F. K. Dzalaeva

FULL MOUTH REHABILITATION. DECISION TREE MAKING

2023

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Full mouth rehabilitation. Decision tree making

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For dentists of all profiles, teachers of dental school and Universities, postgraduate students, practical dentists, practical dental technicians and doctors.

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Contents

Chapter I. Fully documented clinical cases

Clinical case № 1

Patient`s birth date: male, 1967

Date of examination: May, 2009

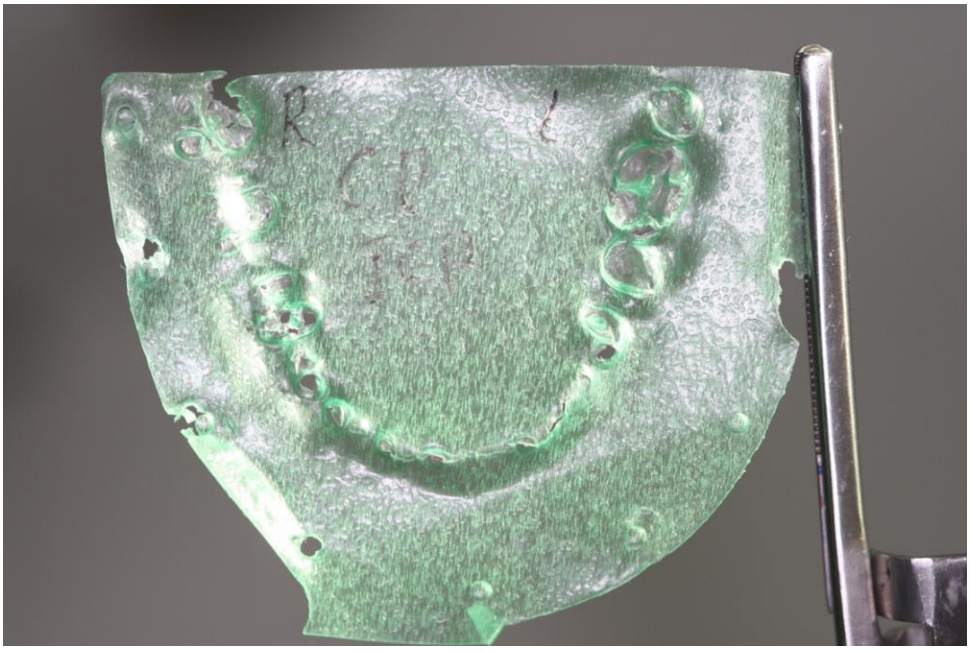
Main concern: ceramic breakage in molar region.

Chipping of composite restorations on the lower jaw.

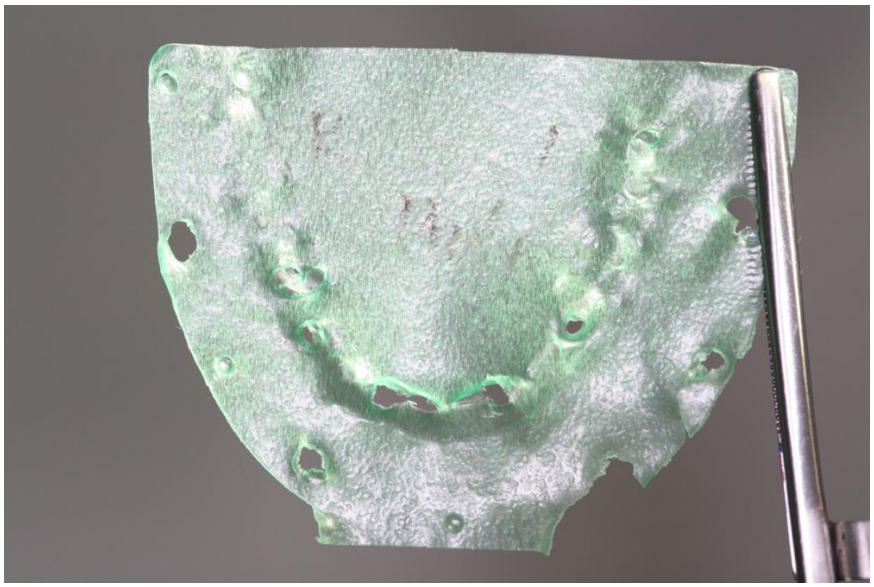
Muscle palpation: Tuber maxilla, m. masseter deep part – mandible position, CMS muscles.

Before treatment 2009

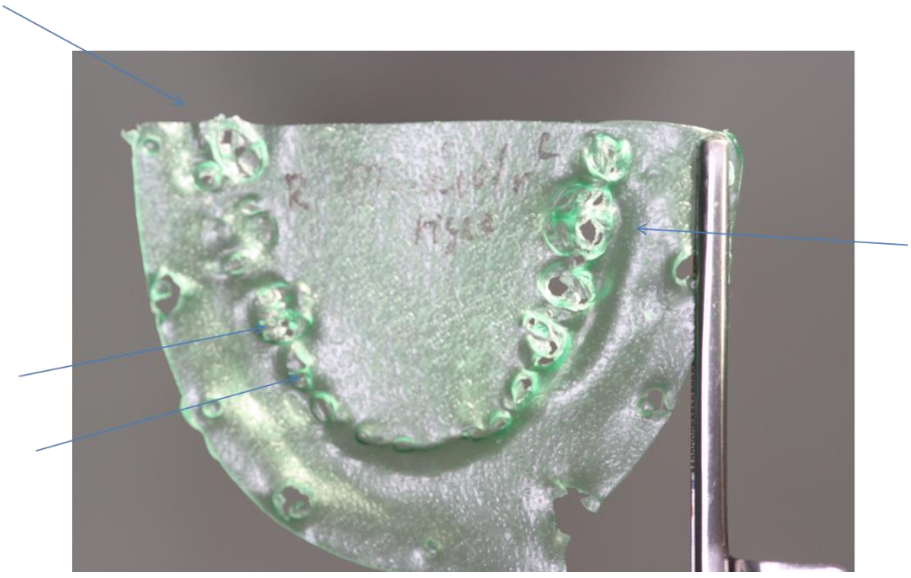
CR-ICP



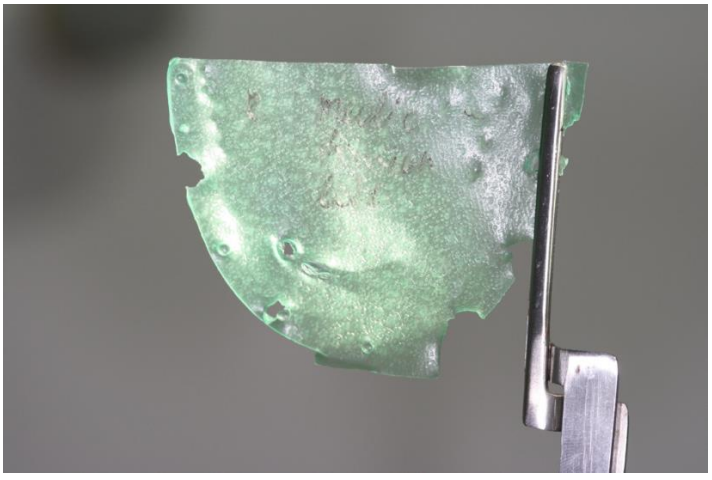
Protrusion



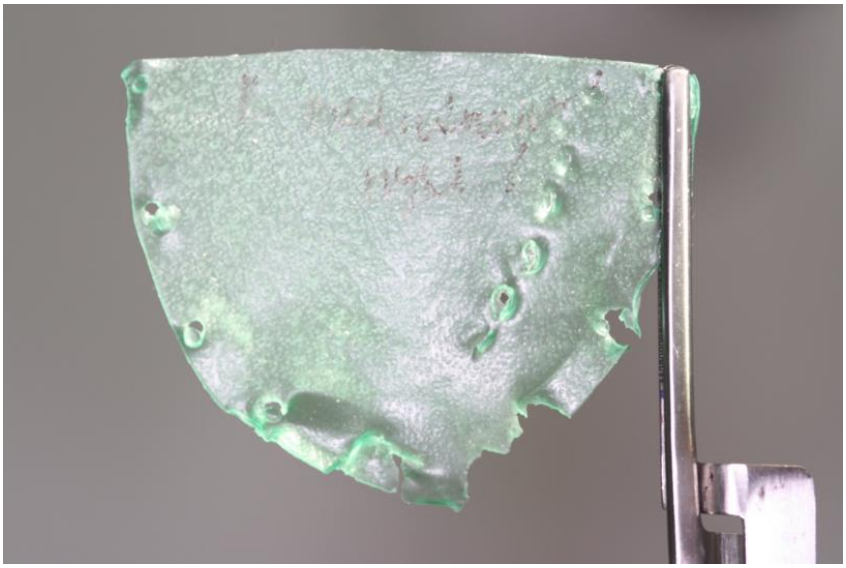
Mediotrusion right – contacts on 17 and 26 and 14,15,22



Mediotrusion left- good canine control



Mediotrusion right

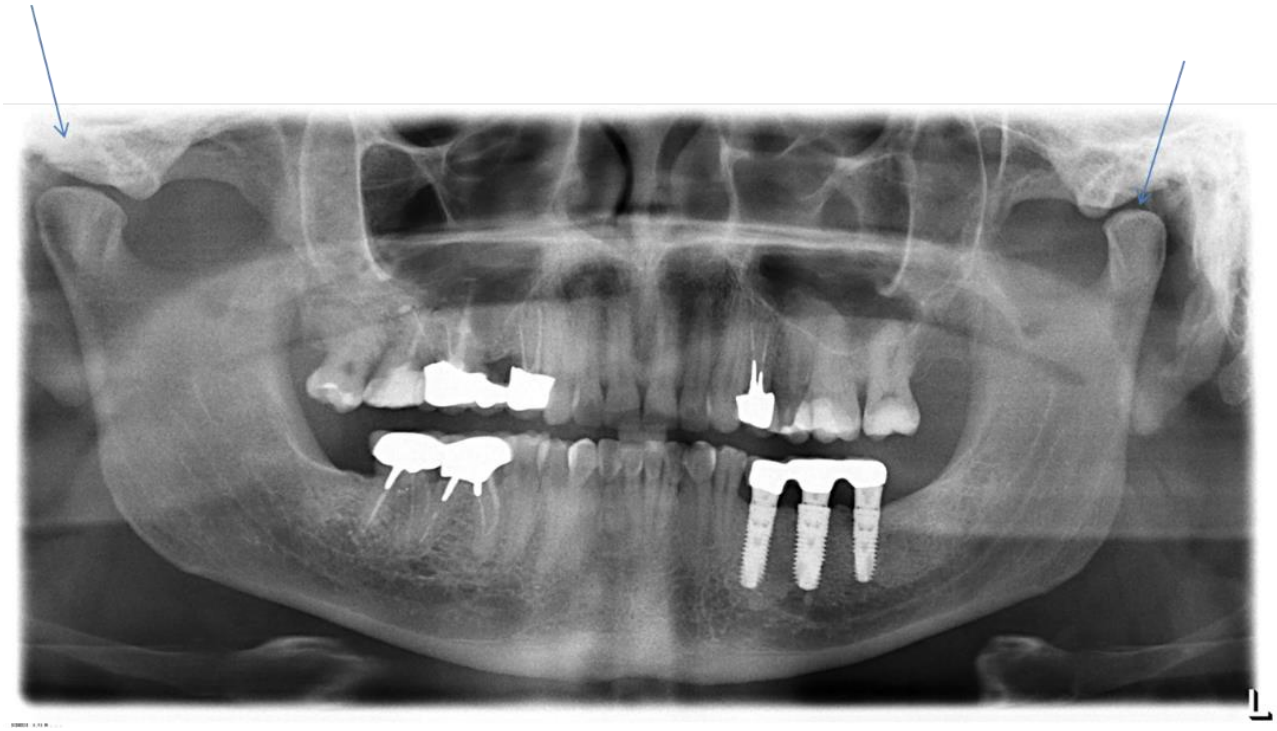


OPG

Different condyles shape on the right and left sides.

Extract 18,17.

Root canal retreatment 16 and 14.



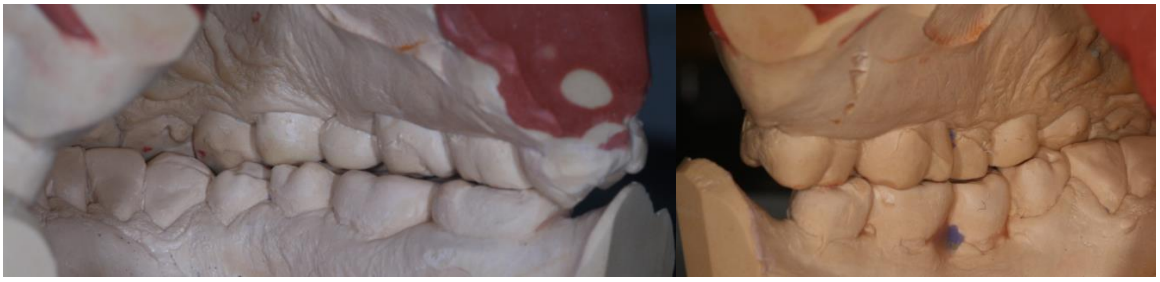
RP

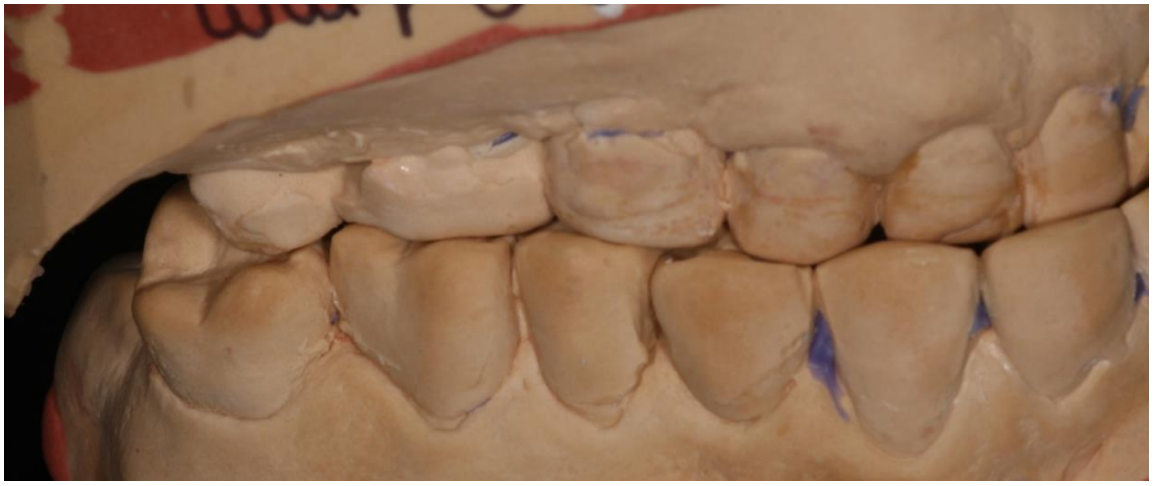
No posterior support on right and left side.

Dento-alveolar compensation in the left side. There were no teeth for a long period of time then implants were placed 35, 36, 37.

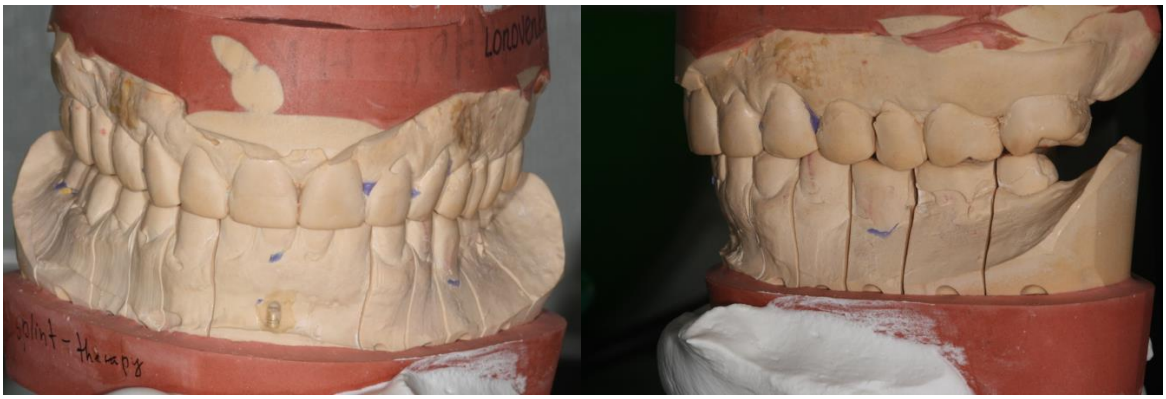
RP

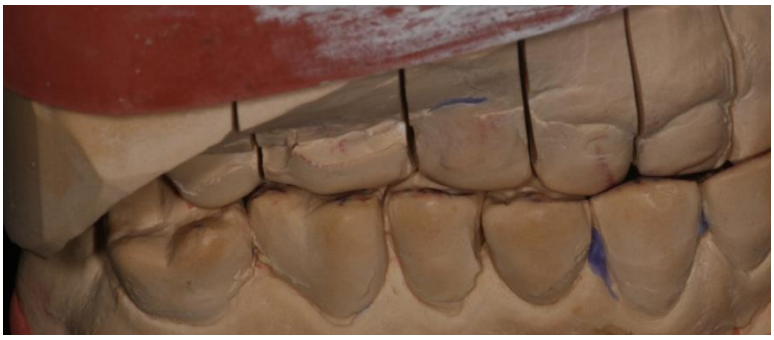
ICP





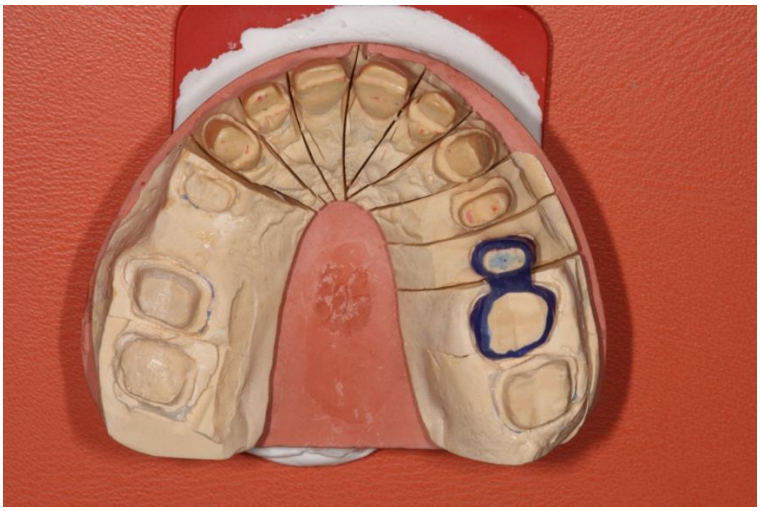
After splint therapy





Impressions for temporary crowns and casts

Diagnostic cast to evaluate tooth preparation



The diameter of the implants is in the area of 34 teeth - 4.5 mm, in the area of 35 - 5.5 mm, in the area of 36 - 4.5 mm.

List of problems

- Inclination of 13 and 23 buccally.
- It is not anterior-posterior problem, it is vertical dimension problem due to posterior discrepancy, due to posterior support and flattening of occlusal plane on left side.
- Erupted 18 – interference.
- Mandible is shifted to the right side; shifted side is left side.

DS

- Class I of occlusion
- Different vertical dimension right and left side (shift to the right side)
- Mesial inclination of upper and lower canines

First plan of treatment

- Extract 18
- Wax-up
- Long time temporaries
- Veneers 45, 44, 43, 42, 41, 31, 32, 33, 34, 13, 12, 11, 21, 22, 23, 25 and crowns 17, 27
- Bridge 16-14, 46-47, 35-36-37 (individual abutments from gold dental alloy fused to metal crowns also gold alloy), 24,26 – Cercon

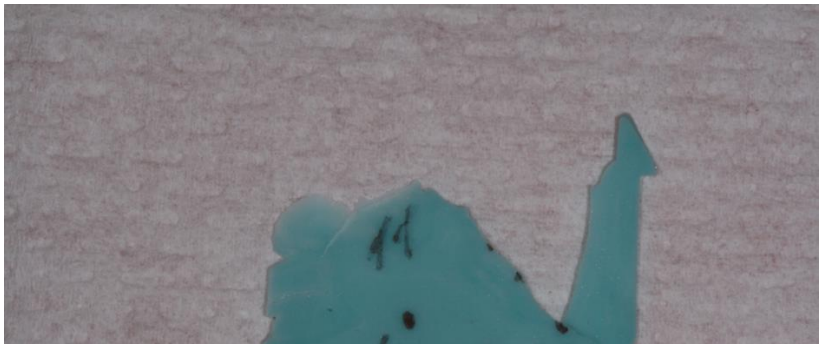
It is recommended to remove 47. The patient refused removal and implantation
14 and 16, targeted x-rays were taken, there are no changes, no revision is required.
24-prix x-ray - no changes, there is a pin-stump inlay made of precious metals. Metal
Correction of the gingival contour in the area of 46 and 47 is required.
At 47 in the furcation area there is a vacuum on the targeted x-ray. Perhaps this is a periodontal problem.
January 24 – fixation of 13, 12,11,21,22,23,24 and veneers from 45 to 34 on Variolink bleach +A1. Temporary crowns were made for 14-16, 35-36-37 and 46-47 and fixed with temporary cement. Sent for removal of 17.18 and continuation of treatment in April 2011.

Wax-up

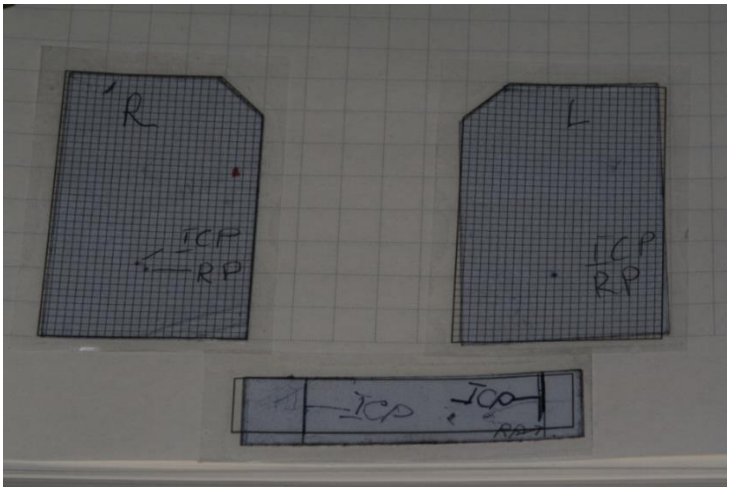
- Articulator setting
- SCI right – 48 degrees black insert, TCI right -7 degrees.
- SCI left – 41 degrees red insert, TCI left – 5 degrees.
- For anterior guidance- use VEBER TEMPLATE.
- It is an asymmetrical case: OPI left side – 10 degrees, OPI right side – 16 degrees.
- 48-16=32 32-30= 2 low chewing efficacy right side.
- 41-10=31, 31-30 = 0 low chewing efficacy left side.
- For changing this data, we will change OPI for right side from 16 to 10 degrees, so DOA will be 8 degrees. For left side – OPI 3 degrees, 38-30=DOA = 8 degrees.
- Lower facial height – normal.
- Occlusal plane 8 degrees.
- Class I, maxilla – prognathic position, mandibulae- prognathic, we can increase vertical dimension.
- All other dates normal.

- Anterior Guidance = SCI+10 degrees, 48+10=58 for right side, 41+10=50 degrees for left side.

Anterior guidance



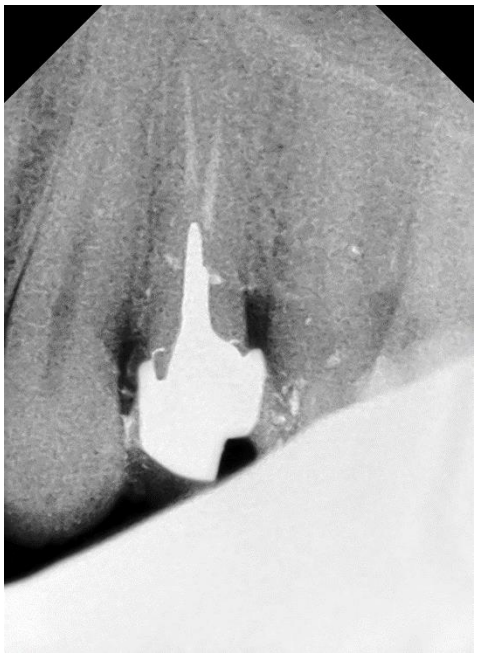
MPI



26 - root canal treatment

14 – root canal treatment

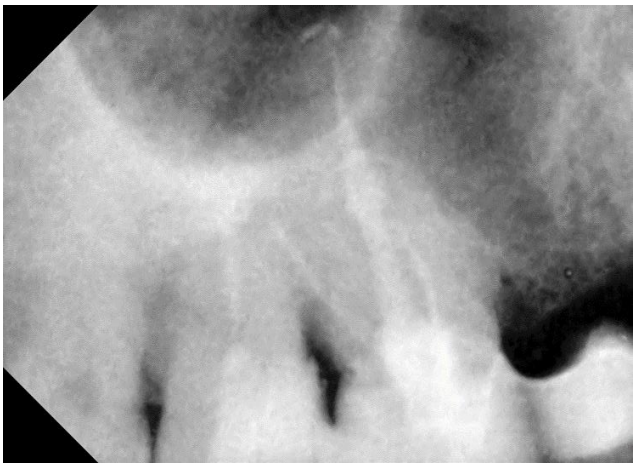
24 - post-core



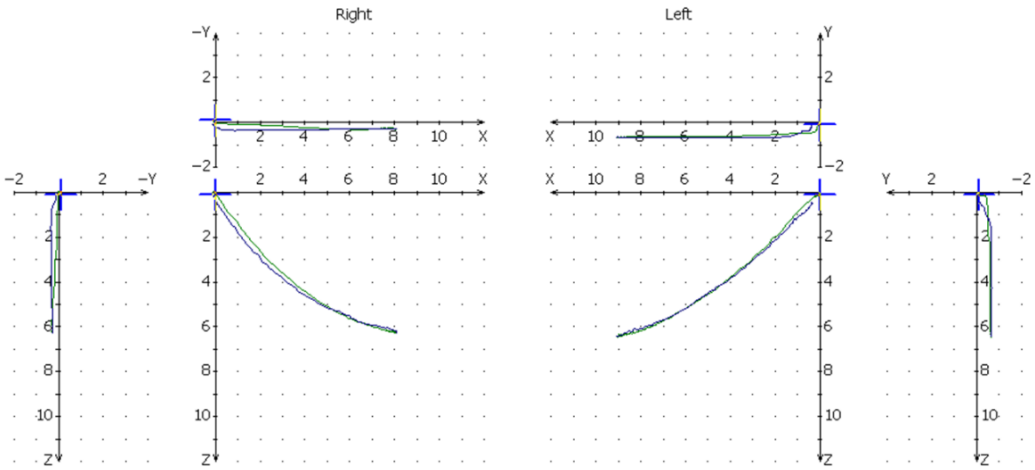
47 gold alloy post-core. Inflammation on the root. Root canal treatment

46.

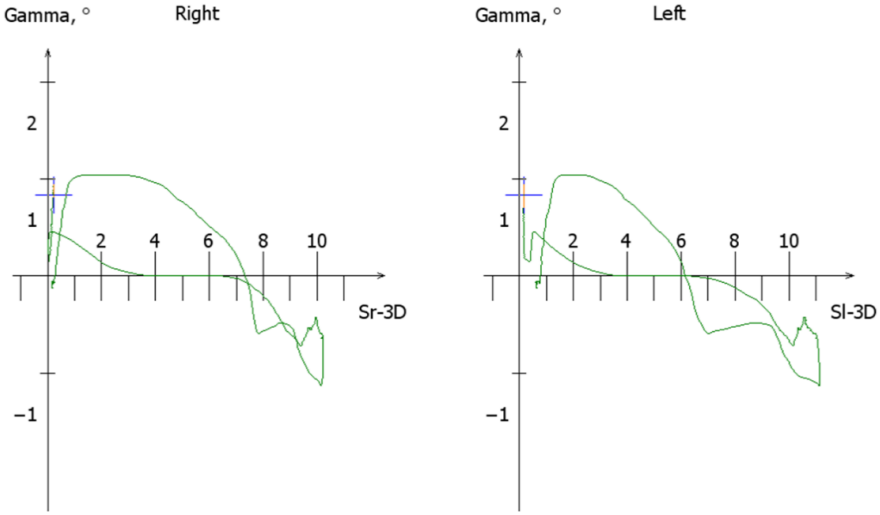
17 and 16.



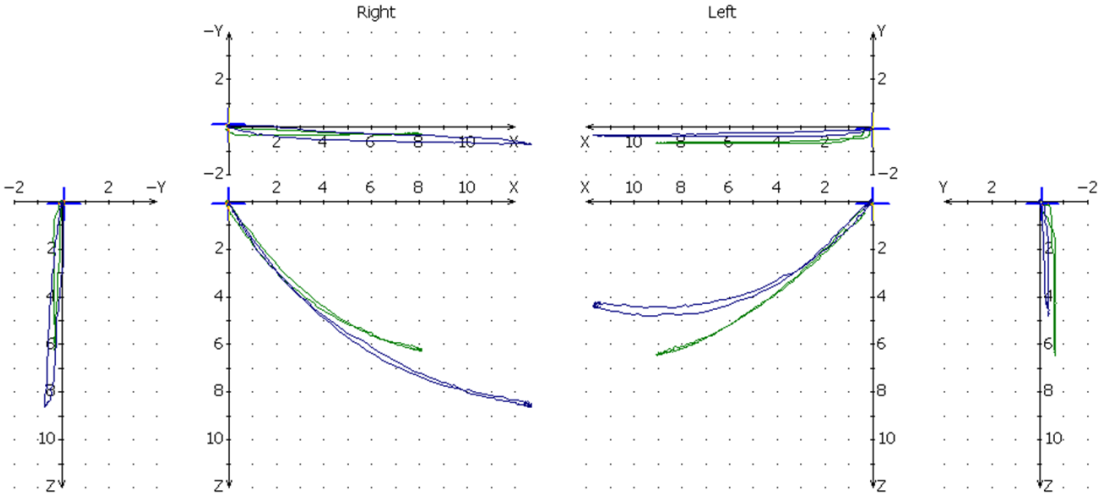
Protrusion



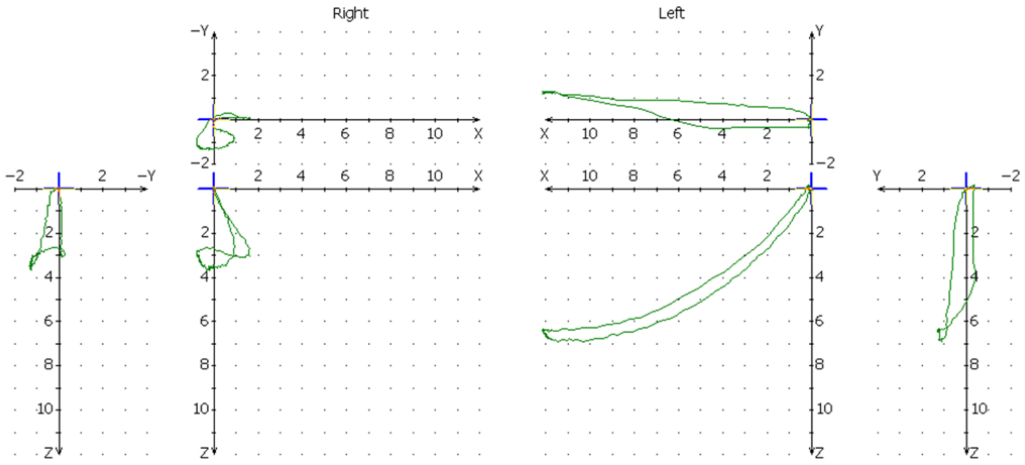
Translation - rotation protrusion



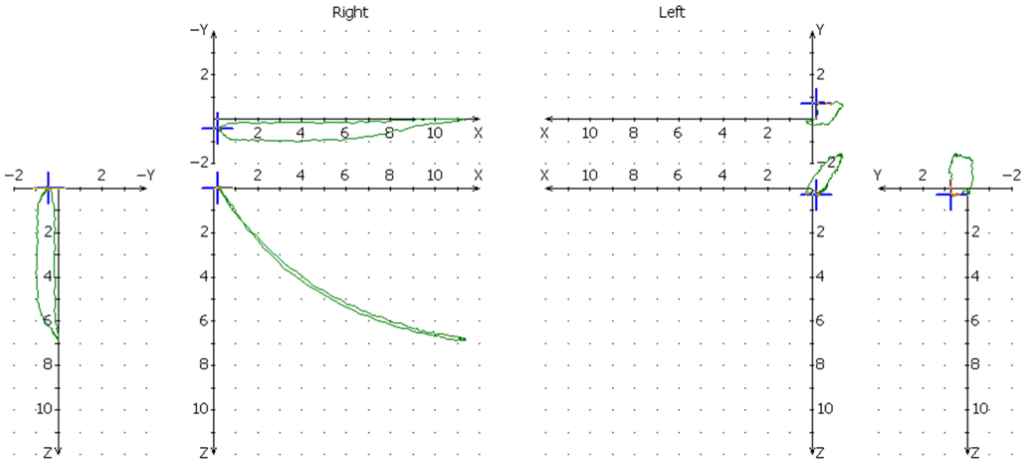
Protrusion - open – close overlay mode



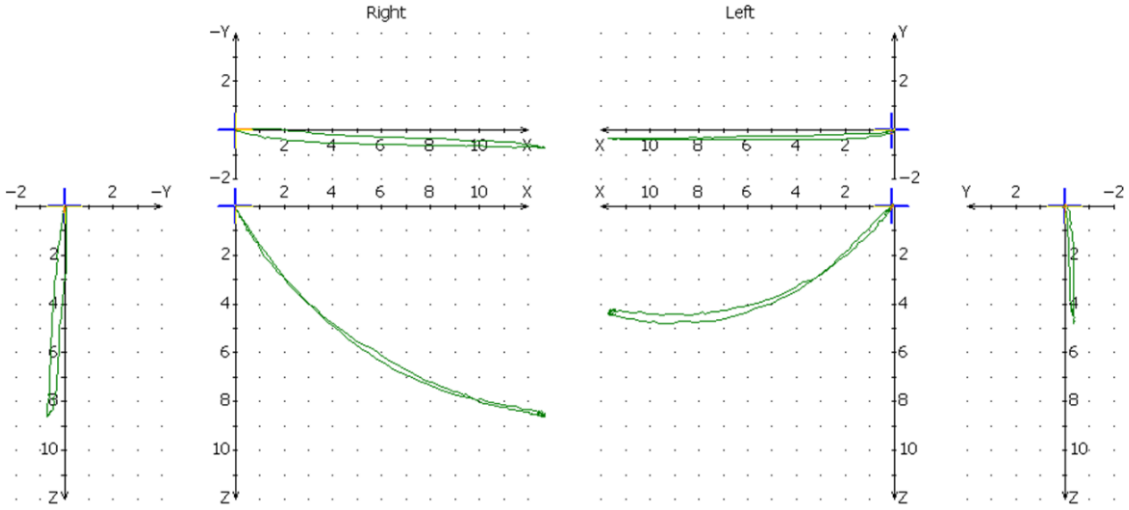
Medio left

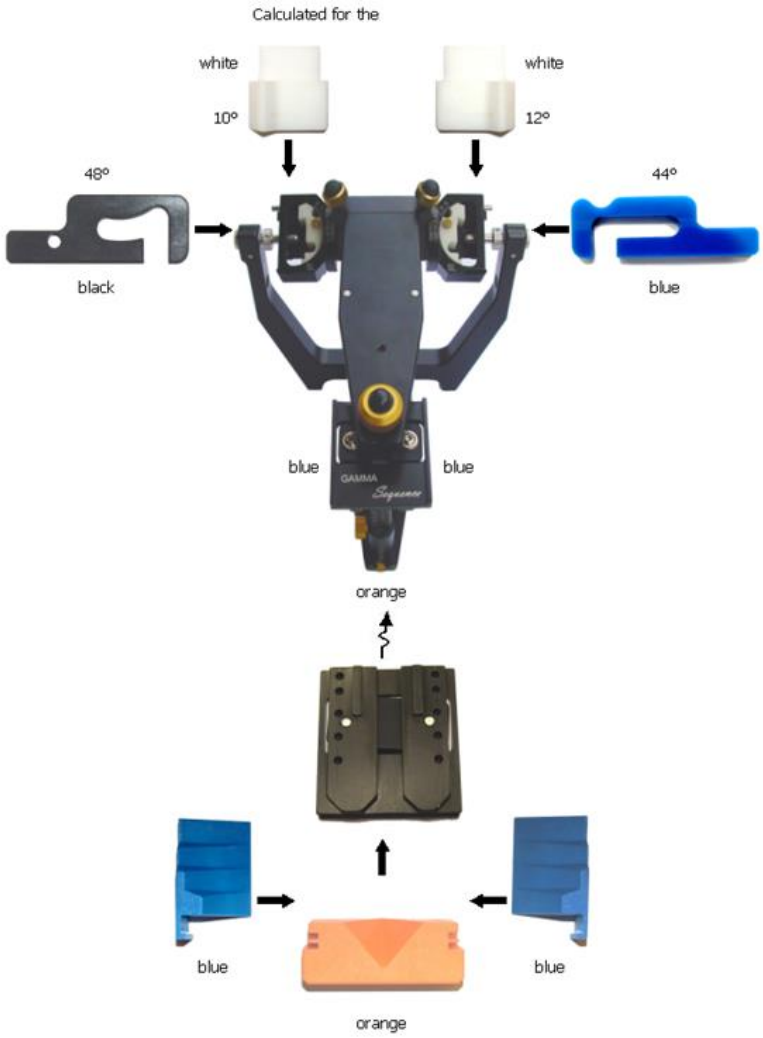


Medio right



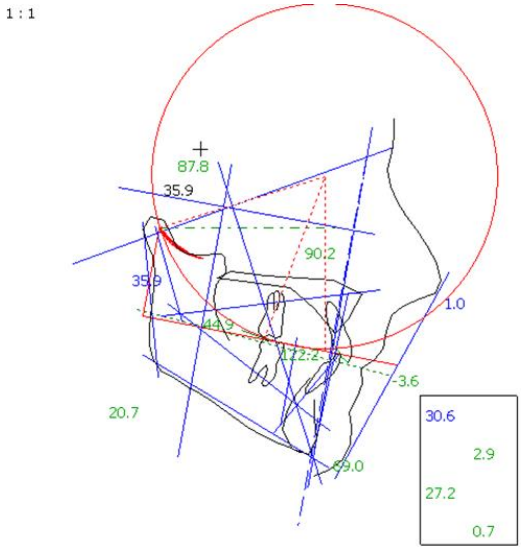
Open - close


Right
Left


Calculated for the
white
10°
white
12°
48°
44°
black
blue
blue
blue
orange
blue
blue
orange

Cephalometric analyses

Right side



Slavicek Analysis

	right side		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	87.7	
Facial Depth	91.5 °	90.2	
Mandibular Plane	21.5 °	20.7	
Facial Taper	68.0 °	69.0	
Mandibular Arc	31.2 °	35.8	1B*
Maxillary Position	65.0 °	68.6	1+*
Convexity	-1.0 mm	1.0	1X*
Lower Facial Height (by R.Slavicek)	44.6 °	44.8	
Lower Facial Height to Point D	51.1 °	49.7	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	122.1	
Upper Incisor Protrusion	4.3 mm	2.9	
Upper Incisor Inclination	23.1 °	30.5	1+*
Upper Incisor Vertical	mm	1.4	
Lower Incisor Protrusion	1.2 mm	0.7	
Lower Incisor Inclination	24.1 °	27.2	
Upper Molar Position	21.0 mm		
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	10.8	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	16.6	
Distance Occlusal plane - Axis (DPO)	40.9 mm	18.4	2-**
Radius of Curve of Spee	----- mm	35.8	
Lip Embrasure	0.0 mm	2.1	
Occlusal Plane Xi Distance	-1.4 mm	-1.8	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	45.5	
Horizontal Condylar Inclination left	----- °	42.0	
Horizontal Condylar Inclination	----- °	43.7	
Relative Condylar Inclination	----- °	32.9	
Relative Condylar Inclination 6	----- °	32.9	
Relative Condylar Inclination 7	----- °	21.8	
Relative Condylar Inclination 8	----- °	43.7	
Anterior Guidance (S-AOP)	----- °	52.9	
Relative Anterior Guidance	----- °	42.0	
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-3.6	

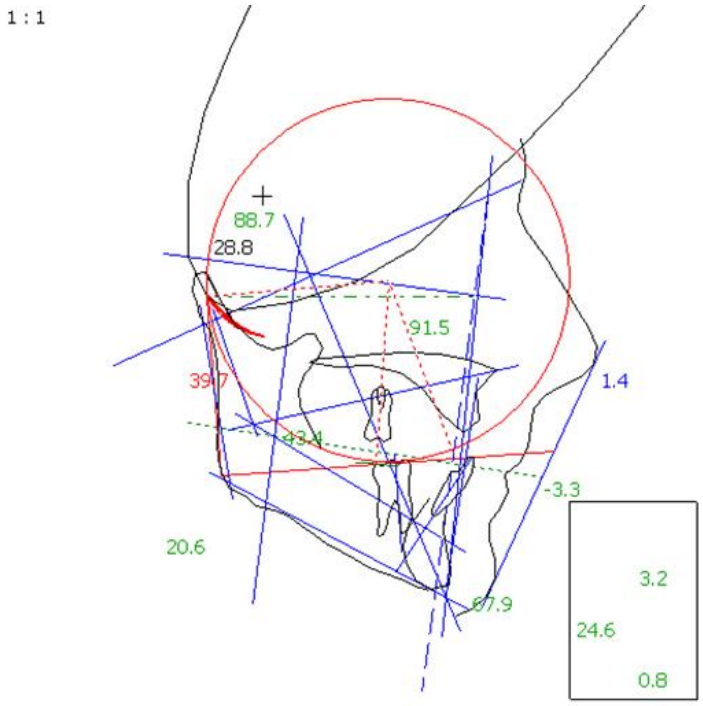
Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is brachyfacial
Skeletal class is I with tends to II
The maxilla is positioned prognathic
The mandible is positioned neutral, with tendency to prognatic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is increased
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is normal
Occlusal concept: Unknown (data missing)
No functional statement available

Explanation

	right side		
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	87.7	
Facial Depth	91.5 °	90.2	
Facial Taper	68.0 °	69.0	
Mandibular Plane	21.5 °	20.7	
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	387.0	3-***
Facial Length Ratio	63.5 %	72.7	4+***>
Y Axis to S N	67.0 °	67.3	
Y Axis (Downs)	61.8 °	59.6	
S N to Gonion Gnathion Angle	31.6 °	27.0	1-*

Left side



Slavicek Analysis

	left side		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	88.6	
Facial Depth	91.5 °	91.4	
Mandibular Plane	21.5 °	20.6	
Facial Taper	68.0 °	67.8	
Mandibular Arc	31.2 °	39.7	2B**
Maxillary Position	65.0 °	70.3	2+**
Convexity	-1.0 mm	1.3	1X*
Lower Facial Height (by R.Slavicek)	44.4 °	43.3	
Lower Facial Height to Point D	50.9 °	50.4	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °		
Upper Incisor Protrusion	4.3 mm	3.2	
Upper Incisor Inclination	23.1 °		
Upper Incisor Vertical	mm	2.0	
Lower Incisor Protrusion	1.2 mm	0.8	
Lower Incisor Inclination	24.1 °	24.5	
Upper Molar Position	21.0 mm		
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	-4.0	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	10.8	
Distance Occlusal plane - Axis (DPO)	40.9 mm	28.0	1-*
Radius of Curve of Spee	----- mm	28.7	
Lip Embrasure	0.0 mm	2.8	
Occlusal Plane Xi Distance	-1.4 mm	-7.5	1-*
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	45.5	
Horizontal Condylar Inclination left	----- °	42.0	
Horizontal Condylar Inclination	----- °	43.7	
Relative Condylar Inclination	----- °	47.8	
Relative Condylar Inclination 6	----- °	37.1	
Relative Condylar Inclination 7	----- °	43.2	
Relative Condylar Inclination 8	----- °	43.7	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-3.3	

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is strongly brachyfacial
Skeletal class is I with tends to II
The maxilla is positioned strongly prognathic
The mandible is positioned prognatic, with tendency to neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is unknown (no data)
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is unknown (no data)
Occlusal concept: Unknown (data missing)
No functional statement available

Explanation

	left side		
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	88.6	
Facial Depth	91.5 °	91.4	
Facial Taper	68.0 °	67.8	
Mandibular Plane	21.5 °	20.6	
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	386.6	3-***
Facial Length Ratio	63.5 %	72.4	4+***>
Y Axis to S N	67.0 °	65.5	
Y Axis (Downs)	61.8 °	57.9	1-*
S N to Gonion Gnathion Angle	31.6 °	26.6	1-*

Incisal Pin Table

Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	44.9	45.3	45.7	46.1	46.6	47.0	47.4	48.1	48.9	49.6	50.3	51.0	52.3
LFH. (Norm)	44.6	44.7	44.8	44.9	45.1	45.2	45.3	45.5	45.8	46.0	46.2	46.5	46.9
LFH. (Variation)	0.0	0.4	0.9	1.3	1.7	2.1	2.5	3.3	4.0	4.8	5.5	6.1	7.5
Menton Vertical	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.6	2.0	2.3	2.6	2.9	3.5
Pogonion Sagittal	0.0	-0.5	-1.0	-1.5	-2.1	-2.6	-3.1	-4.2	-5.3	-6.4	-7.5	-8.6	-10.9
Incision Inf. Vertical	0.0	0.3	0.5	0.8	1.1	1.3	1.6	2.1	2.6	3.0	3.5	3.9	4.7
Incision Inf. Sagittal	0.0	-0.4	-0.8	-1.2	-1.5	-2.0	-2.4	-3.2	-4.1	-4.9	-5.8	-6.8	-8.6

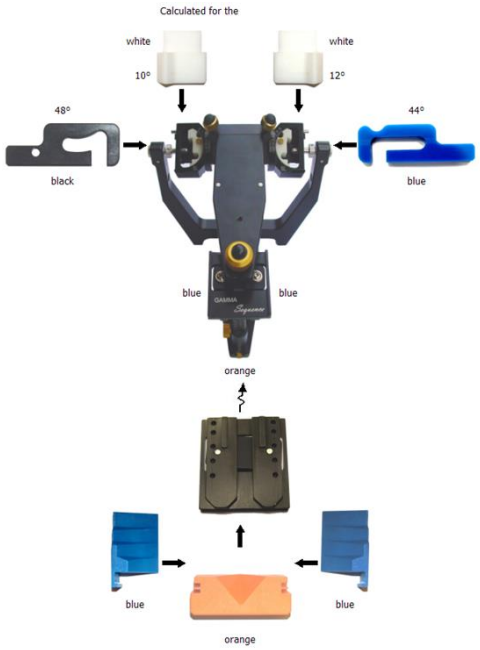
Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	44.9	44.4	44.0	43.5	43.0	42.6	42.1	41.1	40.0	38.9	37.8	36.6	34.0
LFH. (Norm)	44.6	44.5	44.4	44.3	44.1	44.0	43.9	43.7	43.5	43.3	43.0	42.8	42.4
LFH. (Variation)	0.0	-0.4	-0.9	-1.4	-1.8	-2.3	-2.8	-3.8	-4.8	-5.9	-7.1	-8.3	-10.9
Menton Vertical	0.0	-0.2	-0.5	-0.7	-0.9	-1.2	-1.4	-1.9	-2.5	-3.1	-3.7	-4.3	-5.7
Pogonion Sagittal	0.0	0.5	1.0	1.5	2.0	2.4	2.9	3.8	4.7	5.5	6.3	7.1	8.4
Incision Inf. Vertical	0.0	-0.3	-0.6	-0.9	-1.2	-1.5	-1.8	-2.4	-3.0	-3.7	-4.4	-5.2	-6.7
Incision Inf. Sagittal	0.0	0.4	0.7	1.1	1.4	1.8	2.1	2.7	3.3	3.8	4.3	4.7	5.4

Articulator settings

OPI R = 7 degrees

OPI L= 0 degree; OPI 36= 4 degrees

CI R, L = 30 degrees



Sagittal Condylar Guidance Reference® SL

Inlay	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
Straight	54°	52°	40°	**•44°**	**•44°**	40°
Convex	**•48°**	**•48°**	**•46°**	38°	41°	**•44°**
Retrusive	Black	Black	Black	Blue	Blue	White

Transversal Condylar Guidance Reference® SL

	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
WHITE	**•13°**	**•10°**	**•4°**	**•19°**	**•12°**	**•8°**
YELLOW	0°	0°	0°	0°	0°	0°
RED	0°	0°	0°	0°	0°	0°
BLUE	0°	0°	0°	0°	0°	0°

Gamma Sequence Incisal Table

Condylography values used for calculations
Protrusion at 5 mm: SCI 46,5°
Mediotrusion right at 5 mm: SCI 51,4° TCI 9,1°
Mediotrusion left at 5 mm: SCI 49,7° TCI 11,4°
Suggested sequence table setting
Protrusion element: ORANGE
Right lateral element: BLUE
Left lateral element: BLUE

Condylography values used for calculations

Protrusion at 5 mm: SCI 46,5°
Mediotrusion right at 5 mm: SCI 51,4° TCI 9,1°
Mediotrusion left at 5 mm: SCI 49,7° TCI 11,4°
Calculation for incisal table settings : Sequential disocclusion according tc
Computed using ideal anterior guidance
Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.
Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.
Failed to compute incisor table settings for ideal postions.

Calculated vertical cusp tip positions								
	Right				Left			
	TA	I - Table	T - S1	T - S2	TA	I - Table	T - S1	T - S2
1	51,8°	51°	40°	60°	51,8°	51°	40°	60°
2								
3	41,8°	47°			41,8°	52°		
4								
5								
6m								
6d								
7m								
7d								
8m								
8d								

Occlusal Plane Value

Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.
Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.

Occlusal plane adjustment for average SCI value: 46° (5 mm)

Cuspal Angle	20°	25°	30°
Balanced Occlusion 1/6	27°	22°	17°
Balanced Occlusion 1/7	36°	31°	26°
Canine protected Occlusion 1/6	18°	13°	8°
Canine protected Occlusion 1/7	27°	22°	17°

CADIAX® Curves

	Protrusion		Mediotrusion right		Mediotrusion left	
	SCI right	SCI left	S C I	T C I	S C I	T C I
1st	56,9°	40,5°	61,5°	27,9°	61,6°	37,6°
2nd	53,9°	44,0°	59,6°	19,1°	57,3°	24,7°
3rd	52,9°	45,4°	56,7°	13,7°	54,6°	17,4°
4th	51,2°	44,7°	54,2°	12,3°	51,7°	13,6°
5th	49,0°	44,0°	51,4°	9,1°	49,7°	11,4°
6th	47,3°	43,0°	49,2°	6,2°	47,6°	10,1°
8th	43,5°	40,7°	44,6°	3,7°	43,5°	8,4°
10th	38,4°	37,9°	39,8°	1,9°	39,0°	6,5°
14th			31,5°	1,5°		

	Retrusion	
-1.	89,7°d	61,6°r
-2.	89,7°d	47,8°r

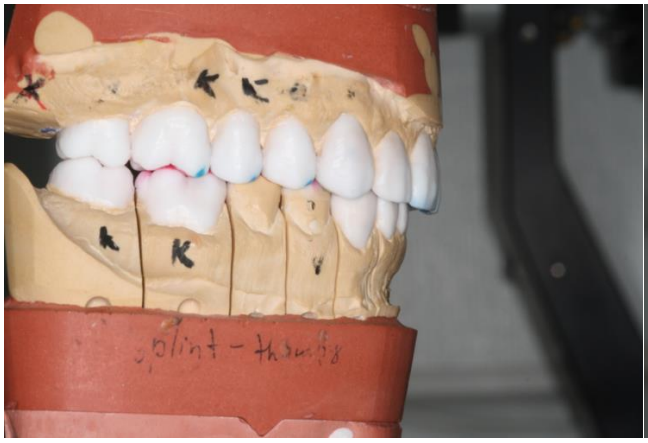
Coordinates of Cusp TIps

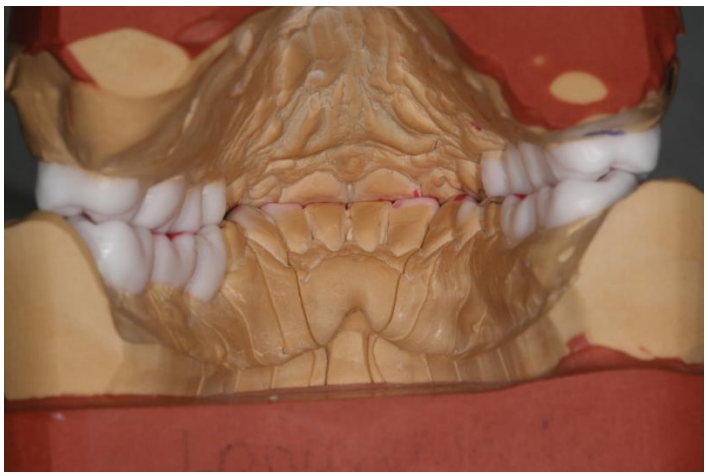
	Right			Left		
	X	Y	Z	X	Y	Z
1	85,00	7,00	51,00	85,00	−2,00	51,00
2						
3	80,00	16,00	50,00	80,00	9,00	50,50
4						
5						
6m						
6d						
7m						
7d						
8m						
8d						

Slavicek Analysis

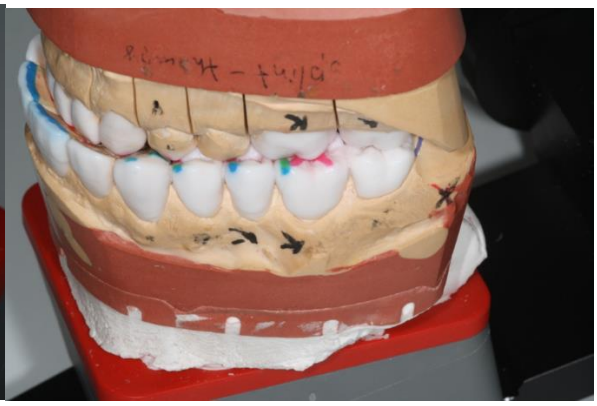
	right side		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	87.7	
Facial Depth	91.5 °	90.2	
Mandibular Plane	21.5 °	20.7	
Facial Taper	68.0 °	69.0	
Mandibular Arc	31.2 °	35.8	1B*
Maxillary Position	65.0 °	68.6	1+*
Convexity	-1.0 mm	1.0	1X*
Lower Facial Height (by R.Slavicek)	44.6 °	44.8	
Lower Facial Height to Point D	51.1 °	49.7	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	122.1	
Upper Incisor Protrusion	4.3 mm	2.9	
Upper Incisor Inclination	23.1 °	30.5	1+*
Upper Incisor Vertical	mm	1.4	
Lower Incisor Protrusion	1.2 mm	0.7	
Lower Incisor Inclination	24.1 °	27.2	
Upper Molar Position	21.0 mm		
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	10.8	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	16.6	
Distance Occlusal plane - Axis (DPO)	40.9 mm	18.4	2-**
Radius of Curve of Spee	----- mm	35.8	
Lip Embrasure	0.0 mm	2.1	
Occlusal Plane Xi Distance	-1.4 mm	-1.8	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	47.0	
Horizontal Condylar Inclination left	----- °	42.7	
Horizontal Condylar Inclination	----- °	44.8	
Relative Condylar Inclination	----- °	34.0	
Relative Condylar Inclination 6	----- °	34.0	
Relative Condylar Inclination 7	----- °	22.9	
Relative Condylar Inclination 8	----- °	44.8	
Anterior Guidance (S-AOP)	----- °	52.9	
Relative Anterior Guidance	----- °	42.0	
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-3.6	

Wax-up







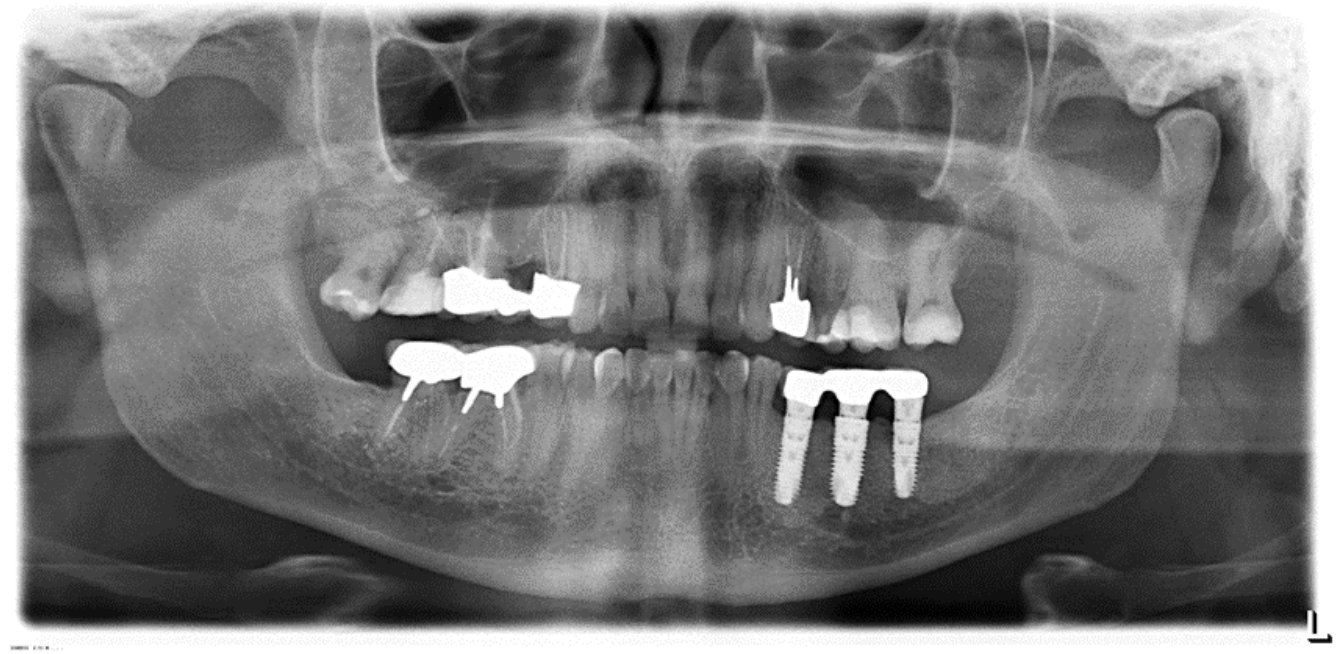



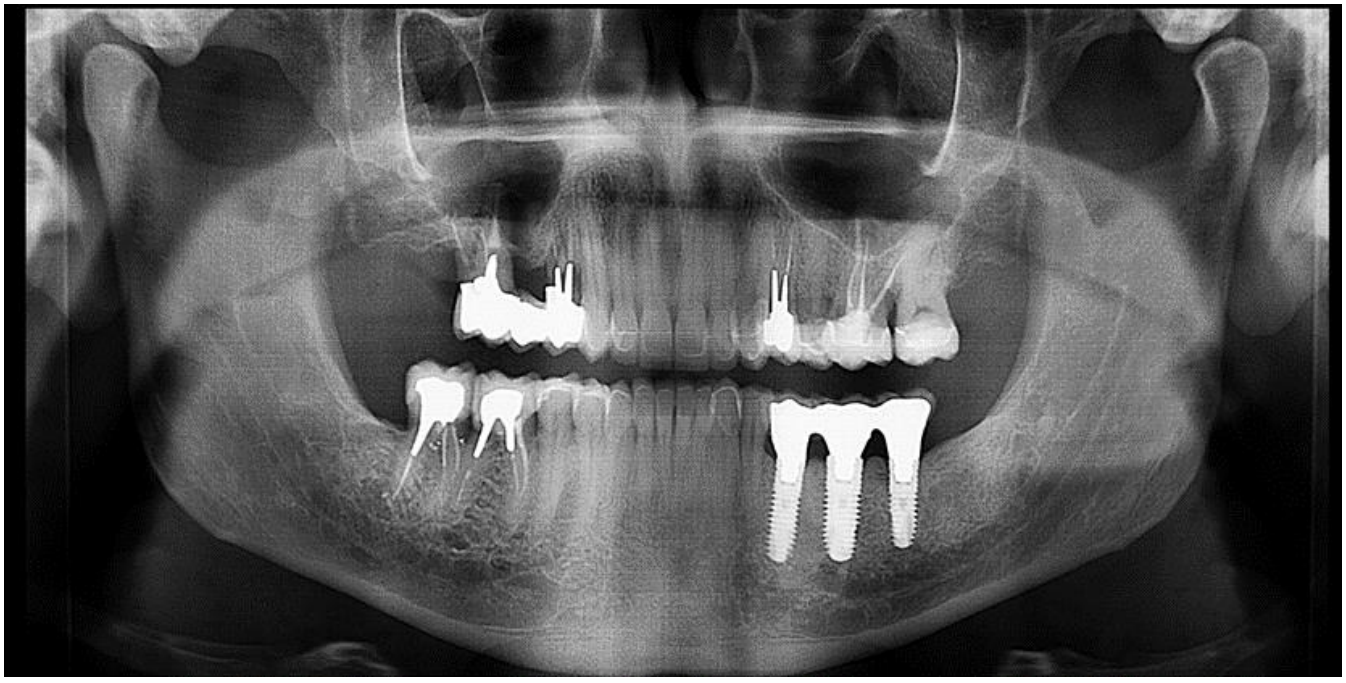
Final Result





Before 2009 and after treatment 2010





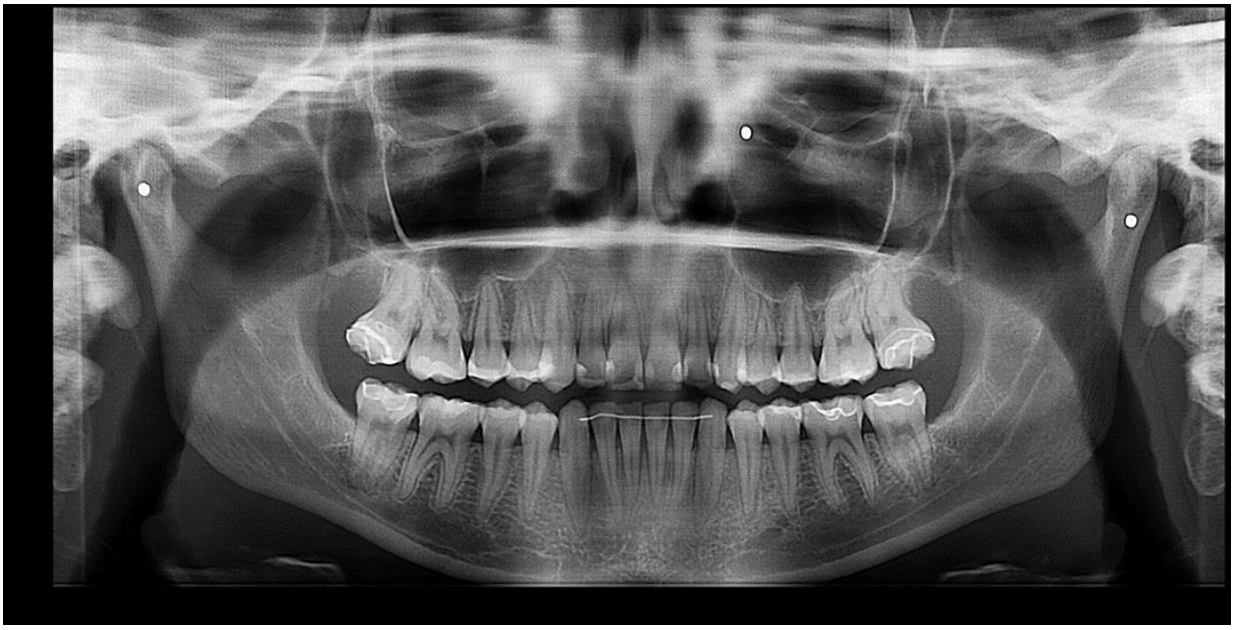
Clinical case № 2

Patient`s birth date: female, 1998

Date of examination: December, 2015

Chief complain: esthetic problems after orthodontic treatment

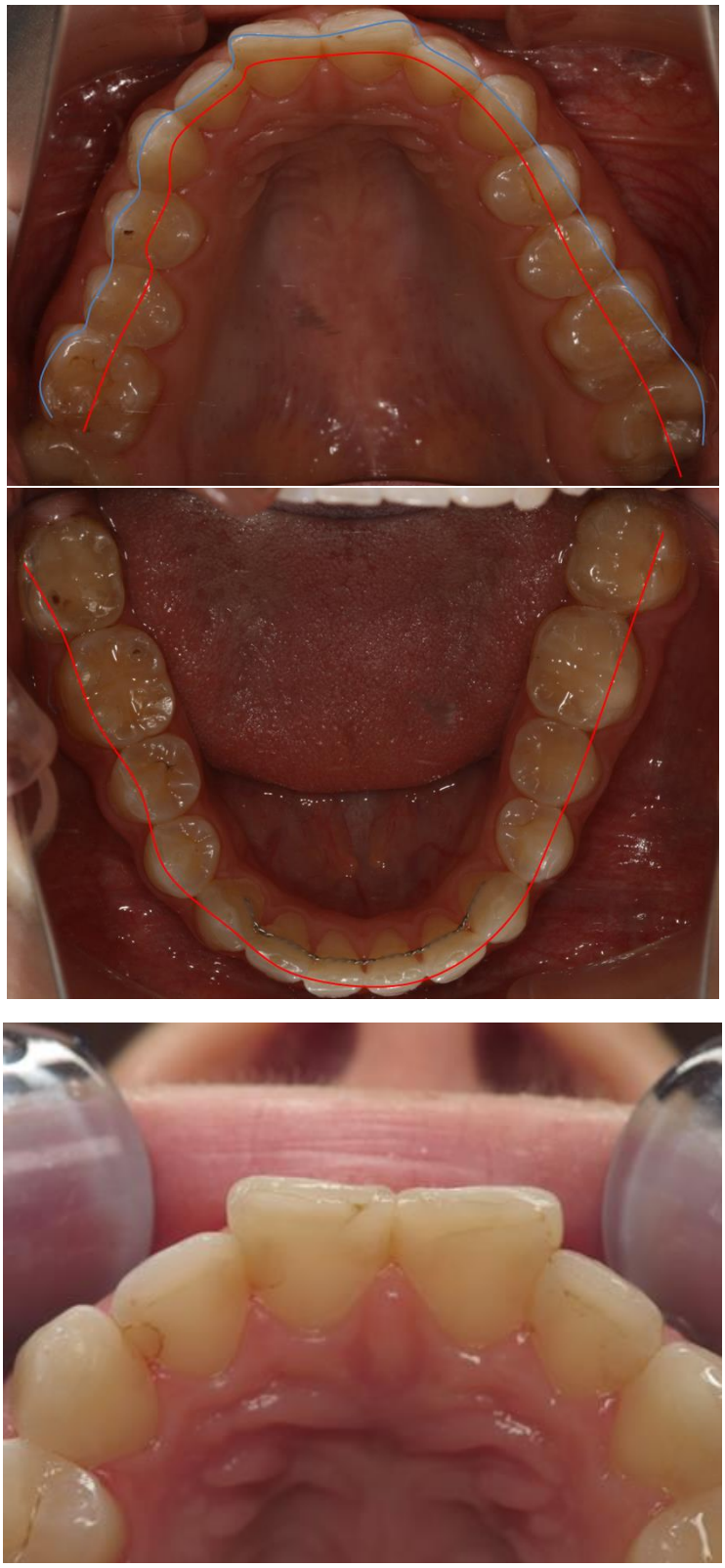
OPG



Intraoral

- No posterior support
- Overbite and overjet are decreased
- Abfractions
- Caries lesion
- Palatal inclination 14,15, 24, 25 both sides

Lira shape upper jaw

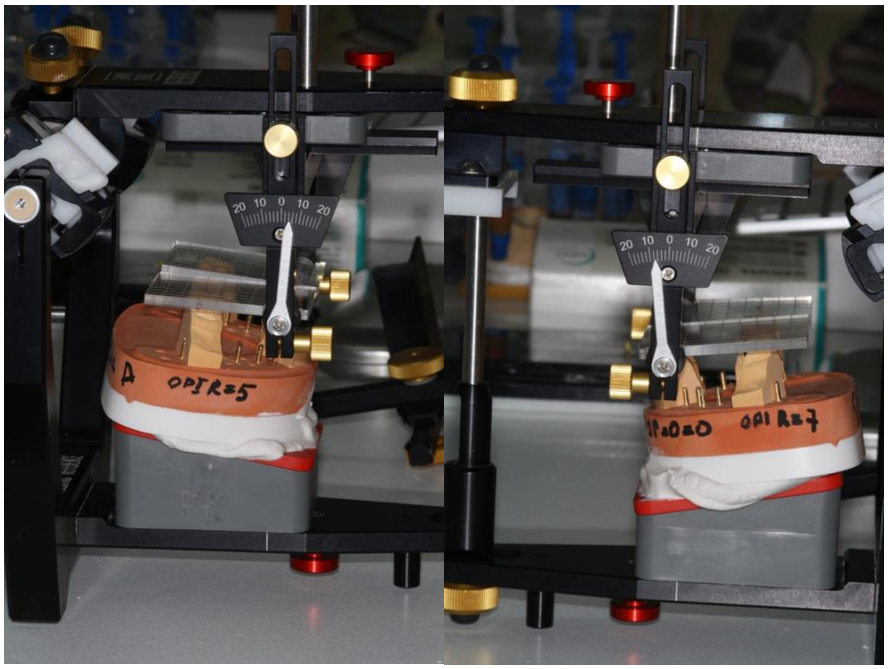


- Sagittal and transversal discrepancy
- Active and passive centric arches don’t fit together

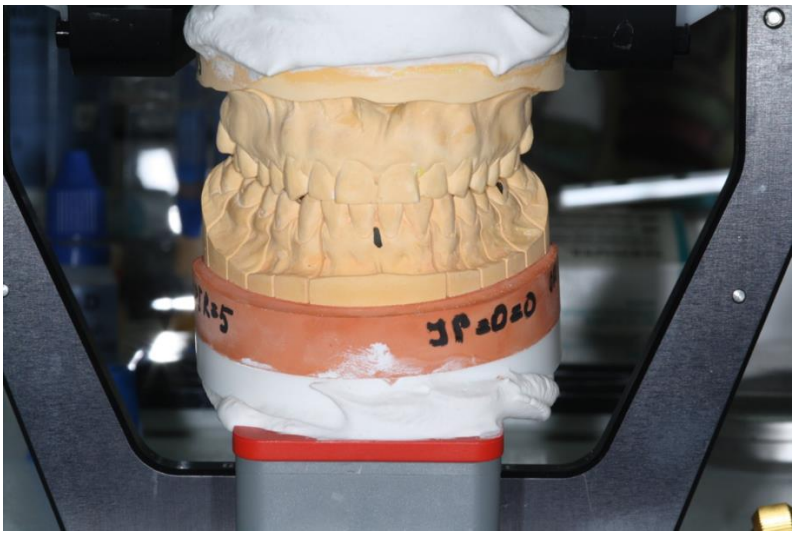
Posterior upper Occlusal plane has interferences.

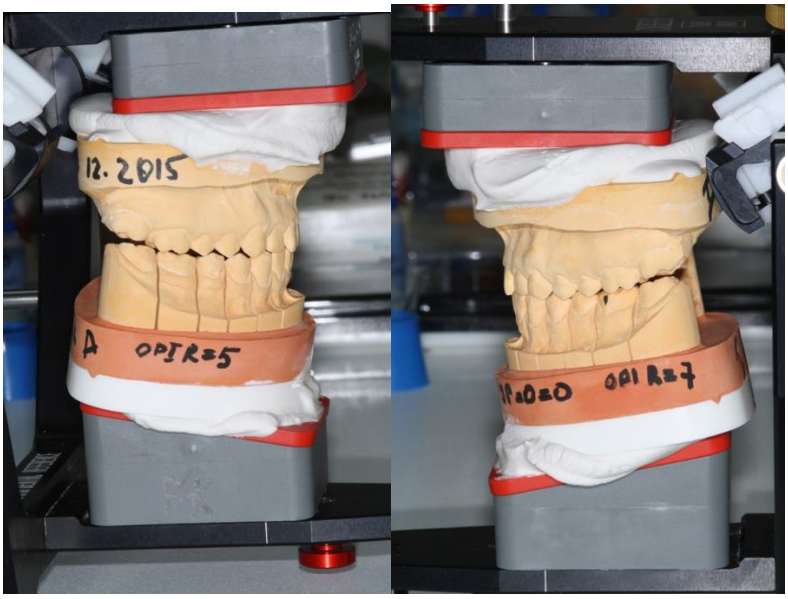
I dental class with tendency to III class.

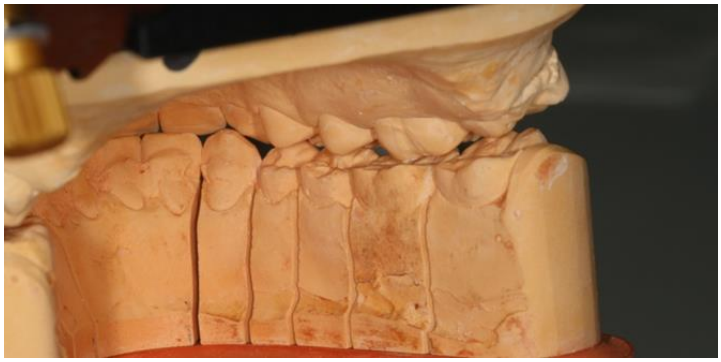
OPI R = 5 degrees, OPI L = 7 degrees

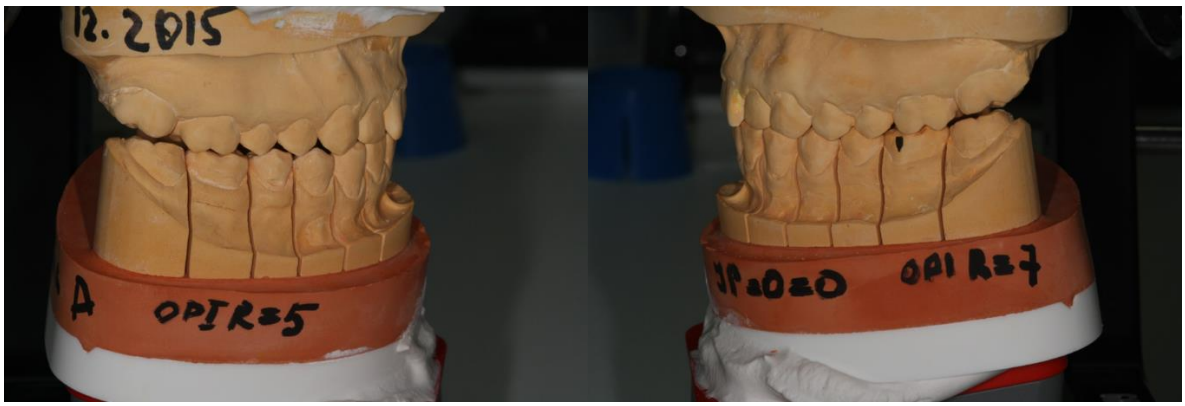


ICP

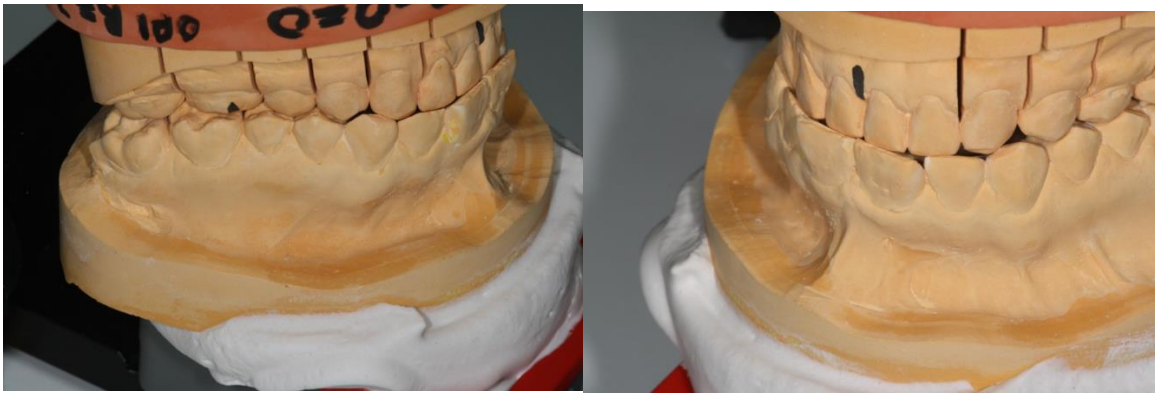




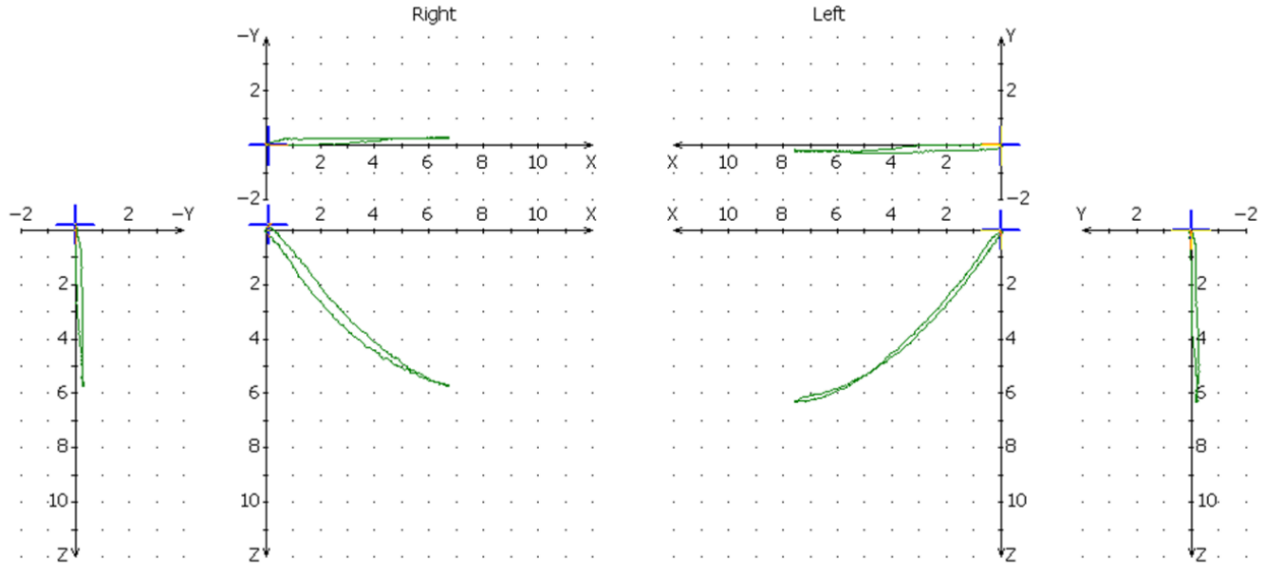




No canine control both sides and sequential guidance in posterior region (premolars and molars).



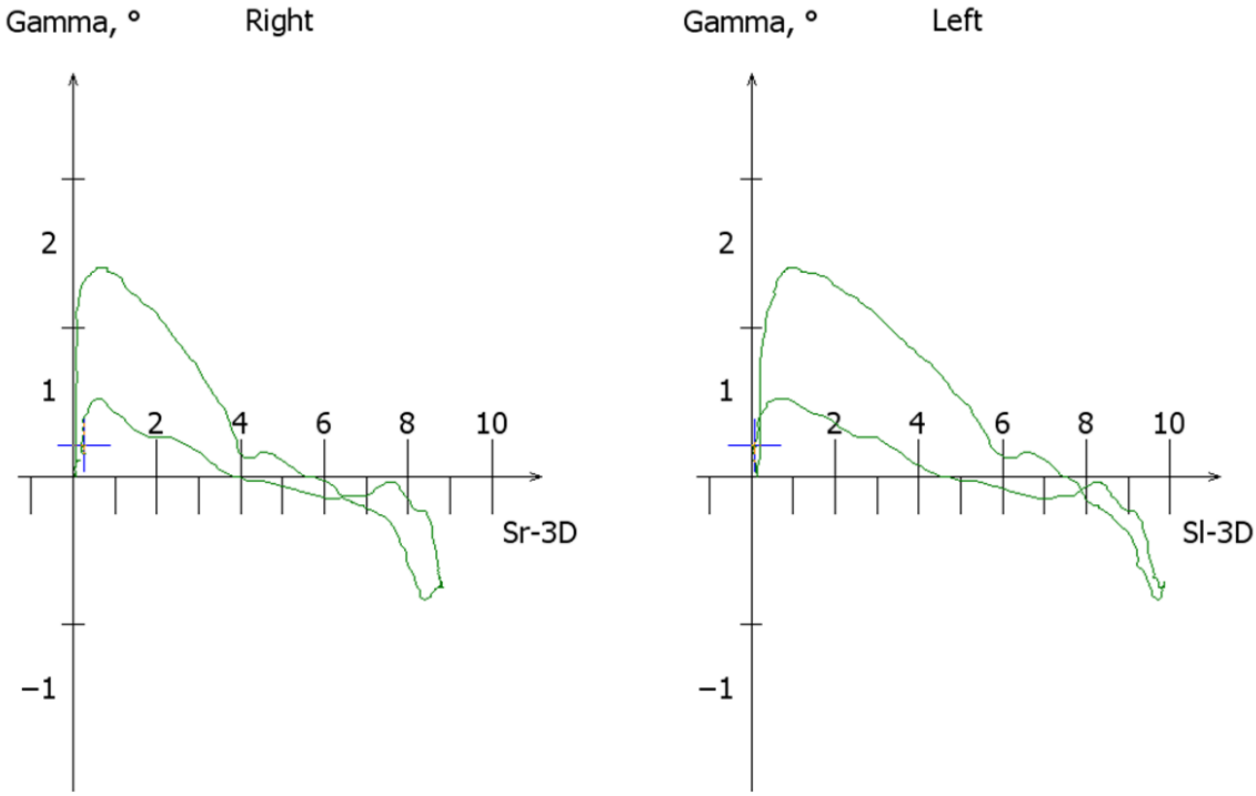
Protrusion – retrusion



The start and end points coincident.

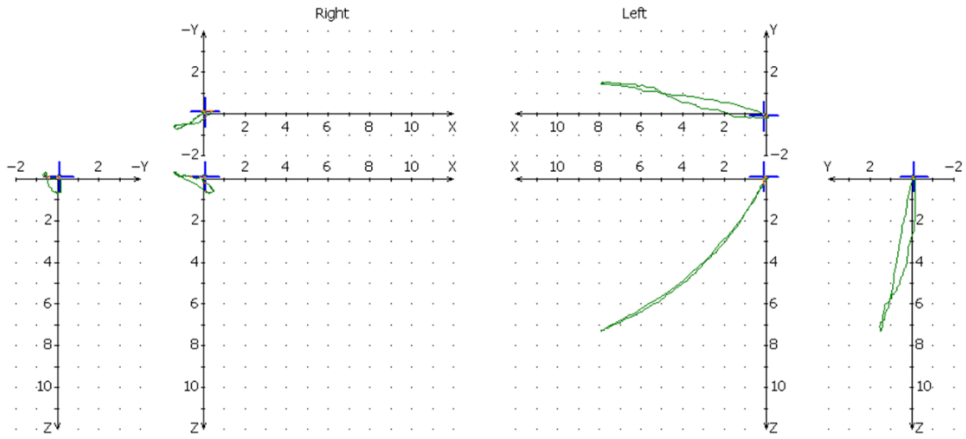
The length of movement is decreased.

Rotation – translation



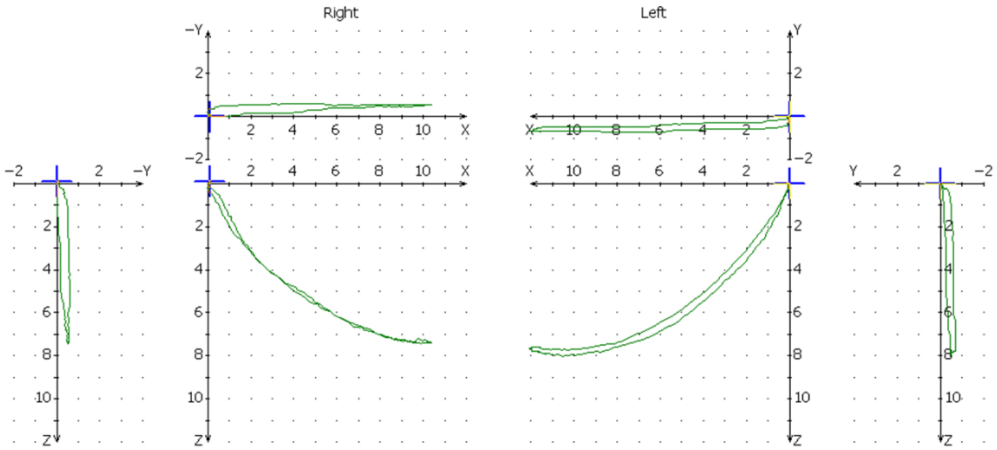
Gamma rotation is 1,5 degrees, immediate rotation and translation – normal.

