

Casi Clinici



Società Italiana
di Ortodonzia

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Caso n°3

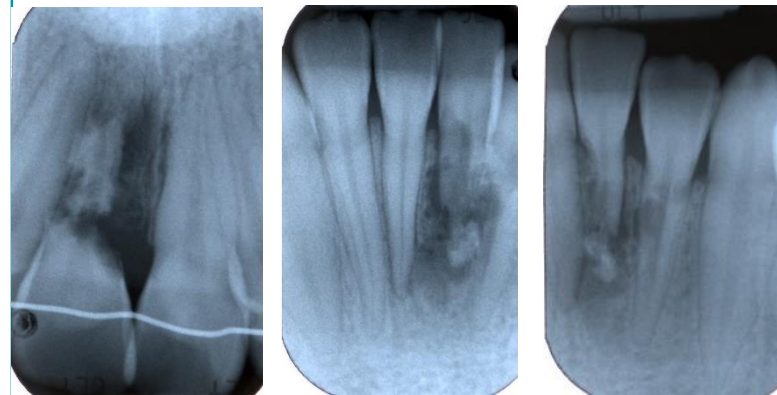
Bimaxillary protrusion with trauma

Ricertificazione 2015

Lorenz Moser

Età paziente: 13a 01m

Sesso: F





Fotografie extraorali – Data 12-03-2009

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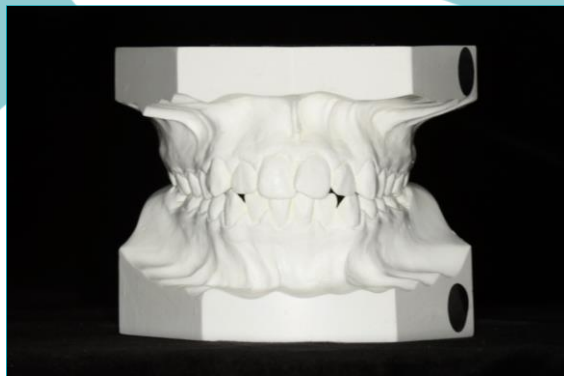


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Fotografie intraorali iniziali – Data 12-03-2009



Modelli in gesso iniziali - Data 12-03-2009

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ORTOPANTOMOGRAFIA

Formula dentaria

inserire formula corretta cancellando i denti mancanti

8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8



Commenti:

Presence of all permanent teeth with impacted third molars. Roots of the lower incisors appear short and ongoing root resorptions on teeth 11, 32, 31 can be detected. A bonded 12-22 retainer is present. No signs of ongoing periodontal disease can be diagnosed. The left condyle has undergone almost complete resorption and is severely deformed due to the prior fracture. The surface of the left fossa appears roughened and subject to remodeling. The height of the horizontal left ramus is reduced in the molar area with an accentuation of the gonial angle.

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Teleradiografia latero-laterale e cefalometria iniziale



inserire dati corretti

RAPPORTI SCHELETRICI SAGITTALI

Posizione del Mascellare S.N / A	$82^{\circ} \pm 3,5^{\circ}$	[80]
Posizione della Mandibola S.N / Pg	$80^{\circ} \pm 3,5^{\circ}$	[80°]
Relazione inter-mascellare sagittale A.N / Pg	$1^{\circ} \pm 2^{\circ}$	[8°]

RAPPORTI SCHELETRICI VERTICALI

Inclinazione del Mascellare S.N / OP	$14,5 \pm 2,5^{\circ}$	[21°]
Inclinazione della Mandibola S.N / Go.Gn	$33^{\circ} \pm 6^{\circ}$	[47°]
Relazione Inter-mascellare Verticale ANS.PNS / Go.Gn	$25 \pm 6^{\circ}$	[41°]

RAPPORTI DENTO-BASALI

Inclinazione Incisivo Superiore +1 / S-N	$102^{\circ} \pm 5^{\circ}$	[108°]
Inclinazione Incisivo Inferiore -1 / Go.Gn	$95^{\circ} \pm 5^{\circ}$	[98°]
Compensazione Incisivo Inferiore -1 / A.Pg (mm.)	1 ± 2	[6]

