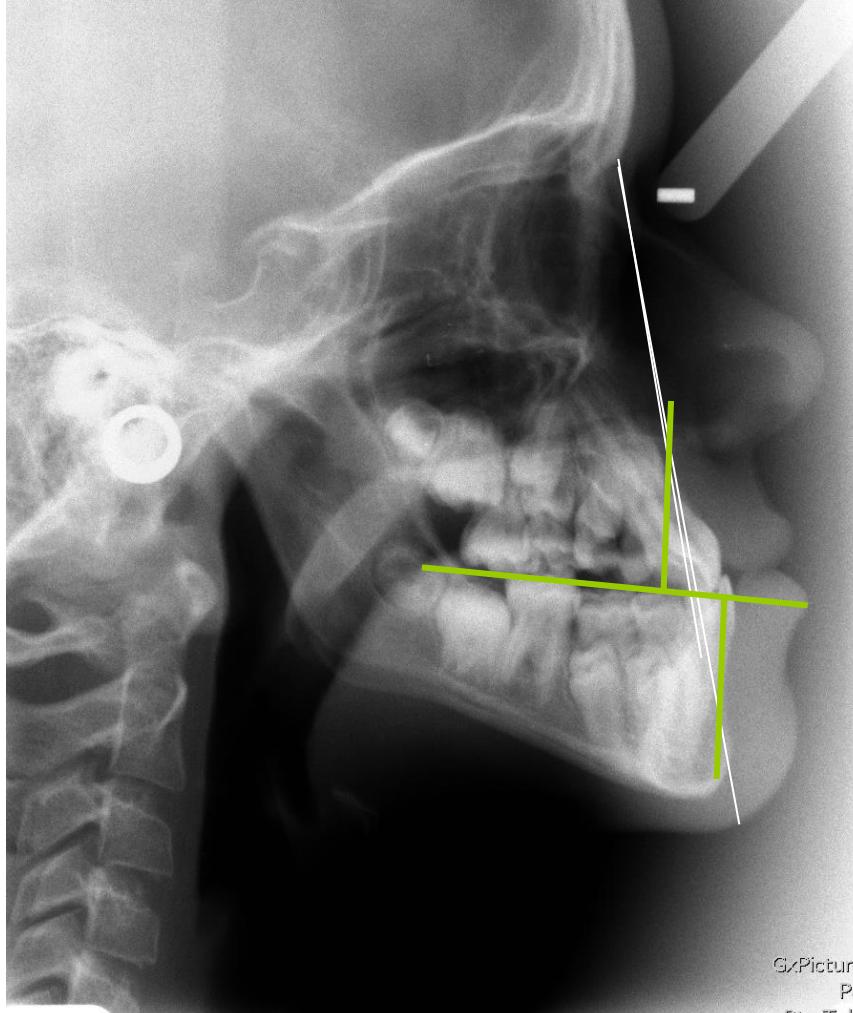
ANB szög=-1°

WITS: -8mm





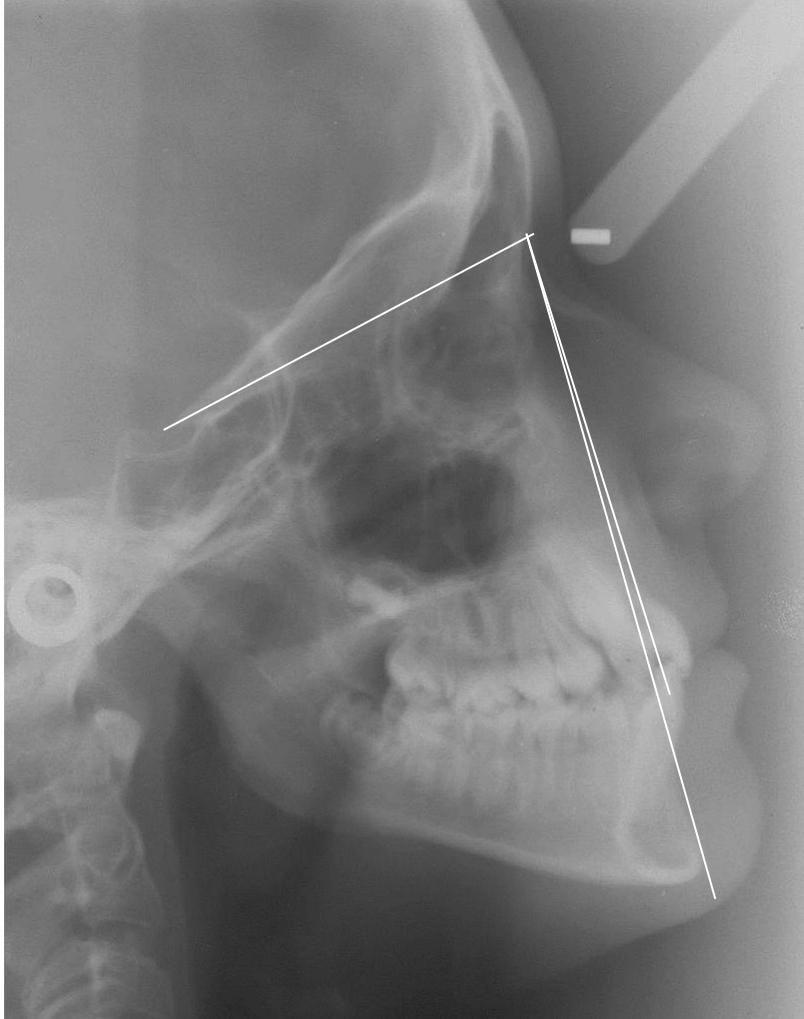
Skeletal diagnosis



GxPicture
Pan
Dra. Toldi

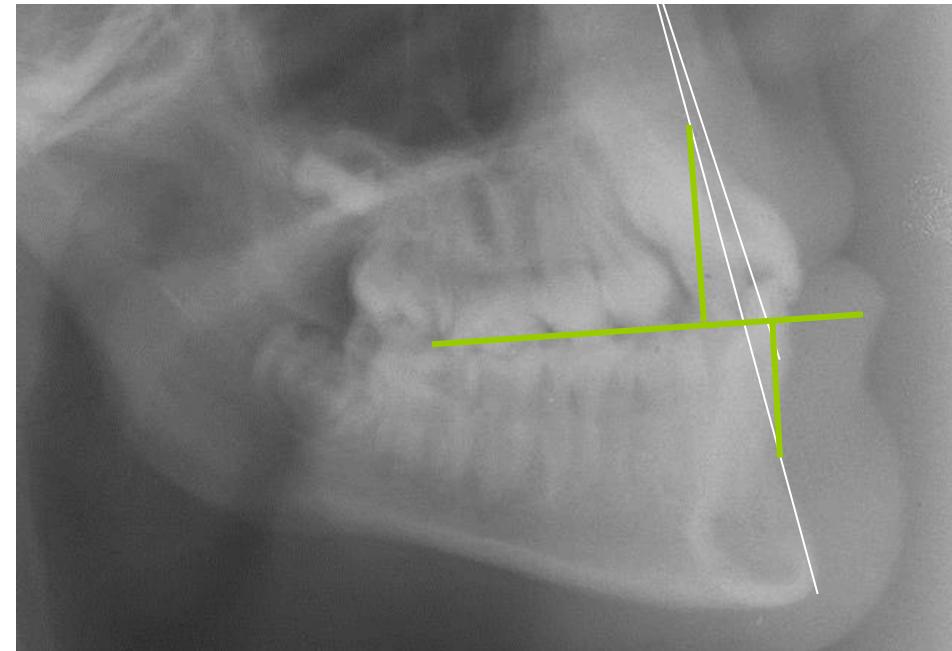