Mediotrusion left



Right TMJ – Redetrusion

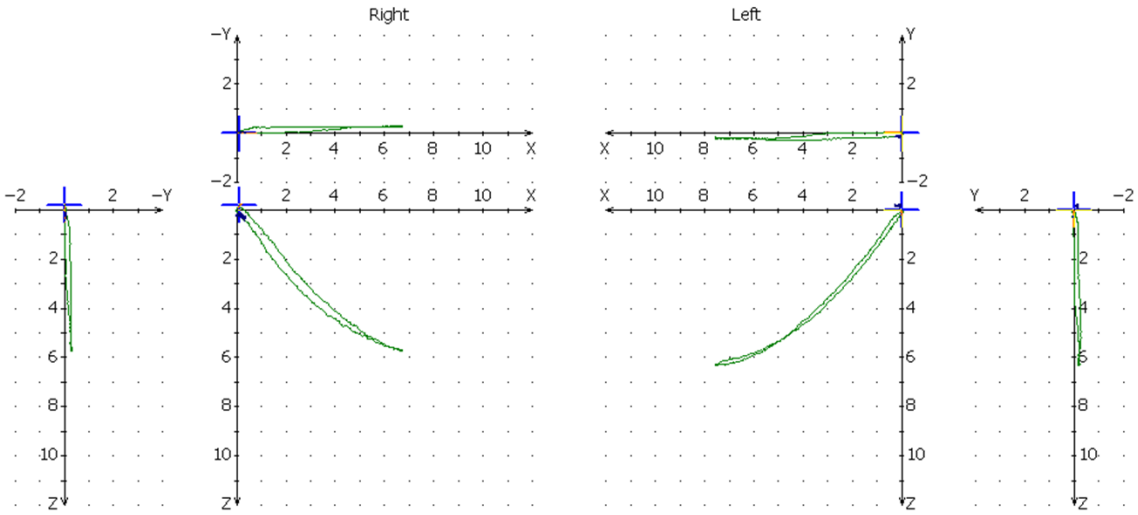
Open – close



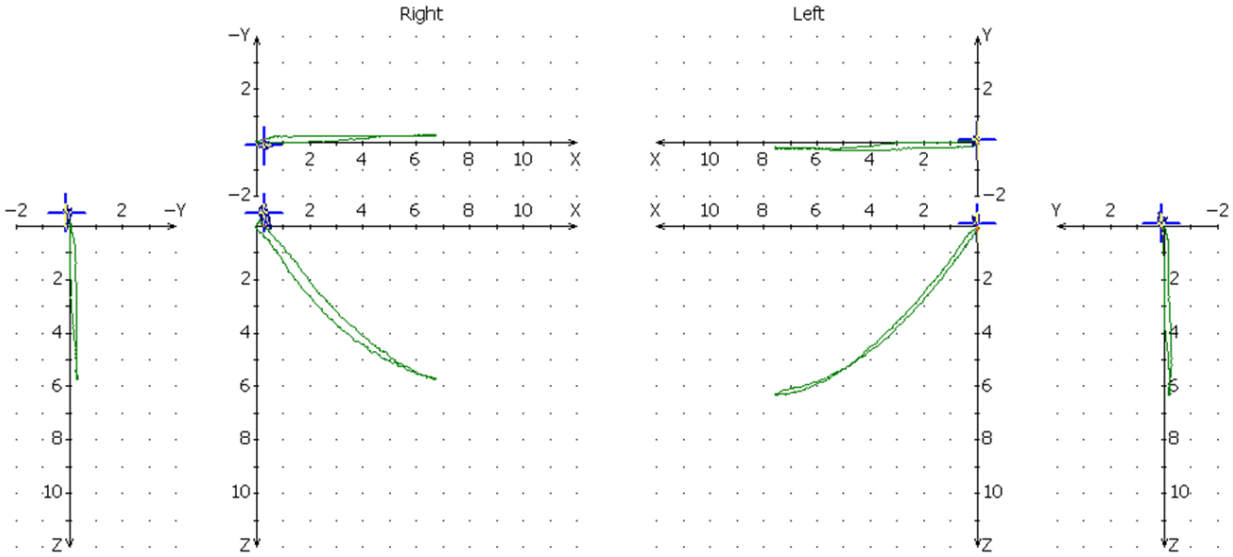
Immediate side shift the left delta y = 0,5 mm

On the right side there is a loop – masseter muscle activity

Speech 60-70

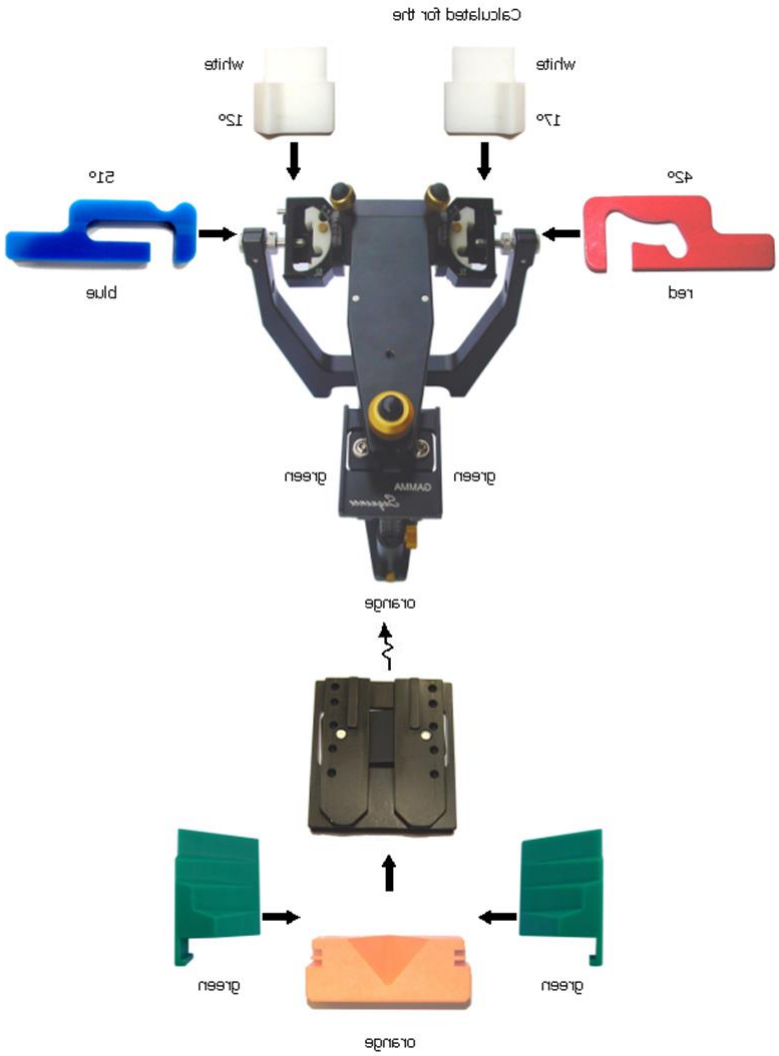


Brux

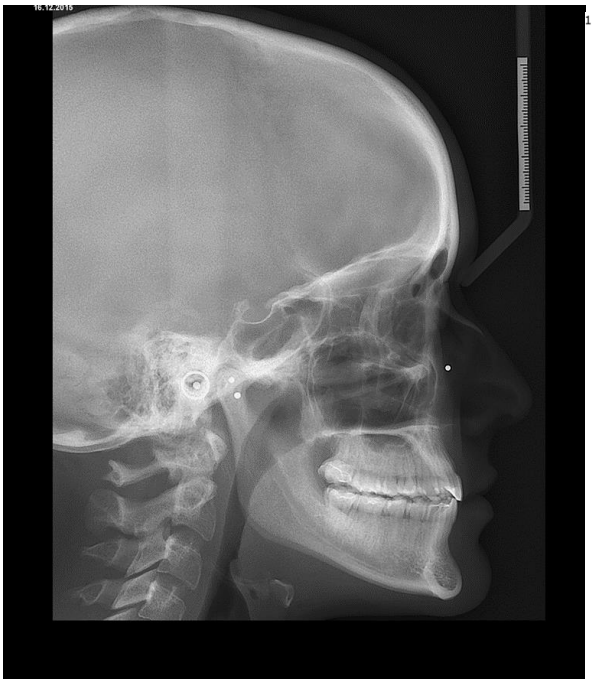


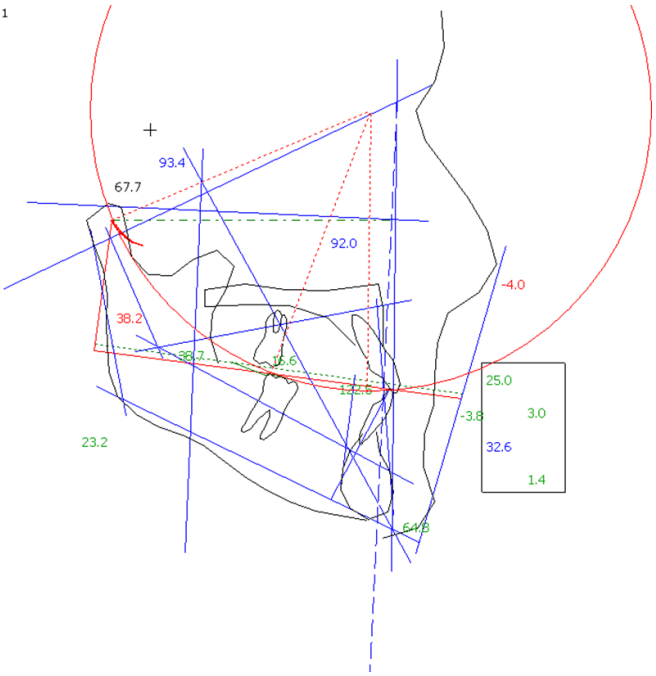
Right side – no posterior support, resurtrusion.

Articulator settings



Lateral X-ray





Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	93.3	1B*
Facial Depth	89.0 °	92.0	1+*
Mandibular Plane	24.0 °	23.1	
Facial Taper	68.0 °	64.8	
Mandibular Arc	29.0 °	38.1	2B**
Maxillary Position	65.0 °	62.4	1-*
Convexity	0.0 mm	-3.9	2V**
Lower Facial Height (by R.Slavicek)	44.0 °	38.6	
Lower Facial Height to Point D	50.5 °	44.3	1-*
Dental Measurement	**Norm**	**Value**	**Trend**
Interincisal Angle	131.7 °	122.4	
Upper Incisor Protrusion	3.7 mm	3.0	
Upper Incisor Inclination	24.0 °	24.9	
Upper Incisor Vertical	mm	0.6	
Lower Incisor Protrusion	2.7 mm	1.3	
Lower Incisor Inclination	24.0 °	32.5	1+*
Upper Molar Position	18.0 mm	16.6	
Occlusal plane	**Norm**	**Value**	**Trend**
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	7.4	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	8.9	
Distance Occlusal plane - Axis (DPO)	40.9 mm	31.6	1-*
Radius of Curve of Spee	----- mm	67.6	
Lip Embrasure	0.0 mm	-1.2	
Occlusal Plane Xi Distance	-1.4 mm	-2.9	
Functional Measurement	**Norm**	**Value**	**Trend**
Horizontal Condylar Inclination right	----- °	48.7	
Horizontal Condylar Inclination left	----- °	48.3	
Horizontal Condylar Inclination	----- °	48.5	
Relative Condylar Inclination	----- °	41.0	
Relative Condylar Inclination 6	----- °	33.3	
Relative Condylar Inclination 7	----- °	27.7	
Relative Condylar Inclination 8	----- °	48.5	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	**Norm**	**Value**	**Trend**
Esthetic Plane	-2.3 mm	-3.8	

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is strongly brachyfacial
Skeletal class is III
The maxilla is positioned neutral, with tendency to retrognathic
The mandible is positioned prognatic, with tendency to neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is normal
The protrusion of the lower incisor is normal
The inclination of the lower incisor is increased
The interincisal angle is normal
Occlusal concept: Tendency to group function
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	93.3	1B*
Facial Depth	89.0 °	92.0	1+*
Facial Taper	68.0 °	64.8	
Mandibular Plane	24.0 °	23.1	
Related Values	**Norm**	**Value**	**Trend**
Bjoerk Sum	396.0 °	390.5	2-**
Facial Length Ratio	63.5 %	65.0	
Y Axis to S N	67.0 °	65.2	
Y Axis (Downs)	61.2 °	56.1	1-*
S N to Gonion Gnathion Angle	32.6 °	30.5	

Maxilla is in retrognathic position, so we can't increase VD more than 2 mm OPI both sides 8 degrees, so DOA is 10 degrees.

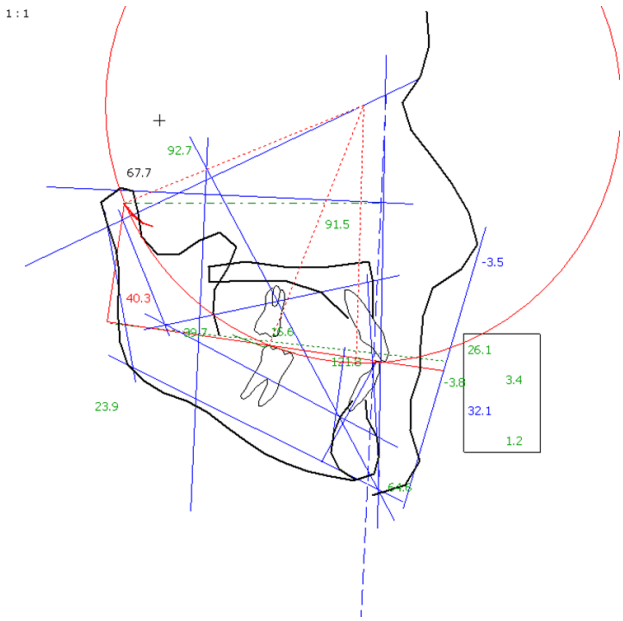
Increase VD +2 mm on incisal pin

Incisal Pin Table

Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	38.7	39.1	39.6	40.0	40.4	40.8	41.2	42.0	42.8	43.5	44.2	44.9	46.2
LFH. (Norm)	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.8	45.0	45.2	45.4	45.6	46.1
LFH. (Variation)	0.0	0.4	0.9	1.3	1.7	2.1	2.5	3.3	4.1	4.8	5.5	6.2	7.5
Menton Vertical	0.0	0.5	0.9	1.4	1.8	2.2	2.6	3.5	4.2	5.0	5.7	6.4	7.7
Pogonion Sagittal	0.0	-0.7	-1.4	-2.1	-2.8	-3.5	-4.2	-5.6	-7.1	-8.5	-10.0	-11.5	-14.4
Incision Inf. Vertical	0.0	0.5	1.0	1.5	2.0	2.4	2.9	3.8	4.7	5.5	6.3	7.1	8.7
Incision Inf. Sagittal	0.0	-0.5	-1.0	-1.5	-2.0	-2.5	-3.0	-4.1	-5.2	-6.3	-7.4	-8.5	-10.9

Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	38.7	38.2	37.8	37.3	36.8	36.3	35.8	34.8	33.7	32.5	31.3	30.1	27.4
LFH. (Norm)	44.0	43.9	43.7	43.6	43.5	43.4	43.3	43.1	42.9	42.6	42.4	42.2	41.7
LFH. (Variation)	0.0	-0.5	-0.9	-1.4	-1.9	-2.4	-2.9	-3.9	-5.0	-6.2	-7.3	-8.6	-11.3
Menton Vertical	0.0	-0.5	-1.0	-1.4	-2.0	-2.5	-3.0	-4.1	-5.2	-6.4	-7.6	-8.9	-11.7
Pogonion Sagittal	0.0	0.7	1.4	2.0	2.7	3.3	4.0	5.2	6.5	7.7	8.8	9.9	12.0
Incision Inf. Vertical	0.0	-0.5	-1.0	-1.6	-2.1	-2.6	-3.2	-4.3	-5.5	-6.7	-8.0	-9.3	-12.1
Incision Inf. Sagittal	0.0	0.5	0.9	1.4	1.9	2.3	2.7	3.6	4.4	5.1	5.8	6.4	7.5

VTO increase VD from 38,6 to 39,6 (it is +2 mm on incisal pin) the gap between upper and lower incisors close with lower incisors, but in the molar region – with upper molars.



Slavicek Analysis

	1		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	92.6	
Facial Depth	89.0 °	91.5	
Mandibular Plane	24.0 °	23.8	
Facial Taper	68.0 °	64.5	
Mandibular Arc	29.0 °	40.2	2B**
Maxillary Position	65.0 °	62.4	1-*
Convexity	0.0 mm	-3.5	1V*
Lower Facial Height (by R.Slavicek)	44.2 °	39.6	
Lower Facial Height to Point D	50.7 °	45.4	1-*
Dental Measurement	Norm	Value	Trend
Interincisal Angle	131.7 °	121.7	
Upper Incisor Protrusion	3.7 mm	3.3	
Upper Incisor Inclination	24.0 °	26.1	
Upper Incisor Vertical	mm	-0.2	
Lower Incisor Protrusion	2.7 mm	1.1	
Lower Incisor Inclination	24.0 °	32.1	1+*
Upper Molar Position	18.0 mm	16.6	
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	8.1	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	7.5	
Distance Occlusal plane - Axis (DPO)	40.9 mm	31.6	1-*
Radius of Curve of Spee	----- mm	67.6	
Lip Embrasure	0.0 mm	-2.2	
Occlusal Plane Xi Distance	-1.4 mm	-1.5	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	48.7	
Horizontal Condylar Inclination left	----- °	48.3	
Horizontal Condylar Inclination	----- °	48.5	
Relative Condylar Inclination	----- °	40.3	
Relative Condylar Inclination 6	----- °	32.6	
Relative Condylar Inclination 7	----- °	27.0	
Relative Condylar Inclination 8	----- °	48.5	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	-3.8	

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is strongly brachyfacial
Skeletal class is III
The maxilla is positioned neutral, with tendency to retrognathic
The mandible is positioned neutral, with tendency to prognatic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is normal
The protrusion of the lower incisor is normal
The inclination of the lower incisor is increased
The interincisal angle is normal
Occlusal concept: Tendency to group function
No functional statement available

Explanation

	1		
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	92.6	
Facial Depth	89.0 °	91.5	
Facial Taper	68.0 °	64.5	
Mandibular Plane	24.0 °	23.8	
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	391.2	1-*
Facial Length Ratio	63.5 %	64.5	
Y Axis to S N	67.0 °	65.8	
Y Axis (Downs)	61.2 °	56.7	1-*
S N to Gonion Gnathion Angle	32.6 °	31.2	

Treatment objectives

- Increase Vertical dimension (+2 mm on Incisal pin). The gap in frontal region close with lowers, in posterior – with uppers
- Stabilize posterior occlusion
- Create canine control, anterior guidance and sequential guidance
- 1 dental class
- OPI both sides = 8 degrees
- SCI R = l = 48 degrees – blue insert
- Benet movement right = 17 degrees (white), left side = 12 degrees (white).
- AG = 60 degrees

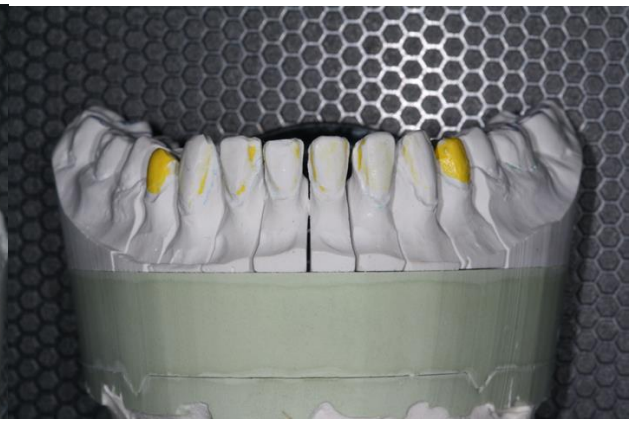
Treatment plan

- Full mouth restorations
- E MAX
- According to treatment objectives

Impressions

Tooth preparation

Tooth preparation



Final restorations on the casts

Final restorations on the casts 2016

Clinical case № 3

Patient`s birth date: male, 1983

Date of examination: 2010

Main concern: Esthetic disadvantages

Initial Functional Analyses

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

	yes	no		yes	no
1. Infections		X	7. Urogenital problems		X
2. Cardio-vascular systems		X	8. Central nervous systems		X
3. Respiratory systems		X	9. Psychological problems (theraphy)		X
4. Digestive systems		X	10. Rheumatic disease		X
5. Metabolic systems		X	11. Hormonal disease		X
6. Allergies		X	12. Special problems		X

Main concern esthetic disadvantages,

Dental History Analysis

		valuation	yes	no
1.	Do you have problems when you chew?			X
2.	Do you have problems when you are talking?			X
3.	Do you have problems in closing your teeth properly?	1	X	
4.	Are any of your teeth especially sensitive? lower front	2	X	
5.	Do you have a problem when you open your mouth very wide?			X
6.	Do your jaw joints make noise and if so, on what side?			X
7.	Do you have pain in the area of your jaw joints?			X
8.	Do you suffer from headaches?			X
9.	Do you suffer from cramps or spasm in your head, neck or throat?	1	X	
10.	Do you have in general problems with your posture?	1	X	
	Occlusal Index	1.25		

		yes	no
11.	Have you ever had a serious accident?		X
12.	Did you have one or more oral intubations?		X
13.	Have you ever had orthodontic treatment or...	X	
14.	Have you had a treatment with a splint?		X
15.	Are you grinding or pressing with your teeth?	X	
16.	Do you think that treatment is necessary?	X	
17.	Do you think that there is a serious disorder or illness?		X

18. When was the last time you had dental treatment and what was done?
ортодонтическое лечение 15 лет назад

19. How would you describe your psychic behaviour?
[X] happy [ ] sad [ ] calm [ ] excited [ ] self-controlled [ ] lack of self control

Muscle Palpation

Muscle Diagnosis

		right		left	
		+	++	+	++
1.	shoulders and neck				
2.	atlanto-occipital region				
3.a	M.temporalis ant.				
3.b	M.temporalis med.				
3.c	M.temporalis post.				
4.a	M.masseter (superficial)				
4.b	M.masseter (deep)				
5.	Tuber maxillae				
6.	M.pterygoideus medialis	X		X	
7.	M.mylohyoideus				
8.	M.digastricus				
9.	suprahyoidale M.				
10.	infrahyoidale M.				
11.	Larynx				
12.	M.sterno-cleido-mastoideus				
13.	M.omohyoideus	X			
14.	Tongue				

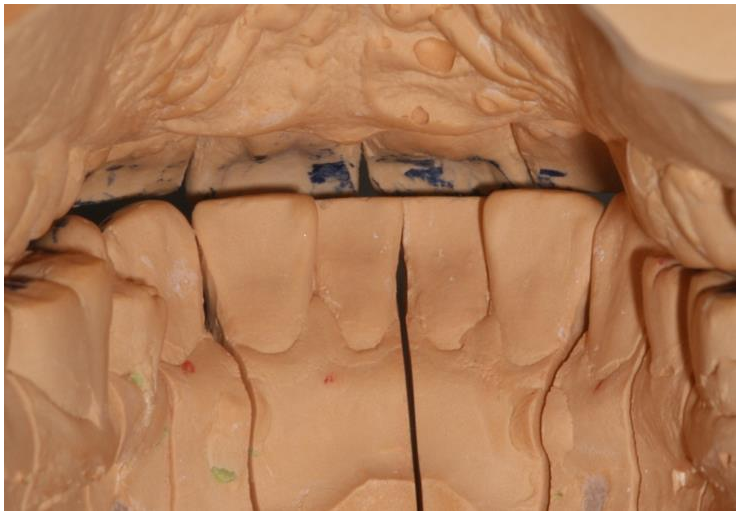
		right		left	
		+	++	+	++
15.	comparative palpation of jaw joints				
	a) lateral poles, statically				
	b) lateral poles, in rotation				
	c) retral joint space	X		X	
	d) Lig.temporo-mandibulare		X	X	

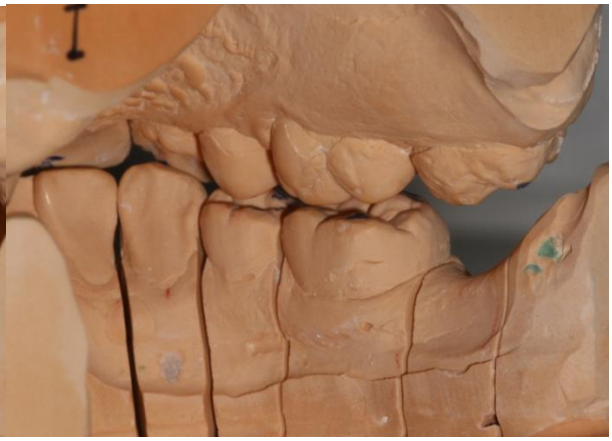
Intraoral Photo

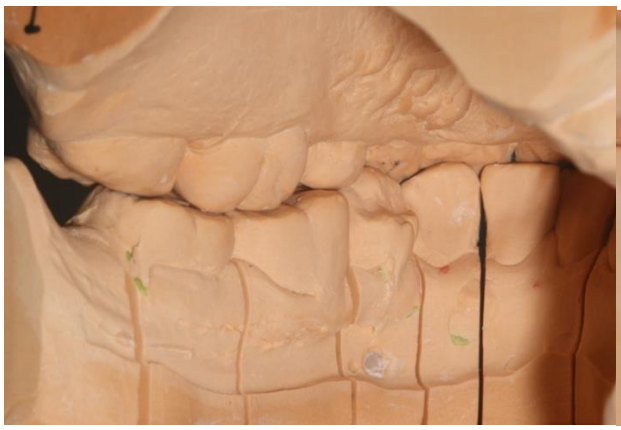

Casts


Casts in RP

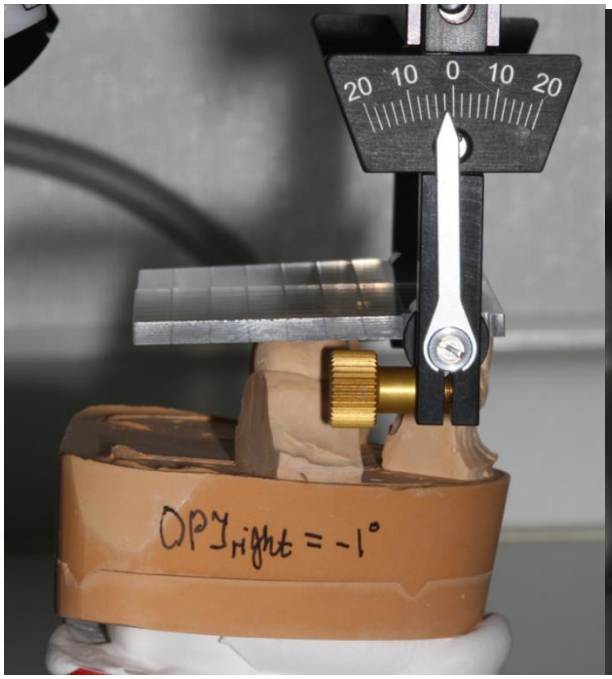






OPI right = - 1 degree
OPI left = 4 degrees



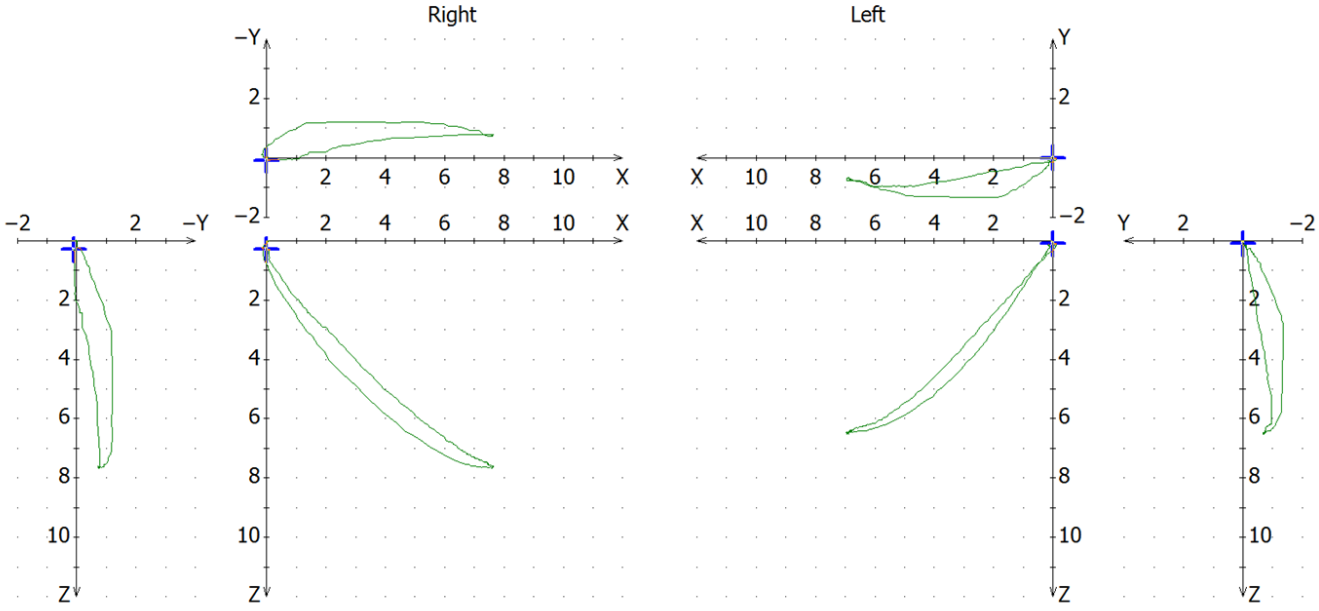
Panoramic X-ray

Lateral X- ray

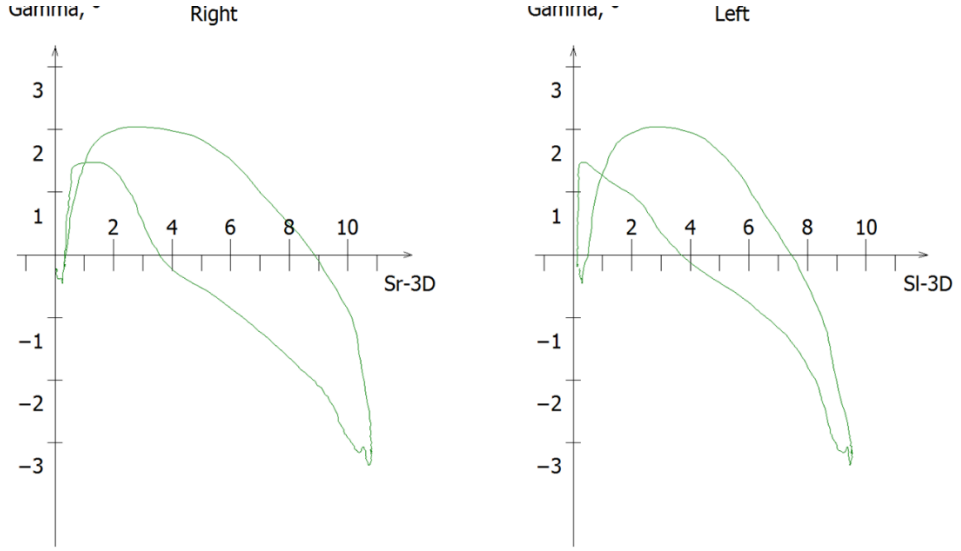
Diagnosis

- Arthrosis
- Post orthodontic upper and lower centric arches discrepancy
- AG increased

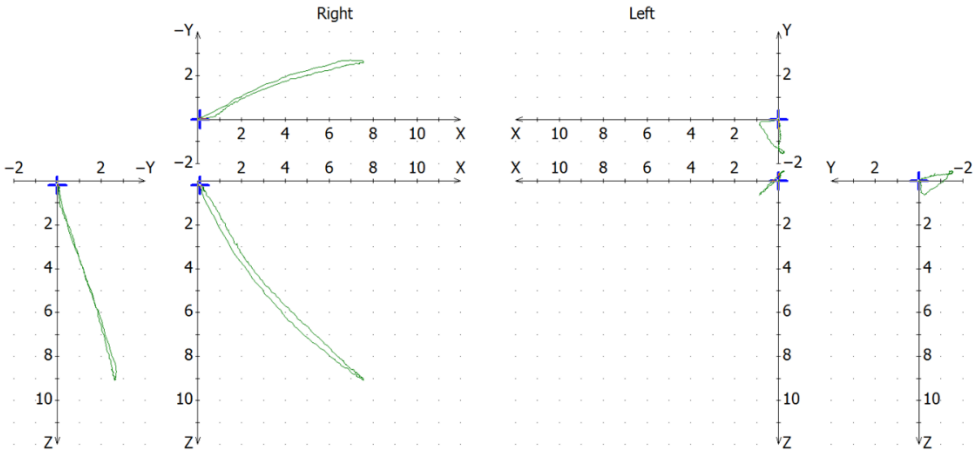
Protrusion - retrusion



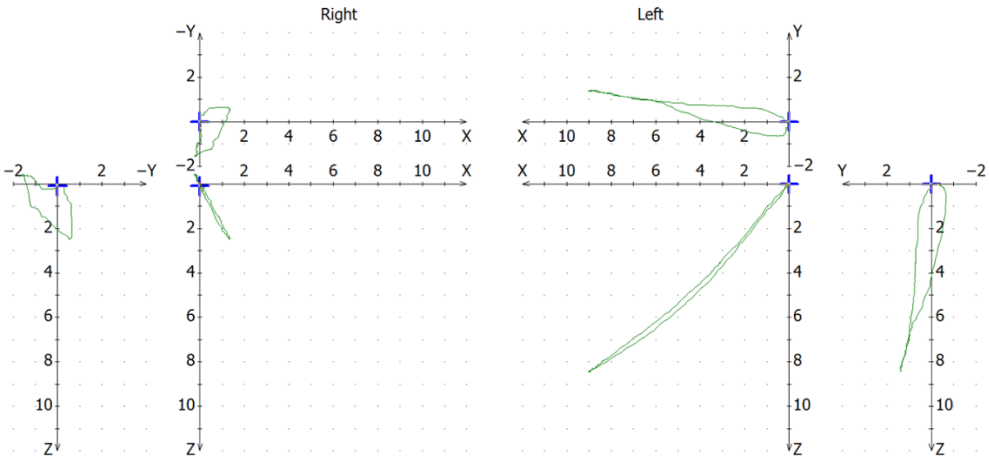
Translation-rotation



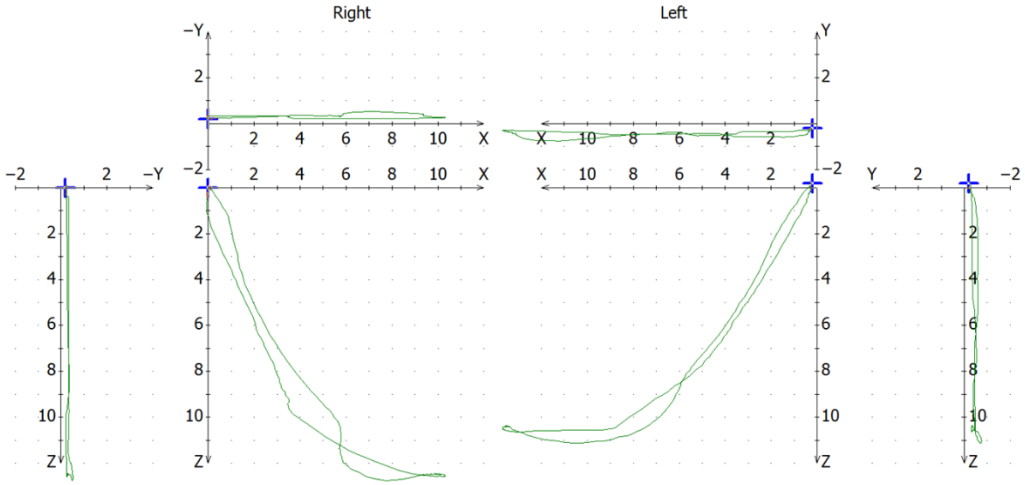
Mediotrusion right



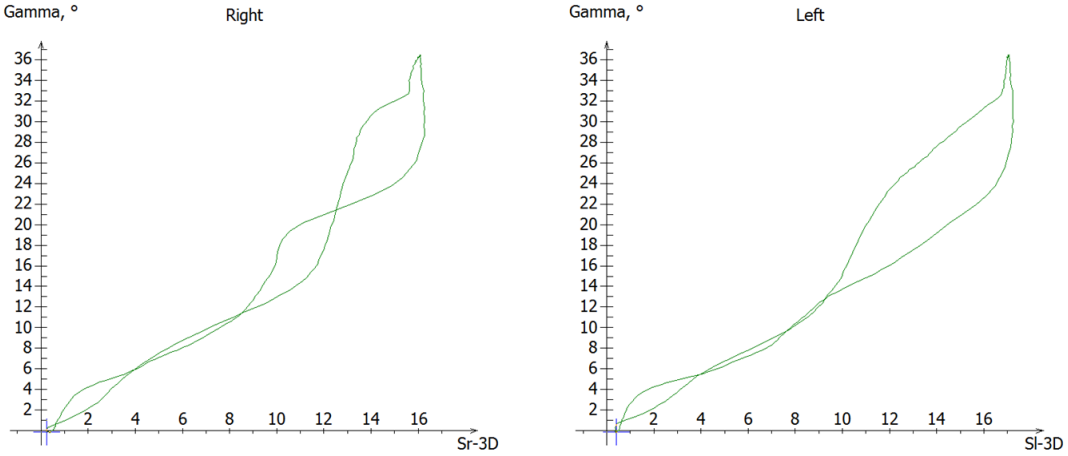
Mediotrusion left



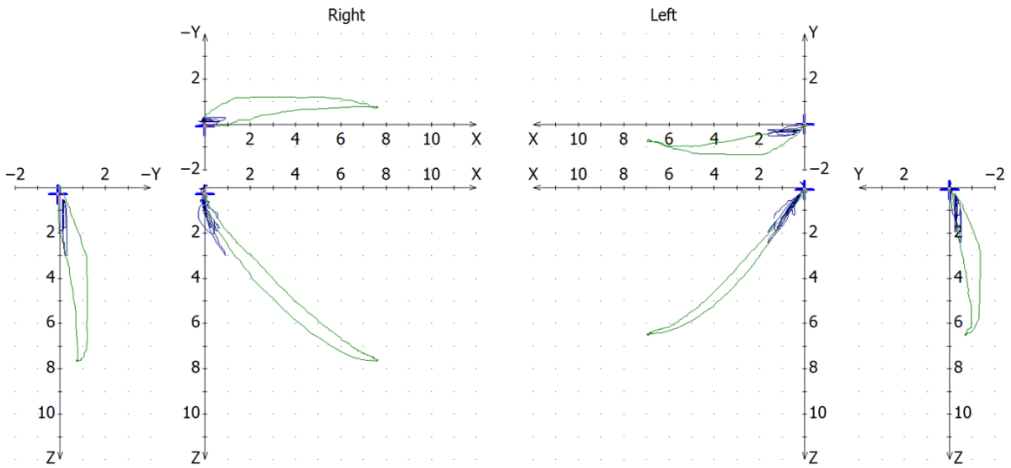
Open-Close



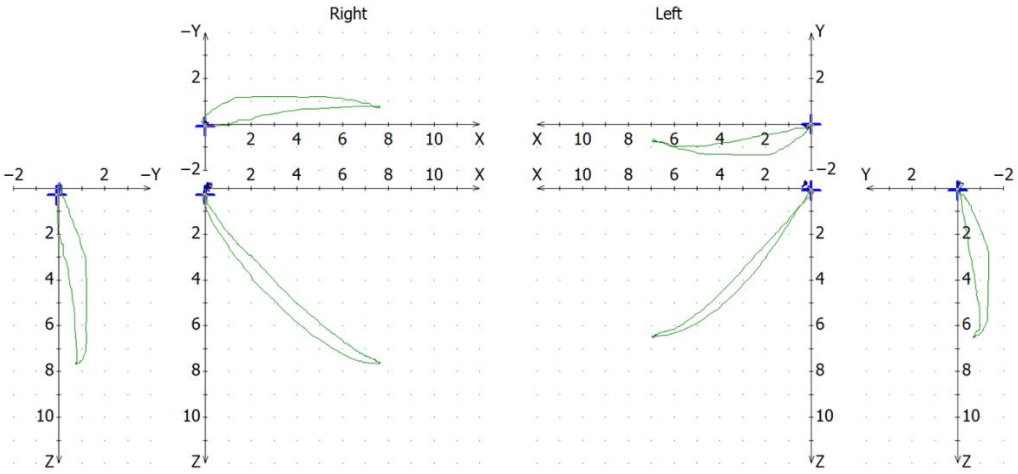
Translation – Open -Close



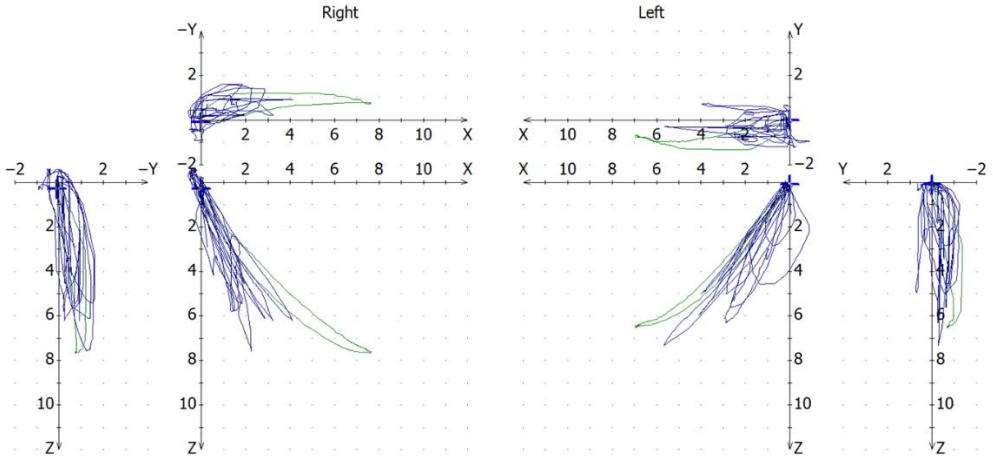
Speech



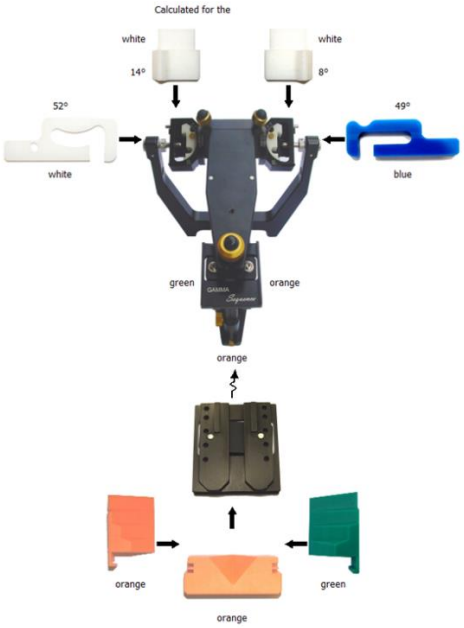
Brux



Mastication

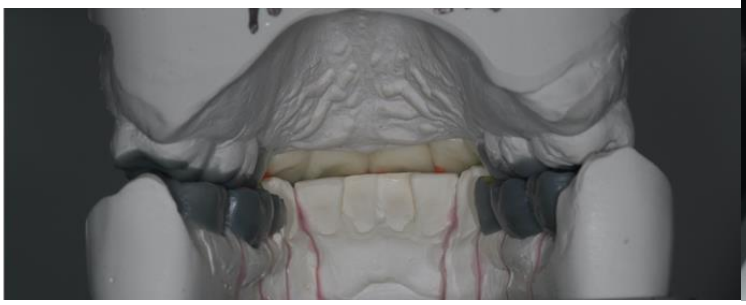


Articulator settings

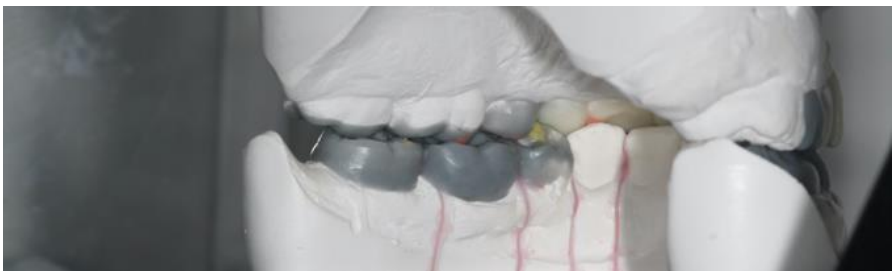


Wax-up

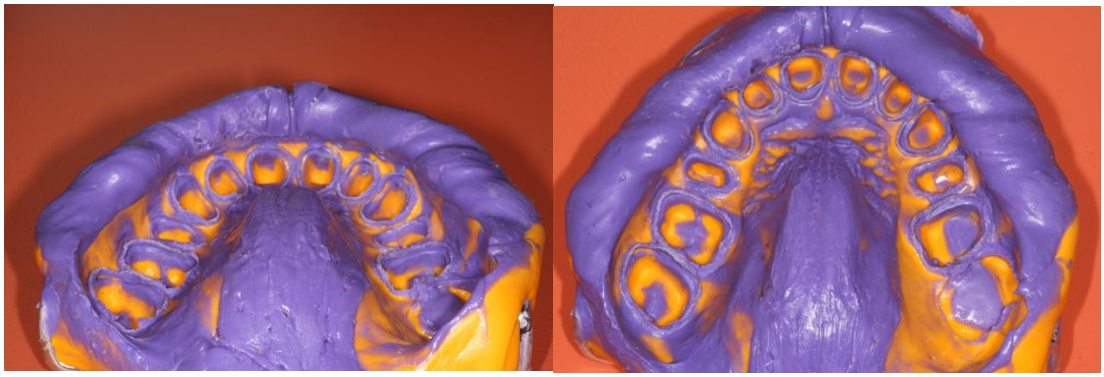






Impressions



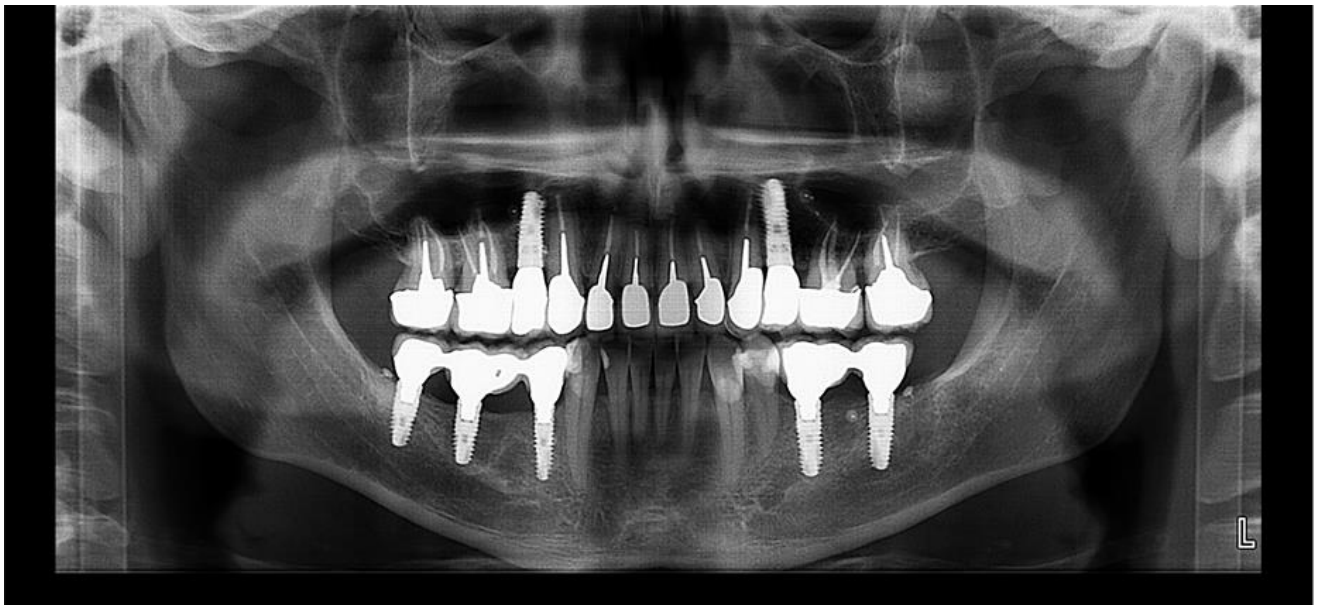
Casts after teeth preparation

Centric relation

Surgical template

Before and After treatment

2012-2017



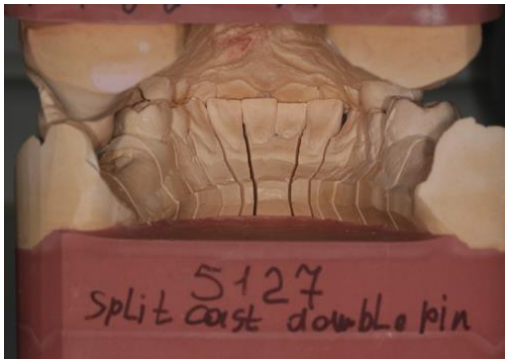
Clinical case № 4

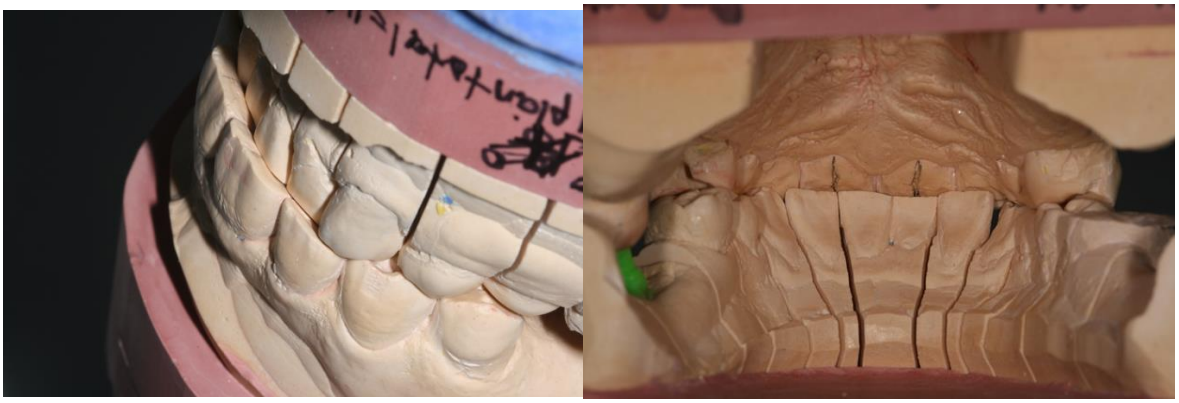
Patient`s birth date: male, 1965

Date of examination: January, 2013

Chief complain – low chewing efficacy

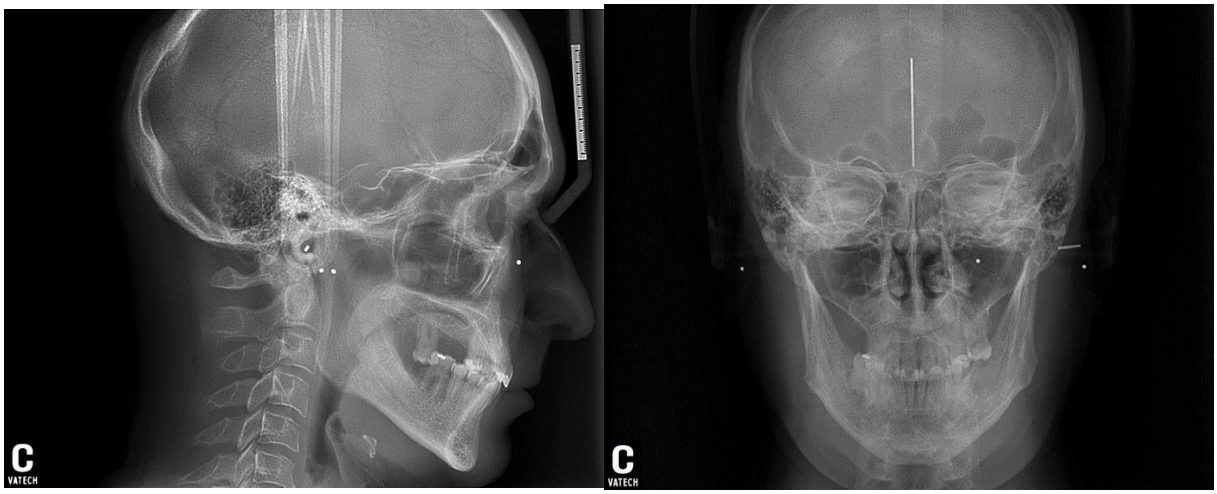
Casts in ICP





OPG

Lateral X- ray



OPG after teeth extraction

SCI – OPI = RCI

RCI – Cui = DOA

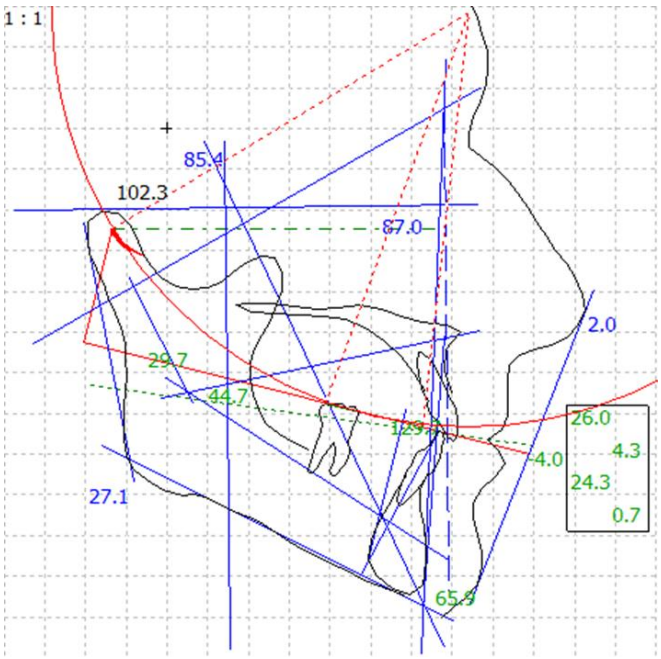
SCI = 51 degrees – 17 (clinically) = 34 degrees

34- 30 (CUI) = 4 degrees – interference

We need to change total OPI (occlusal plane inclination to 12 degrees) then disoccusal angle in posterior region will be 10 degrees.

Slavicek Analysis

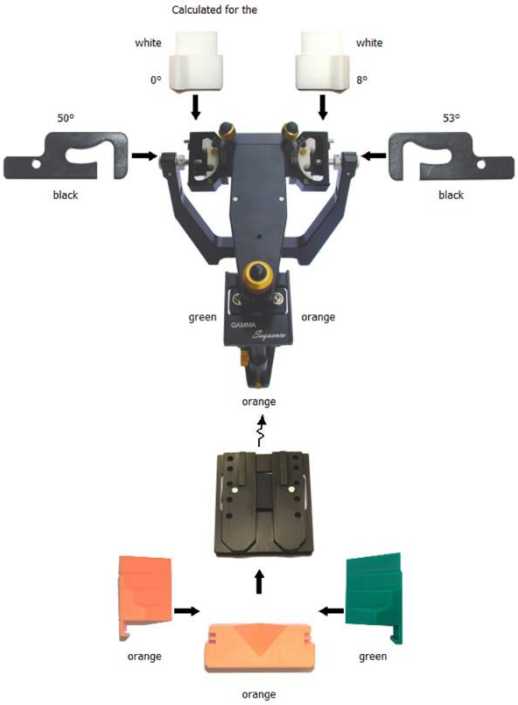
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	85.4	1D*
Facial Depth	91.5 °	87.0	1-*
Mandibular Plane	21.5 °	27.0	1D*
Facial Taper	68.0 °	65.8	
Mandibular Arc	31.2 °	29.7	
Maxillary Position	65.0 °	70.7	2+**
Convexity	-1.0 mm	2.0	1X*
Lower Facial Height (by R.Slavicek)	46.3 °	44.7	
Lower Facial Height to Point D	52.8 °	49.8	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	129.7	
Upper Incisor Protrusion	4.3 mm	4.2	
Upper Incisor Inclination	23.1 °	25.9	
Upper Incisor Vertical	mm	1.3	
Lower Incisor Protrusion	1.2 mm	0.7	
Lower Incisor Inclination	24.1 °	24.2	
Upper Molar Position	21.0 mm		
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	14.0	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	8.8	
Distance Occlusal plane - Axis (DPO)	40.9 mm	28.9	1-*
Radius of Curve of Spee	----- mm	102.3	
Lip Embrasure	0.0 mm	-1.1	
Occlusal Plane Xi Distance	-1.4 mm	5.6	1+*
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	49.4	
Horizontal Condylar Inclination left	----- °	52.8	
Horizontal Condylar Inclination	----- °	51.1	
Relative Condylar Inclination	----- °	37.0	
Relative Condylar Inclination 6	----- °	36.5	
Relative Condylar Inclination 7	----- °	51.1	
Relative Condylar Inclination 8	----- °	51.1	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-3.9	



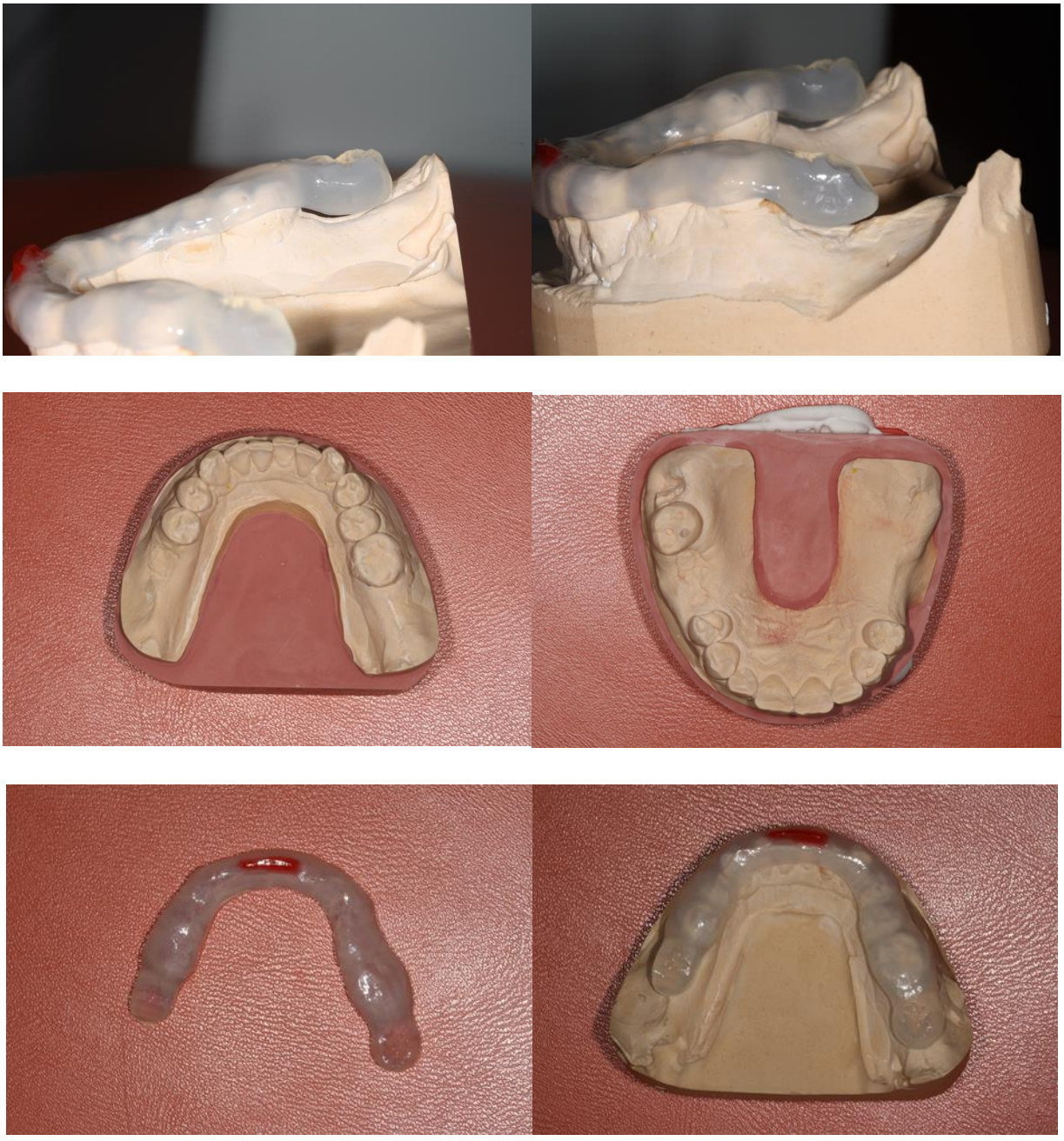
Treatment plan

- Extract 27
- Root canal treatment 46 and decrease the height for coronal part for 3,5 mm
- Wax-up 1 class
- Templates for surgery stage

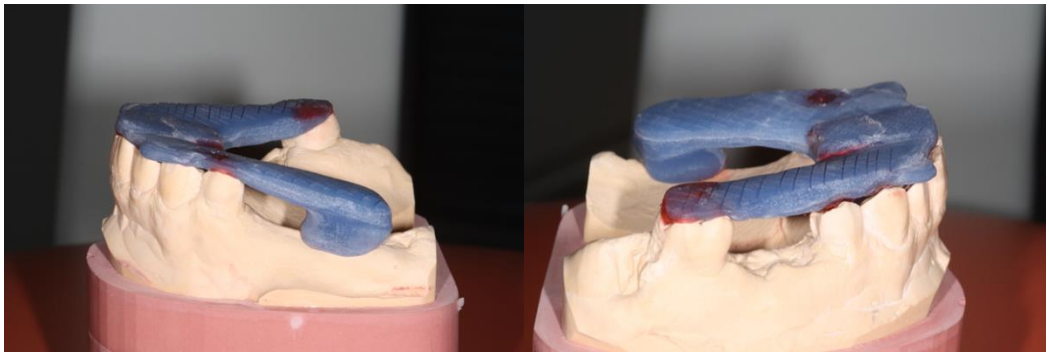
Articulator settings



Splint therapy



CR determination



OPI left = 12 degrees – planned

Planned OPI = 12 degrees both sides

Wax – up

- Vertical Dimension (VD) – does not change Anterior Guidance (AG) - fill out the table using Weber's template to calculate the canine guidance.
- OPI = 12 degrees for right and left sides.
- Symmetrical case
- SCI right = 51 degrees, black insert
- SCI left = 51 degrees, black insert
- Bennett = white inserts, right side = 0 degrees, left side = 8 degrees.
- OPI right = 12 degrees, OPI left = 12 degrees
- Class I occlusal and left side crossbite.
- Anterior guidance = normal
- Tooth 27 has already been removed.
- Wax modeling is performed on all teeth, with the exception of the frontal group of teeth, the upper and lower jaws (with the exception of 12,11,21,22,31,32,41,42)

Treatment plan

Thus, there are 2 reasons for removing this left molar on the upper jaw:

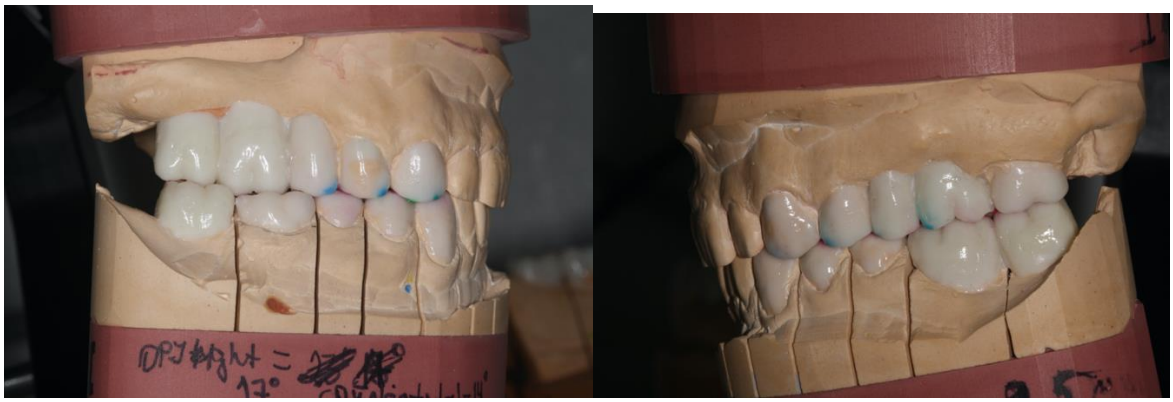
- Dentoalveolar compensation due to the lack of an antagonist has led to the advancement of this tooth along with the bone;

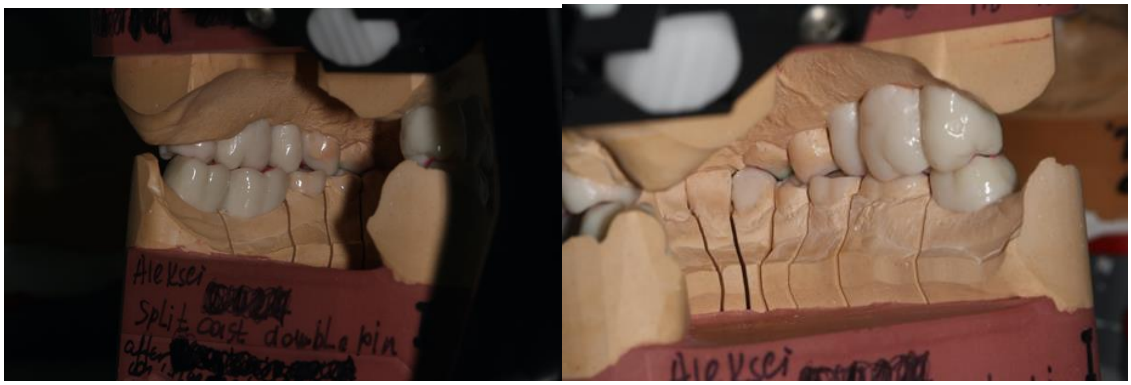
- There is no place to install an implant in the lower jaw. Even if we don't install them, this tooth will interfere and lead to chipping of ceramic restorations and possible problems with the temporomandibular joint.
- We are planning to perform a sinus lift operation on the left to install implants in the upper jaw on the left. There is no point in performing the same operation twice, several years apart, which also complicates the technical performance of the operation.

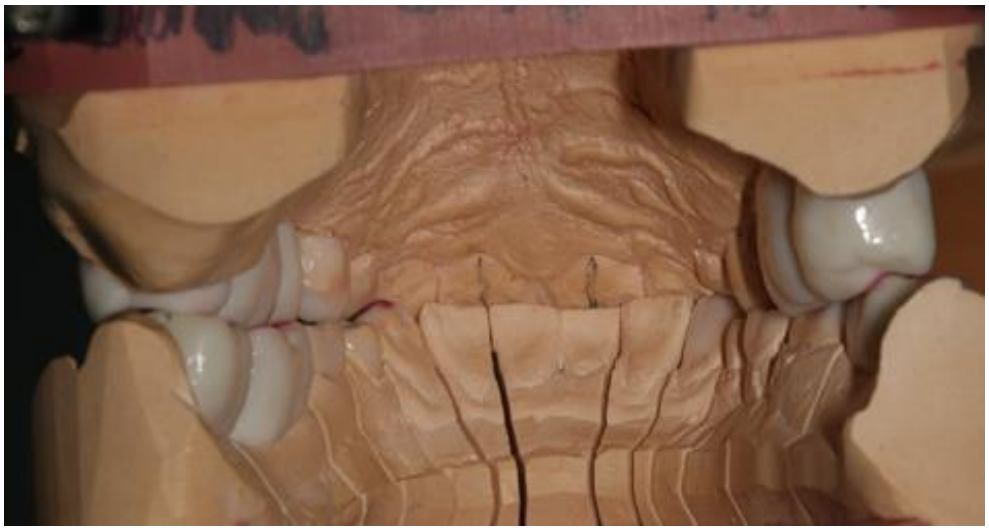
There is another option to remove and not place implants in the area of the second molars on the left, but in your case, I think this is not rational, since you have good conditions for symmetrical prosthetics on the right and left.

I consider it not advisable to cut down this tooth since it is on the lower right, since then it is necessary to lengthen the crown part of the tooth surgically and the bifurcation (the connection between the roots of the tooth) will be exposed and this will lead to periodontal complications.

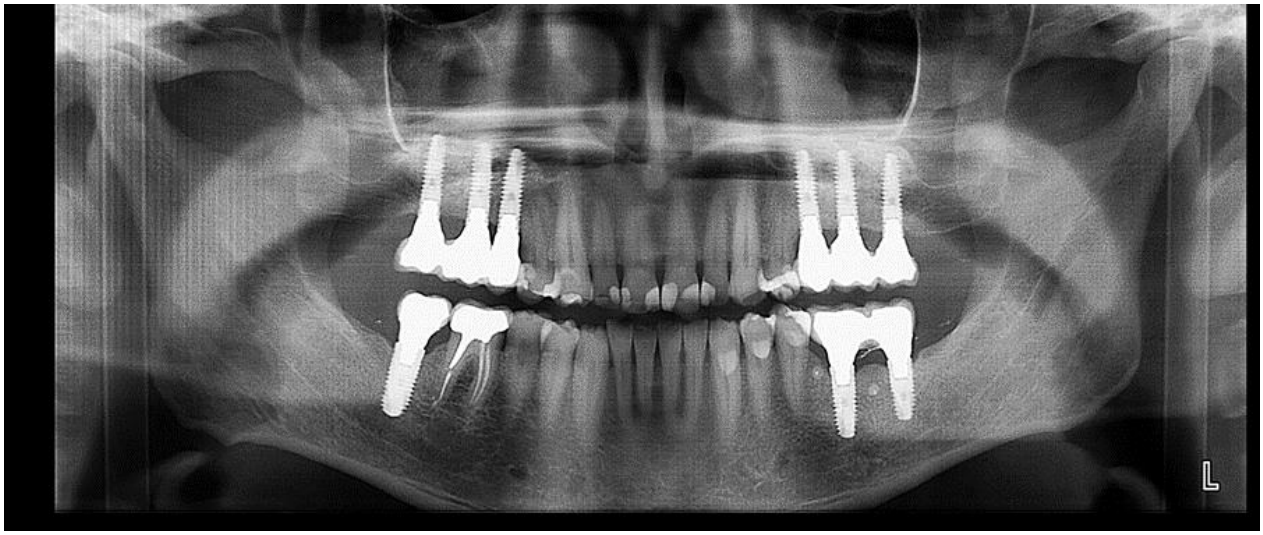
Wax-up

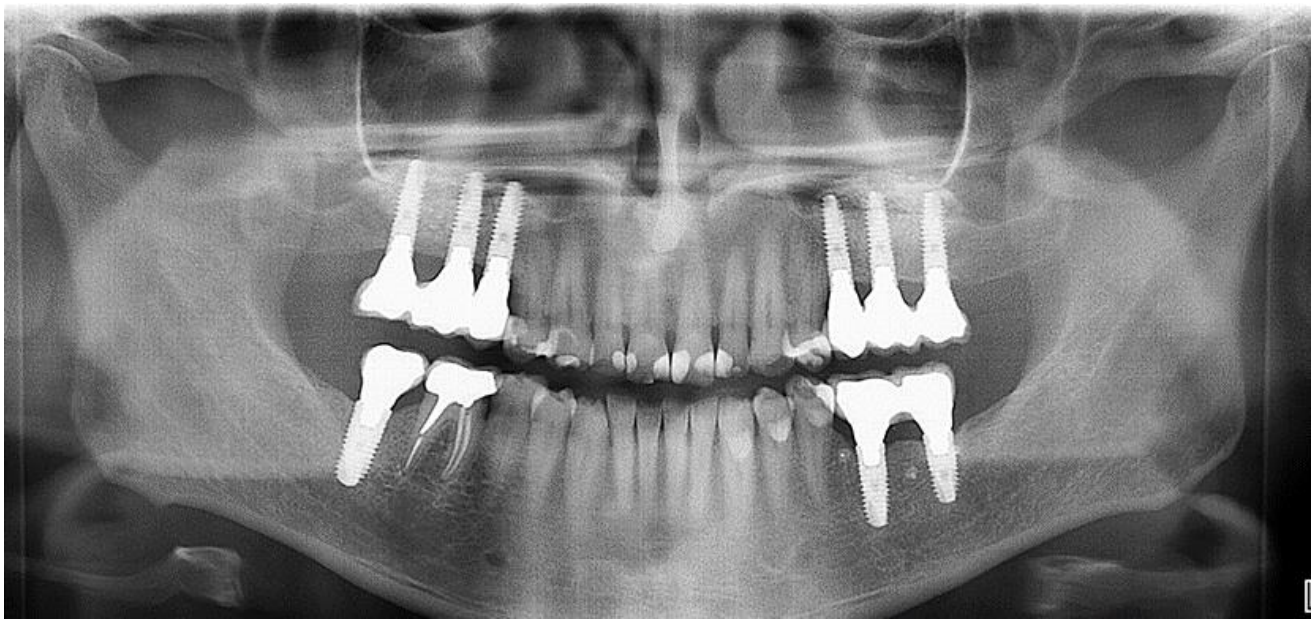






Final restorations OPG 2013-2019





Clinical case № 5

Patient`s birth date: male, 1960

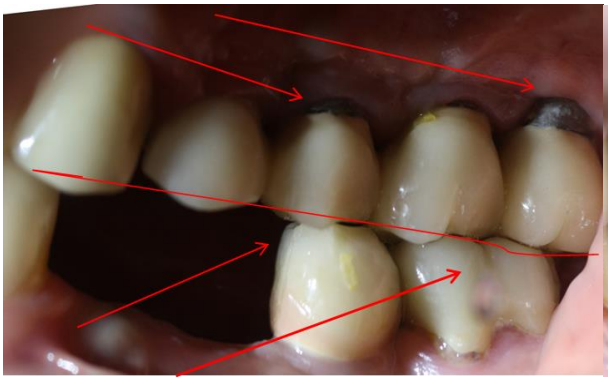
Date of examination: April, 2015

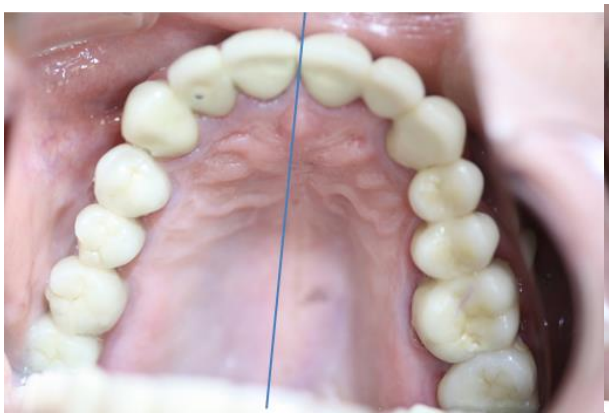
Chief complain: bridge 1.1-1.6 recementation

Intraoral photo

Midline, delta Y – right side movement, dental class

Edge to edge contacts, bone loss 2.4 and 2.7, OPI decreased.

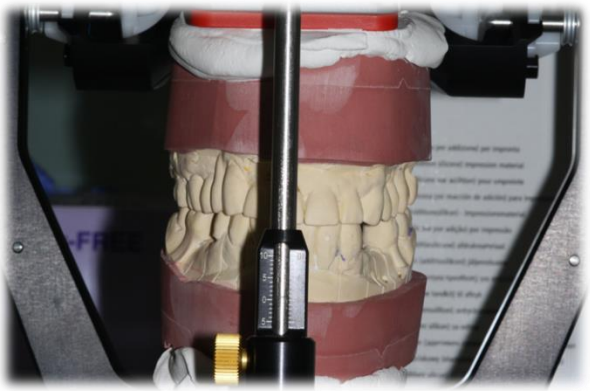


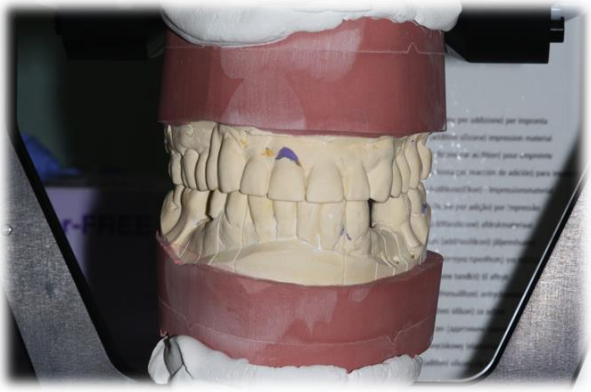


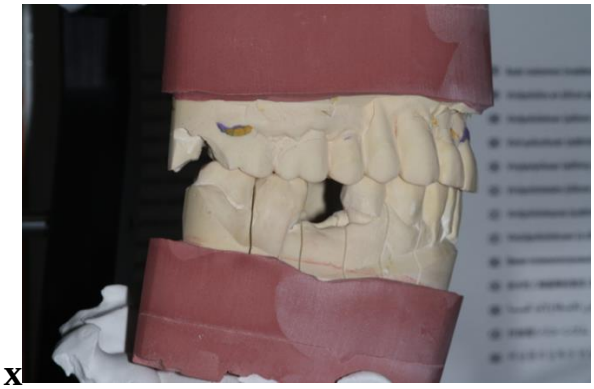
OPG

Tooth overpreparation 2008

Casts in ICP





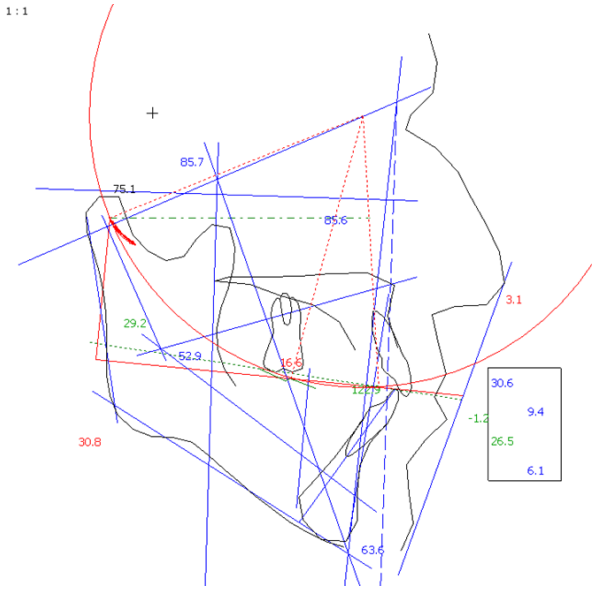
x 

OPI R = 3 degrees

OPI L = 4 degrees

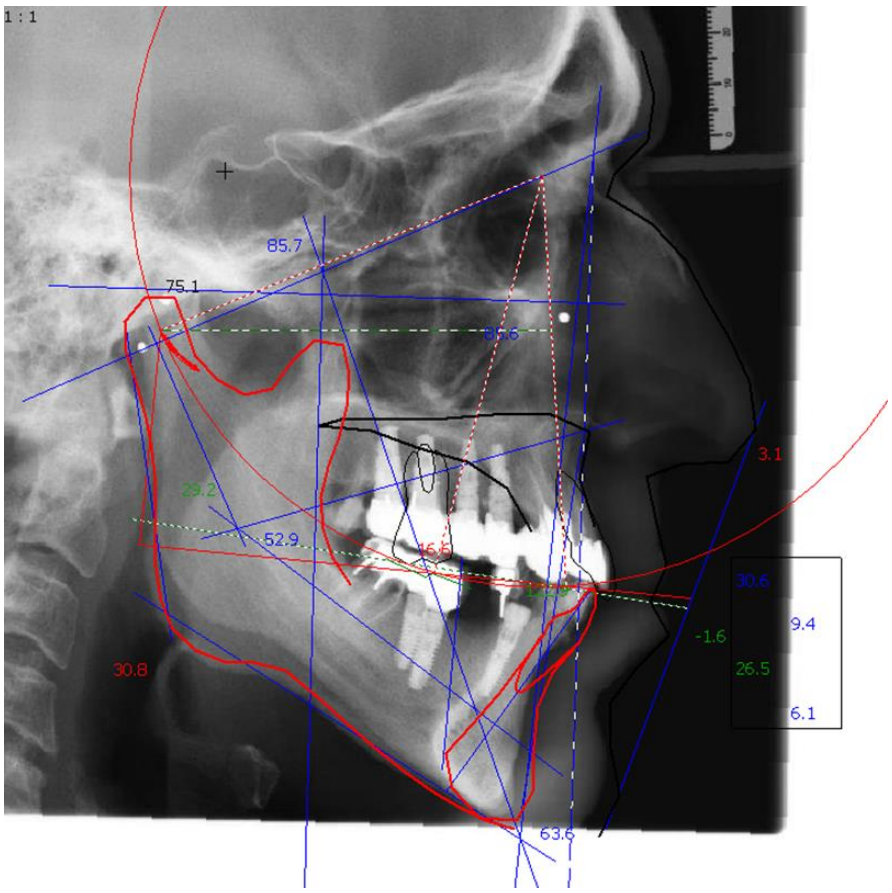
Anterior guidance

Cephalometric analyses



Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	85.7	1D*
Facial Depth	91.5 °	85.6	1-*
Mandibular Plane	21.5 °	30.7	2D**
Facial Taper	68.0 °	63.6	1D*
Mandibular Arc	31.2 °	29.2	
Maxillary Position	65.0 °	63.1	
Convexity	-1.0 mm	3.0	2X**
Lower Facial Height (by R.Slavicek)	47.0 °	52.8	1+*
Lower Facial Height to Point D	53.5 °	59.4	1+*
Dental Measurement	**Norm**	**Value**	**Trend**
Interincisal Angle	132.8 °	122.9	
Upper Incisor Protrusion	4.3 mm	9.3	1+*
Upper Incisor Inclination	23.1 °	30.5	1+*
Upper Incisor Vertical	mm	1.6	
Lower Incisor Protrusion	1.2 mm	6.1	1+*
Lower Incisor Inclination	24.1 °	26.4	
Upper Molar Position	21.0 mm	16.6	2-**
Occlusal plane	**Norm**	**Value**	**Trend**
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	5.5	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	9.7	
Distance Occlusal plane - Axis (DPO)	40.9 mm	39.2	
Radius of Curve of Spee	----- mm	75.1	
Lip Embrasure	0.0 mm	0.7	
Occlusal Plane Xi Distance	-1.4 mm	-4.8	
Functional Measurement	**Norm**	**Value**	**Trend**
Horizontal Condylar Inclination right	----- °	51.9	
Horizontal Condylar Inclination left	----- °	50.0	
Horizontal Condylar Inclination	----- °	50.9	
Relative Condylar Inclination	----- °	45.4	
Relative Condylar Inclination 6	----- °	31.0	
Relative Condylar Inclination 7	----- °	26.7	
Relative Condylar Inclination 8	----- °	50.9	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	**Norm**	**Value**	**Trend**
Esthetic Plane	-2.9 mm	-1.2	



Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is dolichofacial
The skeletal trend of the mandible is mesiofacial
Skeletal class is I
The maxilla is positioned neutral
The mandible is positioned neutral
The lower facial height is increased
Dental class unknown
The protrusion of the upper incisor is increased
The inclination of the upper incisor is increased
The protrusion of the lower incisor is increased
The inclination of the lower incisor is normal
The interincisal angle is normal
Occlusal concept: Group function
No functional statement available

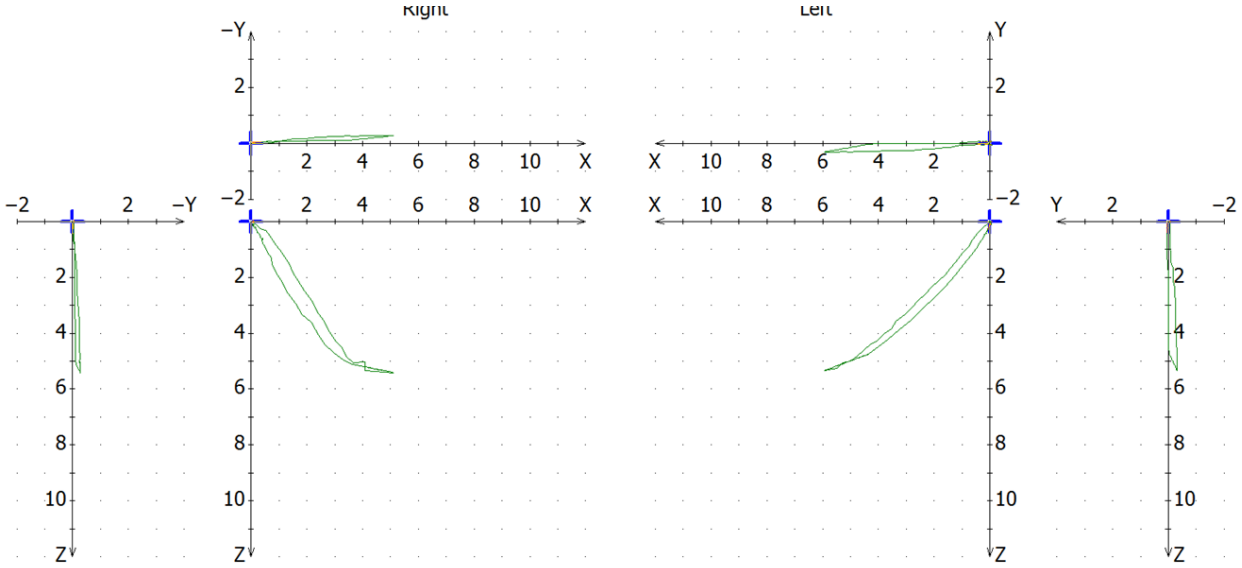
Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	85.7	1D*
Facial Depth	91.5 °	85.6	1-*
Facial Taper	68.0 °	63.6	1D*
Mandibular Plane	21.5 °	30.7	2D**
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	394.9	
Facial Length Ratio	63.5 %	65.0	
Y Axis to S N	67.0 °	68.8	
Y Axis (Downs)	61.8 °	64.4	
S N to Gonion Gnathion Angle	31.6 °	34.9	

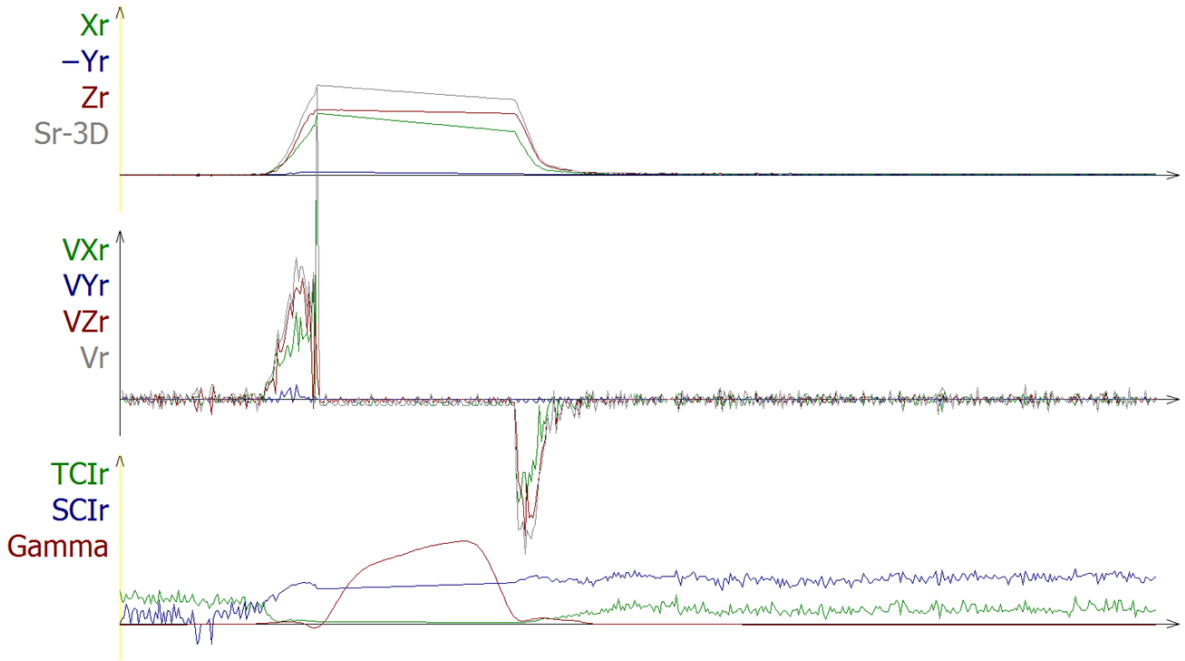
Protrusion - retrusion

Start and end points coincident.