RAPPORTI DENTALI

Overjet	$2,5 \pm 2,5$	[5,5]
Overbite	$2,5 \pm 2,5$	[1]
Angolo Inter-incisivo	$130^{\circ} \pm 6^{\circ}$	[107°]

Data 12-03-2009

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DIAGNOSI

Occlusale Sagittale	Bilateral Class I molar and canine relationships with an increased overjet of 5mm are evident.
Occlusale Verticale	A decreased overbite of 1mm can be evaluated.
Occlusale Trasversale	No alteration in the transverse dimension with coincident upper and lower dental midlines.
Scheletrica Sagittale	The sagittal skeletal measurements reveal a skeletal Class II malocclusion ($ANB = 8^\circ$) due to mandibular retrusion ($SNB = 72^\circ$) and a short mandibular length of 47mm, leading to an extremely retrusive chin ($Pg - NA-Perp = -14^\circ$).
Scheletrica Verticale	Hyperdivergent vertical features ($MP/SN = 47^\circ$).

DESCRIZIONE DEL CASO

Skeletal Class II malocclusion due to severe mandibular retrusion with dentoalveolar compensation.

Hyperdivergent vertical growth pattern.

Mandibular asymmetry after fracture of both mandible and left condyle and subsequent complete condylar resorption.

Proclined upper and lower incisors with a 4mm resp. 6mm arch length discrepancy in both arches.

Increased overjet (5.5mm) and reduced overbite (1mm).

Very poor projection of the chin with procumbent upper and lower lips.

Severe internal and external root resorptions of teeth 11, 32 and 31 after traumatic loss and re-implantation.

A 6mm mandibular midline deviation to the left with restricted mouth opening and temporary episodes of pain and headaches.

PIANO DI TRATTAMENTO

Problem solving for the hopeless teeth 11, 32, 31 with the ongoing root resorptions
Correction of the bimaxillary protrusion
Correction of the bimaxillary arch length discrepancy
Normalization of the overjet and overbite
Improvement of lip competence and smile esthetics
Finishing and detailing

IPOTESI DI TRATTAMENTO ALTERNATIVA

As the patient presents a hyperdivergent facial pattern combined with bimaxillary protrusion and crowding, a four first bicuspid extraction treatment would have been the first treatment choice. Alternatively, a four first molar extraction therapy because of the deep restorations could have been another option. Nevertheless, none of these conventional extraction therapies would have eliminated the necessity for at least three implants. As the 13-year-old patient was still in puberty, she would have needed temporary substitutions during the entire growth period, p. e. with Maryland bridges, before insertion of any implant would have been possible.

Due to the hopeless condition of the upper right central incisor, the lower left central and lateral incisors and the vitality loss of the upper left central incisor, it seemed more appropriate to aim at their extraction with subsequent space closure. Although it would have been possible to treat the devital tooth 21 endodontically and to extract 24 instead, the long-term prognosis of 21 would have remained uncertain.



Fotografie finali extraorali – Data 25-07-2011

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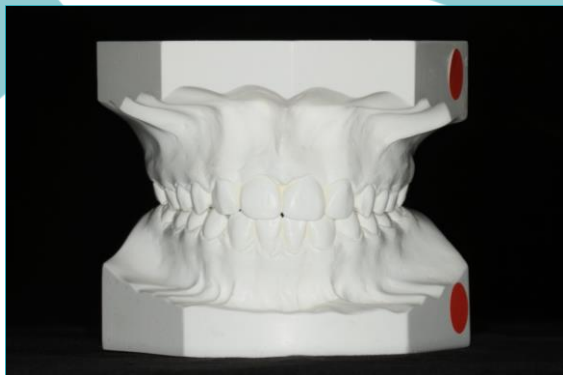


Fotografie finali intraorali - Data 25-07-2011

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Modelli in gesso finali - Data 25-07-2011

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ORTOPANTOMOGRAMMA FINALE

Formula dentaria

inserire formula corretta cancellando i denti mancanti

8 7 6 5 4 3 2 x	x 2 3 4 5 6 7 8
8 7 6 5 4 3 2 1	x x 3 4 5 6 7 8



Commenti:

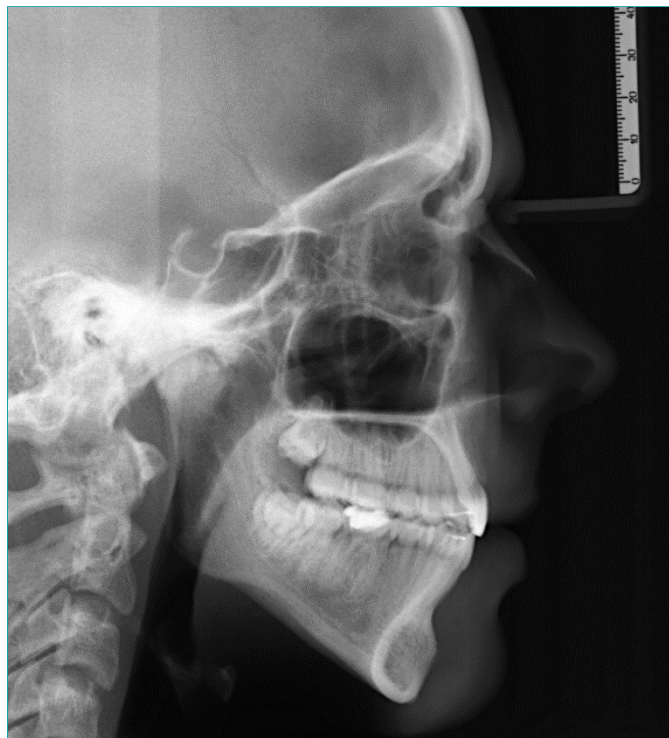
The extractions sites have been closed without any major root resorptions and achieving good parallelism of the adjacent teeth except for 42, which seems to be insufficiently uprighted. In fact this is due to an abnormal crown-root-angulation. The wisdom teeth will have enough space for future eruption, but need monitoring. No particular change has taken place at the left condyle during treatment.

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Teleradiografia latero-laterale e cefalometria finale



inserire dati corretti

RAPPORTI SCHELETRICI SAGITTALI

Posizione del Mascellare S.N / A	±	[78°]
Posizione della Mandibola S.N / Pg	±	[73°]
Relazione inter-mascellare sagittale A.N / Pg	±	[5°]

RAPPORTI SCHELETRICI VERTICALI

Inclinazione del Mascellare S.N / OP	±	[26°]
Inclinazione della Mandibola S.N / Go.Gn	±	[40°]
Relazione Inter-mascellare Verticale ANS.PNS / Go.Gn	±	[34°]

RAPPORTI DENTO-BASALI

Inclinazione Incisivo Superiore +1 / S-N	±	[95°]
Inclinazione Incisivo Inferiore -1 / Go.Gn	±	[89°]
Compensazione Incisivo Inferiore -1 / A.Pg (mm.)	±	[3]

RAPPORTI DENTALI

Overjet	±	[2]
Overbite	±	[1]
Angolo Inter-incisivo	±	[128°]

Data 25-07-2011

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Fotografie extraorali al controllo a distanza – Data 15-12-2013

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SINTESI FINALE

Risultati scheletrici

A solid bilateral Class I occlusion has been achieved with normal overjet and overbite. A slight 0.5 mm lower dental midline deviation to the left is noticeable. The upper first premolars have not been transformed into canines, because the parents refused to grind the palatal cusps. A solid bilateral Class I occlusion has been achieved with normal overjet and overbite. A slight 0.5 mm lower dental midline deviation to the left is noticeable. The upper first premolars have not been transformed into canines, because the parents refused to grind the palatal cusps. The vertical position of the maxilla remained practically unchanged, but the A-point underwent a 2mm distal remodeling. The cant of the occlusal plane underwent a 5° clockwise rotation because of a 4mm incisor extrusion. During space closure the upper molars came forward by 3mm, while the incisor tips were retracted by 3mm to normalize the increased overjet. The sagittal and vertical position of the mandible did not change during treatment. A 3° clockwise rotation of the occlusal plane took place due to 1mm molar extrusion and 1mm incisor intrusion.