Skeletal diagnosis



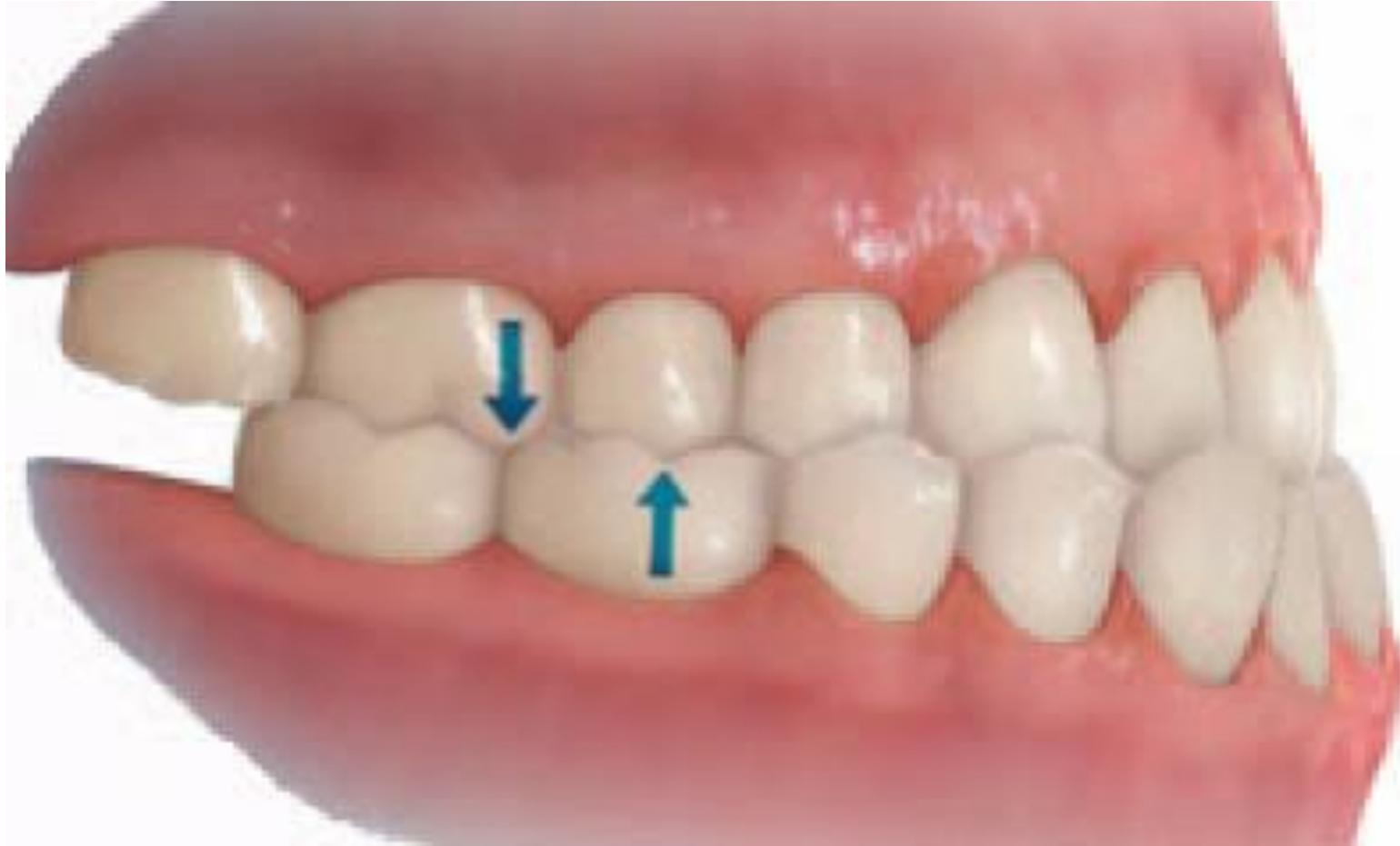
$ANB = +1.5^\circ$

WITS: -6mm





Dental diagnosis





Dental diagnosis





Dental diagnosis

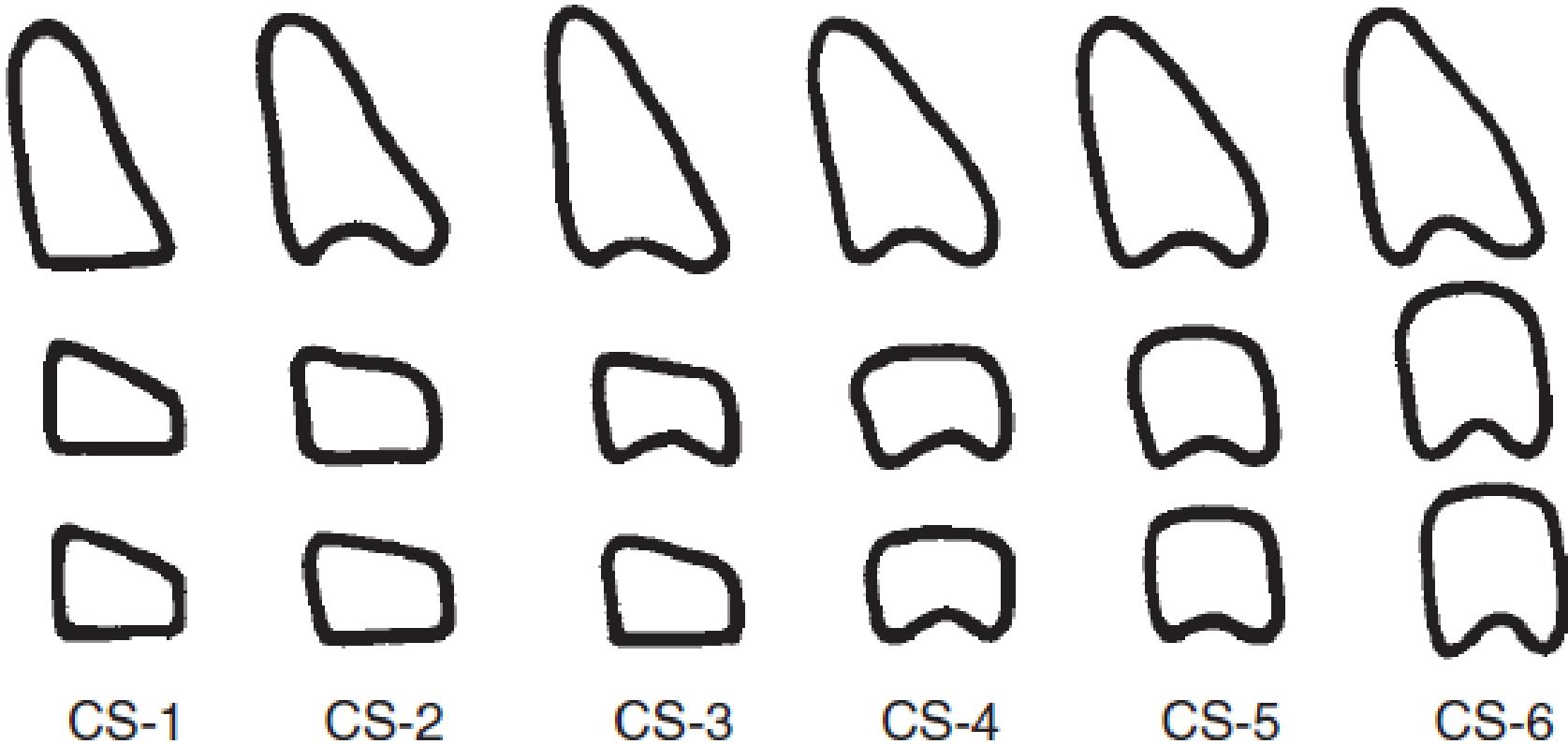


ANB: 2°

WITS: -6mm



Treatment timing of Class III



Graber, Contemporary Orthodontics 2012. Ch 14. Optimizing Orthodontic and Dentofacial Orthopedic Treatment Timing