Movement is decreased (5-6 mm).

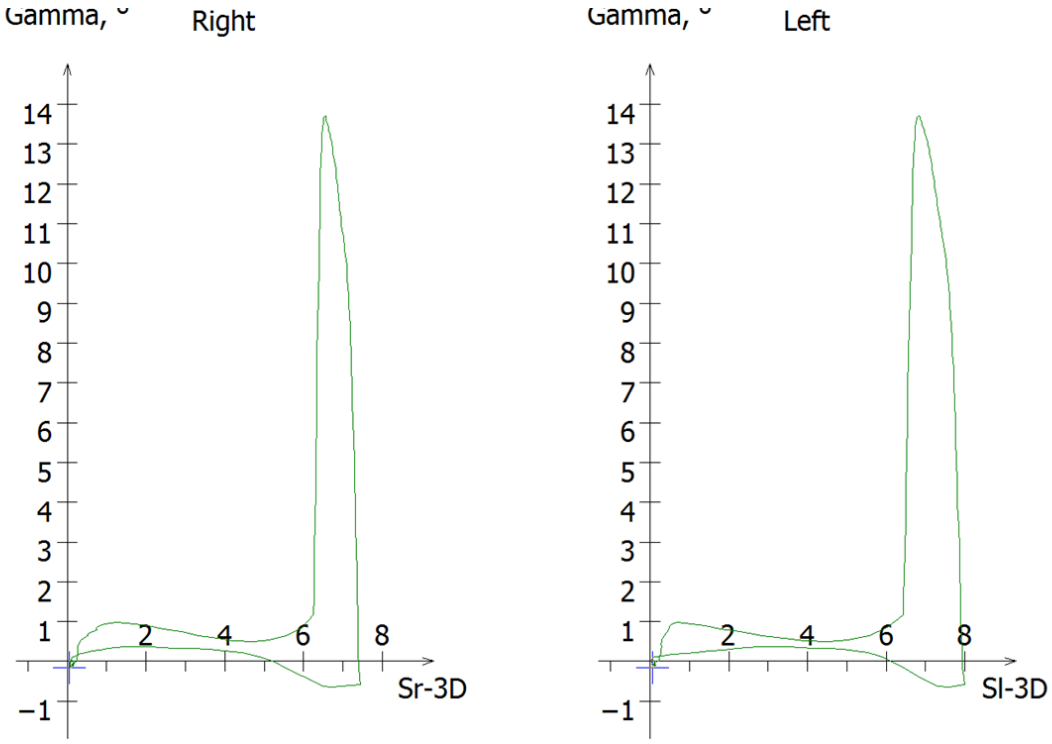


Time curve

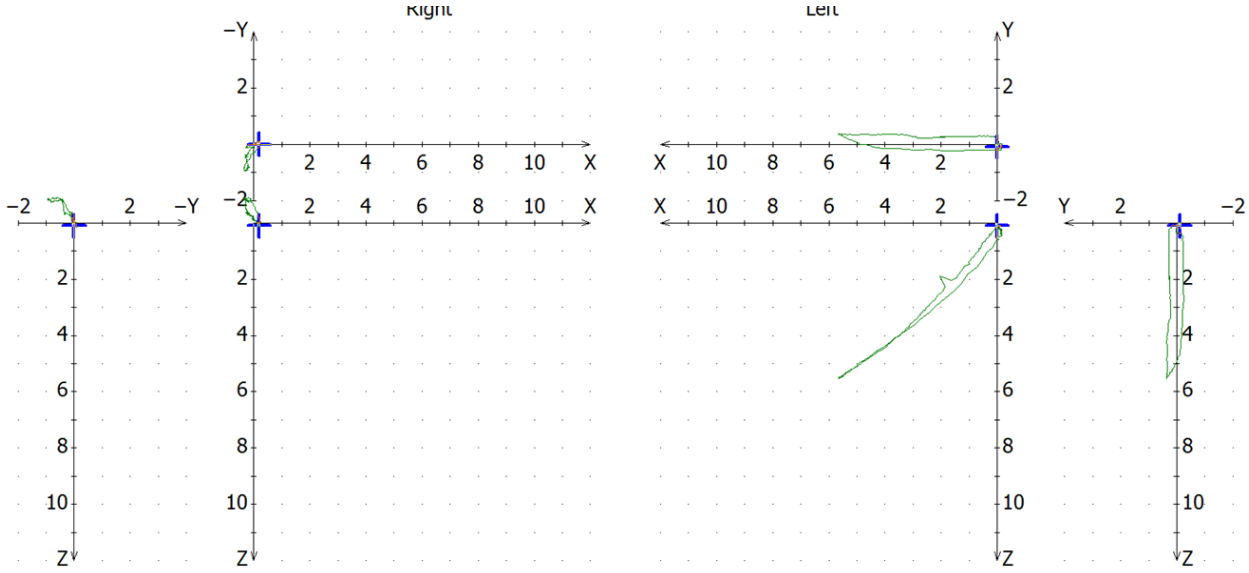


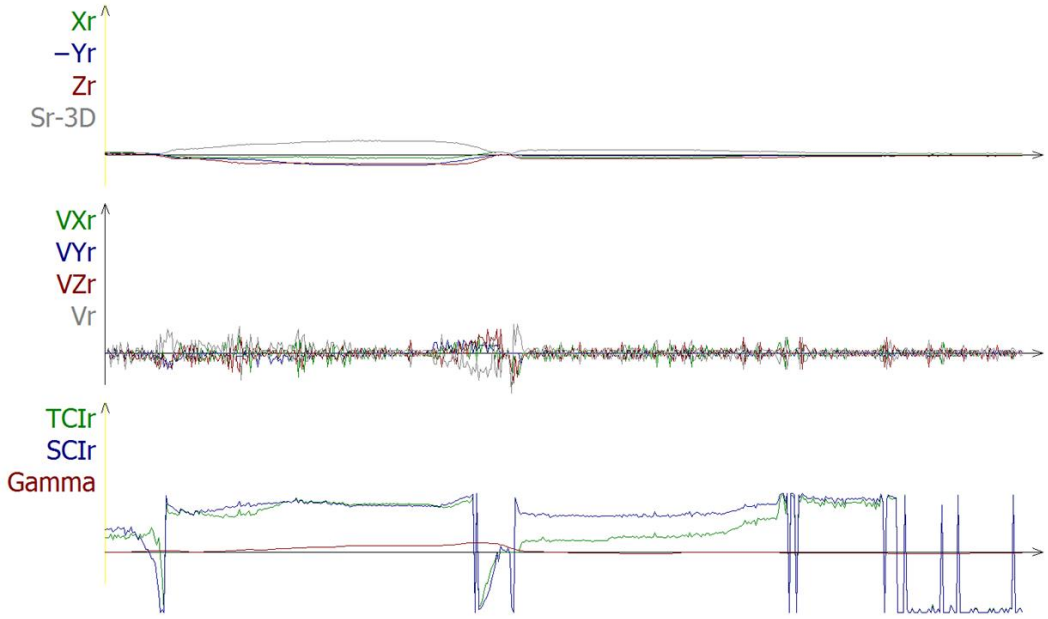
Gamma rotation

More rotation component not at the beginning of movement, but at the end, on the 6-th mm of protrusion.

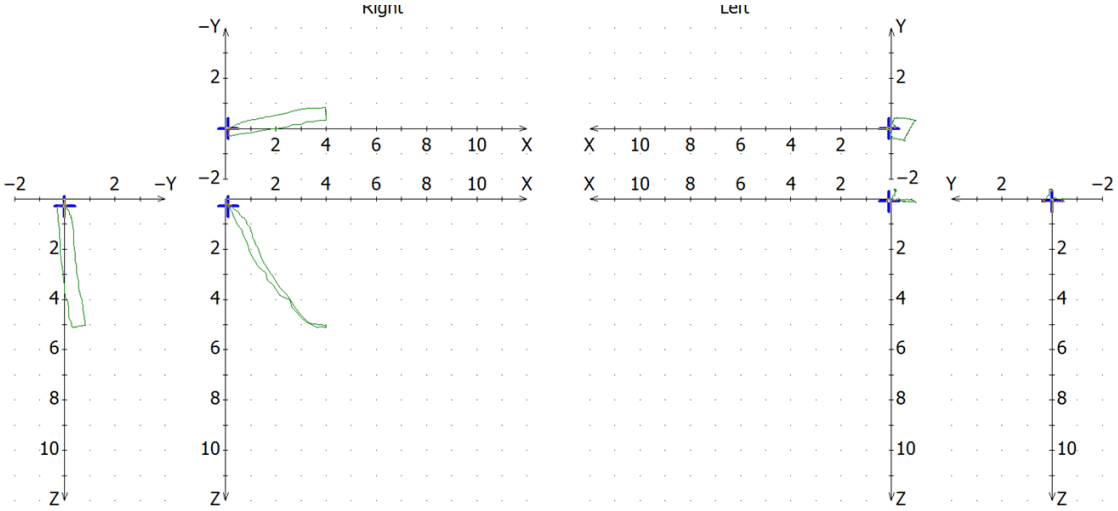


Mediotrusion Left

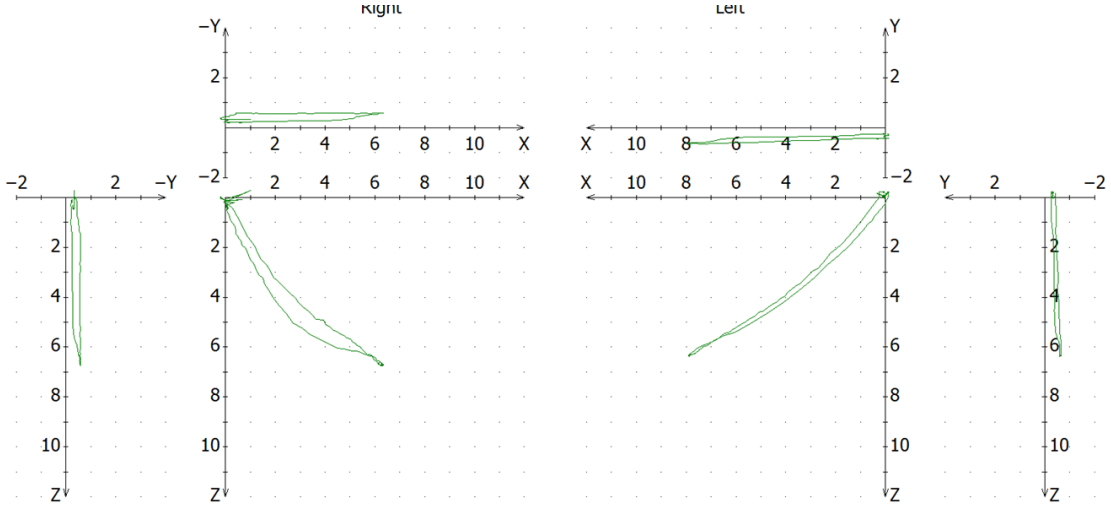




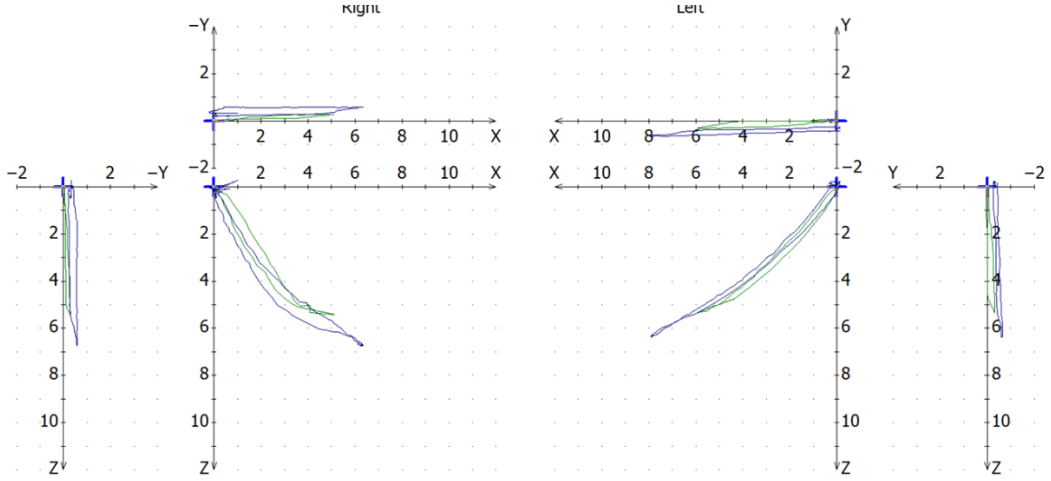
Mediotrusion right



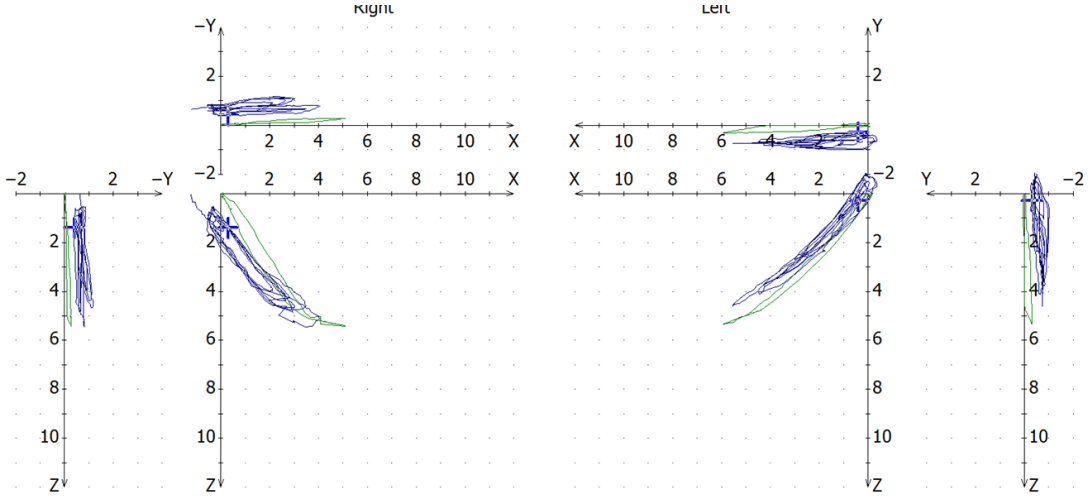
Open - Close



Open-close- protrusion – retrusion overlay mode

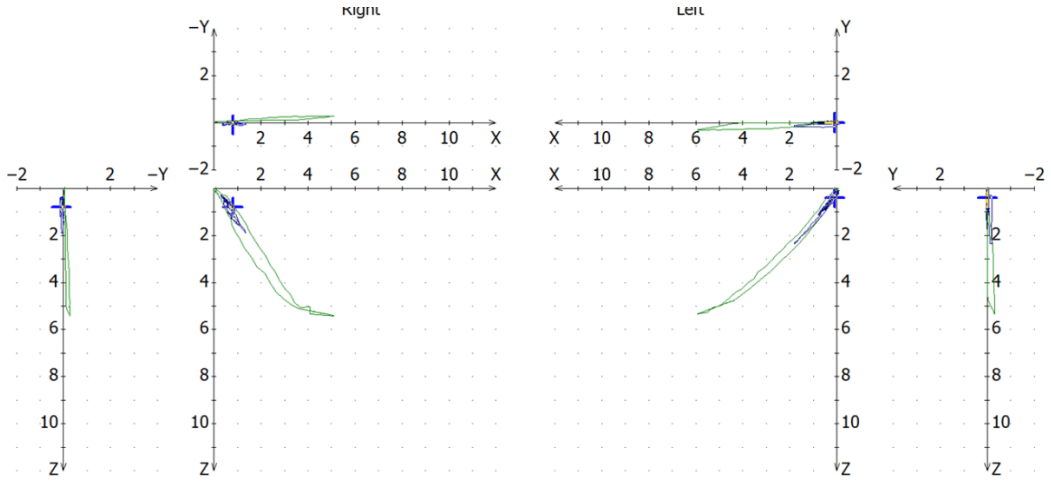


Protrusion – chewing



Speech –protrusion

Speech is on retrusion – mandible moves down.



List of problems

- Midline is not coincident
- Smile line is short
- OPI is decreased- low chewing efficacy
- Chipping of ceramic restorations
- Bone losson on implant 2.7
- Parodontal problems
- Caries on the root 1.8
- On CT – periodontal problems 3.7 and 4.7

Diagnosis

- I class skeletal
- 1 class dental
- Upper and lower dental arches don’t fit together
- Sagittal and transversal discrepancy

Treatment objectives

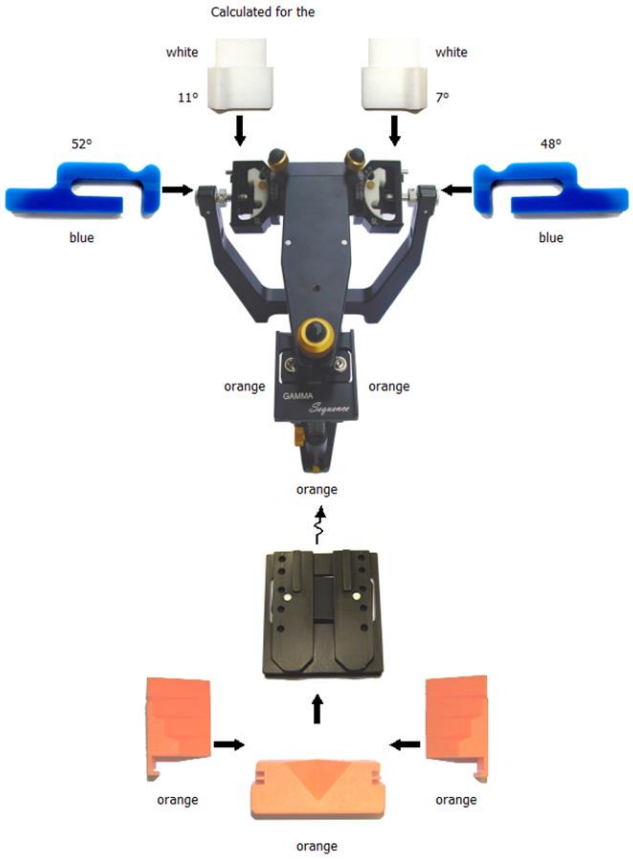
- Change smile line
- Determine centric relation
- I class dental
- Active and passive centric arches u and l fits

Treatment plan

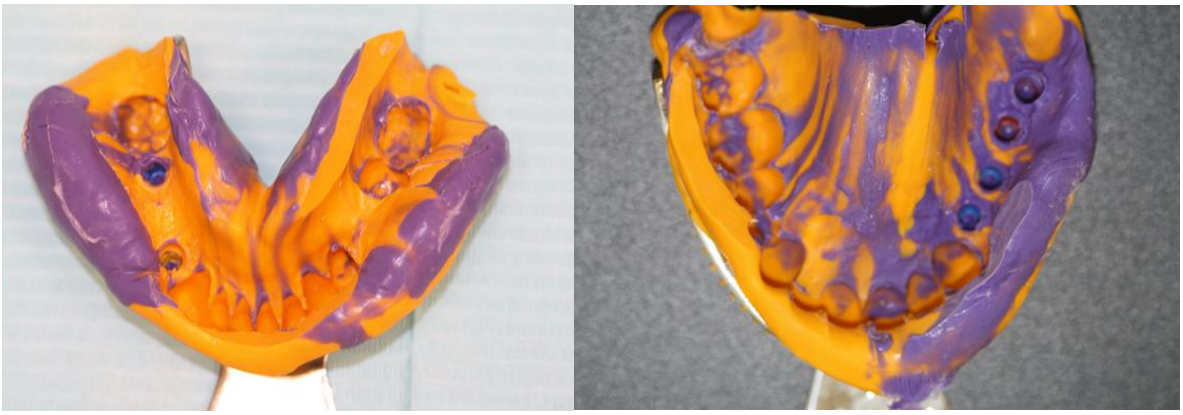
1. extract 1.8,1.7,1.6, 1.3,4.7,3.6
2. long time temporaries 1.5-1.1, 2.1-2.3, on implants – 2.4-2.5 and 3.4-3.6
3. implants 1.7, 1.6, 1.4, 1.2, 3.7,4.7, 4.5. Use template
4. final restorations

Articulator settings

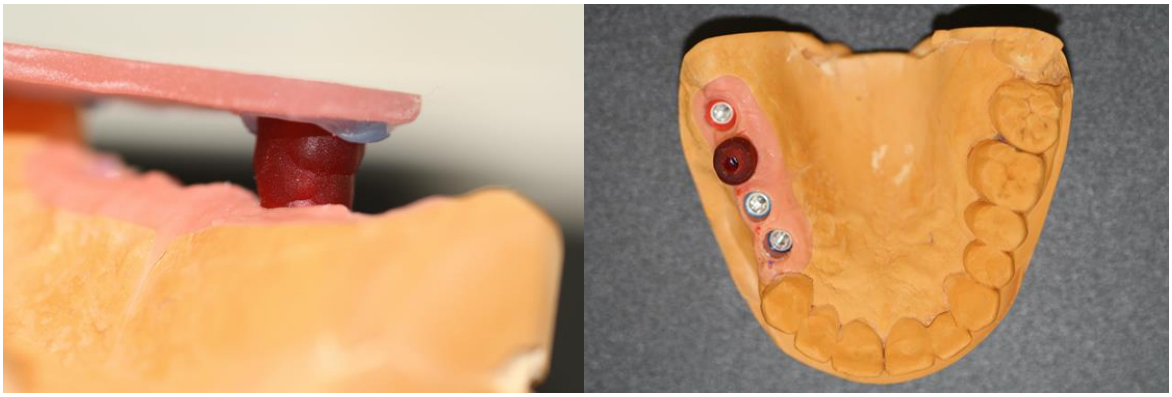
- SCI right = 52 degrees
- OPI right = 3 degrees
- DOA= 52-3=49-30=19
- SCI left = 48 degrees
- OPI left = 4 degrees
- DOA = 48-4-30= 14 degrees
- Anterior guidance = 37 degrees
- We need changes
- 1 class dental, cross bite
- Asymmetrical case
- Benett right = 11 degrees
- Bennet left = 7 degrees
- OPI right =12 degrees (change the height of 4.6)
- OPI left = 8 degrees (change the height of 4.6)

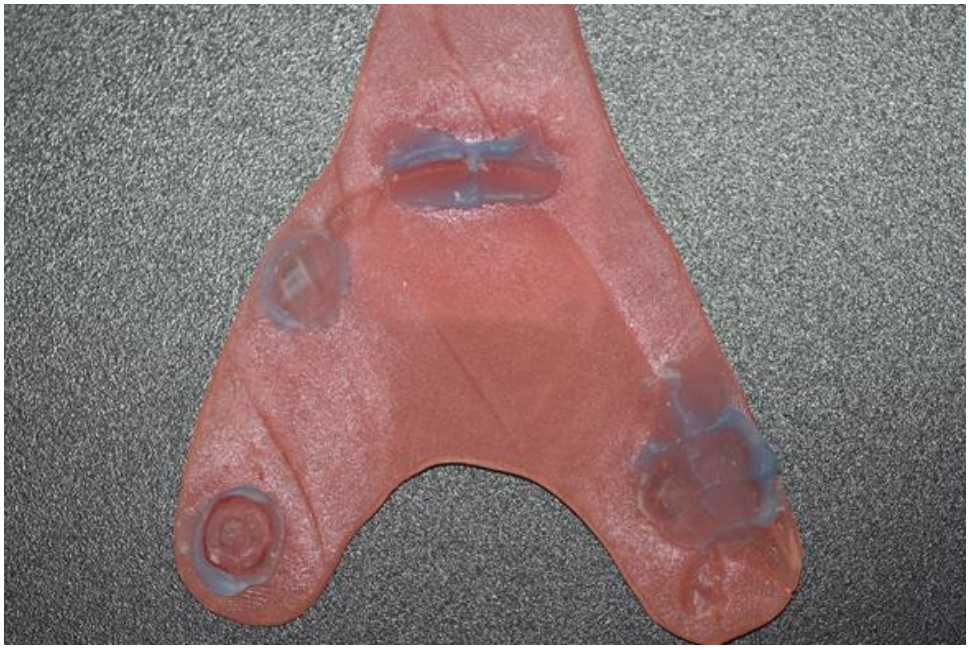


First diagnostic impressions

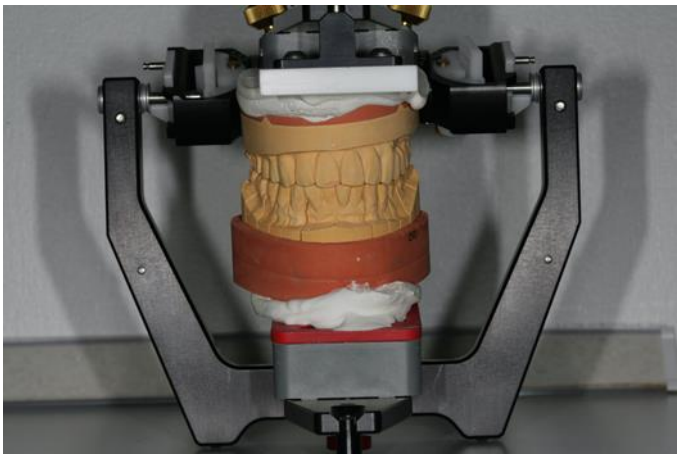


CR

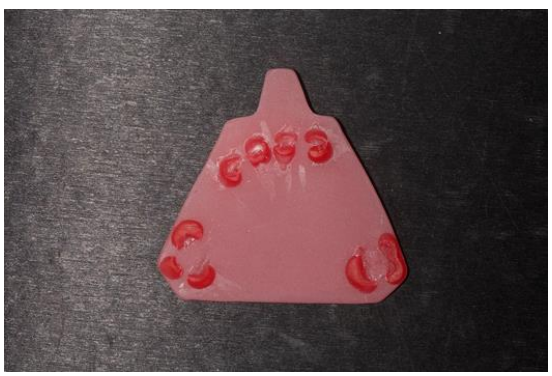


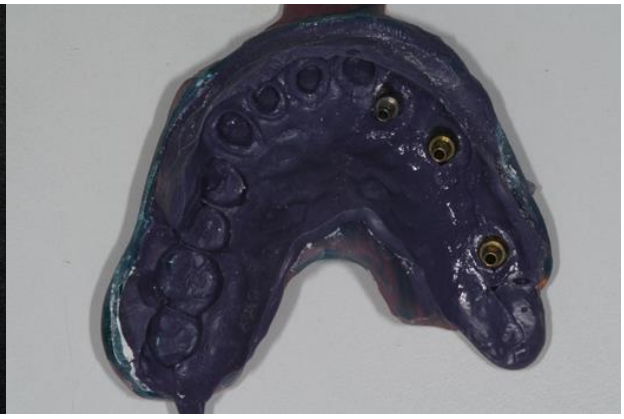
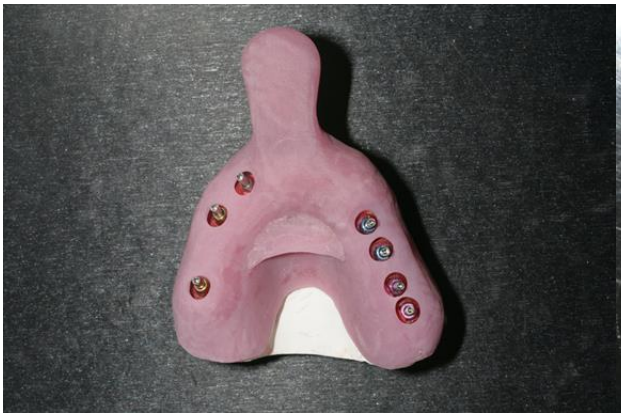


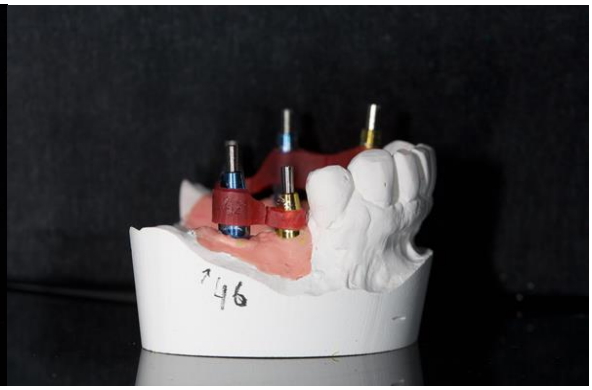
Wax-up

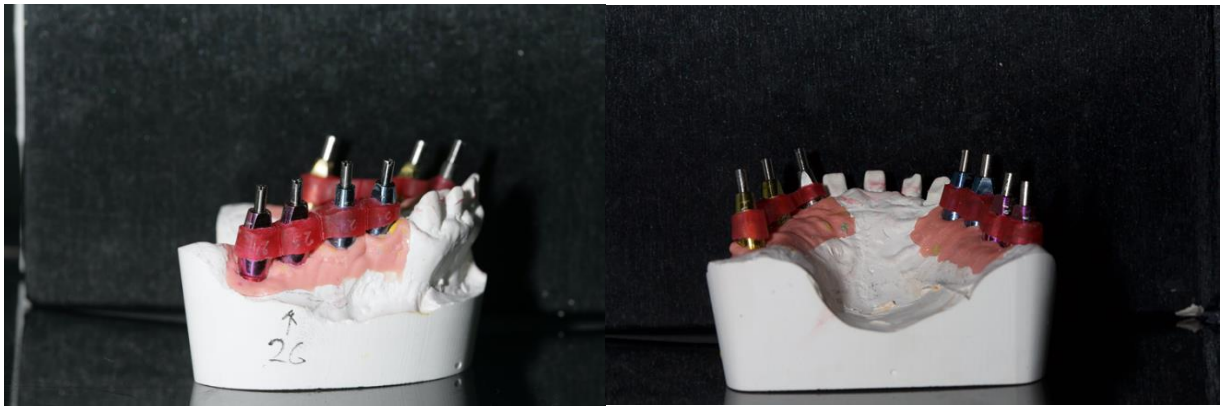


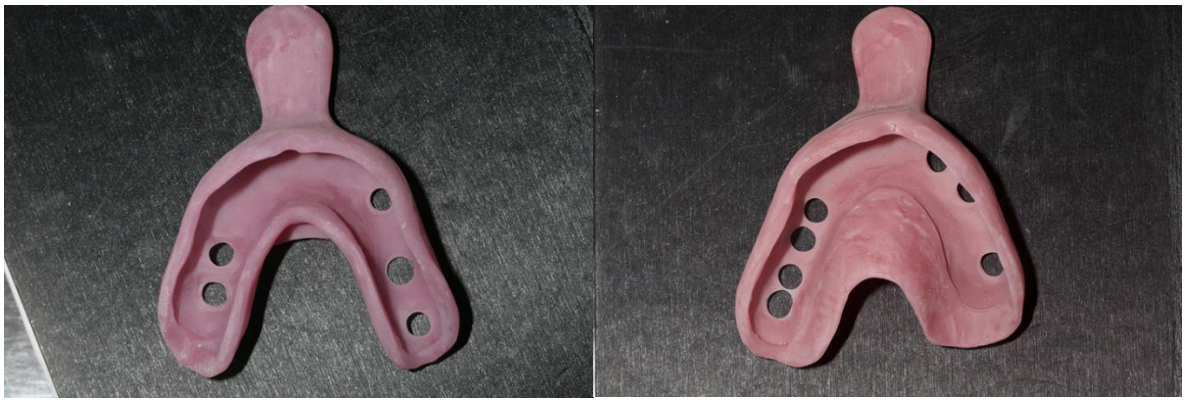
CR and individual impression tray, individual impression cup



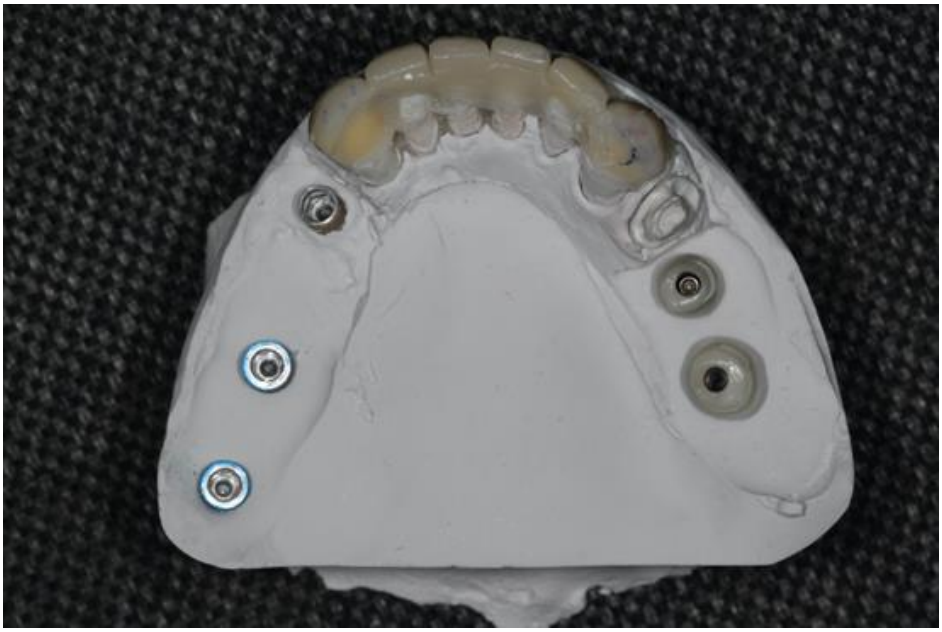






46





Final result 2016



Clinical case № 6

Patient`s birth date: female, 1968

Date of examination: April, 2010

Chief complain: esthetics, low chewing efficacy

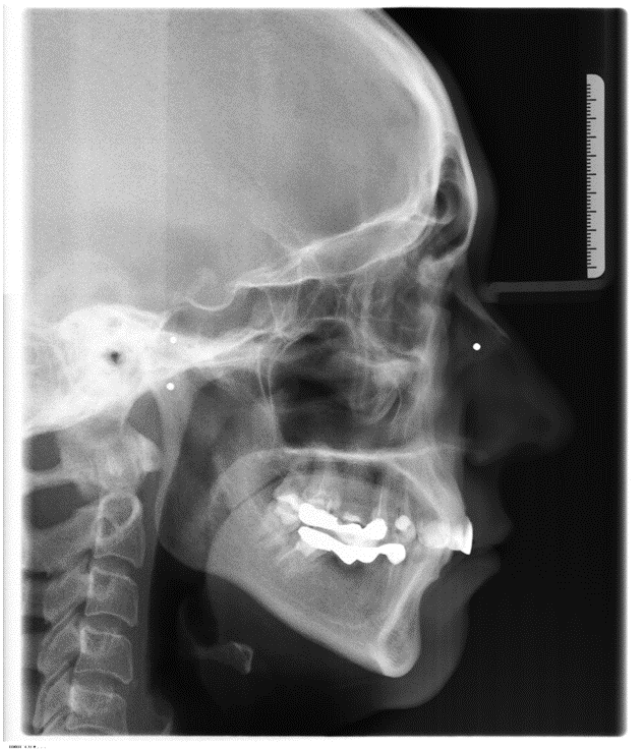
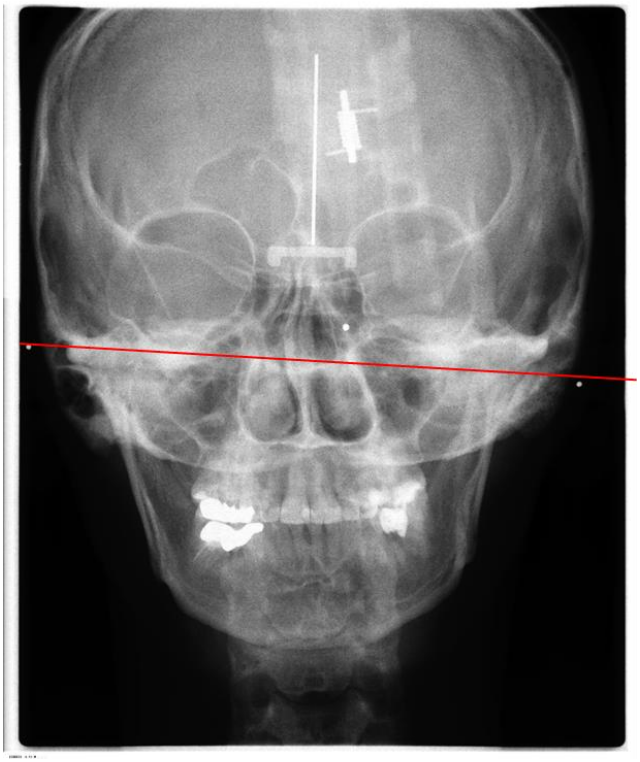
Intraoral photo

The midline is shifted and the right half is lowered, and the left half is vice versa. There is no long-term normal contact between the teeth – this makes it difficult to find the correct jaw relationship.

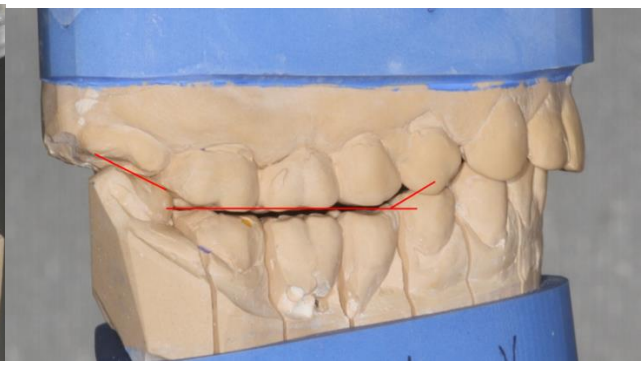


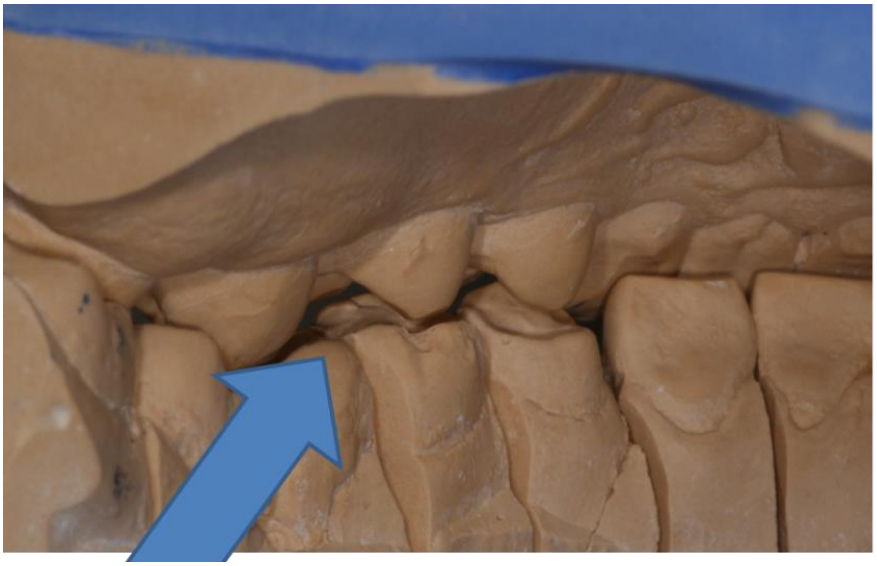
Lateral X-ray

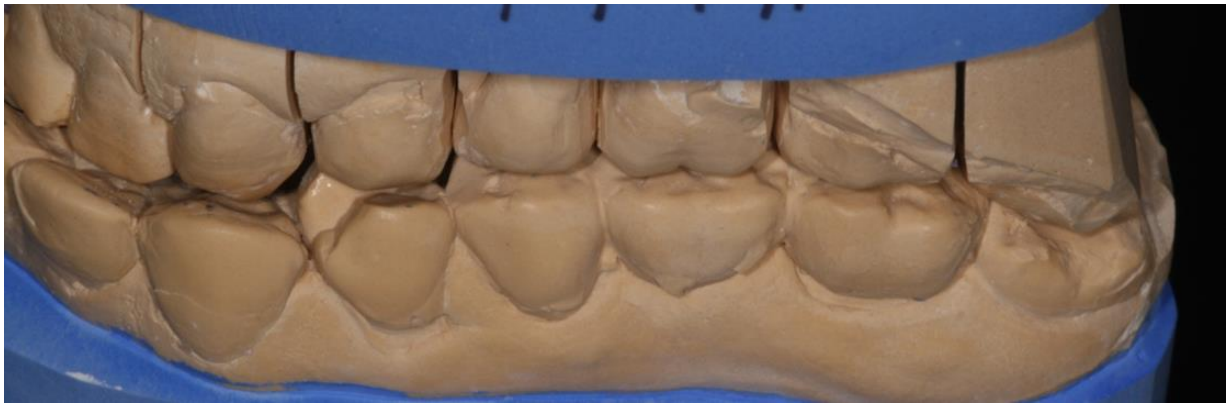
Asymmetrical case, different levels of location of the axes of rotation of the joint heads.

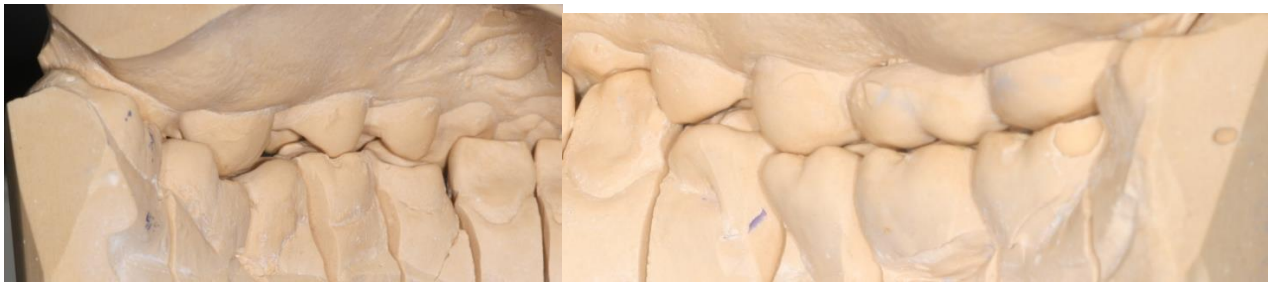
RP

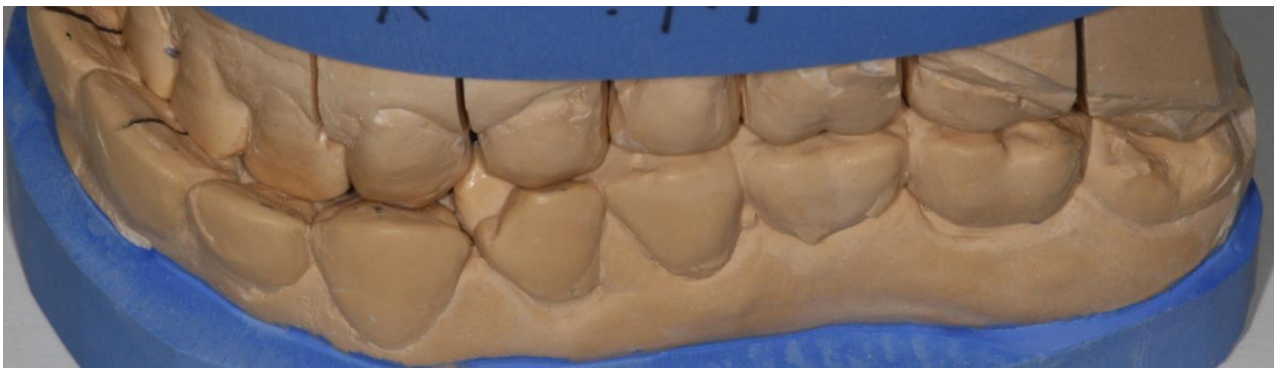






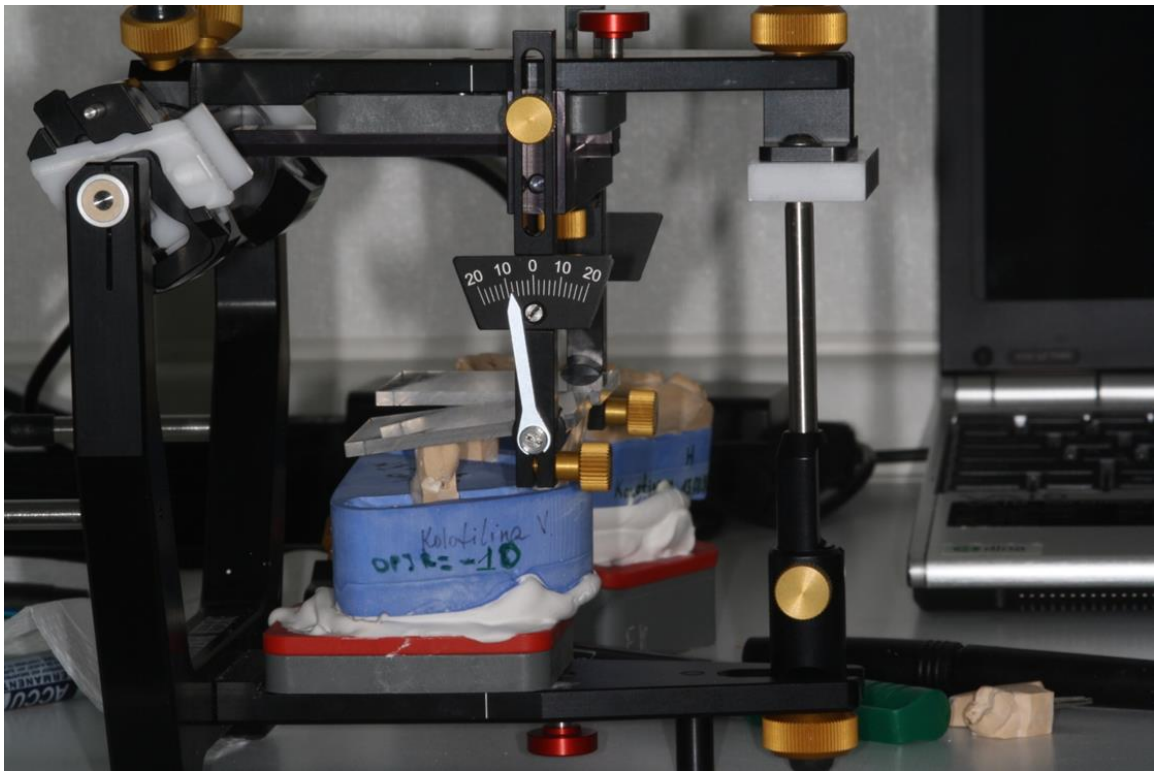
ICP



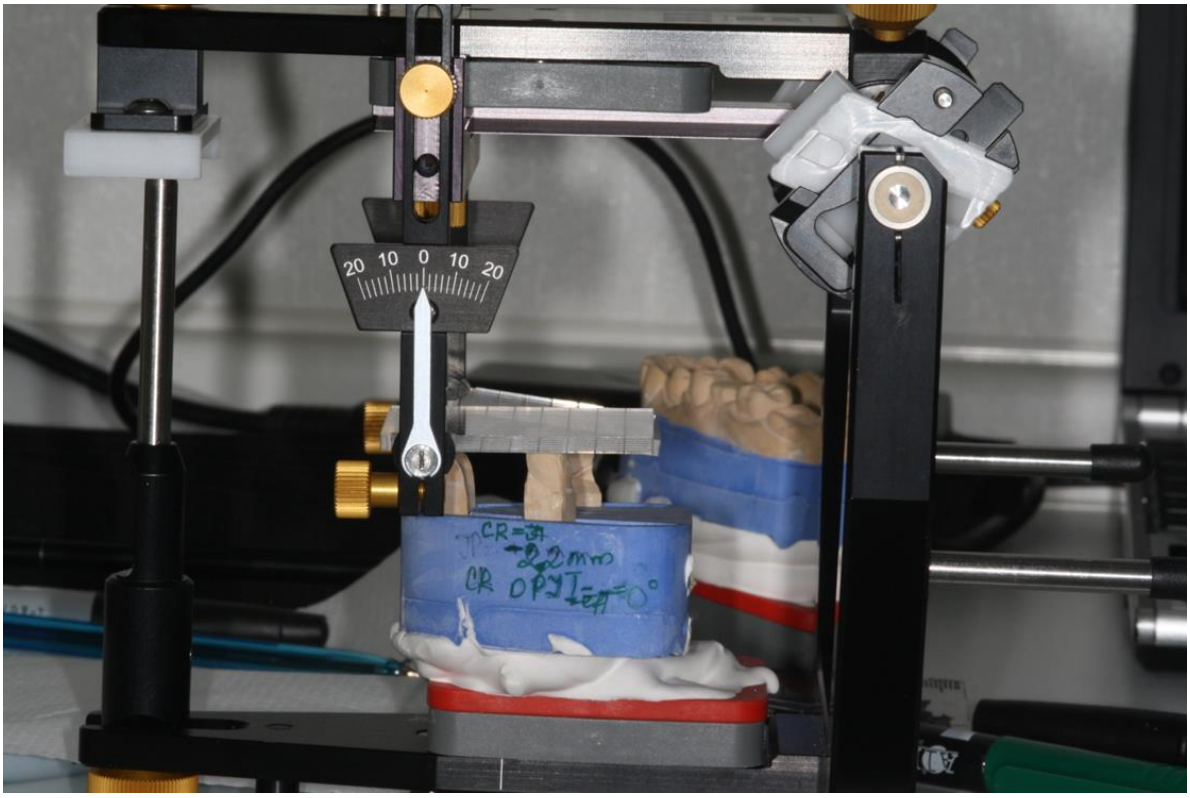



OP = +3mm

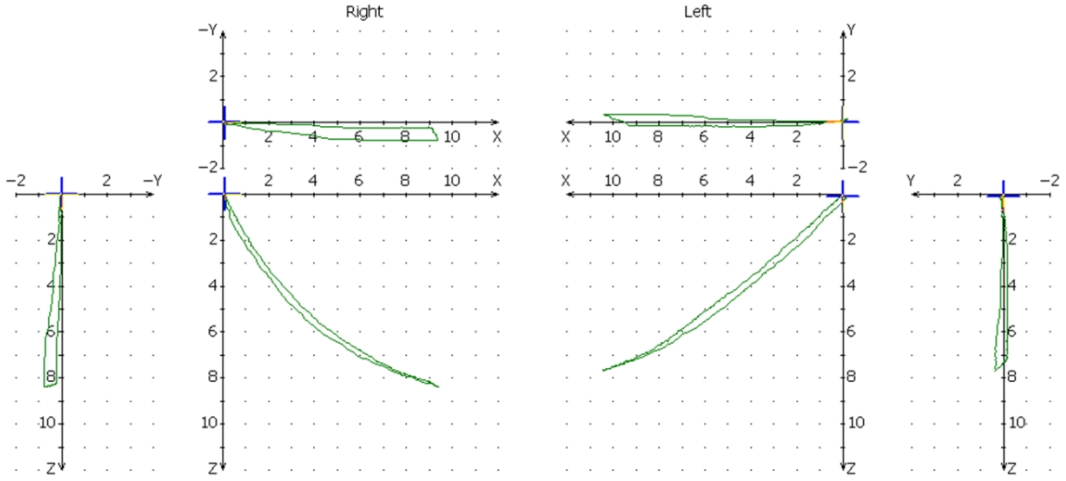
OPI right = 8 degrees



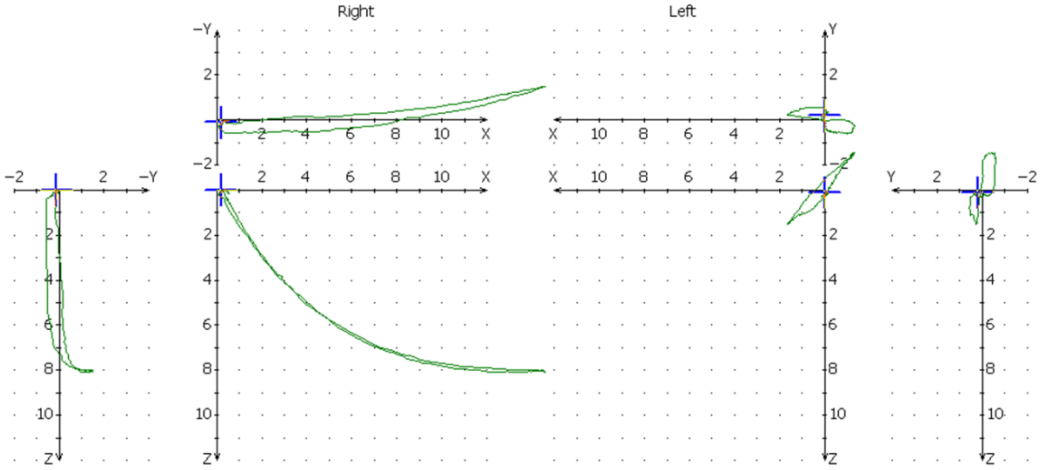
OPI left = 0 degree



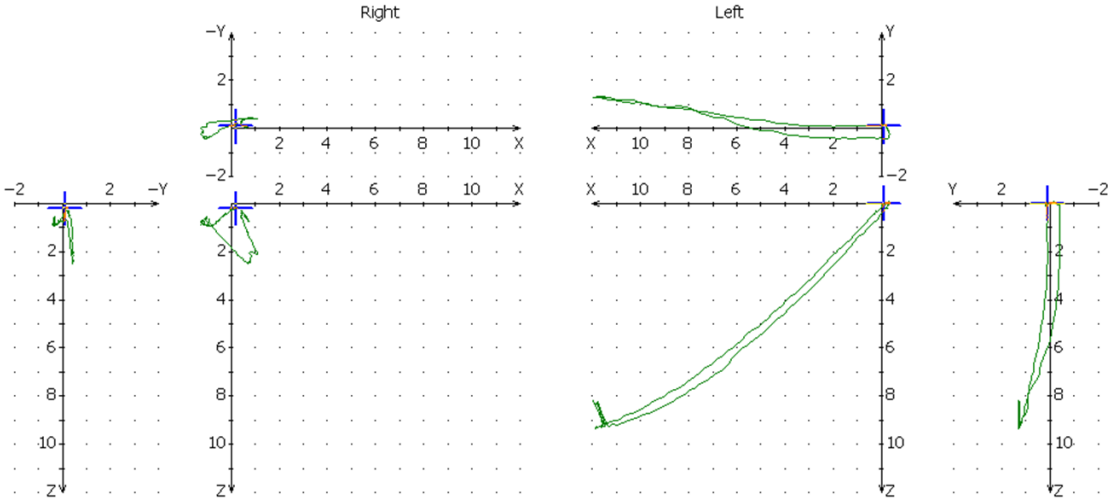
Protrusion-retrusion



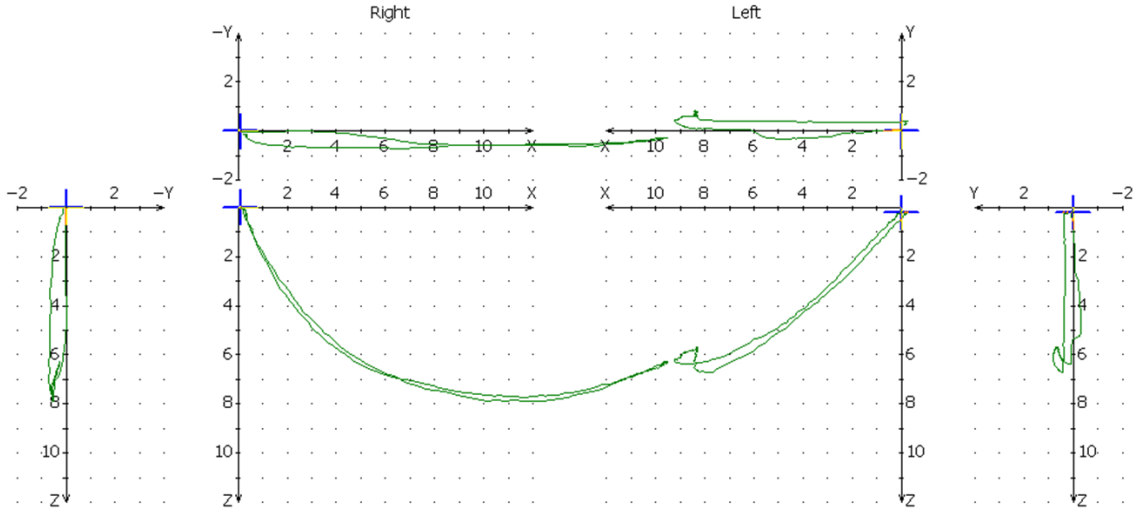
Mediotrusion right



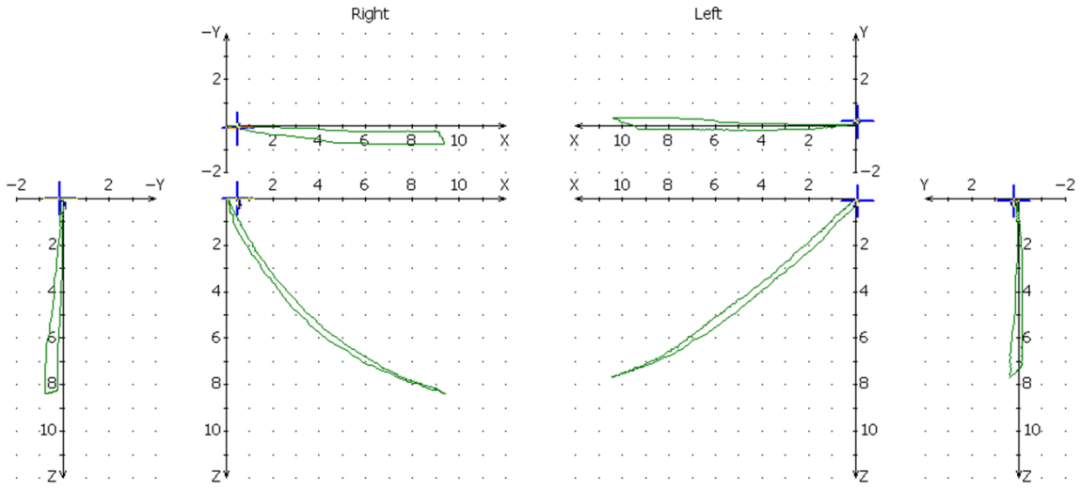
Mediotrusion left



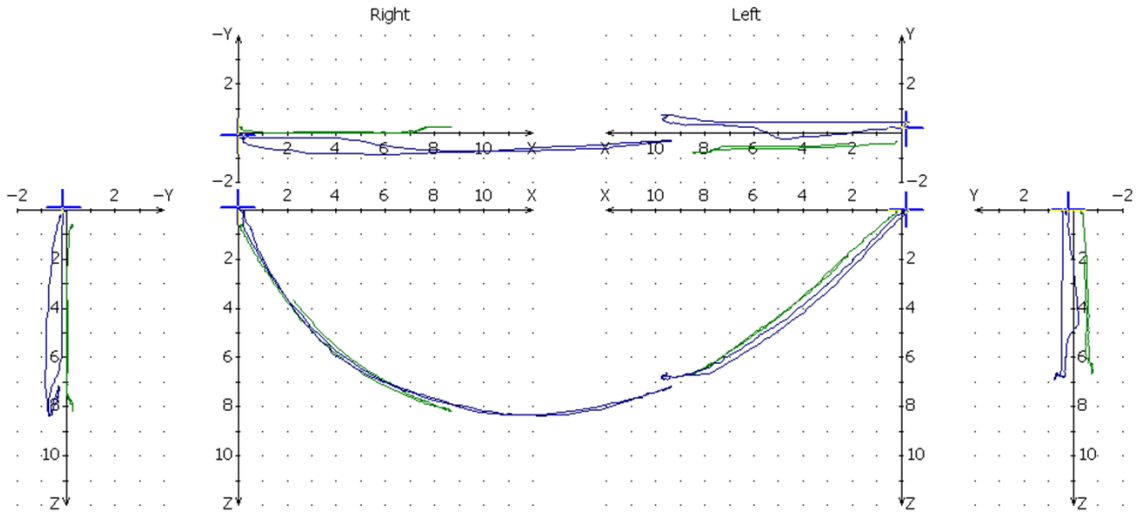
Open-close



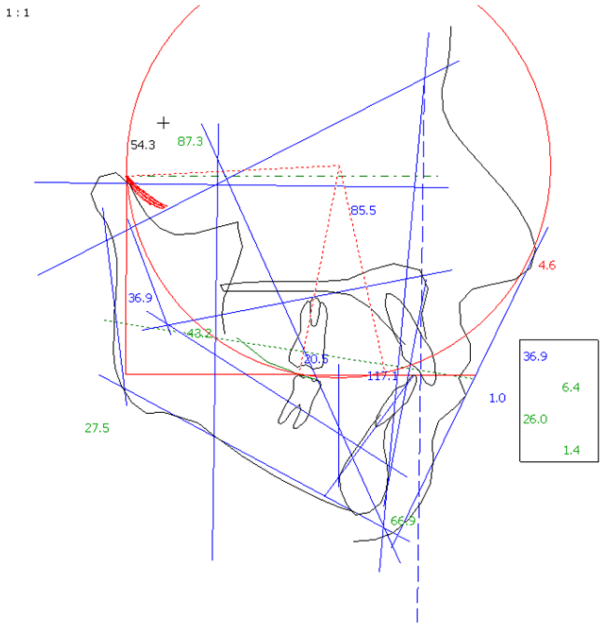
Protrusion-brux



Open-close



Cephalometry left



Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	87.2	
Facial Depth	89.0 °	85.5	1-*
Mandibular Plane	24.0 °	27.5	
Facial Taper	68.0 °	66.9	
Mandibular Arc	29.0 °	36.8	1B*
Maxillary Position	65.0 °	67.5	1+*
Convexity	0.0 mm	4.5	2X**
Lower Facial Height (by R.Slavicek)	46.1 °	43.1	
Lower Facial Height to Point D	52.6 °	50.4	
Dental Measurement	**Norm**	**Value**	**Trend**
Interincisal Angle	130.4 °	117.0	1-*
Upper Incisor Protrusion	6.8 mm	6.4	
Upper Incisor Inclination	28.5 °	36.9	1+*
Upper Incisor Vertical	mm	2.5	
Lower Incisor Protrusion	1.0 mm	1.4	
Lower Incisor Inclination	21.1 °	26.0	
Upper Molar Position	18.0 mm	20.4	1+*
Occlusal plane	**Norm**	**Value**	**Trend**
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	0.2	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	10.0	
Distance Occlusal plane - Axis (DPO)	40.9 mm	50.3	1+*
Radius of Curve of Spee	----- mm	54.2	
Lip Embrasure	0.0 mm	0.2	
Occlusal Plane Xi Distance	-1.4 mm	-12.6	2-**
Functional Measurement	**Norm**	**Value**	**Trend**
Horizontal Condylar Inclination right	----- °	54.8	
Horizontal Condylar Inclination left	----- °	41.2	
Horizontal Condylar Inclination	----- °	48.0	
Relative Condylar Inclination	----- °	47.8	
Relative Condylar Inclination 6	----- °	34.6	
Relative Condylar Inclination 7	----- °	26.4	
Relative Condylar Inclination 8	----- °	10.3	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	**Norm**	**Value**	**Trend**
Esthetic Plane	-2.3 mm	0.9	1+*

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is brachyfacial
Skeletal class is severe II
The maxilla is positioned neutral, with tendency to prognatic
The mandible is positioned retrognathic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is increased
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is diminished
Occlusal concept: Group function
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	87.2	
Facial Depth	89.0 °	85.5	1-*
Facial Taper	68.0 °	66.9	
Mandibular Plane	24.0 °	27.5	
Related Values	**Norm**	**Value**	**Trend**
Bjoerk Sum	396.0 °	396.6	
Facial Length Ratio	63.5 %	60.5	1-*
Y Axis to S N	67.0 °	71.2	1+*
Y Axis (Downs)	61.2 °	60.6	
S N to Gonion Gnathion Angle	32.6 °	36.6	1+*

Incisal Pin Table

Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	43.2	43.6	44.0	44.4	44.8	45.2	45.6	46.3	47.0	47.7	48.4	49.1	50.3
LFH. (Norm)	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.9	47.1	47.3	47.5	47.8	48.2
LFH. (Variation)	0.0	0.4	0.8	1.2	1.6	2.0	2.4	3.1	3.9	4.5	5.2	5.9	7.1
Menton Vertical	0.0	0.5	0.9	1.4	1.8	2.2	2.6	3.5	4.2	5.0	5.7	6.4	7.7
Pogonion Sagittal	0.0	-0.8	-1.5	-2.3	-3.0	-3.8	-4.6	-6.1	-7.7	-9.3	-10.9	-12.5	-15.7
Incision Inf. Vertical	0.0	0.6	1.1	1.7	2.2	2.8	3.3	4.3	5.3	6.3	7.2	8.1	9.8
Incision Inf. Sagittal	0.0	-0.5	-1.1	-1.6	-2.2	-2.7	-3.3	-4.5	-5.6	-6.8	-8.1	-9.3	-11.8

Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	43.2	42.8	42.3	41.9	41.4	40.9	40.5	39.5	38.4	37.4	36.2	35.0	32.4
LFH. (Norm)	46.1	45.9	45.8	45.7	45.6	45.5	45.4	45.2	44.9	44.7	44.5	44.2	43.8
LFH. (Variation)	0.0	-0.4	-0.9	-1.3	-1.8	-2.2	-2.7	-3.7	-4.7	-5.8	-7.0	-8.2	-10.8
Menton Vertical	0.0	-0.5	-1.0	-1.5	-2.0	-2.5	-3.0	-4.1	-5.3	-6.5	-7.7	-9.1	-11.9
Pogonion Sagittal	0.0	0.7	1.5	2.2	3.0	3.7	4.4	5.8	7.2	8.5	9.8	11.1	13.5
Incision Inf. Vertical	0.0	-0.6	-1.2	-1.8	-2.4	-3.0	-3.6	-4.9	-6.3	-7.6	-9.1	-10.6	-13.7
Incision Inf. Sagittal	0.0	0.5	1.0	1.6	2.1	2.5	3.0	4.0	4.8	5.7	6.4	7.2	8.4

Cephalometry right

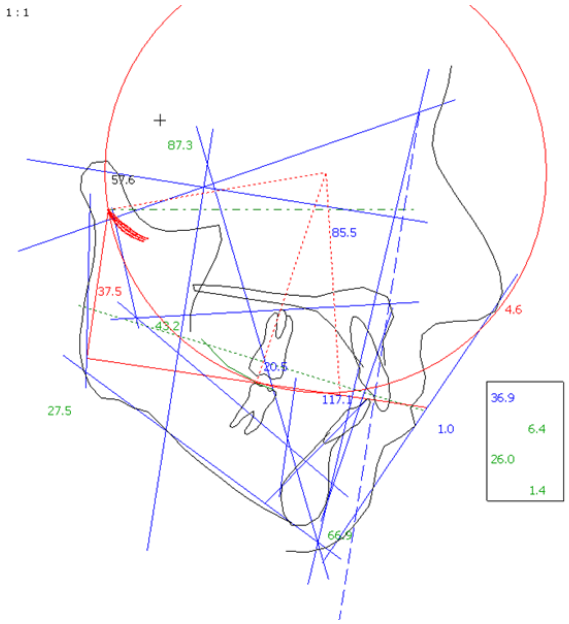
SCI right 55 – OPI right (- 8) = 63 degrees (RCI) – CUI 30 degrees = 33 degrees DOA

SCI left 41 – OPI left 0 = 41 degrees (RCI) – CUI 30 degrees = 11 degrees DOA

Change OPI on the right side to 15 degrees and OPI for 6 = 15 degrees

And for left side 1 degree is OPI

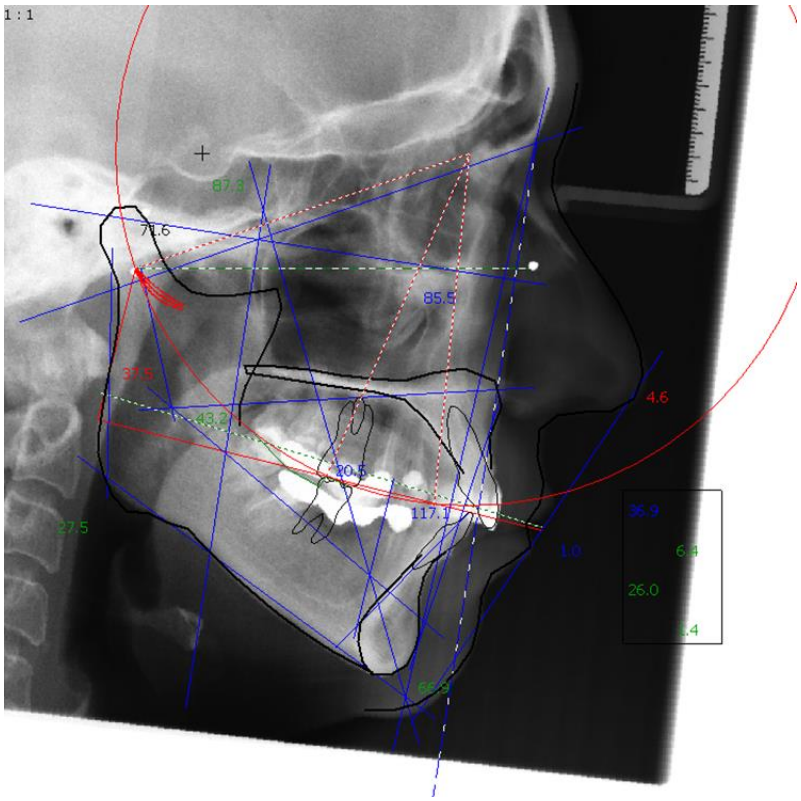
LFH don’t change- lower jaw in a retruded position



Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	87.2	
Facial Depth	89.0 °	85.5	1-*
Mandibular Plane	24.0 °	27.5	
Facial Taper	68.0 °	66.9	
Mandibular Arc	29.0 °	37.5	2B**
Maxillary Position	65.0 °	67.5	1+*
Convexity	0.0 mm	4.5	2X**
Lower Facial Height (by R.Slavicek)	46.1 °	43.2	
Lower Facial Height to Point D	52.6 °	50.4	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	130.4 °	117.0	1-*
Upper Incisor Protrusion	6.8 mm	6.4	
Upper Incisor Inclination	28.5 °	36.9	1+*
Upper Incisor Vertical	mm	2.5	
Lower Incisor Protrusion	1.0 mm	1.4	
Lower Incisor Inclination	21.1 °	26.0	
Upper Molar Position	18.0 mm	20.4	1+*
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	8.3	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	17.7	
Distance Occlusal plane - Axis (DPO)	40.9 mm	39.0	
Radius of Curve of Spee	----- mm	57.6	
Lip Embrasure	0.0 mm	0.2	
Occlusal Plane Xi Distance	-1.4 mm	-12.2	2-**
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	54.8	
Horizontal Condylar Inclination left	----- °	41.2	
Horizontal Condylar Inclination	----- °	48.0	
Relative Condylar Inclination	----- °	39.7	
Relative Condylar Inclination 6	----- °	26.6	
Relative Condylar Inclination 7	----- °	18.3	
Relative Condylar Inclination 8	----- °	2.2	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	0.9	1+*

VTO right change OPI to 15 degrees for right side.



VTO change OPI for left side = 1 degree.

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is strongly brachyfacial
Skeletal class is severe II
The maxilla is positioned neutral, with tendency to prognatic
The mandible is positioned retrognathic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is increased
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is diminished
Occlusal concept: Group function
No functional statement available

Explanation

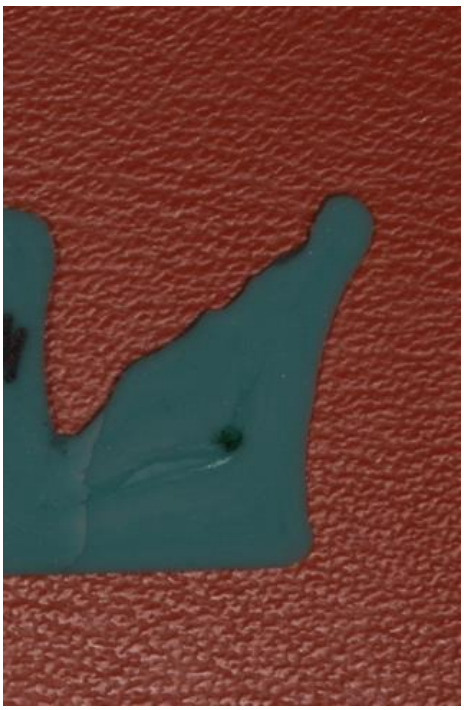
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	87.2	
Facial Depth	89.0 °	85.5	1-*
Facial Taper	68.0 °	66.9	
Mandibular Plane	24.0 °	27.5	
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	396.6	
Facial Length Ratio	63.5 %	60.5	1-*
Y Axis to S N	67.0 °	71.2	1+*
Y Axis (Downs)	61.2 °	60.6	
S N to Gonion Gnathion Angle	32.6 °	36.6	1+*

Incisal Pin Table

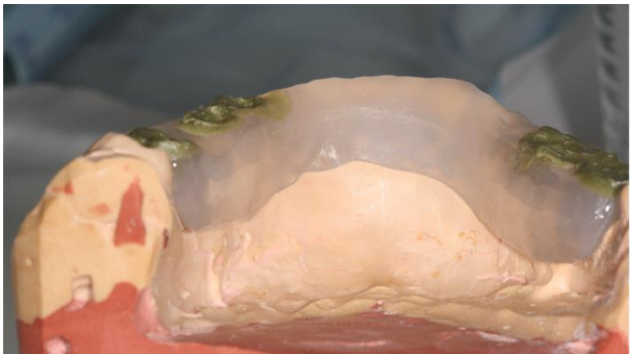
Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	43.2	43.7	44.1	44.6	45.0	45.5	45.9	46.7	47.5	48.3	49.1	49.8	51.3
LFH. (Norm)	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.9	47.1	47.3	47.4	47.6	48.0
LFH. (Variation)	0.0	0.5	0.9	1.4	1.8	2.2	2.7	3.5	4.3	5.1	5.9	6.6	8.1
Menton Vertical	0.0	0.4	0.7	1.1	1.4	1.7	2.0	2.6	3.2	3.8	4.3	4.8	5.8
Pogonion Sagittal	0.0	-0.8	-1.5	-2.3	-3.0	-3.8	-4.6	-6.1	-7.7	-9.3	-10.9	-12.4	-15.6
Incision Inf. Vertical	0.0	0.5	1.0	1.5	2.0	2.5	2.9	3.9	4.7	5.6	6.4	7.2	8.8
Incision Inf. Sagittal	0.0	-0.5	-1.1	-1.7	-2.2	-2.8	-3.4	-4.6	-5.8	-7.0	-8.2	-9.5	-12.0

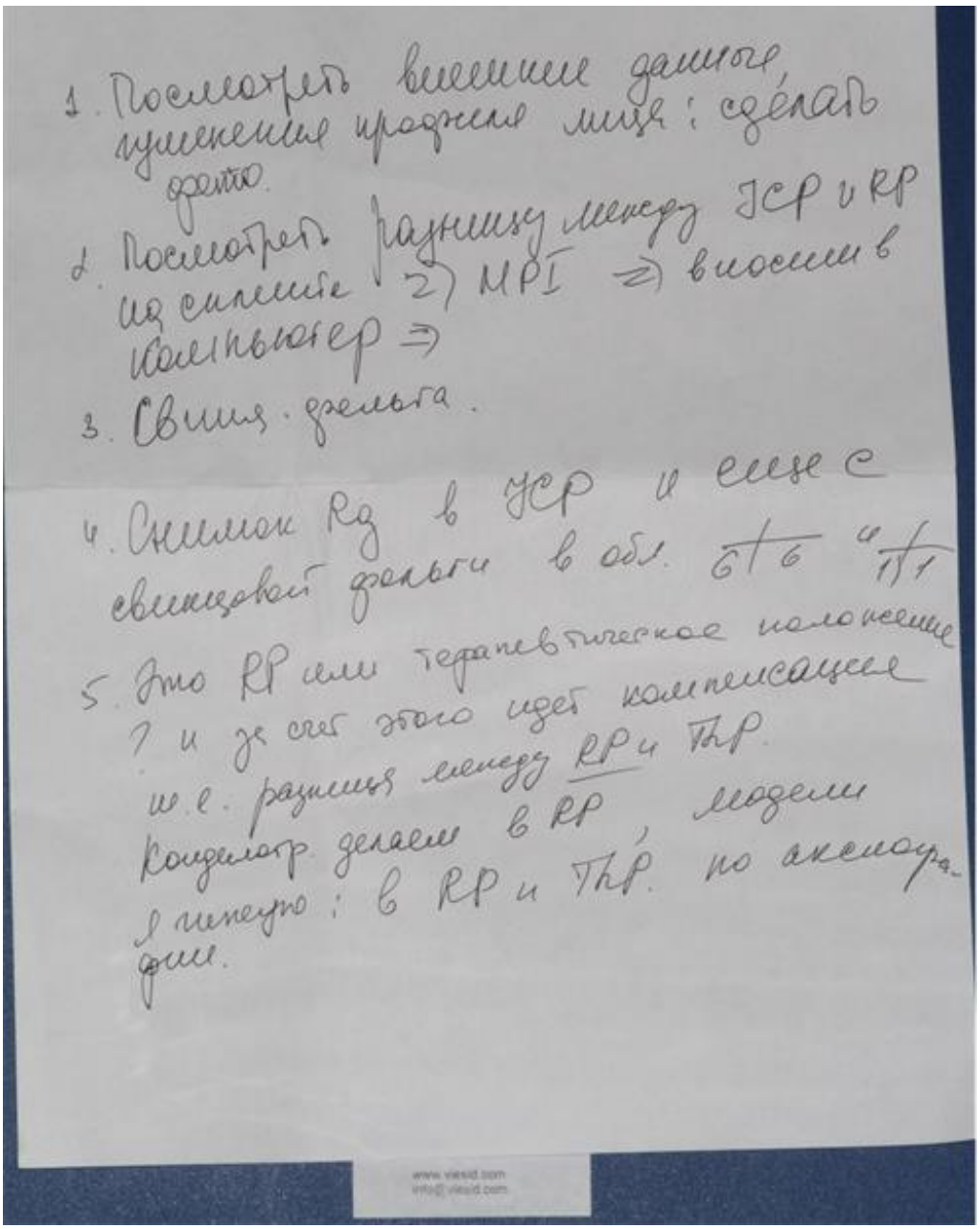
Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	43.2	42.8	42.3	41.8	41.3	40.8	40.3	39.2	38.1	37.0	35.8	34.6	32.0
LFH. (Norm)	46.1	45.9	45.8	45.7	45.6	45.5	45.4	45.2	45.0	44.8	44.6	44.4	44.0
LFH. (Variation)	0.0	-0.5	-0.9	-1.4	-1.9	-2.4	-2.9	-4.0	-5.1	-6.2	-7.4	-8.6	-11.2
Menton Vertical	0.0	-0.4	-0.7	-1.1	-1.5	-1.9	-2.4	-3.2	-4.1	-5.1	-6.1	-7.2	-9.5
Pogonion Sagittal	0.0	0.8	1.5	2.2	3.0	3.7	4.4	5.9	7.3	8.6	10.0	11.3	13.7
Incision Inf. Vertical	0.0	-0.5	-1.0	-1.6	-2.1	-2.7	-3.3	-4.4	-5.6	-6.9	-8.2	-9.6	-12.4
Incision Inf. Sagittal	0.0	0.5	1.1	1.6	2.1	2.6	3.1	4.1	5.0	5.9	6.7	7.5	8.8

Tooth 11. AG = 47 SCI asymmetric case



Tooth 13. Anterior Guidance





1. Let's look at external data, changes in facial profile: take a photo.

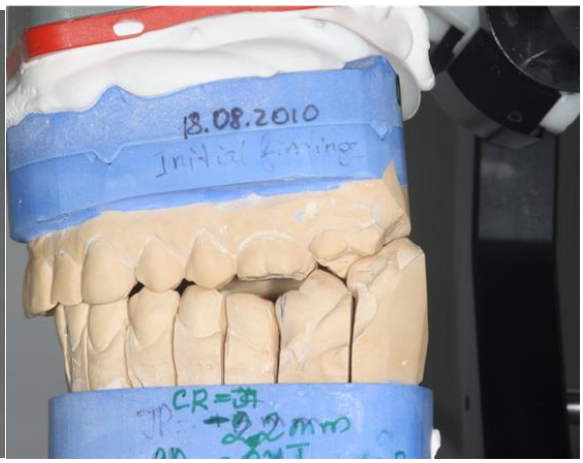
2. See the difference between ICP and RP on the bus => MPI => transfer to the computer =>

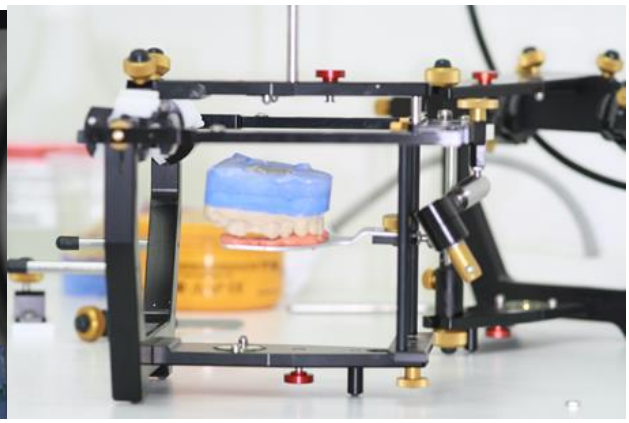
3. Lead foil

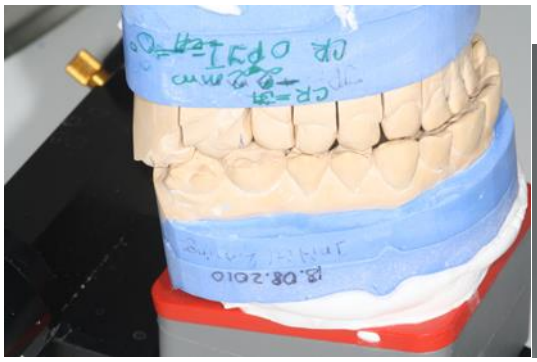
4. X-ray in ICP and also with lead foil in the area 36 and 46 and 31 and 41.