Risultati dentali

The dental arch is well-aligned and leveled with complete closure of the extraction sites. The incisors have been retracted, which has lead to a shortening of the arch length while arch width has been maintained. The prior steep-curve of Spee has been completely leveled and the curve of Wilson has been flattened. The arch is well-leveled and aligned. The spaces after extraction of 32 and 31 have been totally closed while maintaining the intercanine resp. interfirst-premolar width. No archform asymmetry can be assessed, although two homolateral incisors have been extracted! The second molars exhibit an increased lingual crown torque. A solid bilateral Class I occlusion has been achieved with normal overjet and overbite. A slight 0.5 mm lower dental midline deviation to the left is noticeable. The upper first premolars have not been transformed into canines, because the parents refused to grind the palatal cusps.

Risultati a carico dei tessuti molli

The overall facial improvement is due to retraction of the upper and lower incisors while the vertical dimension was well-controlled. This led to better lip competence and more chin projection, but has unfortunately caused an increase of the nasolabial angle.

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Fotografie intraorali al controllo a distanza - Data 15-12-2013

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VALUTAZIONE RISULTATI A DISTANZA

The treatment result can be considered a success. All extraction sites have been completely closed and a solid bilateral Class I occlusion (with the upper and lower premolars functioning as canines) was established. Excellent arch symmetry has been achieved even with this very unorthodox extraction protocol. All hopeless teeth were eliminated so that the patient benefits from a natural dentition with a very favourable long-term prognosis avoiding the necessity for future implants in the anterior area.

The composite restorations are only considered as temporary solutions and should be substituted by all-ceramic veneers as soon as the economic situation permits. The patient and her parents are very satisfied and grateful for having been convinced to accept this very unusual treatment approach.

We are aware that treatment aimed only at resolving the patient's enormous dental problem and that no effort has been made to correct the skeletal discrepancies. A combined orthodontic-orthognathic treatment approach would have never been accepted by the patient and her parents.



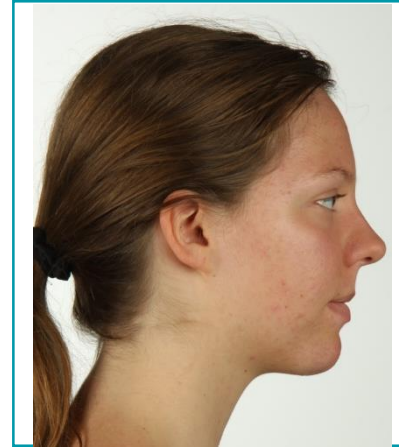
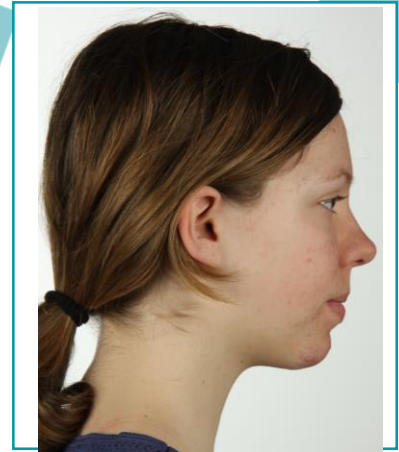
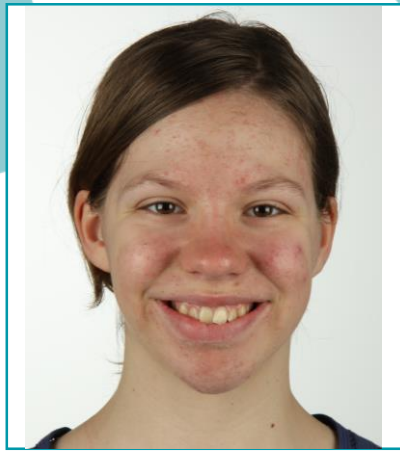
Fasi di terapia - Data 2009-2011

1. Extractions of teeth 11, 21, 31
2. Subsequent extraction of 32 – **NB: extractions of two incisors in the same quadrant!!!**

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Grazie!

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