CVMS



CVMS 1

CVMS 2

CVMS 3

CVMS 4

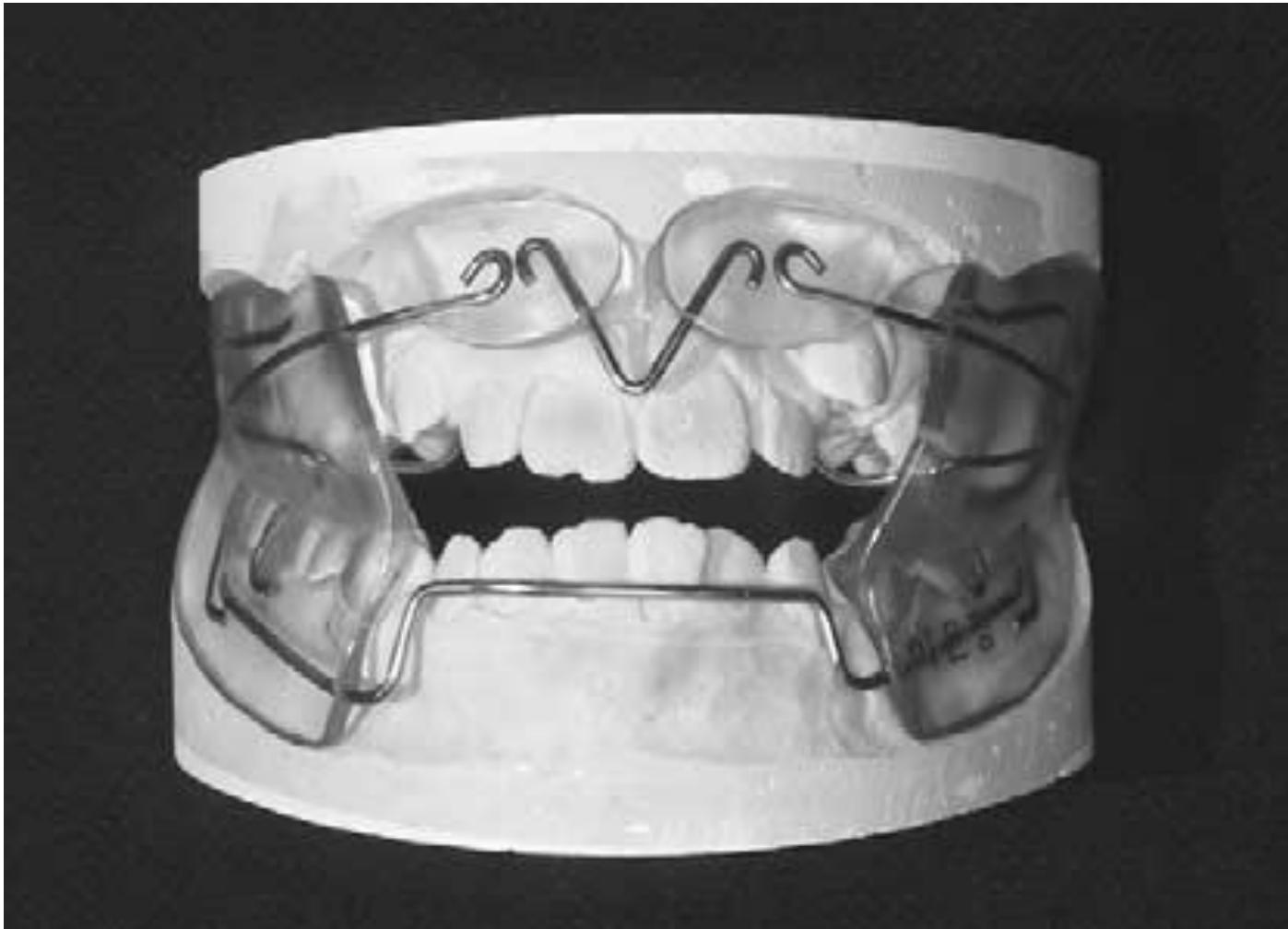
CVMS 5

CVMS 6

Graber, Contemporary Orthodontics 2012. Ch 14. Optimizing Orthodontic and Dentofacial Orthopedic Treatment Timing

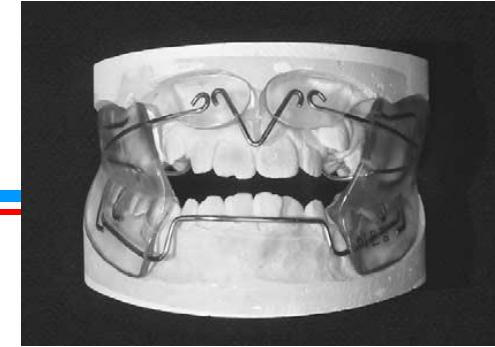


Fränkel III





Fränkel III



Baik et al. 2004, AJODO: 30 prepubertal noncleft patients mean age 8.0 ± 1.2 years, at least 14 hours per day, mean treatment duration, 1.3 ± 0.6 years

The treatment effects were mainly from backward and downward rotation of the mandible and linguoversion of the mandibular incisors

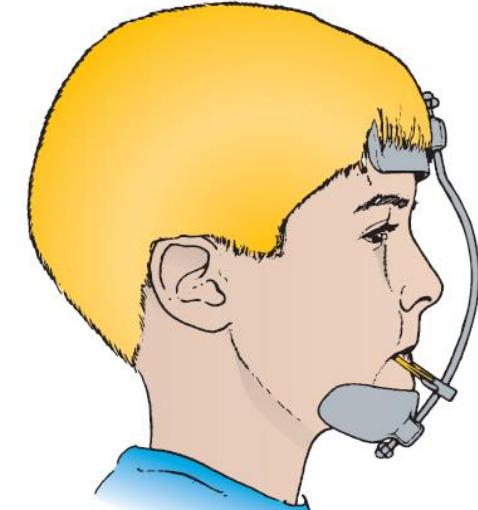
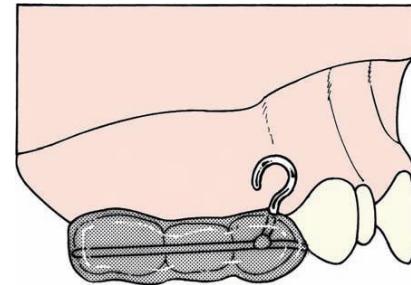
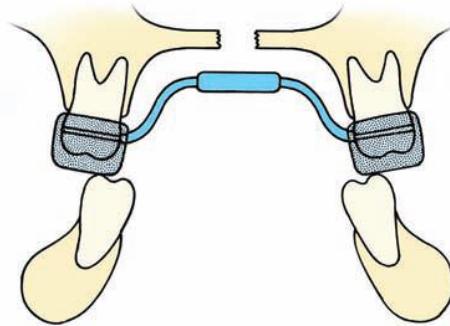
Levin AS, McNamara JA Jr, Franchi L, Baccetti T, Fränkel C .2008. AJODO: 32 prepubertal noncleft patients, good compliance, 2.5+3 years active treatment and retention. **Long-term results of FR-3 therapy in patients with good compliance consisted of significant maxillary modifications and induced changes in mandibular morphology.** **Long-term appliance wear (more than 5 years) should be emphasized when considering treatment outcomes.**

Falck F, Zimmermann-Menzel K, J Orofac Orthop. 2008

Patients treated with the FR-3 consisted of **56 subjects**. **Maxillary landmarks (point A, nasospinale), and the upper incisor (root included) did move significantly farther forward in the treated group than** in the control group ($p < 0.01$). **The gonial angle decreased** by 7.17 degrees in the FR-3 group, as opposed to 2.07 degrees in the untreated group ($p < 0.001$). No significant differences were noted in mandibular-length growth (Ar-Pog, Ar-Go, Go-Pog).



Hyrax + face mask



Graber, Contemporary Orthodontics 2012. Ch 14. Optimizing Orthodontic and Dentofacial Orthopedic Treatment Timing

Significant improvements of SNA angle, ANB angle, overjet, and molar relationship remained stable during the posttreatment period. No significant effect was found in the mandibular skeletal measures

Cozza et al. 2010. AJODO



Fränkel III in Germany

- Korbmacher H, Kahl-Nieke B, Schnabel S. J Orofac Orthop. 2000
- To evaluate current attitudes to early interceptive treatment, 2001 orthodontic offices in Germany.
- Functional appliances (67.5%), in particular the Fränkel III (47.3%), were dominant in correction of Class-III malocclusions.
- Although recently published studies support the use of facial masks in theory, they are rarely used in practice.