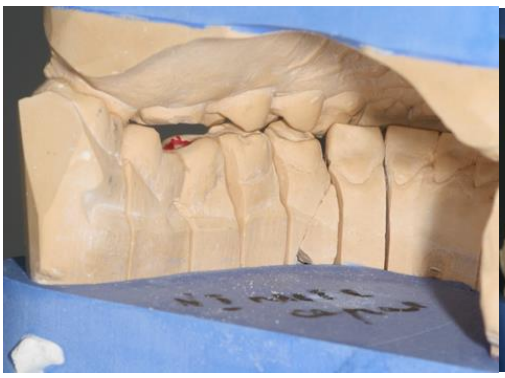
5. Is this a RP or therapeutic position? And due to this there is compensation, i.e. difference between RP and ThP.

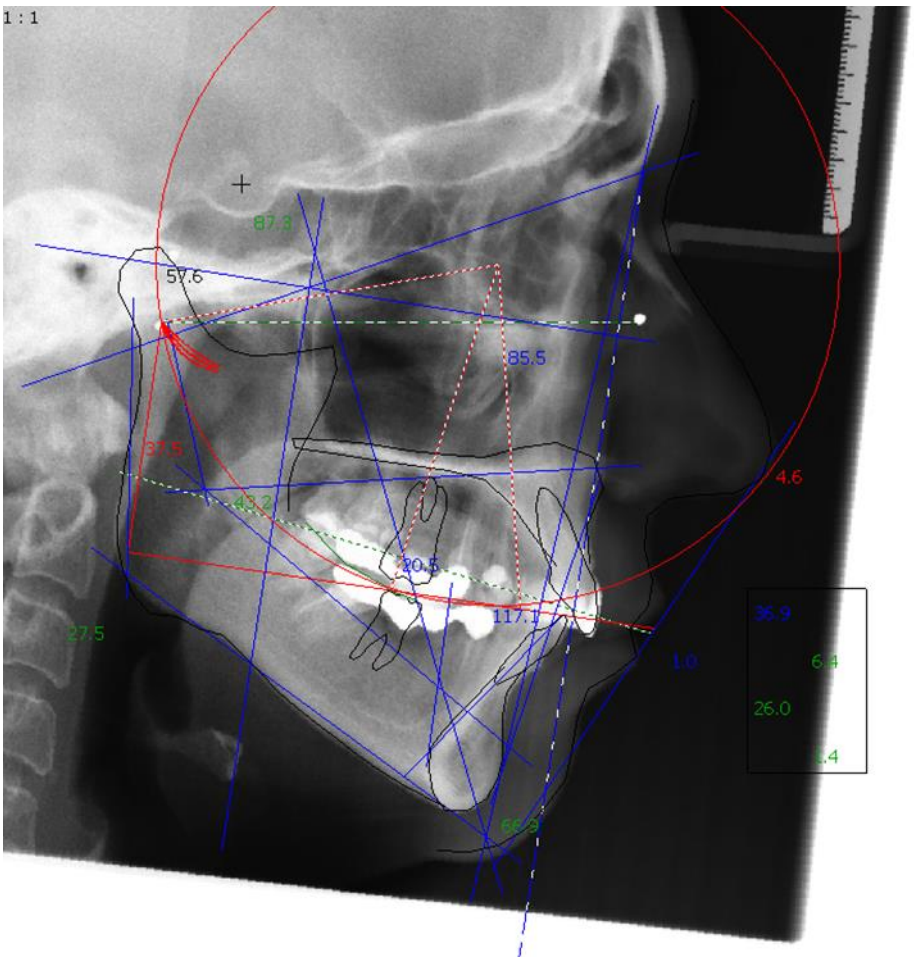
6. Cardiography is done from RP: plaster models are mounted into articulator in RP and ThP according to axiography.


18.08.2010









Action plan

Due to the fact that the therapeutic position (the position in which the work will be done) is unstable, I propose that the first stage is to deprogram (relax) the muscles by making a splint (transparent mouthguard) and wearing it with correction for a week and repeated condylography. And then take this position as the initial one, especially since the wisdom tooth is removed.

Professor comments

Fabrication of ddistraction splint with remodulation of joint heads.

• Crepitus is a response to adaptation in an arthritic joint. The amount of liquid in the chambers has decreased, and it takes time to restore it - adaptation to a new therapeutic position. The increase in cerebrospinal fluid and crepitus will go away.

• As an adaptation, bruxism and clenching of teeth in a new position on temporary crowns is possible. It's possible. This must be adjusted if necessary.

Final Restorations

Clinical case № 7

Patient`s birth date: male, 1941

Date of examination: April, 2010

Chief complain: esthetics, low chewing efficacy

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

	yes	no		yes	no
1. Infections			7. Urogenital problems		
2. Cardio-vascular systems			8. Central nervous systems		
3. Respiratory systems			9. Psychological problems (theraphy)		
4. Digestive systems			10. Rheumatic disease		
5. Metabolic systems			11. Hormonal disease		
6. Allergies			12. Special problems		

Main concern

Dental History Analysis

		valuation	yes	no
1.	Do you have problems when you chew?			X
2.	Do you have problems when you are talking?			X
3.	Do you have problems in closing your teeth properly?	1	X	
4.	Are any of your teeth especially sensitive?			X
5.	Do you have a problem when you open your mouth very wide?			X
6.	Do your jaw joints make noise and if so, on what side?			X
7.	Do you have pain in the area of your jaw joints?			X
8.	Do you suffer from headaches?			X
9.	Do you suffer from cramps or spasm in your head, neck or throat?			X
10.	Do you have in general problems with your posture?			X
	Occlusal Index	1.00		

Muscle Diagnosis

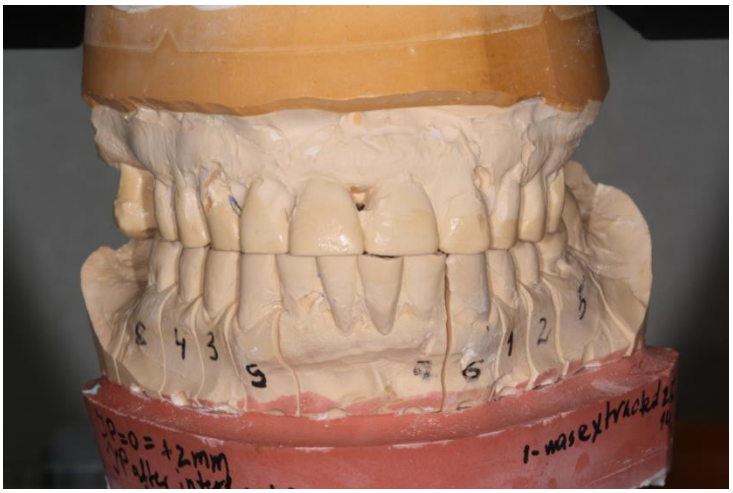
		right		left	
		+	++	+	++
1.	shoulders and neck				
2.	atlanto-occipital region				
3.a	M.temporalis ant.				
3.b	M.temporalis med.				
3.c	M.temporalis post.				
4.a	M.masseter (superficial)				
4.b	M.masseter (deep)				
5.	Tuber maxillae	X			
6.	M.pterygoideus medialis		X		
7.	M.mylohyoideus				
8.	M.digastricus				
9.	suprahyoidale M.				
10.	infrahyoidale M.				
11.	Larynx				
12.	M.sterno-cleido-mastoideus				
13.	M.omohyoideus				
14.	Tongue				

		right		left	
		+	++	+	++
15.	comparative palpation of jaw joints				
	a) lateral poles, statically				
	b) lateral poles, in rotation				
	c) retral joint space				
	d) Lig.temporo-mandibulare				

OPG

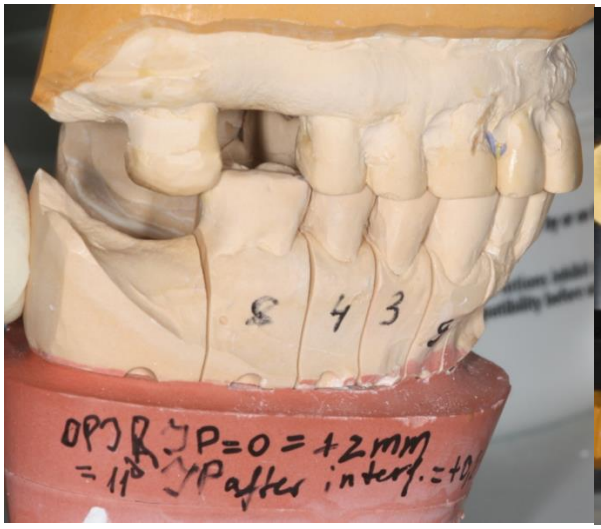
Intraoral photo

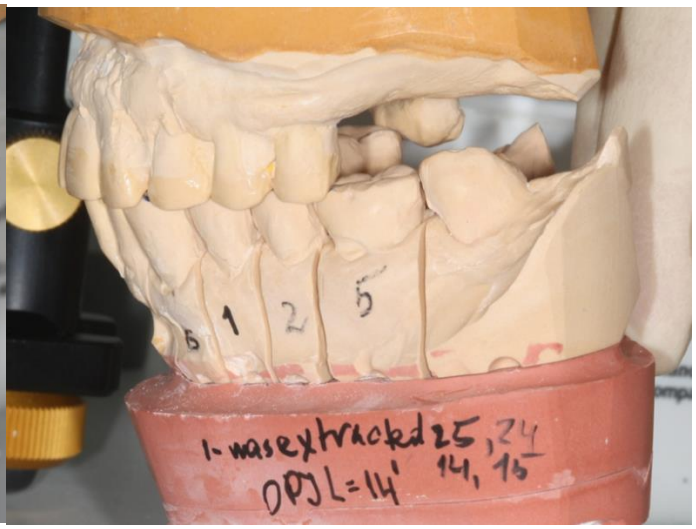
Casts RP

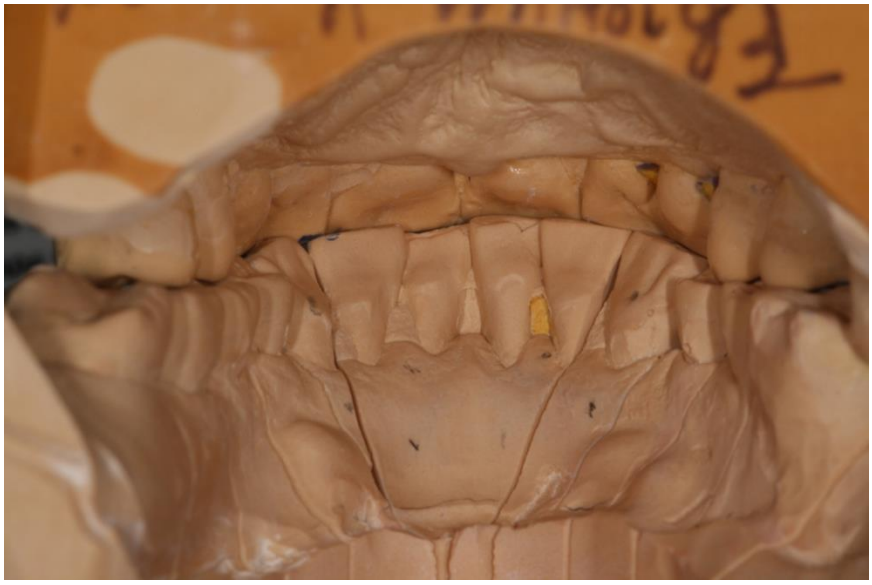


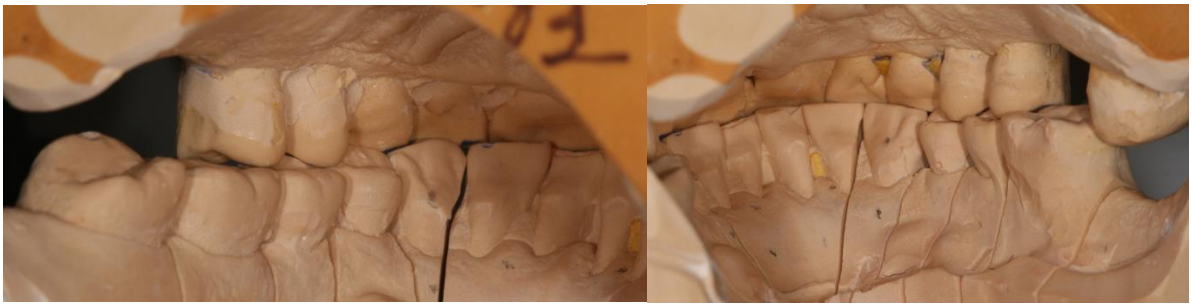
OPI

ICP

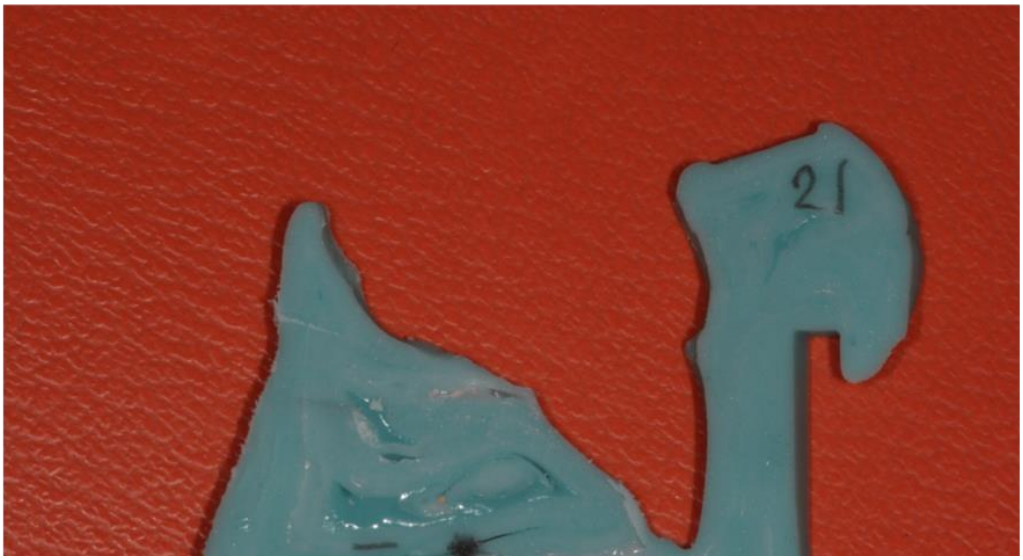




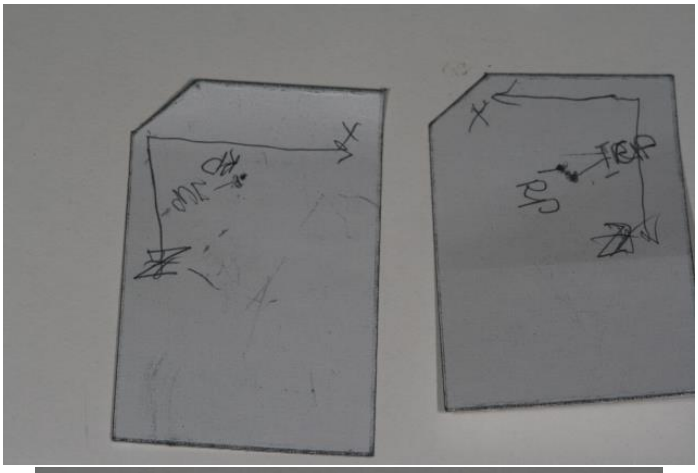


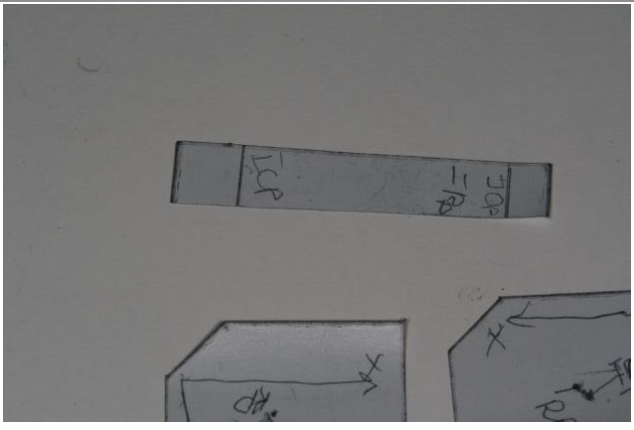


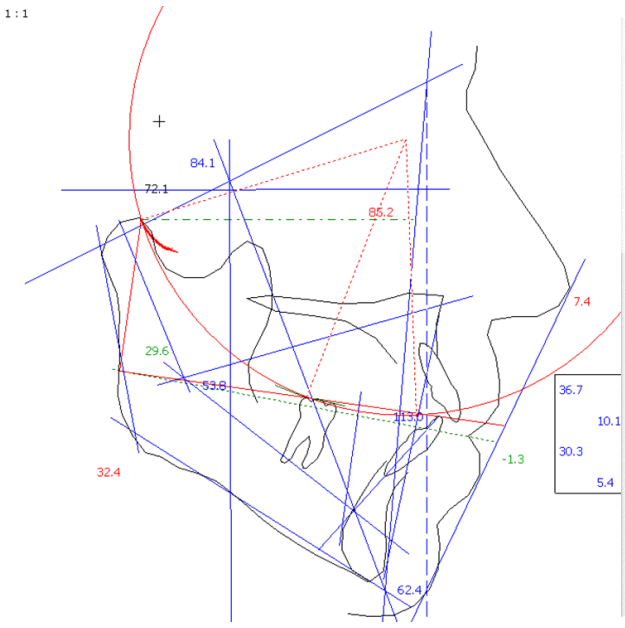
AG.

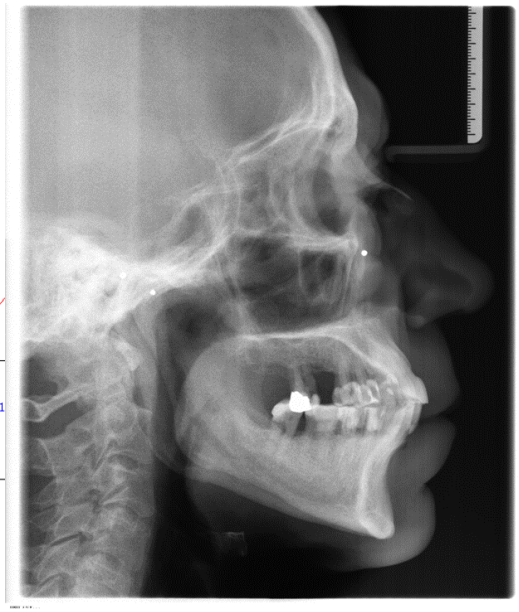


MPI









Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	84.1	1D*
Facial Depth	91.5 °	85.2	2-**
Mandibular Plane	21.5 °	32.4	2D**
Facial Taper	68.0 °	62.3	1D*
Mandibular Arc	31.2 °	29.5	
Maxillary Position	65.0 °	64.9	
Convexity	-1.0 mm	7.4	4X***>
Lower Facial Height (by R.Slavicek)	47.7 °	53.7	1+*
Lower Facial Height to Point D	54.2 °	59.9	1+*
Dental Measurement	**Norm**	**Value**	**Trend**
Interincisal Angle	130.4 °	113.0	1-*
Upper Incisor Protrusion	6.8 mm	10.1	1+*
Upper Incisor Inclination	28.5 °	36.6	1+*
Upper Incisor Vertical	mm	0.8	
Lower Incisor Protrusion	1.0 mm	5.4	1+*
Lower Incisor Inclination	21.1 °	30.3	1+*
Upper Molar Position	21.0 mm		
Occlusal plane	**Norm**	**Value**	**Trend**
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	8.0	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	11.6	
Distance Occlusal plane - Axis (DPO)	40.9 mm	39.6	
Radius of Curve of Spee	----- mm	72.0	
Lip Embrasure	0.0 mm	4.1	1+*
Occlusal Plane Xi Distance	-1.4 mm	-0.5	
Functional Measurement	**Norm**	**Value**	**Trend**
Horizontal Condylar Inclination right	----- °	54.6	
Horizontal Condylar Inclination left	----- °	58.1	
Horizontal Condylar Inclination	----- °	56.4	
Relative Condylar Inclination	----- °	48.3	
Relative Condylar Inclination 6	----- °	44.0	
Relative Condylar Inclination 7	----- °	35.9	
Relative Condylar Inclination 8	----- °	56.4	
Anterior Guidance (S-AOP)	----- °	51.8	
Relative Anterior Guidance	----- °	43.7	
Esthetic Measurement (Lip Relation)	**Norm**	**Value**	**Trend**
Esthetic Plane	-2.9 mm	-1.3	

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is strongly dolichofacial
The skeletal trend of the mandible is mesiofacial
Skeletal class is II
The maxilla is positioned neutral, with tendency to prognatic
The mandible is positioned neutral, with tendency to retrognatic
The lower facial height is increased
Dental class unknown
The protrusion of the upper incisor is increased
The inclination of the upper incisor is increased
The protrusion of the lower incisor is increased
The inclination of the lower incisor is increased
The interincisal angle is diminished
Occlusal concept: Unknown (data missing)
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	84.1	1D*
Facial Depth	91.5 °	85.2	2-**
Facial Taper	68.0 °	62.3	1D*
Mandibular Plane	21.5 °	32.4	2D**
Related Values	**Norm**	**Value**	**Trend**
Bjoerk Sum	396.0 °	399.4	1+*
Facial Length Ratio	63.5 %	62.0	
Y Axis to S N	67.0 °	72.7	1+*
Y Axis (Downs)	61.8 °	64.4	
S N to Gonion Gnathion Angle	31.6 °	39.4	2+**

Don’t increase vertical dimension

OPI right = 11 degrees

OPI left = 14 degrees

SCI = 56 degrees

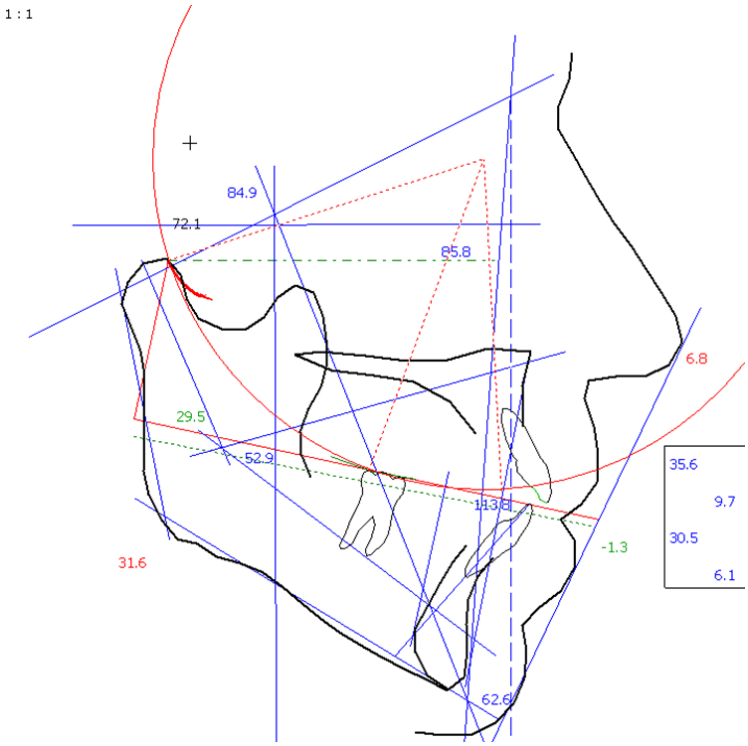
Interference on teeth 14, 15, 24, 25, 17, 13, 23. Remove this tooth from cast and VD will decrease to 2mm (from +2 on incisal pin to + 0,2 mm).

Incisal Pin Table

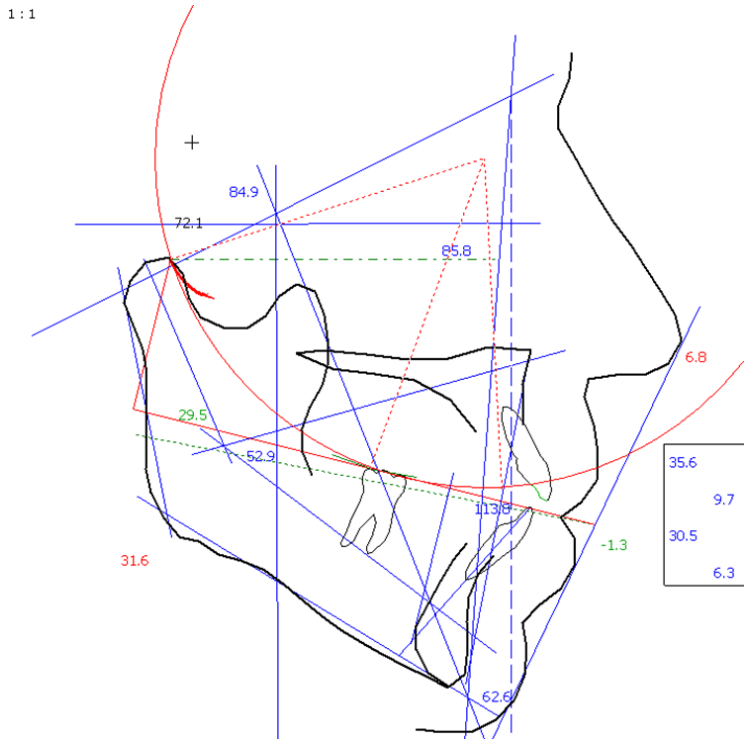
Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	53.8	54.2	54.6	55.0	55.4	55.7	56.1	56.9	57.6	58.2	58.9	59.6	60.8
LFH. (Norm)	47.7	47.8	47.9	48.0	48.1	48.2	48.3	48.5	48.7	48.9	49.1	49.3	49.6
LFH. (Variation)	0.0	0.4	0.8	1.2	1.6	2.0	2.4	3.1	3.8	4.5	5.2	5.8	7.0
Menton Vertical	0.0	0.4	0.7	1.0	1.4	1.7	2.0	2.6	3.1	3.7	4.2	4.6	5.5
Pogonion Sagittal	0.0	-0.9	-1.8	-2.7	-3.6	-4.5	-5.4	-7.2	-9.0	-10.9	-12.7	-14.5	-18.1
Incision Inf. Vertical	0.0	0.5	1.1	1.6	2.1	2.6	3.1	4.0	4.9	5.8	6.7	7.5	9.1
Incision Inf. Sagittal	0.0	-0.6	-1.3	-1.9	-2.6	-3.2	-3.9	-5.2	-6.6	-7.9	-9.3	-10.7	-13.5

Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	53.8	53.3	52.9	52.5	52.0	51.6	51.1	50.2	49.2	48.1	47.1	45.9	43.5
LFH. (Norm)	47.7	47.6	47.5	47.3	47.2	47.1	47.0	46.8	46.6	46.4	46.2	46.0	45.5
LFH. (Variation)	0.0	-0.4	-0.8	-1.3	-1.7	-2.2	-2.6	-3.6	-4.6	-5.6	-6.7	-7.8	-10.3
Menton Vertical	0.0	-0.4	-0.7	-1.1	-1.5	-1.9	-2.3	-3.2	-4.1	-5.1	-6.2	-7.3	-9.7
Pogonion Sagittal	0.0	0.9	1.8	2.7	3.6	4.4	5.3	7.1	8.8	10.5	12.2	13.8	17.0
Incision Inf. Vertical	0.0	-0.5	-1.1	-1.7	-2.2	-2.8	-3.4	-4.6	-5.9	-7.2	-8.6	-10.1	-13.1
Incision Inf. Sagittal	0.0	0.6	1.2	1.9	2.5	3.1	3.6	4.8	5.9	7.0	8.0	9.0	10.7

VTO decrease VD to 2 mm and change OPI total with tooth 31 to 12 degrees.



OPI = 14 degrees



OPI calculation

- OPI right = 11 degrees
- OPI left = 14 degrees
- SCI = 56 degrees
- Right SCI – OPI = 56-11 = 45-30 =15 Change OPI to 16 So SCI-OPI= 56-16 = 40-30 = 10 degrees
- Left SCI-OPI = 56-14 = 42-30 = 12 Change OPI to 16 So SCI-OPI = 56-16 = 40-30 = 10 degrees

Wax-up

- SCI = 56 degrees right blue and left yellow
- VD - remove teeth 33,34,35,43,44,45,47 the vertical dimension should decrease to +0,2 mm on incisal pin. It should be a zero point.
- OPI right = 16 degrees and OPI left = 16 degrees.
- Bennett white insert right = 11 degrees and left yellow 8 degrees.
- Left side - II class occlusion, right side - I class occlusion.

Gamma Sequence Incisal Table

Condylography values used for calculations

Protrusion at 5 mm: SCI 56,8°

Mediotrusion right at 5 mm: SCI 58,5° TCI 9,3°

Mediotrusion left at 5 mm: SCI 56,3° TCI 9,0°

Suggested sequence table setting

Protrusion element: ORANGE(YELLOW)

Right lateral element: ORANGE

Left lateral element: BLUE

Condylography values used for calculations

Protrusion at 5 mm: SCI 56,8°

Mediotrusion right at 5 mm: SCI 58,5° TCI 9,3°

Mediotrusion left at 5 mm: SCI 56,3° TCI 9,0°

Calculation for incisal table settings : Sequential disocclusion according t

Computed using ideal anterior guidance

Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.

Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.

Failed to compute incisor table settings for ideal postions.

Calculated vertical cusp tip positions								
	Right				Left			
	TA	I - Table	T - S1	T - S2	TA	I - Table	T - S1	T - S2
1	56,7°	57°	45°	65°	56,7°	57°	45°	65°
2	56,7°	57°	45°	65°	56,7°	57°	45°	65°
3	46,7°	59°			46,7°	52°		
4								
5								
6m								
6d								
7m								
7d								
8m								
8d								

Occlusal Plane Value

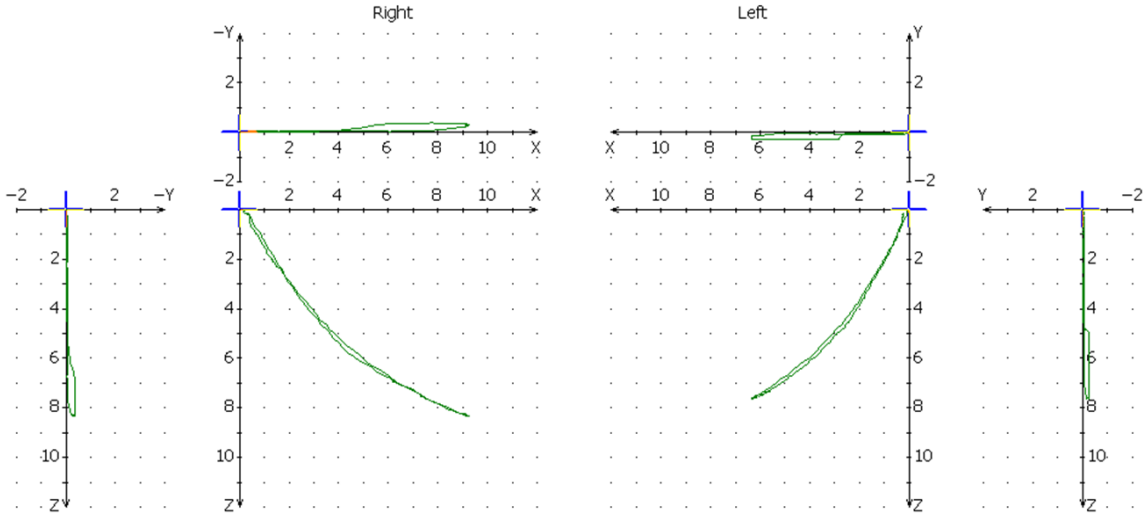
Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.

Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.

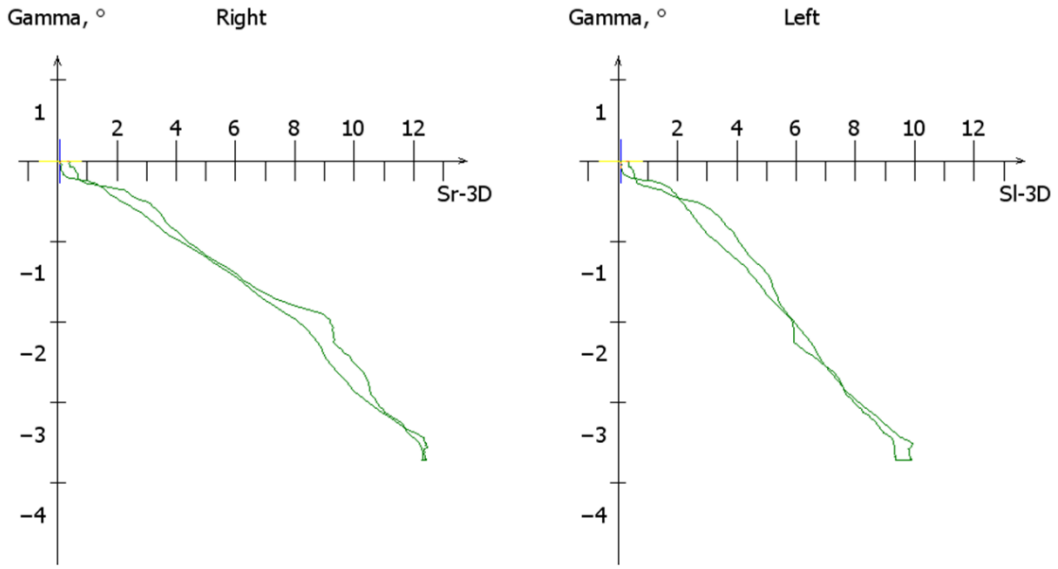
Occlusal plane adjustment for average SCI value: 56° (5 mm)

Cuspal Angle	20°	25°	30°
Balanced Occlusion 1/6	37°	32°	27°
Balanced Occlusion 1/7	46°	41°	36°
Canine protected Occlusion 1/6	28°	23°	18°
Canine protected Occlusion 1/7	37°	32°	27°

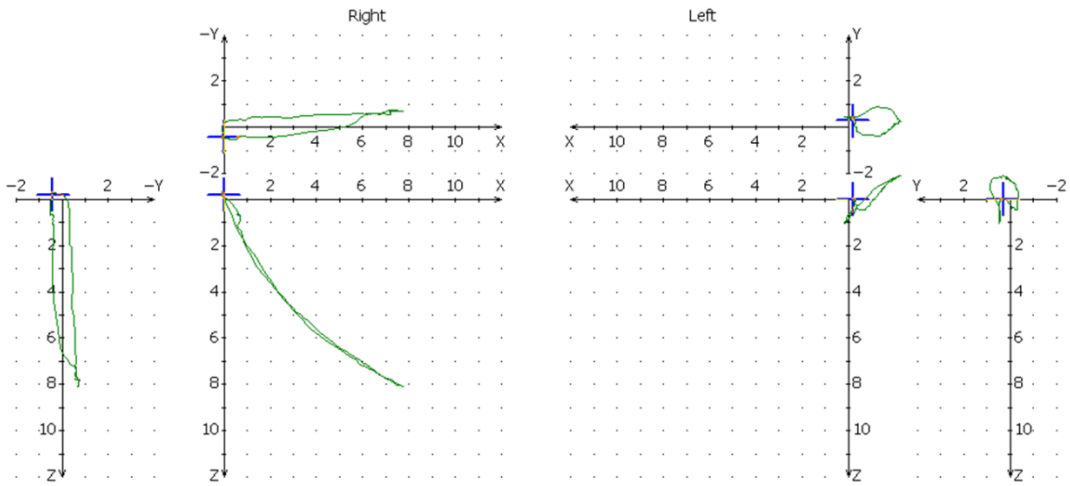
Protrusion-retrusion



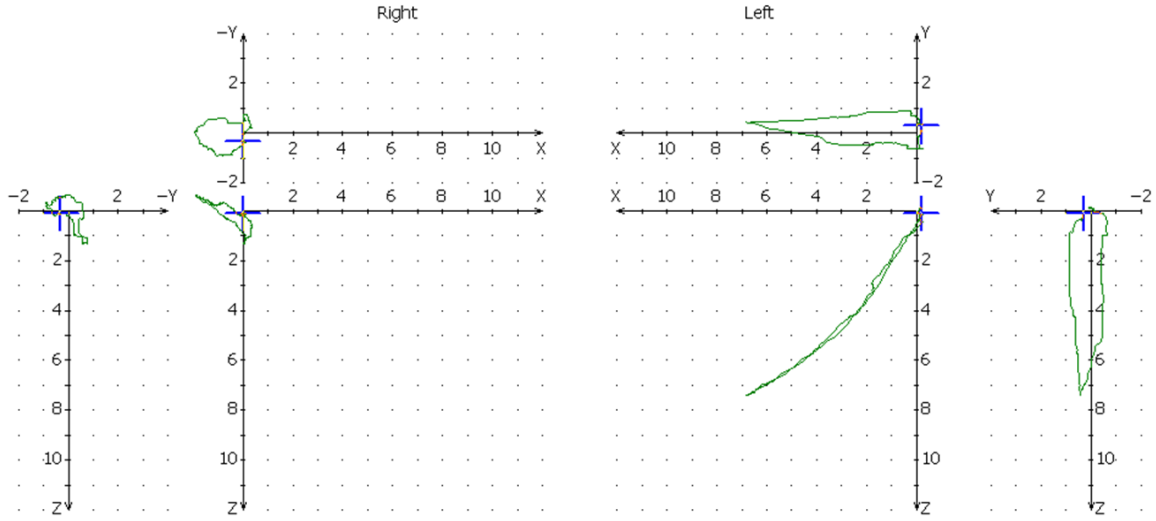
Translation-rotation



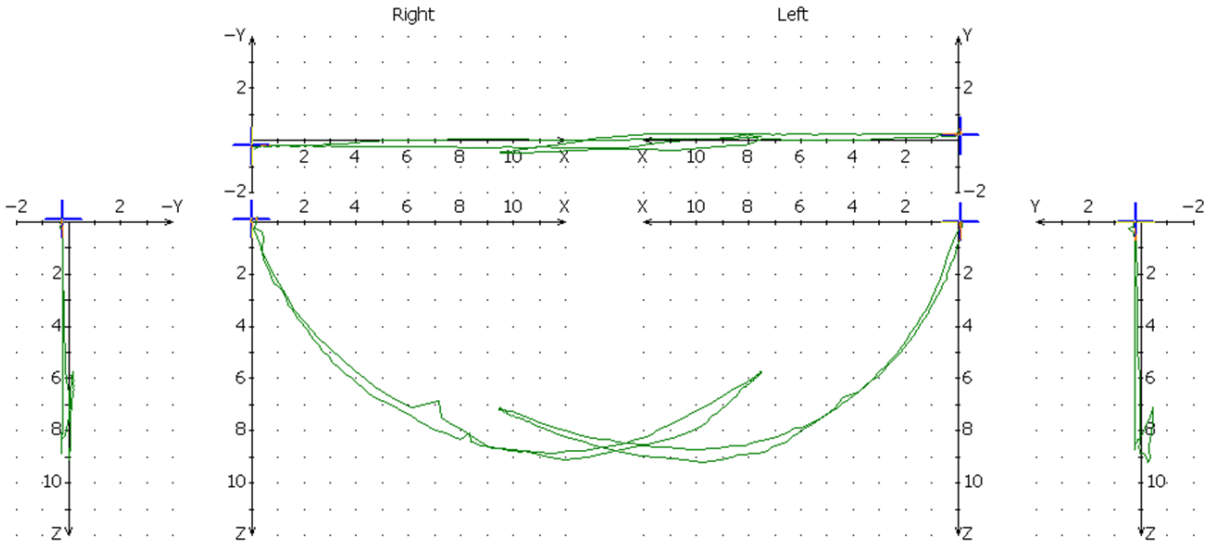
Mediotrusion right



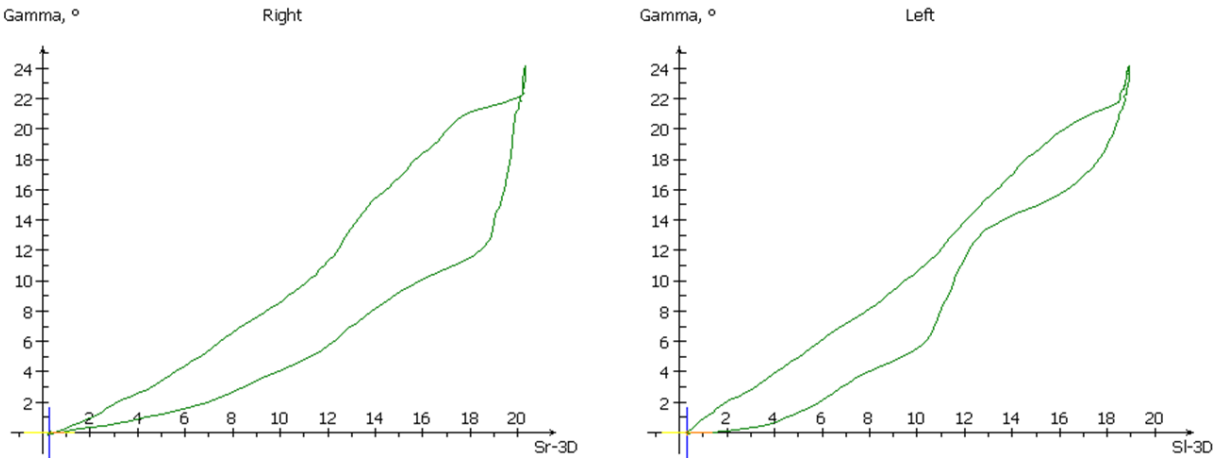
Mediotrusion left



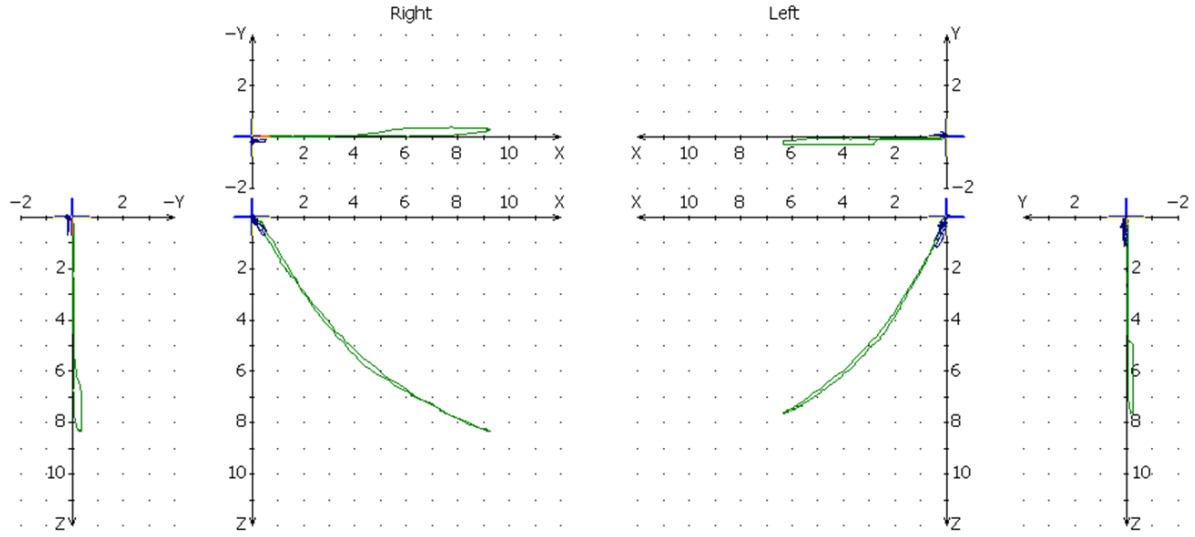
Open-close



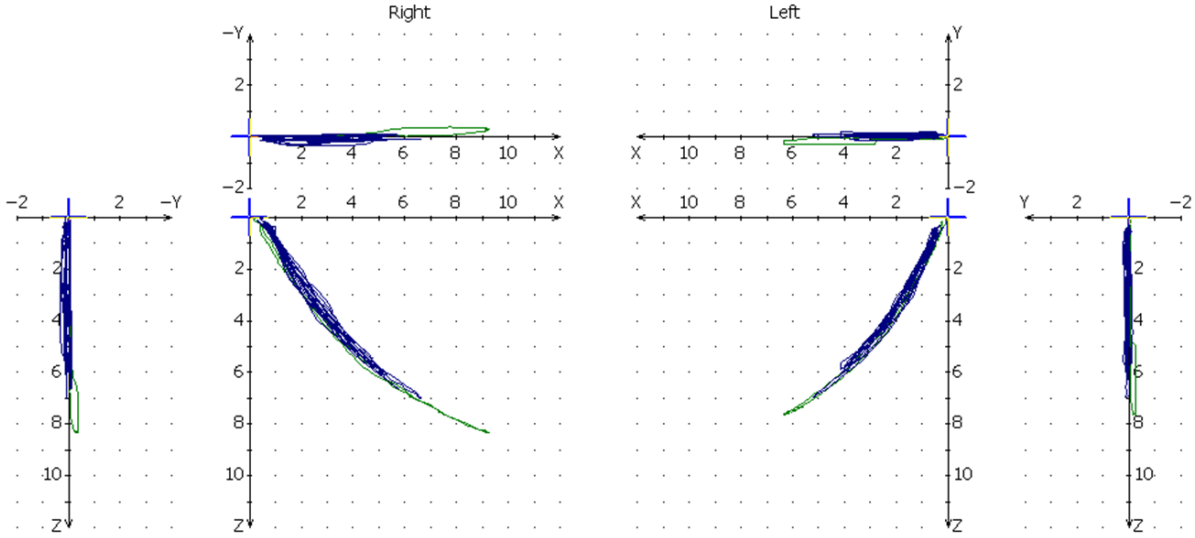
Open-close



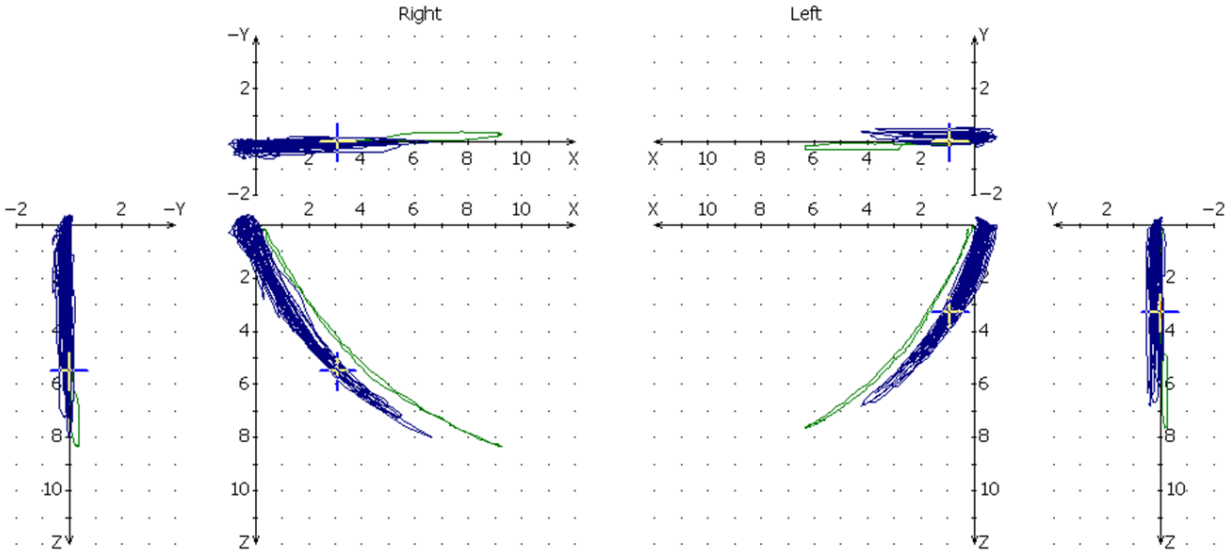
Speech -protrusion



Brux-protrusion



Mastication- protrusion



Cusp tips. Veber Template

Coordinates of Cusp TIps

	Right			Left		
	X	Y	Z	X	Y	Z
1	81,00	4,00	51,00	81,00	0,00	52,00
2	80,00	8,00	51,00	80,00	−6,00	51,00
3	75,00	12,00	51,00	76,00	−11,00	51,00
4						
5						
6m						
6d						
7m						
7d						
8m						
8d						

Gamma Sequence Incisal Table

Condylography values used for calculations
Protrusion at 5 mm: SCI 56,8°
Mediotrusion right at 5 mm: SCI 58,5° TCI 9,3°
Mediotrusion left at 5 mm: SCI 56,3° TCI 9,0°
Suggested sequence table setting
Protrusion element: ORANGE(YELLOW)
Right lateral element: ORANGE
Left lateral element: BLUE

Condylography values used for calculations

Protrusion at 5 mm: SCI 56,8°
Mediotrusion right at 5 mm: SCI 58,5° TCI 9,3°
Mediotrusion left at 5 mm: SCI 56,3° TCI 9,0°
Calculation for incisal table settings : Sequential disocclusion according t
Computed using ideal anterior guidance
Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.
Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.
Failed to compute incisor table settings for ideal postions.

Calculated vertical cusp tip positions

	Right				Left			
	TA	I - Table	T - S1	T - S2	TA	I - Table	T - S1	T - S2
1	56,7°	57°	45°	65°	56,7°	57°	45°	65°
2	56,7°	57°	45°	65°	56,7°	57°	45°	65°
3	46,7°	59°			46,7°	52°		
4								
5								
6m								
6d								
7m								
7d								
8m								
8d								

Occlusal Plane Value

Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.
Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.

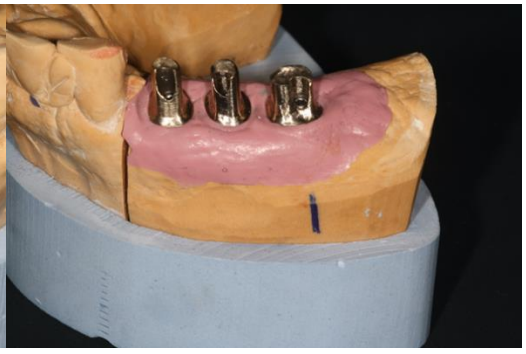
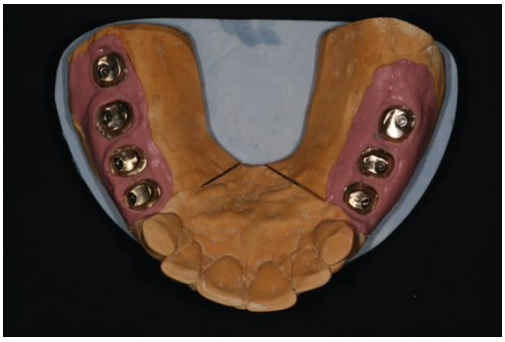
Occlusal plane adjustment for average SCI value: 56° (5 mm)

Cuspal Angle	20°	25°	30°
Balanced Occlusion 1/6	37°	32°	27°
Balanced Occlusion 1/7	46°	41°	36°
Canine protected Occlusion 1/6	28°	23°	18°
Canine protected Occlusion 1/7	37°	32°	27°







Color determination

Final Restorations

Clinical case № 8

Date of birth: 1962

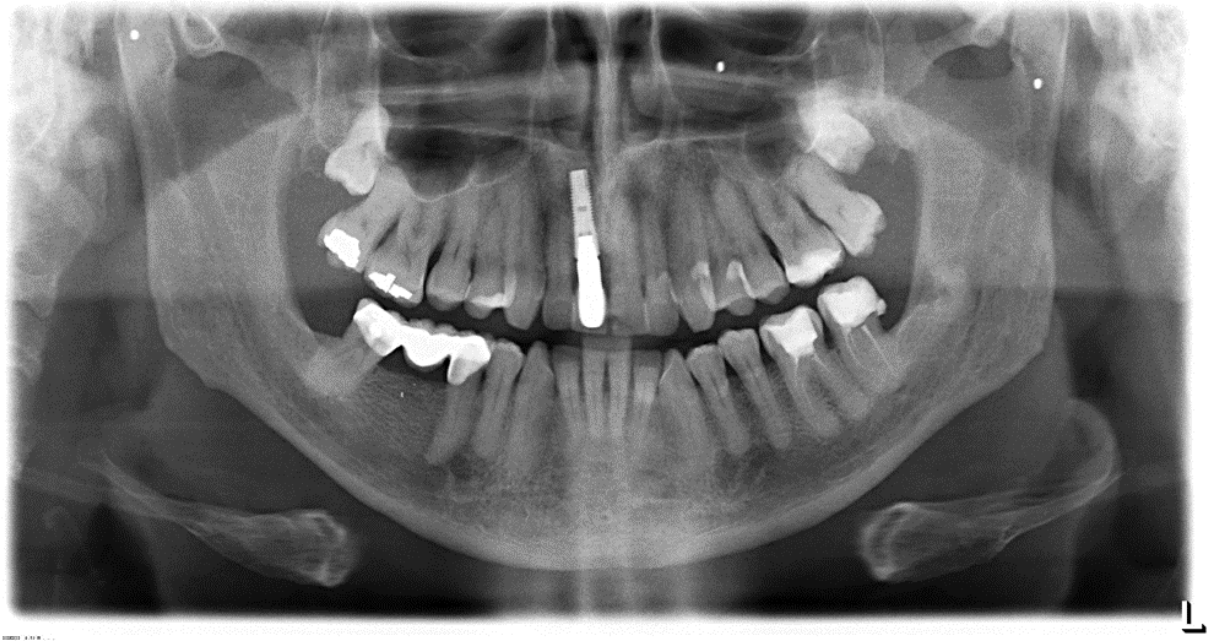
Date of examination: 2010

Chief complain: low chewing efficacy

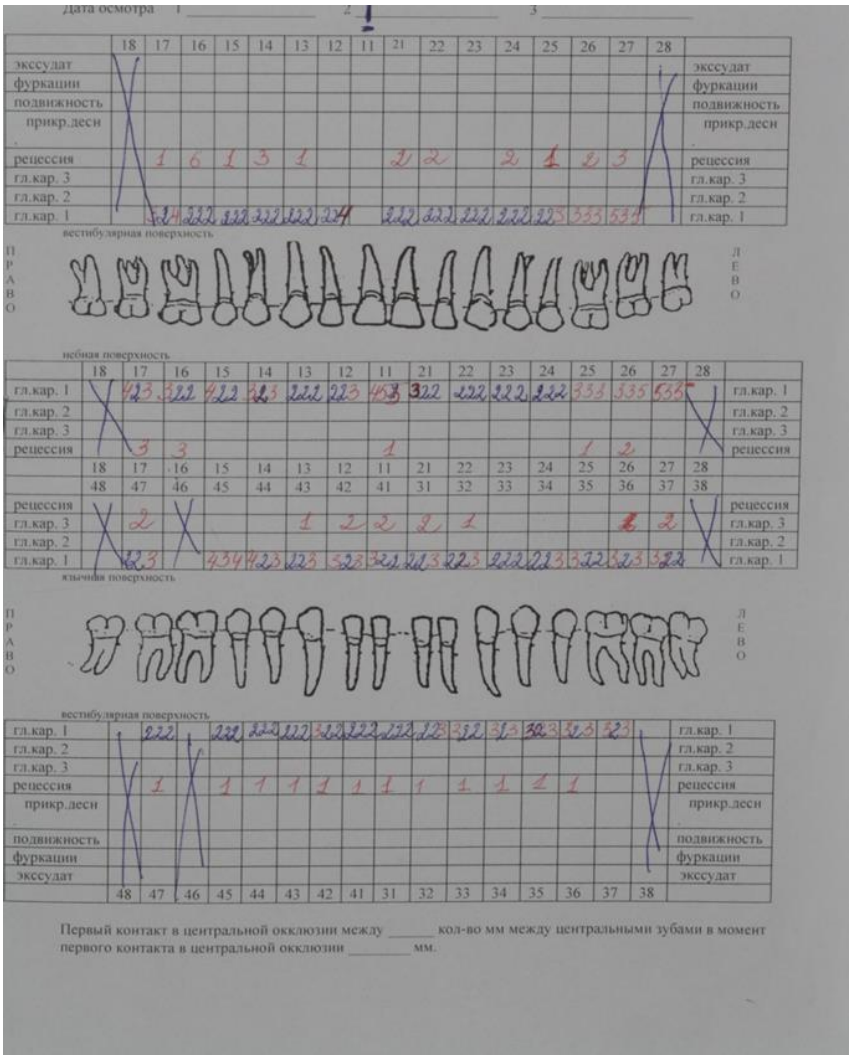
Intraoral photo

RP

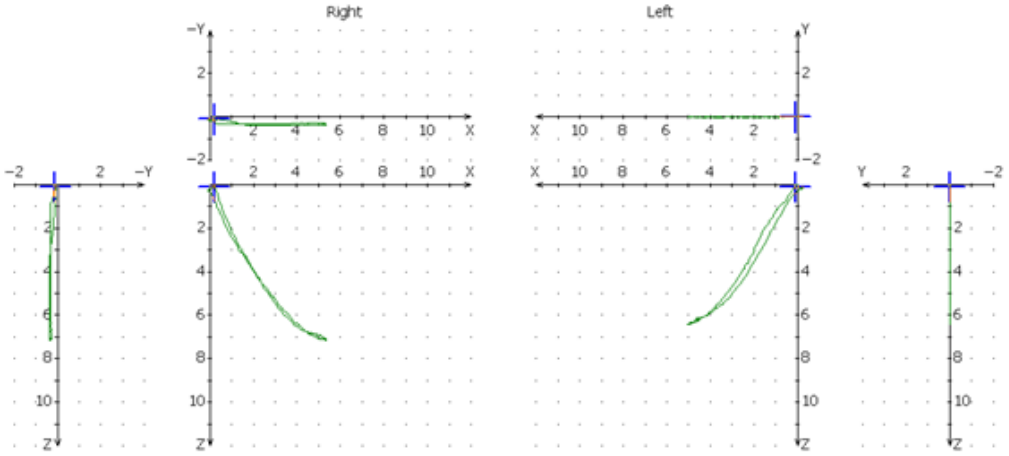
OPG



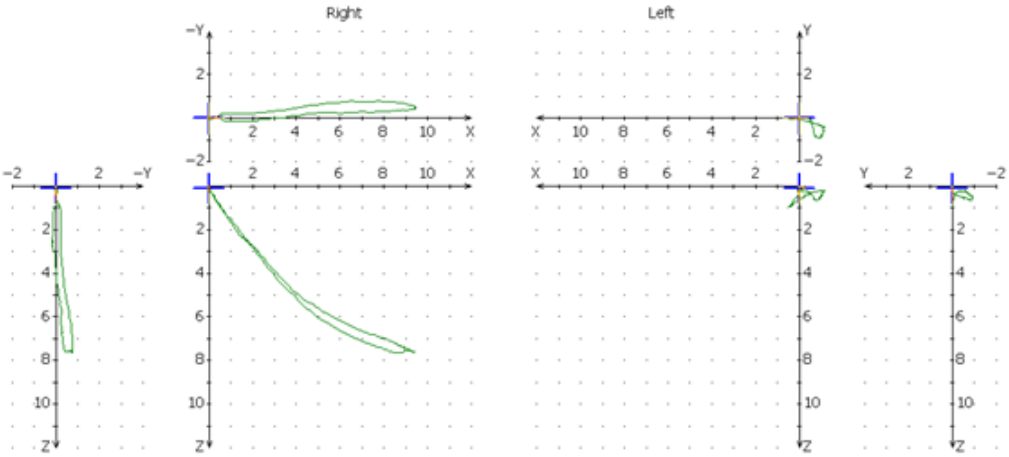
Paradontal examination



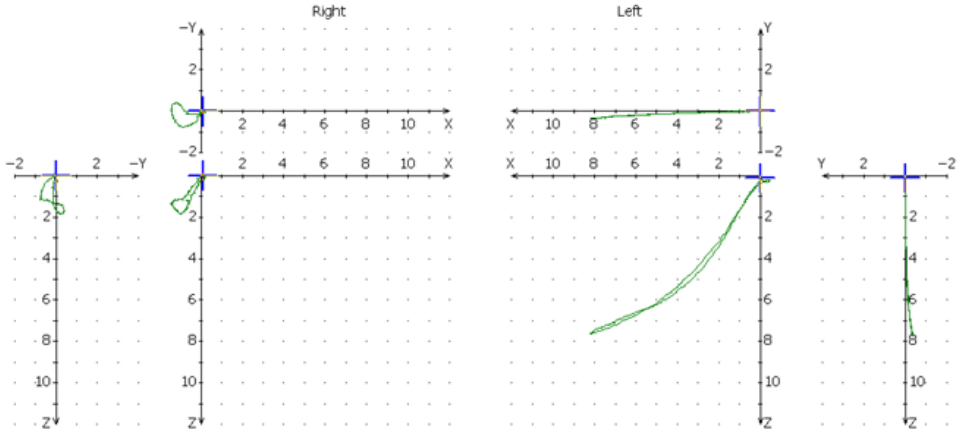
Protrusion



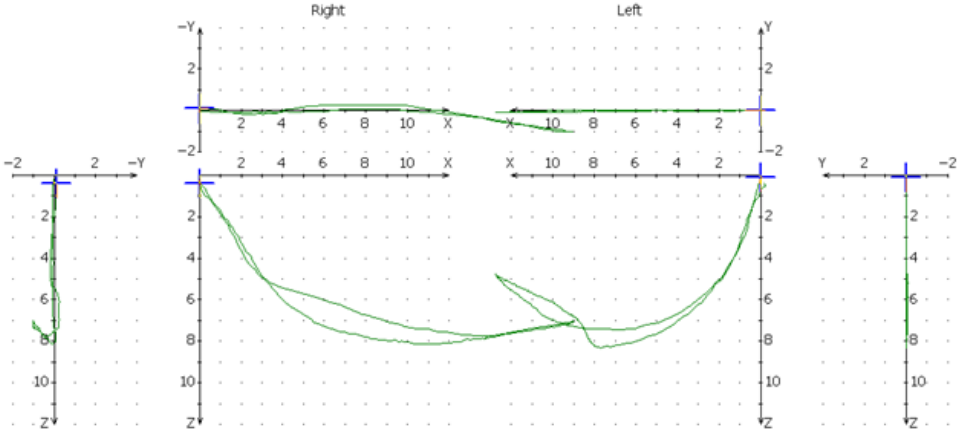
Mediotrusion right



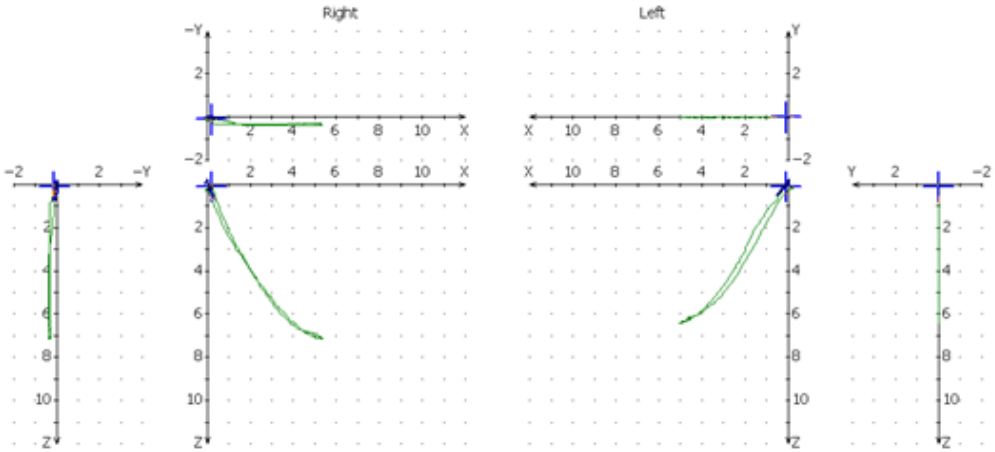
Mediotrusion left



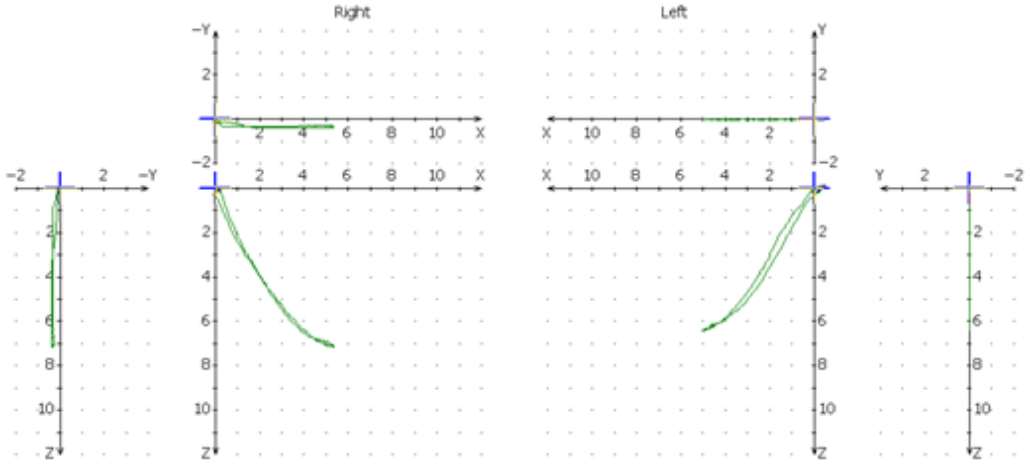
Open-close



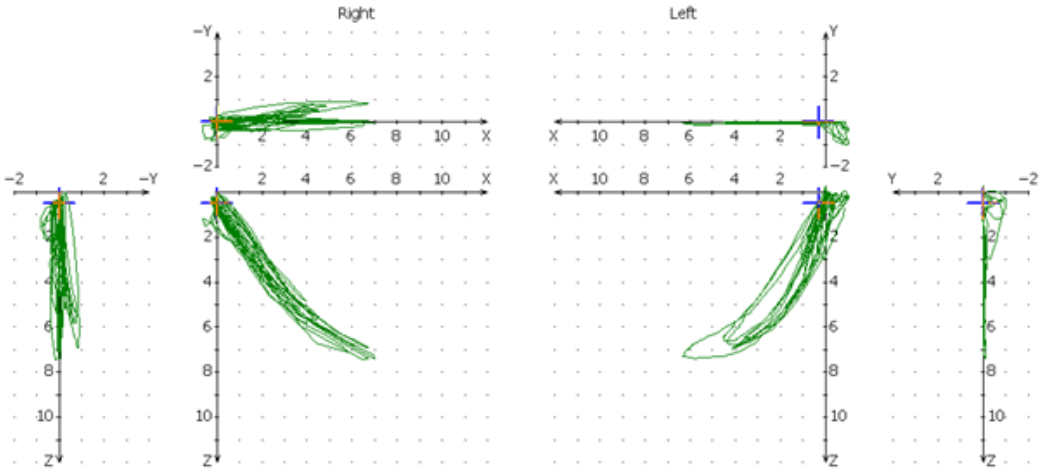
Protrusion- brux



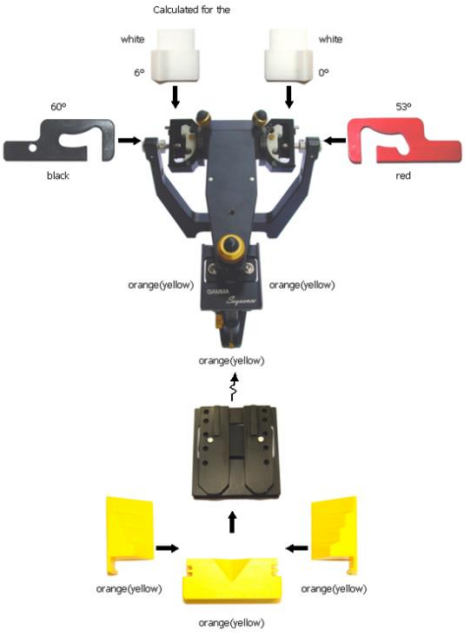
Speech- protrusion



Mastication



Articulator settings



Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	92.2	
Facial Depth	91.5 °	96.0	1+*
Mandibular Plane	21.5 °	21.1	
Facial Taper	68.0 °	62.7	1D*
Mandibular Arc	31.2 °	34.0	
Maxillary Position	65.0 °	63.2	
Convexity	-1.0 mm	-3.0	1V*
Lower Facial Height (by R.Slavicek)	43.8 °	41.8	
Lower Facial Height to Point D	50.3 °	44.2	1-*
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	129.5	
Upper Incisor Protrusion	4.3 mm	3.4	
Upper Incisor Inclination	23.1 °	20.4	
Upper Incisor Vertical	mm	-0.1	
Lower Incisor Protrusion	1.2 mm	1.9	
Lower Incisor Inclination	24.1 °	29.9	
Upper Molar Position	21.0 mm	21.6	
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	9.2	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	17.9	
Distance Occlusal plane - Axis (DPO)	40.9 mm	37.7	
Radius of Curve of Spee	----- mm	85.6	
Lip Embrasure	0.0 mm	0.1	
Occlusal Plane Xi Distance	-1.4 mm	-12.5	2-**
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	61.7	
Horizontal Condylar Inclination left	----- °	56.7	
Horizontal Condylar Inclination	----- °	59.2	
Relative Condylar Inclination	----- °	49.9	
Relative Condylar Inclination 6	----- °	39.4	
Relative Condylar Inclination 7	----- °	34.2	
Relative Condylar Inclination 8	----- °	59.2	
Anterior Guidance (S-AOP)	----- °	54.7	
Relative Anterior Guidance	----- °	45.5	
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-5.3	1-*

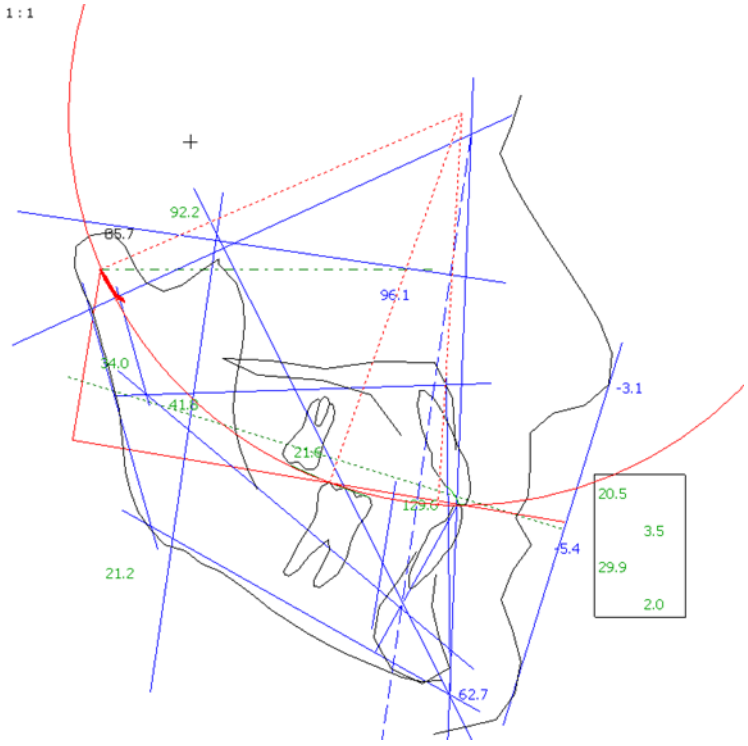
- Asymmetrical case
- Lower facial height – normal
- Occlusal plane 9 degrees
- Class III, maxilla – neutral position, mandibulae- stark prognathic
- All other dates normal
- 59-9 = 50 – 30 = 20 Low chewing efficacies
- For 36 RCI6 is 39. 39-30=9 DOA for 36
- Anterior Guidance = normal

Slavicek Interactive Verbal Analysis

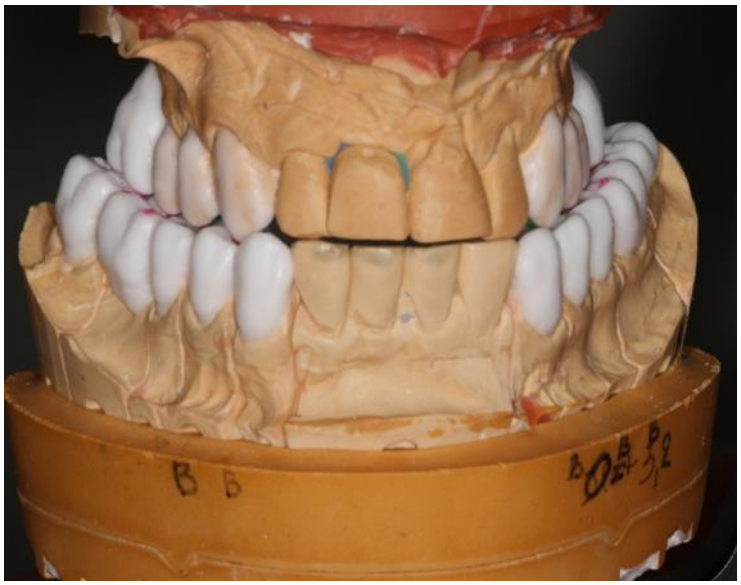
The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is mesiofacial
Skeletal class is III
The maxilla is positioned neutral
The mandible is positioned stark prognathic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is normal
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is normal
Occlusal concept: Tendency to group function
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	92.2	
Facial Depth	91.5 °	96.0	1+*
Facial Taper	68.0 °	62.7	1D*
Mandibular Plane	21.5 °	21.1	
Related Values	**Norm**	**Value**	**Trend**
Bjoerk Sum	396.0 °	389.6	2-**
Facial Length Ratio	63.5 %	69.9	3+***
Y Axis to S N	67.0 °	66.4	
Y Axis (Downs)	61.8 °	56.5	1-*
S N to Gonion Gnathion Angle	31.6 °	29.6	



WAX-up



Treatment plan

- Secondary adaptation – increase in vertical size, positive rotation of the mandible and growth of the condylar process cephalad upward. DPO increases, the curve of Spee decreases. This is Ortlieb's rule.
- Crowding of incisors is part of the compensation. This is not an anterior-posterior problem, but a vertical dimension problem due to mismatched posterior teeth, over-eruption of molars, and condylar growth.
- Flattening of the occlusal plane. If the molars are crowded, it is called a posterior discrepancy. The result of posterior discrepancy is over-eruption of the upper molars and mesial inclination of the posterior teeth. Did not erupt 18, 28.
- If at the beginning of treatment, you try to move the lower jaw back by hand, it will be impossible. But after flattening the occlusal plane and removing the dome-shaped teeth, the lower jaw moves back.
- • If we have abnormal lateral displacement of the mandible, we should do a frontal cephalography.

DS:

- Crossbite
- Class III malocclusion.
- different vertical dimensions on the right and left (shift to the right)
- mesial inclination of the upper and lower molars with excessive eruption
- Muscle palpation: Posture, avoidance pattern, retractors, CMS,
- Class III, upper jaw – neutral position, lower jaw – sharp prognathic position.
- All other dates are normal
- SCI –OPI = RCI –CuI = DOA = 59-9=50 – 30 = 20 Low chewing efficiency
- For 36, RCI 6 is 9. 39-30 = 9 DOA for 36.
- Anterior guidance = SCI+10 = 59+10 = 69 is normal, maximum average value is 70 and in our case AG = 54.

Task

1. Frontal radiography to determine MLD.
2. MRI of the TMJ.
3. Is it worth doing a group function and doing diagnostic grinding 22 and 12.
4. Diagnostic wax-up using the VEBER template – canine guidance, anterior control, guidance at 14,15,16, 24,25,26.

Condylography data:

Recording was carried out from Reference position.

- Protrusion – retrusion: shift of the right joint by 0.2 mm to the right, the left TMJ moves strictly in a straight line. Closing occurs in resurtrusion, and then the head slides forward. The movement is reproducible. This is Derange Reference Position. Since after a displacement along the y-axis by 0.2 mm to the right, a relatively symmetrical movement occurs. In Reference Position there should be a shift along the Y axis of 0.2 mm to the left and 0.3 mm back along the X axis. A line of protrusion on the line of retrusion is the norm, but the work of the retractors is enhanced.
- Is the loop at the end of the movement work? digastric muscle, which is also noted upon palpation of the muscles.
- Right mediotrusion is irreproducible. on the time curve, the teeth are small, similar to muscle problems, and if you look at the time, the acceleration occurs when closing from 4 mm to 2 mm, the speed changes from -2mm/sec to - - 28 mm/sec. And when opening, at 2.5 mm of protrusion there is a sharp increase in speed from 6 mm/s to 43 mm/s. And also, the closing trajectory is above the opening trajectory.
- These are ligaments or muscles So, this is anteromedial displacement of the disc, possibly with reduction. If we consider the movement during protrusion, then we can assume anterior and medial displacement of the disc, and this position of the disc gives an even trajectory of movement of the head of the joint on the right during right mediotrusive movement.

- Left mediotrusion- negative Bennett. There is retrusion in the right joint. Obstacle avoidance mechanism. In the left joint there is anteromedial displacement of the disc without reposition, as with disc adhesion. The trajectory is straight.
- Opening-closing-hyperrotation, and crossing at the end of the trajectory-control of the SMS muscles. Palpation confirms. Pain in the lateral pterygoid superior head, temporalis muscle and deep masseter. According to Sato's dates it is shifted left side. On the shifted side occlusal plane is steeper, on condylographic open-close movement it is steeper like II class malocclusion, and with negative Bennett. On non-shifted side here, right side - the OP will be flatter like III class malocclusion, SCI straighter, shift at the beginning.
- Bruxism-Protrusion. Bruxism in the left TMJ lies on protrusion and resurtrusion occurs. And on the right side of the TMJ, bruxism occurs with a retrusion movement - the head is pressed against the posterior joint space. This disrupts the hydraulic balance and blood supply to the joint.
- Speech – protrusion-retrusion. When these two movements are superimposed, speech instead of protrusion by 2 mm occurs in resurtrusion, i.e. There is also pressure on both sides of the TMJ: the head of the joint is pressed backwards and upwards.
- The therapeutic position should be when both heads of the TMJ are moved forward 0.5 mm forward along the X axis and 0.5 mm down along the Z axis on the left and 0.5 mm along the X axis forward and down 0.5 mm along the Z axis on the right and 0.2 mm to the right along the Y axis. The question remains about the reciprocal click on the right. If it is, then the therapeutic position is 2 mm forward to the right along the X axis.

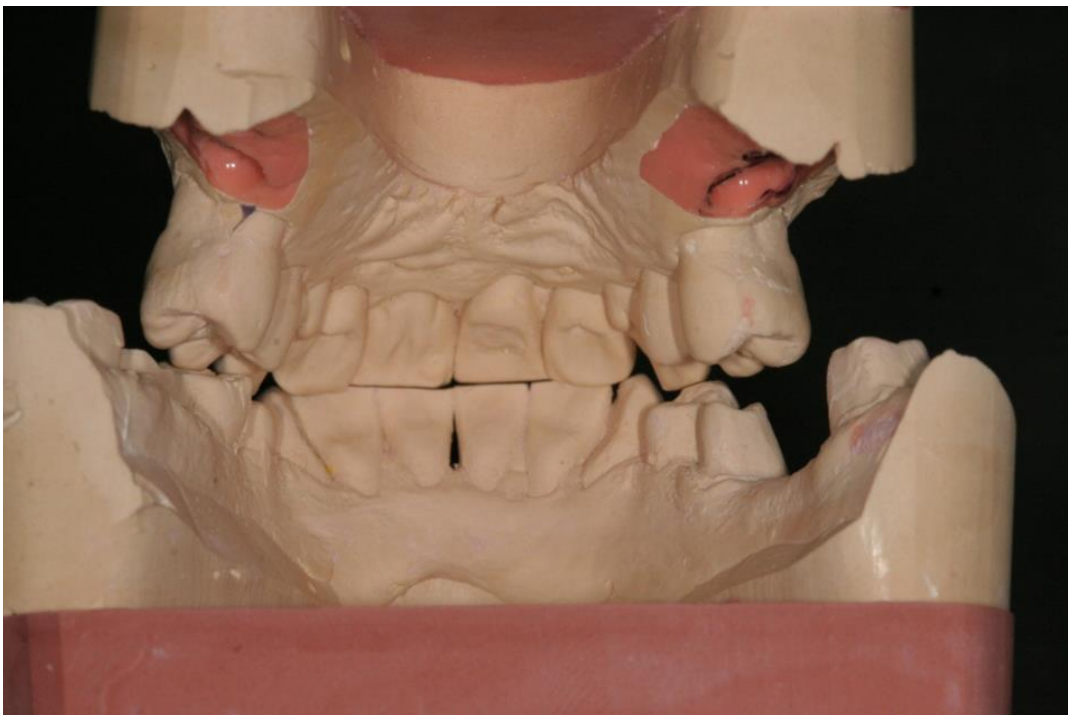
Professors' comments

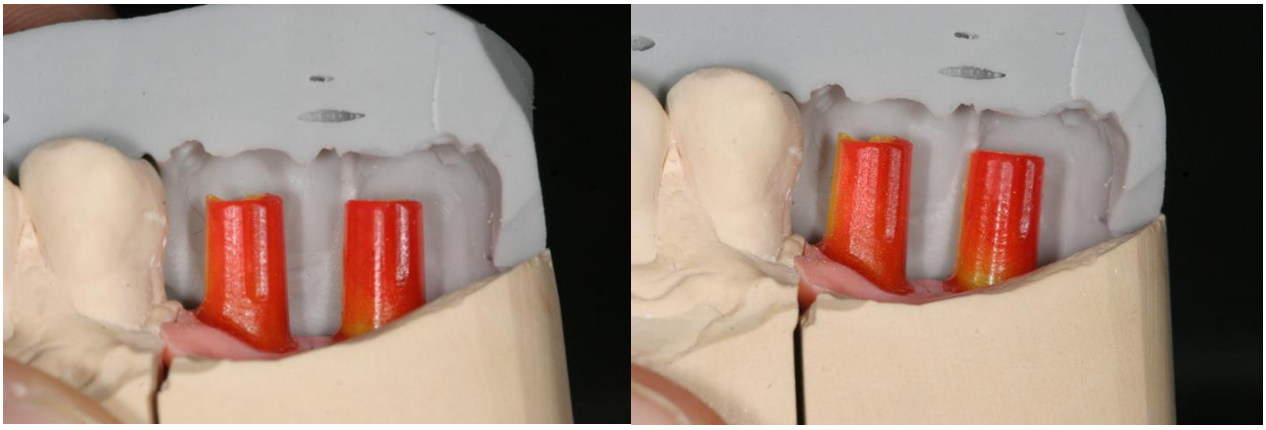
- Sagittal and transverse discrepancy
- 3rd grade

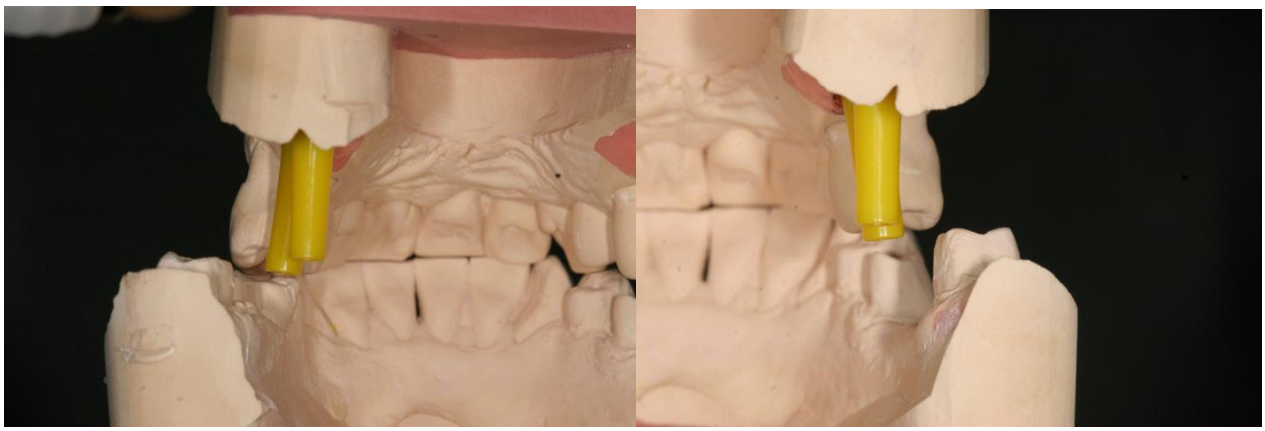
- Protrusion-retrusion overlap - medio R and L – Open-close = 20 degrees angle – condyle shape problem
- Medio Left =53 true flat motion, no rotation, only translation to 7 mm = 20 degrees of rotation
- Open-close SCI left = 71 degrees, R = 56 degrees
- The shape of the left condyle is abnormal.
- Secondary compensation – for posterior occlusion.
- The larger the problem in the back teeth, the worse the SCI.
- Compensation
- The more the jaws move forward, the more we act.
- Reconstruct the upper implants 16 and 26,36
- Crowns 14,15,16,24,25,26,35,36,37,45,46,47 in crossbite
- Avoid touching canines and incisors (2.2 stay in crossbite)
- Enlargement of bone structures not with the help of sinus, but with the help of bone augmentation

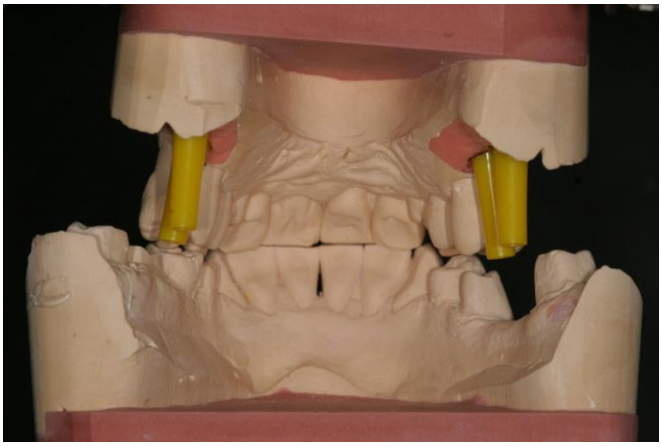
Treatment plan

- Diagnostic wax-up: class III and cross –versa bite from the right and left side to the canines.
- Remove 18, 17, 16, 28, 27, 26
- Implantation 17,16, 26, 27
- We do not prepare canines and the frontal group of teeth of the upper and lower jaws (2.2 stay in cross bite)
- Increase the bone structures not with sinus, but with bone augmentation
- Treatment goals
- Level sagittal and transversal discrepancy
- III class
- Change the angle of disocclusion



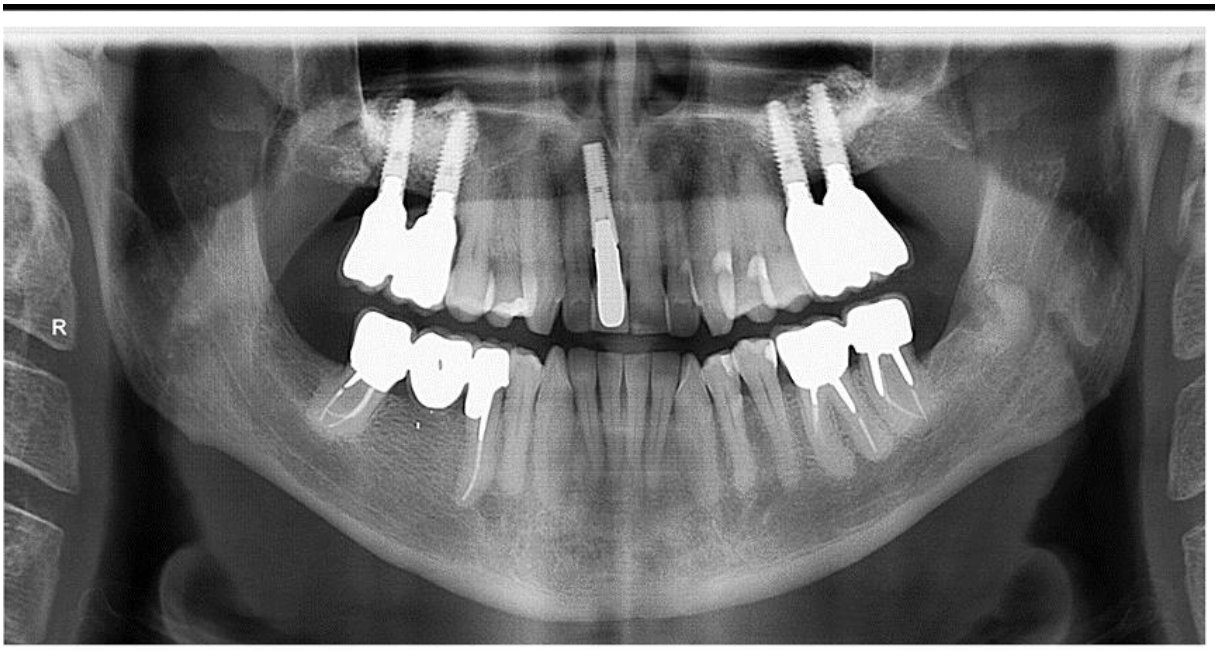






Final result

May, 2013



Clinical case № 9

Patient`s birth date: 1961

Date of examination: October, 2009

Main concern: decreasing of chewing efficacy, esthetics, pain

Clinical functional analyses (1/6)

Main concern: esthetics, absence of tooth, decreasing of chewing efficacy, pain

Intraoral photos

Reference position

Clinical functional analyses (2/6)

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

	yes	no			
1.	Infections		X	7.	Urogenital problems
2.	Cardio-vascular systems		X	8.	Central nervous system dysthony
3.	Respiratory systems		X	9.	Psychological problems (theraphy)
4.	Digestive systems		X	10.	Rheumatic disease
5.	Metabolic systems		X	11.	Hormonal disease
6.	Allergies		X	12.	Special problems

Main concern

Clinical functional analyses (3/6)

Dental History Analysis

		valuation
1.	Do you have problems when you chew?	3
2.	Do you have problems when you are talking?	
3.	Do you have problems in closing your teeth properly?	2
4.	Are any of your teeth especially sensitive?	
5.	Do you have a problem when you open your mouth very wide?	
6.	Do your jaw joints make noise and if so, on what side?	2
7.	Do you have pain in the area of your jaw joints?	
8.	Do you suffer from headaches?	
9.	Do you suffer from cramps or spasm in your head, neck or throat?	
10.	Do you have in general problems with your posture?	
	Occlusal Index	2.33

11.	Have you ever had a serious accident?
12.	Did you have one or more oral intubations?
13.	Have you ever had orthodontic treatment or...
14.	Have you had a treatment with a splint?
15.	Are you grinding or pressing with your teeth?
16.	Do you think that treatment is necessary?
17.	Do you think that there is a serious disorder or illness?
18.	When was the last time you had dental treatment and what was done?

3,5 years ago

19. How would you describe your psychic behaviour?

[X] happy [ ] sad [ ] calm [ ] excited [ ] self-controlled [ ] lack of self c

Clinical functional analyses (4/6)

1, 2, 12 Posture

4a. Closing

15. Joint position

Muscle Diagnosis

		right		left	
		+	++	+	++
1.	shoulders and neck	X			
2.	atlanto-occipital region	X			
3.a	M.temporalis ant.				
3.b	M.temporalis med.				
3.c	M.temporalis post.				
4.a	M.masseter (superficial)	X			
4.b	M.masseter (deep)				
5.	Tuber maxillae				
6.	M.pterygoideus medialis				
7.	M.mylohyoideus				
8.	M.digastricus				
9.	suprahyoidale M.				
10.	infrahyoidale M.				
11.	Larynx				
12.	M.sterno-cleido-mastoideus	X			
13.	M.omohyoideus				
14.	Tongue				

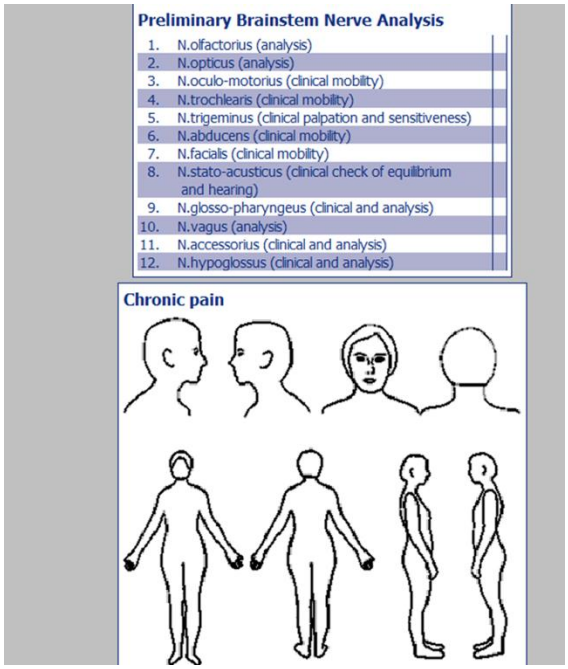
		right		left	
		+	++	+	++
15.	comparative palpation of jaw joints				
	a) lateral poles, statically	X			
	b) lateral poles, in rotation		X		
	c) retral joint space		X		
	d) Lig.temporo-mandibulare				

Muscle palpation

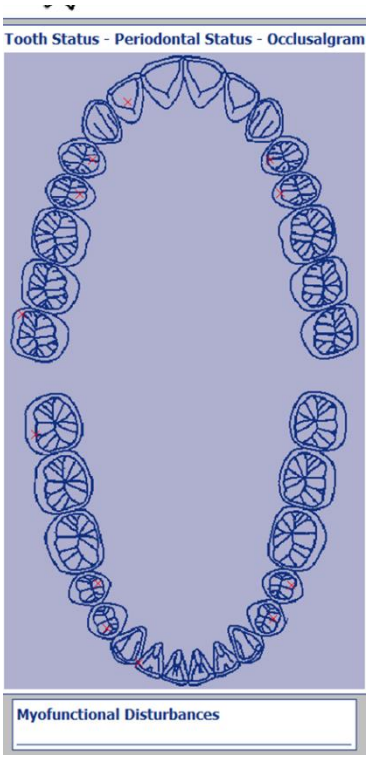
Movement	Muscles
Posture	1, 2, 7, 12, 13, 14
Closing	3a, 3b, 4a, 4b, 5
Opening / Protraction	8, 9, 10
Retraction	3c, 8
Medio-/Laterotraction	6, 3a, 4a
Hyoid-Position	8, 9, 10, 11, 13
Functions	7, 8, 9,10, 11, 14

POSTURE, Medio-/Laterotraction

Clinical functional analysis (5/8)



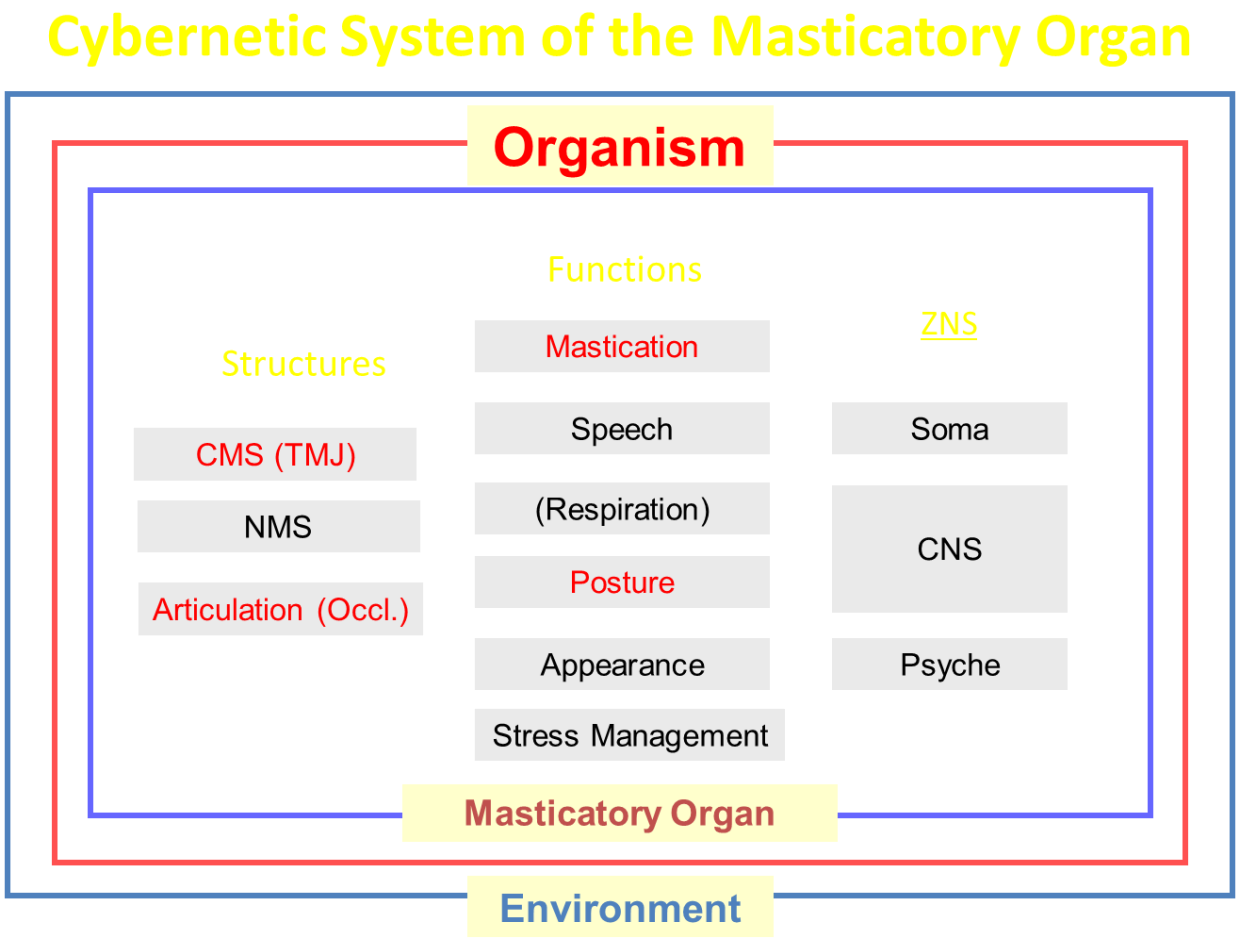
Clinical functional analysis (7/8)



Conclusion

- Occlusal index is 2,33, is not balanced to objective findings (muscles, TMJ).
- First occlusal analysis doesn't support bruxing habit and the possible (causal) relation between symptoms and occlusion.
- Indication is given for further functional analysis (Condylography, Cephalogram, Cast Analysis.

Cybernetic System of the Masticatory Organ



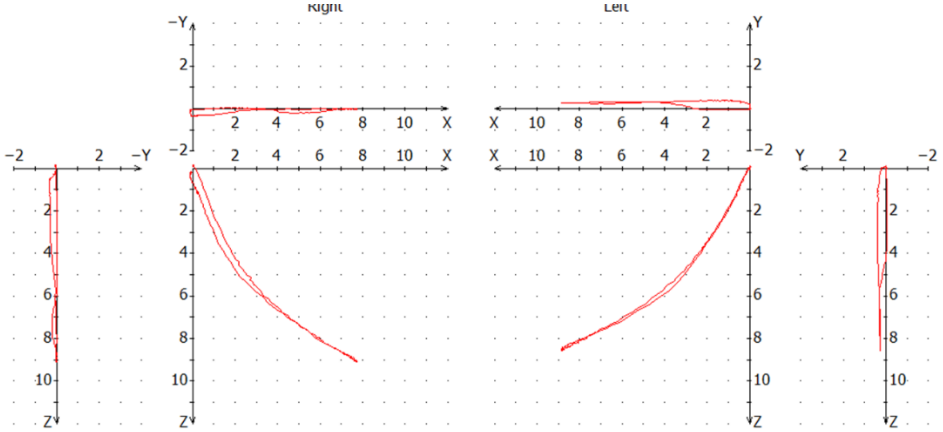
Condylography. Protrusion- retrusion

Shift to the right

Muscles - protractors activity

Delta Y MLT 0,3 mm to the right side Start and end point are not coincident- not fixed reference position

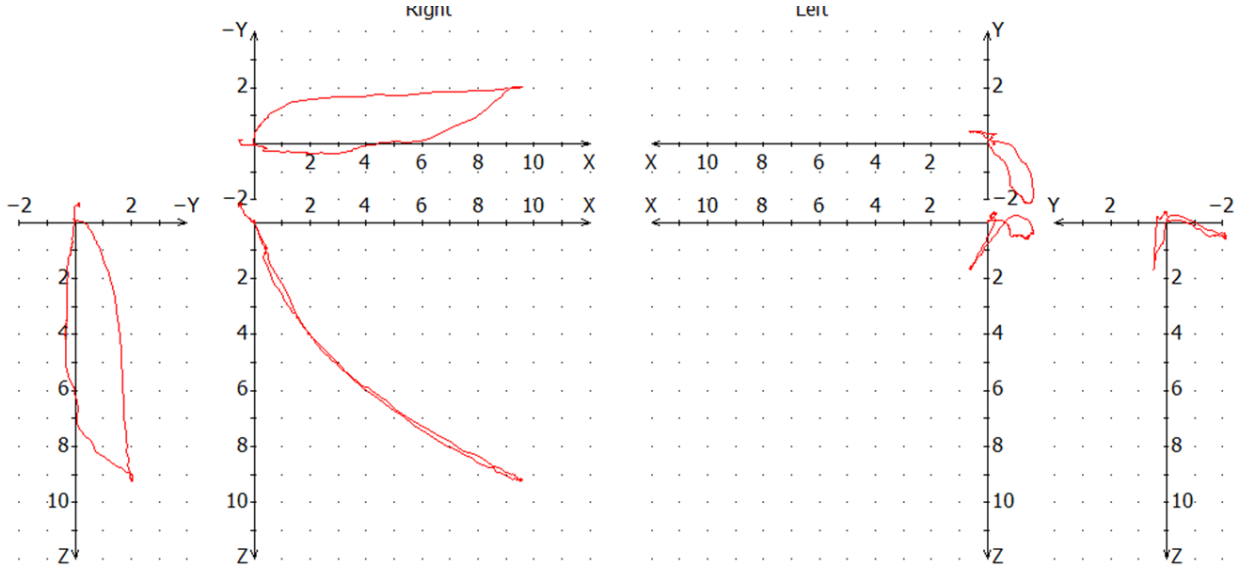
Double pick on time curve for both sides on the 4- th mm of movement



Condylography. Mediotrusion right

Mediotrusive side – avoidance pattern on the backway.

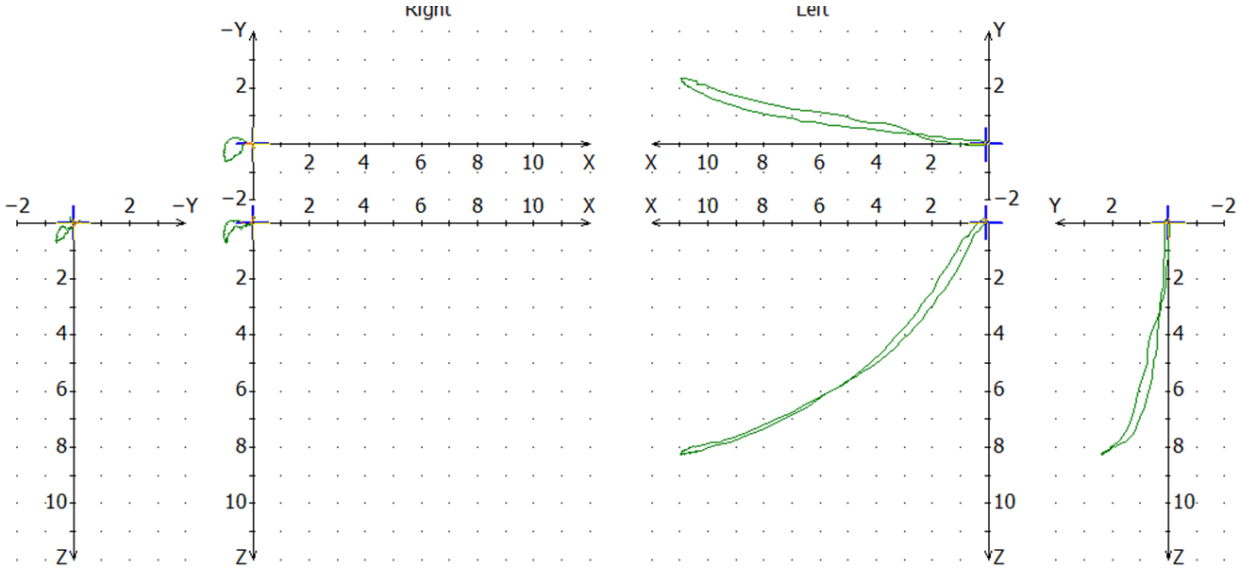
Laterotrusive side – redetrusion, avoidance pattern**.**



Condylography. Mediotrusion left

Mediotrusive side – laterally displaced disk or avoidance pattern.

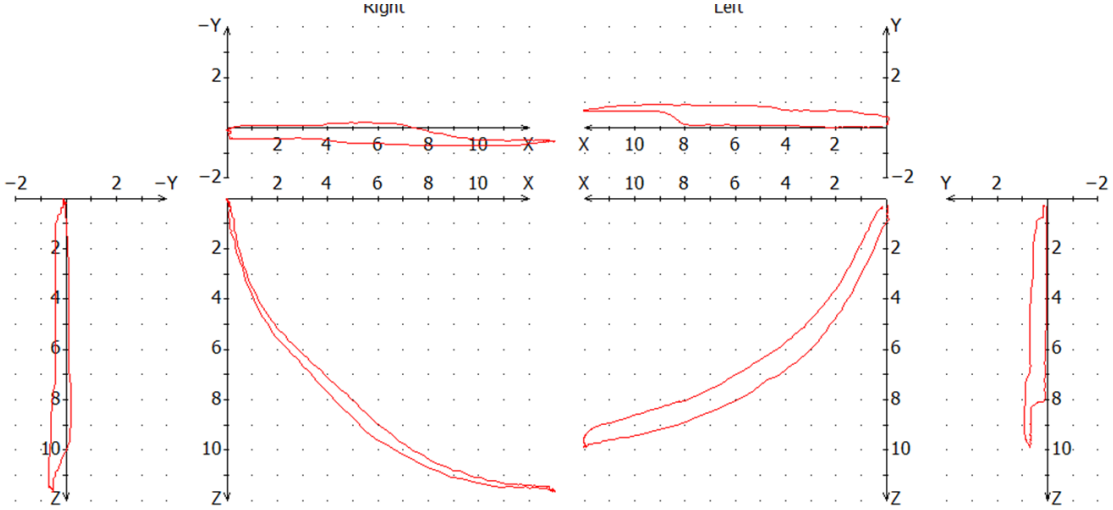
On the right-side avoidance pattern or medially displaced disk.



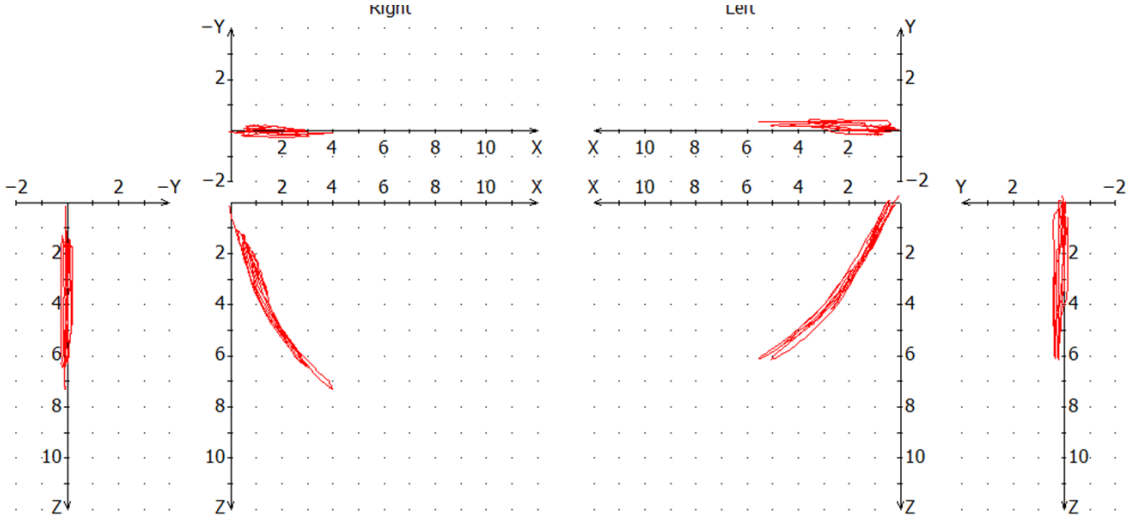
Condylography. Open –Close

Loose ligaments, range of movements increased, over rotation of mandible

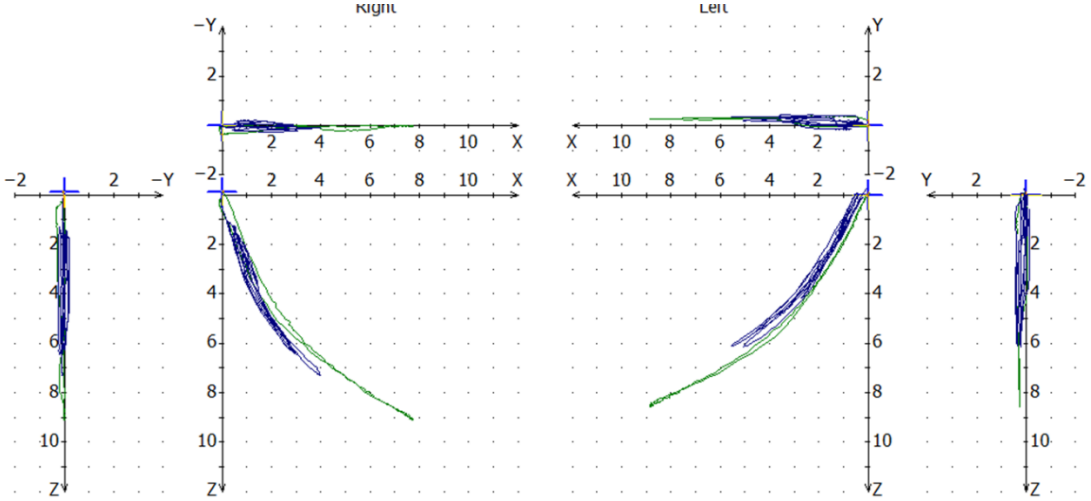
Delta Y MLT 1 mm to the right



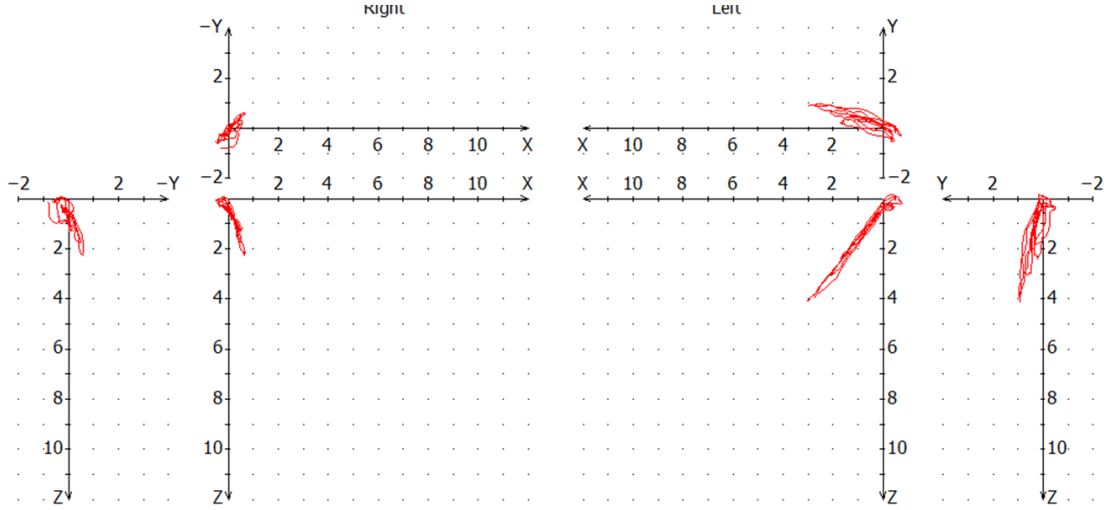
Speech



Protrusion -speech



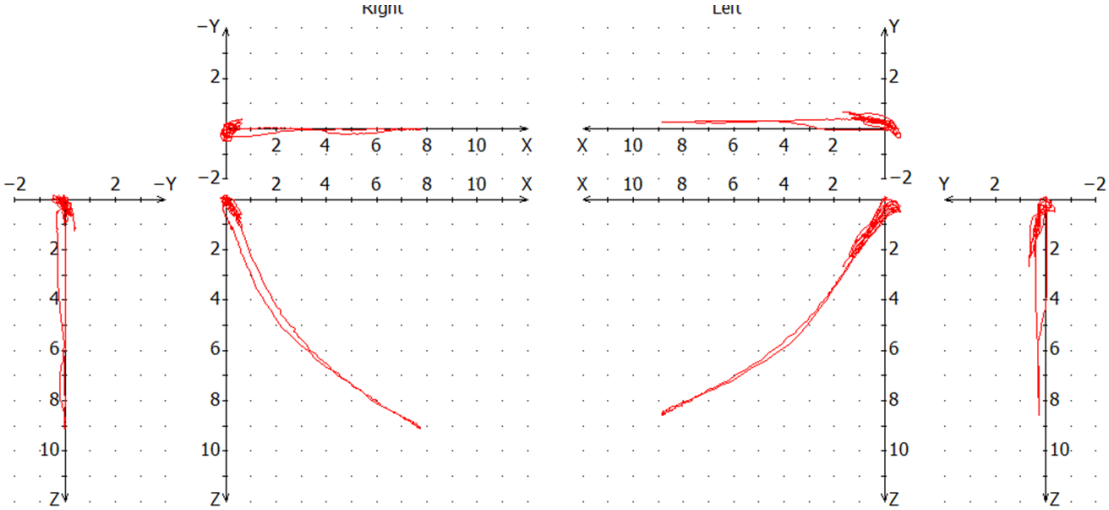
Brux



Brux- Protrusion

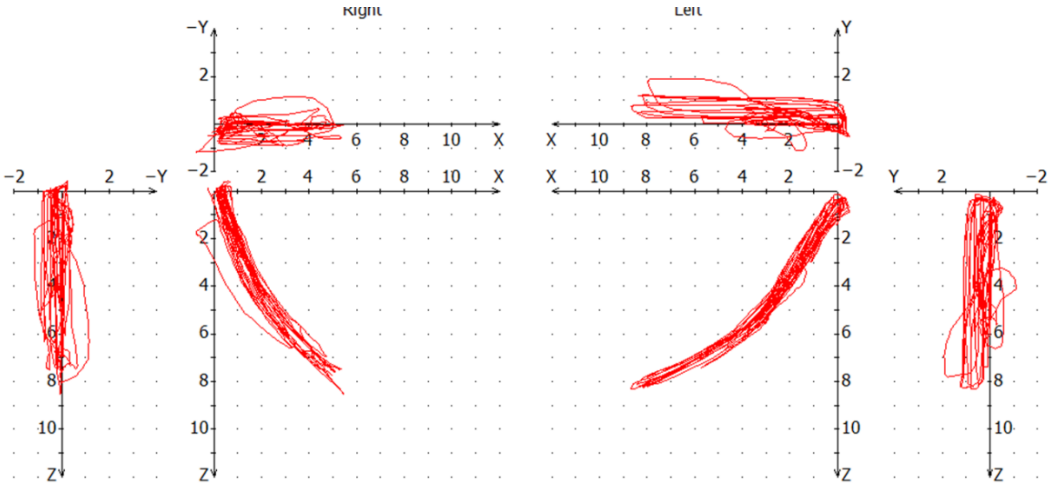
On the right side – compression of the disk forward.

On the left side – compression of the bilaminar zone.



Mastication

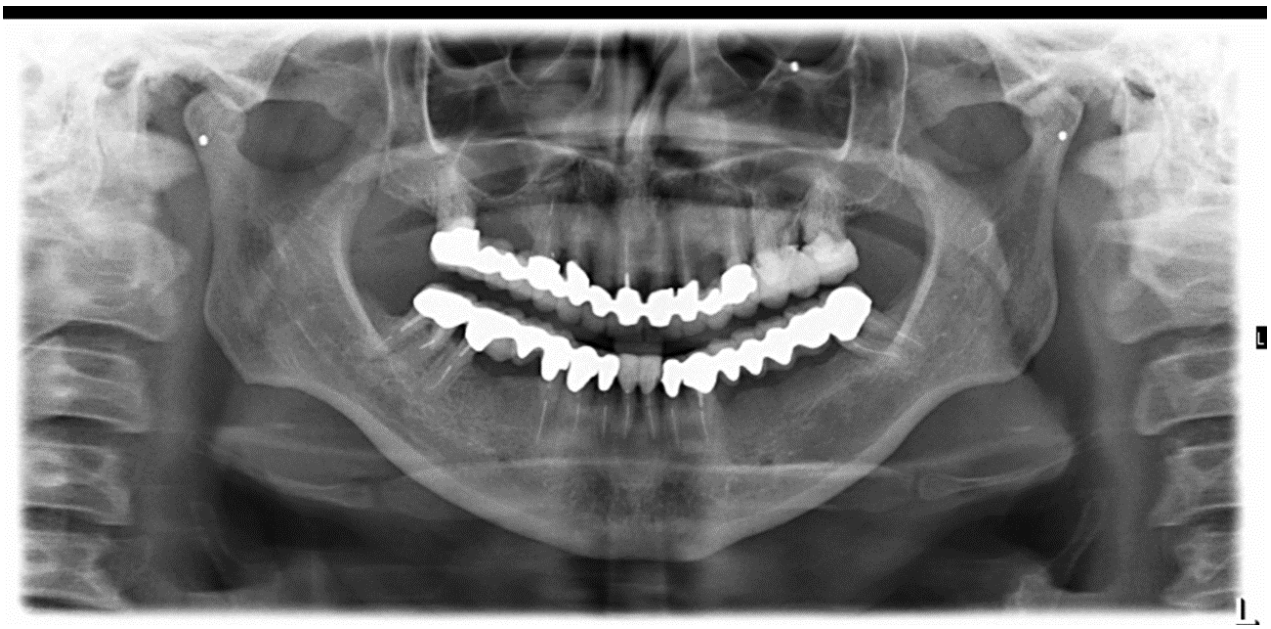
Shift to right side.



Summary: Condylography

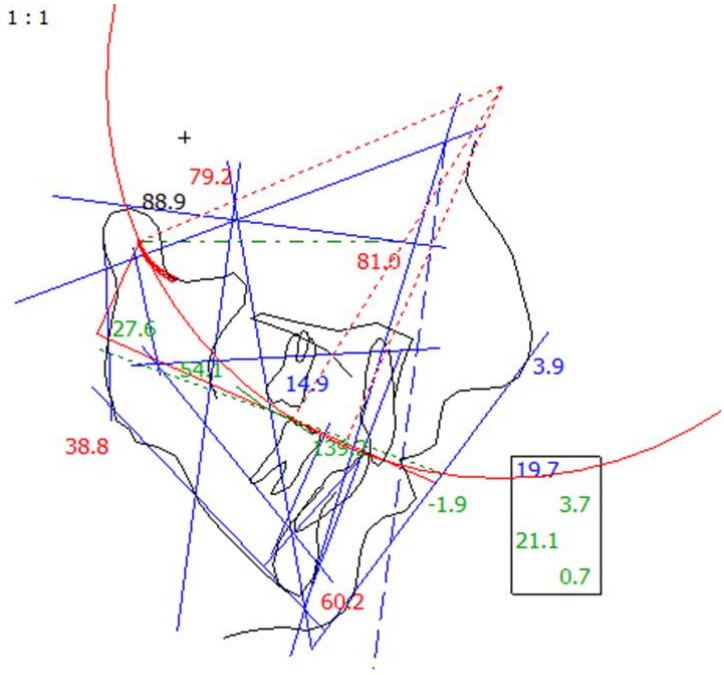
- Morphology of both condyles is not satisfying, avoidance pattern
- Ligaments are normal, muscle discoordination
- SCI normal

X-ray intermediate



Cephalometry

Cephalometry



Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	79.2	3D***
Facial Depth	89.0 °	80.9	2-**
Mandibular Plane	24.0 °	38.8	3D***
Facial Taper	68.0 °	60.2	2D**
Mandibular Arc	29.0 °	27.5	
Maxillary Position	65.0 °	61.0	1-*
Convexity	0.0 mm	3.8	1X*
Lower Facial Height (by R.Slavicek)	49.9 °	54.0	
Lower Facial Height to Point D	56.4 °	59.0	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	131.3 °	139.2	
Upper Incisor Protrusion	5.6 mm	3.6	
Upper Incisor Inclination	26.4 °	19.6	1-*
Upper Incisor Vertical	mm	1.6	
Lower Incisor Protrusion	0.9 mm	0.6	
Lower Incisor Inclination	22.3 °	21.1	
Upper Molar Position	18.0 mm	14.8	1-*
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	23.7	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	21.2	
Distance Occlusal plane - Axis (DPO)	40.9 mm	23.0	2-**
Radius of Curve of Spee	----- mm	88.8	
Lip Embrasure	0.0 mm	-1.8	
Occlusal Plane Xi Distance	-1.4 mm	0.6	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	63.5	
Horizontal Condylar Inclination left	----- °	56.1	
Horizontal Condylar Inclination	----- °	59.8	
Relative Condylar Inclination	----- °	36.0	
Relative Condylar Inclination 6	----- °	24.8	
Relative Condylar Inclination 7	----- °	32.0	
Relative Condylar Inclination 8	----- °	23.0	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	-1.8	

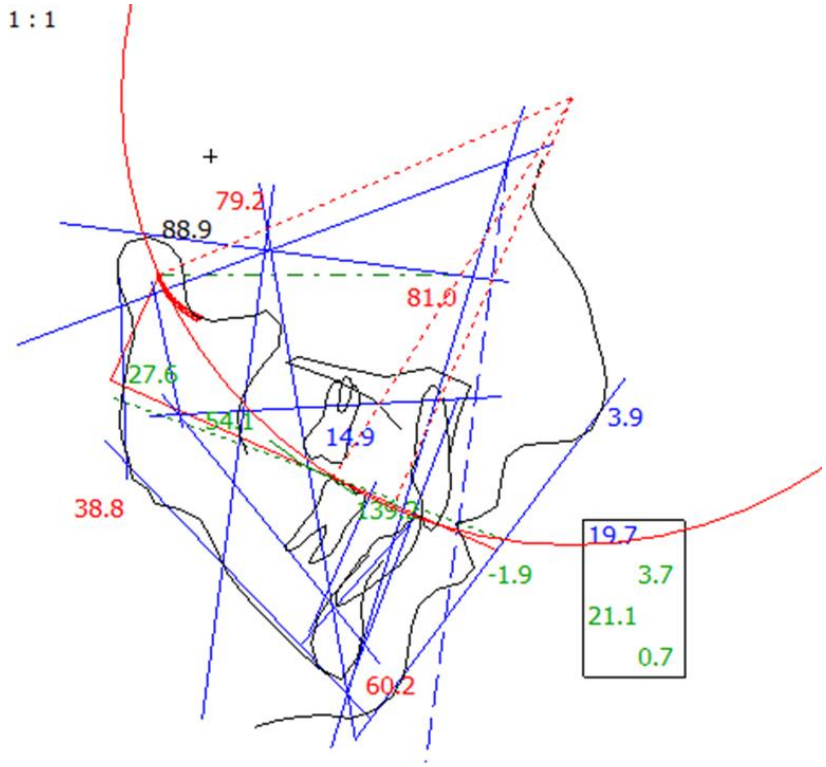
Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is extremely dolichofacial
The skeletal trend of the mandible is mesiofacial
Skeletal class is II with tends to I
The maxilla is positioned retrognathic, with tendency to neutral
The mandible is positioned strongly retrognathic
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is diminished
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is normal
Occlusal concept: Tendency to group function
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	79.2	3D***
Facial Depth	89.0 °	80.9	2-**
Facial Taper	68.0 °	60.2	2D**
Mandibular Plane	24.0 °	38.8	3D***
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	404.3	3+***
Facial Length Ratio	63.5 %	57.7	2-**
Y Axis to S N	67.0 °	75.1	2+**
Y Axis (Downs)	61.2 °	68.1	2+**
S N to Gonion Gnathion Angle	32.6 °	44.3	3+***

Occlusal Plane



Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	23.7	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	21.2	
Distance Occlusal plane - Axis (DPO)	40.9 mm	23.0	2-**
Radius of Curve of Spee	----- mm	88.8	
Lip Embrasure	0.0 mm	-1.8	
Occlusal Plane Xi Distance	-1.4 mm	0.6	

Dis-Occlusal Angle right side

SCI-OPI = RCI 63-23=40

RCI-CuI = DOA 40-30=10

Dis-Occlusal Angle left side

SCI-OPI = RCI 56-23=33

RCI-CuI = DOA 33-30=3

On the left side interference.

Dis-Occlusal Angle 1-ST MOLAR

SCI-OPI = RCI

RCI-CuI = DOA 24-20=4

DOA 6 is too low for average cusps with 20°for molars.

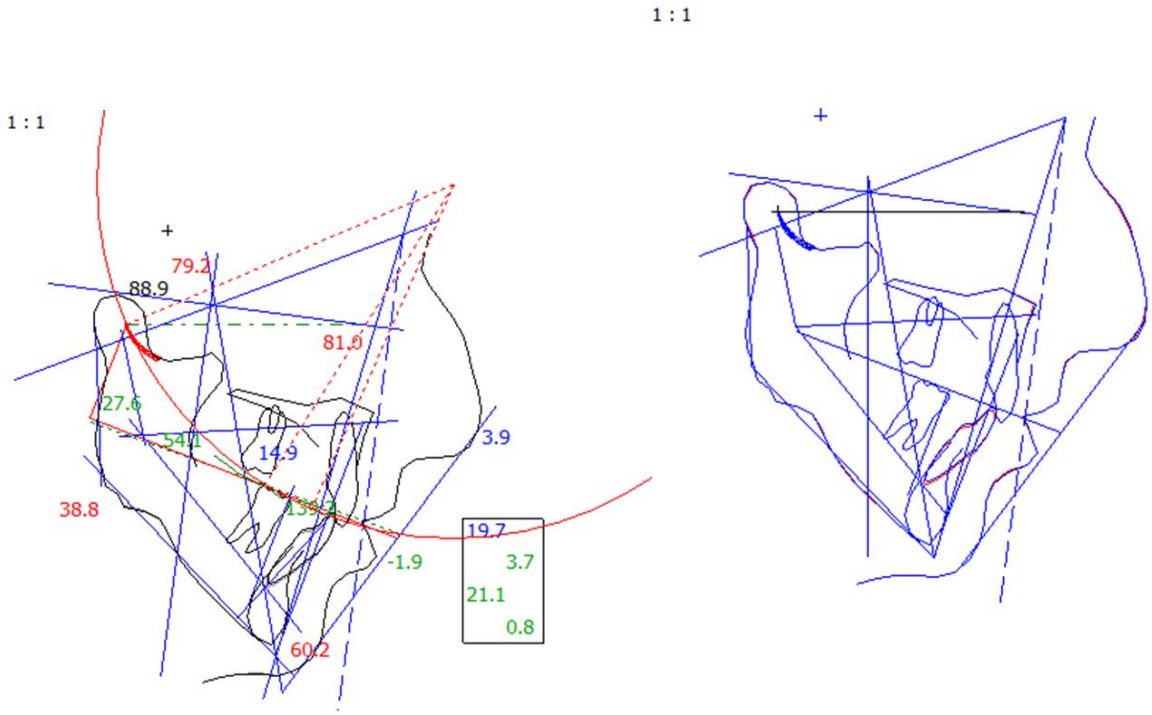
Dis-Occlusal Angle 2-ND MOLAR

SCI-OPI = RCI

RCI-CuI = DOA 32-20=12

DOA 7 is normal.

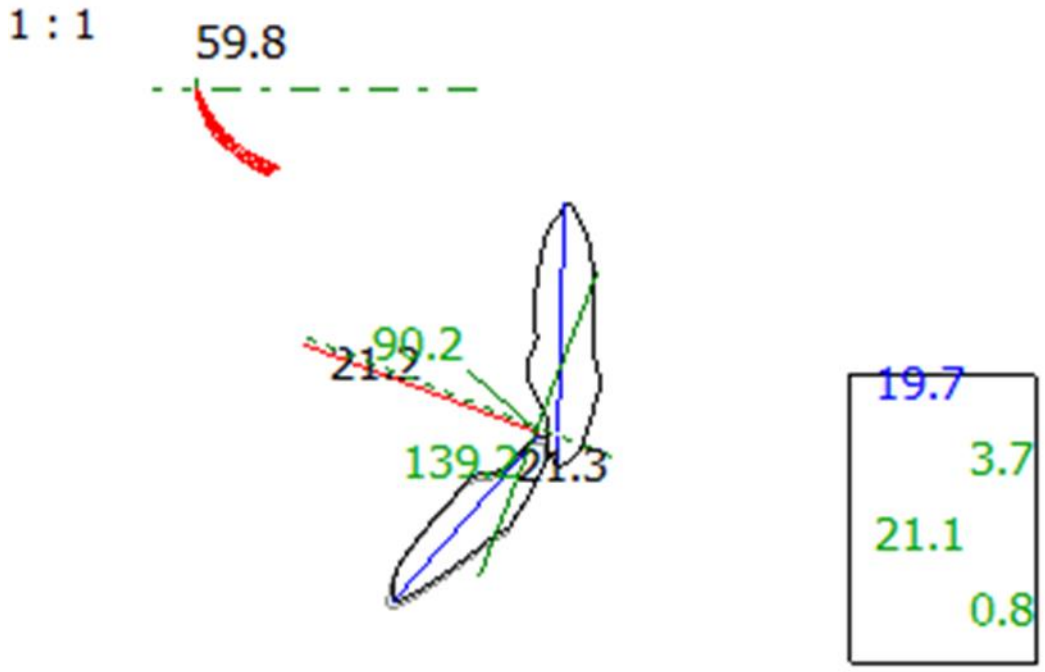
Tooth 31 moved 0,4 mm: -0,7 mm



Tx Plan 1rd step: Change of Occlusal Plane: before 10, planned 14,8

Dental Measurement	Norm	Value	Trend	Norm	Value	Trend
Interincisal Angle	131.3 °	139.2		131.3 °	139.2	
Upper Incisor Protrusion	5.6 mm	3.6		5.6 mm	3.6	
Upper Incisor Inclination	26.4 °	19.6	1-*	26.4 °	19.6	1-*
Upper Incisor Vertical	mm	1.6		mm	2.5	
Lower Incisor Protrusion	0.9 mm	0.6		0.9 mm	0.8	
Lower Incisor Inclination	22.3 °	21.1		22.3 °	21.1	
Upper Molar Position	18.0 mm	14.8	1-*	18.0 mm	14.8	1-*
Occlusal plane	Norm	Value	Trend	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	23.7		----- °	21.2	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	21.2		----- °	21.2	
Distance Occlusal plane - Axis (DPO)	40.9 mm	23.0	2-**	40.9 mm	25.0	1-*
Radius of Curve of Spee	----- mm	88.8		----- mm	88.8	
Lip Embrasure	0.0 mm	-1.8		0.0 mm	-0.7	
Occlusal Plane Xi Distance	-1.4 mm	0.6		-1.4 mm	-0.7	
Functional Measurement	Norm	Value	Trend	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	63.5		----- °	63.5	
Horizontal Condylar Inclination left	----- °	56.1		----- °	56.1	
Horizontal Condylar Inclination	----- °	59.8		----- °	59.8	
Relative Condylar Inclination	----- °	36.0		----- °	38.5	
Relative Condylar Inclination 6	----- °	24.8		----- °	24.8	
Relative Condylar Inclination 7	----- °	32.0		----- °	32.0	
Relative Condylar Inclination 8	----- °	23.0		----- °	23.0	
Anterior Guidance (S-AOP)	°			°		
Relative Anterior Guidance	°			°		

Tx Plan 2ndstep: Front Teeth Correction and molars correction – relative condyle incl.



Dis-Occlusal Angle 6 (Planned) for right side

SCI-OPI = RCI 63-21=42

RCI-CuI = DOA 42- 32=10

We can change cusp inclination for 6, then DOA for 6 will be 10.

Dis-Occlusal Angle 7 (Planned)

SCI-OPI = RCI 63-21=42

RCI-CuI = DOA 42-32= 10,

Dis-Occlusal Angle 6 (Planned) for left side

SCI-OPI = RCI 56-21=35

RCI-CuI = DOA 35- 25=10

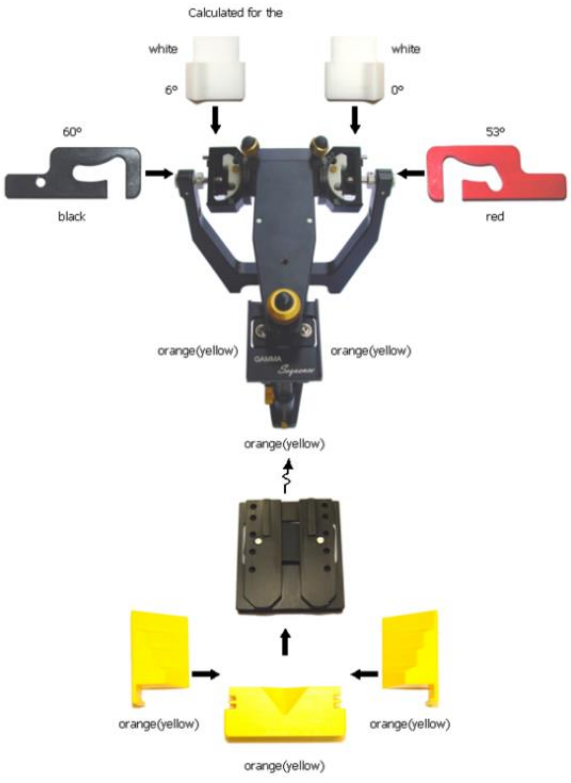
We can change cusp inclination for 6 from 30 to 25, then DOA for 6 will be 10.

Dis-Occlusal Angle 7 (Planned)

SCI-OPI = RCI 56-21=35

RCI-CuI = DOA 35- 25= 10

Articulator settings



Asymmetrical case

SCI right = 63 degrees yellow insert

SCI left = 56 degrees red insert

Right Bennett- yellow 3 degrees

Left Bennett – yellow 0 degrees

OPI right =21 degrees

OPI left = 21 degree

For tooth 36 we changed cusp inclination to 25 degrees and disocclusal angle was 10 degrees

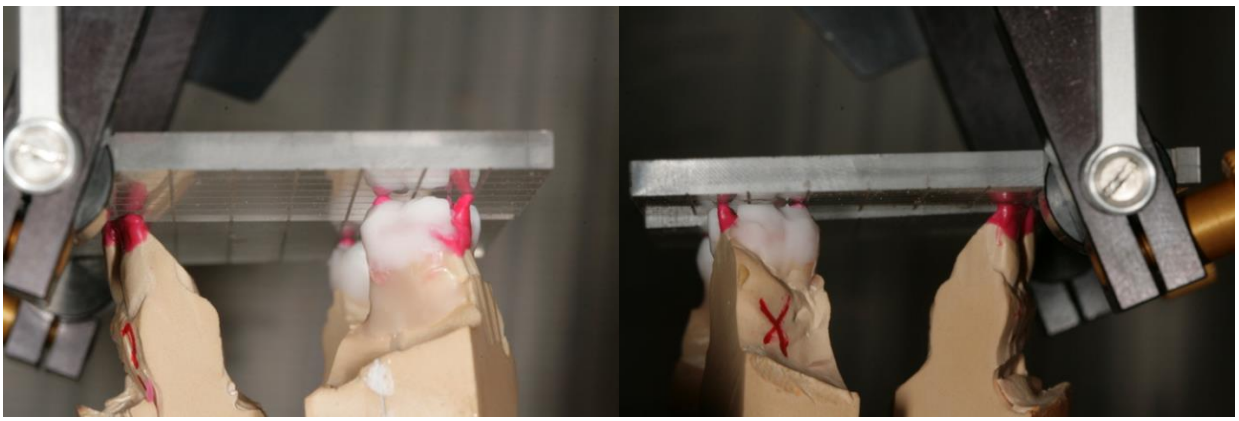
AG – look previous slide

II class occlusion

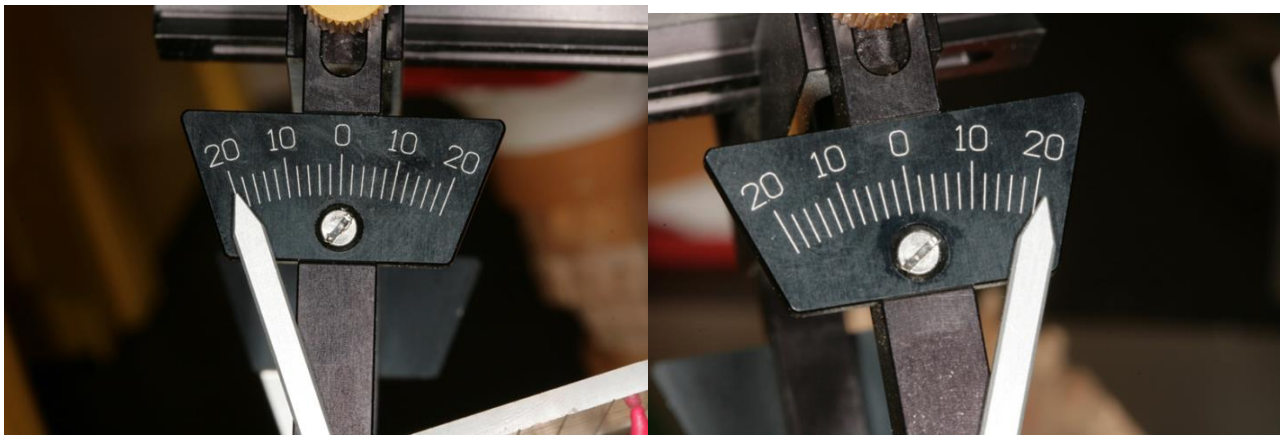
Mandible and maxilla are both in retrognathic position- the increase of vertical dimension is not good for this patient

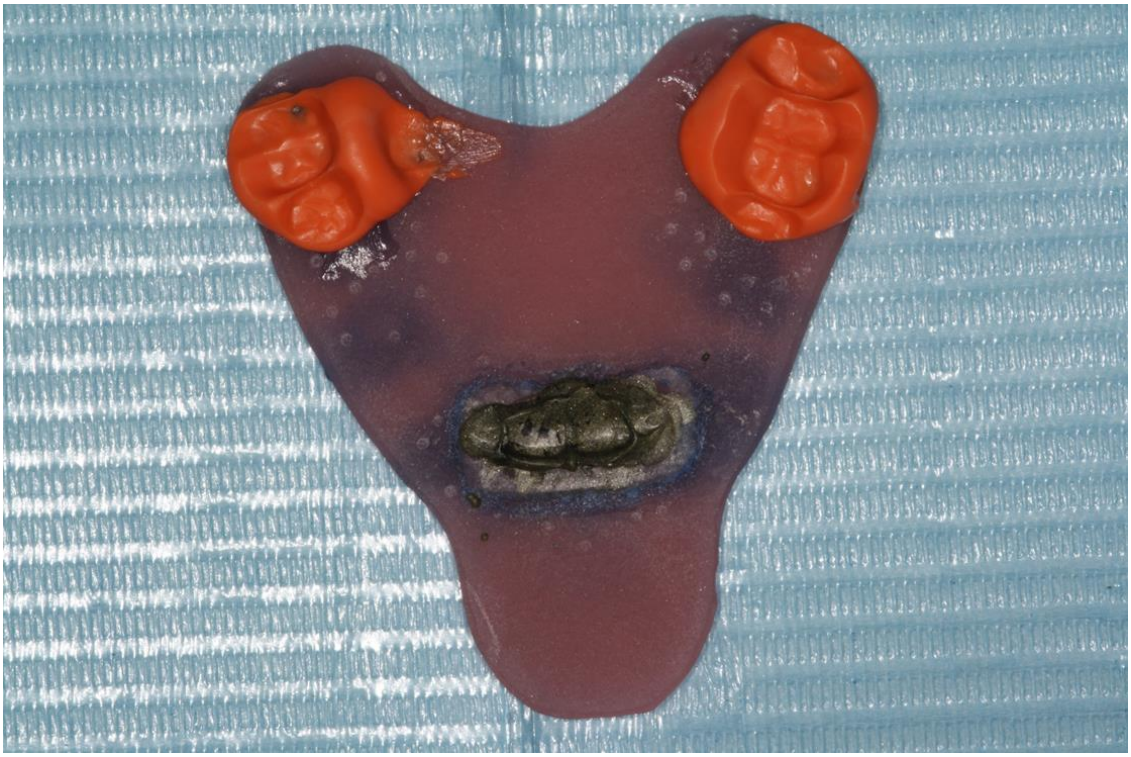
Slavicek Analysis

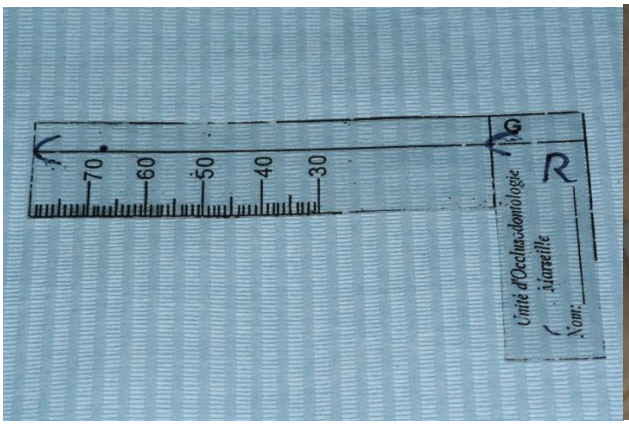
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	79.2	3D***
Facial Depth	89.0 °	80.9	2-**
Mandibular Plane	24.0 °	38.8	3D***
Facial Taper	68.0 °	60.2	2D**
Mandibular Arc	29.0 °	27.5	
Maxillary Position	65.0 °	61.0	1-*
Convexity	0.0 mm	3.8	1X*
Lower Facial Height (by R.Slavicek)	49.9 °	54.0	
Lower Facial Height to Point D	56.4 °	59.0	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	131.3 °	139.2	
Upper Incisor Protrusion	5.6 mm	3.6	
Upper Incisor Inclination	26.4 °	19.6	1-*
Upper Incisor Vertical	mm	1.6	
Lower Incisor Protrusion	0.9 mm	0.6	
Lower Incisor Inclination	22.3 °	21.1	
Upper Molar Position	18.0 mm	14.8	1-*
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	23.7	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	21.2	
Distance Occlusal plane - Axis (DPO)	40.9 mm	23.0	2-**
Radius of Curve of Spee	----- mm	88.8	
Lip Embrasure	0.0 mm	-1.8	
Occlusal Plane Xi Distance	-1.4 mm	0.6	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	63.5	
Horizontal Condylar Inclination left	----- °	56.1	
Horizontal Condylar Inclination	----- °	59.8	
Relative Condylar Inclination	----- °	36.0	
Relative Condylar Inclination 6	----- °	24.8	
Relative Condylar Inclination 7	----- °	32.0	
Relative Condylar Inclination 8	----- °	23.0	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	-1.8	

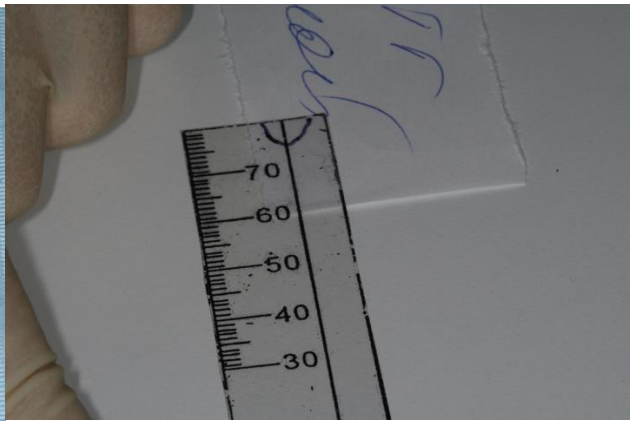


OPI right and left was 21 degree. The patient was with temporaries for 2,5 years.









Wax-up









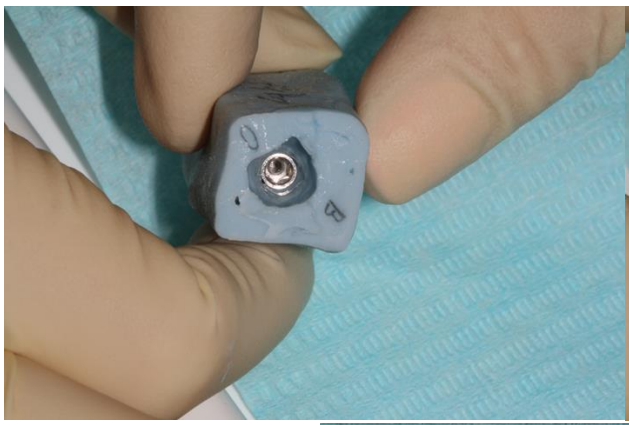

Mock-up

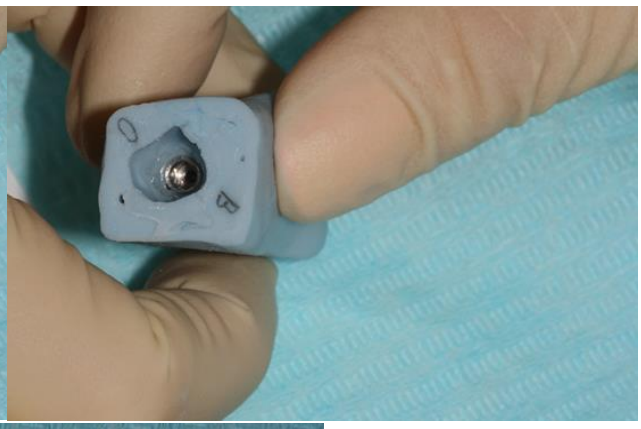
Long time temporaries 2010







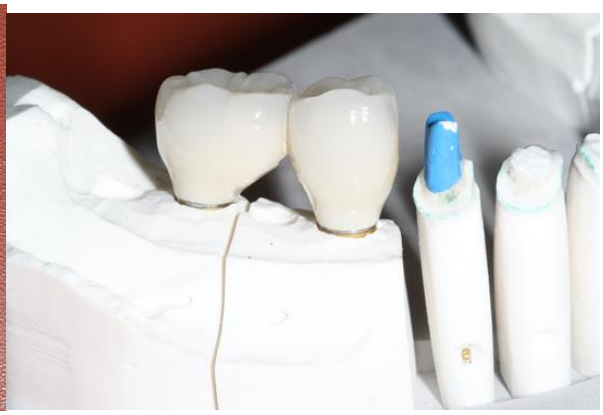


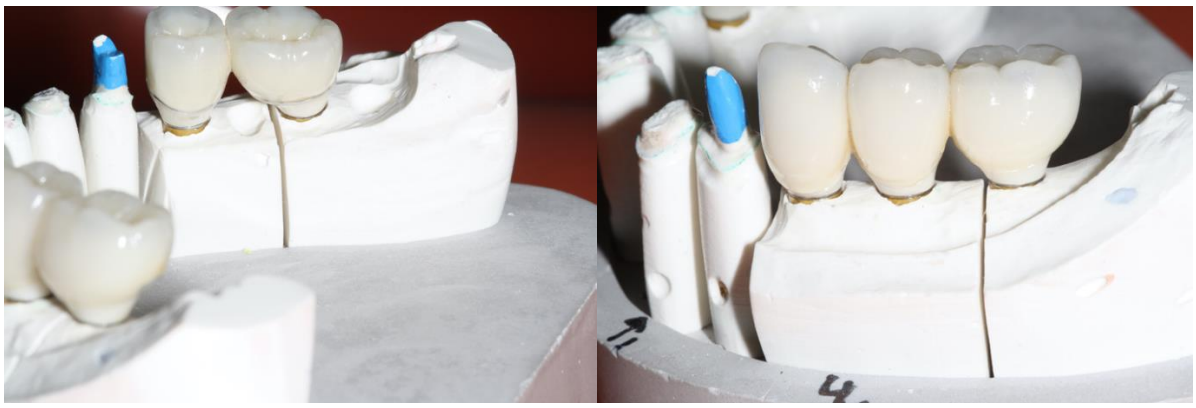
Individual impression tray and impression cups


Final restorations on the casts



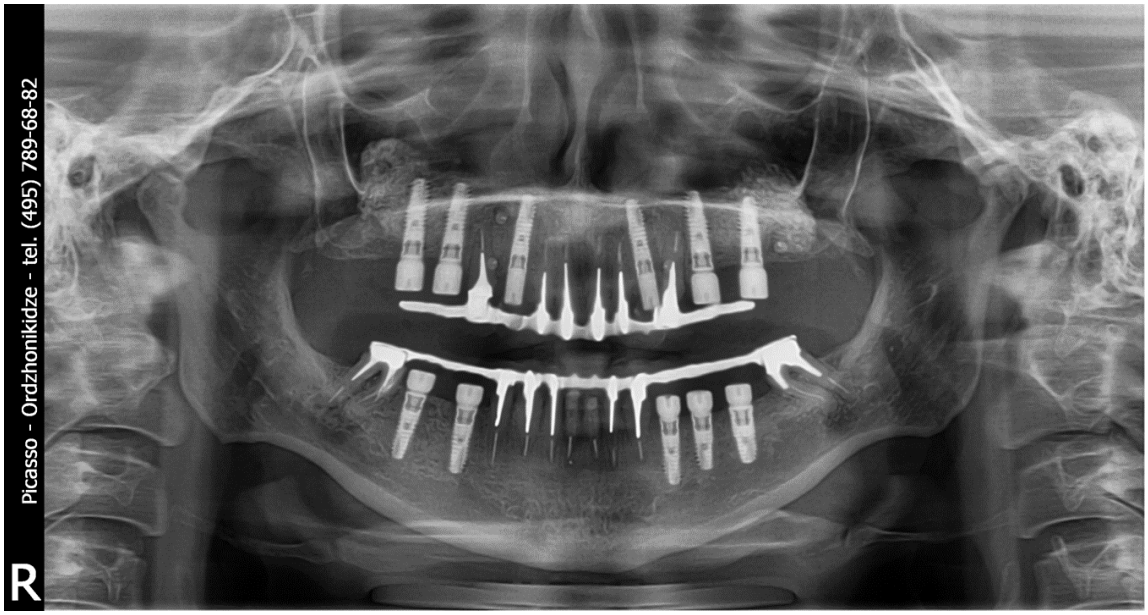




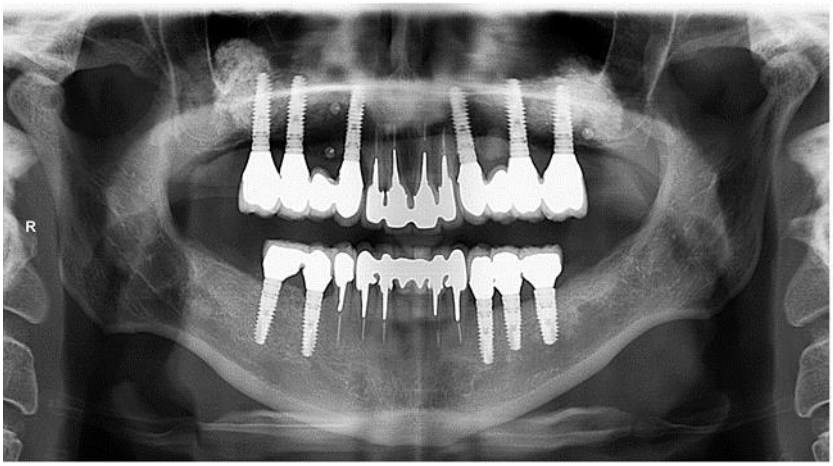


Final restorations in the mouth

OPG 2009



2012



2017

Chapter II. Decision tree making

Clinical case № 10

Patient`s birth date: 1947

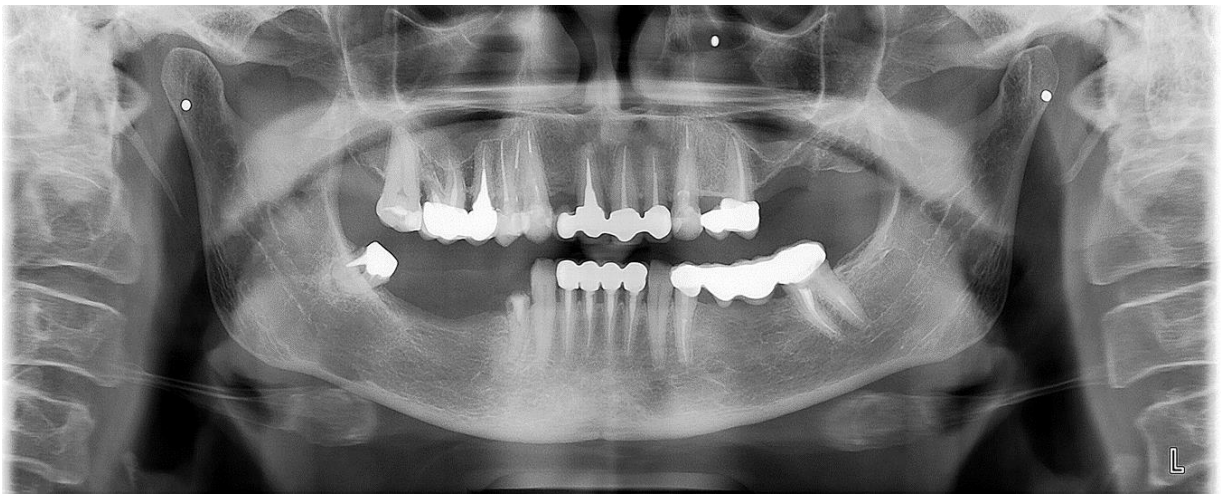
Date of examination: October, 2012

Chief complain: mobility of PFM bridge on the lower jaw, low chewing efficacy.

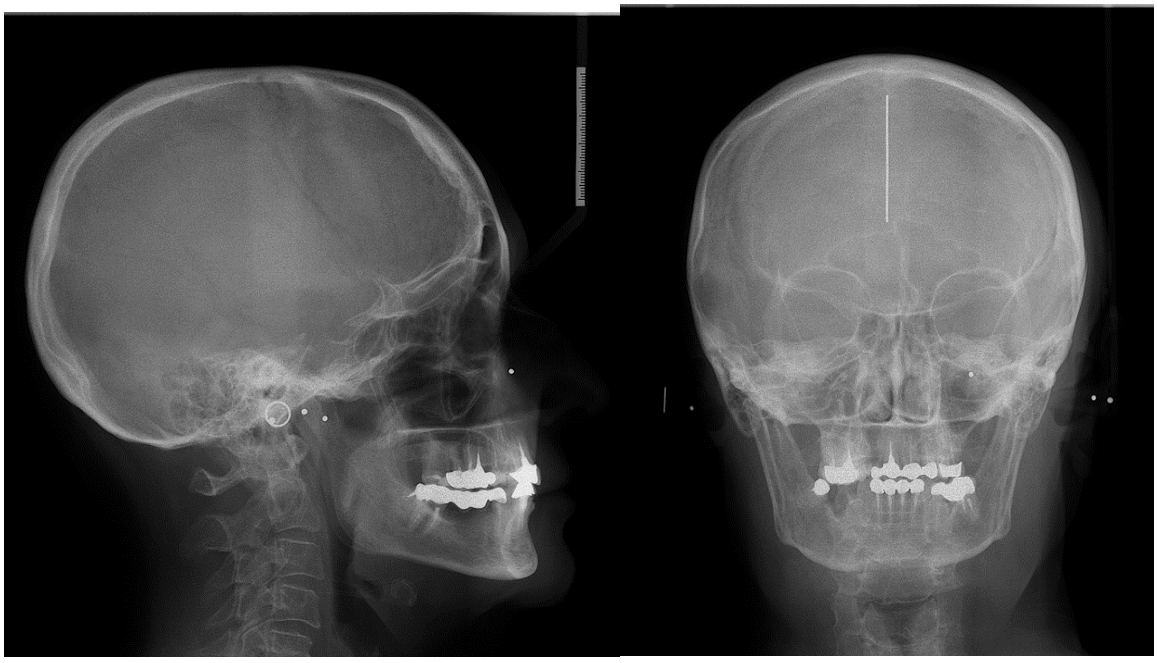
Intraoral photo

Inflammation

OPG



Lateral X-ray



Anamnesis

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

		yes	no
1.	Infections		X
2.	Cardio-vascular systems		X
3.	Respiratory systems		X
4.	Digestive systems		X
5.	Metabolic systems		X
6.	Allergies		X
7.	Urogenital problems		X
8.	Central nervous systems		X
9.	Psychological problems (theraphy)		X
10.	Rheumatic disease	X	
11.	Hormonal disease		
12.	Special problems		

Main concern absence of teeth

		valuation	yes	no
1.	Do you have problems when you chew?			X
2.	Do you have problems when you are talking?			X
3.	Do you have problems in closing your teeth properly?			X
4.	Are any of your teeth especially sensitive?			X
5.	Do you have a problem when you open your mouth very wide?			X
6.	Do your jaw joints make noise and if so, on what side?			X
7.	Do you have pain in the area of your jaw joints?			X
8.	Do you suffer from headaches?			X
9.	Do you suffer from cramps or spasm in your head, neck or throat?			X
10.	Do you have in general problems with your posture?	3	X	
	Occlusal Index	3.00		

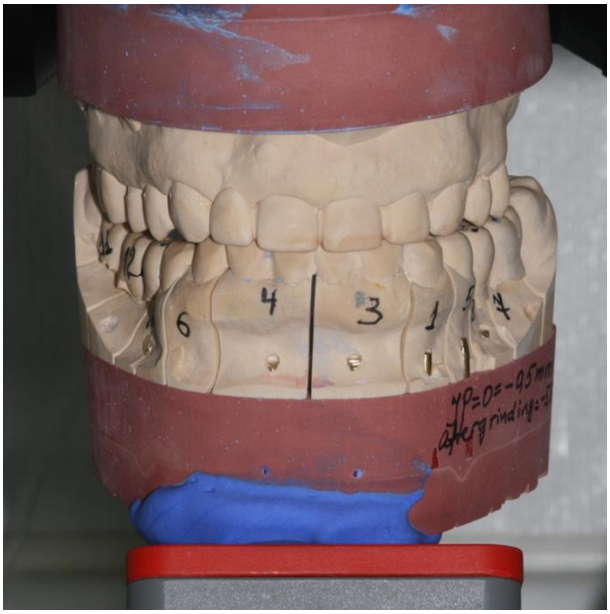
		yes	no
11.	Have you ever had a serious accident?		X
12.	Did you have one or more oral intubations?		X
13.	Have you ever had orthodontic treatment or...		X
14.	Have you had a treatment with a splint?		X
15.	Are you grinding or pressing with your teeth?		X
16.	Do you think that treatment is necessary?	X	
17.	Do you think that there is a serious disorder or illness?		