Alt-RAMEC + Liou spring



Liou and Tsai, 2005. CPCJ



Hyrax + modified face mask

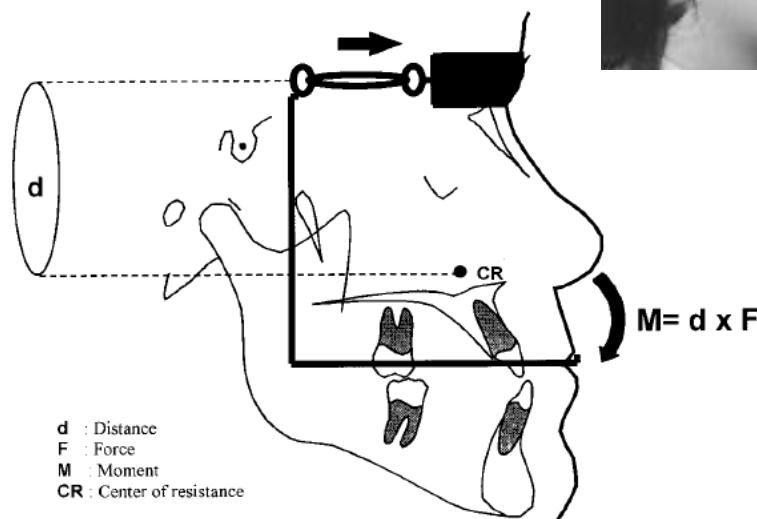
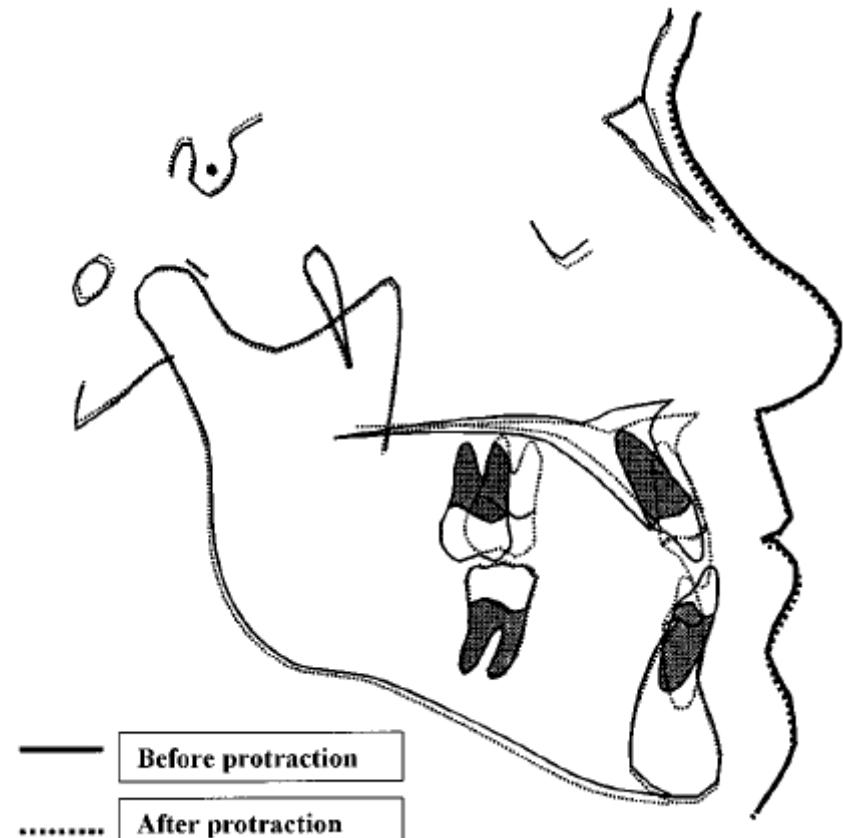


Fig 5. Force and moment system of MMPH.

Alcan et al. 2000. AJODO





Bone Anchored Maxillary Protraction (BAMP)



De Clerck et al., 2010. J Oral Maxillofacial Surg



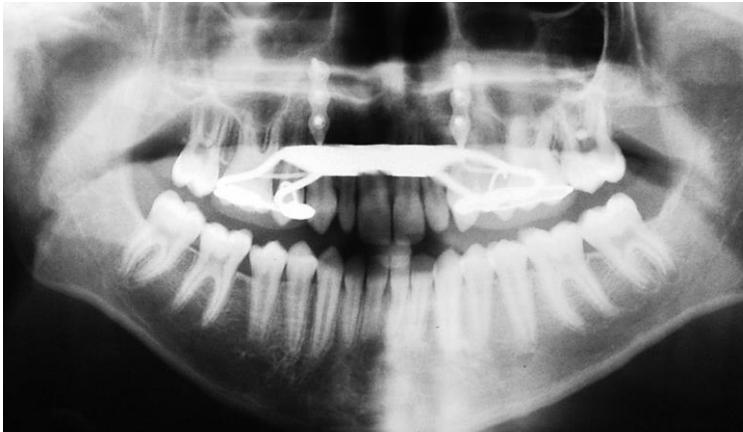
Hybrid-hyrax + mentoplaste



Wilmes et al., 2011. JCO



Alt-RAMEC + face mask miniplate

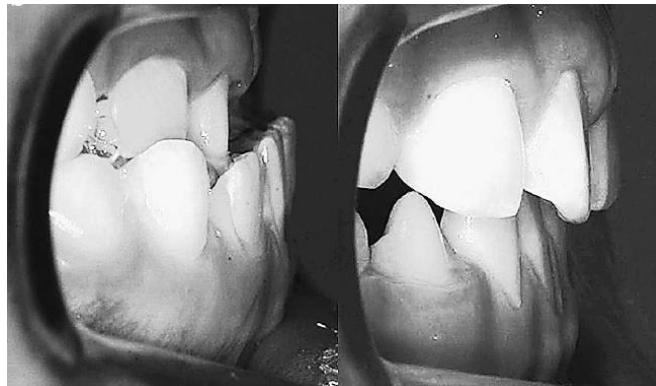
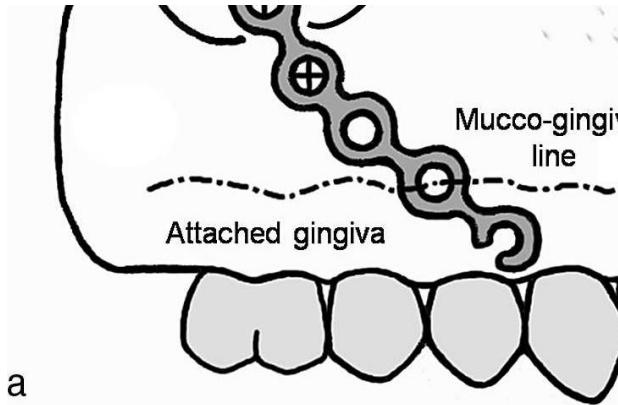


15 patients with a mean skeletal age of 11.6 ± 1.59 years undergoing 8 weeks of Alt-RAMEC followed by maxillary protraction, maxilla moved forward by 2 mm