18. When was the last time you had dental treatment and what was done?

19. How would you describe your psychic behaviour?

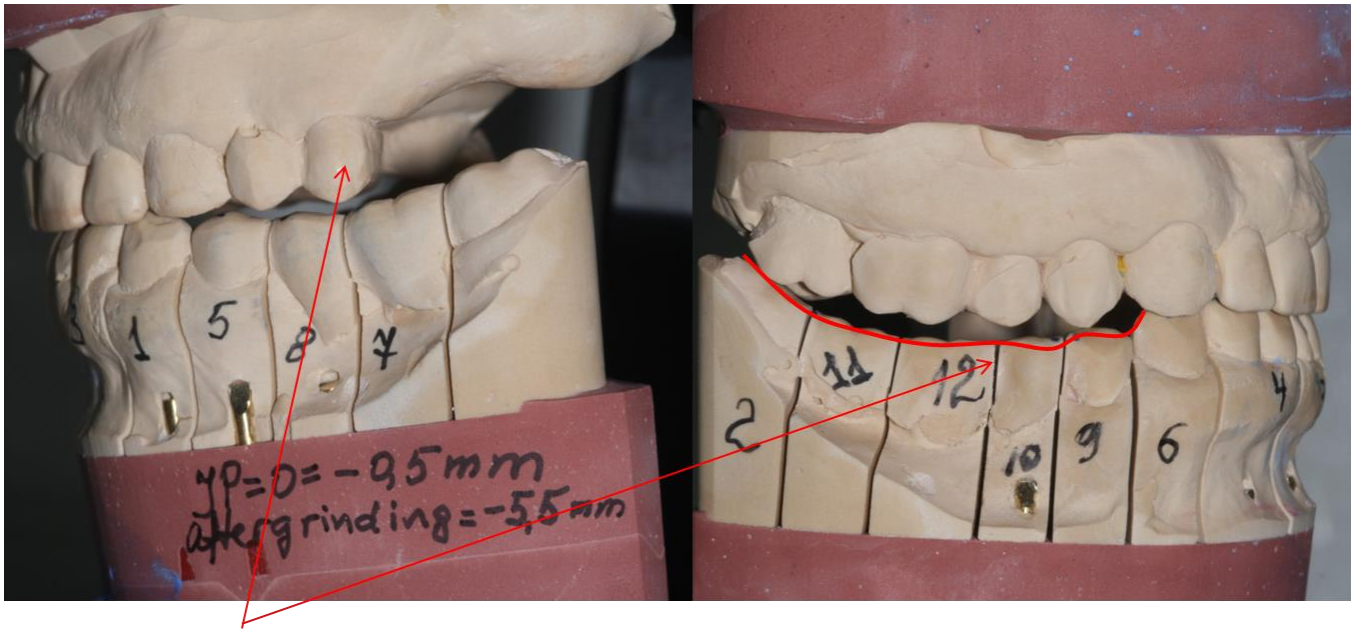
☐ happy ☐ sad ☐ calm ☐ excited ☐ self-controlled ☐ lack of self control

Cast in reference position



Left side- cross bite

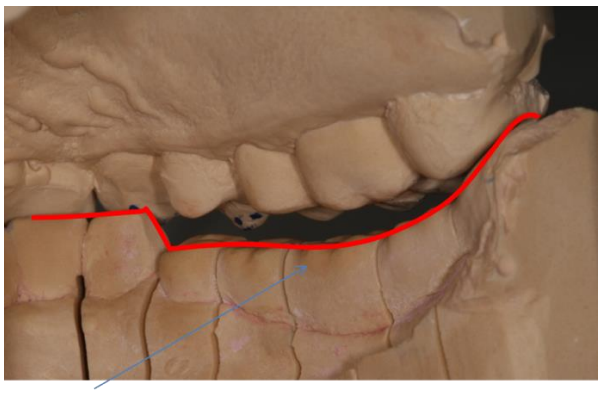
Casts in RP



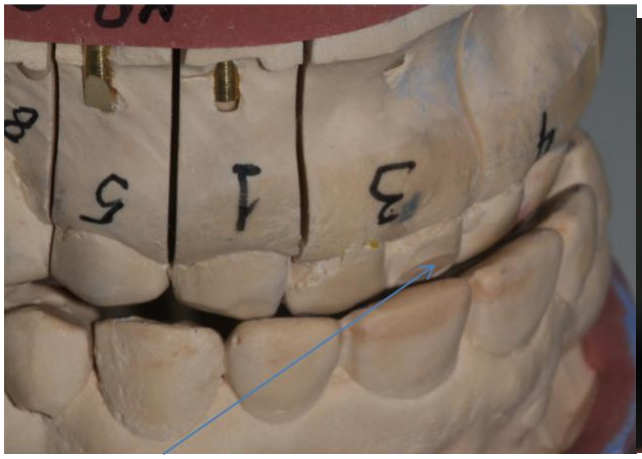
No posterior support

No sequential guidance

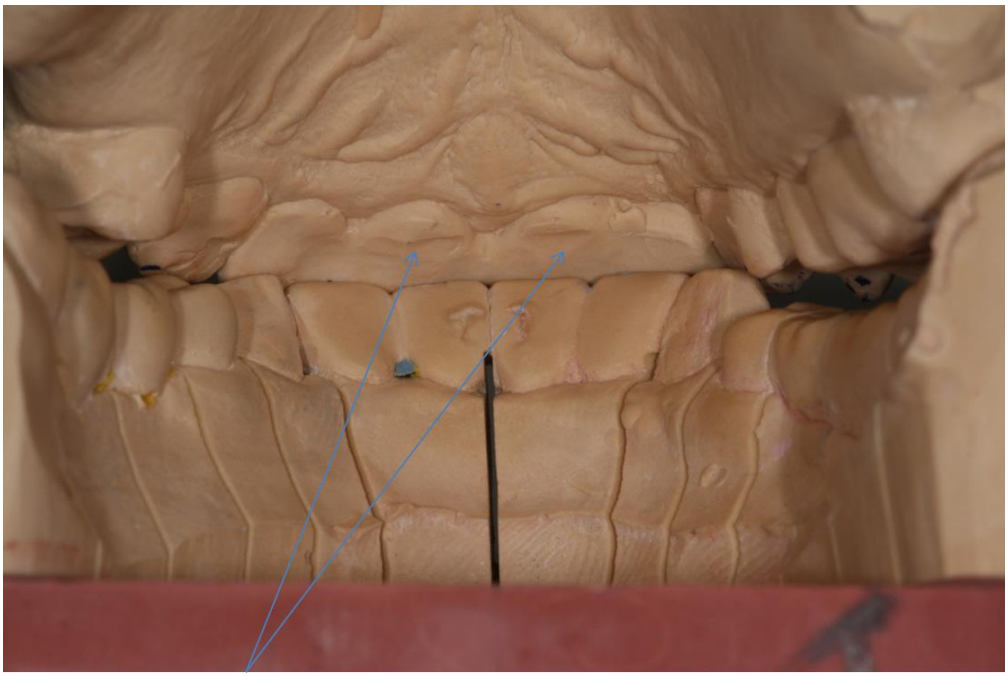
Palatal inclined incisors



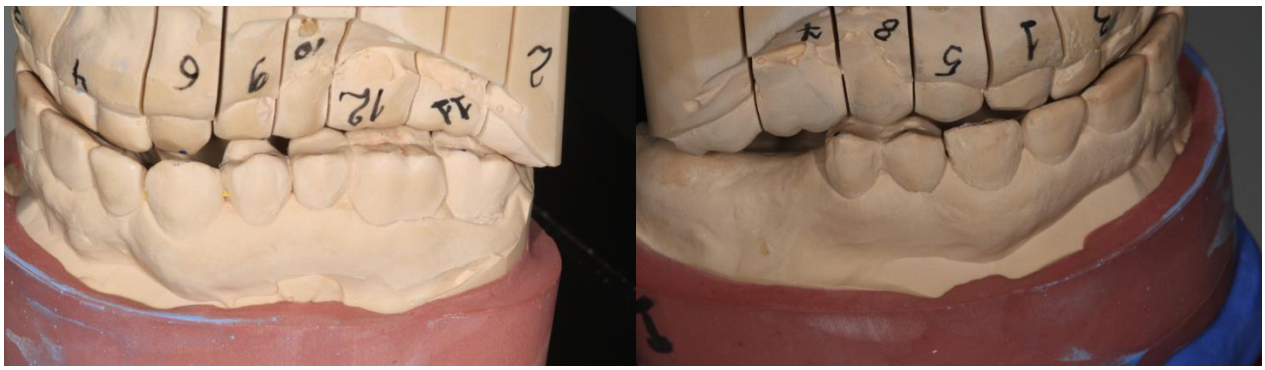
Flat occlusal plane



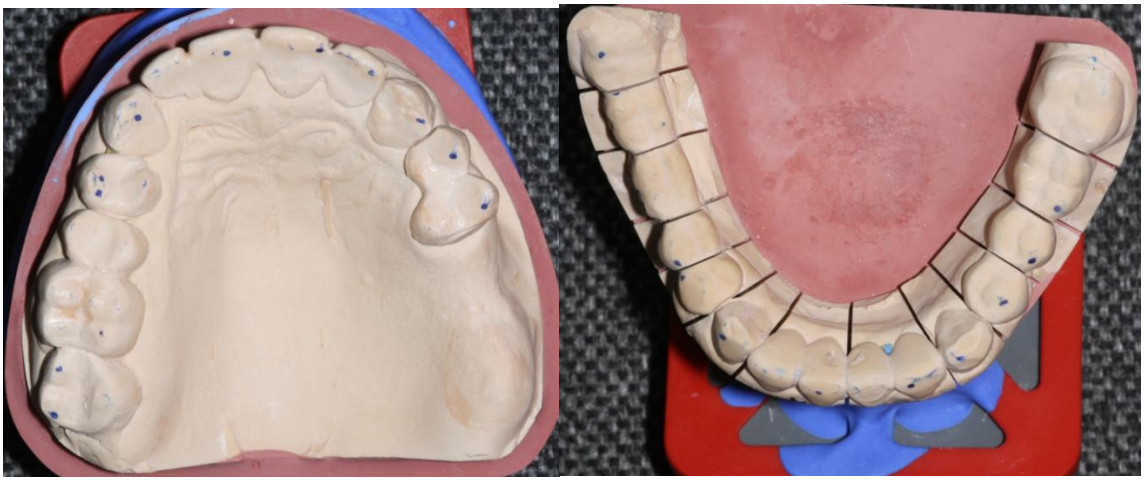
Chipping of ceramic restoration



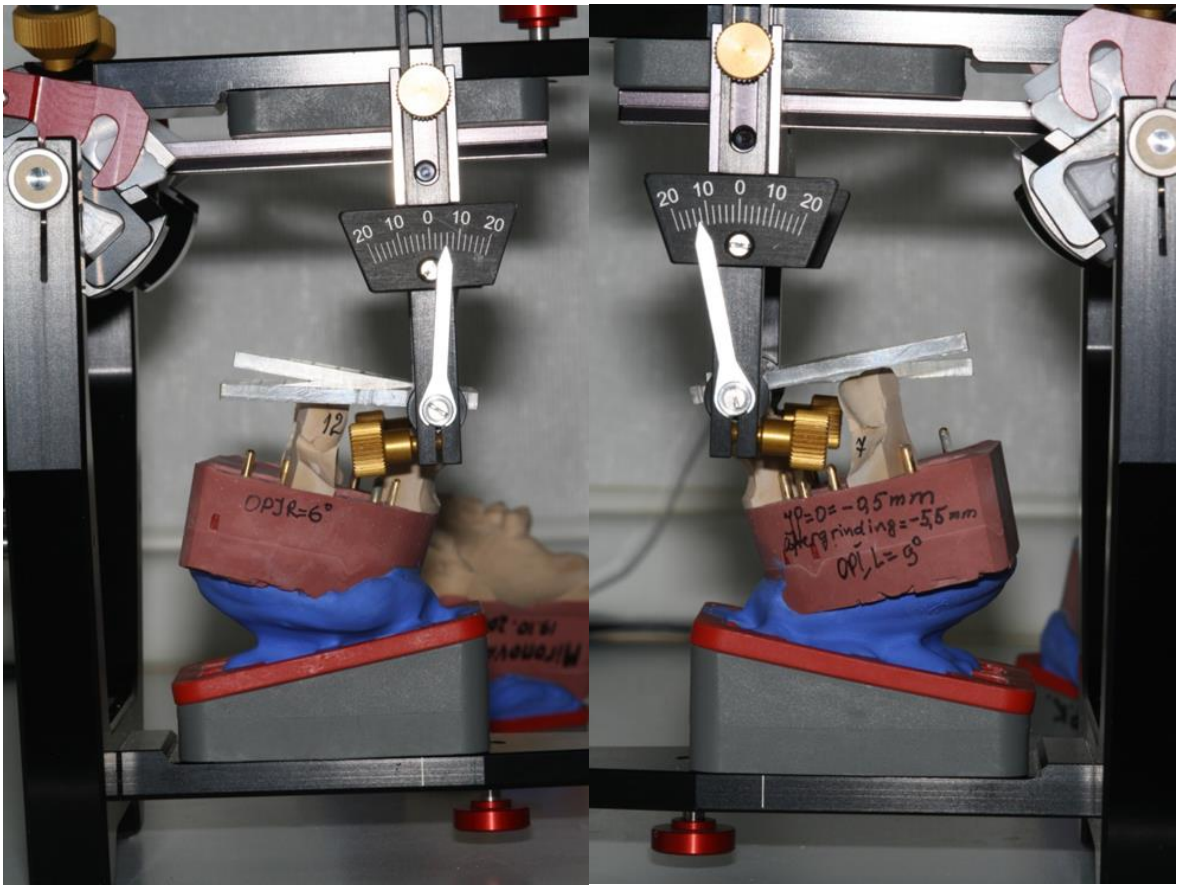
Facets of grinding in old occlusion



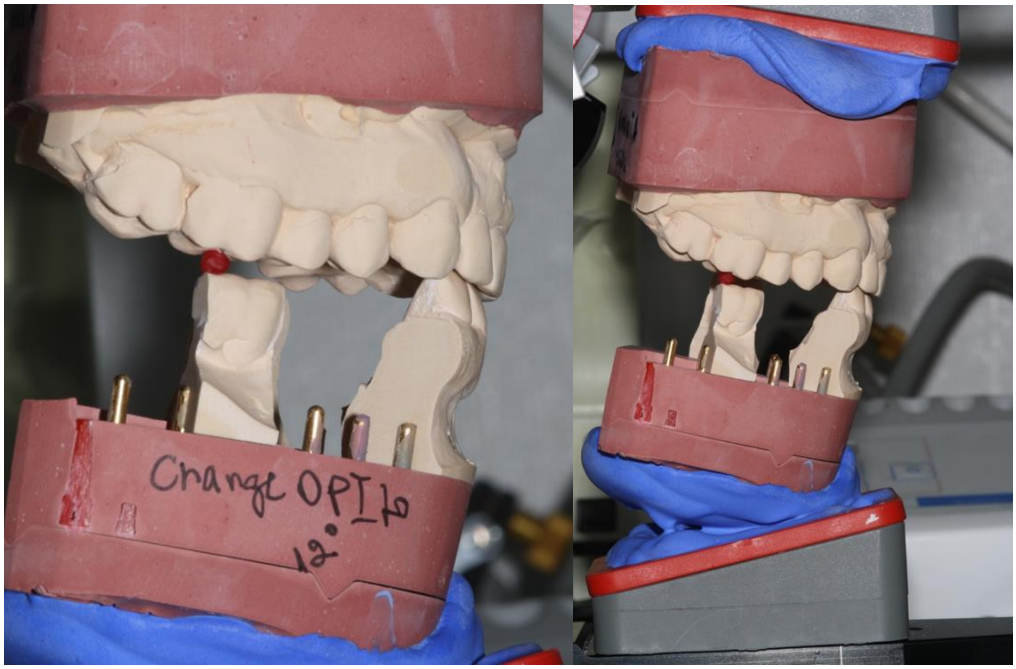
No cusp inclination



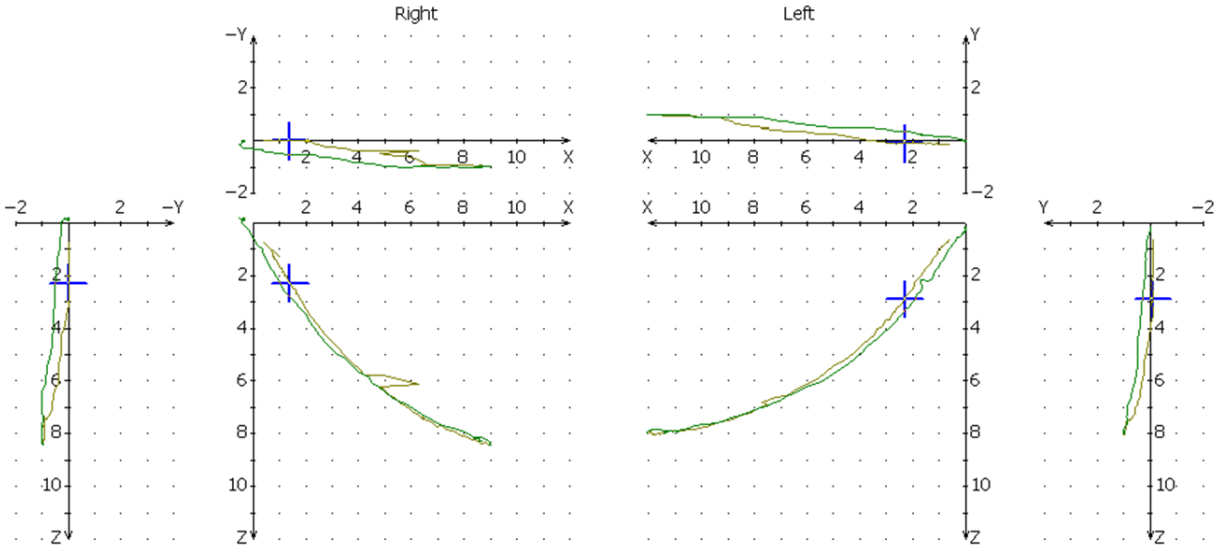
OPI right side = 6 degrees, left side = 9 degrees



Wax-up

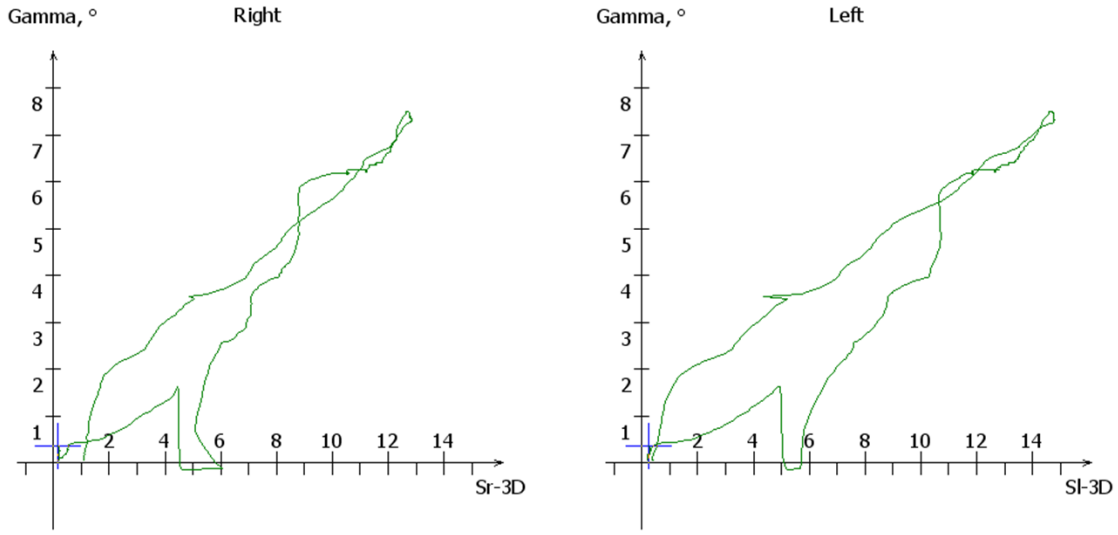


Protrusion-retrusion



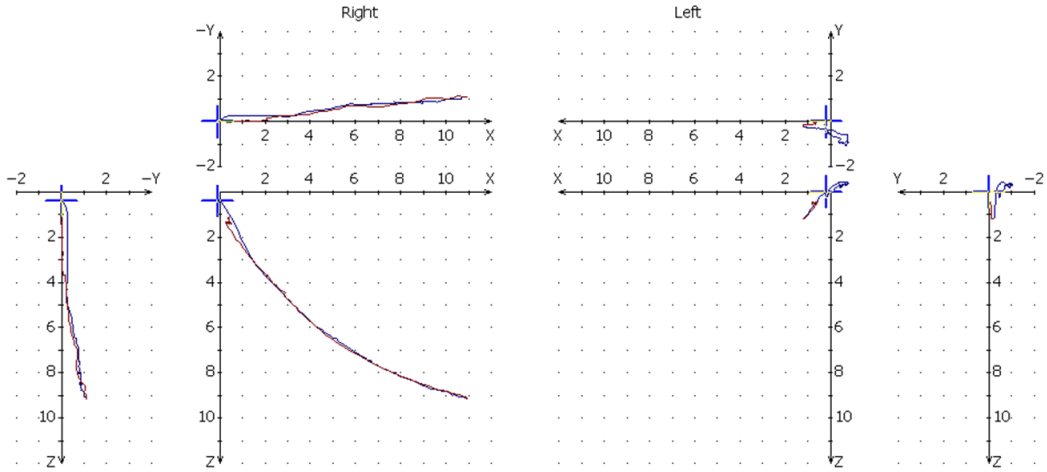
Start and end point are not coincident

Traslation-rotation

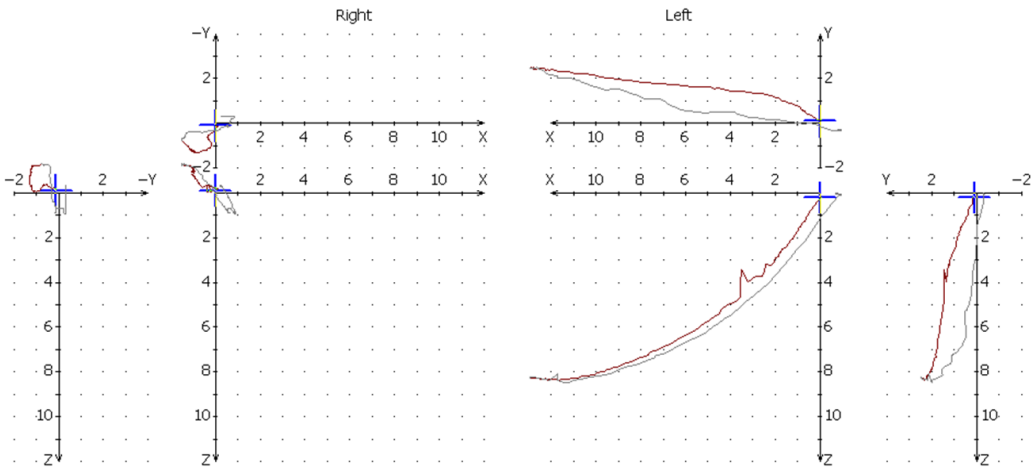


Interference on 4-th mm of movement because frontal teeth are inclined palatal

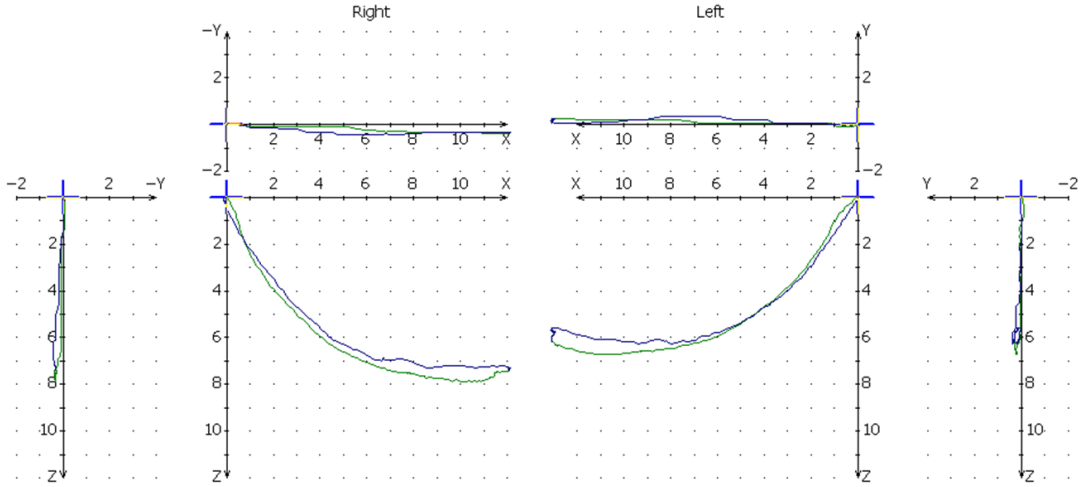
Mediotrusion right



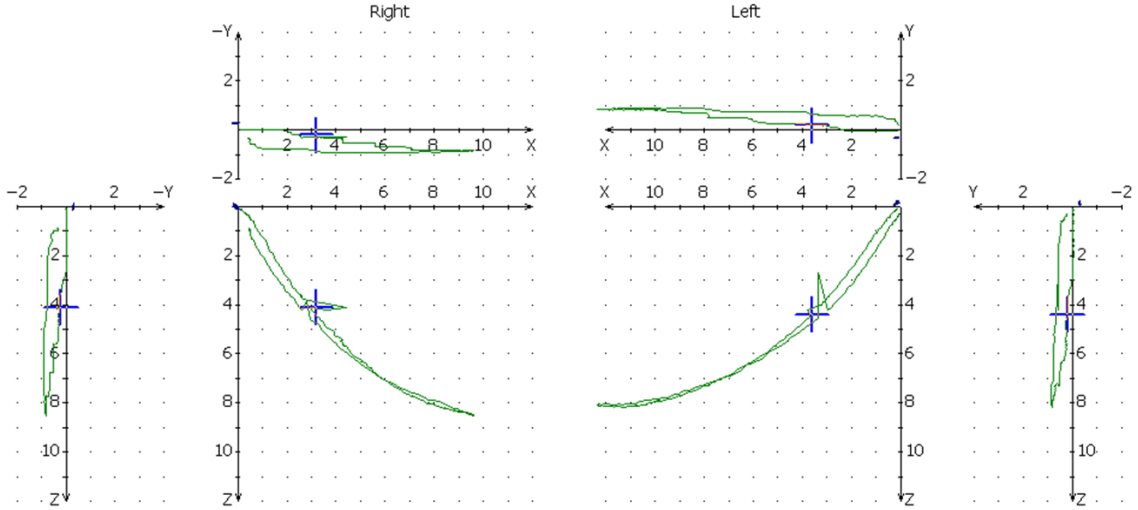
Mediotrusion left



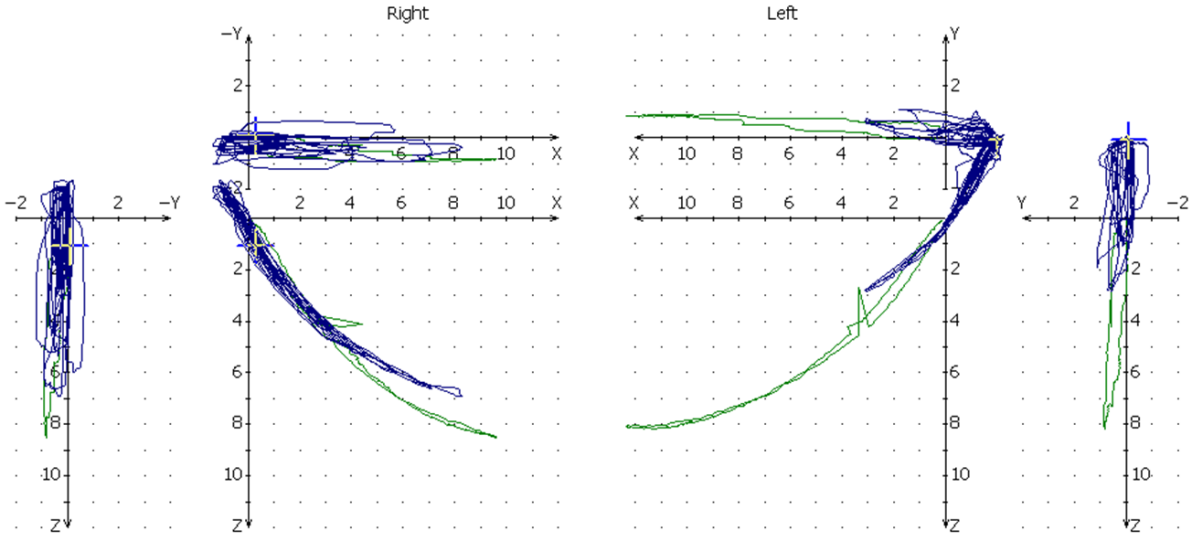
Open - close



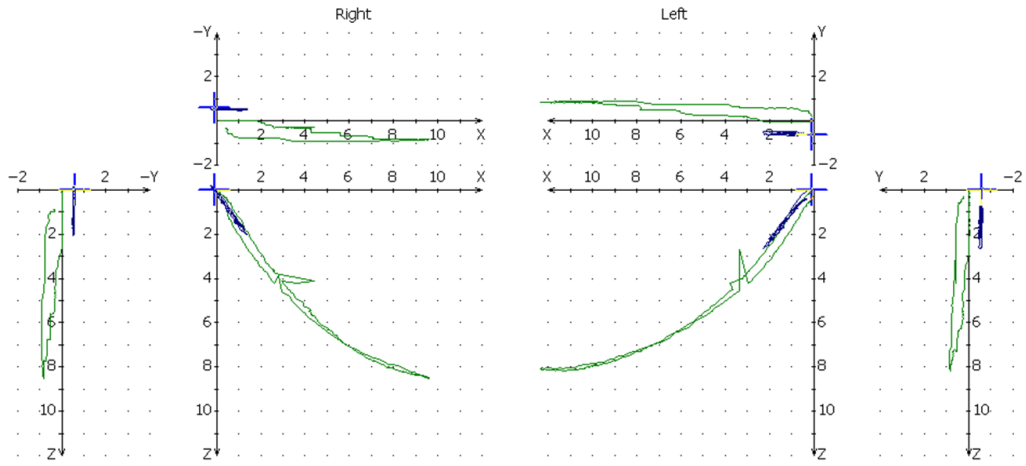
Brux



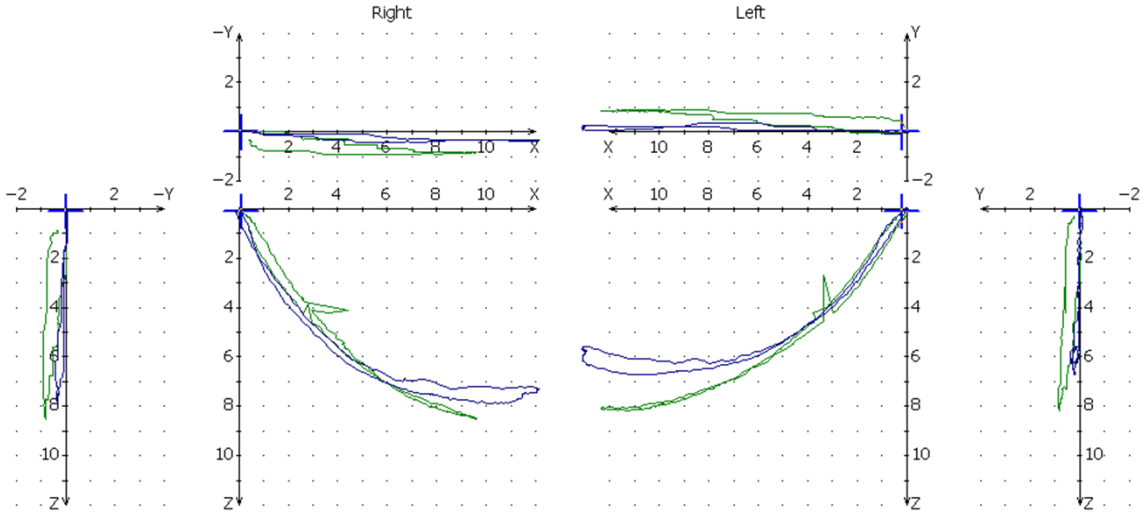
Mastication



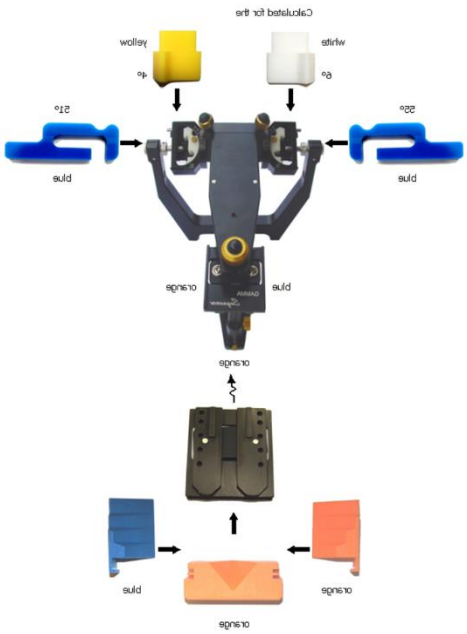
Speech



Overlay mode protrusion-retrusion



Articulator settings



Left side

SCI (50) - OPI (6) = 44 degrees

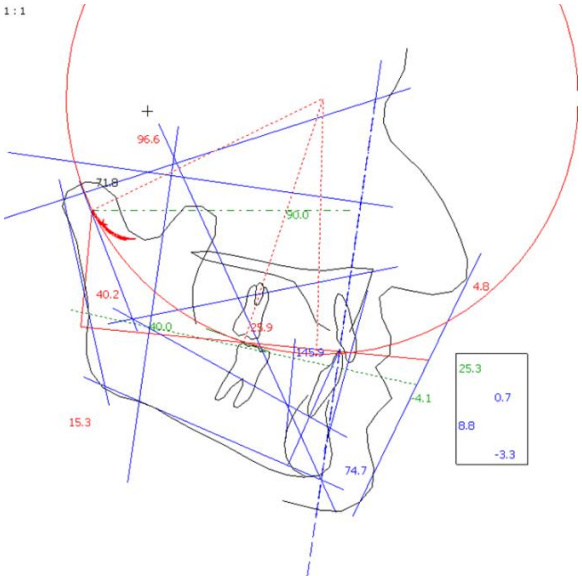
RCI (44) -Cui (30) = 14 DOA

Change total OPI to 12 degrees both sides

No need to increase vertical dimension

In present ICP position it is decreased to -5 mm

In RP the mandible is shifted forward



Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is brachyfacial
The skeletal trend of the mandible is strongly brachyfacial
Skeletal class is severe II
The maxilla is positioned strongly prognathic
The mandible is positioned neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is diminished
The inclination of the upper incisor is normal
The protrusion of the lower incisor is diminished
The inclination of the lower incisor is diminished
The interincisal angle is increased
Occlusal concept: Tendency to group function
No functional statement available

Explanation

	left side		
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	96.6	2B**
Facial Depth	89.0 °	89.9	
Facial Taper	68.0 °	74.6	1B*
Mandibular Plane	24.0 °	15.3	2B**
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	386.0	3-***
Facial Length Ratio	63.5 %	72.7	4+***>
Y Axis to S N	67.0 °	67.9	
Y Axis (Downs)	61.2 °	56.7	1-*
S N to Gonion Gnathion Angle	32.6 °	26.0	1-*

Slavicek Analysis

	left side		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	96.6	2B**
Facial Depth	89.0 °	89.9	
Mandibular Plane	24.0 °	15.3	2B**
Facial Taper	68.0 °	74.6	1B*
Mandibular Arc	29.0 °	40.1	2B**
Maxillary Position	65.0 °	70.6	2+**
Convexity	0.0 mm	4.7	2X**
Lower Facial Height (by R.Slavicek)	41.7 °	39.9	
Lower Facial Height to Point D	48.2 °	45.8	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	145.8	1+*
Upper Incisor Protrusion	4.3 mm	0.6	1-*
Upper Incisor Inclination	23.1 °	25.3	
Upper Incisor Vertical	mm	2.7	
Lower Incisor Protrusion	1.2 mm	-3.2	1-*
Lower Incisor Inclination	24.1 °	8.8	1-*
Upper Molar Position	18.0 mm	25.8	3+***
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	5.4	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	13.2	
Distance Occlusal plane - Axis (DPO)	40.9 mm	32.8	
Radius of Curve of Spee	----- mm	71.8	
Lip Embrasure	0.0 mm	5.7	1+*
Occlusal Plane Xi Distance	-1.4 mm	-3.7	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	53.2	
Horizontal Condylar Inclination left	----- °	50.4	
Horizontal Condylar Inclination	----- °	51.8	
Relative Condylar Inclination	----- °	46.4	
Relative Condylar Inclination 6	----- °	32.9	
Relative Condylar Inclination 7	----- °	32.1	
Relative Condylar Inclination 8	----- °	51.8	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	-4.0	

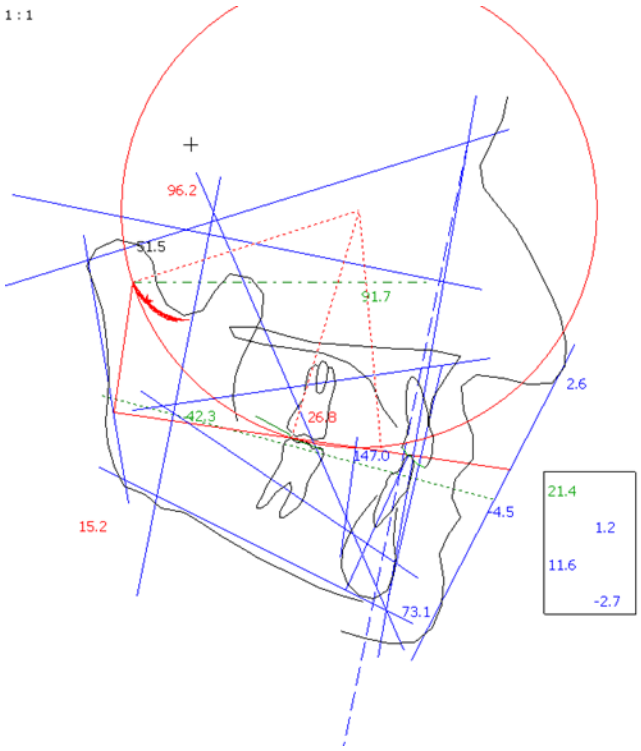
Both jaws are in prognathic and neutral position- reason to increase the VD

Right side

SCI (53) - OPI (9) = 44degrees

RCI (44) - CuI (30) = 14 DOA

Change total OPI to 12 degrees both sides



Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is brachyfacial
The skeletal trend of the mandible is unknown
Skeletal class is II with tends to I
The maxilla is positioned prognatic, with tendency to neutral
The mandible is positioned neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is diminished
The inclination of the upper incisor is normal
The protrusion of the lower incisor is diminished
The inclination of the lower incisor is diminished
The interincisal angle is increased
Occlusal concept: Tendency to group function
No functional statement available

Explanation

	right side		
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	96.2	2B**
Facial Depth	89.0 °	91.6	
Facial Taper	68.0 °	73.1	1B*
Mandibular Plane	24.0 °	15.2	2B**
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	385.6	4-***>
Facial Length Ratio	63.5 %	73.1	4+***>
Y Axis to S N	67.0 °	67.7	
Y Axis (Downs)	61.2 °	55.8	1-*
S N to Gonion Gnathion Angle	32.6 °	25.6	1-*

Slavicek Analysis

	right side		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	96.2	2B**
Facial Depth	89.0 °	91.6	
Mandibular Plane	24.0 °	15.2	2B**
Facial Taper	68.0 °	73.1	1B*
Mandibular Arc	29.0 °		
Maxillary Position	65.0 °	67.5	1+*
Convexity	0.0 mm	2.5	1X*
Lower Facial Height (by R.Slavicek)	41.8 °	42.2	
Lower Facial Height to Point D	48.3 °	44.3	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	147.0	1+*
Upper Incisor Protrusion	4.3 mm	1.1	1-*
Upper Incisor Inclination	23.1 °	21.4	
Upper Incisor Vertical	mm	2.2	
Lower Incisor Protrusion	1.2 mm	-2.6	1-*
Lower Incisor Inclination	24.1 °	11.5	1-*
Upper Molar Position	18.0 mm	26.7	4+***>
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	7.9	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	16.1	
Distance Occlusal plane - Axis (DPO)	40.9 mm	28.6	1-*
Radius of Curve of Spee	----- mm	51.4	
Lip Embrasure	0.0 mm	5.8	1+*
Occlusal Plane Xi Distance	-1.4 mm	-3.2	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	53.2	
Horizontal Condylar Inclination left	----- °	50.4	
Horizontal Condylar Inclination	----- °	51.8	
Relative Condylar Inclination	----- °	43.9	
Relative Condylar Inclination 6	----- °	31.0	
Relative Condylar Inclination 7	----- °	22.1	
Relative Condylar Inclination 8	----- °	51.8	
Anterior Guidance (S-AOP)	----- °	45.0	
Relative Anterior Guidance	----- °	37.1	
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	-4.4	1-*

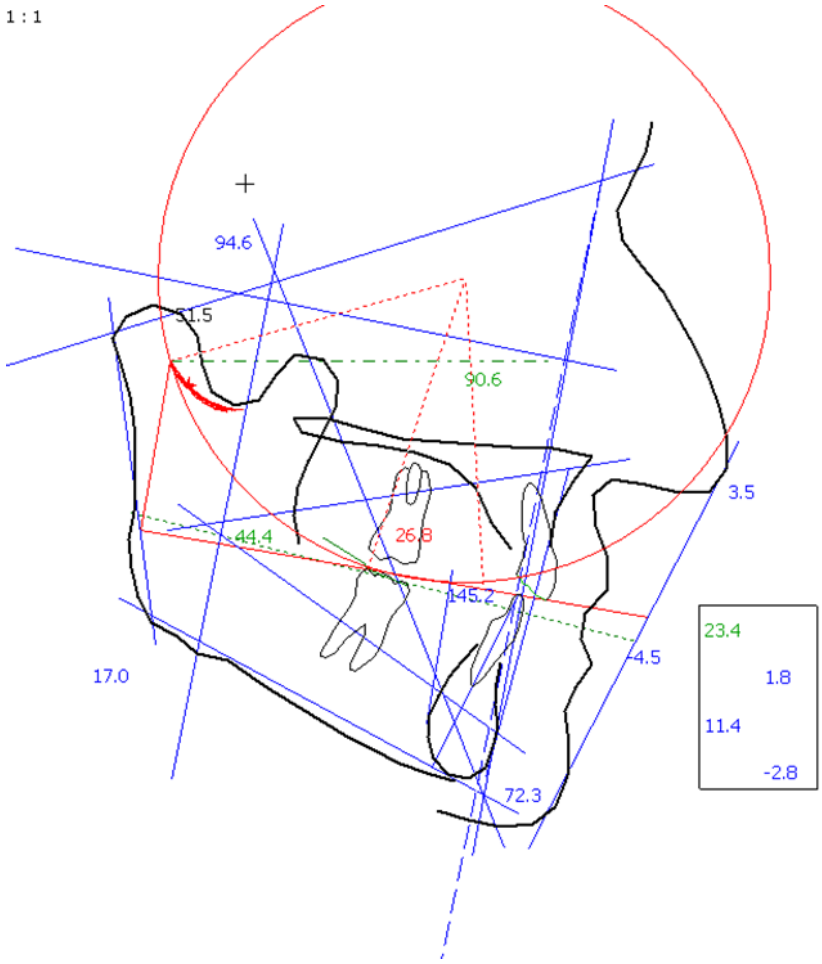
Incisal pin for reconstruction and diagnostic wax-up

Incisal Pin Table

Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	42.3	42.7	43.1	43.5	44.0	44.4	44.8	45.6	46.3	47.1	47.8	48.5	49.9
LFH. (Norm)	41.8	41.9	42.0	42.1	42.2	42.3	42.4	42.6	42.8	43.0	43.2	43.4	43.8
LFH. (Variation)	0.0	0.4	0.9	1.3	1.7	2.1	2.5	3.3	4.1	4.8	5.6	6.3	7.6
Menton Vertical	0.0	0.3	0.7	1.0	1.3	1.7	2.0	2.6	3.1	3.7	4.2	4.7	5.6
Pogonion Sagittal	0.0	-0.7	-1.4	-2.1	-2.7	-3.4	-4.1	-5.6	-7.0	-8.4	-9.9	-11.3	-14.2
Incision Inf. Vertical	0.0	0.4	0.9	1.3	1.7	2.1	2.5	3.3	4.0	4.8	5.5	6.1	7.4
Incision Inf. Sagittal	0.0	-0.5	-1.0	-1.5	-2.0	-2.5	-3.0	-4.0	-5.1	-6.2	-7.3	-8.4	-10.7

Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	42.3	41.8	41.4	40.9	40.4	39.9	39.5	38.5	37.4	36.3	35.2	34.0	31.6
LFH. (Norm)	41.8	41.7	41.6	41.5	41.4	41.3	41.2	41.0	40.8	40.6	40.4	40.2	39.8
LFH. (Variation)	0.0	-0.4	-0.9	-1.4	-1.8	-2.3	-2.8	-3.8	-4.8	-5.9	-7.0	-8.2	-10.7
Menton Vertical	0.0	-0.4	-0.7	-1.1	-1.5	-1.9	-2.3	-3.1	-4.0	-4.9	-5.8	-6.8	-9.0
Pogonion Sagittal	0.0	0.7	1.3	2.0	2.7	3.3	4.0	5.2	6.5	7.7	8.9	10.0	12.1
Incision Inf. Vertical	0.0	-0.4	-0.9	-1.3	-1.8	-2.3	-2.8	-3.8	-4.8	-5.8	-6.9	-8.1	-10.5
Incision Inf. Sagittal	0.0	0.5	0.9	1.4	1.8	2.3	2.7	3.6	4.3	5.1	5.8	6.4	7.5

VTO – incisal pin +5 mm and close the gap with upper incisors. This situation is in reference position, so we should increase



List of problems

- No posterior support
- Sagittal and transversal discrepancy
- Decreased occlusal plane inclination
- Decreased vertical dimension
- No canine control and sequential guidance
- Decreased anterior guidance

Treatment plan

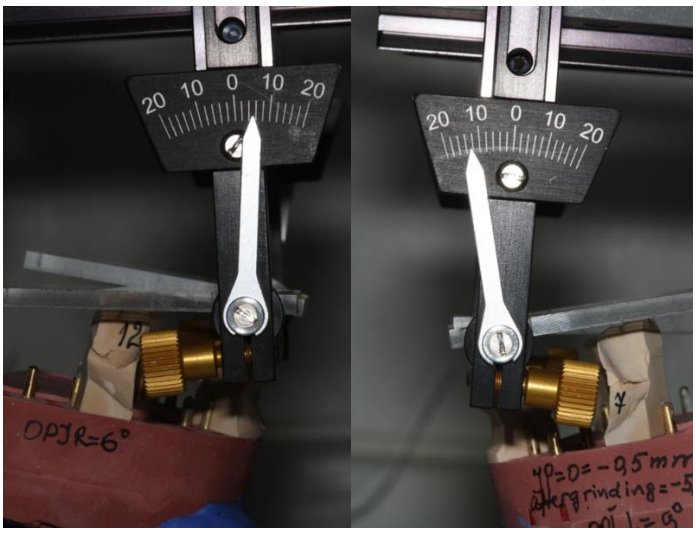
- Diagnostic wax-up and surgical template for implants
- Root canal treatment 14,13,21,22, 23, 26
- Post cores 14, 13, 21, 22, 23
- Extract 48, 44, 37, 24, 41

- Place implants 24, 25, 26, 27, 35, 36, 37, 44, 45, 46, 47
- PFM bridges 14, 13-21-22-23, 43-42-31-32
- Crowns on implants 24, 25, 26, 27, 35, 36, 37, 44, 45, 46, 47

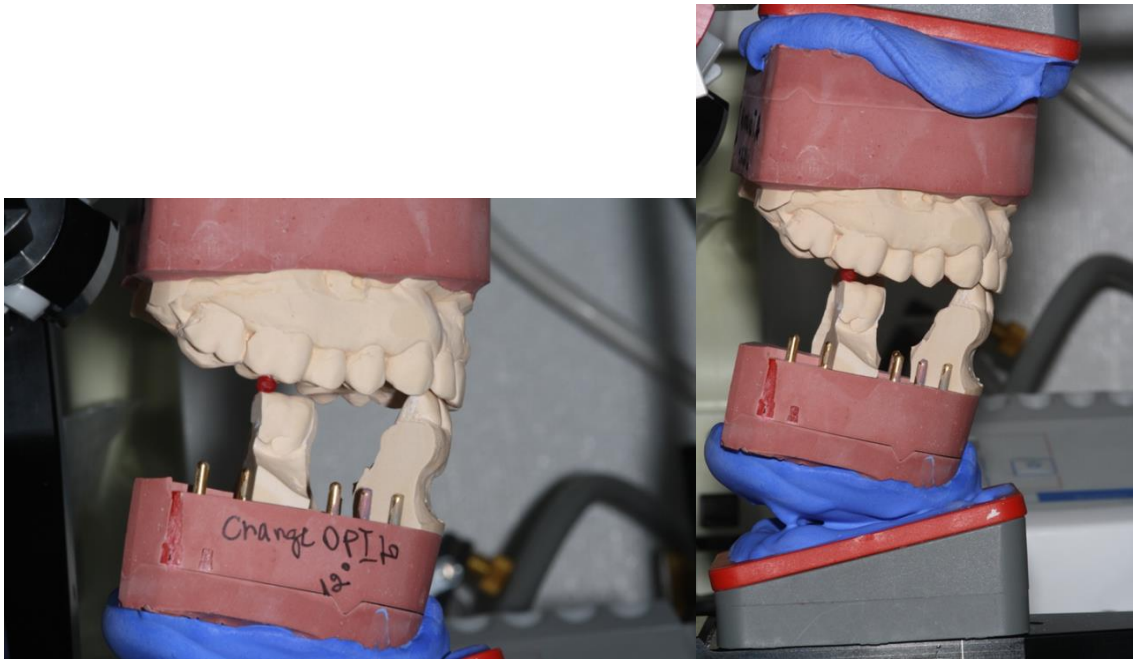
Technical task

- SCI both sides = 52 degrees, blue inserts
- Bennett right = 6 degrees, white insert, left = 4 degrees, yellow insert
- Total OPI = 12 degrees
- There is no need to raise the incisal pin, since it rises +5 mm from maximum closure to the reference. For aesthetic reasons, it is possible to raise it by 2 mm, then the incisal pin will be at a height of +2 mm, and we will close this gap using the lower incisors
- Class I occlusal
- Anterior guidance = 55 degrees (must do veber template and write the dates)

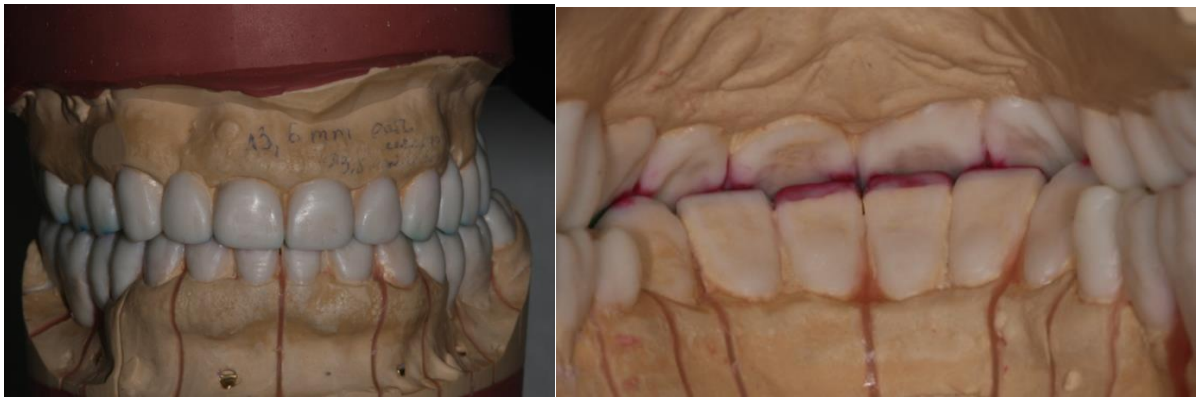
OPI

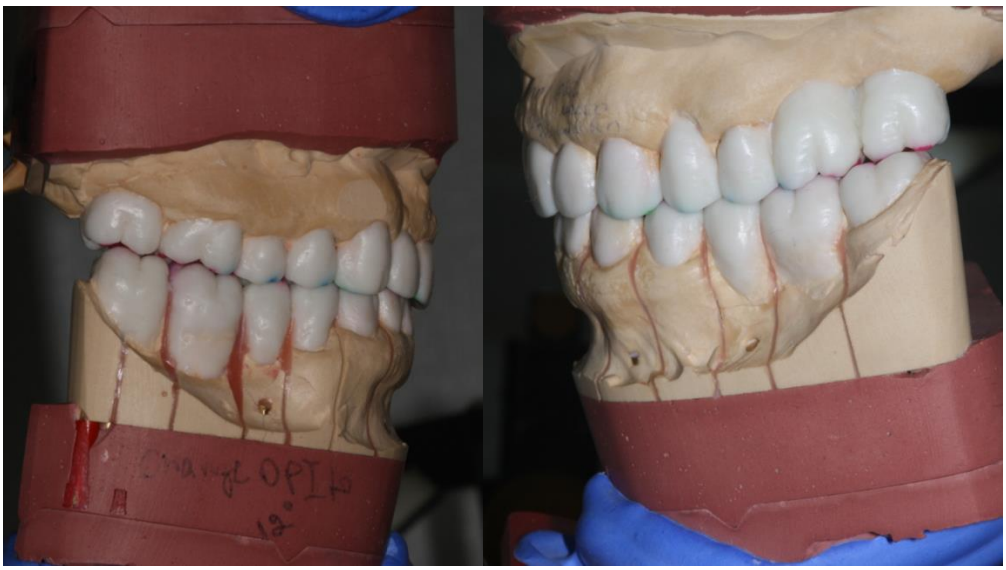


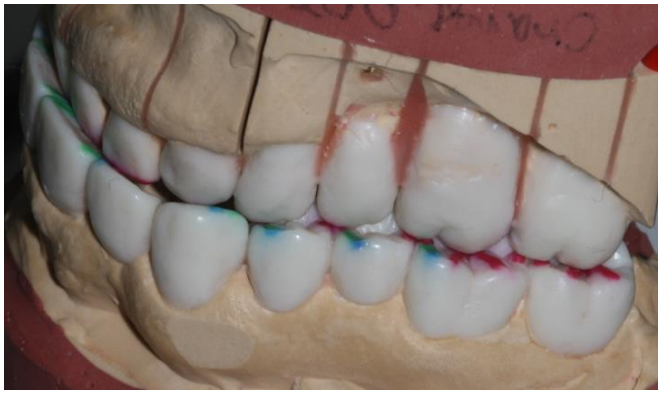
OPI total = 12 degrees

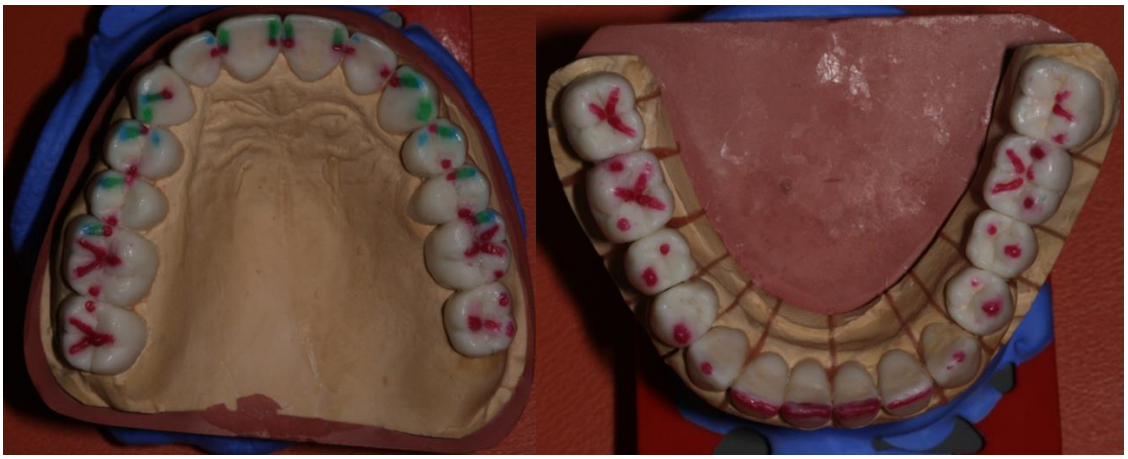


Wax-up









Template for surgery stage

Clinical case № 11

Patient`s birth date: 1970

Date of examination: 2012

Main concern: no support in posterior part, esthetics

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

		yes	no
1.	Infections sinusitis(stafil&aureu)	X	
2.	Cardio-vascular system ateroskerosis		
3.	Respiratory systems		X
4.	Digestive systems	X	
5.	Metabolic systems gastritis(H.Pylori		X
6.	Allergies мандарин ?		
7.	Urogenital problems		X
8.	Central nervous systems		X
9.	Psychological problems (theraphy)		X
10.	Rheumatic disease		X
11.	Hormonal disease disc protrusion L1-L2		X
12.	Special problems		

Main concern no balance, impossible to close tooth properly

Dental History Analysis

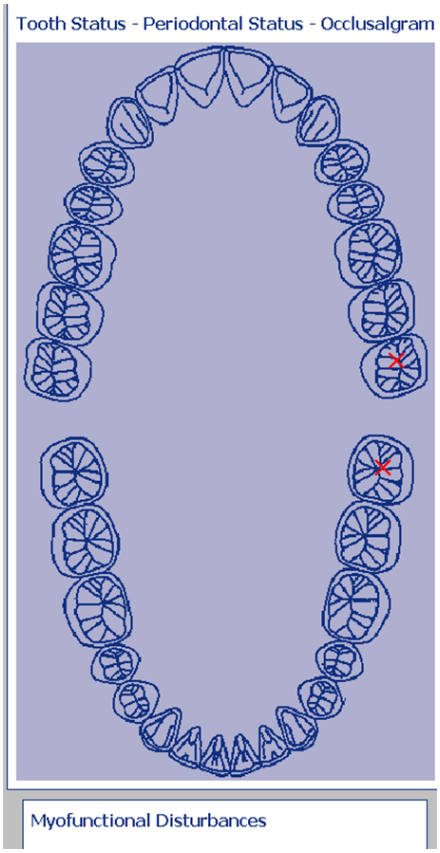
		valuation	yes	no
1.	Do you have problems when you chew?	3	X	
2.	Do you have problems when you are talking?	3	X	
3.	Do you have problems in closing your teeth properly?	3	X	
4.	Are any of your teeth especially sensitive?			X
5.	Do you have a problem when you open your mouth very wide?			X
6.	Do your jaw joints make noise and if so, on what side?	2	X	
7.	Do you have pain in the area of your jaw joints?			X
8.	Do you suffer from headaches?			X
9.	Do you suffer from cramps or spasm in your head, neck or throat?			X
10.	Do you have in general problems with your posture?	2	X	
	Occlusal Index	2.60		

		yes	no
11.	Have you ever had a serious accident?		X
12.	Did you have one or more oral intubations?		X
13.	Have you ever had orthodontic treatment or...		X
14.	Have you had a treatment with a splint?		X
15.	Are you grinding or pressing with your teeth?		X
16.	Do you think that treatment is necessary?	X	
17.	Do you think that there is a serious disorder or illness?		X

18. When was the last time you had dental treatment and what was done?

19. How would you describe your psychic behaviour?

[X] happy [X] sad [X] calm [X] excited [X] self-controlled [X] lack of self control

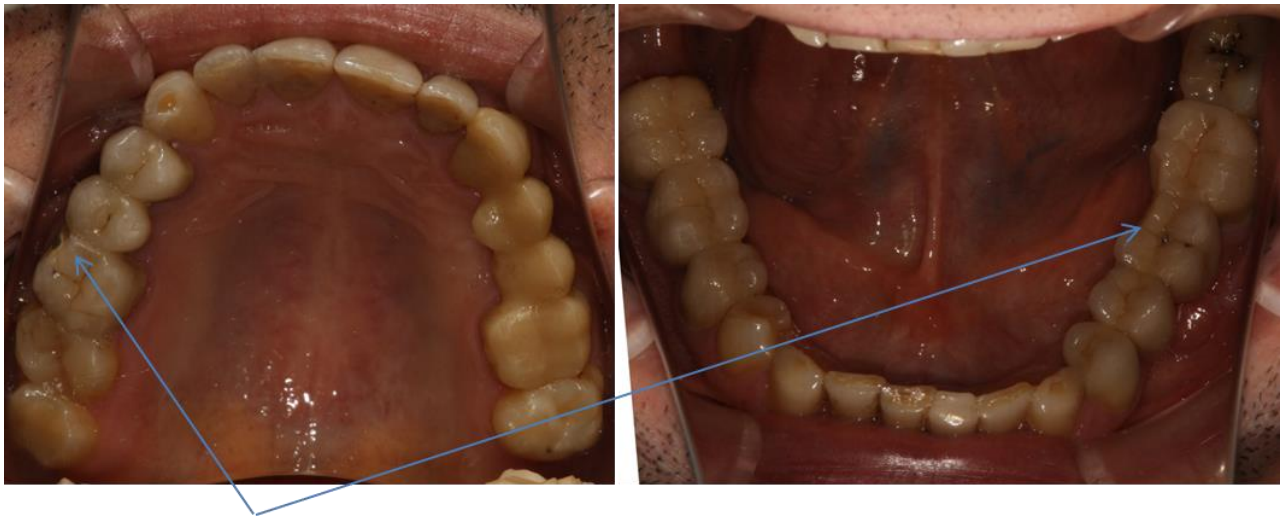


Intraoral photo

Mandible is shifted to the left

Esthetic problems

overbite



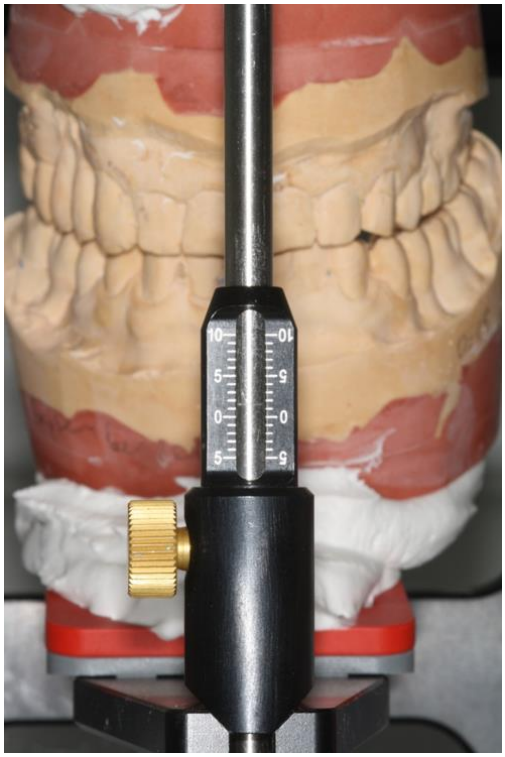
Chipping of ceramic on the left side

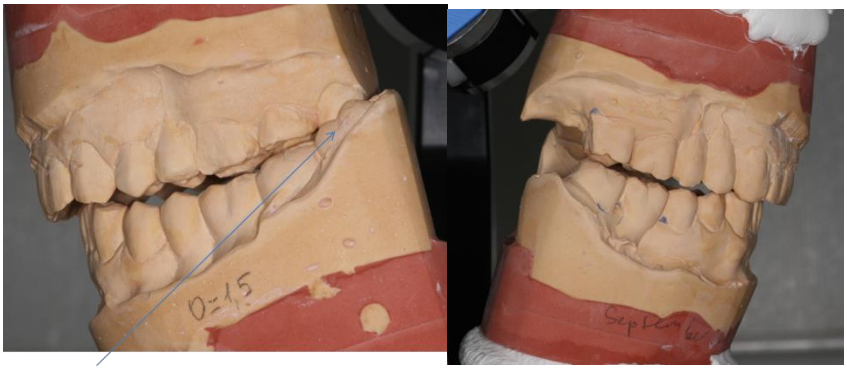
Incisors are inclined palatal

Casts mounted in reference position

Shift to the left

Casts mounted in reference position (incisal pin = +1,5 mm)

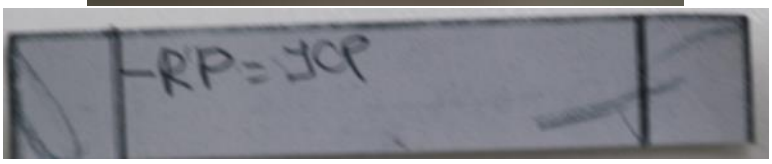




Interference contact on 3-nd molar on the left side

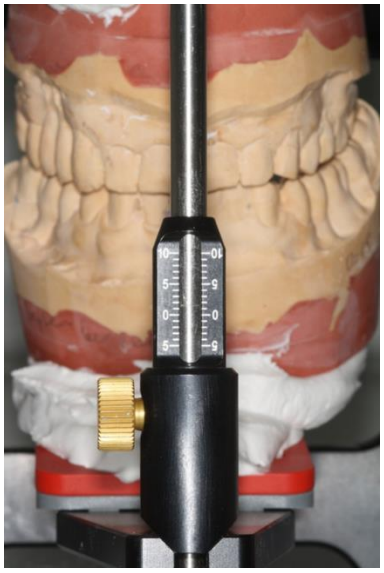
OPI=10

MPI

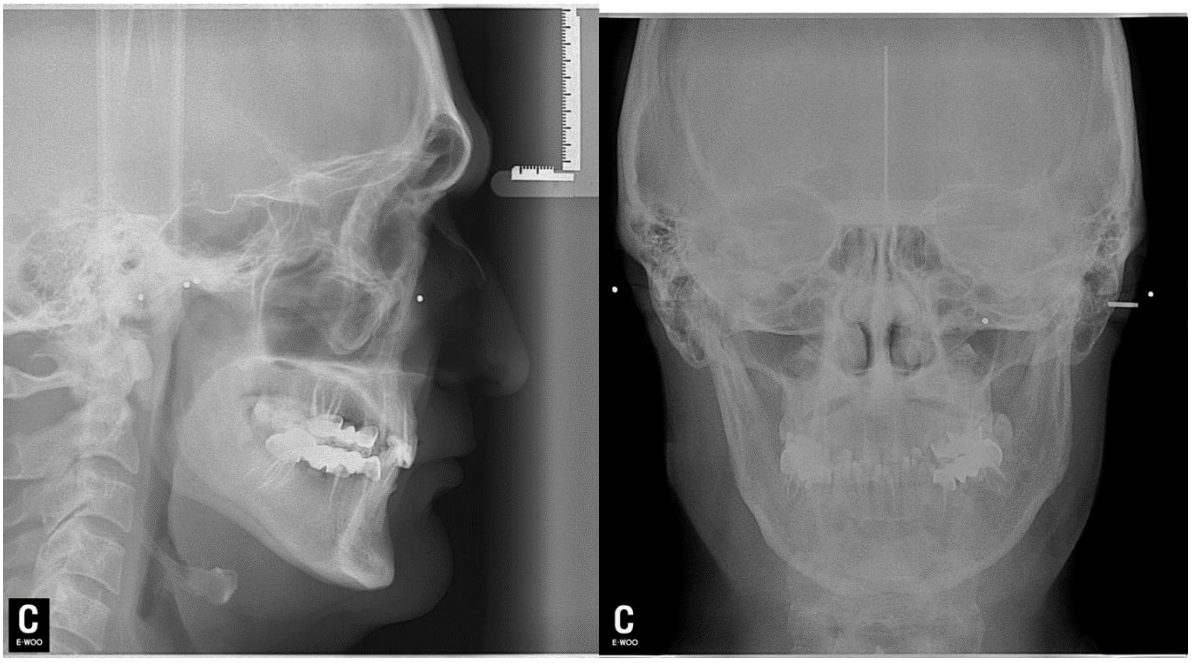


Incisal pin after remove interference teeth =-4,5 mm (-6 mm from RP)

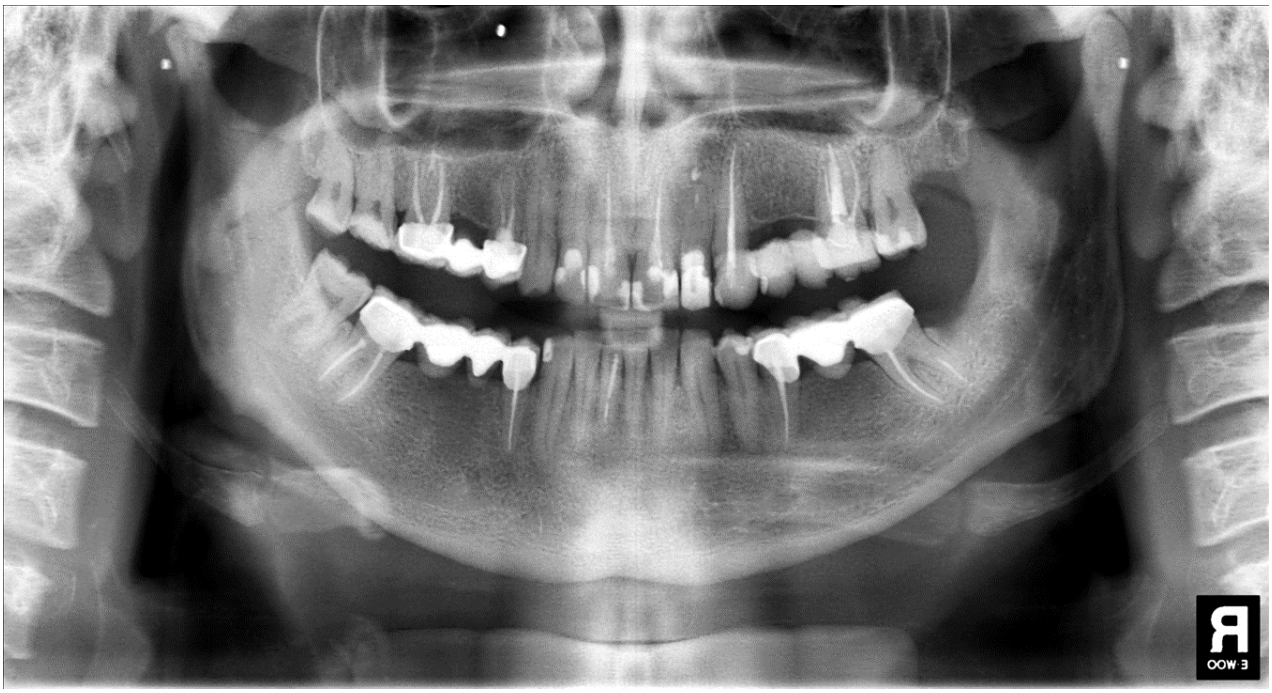
RP incisal pin difference between RP and ICP is 6 mm



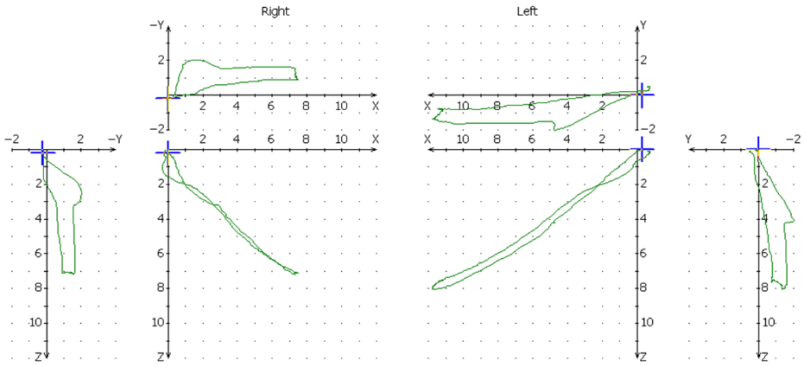
Lateral X-ray



OPG



Protrusion-retrusion

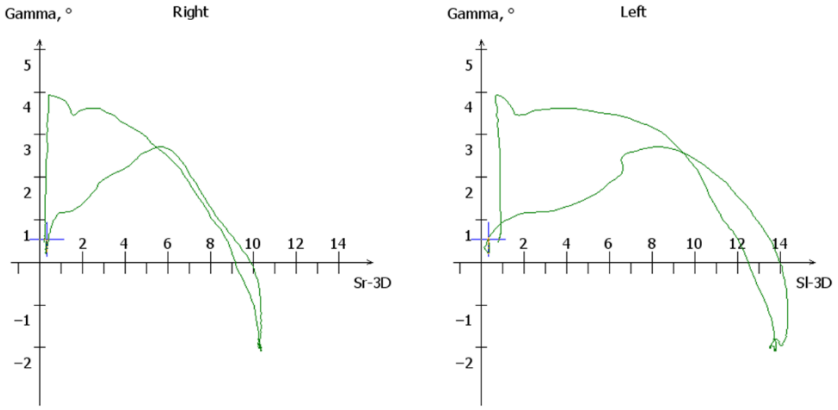


Shift to the left side

Reciprocal shift in the right TMJ

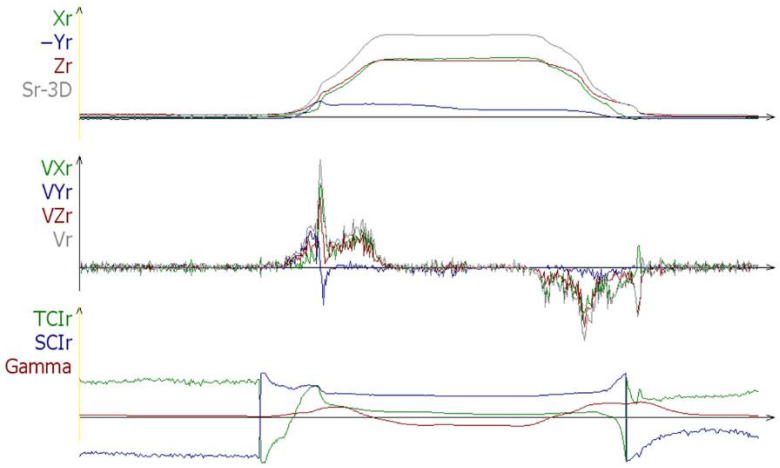
Length of movement on the left side is higher because of decreasing of height but SCI is flatter

Translation-rotation in protrusion



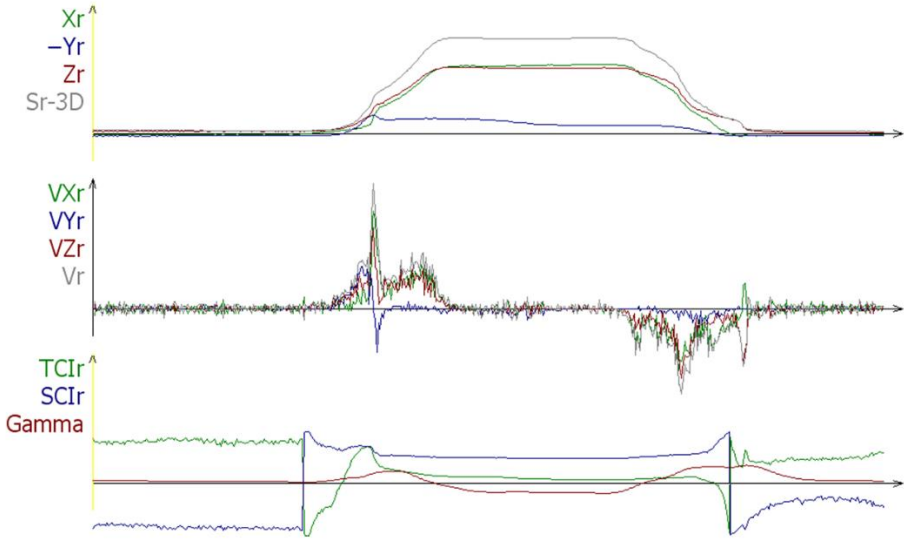
Rotational component increased at the beginning of movement - block in frontal teeth^ and at the end of protrusion- negative rotation.

Time curve right side

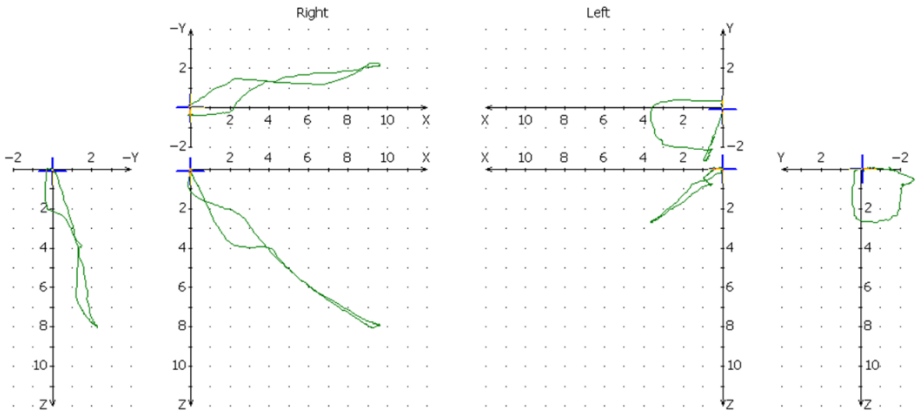


Muscle problems

Time curve left side

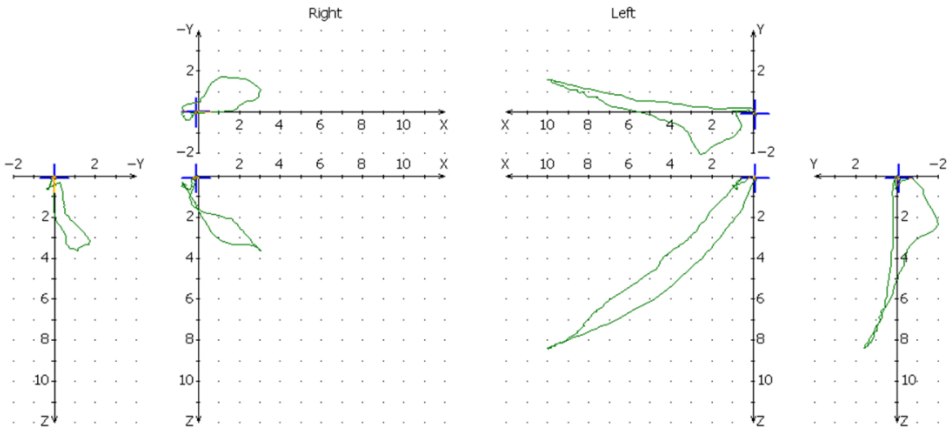


Mediotrusion right



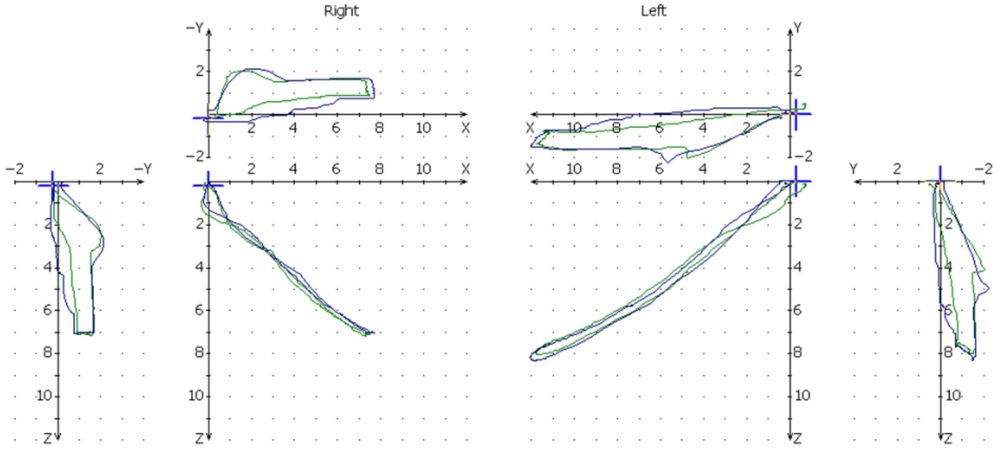
Reciprocal click on right tmj and avoidance pattern on the left

Mediotrusion left

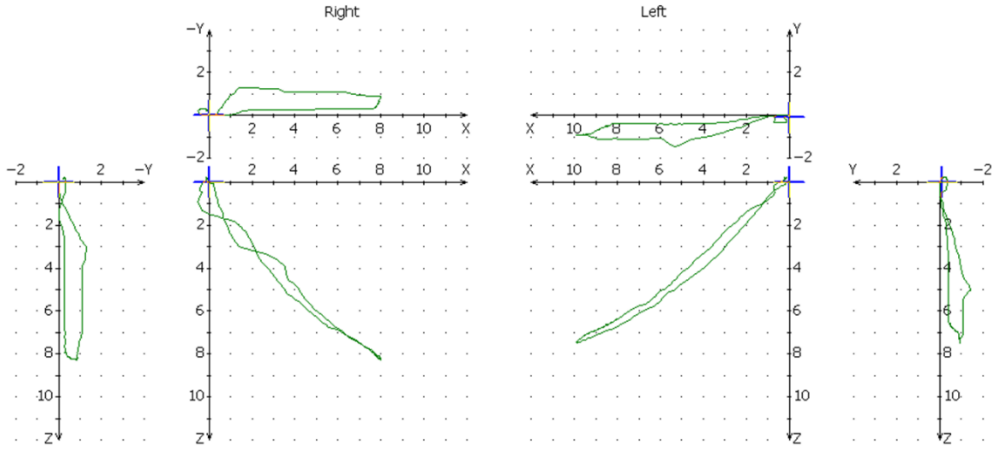


Negative Bennett movement

Protrusion-open

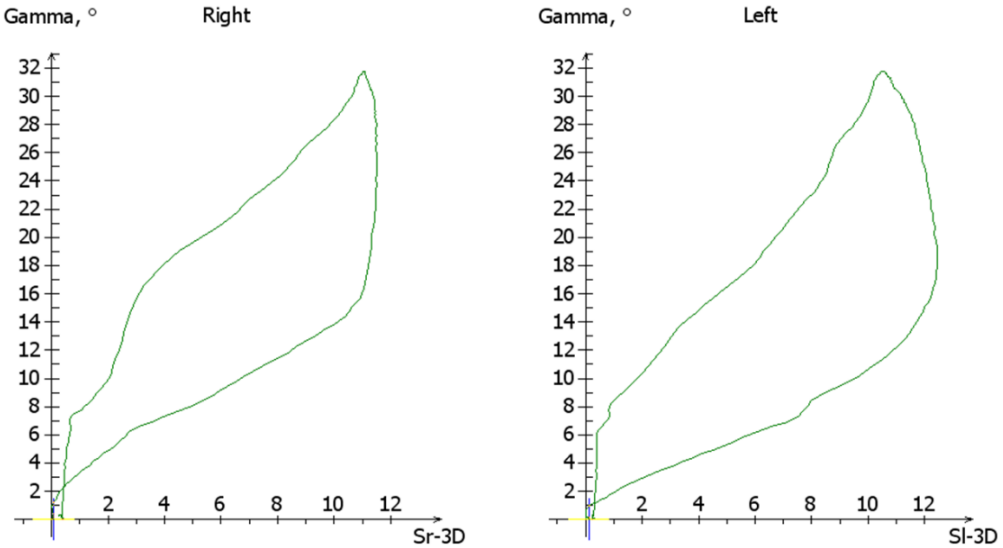


Open-close

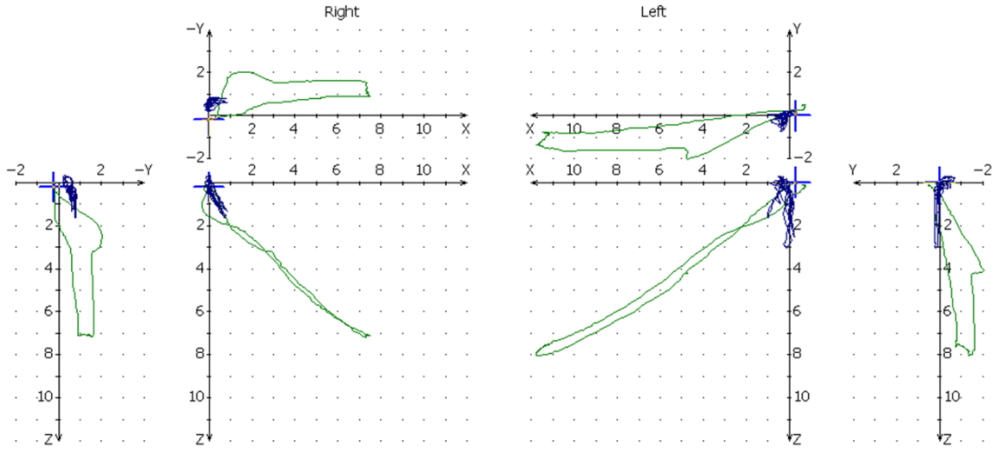


Shift to the left – avoidance pattern (38)

Translation-rotation

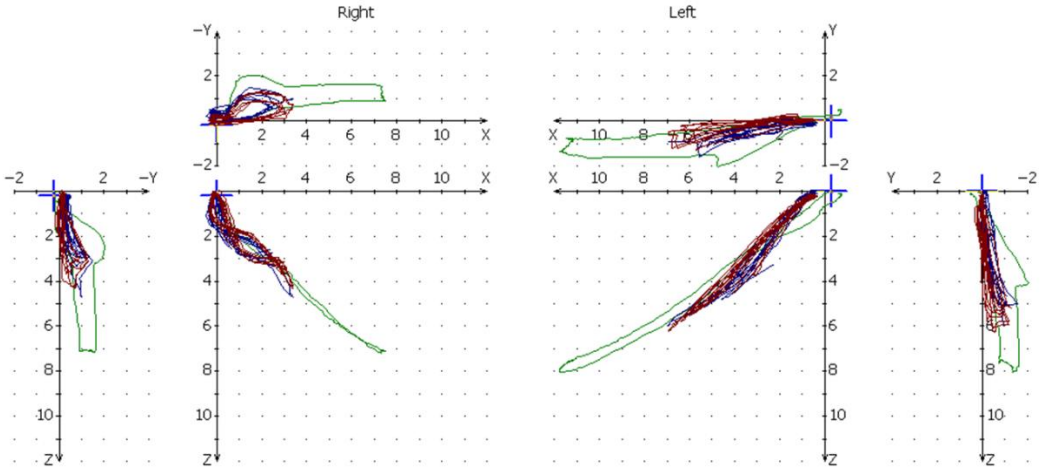


Protrusion-brux



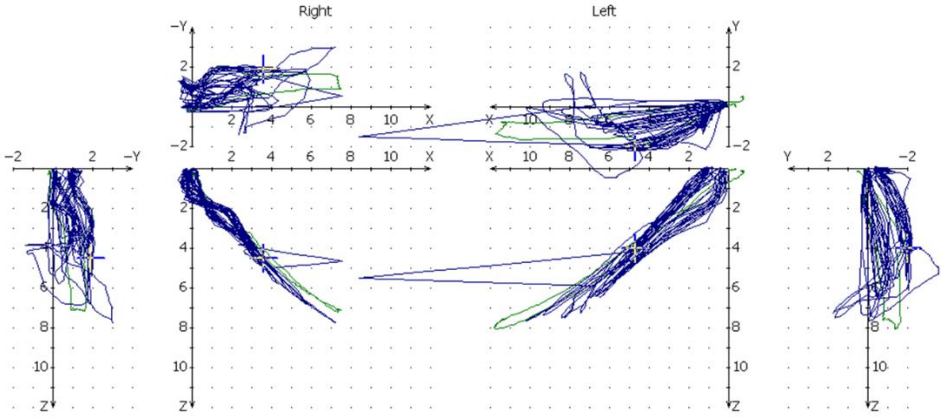
Shift to the left, and on the left side because of interference- distraction on z axis for 2 mm down in left TMJ during brux and right side – shift to the left side

Protrusion- speech



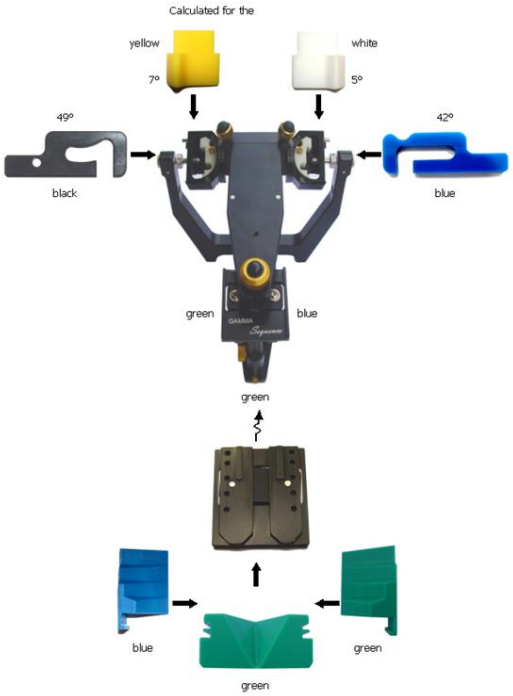
Could it be speech with reciprocal click

Mastication

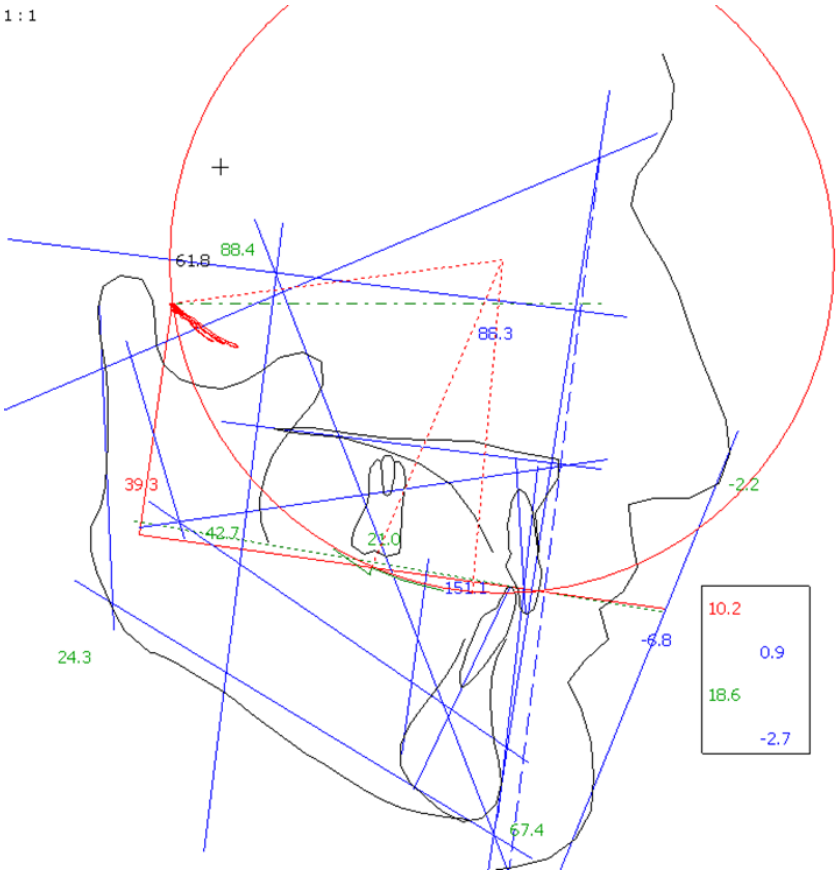


Protrusive type of chewing

Articulator settings



Cephalometric analyses



Slavicek Analysis

	left side		
Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	88.4	
Facial Depth	91.5 °	88.2	1-*
Mandibular Plane	21.5 °	24.3	
Facial Taper	68.0 °	67.4	
Mandibular Arc	31.2 °	39.3	2B**
Maxillary Position	65.0 °	59.2	2-**
Convexity	-1.0 mm	-2.2	
Lower Facial Height (by R.Slavicek)	45.2 °	42.7	
Lower Facial Height to Point D	51.7 °	48.7	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	131.3 °	151.1	1+*
Upper Incisor Protrusion	5.6 mm	0.8	1-*
Upper Incisor Inclination	26.4 °	10.2	2-**
Upper Incisor Vertical	mm	4.5	
Lower Incisor Protrusion	0.9 mm	-2.7	1-*
Lower Incisor Inclination	22.3 °	18.6	
Upper Molar Position	21.0 mm	20.9	
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	7.9	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	10.7	
Distance Occlusal plane - Axis (DPO)	40.9 mm	43.2	
Radius of Curve of Spee	----- mm	61.7	
Lip Embrasure	0.0 mm	0.4	
Occlusal Plane Xi Distance	-1.4 mm	-3.4	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	46.4	
Horizontal Condylar Inclination left	----- °	38.7	
Horizontal Condylar Inclination	----- °	42.6	
Relative Condylar Inclination	----- °	34.6	
Relative Condylar Inclination 6	----- °	20.3	
Relative Condylar Inclination 7	----- °	8.5	
Relative Condylar Inclination 8	----- °	42.6	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-6.7	1-*

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is strongly brachyfacial
Skeletal class is III with tends to I
The maxilla is positioned retrognathic, with tendency to neutral
The mandible is positioned neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is diminished
The inclination of the upper incisor is strongly diminished
The protrusion of the lower incisor is diminished
The inclination of the lower incisor is normal
The interincisal angle is increased
Occlusal concept: Group function
No functional statement available

Explanation

	left side		
Determinants	Norm	Value	Trend
Facial Axis	90.0 °	88.4	
Facial Depth	91.5 °	88.2	1-*
Facial Taper	68.0 °	67.4	
Mandibular Plane	21.5 °	24.3	
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	389.8	2-**
Facial Length Ratio	63.5 %	68.1	2+**
Y Axis to S N	67.0 °	69.0	
Y Axis (Downs)	61.8 °	60.5	
S N to Gonion Gnathion Angle	31.6 °	29.8	

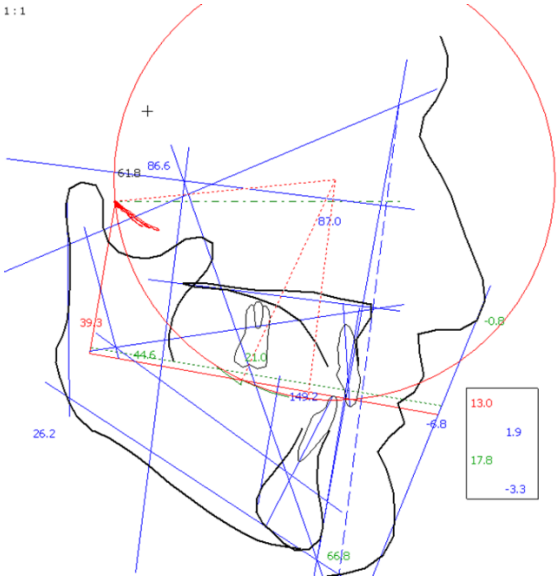
Incisal Pin Table

Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	42.7	43.1	43.5	43.8	44.2	44.6	44.9	45.6	46.3	47.0	47.6	48.2	49.4
LFH. (Norm)	45.2	45.3	45.4	45.5	45.6	45.7	45.8	46.0	46.2	46.4	46.6	46.8	47.2
LFH. (Variation)	0.0	0.4	0.8	1.1	1.5	1.9	2.2	2.9	3.6	4.3	4.9	5.5	6.7
Menton Vertical	0.0	0.4	0.8	1.2	1.6	1.9	2.3	3.0	3.6	4.2	4.8	5.4	6.4
Pogonion Sagittal	0.0	-0.9	-1.7	-2.6	-3.5	-4.3	-5.2	-6.9	-8.7	-10.5	-12.2	-14.0	-17.5
Incision Inf. Vertical	0.0	0.5	0.9	1.4	1.8	2.3	2.7	3.5	4.3	5.1	5.9	6.6	8.0
Incision Inf. Sagittal	0.0	-0.6	-1.2	-1.7	-2.3	-2.9	-3.5	-4.8	-6.0	-7.3	-8.6	-9.8	-12.4

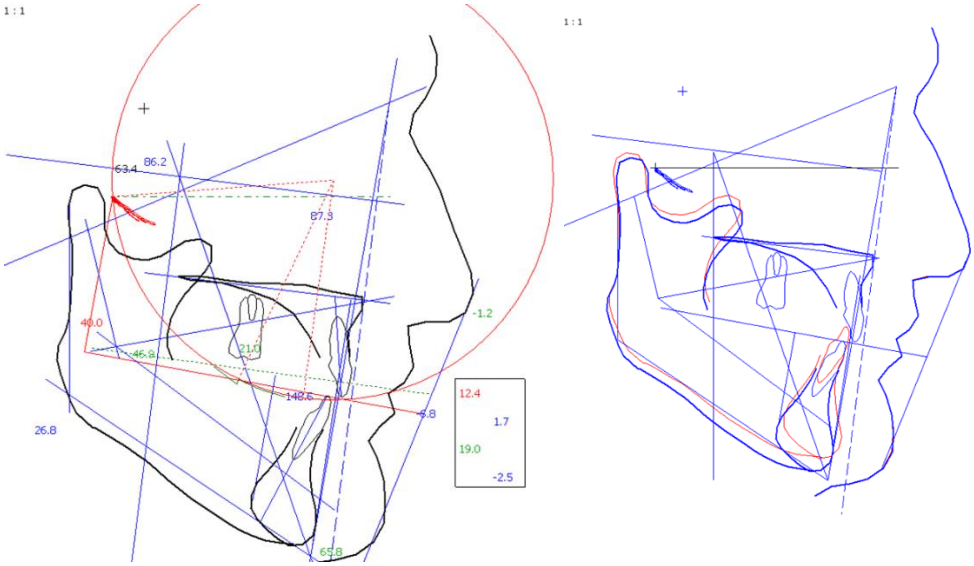
Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	42.7	42.3	41.9	41.5	41.1	40.7	40.2	39.3	38.4	37.4	36.4	35.4	33.1
LFH. (Norm)	45.2	45.1	45.0	44.9	44.8	44.6	44.5	44.3	44.1	43.9	43.7	43.4	43.0
LFH. (Variation)	0.0	-0.4	-0.8	-1.2	-1.6	-2.0	-2.5	-3.4	-4.3	-5.3	-6.3	-7.3	-9.6
Menton Vertical	0.0	-0.4	-0.8	-1.3	-1.7	-2.2	-2.6	-3.6	-4.7	-5.7	-6.9	-8.1	-10.7
Pogonion Sagittal	0.0	0.9	1.7	2.6	3.4	4.2	5.1	6.7	8.4	10.0	11.6	13.1	16.1
Incision Inf. Vertical	0.0	-0.5	-1.0	-1.5	-2.0	-2.5	-3.0	-4.1	-5.2	-6.4	-7.6	-8.8	-11.5
Incision Inf. Sagittal	0.0	0.6	1.1	1.7	2.2	2.8	3.3	4.3	5.3	6.3	7.2	8.0	9.6

1 step – increase LFH from 42,7 to 45,2 = +8 mm on incisal pin (from reference position +2 mm but for disocclusion in molar region we increased for 4,5 mm from RP, IP = 6 mm)

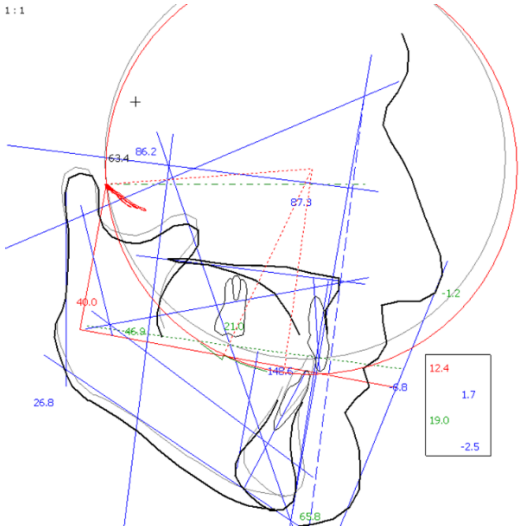
1 step - VTO increase VD from 42,5 to 45,2 (+4,5 mm on incisal pin)



2 step - Mandible moves 1,2 mm(x); 2,1 mm(z)- reciprocal click



Overlay



Slavicek Analysis

	left side			1		
Skeletal Measurement	Norm	Value	Trend	Norm	Value	Trend
Facial Axis	90.0 °	88.4		90.0 °	86.2	1D*
Facial Depth	91.5 °	88.2	1-*	91.5 °	87.3	1-*
Mandibular Plane	21.5 °	24.3		21.5 °	26.8	1D*
Facial Taper	68.0 °	67.4		68.0 °	65.8	
Mandibular Arc	31.2 °	39.3	2B**	31.2 °	40.0	2B**
Maxillary Position	65.0 °	59.2	2-**	65.0 °	59.2	2-**
Convexity	-1.0 mm	-2.2		-1.0 mm	-1.1	
Lower Facial Height (by R.Slavicek)	45.2 °	42.7		46.1 °	46.9	
Lower Facial Height to Point D	51.7 °	48.7		52.6 °	52.9	
Dental Measurement	Norm	Value	Trend	Norm	Value	Trend
Interincisal Angle	131.3 °	151.1	1+*	131.3 °	148.6	1+*
Upper Incisor Protrusion	5.6 mm	0.8	1-*	5.6 mm	1.6	1-*
Upper Incisor Inclination	26.4 °	10.2	2-**	26.4 °	12.3	2-**
Upper Incisor Vertical	mm	4.5		mm	-0.5	
Lower Incisor Protrusion	0.9 mm	-2.7	1-*	0.9 mm	-2.4	1-*
Lower Incisor Inclination	22.3 °	18.6		22.3 °	19.0	
Upper Molar Position	21.0 mm	20.9		21.0 mm	20.9	
Occlusal plane	Norm	Value	Trend	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	7.9		----- °	10.4	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	10.7		----- °	8.7	
Distance Occlusal plane - Axis (DPO)	40.9 mm	43.2		40.9 mm	45.0	
Radius of Curve of Spee	----- mm	61.7		----- mm	63.4	
Lip Embrasure	0.0 mm	0.4		0.0 mm	-5.2	1-*
Occlusal Plane Xi Distance	-1.4 mm	-3.4		-1.4 mm	-2.9	
Functional Measurement	Norm	Value	Trend	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	46.4		----- °	46.4	
Horizontal Condylar Inclination left	----- °	38.7		----- °	38.7	
Horizontal Condylar Inclination	----- °	42.6		----- °	42.6	
Relative Condylar Inclination	----- °	34.6		----- °	32.1	
Relative Condylar Inclination 6	----- °	20.3		----- °	17.8	
Relative Condylar Inclination 7	----- °	8.5		----- °	5.9	
Relative Condylar Inclination 8	----- °	42.6		----- °	42.6	
Anterior Guidance (S-AOP)	°			°		
Relative Anterior Guidance	°			°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-6.7	1-*	-2.9 mm	-6.7	1-*

Slavicek Interactive Verbal Analysis

	left side	1
The skeletal trend of the skull is	mesiofacial	dolichofacial
The skeletal trend of the mandible is	strongly brachyfacial	strongly brachyfacial
Skeletal class is	III with tends to I	I with tends to III
The maxilla is positioned	retrognathic, with tendency to neutral	retrognathic, with tendency to neutral
The mandible is positioned	neutral	neutral, with tendency to retrognatic
The lower facial height is	normal	normal
Dental class	unknown	unknown
The protrusion of the upper incisor is	diminished	diminished
The inclination of the upper incisor is	strongly diminished	strongly diminished
The protrusion of the lower incisor is	diminished	diminished
The inclination of the lower incisor is	normal	normal
The interincisal angle is	increased	increased
Occlusal concept:	Group function	Group function
	No functional statement available	No functional statement available

Explanation

	left side			1		
Determinants	Norm	Value	Trend	Norm	Value	Trend
Facial Axis	90.0 °	88.4		90.0 °	86.2	1D*
Facial Depth	91.5 °	88.2	1-*	91.5 °	87.3	1-*
Facial Taper	68.0 °	67.4		68.0 °	65.8	
Mandibular Plane	21.5 °	24.3		21.5 °	26.8	1D*
Related Values	Norm	Value	Trend	Norm	Value	Trend
Bjoerk Sum	396.0 °	389.8	2-**	396.0 °	392.3	1-*
Facial Length Ratio	63.5 %	68.1	2+**	63.5 %	66.7	1+*
Y Axis to S N	67.0 °	69.0		67.0 °	70.9	1+*
Y Axis (Downs)	61.8 °	60.5		61.8 °	62.4	
S N to Gonion Gnathion Angle	31.6 °	29.8		31.6 °	32.3	

List of problems

- Sagittal and transversal discrepancy of upper and lower jaw
- Passive centric arch and lower active centric arch does not fit together
- Interferences contact points on wisdom tooth
- Asymmetrical case
- Decreased lower facial height
- Esthetic and parodontal problems
- Breakage of ceramic restorations

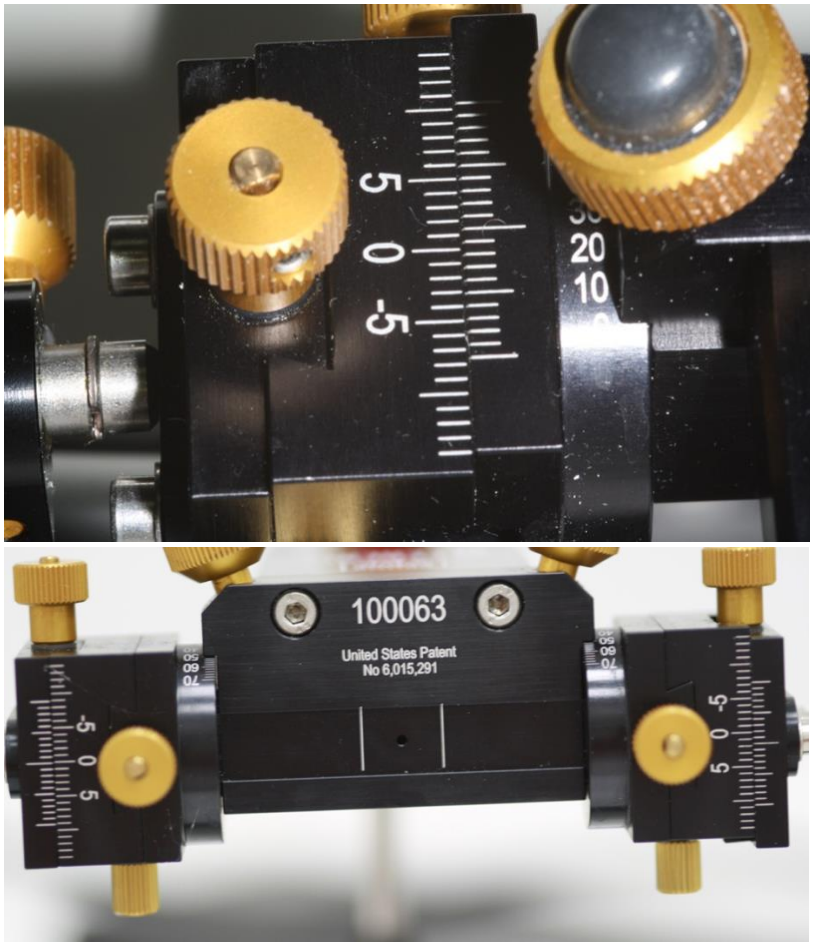
Splint therapy Splint fabrication

Variator

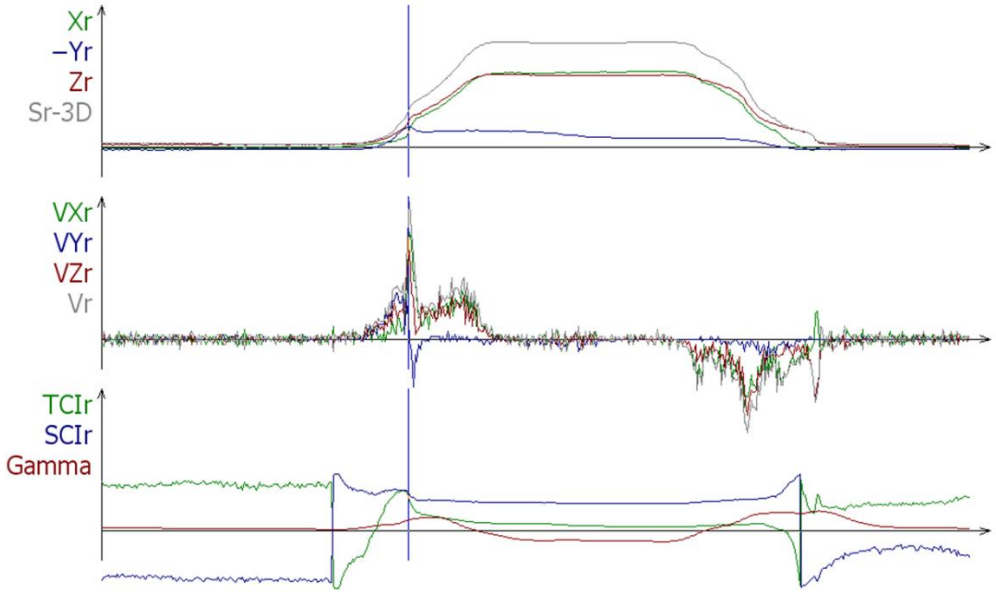
On condylography reciprocal click is on 1,8 mm of protrusion right TMJ. It means x=1,2 mm, Z= 2, –y= -0,5 mm

In this point acceleration is from 10 mm/s to 54 mm/sec

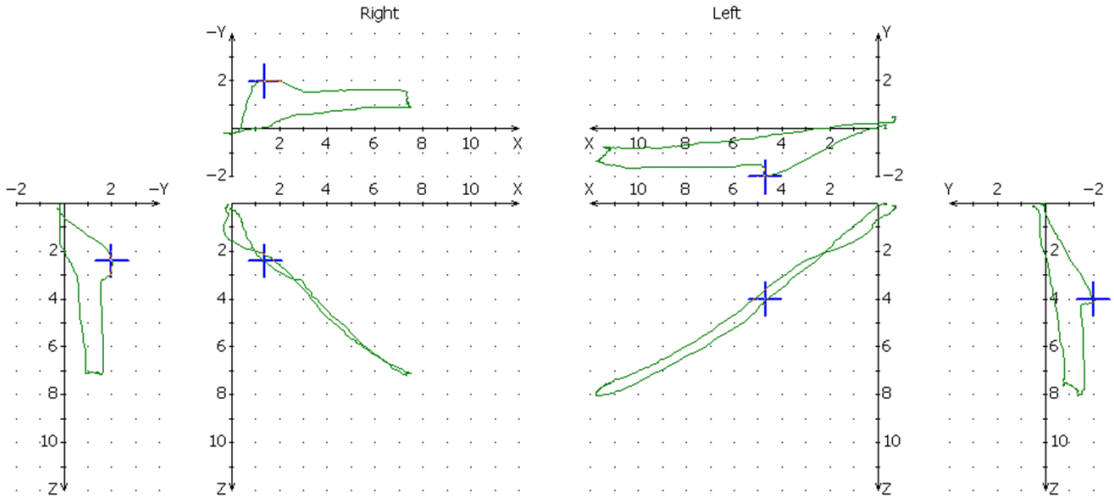
Verticalization till +4,5 mm on incisal pin (LFH= 42,7, norm is 45,2)



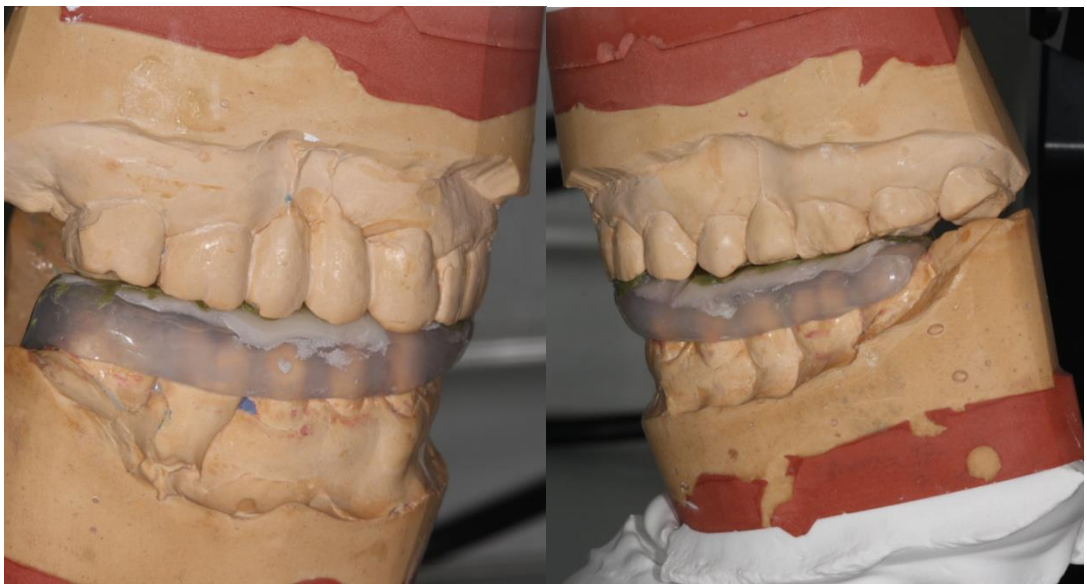
THP – time curves

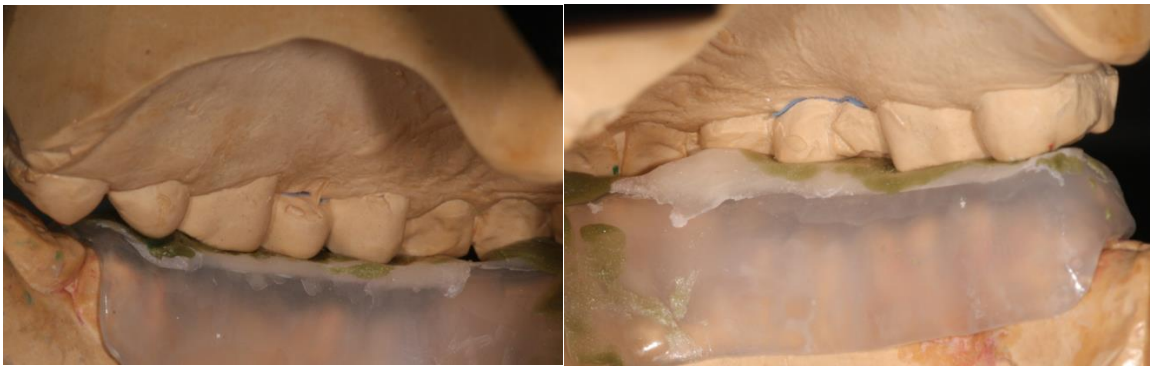


THP



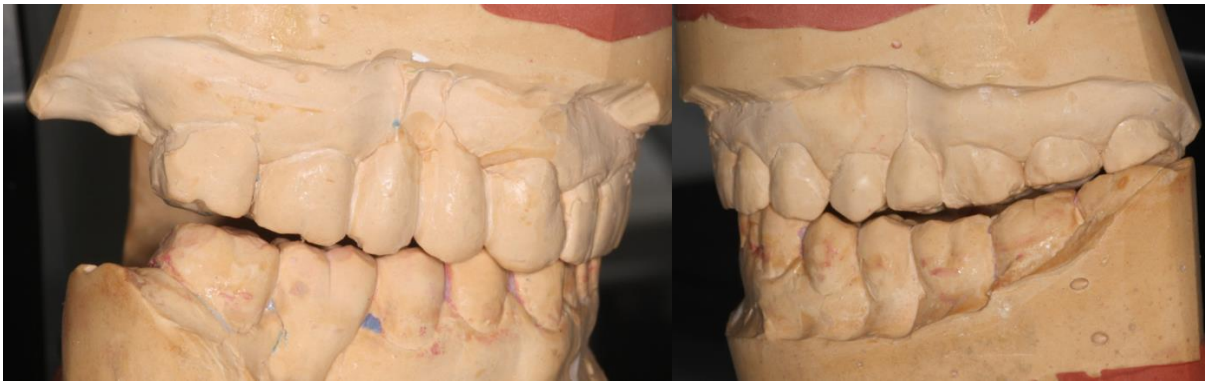
Splint fabrication; Incisal pin = 6 mm

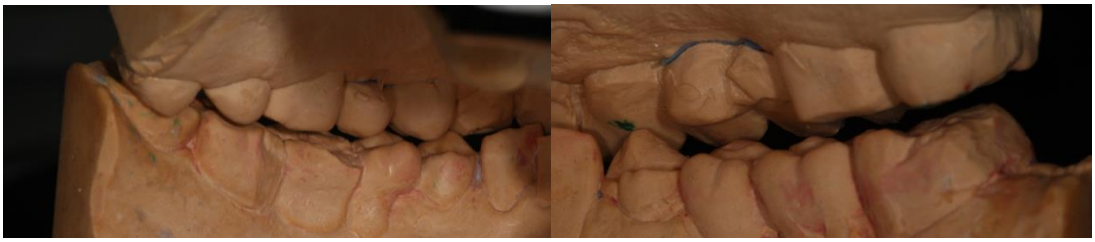




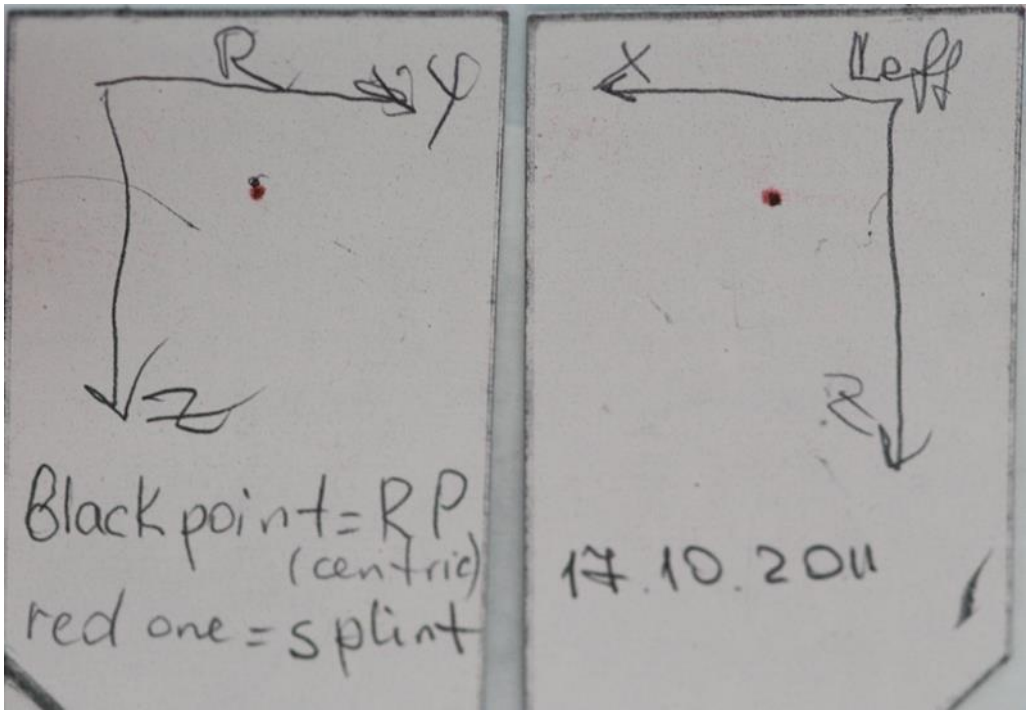
After splint –therapy; Incisal pin = 0,5 mm

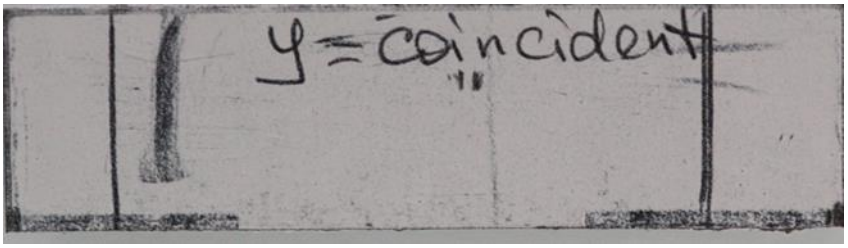
After splint – therapy





MPI no difference between RP and after splint therapy





Treatment objectives

Wax-up:

1. Increase vertical dimension IP = +2,5 mm (it mean + 8 mm from ICP)
2. Make II class dental on right and left side with sequential guidance and cross bite on the left side

- SCI right= 46 degrees; OPI = 10 degrees
- RCI =36 degrees-Cui 30= 6 degrees DOA
- Change OPI to 6 degrees
- SCI left = 38 degrees; OPI=10 degrees
- RCI = 28 degrees – 30= -2 degrees strong interference on the left side
- Change OPI left side to -2 degrees

- LFH = should be increased from RP on incisal pin +2,5 mm
- Interincisal angle should be decreased

Treatment plan

1. Myopathic occlusal splint (with verticalization +2,5 mm from RP)
2. Extract 38 and 28
3. Wax-up dental class II, LFH= 45,2 (+2,5 mm on IP)

- OPI flattening
- AG decrease

4. Root canal retreatment 16, 13, 12, 11, 21, 24, 26, 37, 33, 31, 45, 47
5. Place implants 15, 14, 25, 35, 36, 46
6. Long time temporary

Professor comments

- ThP is noted on incursion movement. How to determine this point where the disc jumped off the head? Is this v(speed) of movement?
- Disk reduction is possible, how is % of cases of relapse in such cases. if we do protrusion in one TMJ is if always necessary to do protrusion also in the other, this case 0.5 mm-1 mm.
- We noted the condylography overlay. We marked the therapeutic position x, y, z on both sides, then took the 2 mm protrusion inserts and put them on the right side. Then the lower jaw shifted 2 mm to the left - we got even more crossbite. If we have an asymmetric case, then we take a smaller value and calculate RCY from it. OPY flatten. Get an MRI.
- The result is positive with splint therapy, it happened due to verticalization, and this gave a temporary result and the absence of a click, but after treatment, due to the fact that disk reduction did not occur, everything can return, and a click will appear again.

Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	89.5	
Facial Depth	91.5 °	91.8	
Mandibular Plane	21.5 °	21.1	
Facial Taper	68.0 °	66.9	
Mandibular Arc	31.2 °	36.9	1B*
Maxillary Position	65.0 °	59.2	2-**
Convexity	-1.0 mm	-1.5	
Lower Facial Height (by R.Slavicek)	44.3 °	46.0	
Lower Facial Height to Point D	50.8 °	50.6	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	131.7 °	154.6	2+**
Upper Incisor Protrusion	3.7 mm	0.9	1-*
Upper Incisor Inclination	24.0 °	8.7	2-**
Upper Incisor Vertical	mm	4.4	
Lower Incisor Protrusion	2.7 mm	-3.4	2-**
Lower Incisor Inclination	24.0 °	16.6	
Upper Molar Position	21.0 mm	21.5	
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	2.6	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	7.0	
Distance Occlusal plane - Axis (DPO)	40.9 mm	41.2	
Radius of Curve of Spee	----- mm	63.1	
Lip Embrasure	0.0 mm	1.2	
Occlusal Plane Xi Distance	-1.4 mm	-4.0	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	45.0	
Horizontal Condylar Inclination left	----- °	44.2	
Horizontal Condylar Inclination	----- °	44.6	
Relative Condylar Inclination	----- °	42.0	
Relative Condylar Inclination 6	----- °	35.4	
Relative Condylar Inclination 7	----- °	35.3	
Relative Condylar Inclination 8	----- °	44.6	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-8.3	2-**

SCI R = 49 degrees

SCI = 42 degrees (according to condylography)

OPI clinically right = 4 degrees

OPI clinically left = 10 degrees

Right side 49 – 4= 45 45- 30 = 15 degrees DOA right side

Left side 42 – 10= 32 32-30= 2 DOA left side strong interference

Change OPI for right side – from 4 to 9 degrees

Change OPI for left side – from 10 to 2 degrees

Increase VD = +6 mm on incisal pin (from 44,3 degrees to 46 degrees)

2-nd condylography after 35 months after extraction of wisdom tooth

February 2012

Muscle Diagnosis

		right		left	
		+	++	+	++
1.	shoulders and neck			X	
2.	atlanto-occipital region			X	
3.a	M.temporalis ant.				
3.b	M.temporalis med.				
3.c	M.temporalis post.				
4.a	M.masseter (superficial)				
4.b	M.masseter (deep)		X		
5.	Tuber maxillae	X			
6.	M.pterygoideus medialis		X	X	
7.	M.mylohyoideus		X	X	
8.	M.digastricus		X	X	
9.	suprahyoidale M.		X	X	
10.	infrahyoidale M.				
11.	Larynx				
12.	M.sterno-cleido-mastoideus				
13.	M.omohyoideus			X	
14.	Tongue				

		right		left	
		+	++	+	++
15.	comparative palpation of jaw joints				
	a) lateral poles, statically	X			
	b) lateral poles, in rotation		X		
	c) retral joint space		X		
	d) Lig.temporo-mandibulare		X		

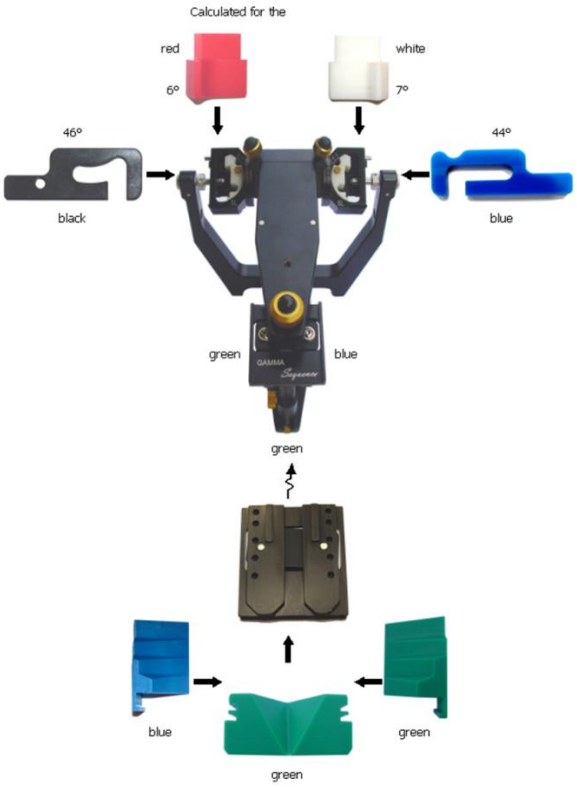
Protractors and retractors

Avoidance pattern (avoidance pattern on right side)

Posture

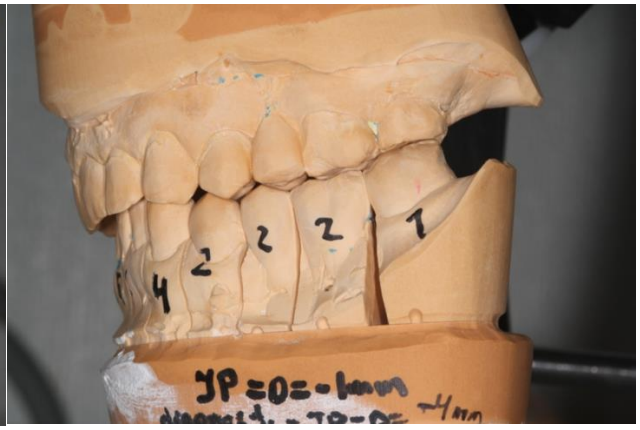
Head position

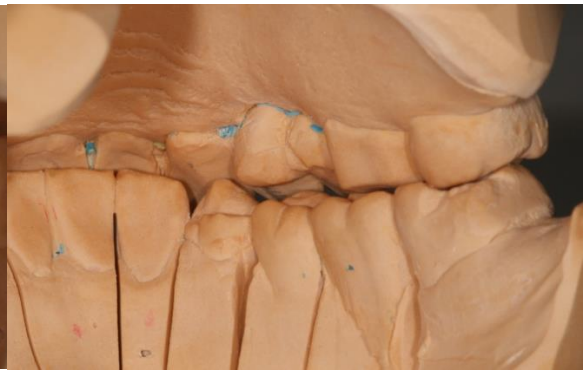
Cns muscle

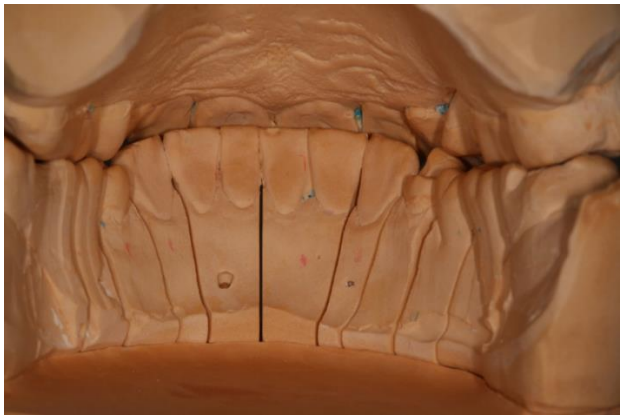


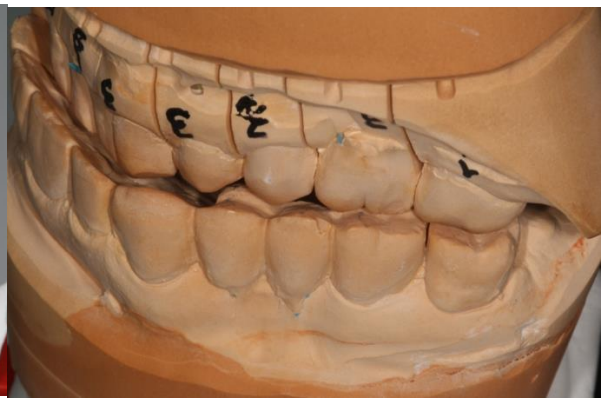
Casts in RP after condilography (after extraction of wisdom tooth)

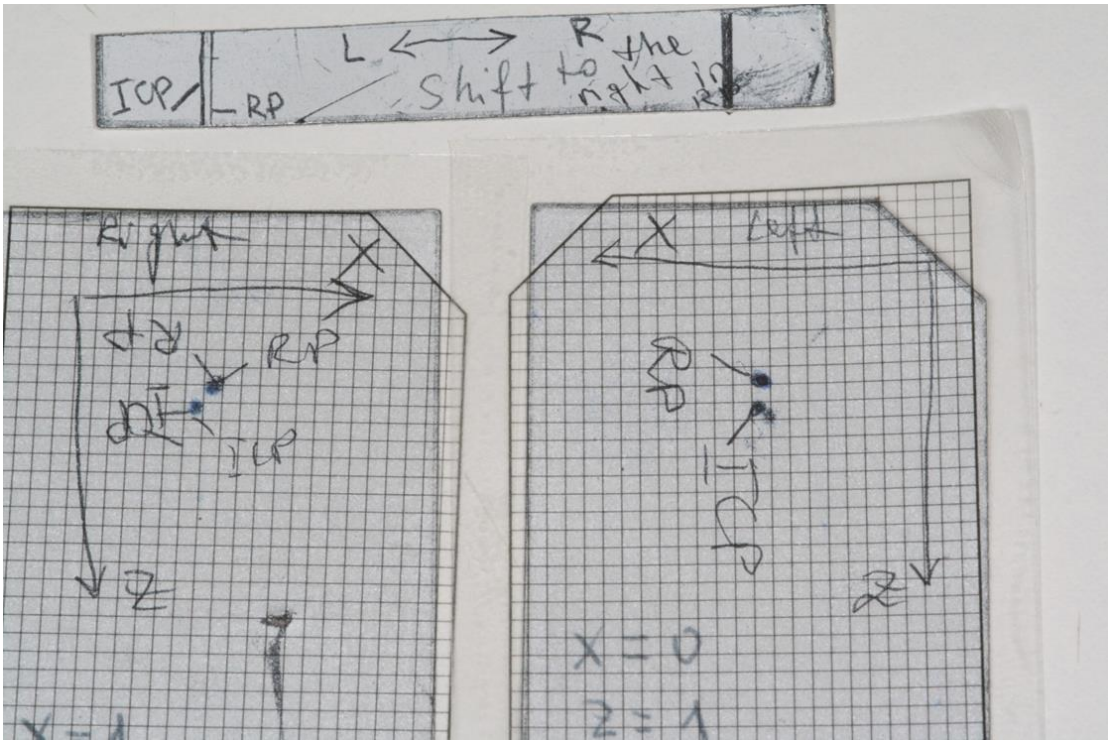
After we remove stamps with interferences om 17 and 47 and 27-37 incisal pin decreased from RP= - 1 mm to -4 mm. It means that Incisal Pin decreased during diagnostical remove interference – 3 mm



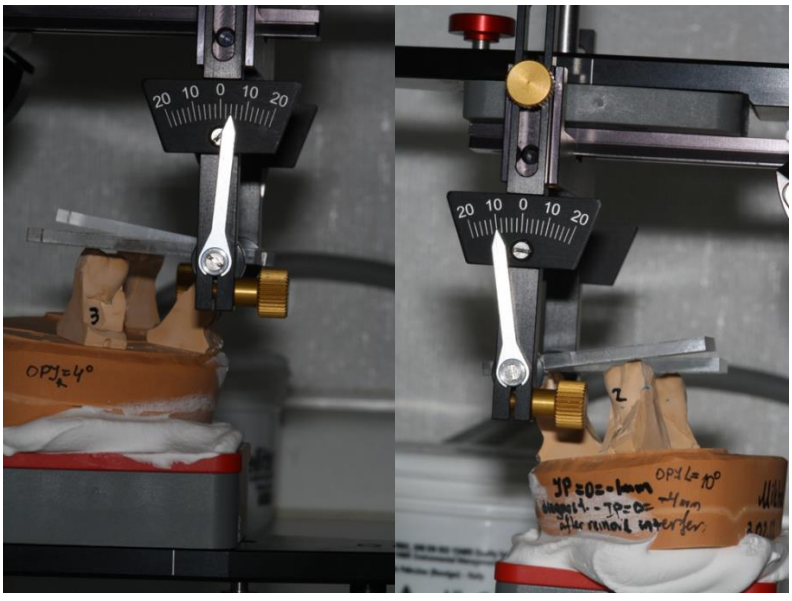




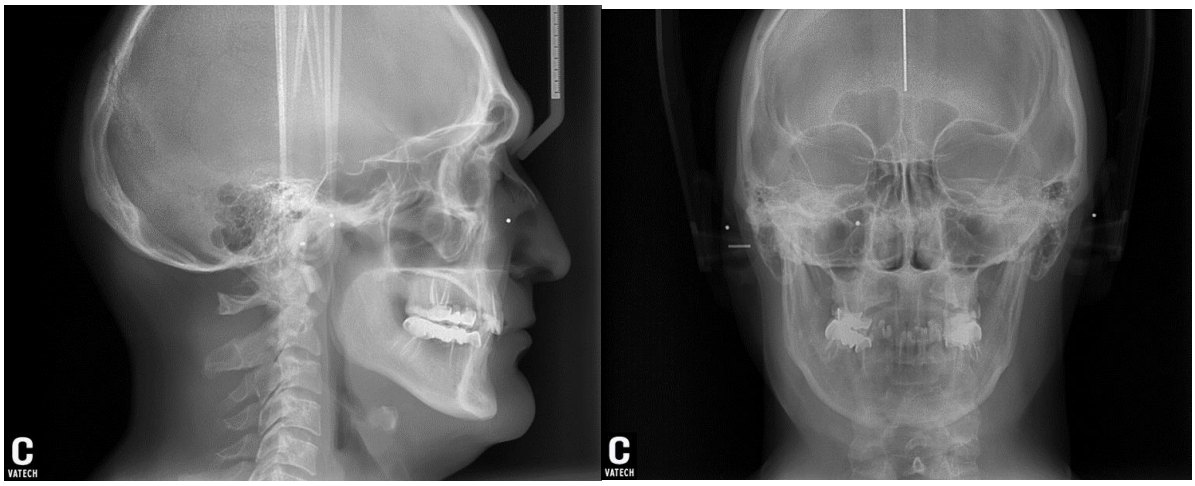




OPI R = 4 degrees, OPI L = 10 degrees




R
VATECH


C
VATECH
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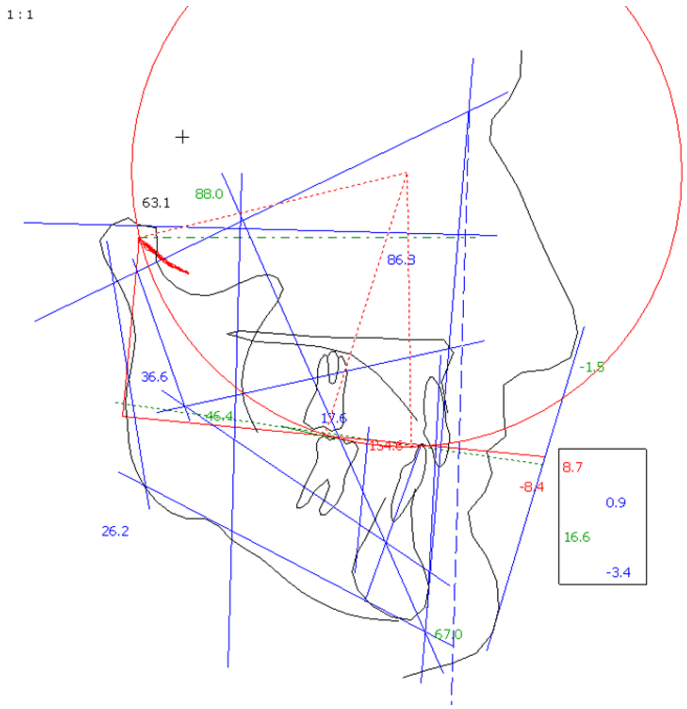

1 : 1
63.1
88.0
86.3
36.6
46.4
17.6
-1.5
8.7
-8.4
0.9
16.6
-3.4
26.2
67.0

Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	88.0	
Facial Depth	91.5 °	86.8	1-*
Mandibular Plane	21.5 °	26.1	1D*
Facial Taper	68.0 °	66.9	
Mandibular Arc	31.2 °	36.5	1B*
Maxillary Position	65.0 °	59.2	2-**
Convexity	-1.0 mm	-1.5	
Lower Facial Height (by R.Slavicek)	45.6 °	46.4	
Lower Facial Height to Point D	52.1 °	50.9	
Dental Measurement	Norm	Value	Trend
Interincisal Angle	131.3 °	154.6	2+**
Upper Incisor Protrusion	5.6 mm	0.9	1-*
Upper Incisor Inclination	26.4 °	8.7	2-**
Upper Incisor Vertical	mm	4.4	
Lower Incisor Protrusion	0.9 mm	-3.4	1-*
Lower Incisor Inclination	22.3 °	16.6	
Upper Molar Position	21.0 mm	17.6	1-*
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	5.4	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	9.4	
Distance Occlusal plane - Axis (DPO)	40.9 mm	41.2	
Radius of Curve of Spee	----- mm	63.1	
Lip Embrasure	0.0 mm	1.2	
Occlusal Plane Xi Distance	-1.4 mm	-3.6	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	45.0	
Horizontal Condylar Inclination left	----- °	44.2	
Horizontal Condylar Inclination	----- °	44.6	
Relative Condylar Inclination	----- °	39.2	
Relative Condylar Inclination 6	----- °	32.6	
Relative Condylar Inclination 7	----- °	32.5	
Relative Condylar Inclination 8	----- °	44.6	
Anterior Guidance (S-AOP)	°		
Relative Anterior Guidance	°		
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-8.3	2-**

Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is brachyfacial
Skeletal class is III with tends to I
The maxilla is positioned retrognathic, with tendency to neutral
The mandible is positioned neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is diminished
The inclination of the upper incisor is strongly diminished
The protrusion of the lower incisor is diminished
The inclination of the lower incisor is normal
The interincisal angle is strongly increased
Occlusal concept: Group function
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	88.0	
Facial Depth	91.5 °	86.8	1-*
Facial Taper	68.0 °	66.9	
Mandibular Plane	21.5 °	26.1	1D*
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	390.7	2-**
Facial Length Ratio	63.5 %	68.8	2+**
Y Axis to S N	67.0 °	69.1	
Y Axis (Downs)	61.8 °	62.3	
S N to Gonion Gnathion Angle	31.6 °	30.7	

Incisal Pin Table

Incisal Pin Height	0.0	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
Lower Facial Height	46.4	46.8	47.2	47.6	48.0	48.4	48.8	49.5	50.2	50.9	51.6	52.2	53.4
LFH. (Norm)	45.6	45.7	45.8	46.0	46.1	46.2	46.3	46.5	46.7	46.9	47.1	47.3	47.7
LFH. (Variation)	0.0	0.4	0.8	1.2	1.6	2.0	2.4	3.1	3.8	4.5	5.2	5.8	7.0
Menton Vertical	0.0	0.4	0.9	1.3	1.7	2.1	2.5	3.2	4.0	4.7	5.3	5.9	7.1
Pogonion Sagittal	0.0	-0.8	-1.6	-2.4	-3.2	-4.1	-4.9	-6.5	-8.2	-9.8	-11.5	-13.2	-16.6
Incision Inf. Vertical	0.0	0.5	1.0	1.4	1.9	2.3	2.8	3.6	4.5	5.3	6.0	6.8	8.2
Incision Inf. Sagittal	0.0	-0.5	-1.1	-1.6	-2.2	-2.8	-3.3	-4.5	-5.7	-6.9	-8.1	-9.3	-11.8

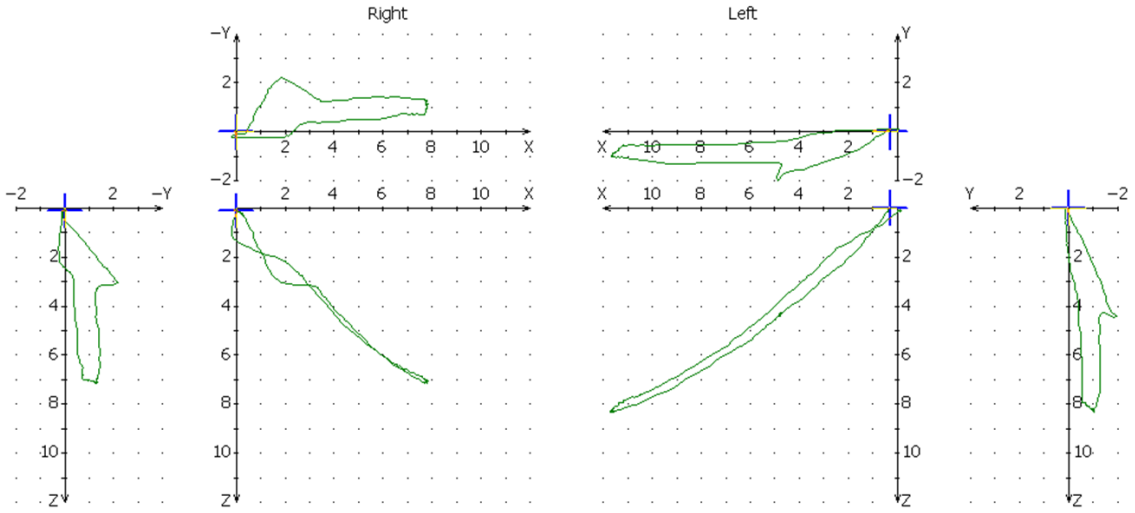
Incisal Pin Height	0.0	-1.0	-2.0	-3.0	-4.0	-5.0	-6.0	-8.0	-10.0	-12.0	-14.0	-16.0	-20.0
Lower Facial Height	46.4	46.0	45.6	45.1	44.7	44.2	43.7	42.7	41.7	40.7	39.5	38.3	35.8
LFH. (Norm)	45.6	45.5	45.4	45.3	45.2	45.1	45.0	44.7	44.5	44.3	44.1	43.8	43.4
LFH. (Variation)	0.0	-0.4	-0.9	-1.3	-1.8	-2.2	-2.7	-3.7	-4.7	-5.8	-6.9	-8.1	-10.6
Menton Vertical	0.0	-0.4	-0.9	-1.4	-1.9	-2.4	-2.9	-3.9	-5.0	-6.2	-7.4	-8.6	-11.4
Pogonion Sagittal	0.0	0.8	1.6	2.4	3.2	3.9	4.7	6.2	7.7	9.2	10.7	12.0	14.7
Incision Inf. Vertical	0.0	-0.5	-1.0	-1.5	-2.0	-2.5	-3.1	-4.2	-5.3	-6.5	-7.7	-9.0	-11.7
Incision Inf. Sagittal	0.0	0.5	1.1	1.6	2.1	2.6	3.1	4.0	5.0	5.8	6.6	7.4	8.7

Splint positive result

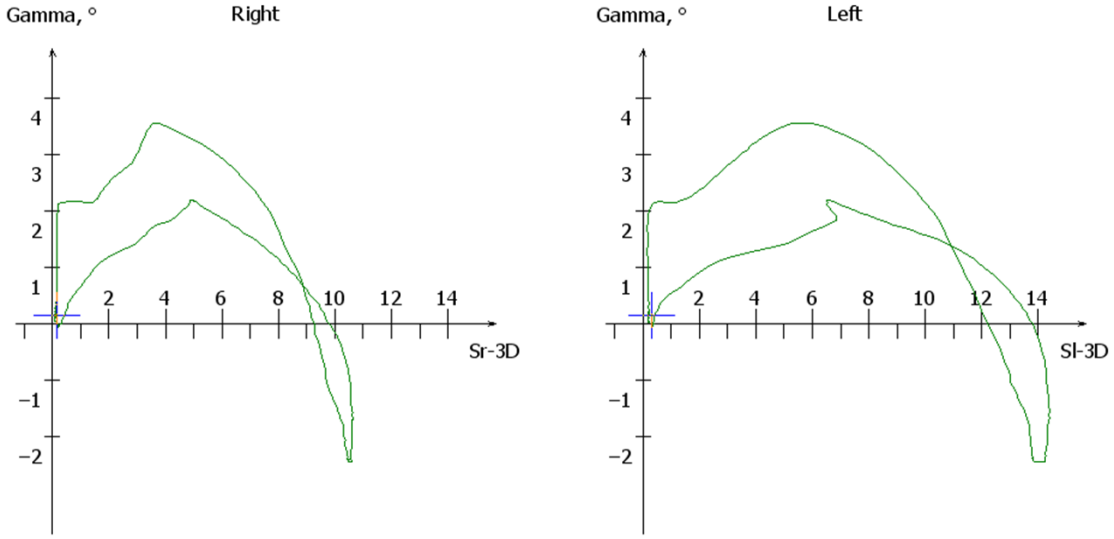
Parameters for splint Fabrication

- R L
- X = 2mm X = 2 mm
- Z = 3mm Z = 3 mm
- Y = 0 mm

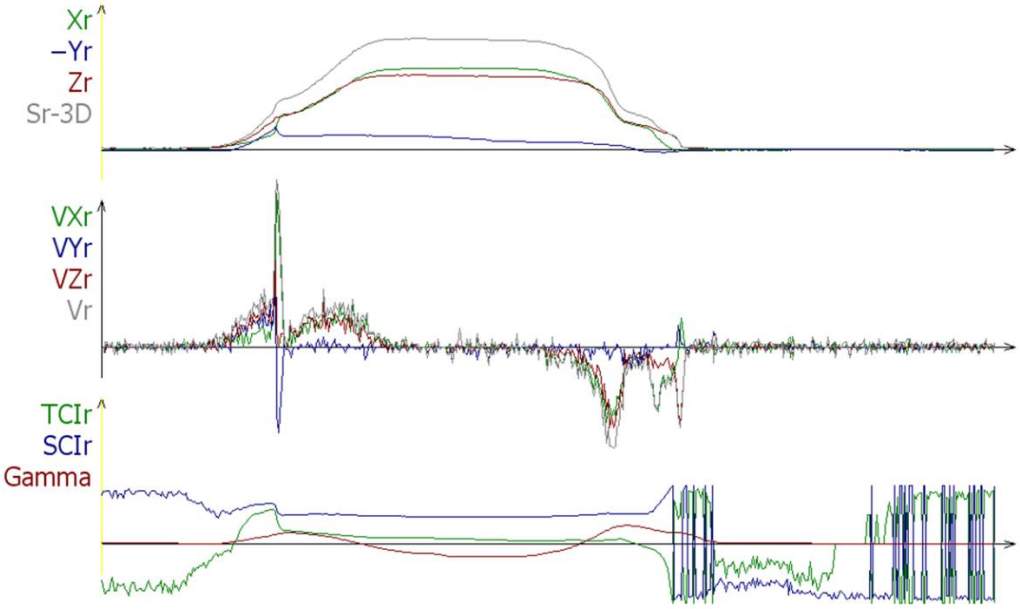
Protrusion –retrusion – reciprocal click right tmj



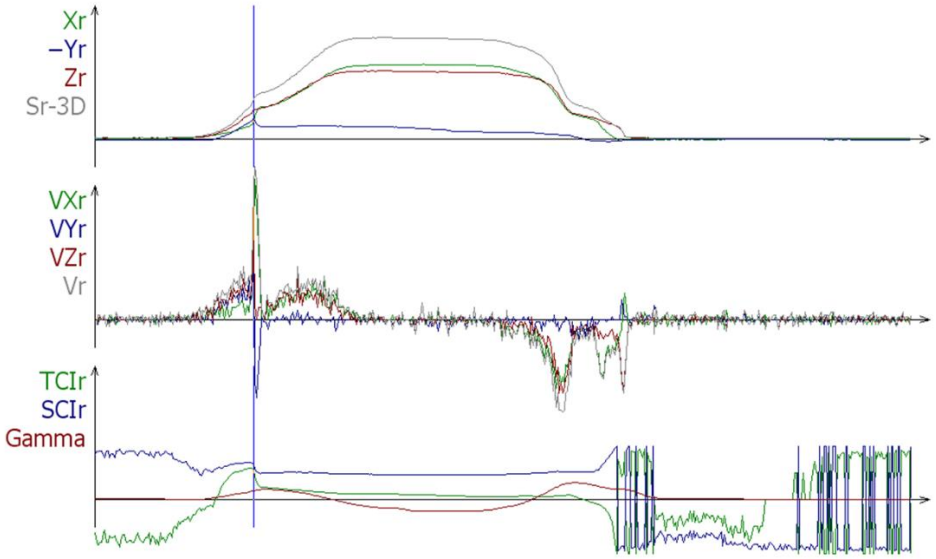
Rotation- translation



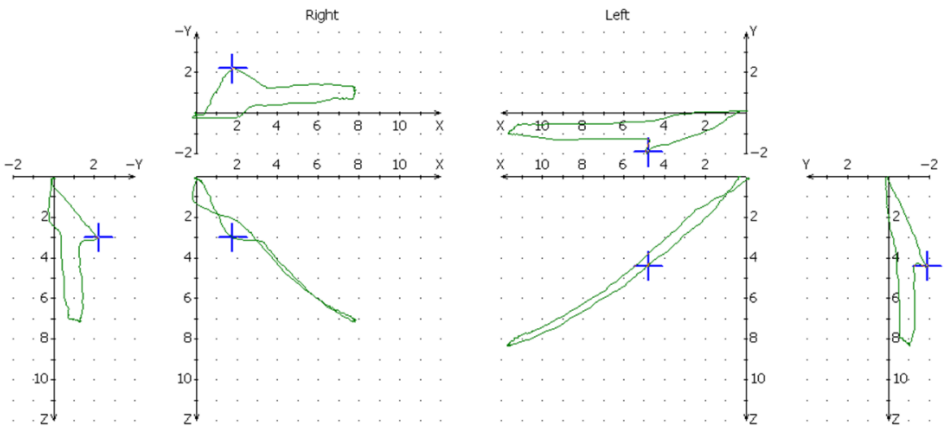
Protrusion time curves



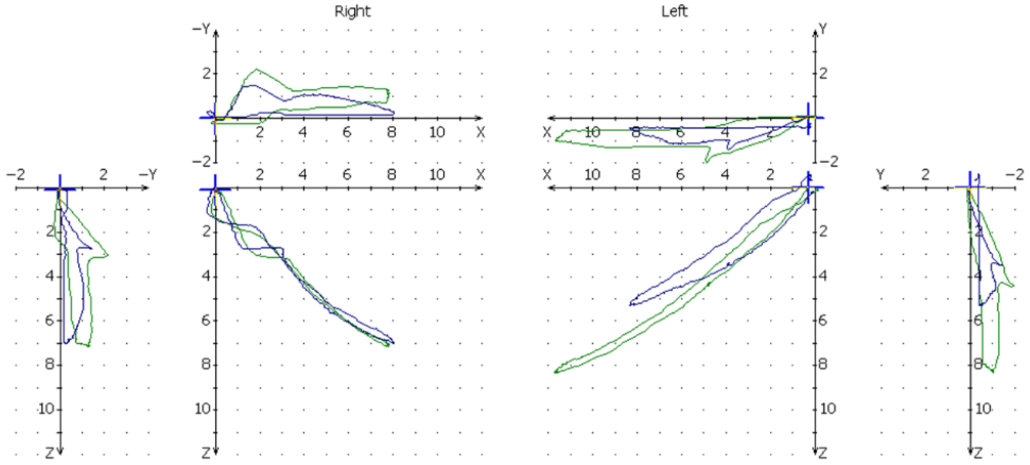
THP for right TMJ - ?



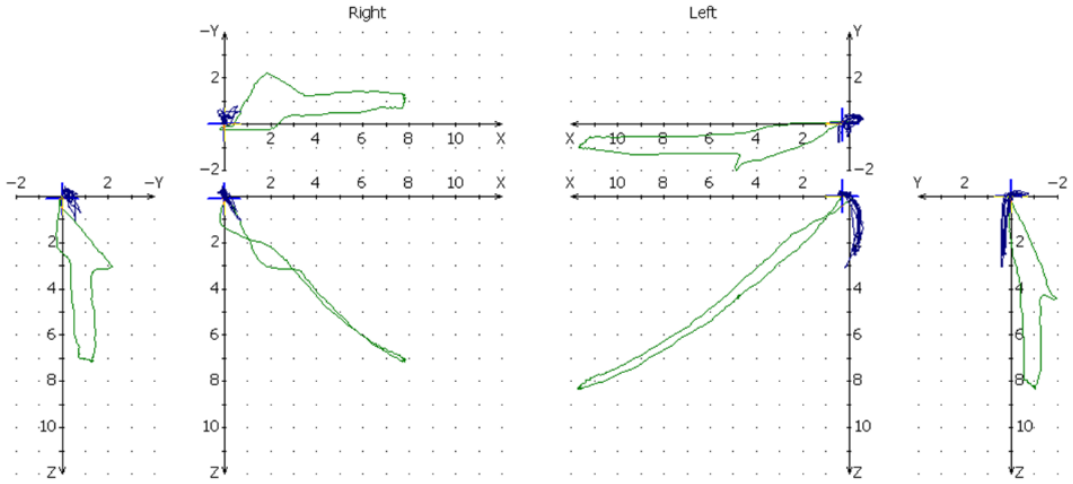
Right side – x=1,8 mm, z=3 mm, y= - 2 mm
Left side x= 4,8, z=4,4 This position on splint doesn't work



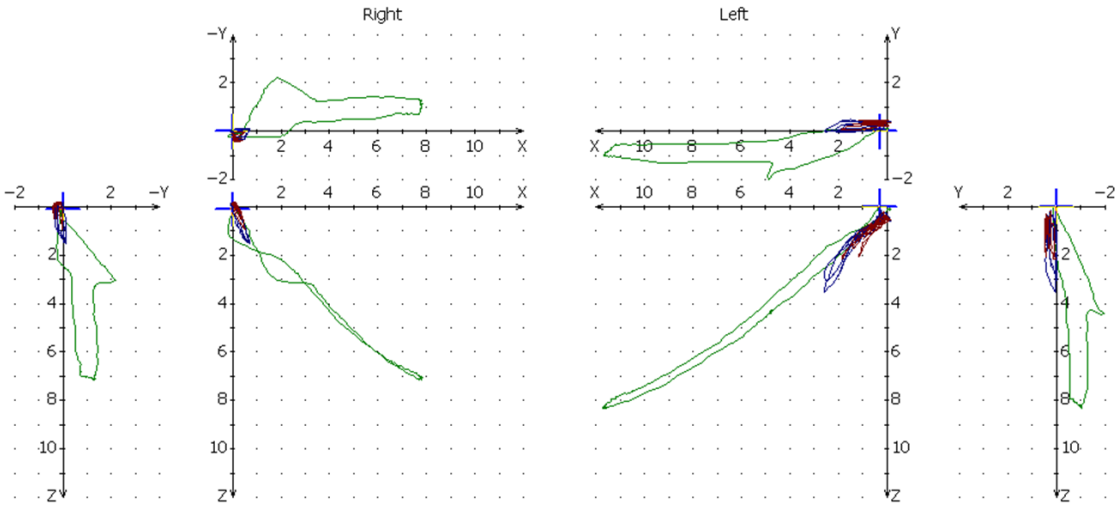
Protrusion- open



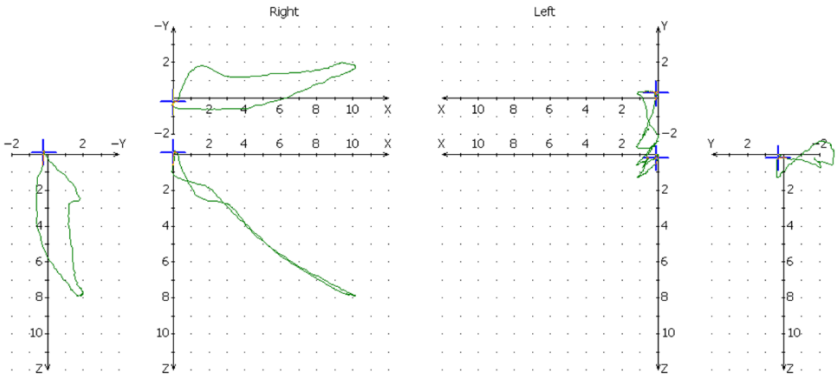
Protrusion- brux (on right TMJ – distraction,)



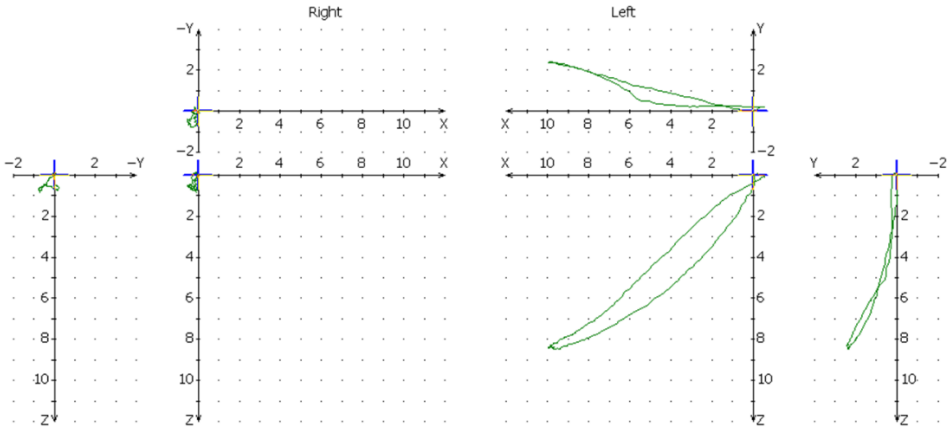
Speech end on retrusive movement



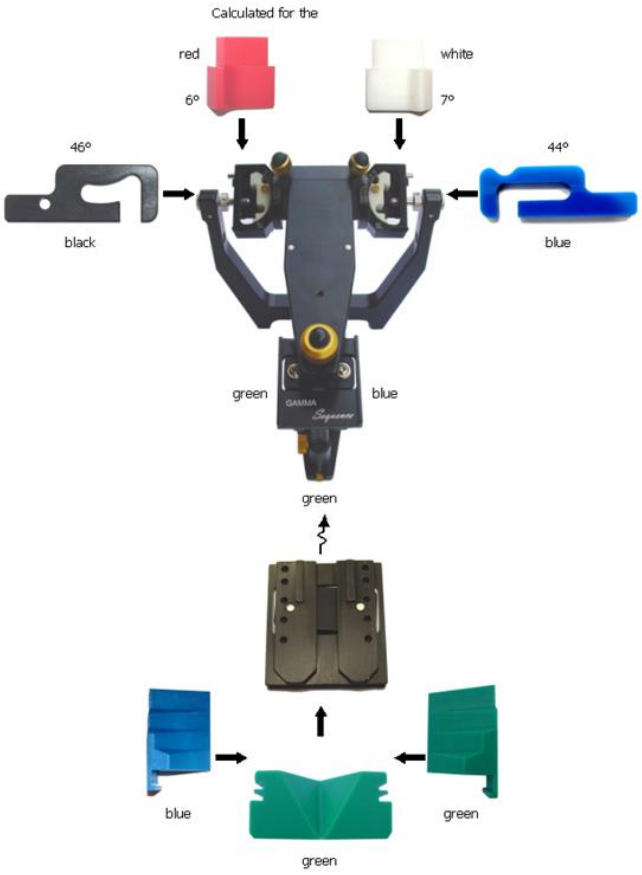
Mediotrusion right



Mediotrusion left



Wax-up



- THP remounted in RP
- RIGHT Left
- X=2mm X=2 mm
- Z=3mm Z=3 mm
- Y= 0 mm
- LFH +2 mm on incisal pin from RP & The Value on Incisal pin should be +1 mm for wax-up. Incisal pin = -1 mm (RP) III class- verticalization possible
- SCI R (black insert) =45 degrees
- SCI L blue insert = 45 degrees
- OPI R = 4 degrees
- OPI left = 10 degrees
- DOA R = 45 -4=41 – 30 = 11 – norm
- DOA l Left= 45- 10= 35 -30 = 5 degrees – interference Change OPI left to 5 degrees
- It is symmetry in OPI r and L = 5 degrees
- Bennet red insert right side 6 degrees
- And left side white insert – 7 degrees

Clinical case № 12

Patient`s birth date: 1976

Date of examination: 2012

Main concern: no support in posterior part, esthetics

Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

		yes	no			yes	no
1.	Infections		X	7.	Urogenital problems		X
2.	Cardio-vascular systems		X	8.	Central nervous systems		X
3.	Respiratory systems		X	9.	Psychological problems (theraphy)		X
4.	Digestive systems		X	10.	Rheumatic disease		X
5.	Metabolic systems		X	11.	Hormonal disease		X
6.	Allergies		X	12.	Special problems		X

Main concern

Dental History Analysis

		valuation	yes	no
1.	Do you have problems when you chew? прикусыв щеки слева	2	X	
2.	Do you have problems when you are talking? после врем коронки	1	X	
3.	Do you have problems in closing your teeth properly?			X
4.	Are any of your teeth especially sensitive? 43	0	X	
5.	Do you have a problem when you open your mouth very wide?			X
6.	Do your jaw joints make noise and if so, on what side?			X
7.	Do you have pain in the area of your jaw joints?			X
8.	Do you suffer from headaches?			X
9.	Do you suffer from cramps or spasm in your head, neck or throat?			X
10.	Do you have in general problems with your posture?	0	X	
	Occlusal Index	0.75		

		yes	no
11.	Have you ever had a serious accident?		X
12.	Did you have one or more oral intubations?		X
13.	Have you ever had orthodontic treatment or...		X
14.	Have you had a treatment with a splint?		X
15.	Are you grinding or pressing with your teeth?		X
16.	Do you think that treatment is necessary?	X	
17.	Do you think that there is a serious disorder or illness?		X

18. When was the last time you had dental treatment and what was done?

19. How would you describe your psychic behaviour?

☐ happy ☐ sad ☐ calm ☐ excited ☐ self-controlled ☐ lack of self control

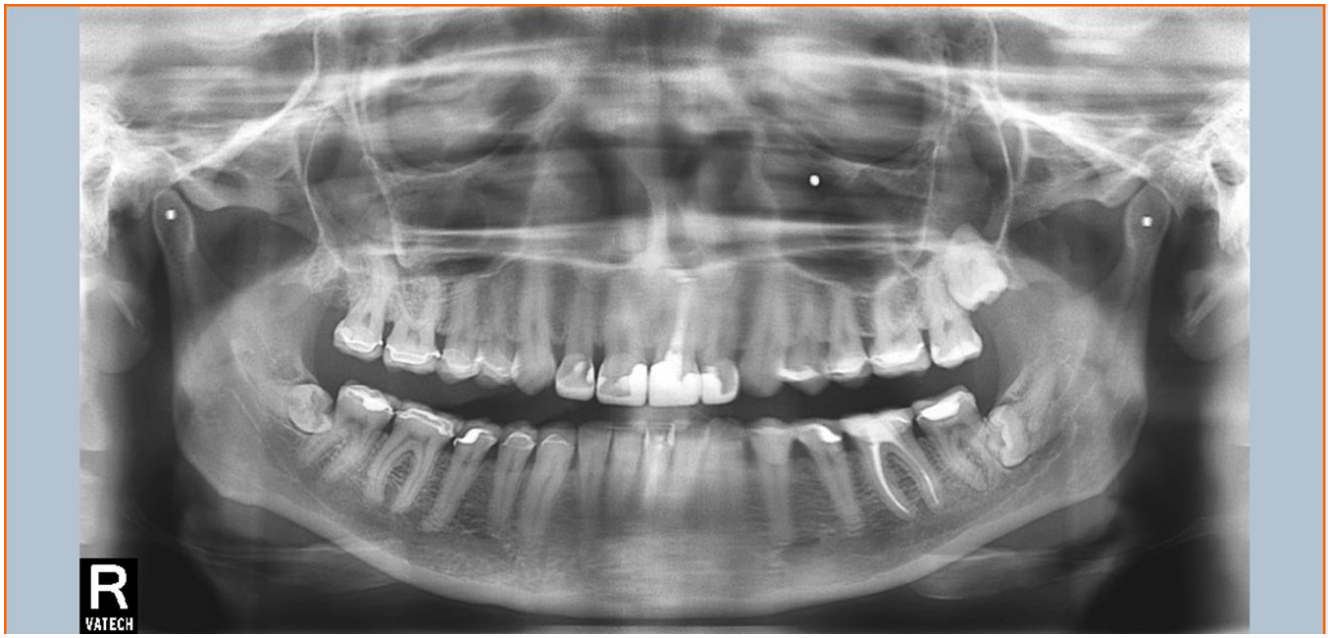
Muscle Diagnosis

		right		left	
		+	++	+	++
1.	shoulders and neck				
2.	atlanto-occipital region				
3.a	M.temporalis ant.				
3.b	M.temporalis med.				
3.c	M.temporalis post.				
4.a	M.masseter (superficial)				
4.b	M.masseter (deep)				
5.	Tuber maxillae				
6.	M.pterygoideus medialis				
7.	M.mylohyoideus				
8.	M.digastricus				
9.	suprahyoidale M.				
10.	infrahyoidale M.				
11.	Larynx				
12.	M.sterno-cleido-mastoideus				
13.	M.omohyoideus				
14.	Tongue				

		right		left	
		+	++	+	++
15.	comparative palpation of jaw joints				
	a) lateral poles, statically				
	b) lateral poles, in rotation				
	c) retral joint space				
	d) Lig.temporo-mandibulare			X	

Intraoral photo

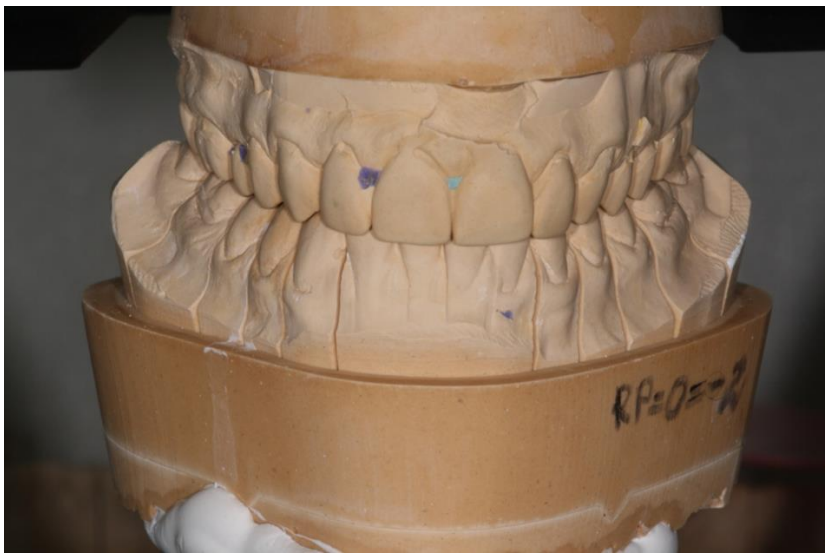
OPG



Lateral X-ray

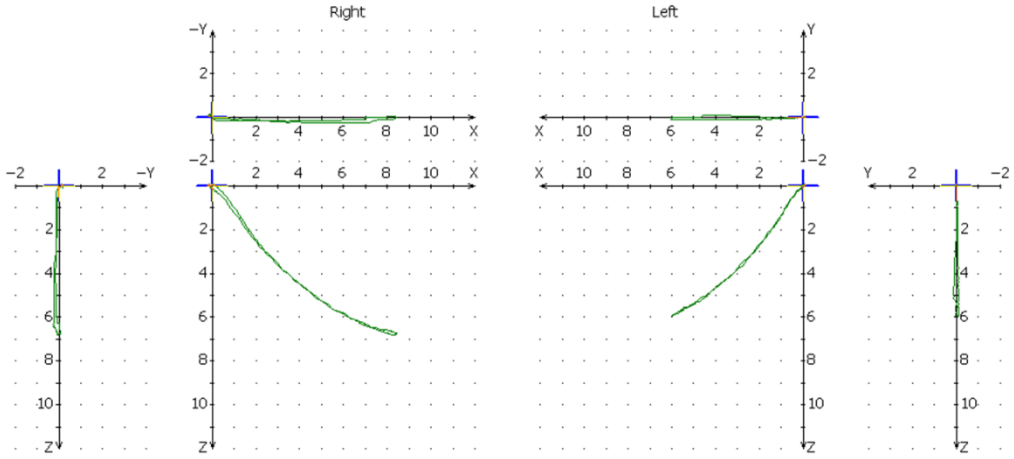
Mounting the casts

Casts in RP

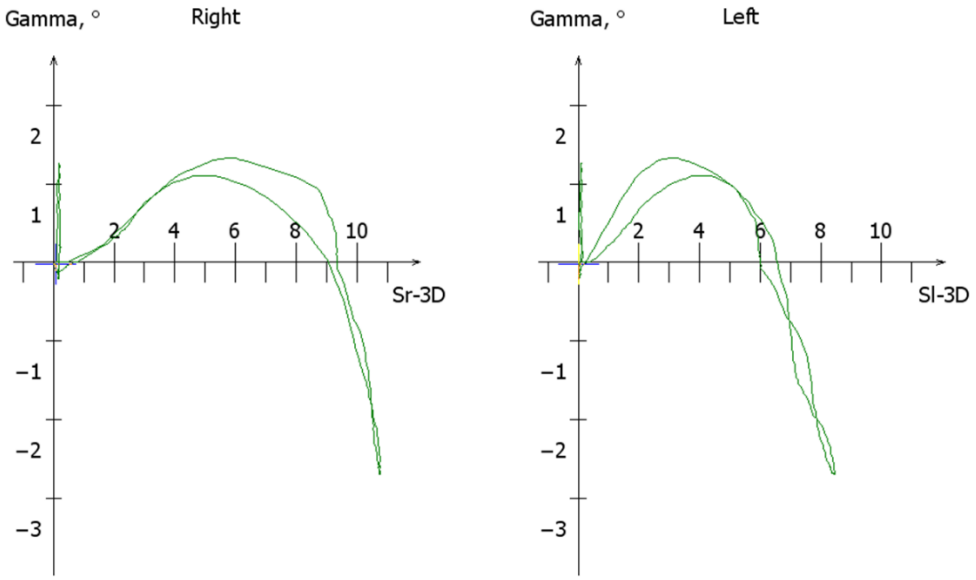


OPI R = 18 degrees and left = 10 degrees

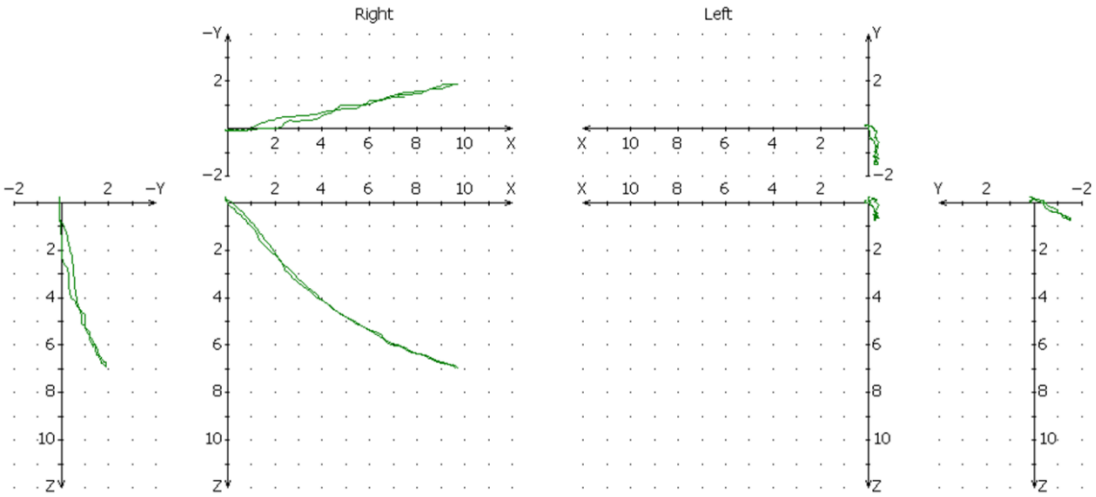
Protrusion- retrusion



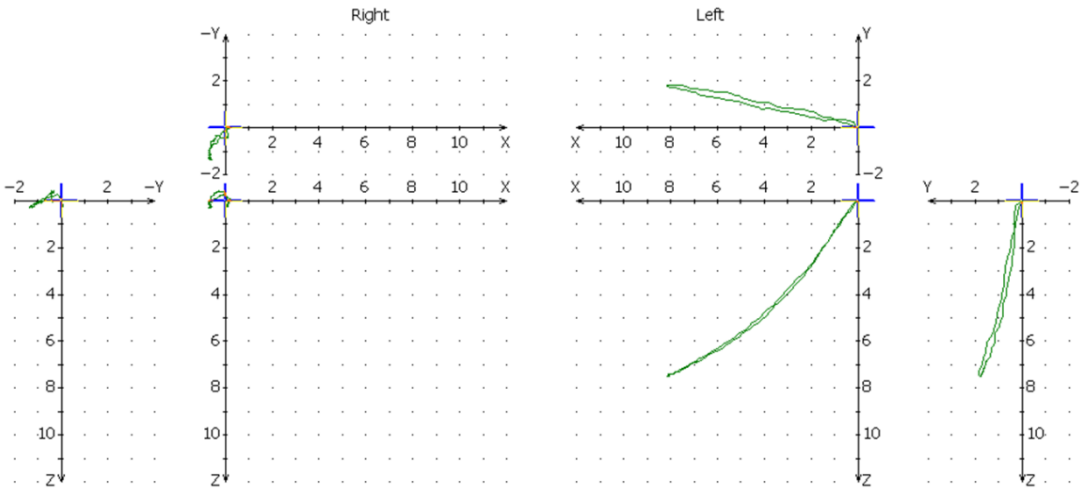
Gamma rotation - negative at 10mm and 1 degree at end of movement - anterior teeth too steep