Kaya et al., 2011. Angle Orthodontist



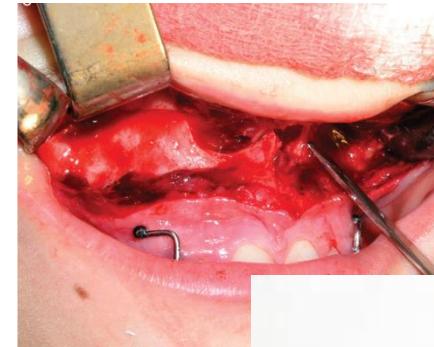
Minilemez + arcmaszk



Baek et al., 2010. Angle Orthodontist



SARME + Face mask



Küçükkeles et al., Angle Orthodontist, Vol 81, No 1, 2011



Hyrax + face mask



ANB: 2°

WITS: -3mm

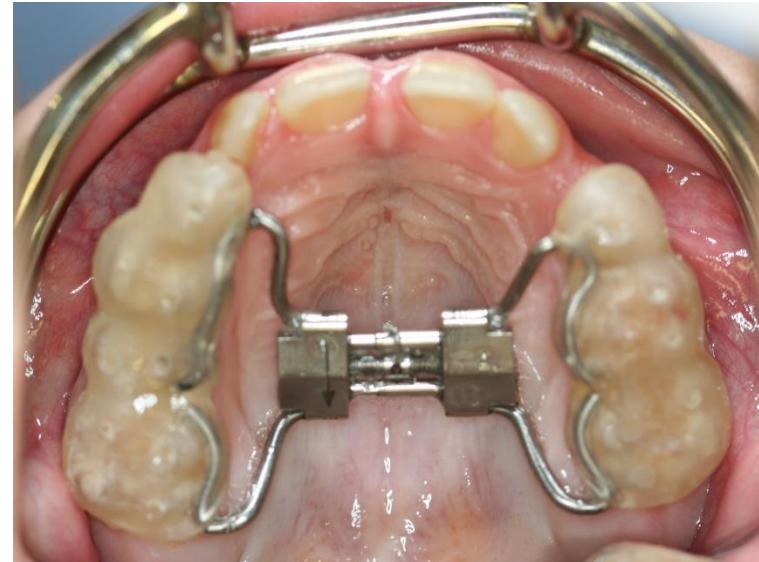
CVMI: 2-3

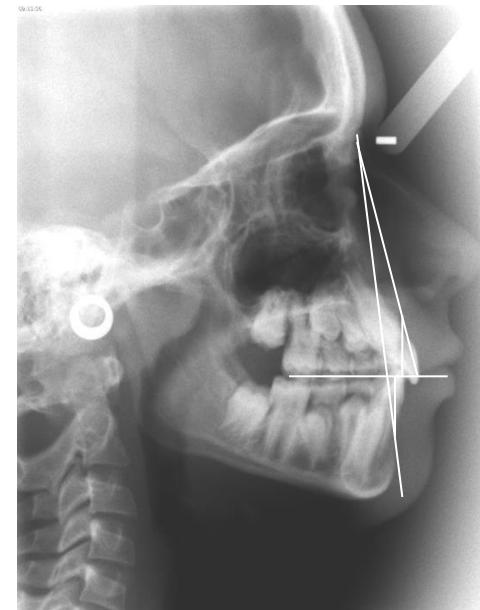


Hyrax + face mask



Maxilla
transzverzális
tágítása







KELEMEN,VIPÁG PRISZKA,ILONA
TAJ:120105267
2002.09.24.
ACC#20202092410052512
2012.11.13.
09:47:31

SE:1
IM:1
09:47:30



ANB: 0°

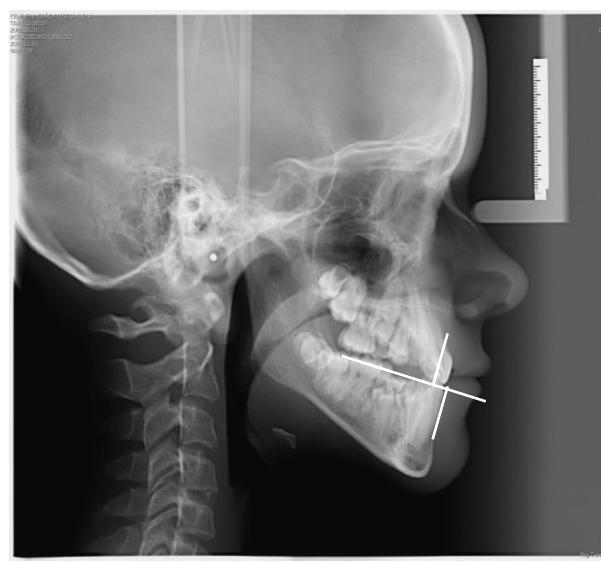
WITS: -11mm

CVMI: 3





Alt-RAMEC + face mask







ANB: 2°

WITS: -6mm

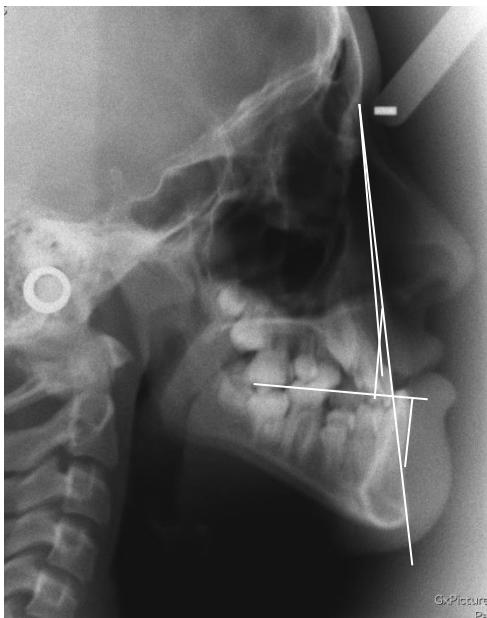


ANB: 2°

WITS: -6mm

CVMS: 3-4





ANB: -2°

WITS: -11mm

CVMI: 4



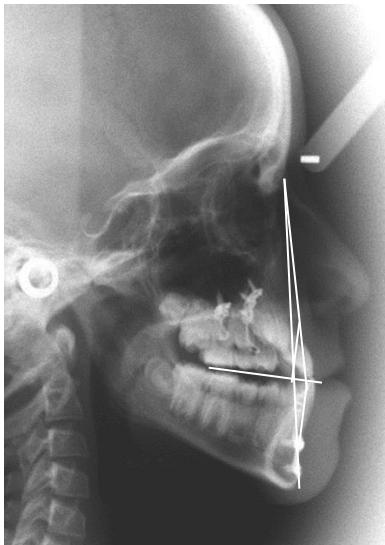
Hybrid hyrax + Alt-Ramec + face mask



4x ki – 3x vissza



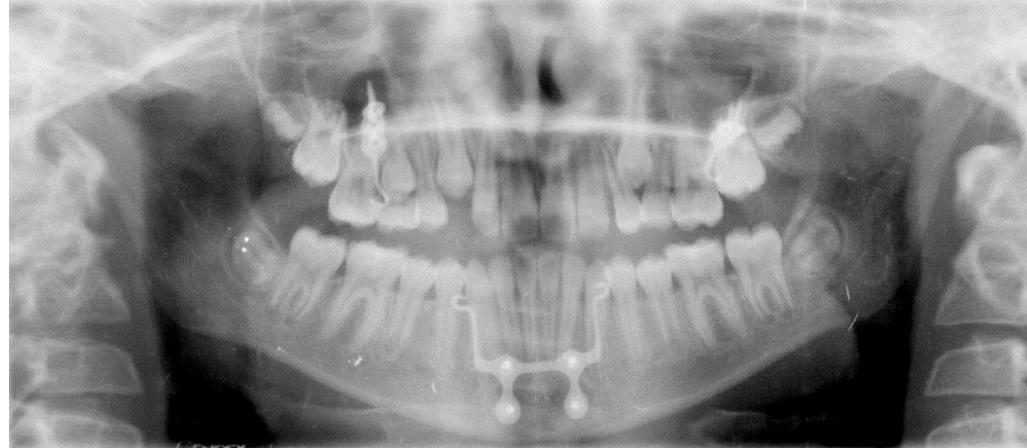




ANB: 2°

WITS: -5mm

CVMI: 2

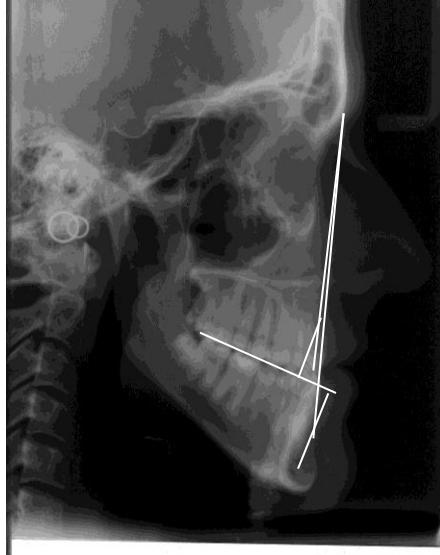


Sebészet: Dr. Nagy Krisztián





SARME + Arcmaszk



ANB: -2°

WITS: -12mm

CVMI: 6



Orthognát sebészet: Dr. Bogdán Sándor



Orthognát sebészet: Dr. Bogdán Sándor



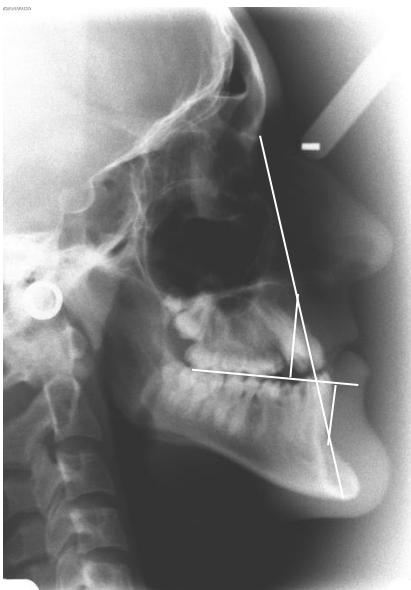
Hybrid hyrax + Alt-Ramec + face mask



4x ki – 3x vissza







ANB: 0°

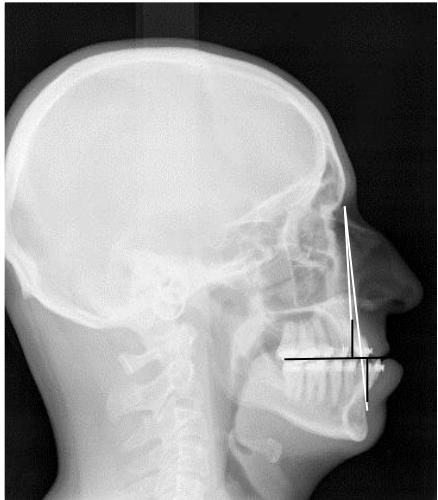
WITS: -15mm

CVMI: 6





Le Fort I osteotomy



ANB: -1°

WITS: -6mm

CVMI: 6



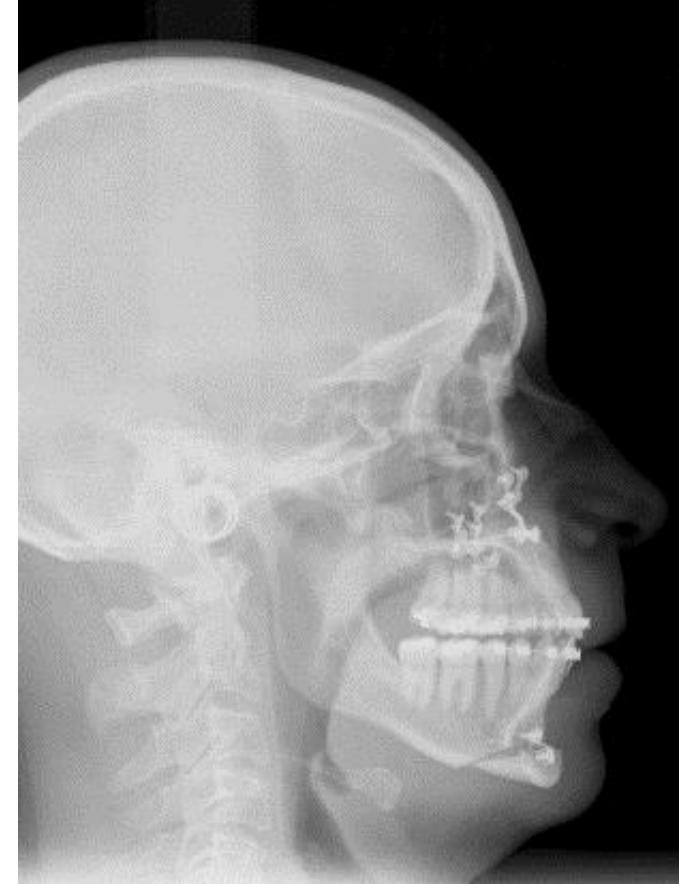
Le Fort I osteotomy



Ortognát sebészet: Dr. Nagy Krisztián



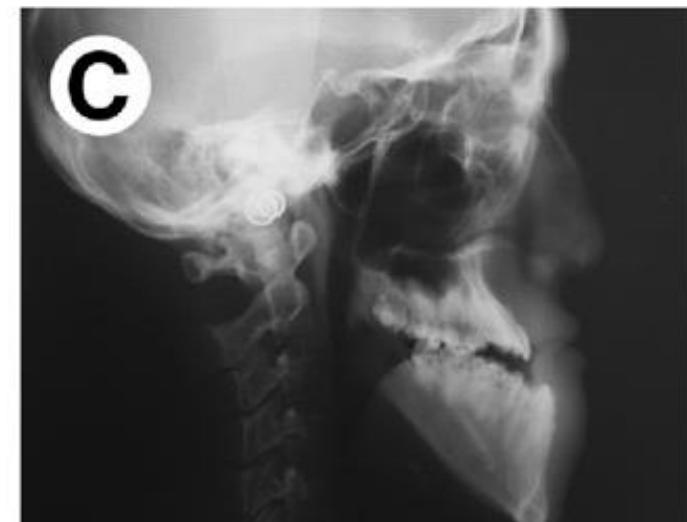
Le Fort I osteotómia



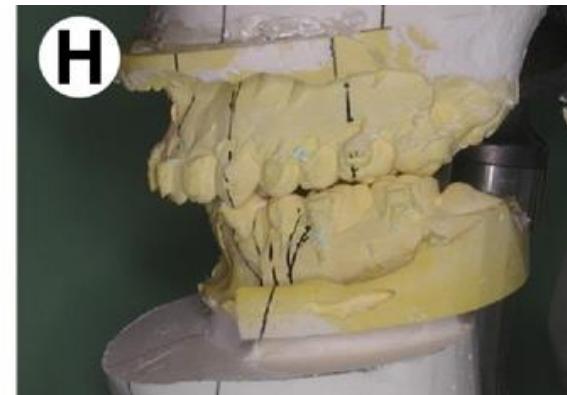
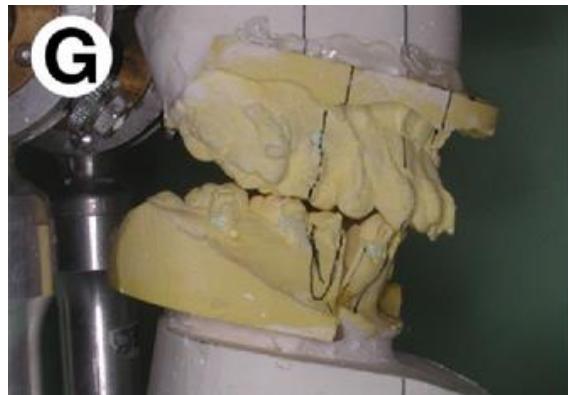
Ortognát sebészet: Dr. Nagy Krisztián



Surgery first approach

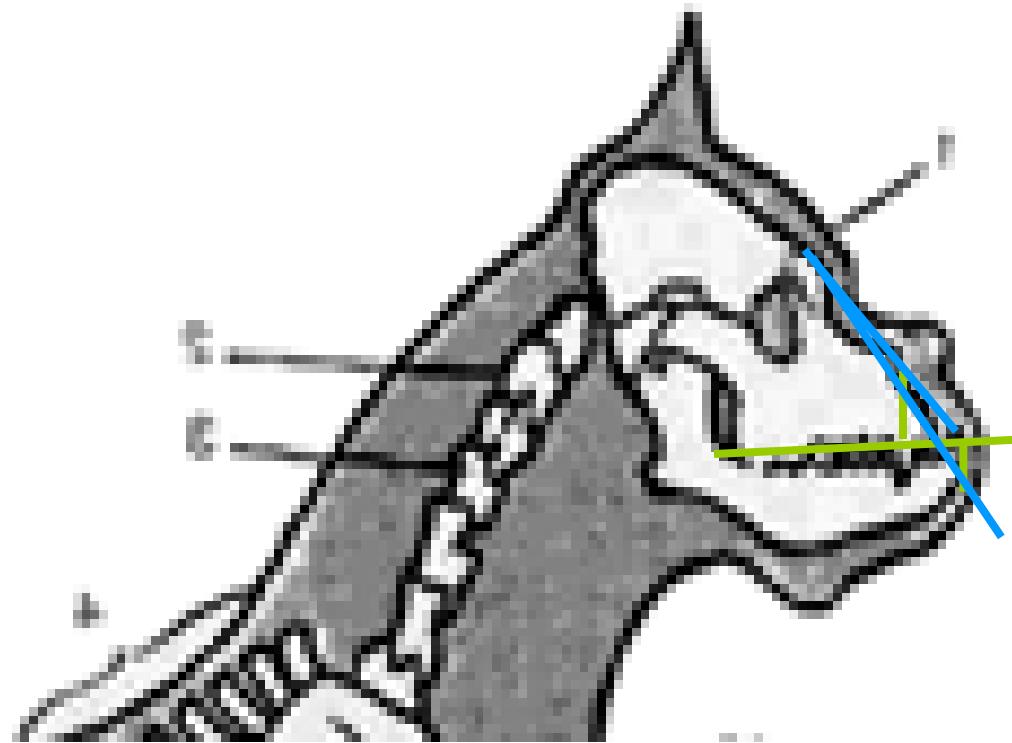


Liou et al. 2011. JOMFS









Thank you for your attention