Mediotrusion right

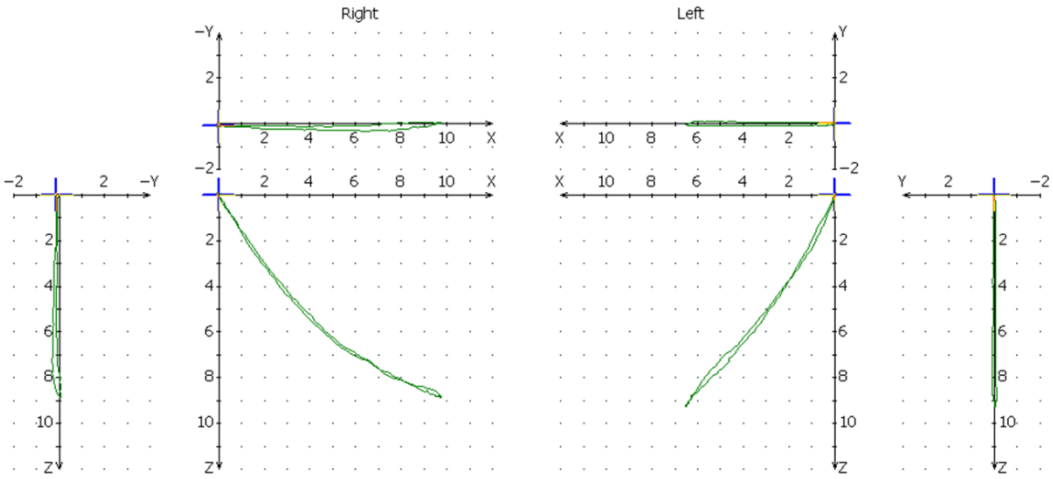


Mediotrusion left

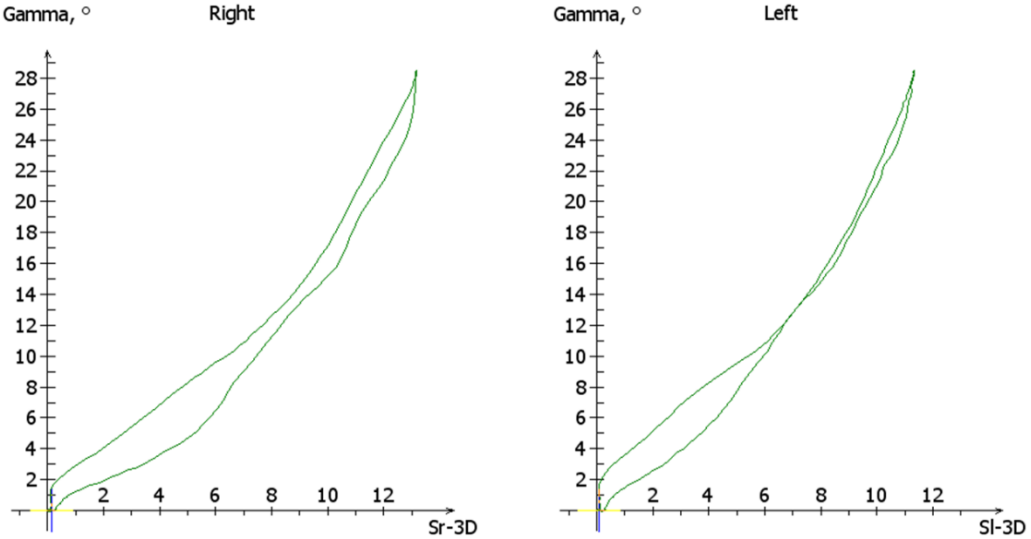


Open-close

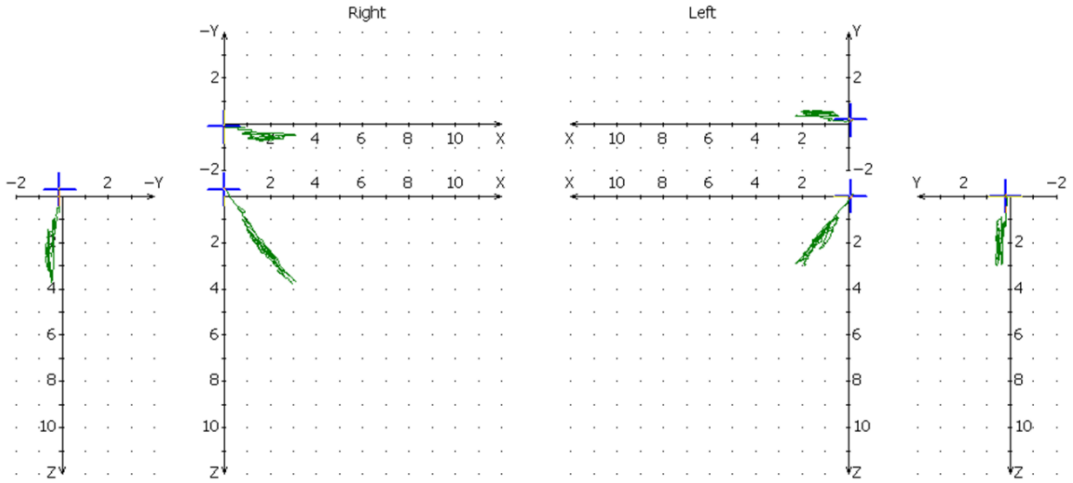
Artrothic left TMJ



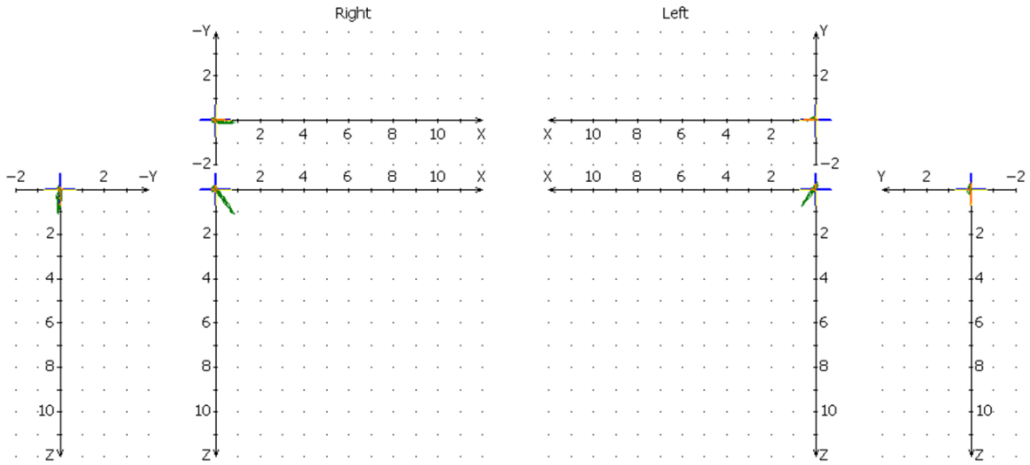
Gamma-rotation



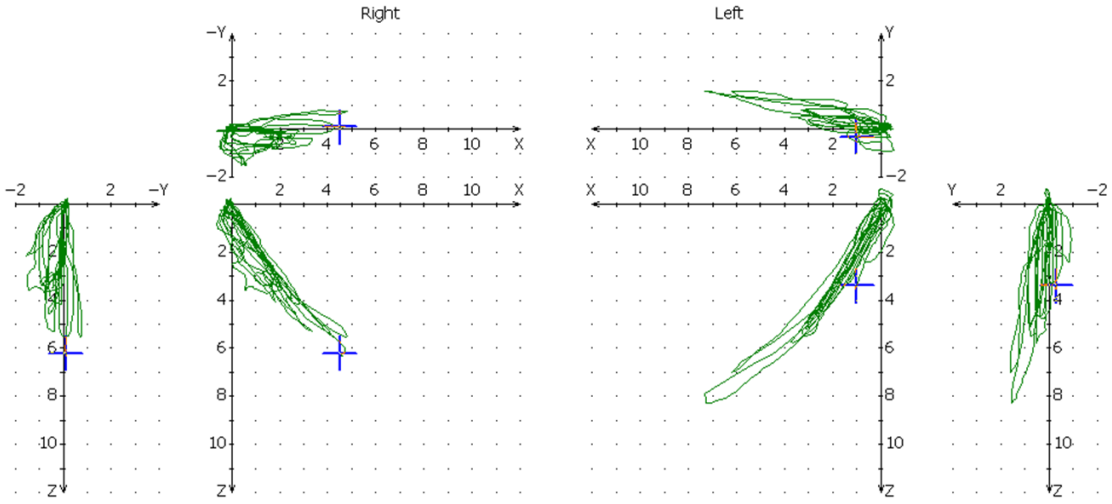
Speech



Brux

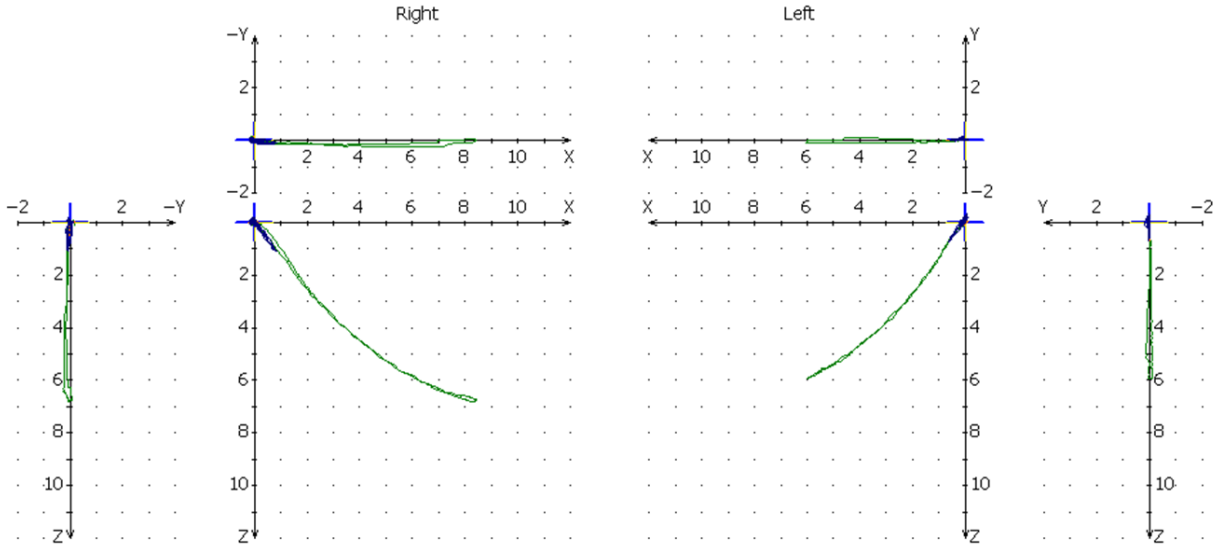


Mastication

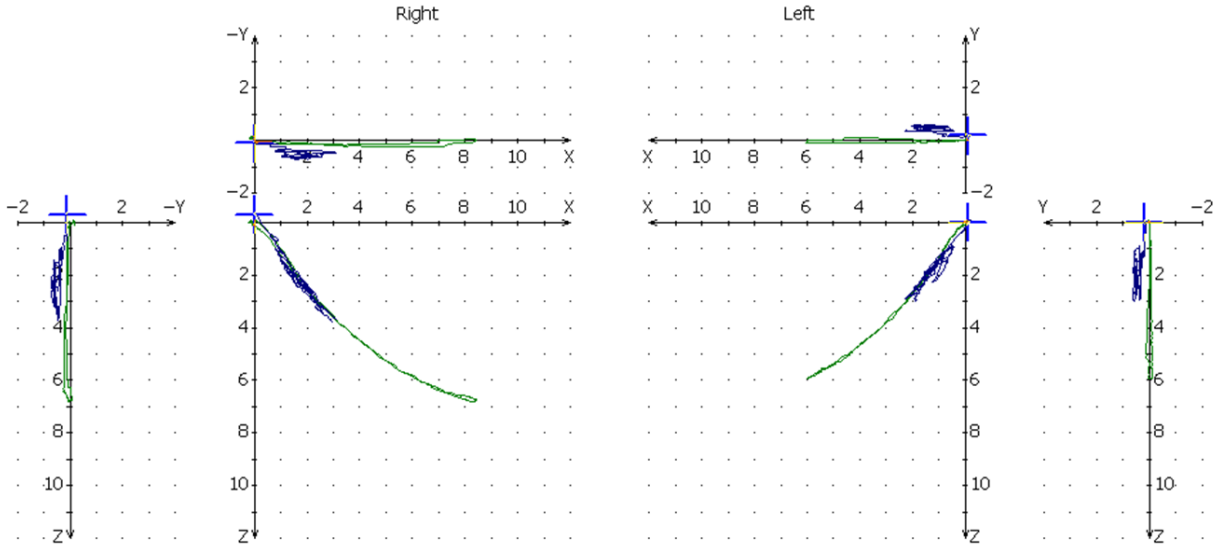


Brux-protrusion

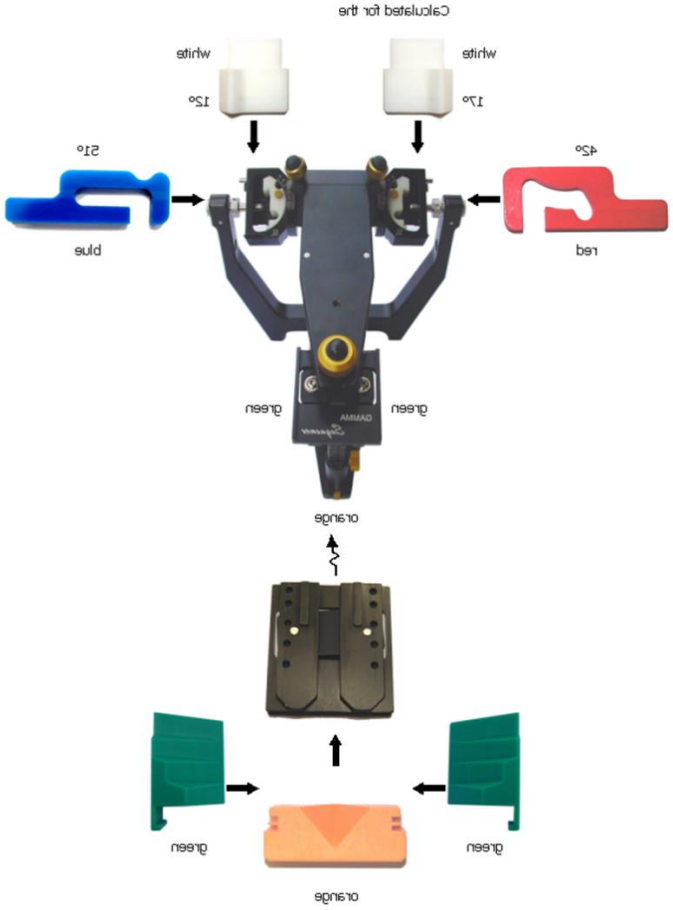
Protrusive component

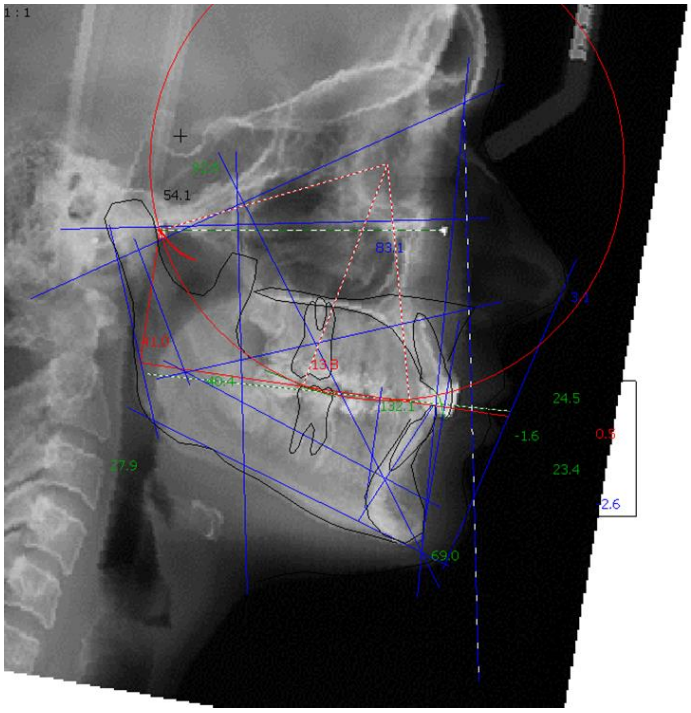


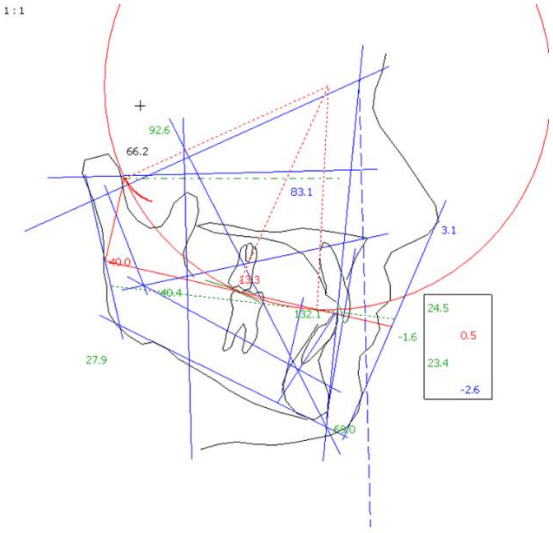
Speech-protrusion



Articulator settings

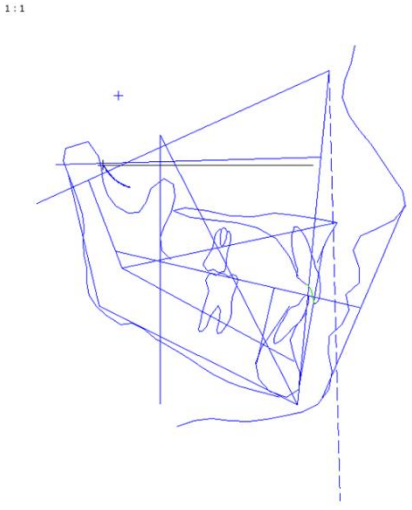






Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	92.6	
Facial Depth	89.0 °	83.0	1-*
Mandibular Plane	24.0 °	27.9	
Facial Taper	68.0 °	69.0	
Mandibular Arc	29.0 °	40.9	2B**
Maxillary Position	65.0 °	67.0	
Convexity	0.0 mm	3.1	1X*
Lower Facial Height (by R.Slavicek)	45.1 °	40.4	
Lower Facial Height to Point D	51.6 °	45.4	1-*
Dental Measurement	Norm	Value	Trend
Interincisal Angle	130.4 °	132.1	
Upper Incisor Protrusion	6.8 mm	0.4	2-**
Upper Incisor Inclination	28.5 °	24.5	
Upper Incisor Vertical	mm	2.2	
Lower Incisor Protrusion	1.0 mm	-2.6	1-*
Lower Incisor Inclination	21.1 °	23.3	
Upper Molar Position	18.0 mm	13.7	2-**
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	8.2	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	7.0	
Distance Occlusal plane - Axis (DPO)	40.9 mm	30.5	1-*
Radius of Curve of Spee	----- mm	54.0	
Lip Embrasure	0.0 mm	-0.8	
Occlusal Plane Xi Distance	-1.4 mm	0.5	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	48.6	
Horizontal Condylar Inclination left	----- °	49.9	
Horizontal Condylar Inclination	----- °	49.2	
Relative Condylar Inclination	----- °	41.0	
Relative Condylar Inclination 6	----- °	32.4	
Relative Condylar Inclination 7	----- °	27.4	
Relative Condylar Inclination 8	----- °	49.2	
Anterior Guidance (S-AOP)	----- °	66.5	
Relative Anterior Guidance	----- °	58.3	
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.3 mm	-1.6	



Coordinates of Cusp TIps

	Right			Left		
	X	Y	Z	X	Y	Z
1	66,00	2,00	36,00	66,00	3,00	36,00
2	64,00	8,00	35,00	64,00	8,00	36,00
3	60,00	10,00	35,00	60,00	10,00	36,00
4						
5						
6m						
6d						
7m						
7d						
8m						
8d						

CADIAX® Curves

	Protrusion		Mediotrusion right		Mediotrusion left	
	SCI right	SCI left	S C I	T C I	S C I	T C I
1st	41,4°	49,5°	37,0°	−4,0°	41,8°	13,3°
2nd	48,0°	55,3°	43,4°	10,3°	49,7°	19,5°
3rd	51,0°	54,0°	46,9°	12,4°	51,1°	16,9°
4th	50,3°	52,6°	47,1°	10,5°	51,0°	16,0°
5th	49,9°	51,2°	46,1°	9,8°	50,1°	14,8°
6th	47,9°	49,5°	45,4°	9,7°	49,0°	13,9°
8th	45,0°	45,6°	41,9°	11,0°	46,7°	12,4°
10th	41,1°		38,6°	10,8°		
14th						
	Retrusion					
-1.						
-2.						

Coordinates of Cusp TIps

	Right			Left		
	X	Y	Z	X	Y	Z
1	66,00	2,00	36,00	66,00	3,00	36,00
2	64,00	8,00	35,00	64,00	8,00	36,00
3	60,00	10,00	35,00	60,00	10,00	36,00
4						
5						
6m						
6d						
7m						
7d						
8m						
8d						

Sagittal Condylar Guidance Reference® SL

Inlay	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
Straight	•49°	•50°	44°	54°	53°	
Convex	43°	46°	•48°	•47°	•49°	
Retrusive	Blue	Blue	Yellow	Black	Black	

Transversal Condylar Guidance Reference® SL

	Right			Left		
	3rd mm	5th mm	10th mm	3rd mm	5th mm	10th mm
WHITE	•5°	•8°	•8°	•10°	•11°	•10°
YELLOW	0°	0°	0°	0°	0°	0°
RED	0°	0°	0°	0°	0°	0°
BLUE	0°	0°	0°	0°	0°	0°

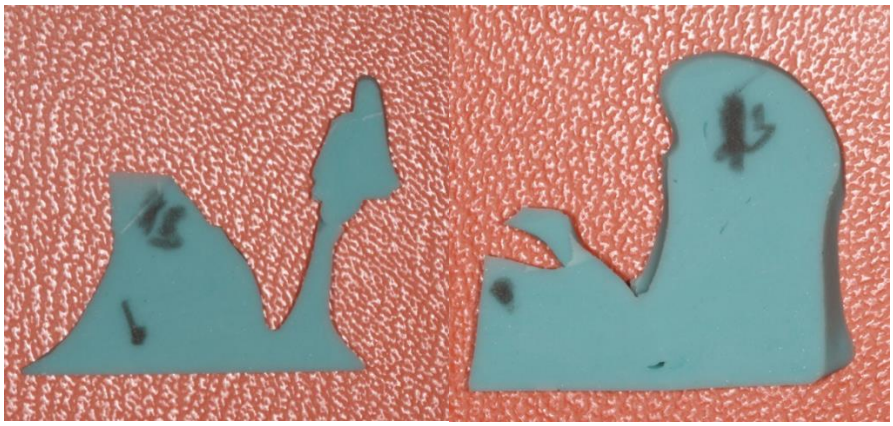
Gamma Sequence Incisal Table

Condylography values used for calculations
Protrusion at 5 mm: SCI 50,5°
Mediotrusion right at 5 mm: SCI 46,1° TCI 9,8°
Mediotrusion left at 5 mm: SCI 50,1° TCI 14,8°
Suggested sequence table setting
Protrusion element: ORANGE
Right lateral element: GREEN
Left lateral element: BLUE

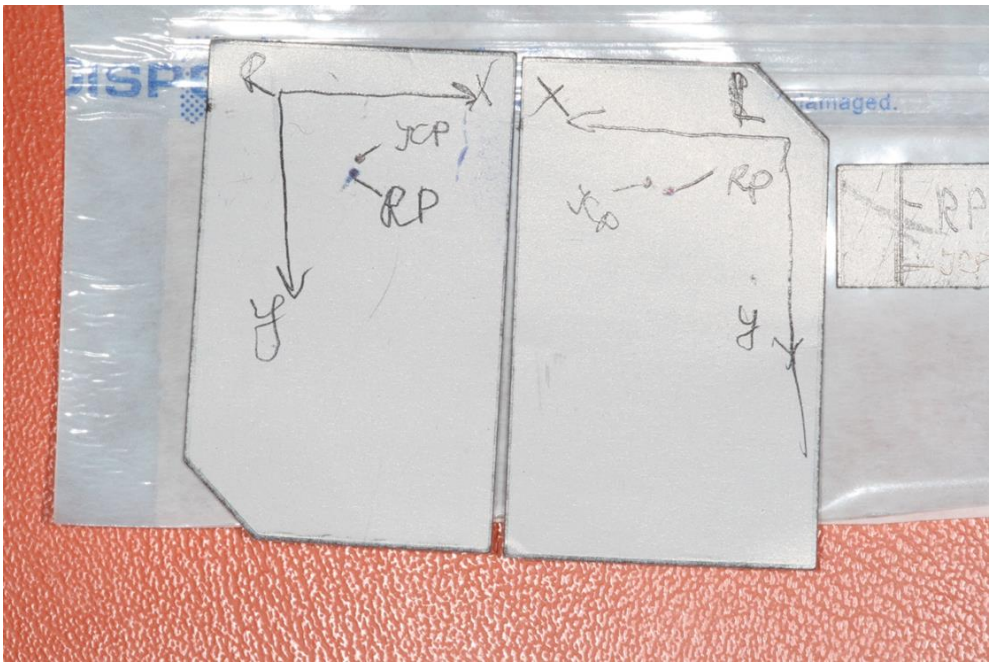
Condylography values used for calculations

Protrusion at 5 mm: SCI 50,5°
Mediotrusion right at 5 mm: SCI 46,1° TCI 9,8°
Mediotrusion left at 5 mm: SCI 50,1° TCI 14,8°
Calculation for incisal table settings : Sequential disocclusion according to
Computed using ideal anterior guidance
Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.
Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.

Anterior guidance



MPI



Calculated vertical cusp tip positions								
	Right				Left			
	TA	I - Table	T - S1	T - S2	TA	I - Table	T - S1	T - S2
1	53,7°	54°	39°	64°	53,7°	54°	39°	64°
2	53,7°	54°	38°	65°	53,7°	54°	38°	65°
3	43,7°	54°			43,7°	53°		
4								
5								
6m								
6d								
7m								
7d								
8m								
8d								

Occlusal Plane Value

Unable to compute the right curve of Spee - cusps 3r, 6dr must be in.
Unable to compute the left curve of Spee - cusps 3l, 6dl must be in.

Occlusal plane adjustment for average SCI value: 50° (5 mm)

Cuspal Angle	20°	25°	30°
Balanced Occlusion 1/6	31°	26°	21°
Balanced Occlusion 1/7	40°	35°	30°
Canine protected Occlusion 1/6	22°	17°	12°
Canine protected Occlusion 1/7	31°	26°	21°

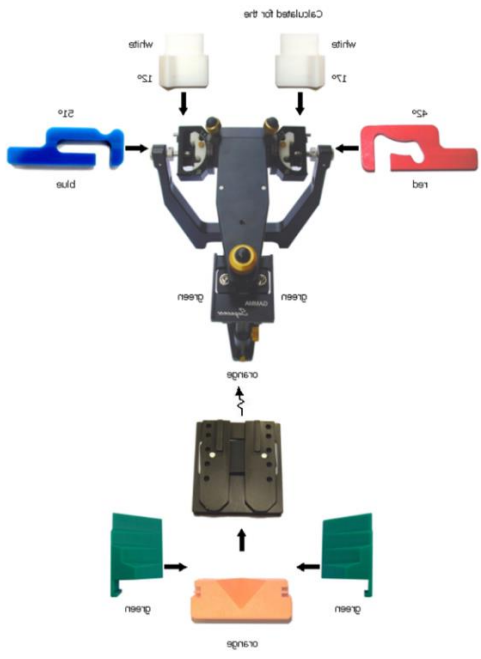
Treatment plan

1. Change forward direction from 66 to 55 degrees.
2. Reduce the height of the frontal lower incisors to 0.5 mm and the upper incisors to 1 mm.
3. Perform waxing and layout.
4. Perform restorations on 13, 12, 11, 21, 22, 23, 24, 34, 33, 32, 31, 41, 42 and 36.

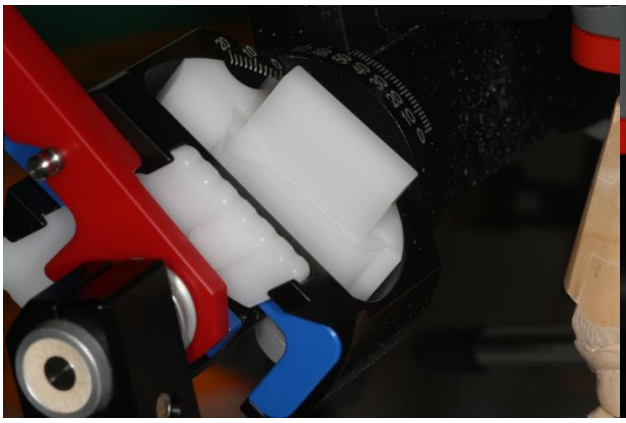
Technical specifications (incoming data)

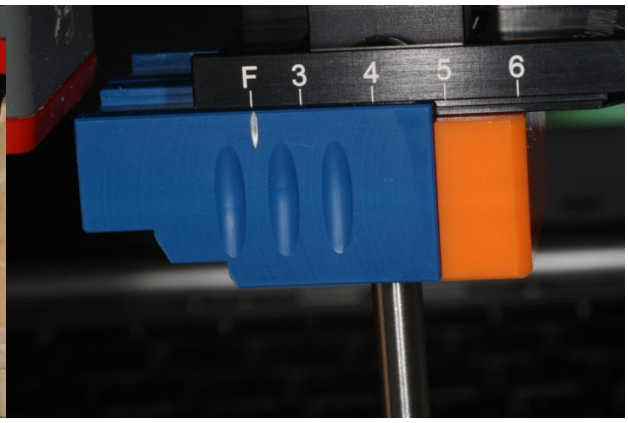
- Change AG from 66 to 55 degrees (see slide with AG table).
- Reduce the height of the lower incisors by 0.5 mm and the upper incisors (in height) by 1 mm. Lingual surface of the upper incisors as described in instrumental analysis, see photo
- SCI Right =50 degrees blue insert, left SCI=50 degrees black insert
- Bennett angle both white inserts, right - 8 degrees, left - 11 degrees
- Front table - orange - front and right - green, left - blue
- We do restorations 13,12,11,21,22,23,24,34,33,32,31,41,42, and 36.

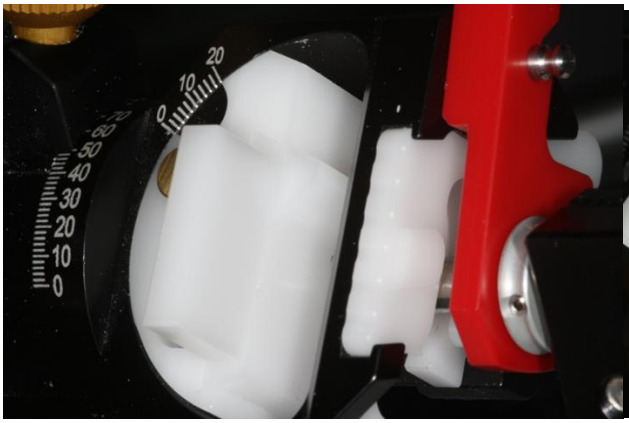
Articulator settings

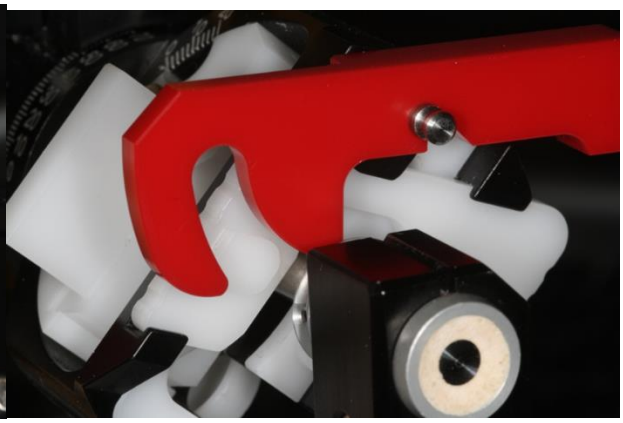


2 mm Protrusion

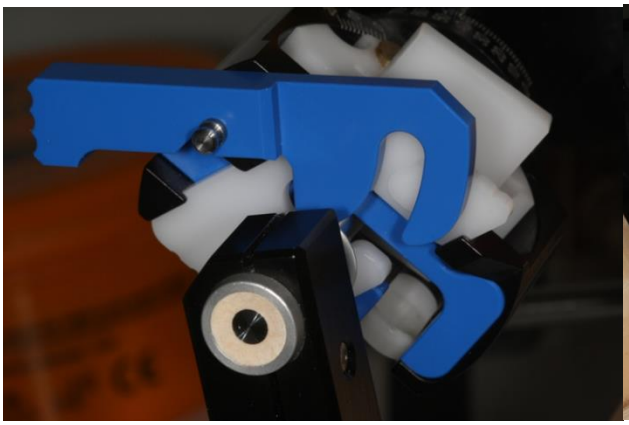


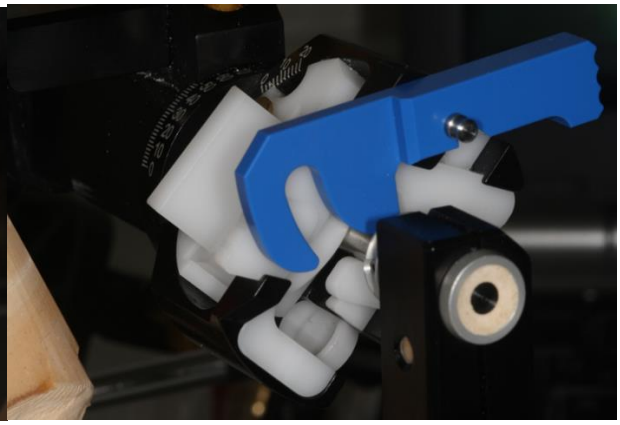




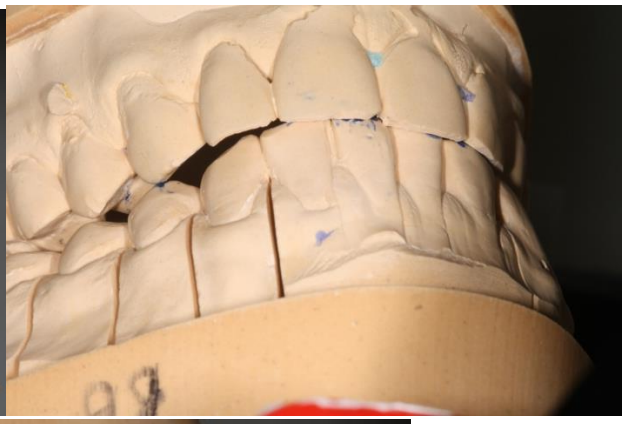


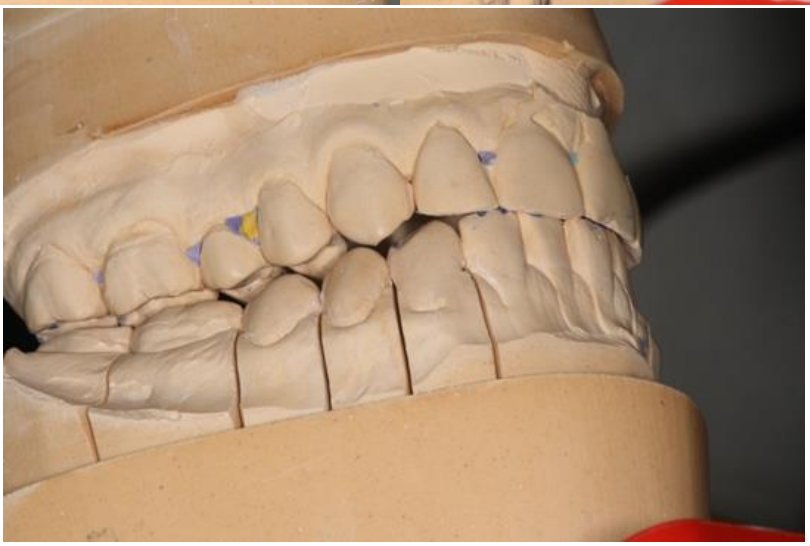
3 mm Protrusion



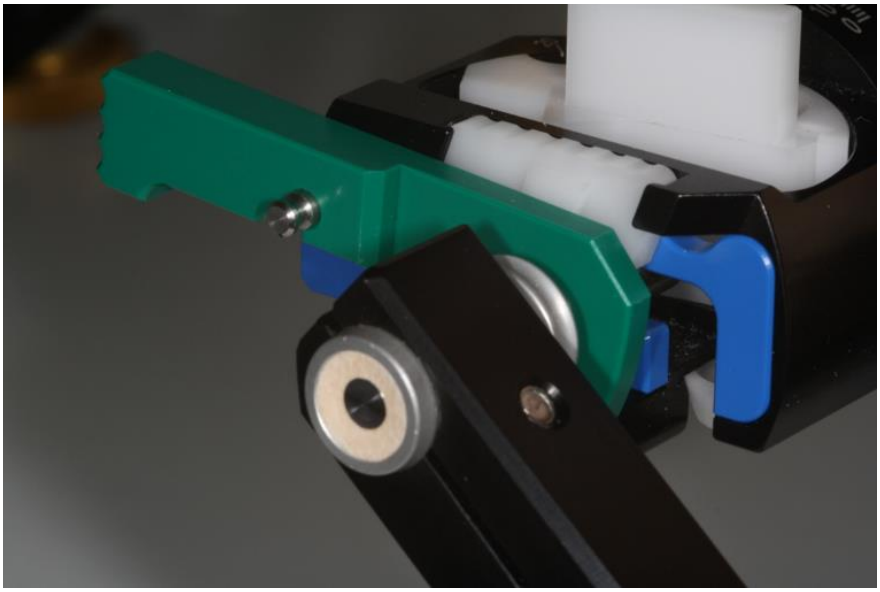


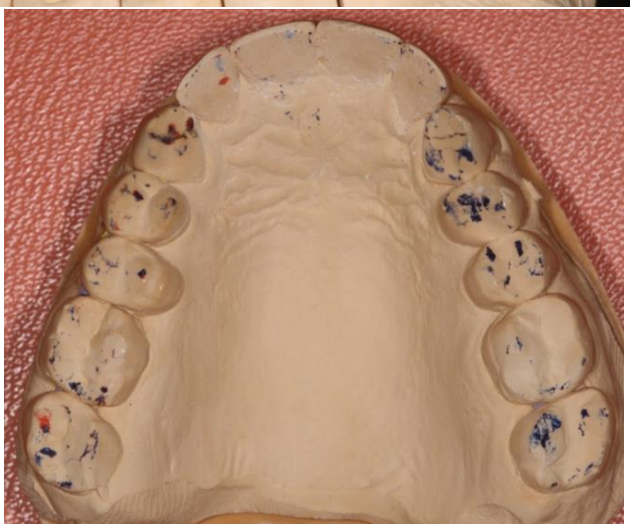
3 mm Protrusion

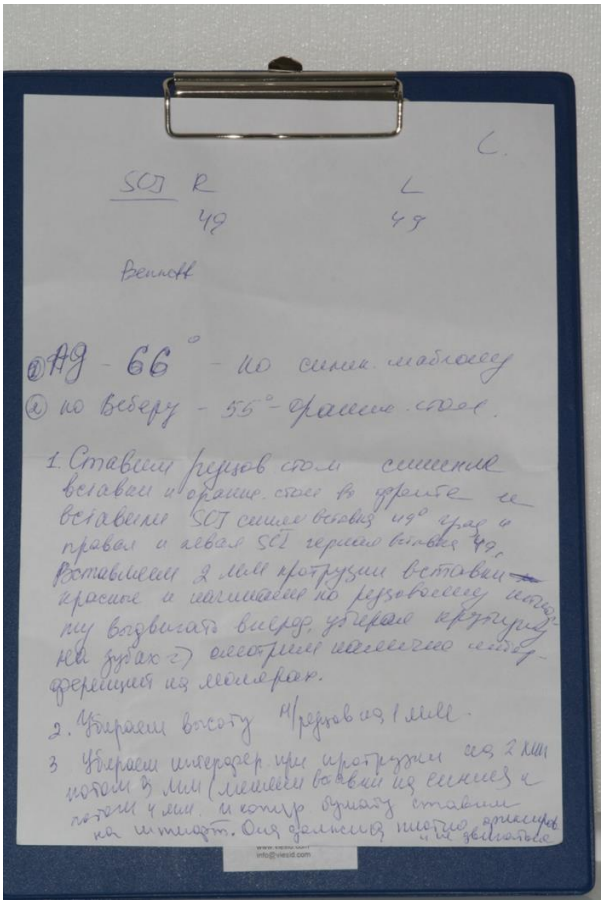




4 mm protrusion







С.

SCJ R L

49 49

Велнотт

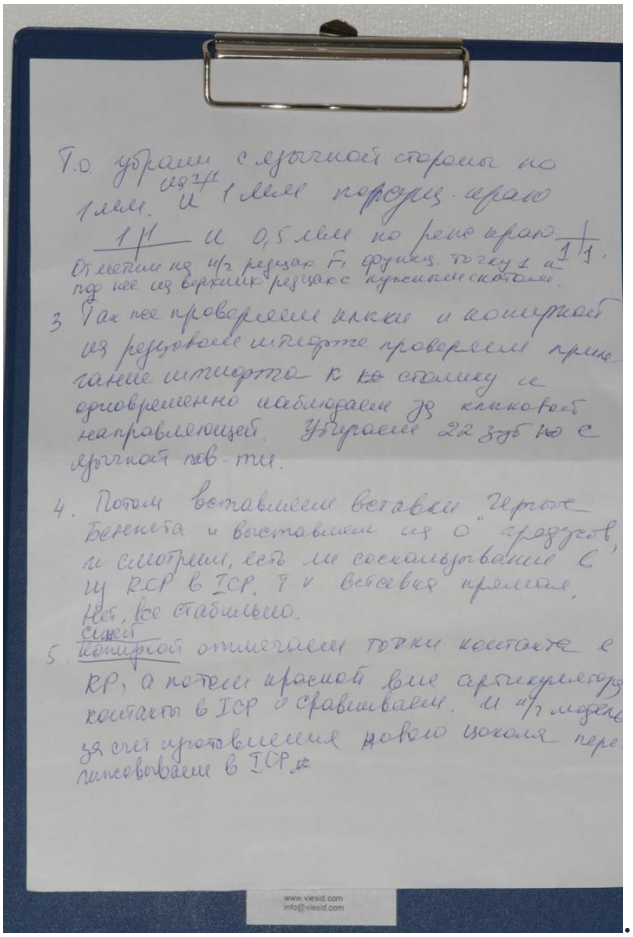
① АД - 66° - по синим наблюдал

② по веберу - 56° - красное слово.

1. Ставим резцов столы синенькие вставки и красное слово в держ. не вставляем SCJ синие вставки 49° слева и правая и левая SCJ черная вставка 49°, вставляем 2 мм протрузии вставки красное и затягиваем по резьбовому штифту вздвигая винтом, убираем артикуляционную бумагу с) смотрим плавного интерференция на моляре.

2. Убираем высоту н/резцов на 1 мм.

3 Убираем интерферен при протрузии на 2 мм глубоко 3 мм (мешает вставка из синего к полюсу 4 мм. и контр. бумагу ставим на штифт. Для дальнейш шлифовки ориентир и не двигаться



Т.О. убрали с дистальной стороны по 1 мм. на 1 мм перед. края 1/1 и 0,5 мм по реб края 1/1. От кончика н/ч резцов F, фронт. точку 1 и под нее из верхних резцов пересекаются скотами.

3. Так же проверяем клыки и контролируем резцовый штифт проверяем прилегание штифта к ю столику не одновременно наблюдаем за клыковой направляющей. Убираем 22 зуб по с дистальная пов-ти.

4. Потом вставляем вставки Гарант Бенетта и вставляем на 0° градусов и смотрим, есть ли соскальзывание С и RCP в ICP. Т.к. вставка прилегает. Нет, все стабильно.

5. Сенсей центрик отмечаем точки контакта с RP, а потом красной или артикуляционной бумагой контакты в ICP сравниваем. И н/ч модель за счет протезирования должна изокклюзировать в ICP.

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info@viesid.com

1. Ag 66°-on silicone template
2. According to Weber template 55° - Orange table

1. Place the incisor table with the blue inserts and the orange insert at the front. The left SCI is a blue insert 49° degrees and the left SCI is a black insert 49°.
2. We insert 2 mm protrusion inserts - red ones and begin to push them forward along the incisal pin, removing the steepness on the teeth => we look for interference on the molars.
3. We remove the height of the lower incisors by 1 mm.
4. We remove interference with protrusion by 2 mm., then 3 mm. We change the inserts to blue and then 4 mm. And we put the carbon paper on the pin. It should fit snugly and not move.
5. Those. removed from the lingual side 1 mm at 21 and 11, and 1 mm along the incisal edge of 21 and 11 and 0.5 mm along the incisal edge 31 and 41. Note the F1 function point on the lower incisors. Point 1 and under it on the upper incisors with the desired slope.
6. We also check the canines and use carbon paper on the incisal pin to check the fit of the pin to the table and at the same time observe the canine guidance. We remove the 22nd tooth from the tongue surface.
7. Then we insert the black Bennett inserts and set them to 0 degrees, and see if there is any slippage from the RCP to the ICP. The insertion is straight. No, everything is stable.
8. We mark the points of contact with the RP with blue carbon paper, and then the contacts in the ICP with red paper outside the articulator and compare. And the model of the lower jaw is re-plastered in ICP by making a new base.

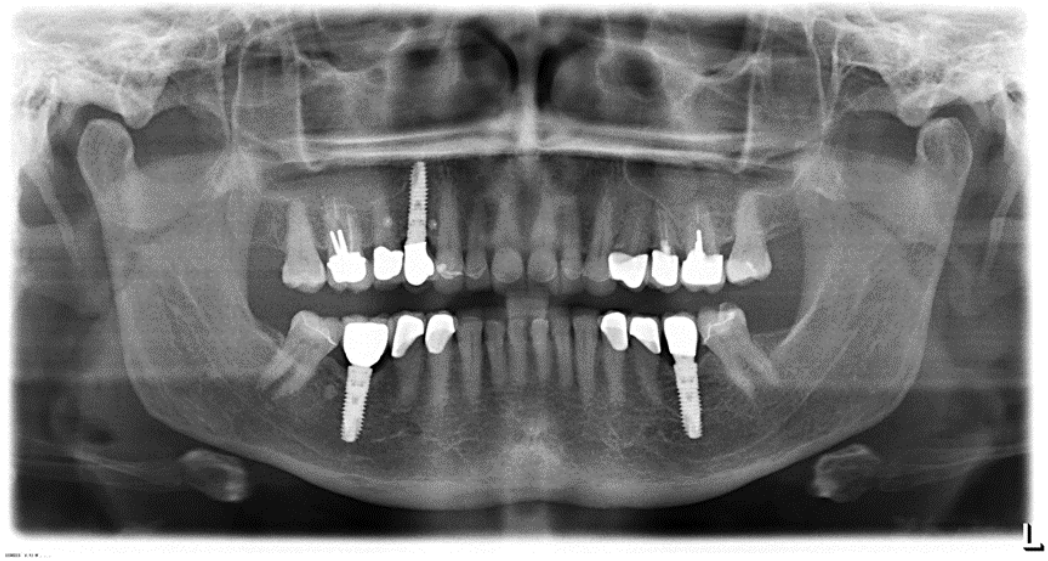
Chapter III. Failure in prosthodontics and post orthodontic treatment

Clinical case № 13

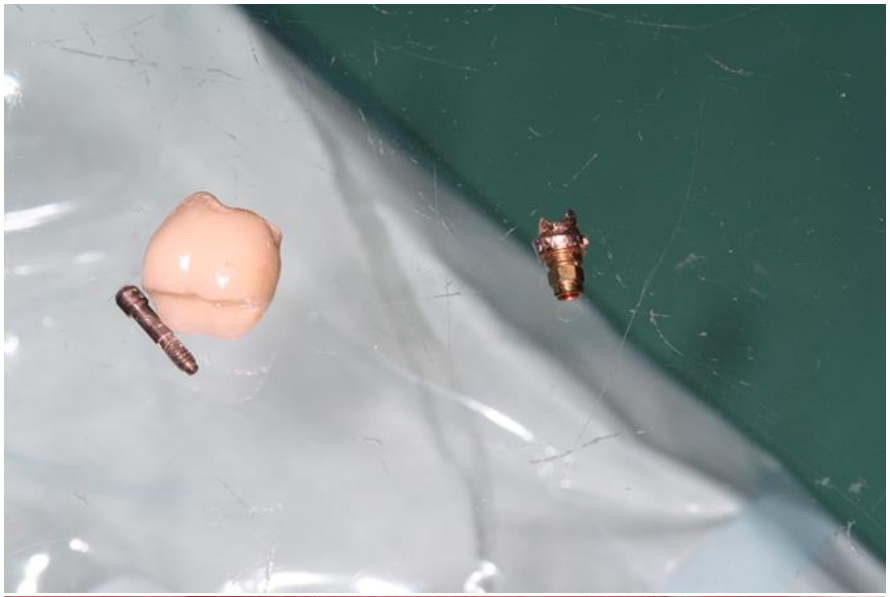
Patient`s birth date: female, 1950

Date of examination: 2012

Main concern: breakage of the crown

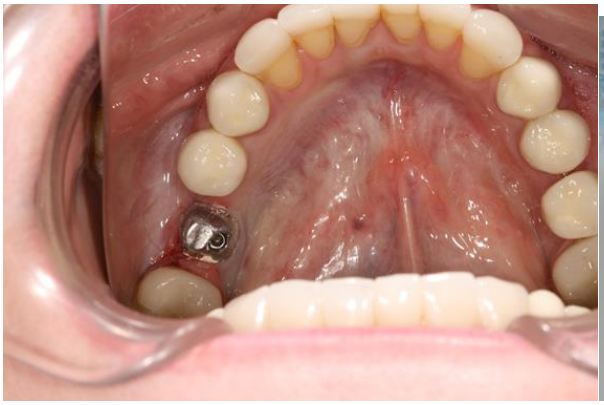


Twice the abutment was broken. 1-st breakage



2-nd crown on 46 implant






2-nd crown in implant 46. Final result

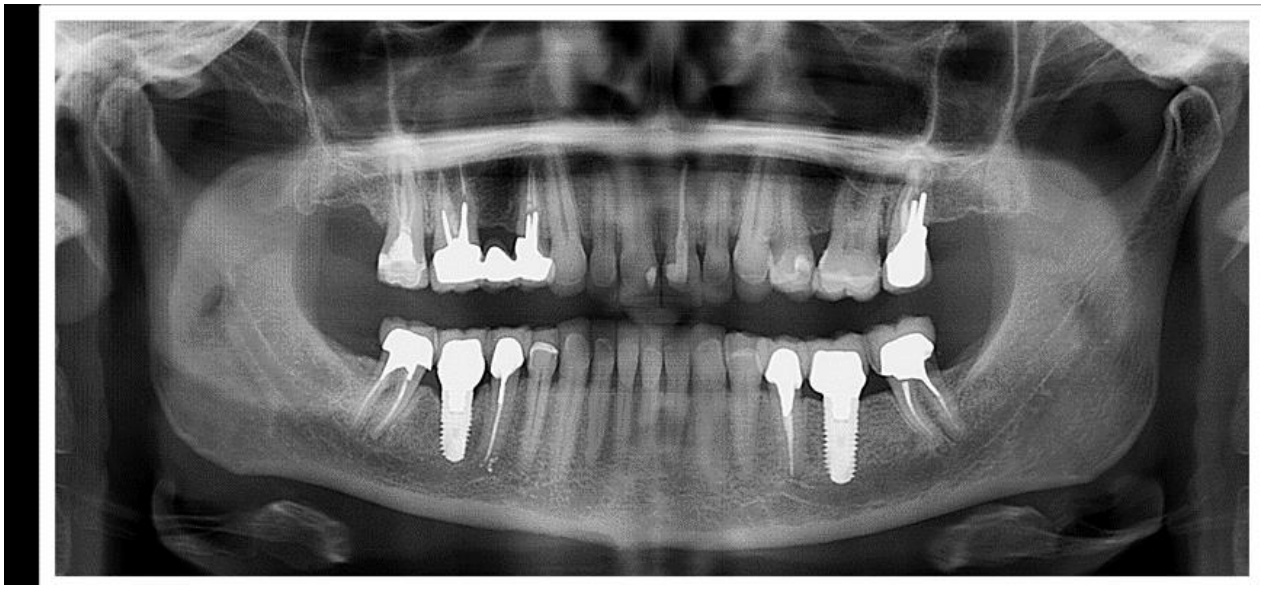
Clinical case № 14

Patient`s birth date: 1950

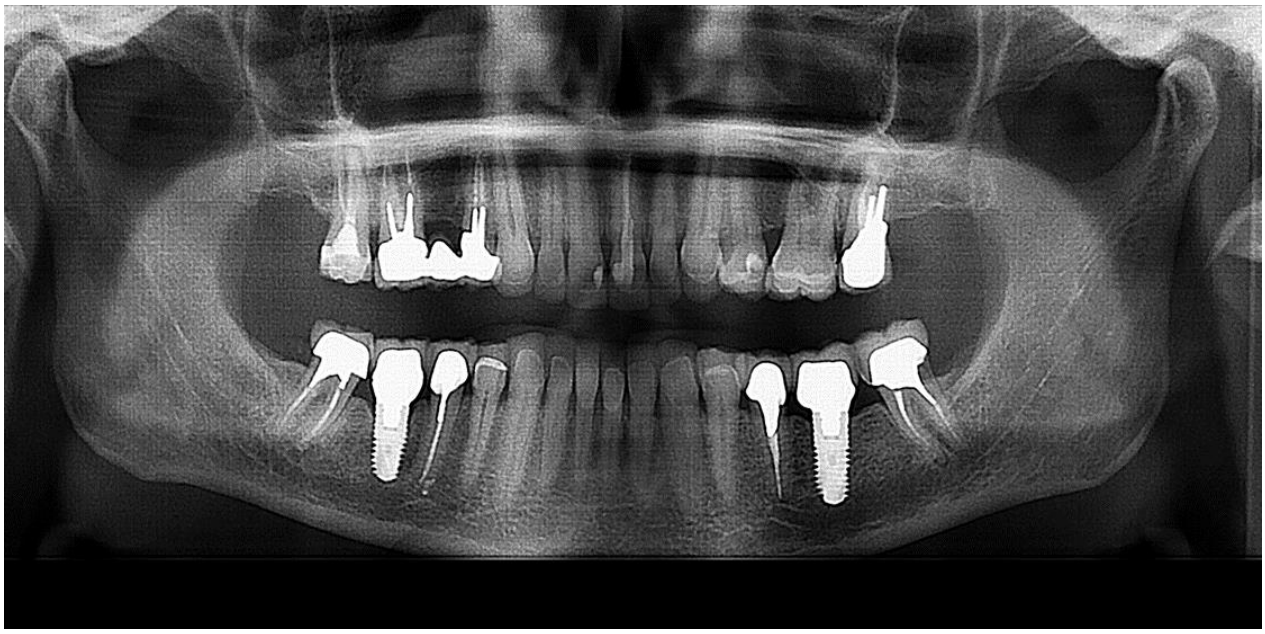
Date of examination: 2017

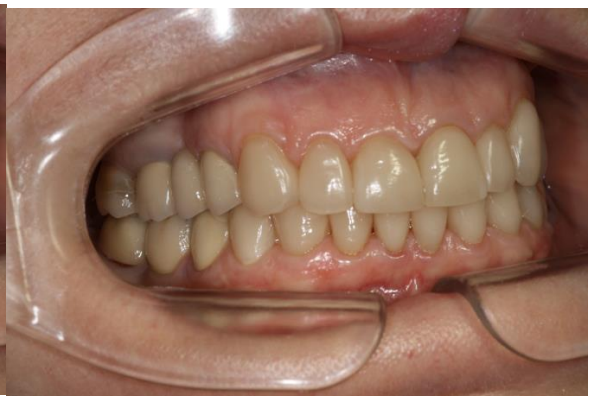
Chief complain: breakage of ceramic restorations

2012



2017





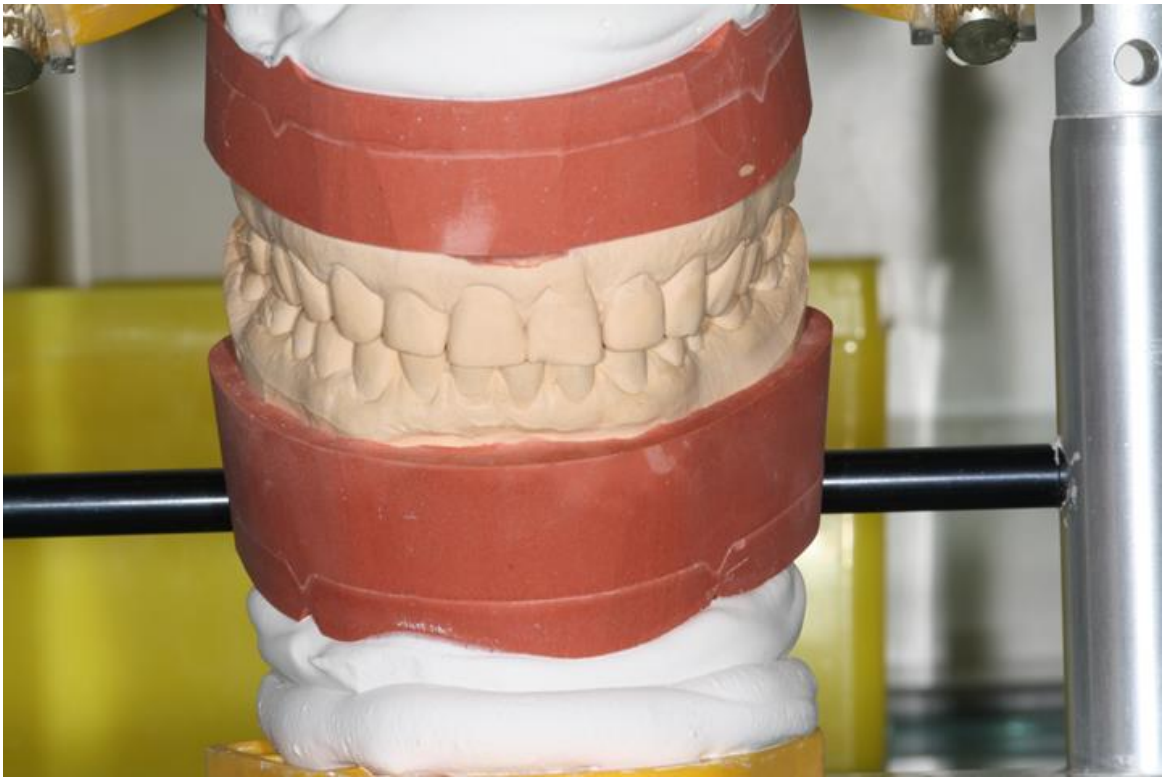
Clinical case № 15

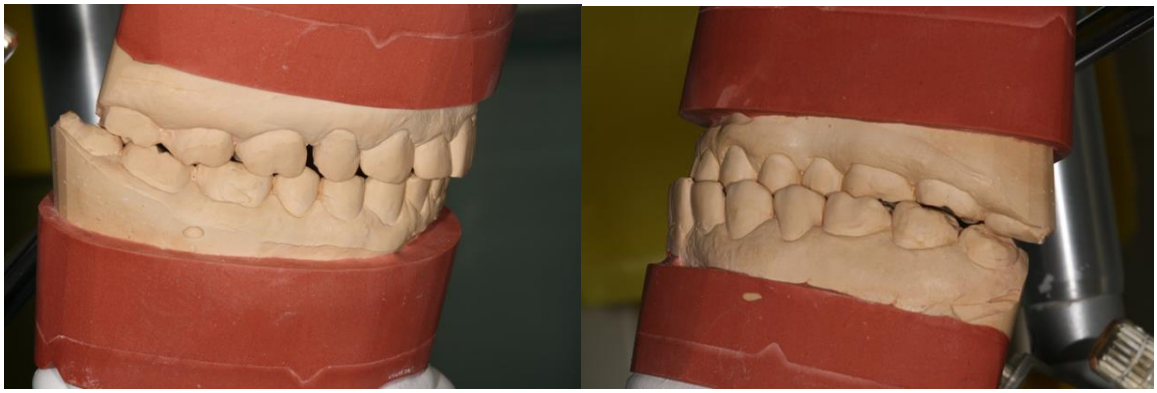
Patient`s birth date: 1975

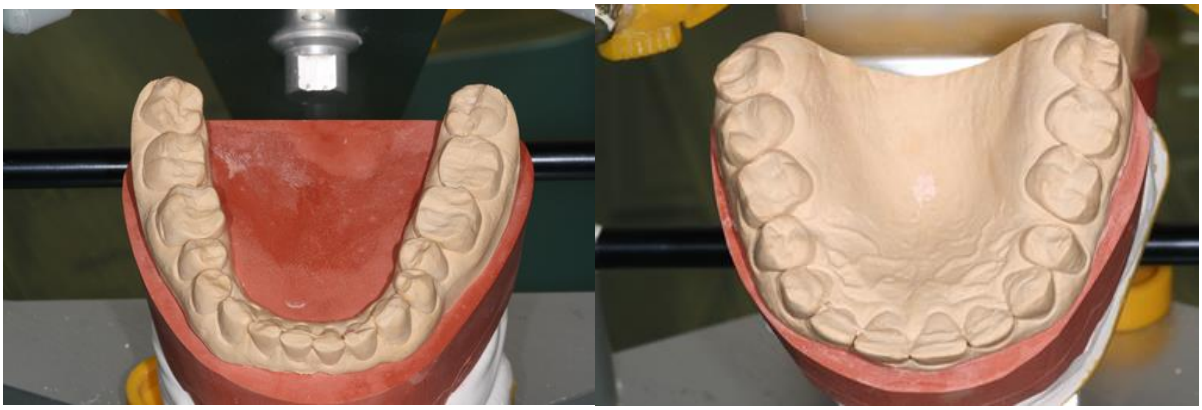
Date of examination: March, 2009

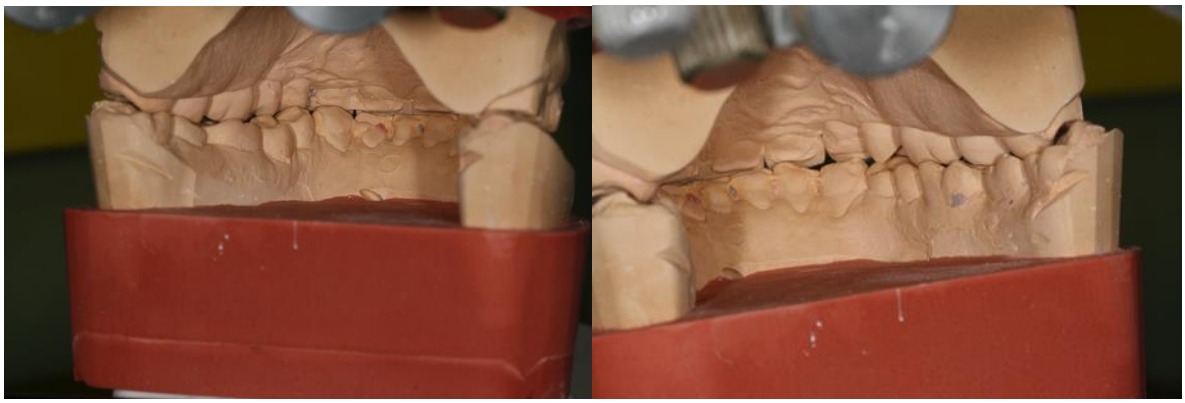
Main concern: post orthodontic esthetic and chewing low efficacy.

Casts in RP

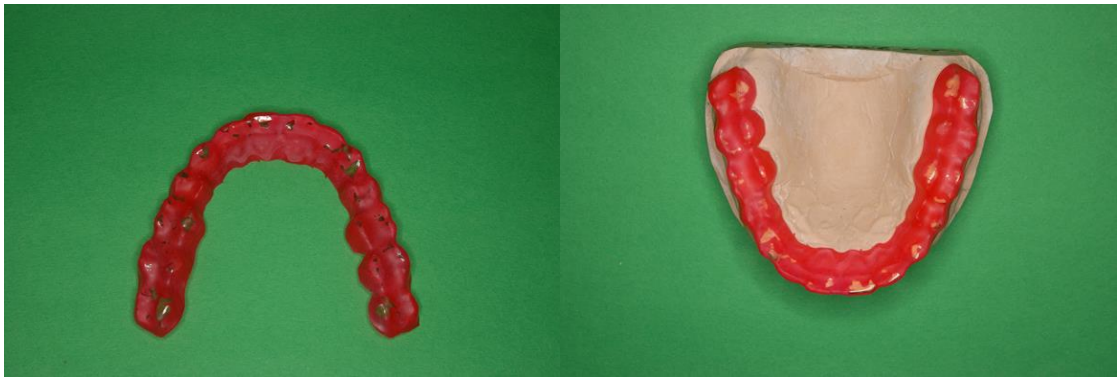




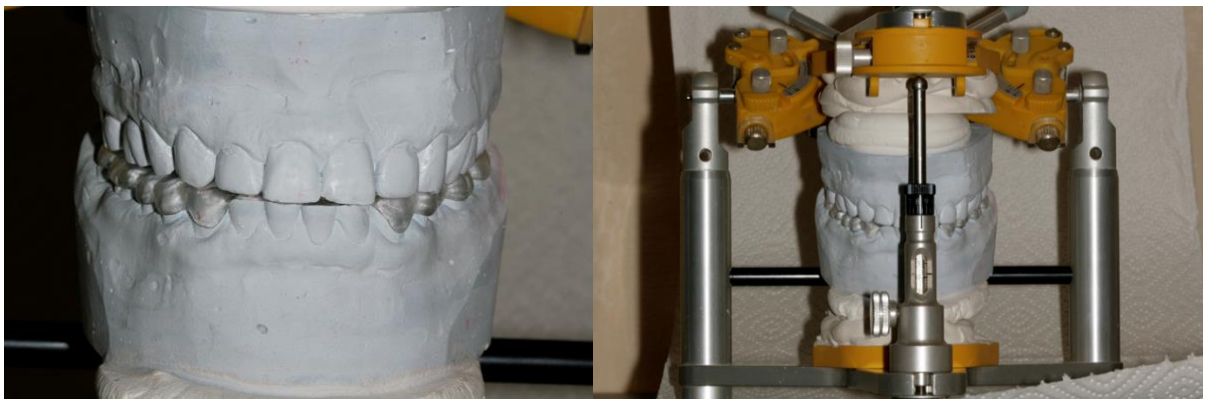




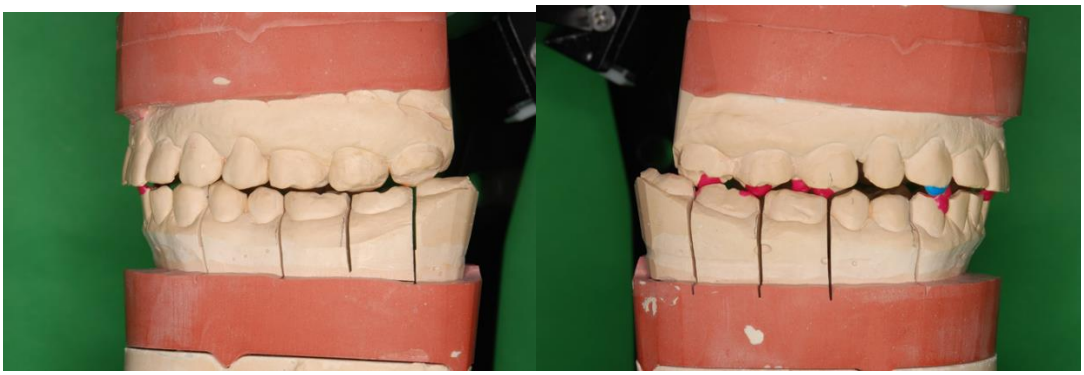
Brux checker

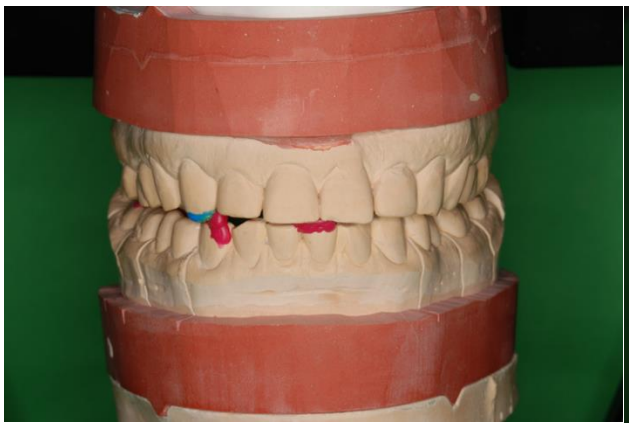
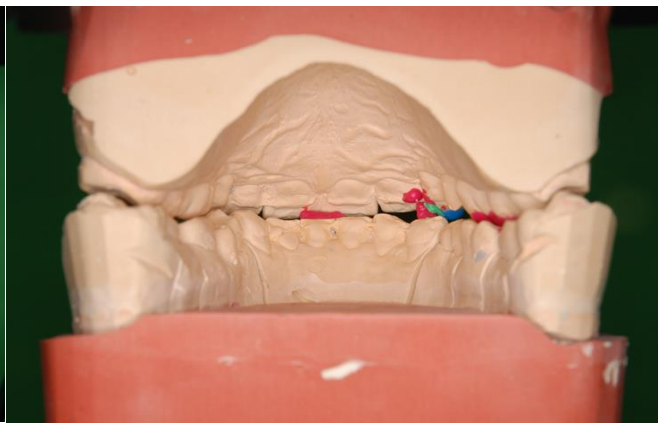


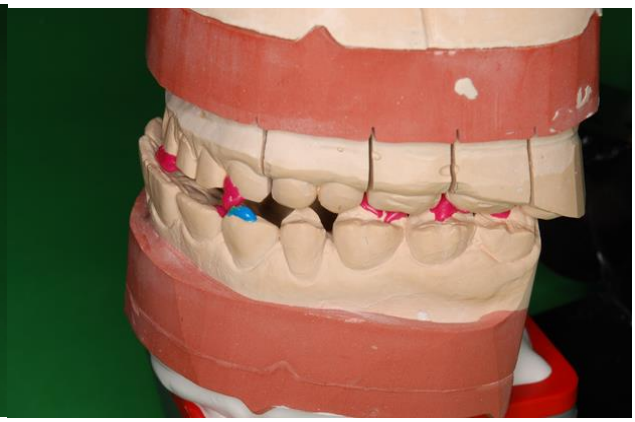
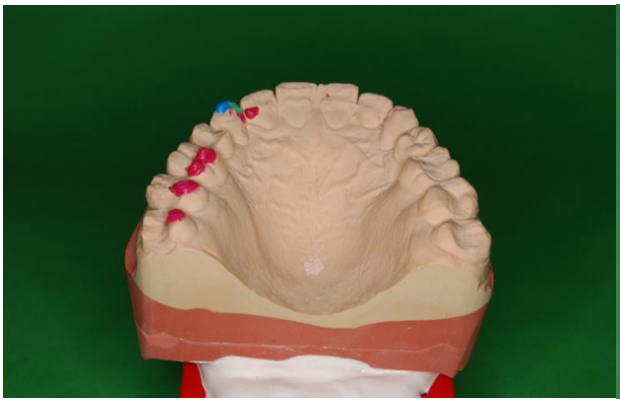
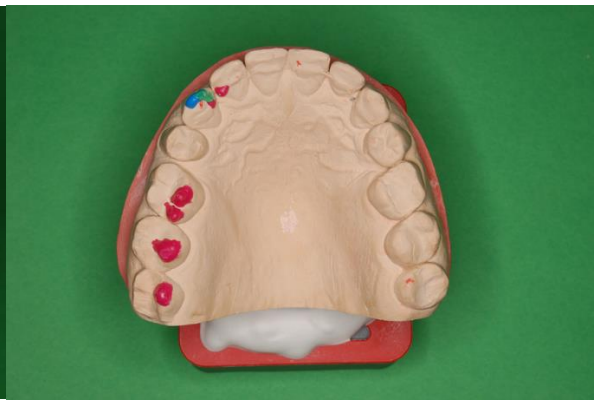
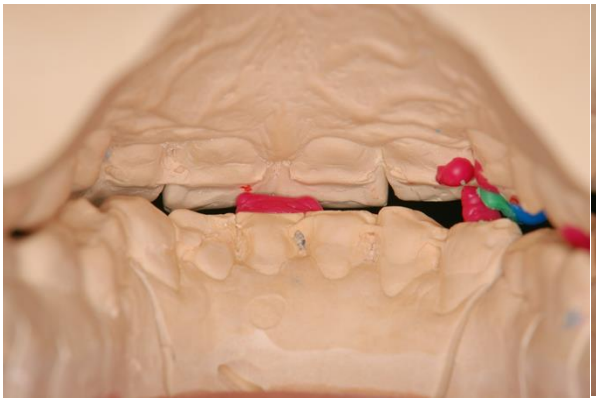
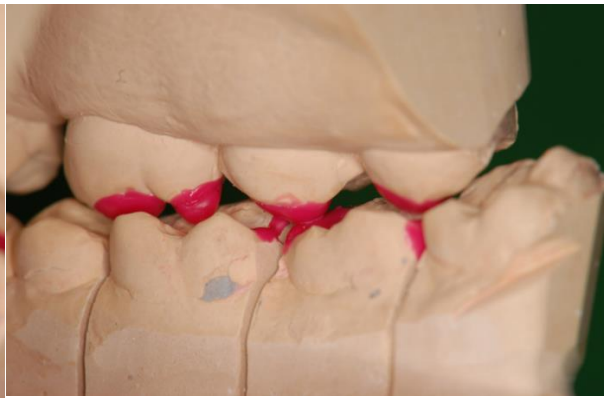
Splint therapy

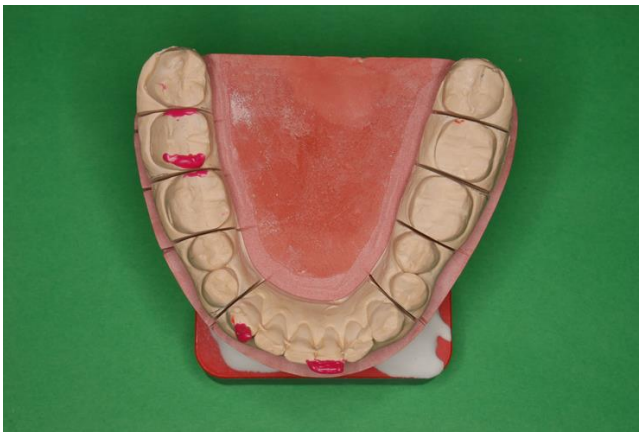


Casts remounted in articulator after splint therapy





The initial diagnostic screening protocol was initiated in 2009. The patient was reporting general medical problems of infections in the breathing system. No other health complaints.

His chief complaint is a tiring in the chewing muscle system and this was substantiated also in the occlusal index. His teeth are sensitive especially in the front region and reports small pain in his temporomandibular joints. His total occlusal index is 1.5. The patient has no accident with his head and shoulder region. He had intubations for correction of the nasal septum and he had recently three years of orthodontic treatment.

He had in the past no splint therapy, he is not aware of bruxing and clenching. He thinks that treatment is necessary and he believes on a serious disorder. He describes himself as a happy person.

His shoulder and neck region in muscle palpation is painful; his atlanto occipital joint on the right side is sensitive. The anterior temporo mandibular muscle is sensitive; the deep head of the masseter is painful on the left side and also very sensitive on retro

maxillary region. Medial pterygoideus muscle is sensitive left side. The hyoid muscle is very painful on the right side.

The temporomandibular joint on left side shows sensitivity on the lateral pole in rotation ligamentum temporale. Also, sensitivity on the left side. The preliminary brain stem nerve analysis shows no problems. No chronic pain reports. The occlusion status shows two missing upper premolars (aplasia) and multiple restorations in the molar and premolar region with composite and secondary strong equilibration.

The patient was not able to keep shim stock in the molar region. The first prematurities were found in a canal region. The Occlusogram shows in bruxing strong posterior perforations.

Jaw movement in Cadiax recording:

Protrusion and retrusion no limitation, moderate asymmetry 53 left side, 56 right side, and fairly straight movement. Characterisc is anterior concave and appears as regular sinovial joint movement.

Mediotrusion right: In retrusion negative Bennett movement which is a reproducible behaviour.

Mediotrusion left: regular Bennett movement, 14 degrees.

The opening and closing movement show a tendency to over rotate, higher mobility.

Free movement is very well muscle controlled and straight in a tendency. Speech pattern is as tendency to a slight asymmetry, the right side is more mobile protrusive as the left side, but not really any problem, no serious problem.

Clenching, bruxing: in generally there is a tendency to go anterior cranially loading the joint.

Swallowing goes to reference position. Mastication nicely muscle bounded with a tendency to chew on the right side.

CPM: there is surprising the power bite situation goes strongly backward and upward on both sides.

The amount of movement is very high on the right side is 1.25 on the left side 1.55 cranially.

In summary the joint movement seems to be not affected but the power bite situation shows evidently a serious lack of posterior support on both sides.

Discussion:

The tiredness of the muscle system can be related the permanent not supported occlusion triggering permanently the closing muscle system, to find support.

This is the very clear reason our chief complaint of the patient.

Other concerns:

The patient was bringing an EMRI with him, there is a finding of a chronic infect of the sinus maxillary with a polyposis which must be again controlled by oto laryngeal consultants. A question is to clear up the sinus infection excluding specific infection like aspergillose.

Recommendations:

The patient urgently needs re-evaluation of occlusion support. I started diagnostic wax up as a sketch for the future coorporation with the specialists in a dental office as well with the dental technician. The first molar is critically, it is in a Class II relation with a significant asymmetry between the left and right side.

The support is possible with intercuspation of the lingual cusps of the upper jaw to a central fossa principle in the lower jaw continuing from the posterior to the anterior.

Based on a cehpalometric analysis a moderate verticalisation of 4mm is necessary. The lower front teeth must be raised approximately 2 1/2mm. Canine protection must be reorganized on both sides. Based on this sketch a full diagnostic wax-up must be

executed. The functional values are allowing a moderate curve of Spee of tooth nr. 6, 7. Tooth nr. 8 after full wax-up must be re-evaluated and if it is necessary removed.

Treatment recommendations:

Face 1 treatment for short period of time could be a verticalisation splint in the lower jaw with a canine guidance for maximum 2 or 3 weeks. After this my recommendation would be to provide a very good support after diagnostic wax up in the posterior segment with laboratory produced high levelled overlays or inlays in the molars and also premolars.

The crown in the left upper jaw should be removed and receives also a temporary composite crown. The lower anterior jaw from 3 to 3 or 4 to 4 should have a cemented sandwich splint to give the anterior support. The muscle system of the patient must be permanently controlled and should be without sensitivity.

In a step by step procedure in an anterior region of the lower jaw is recommended a porcelain veneer restoration from 4 to 4, and the upper jaw a restoration with porcelain veneer for the canine and first premolar. Sequential guidance is indicated in this case regarding the Class II relation until tooth nr. 6.

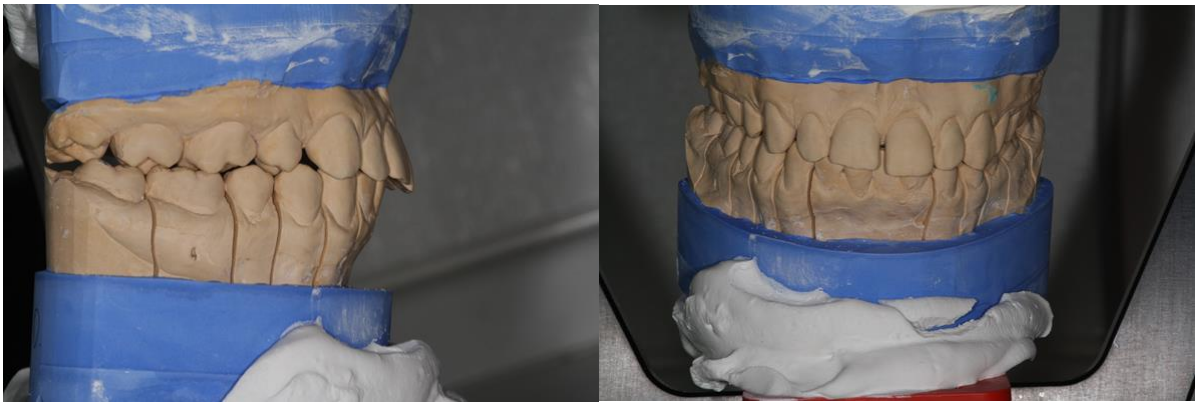
Clinical case № 16

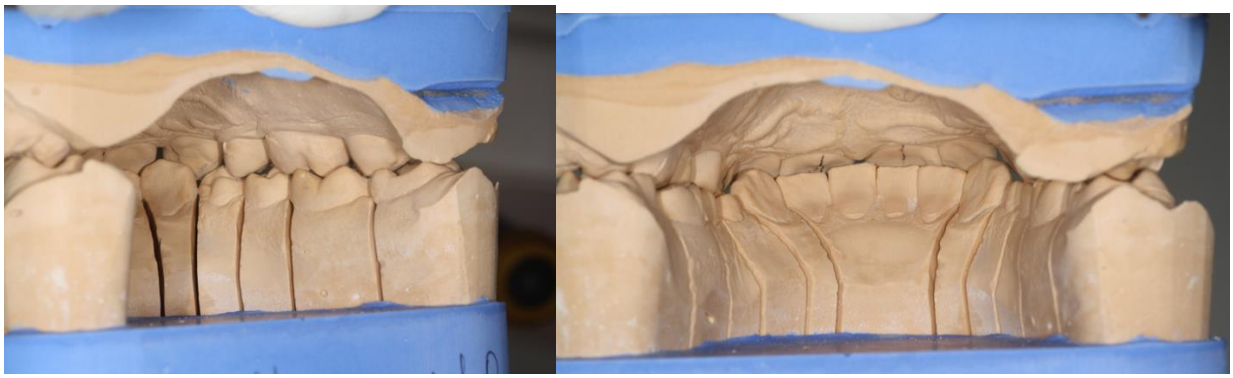
Patient`s birth date: 1984

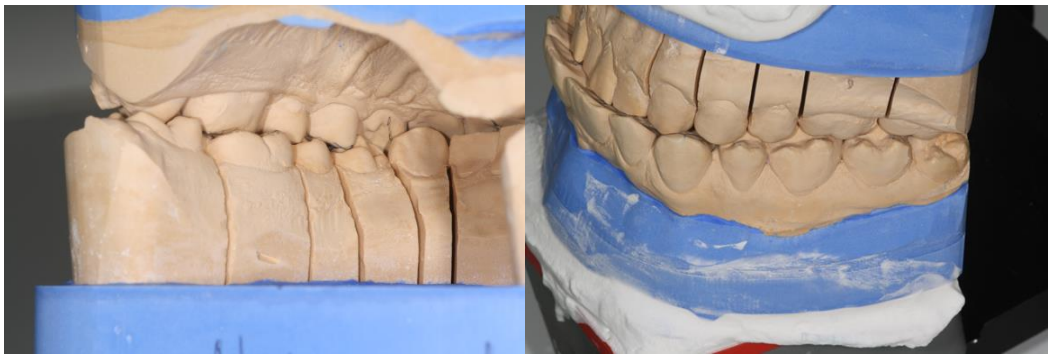
Date of examination: November, 2012

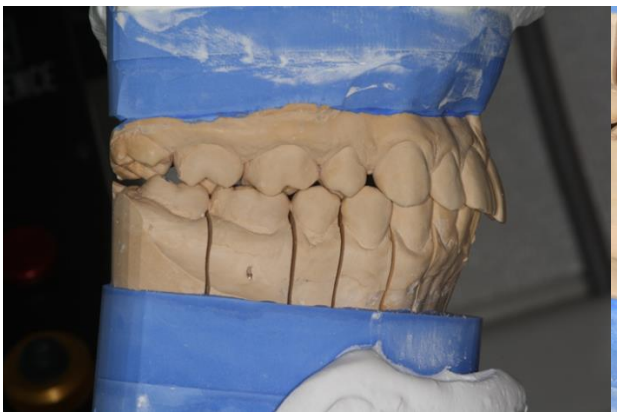
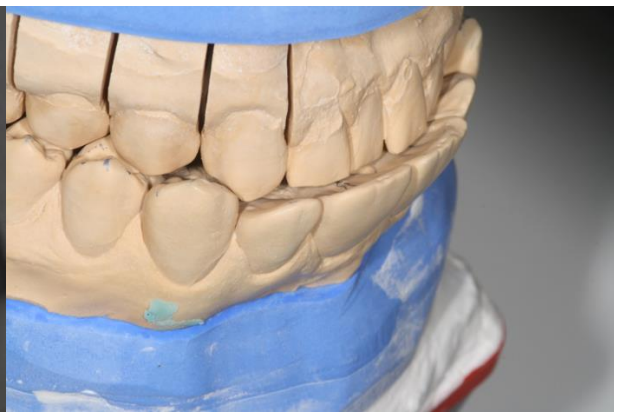
Chief complain: post orthodontic esthetic problems

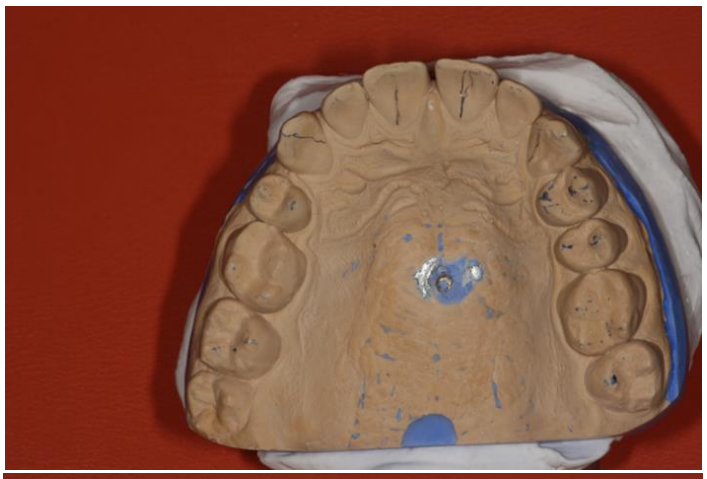
Casts in RP



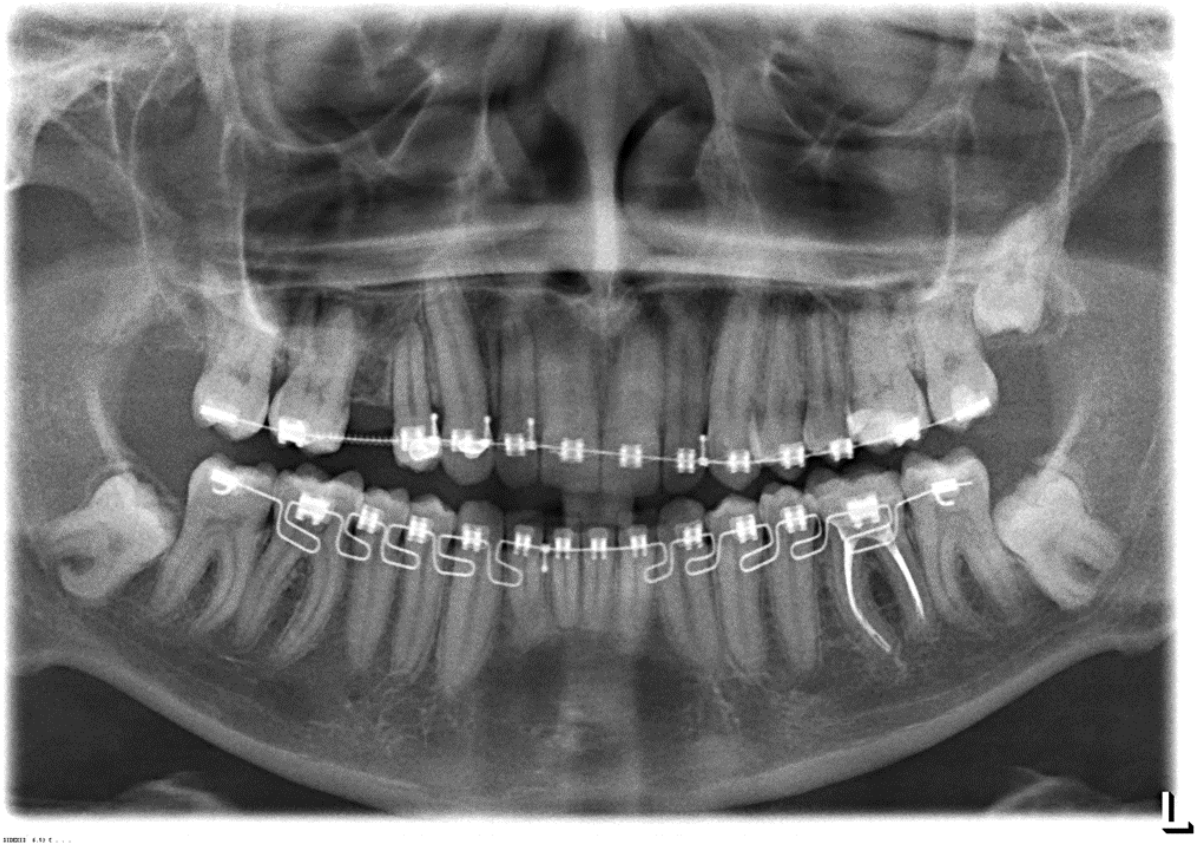





OPG



Clinical case № 17

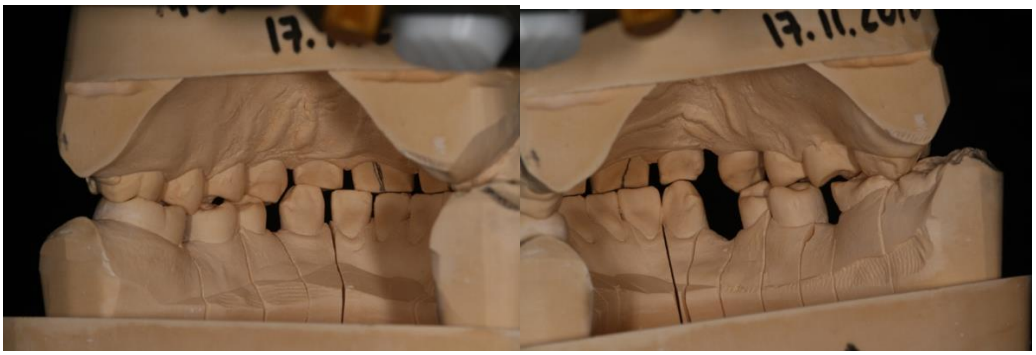
Patient`s birth date: male,1973

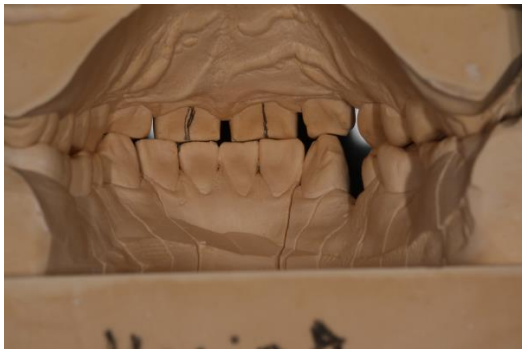
Date of examination: 2013

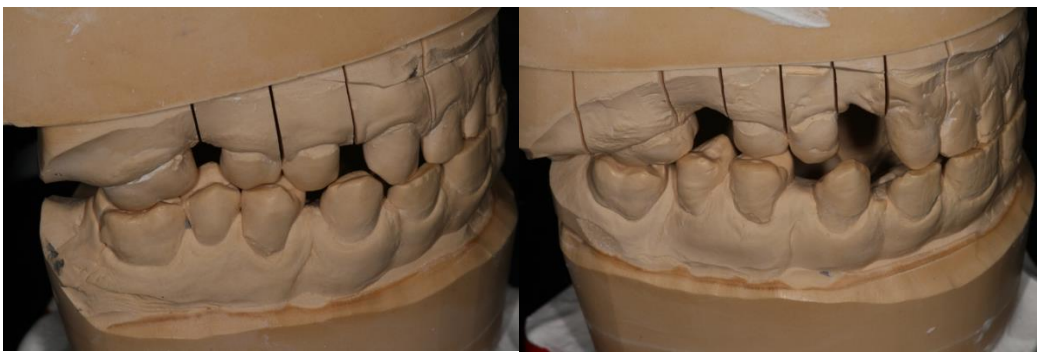
Chief complain: post orthodontic esthetic problem

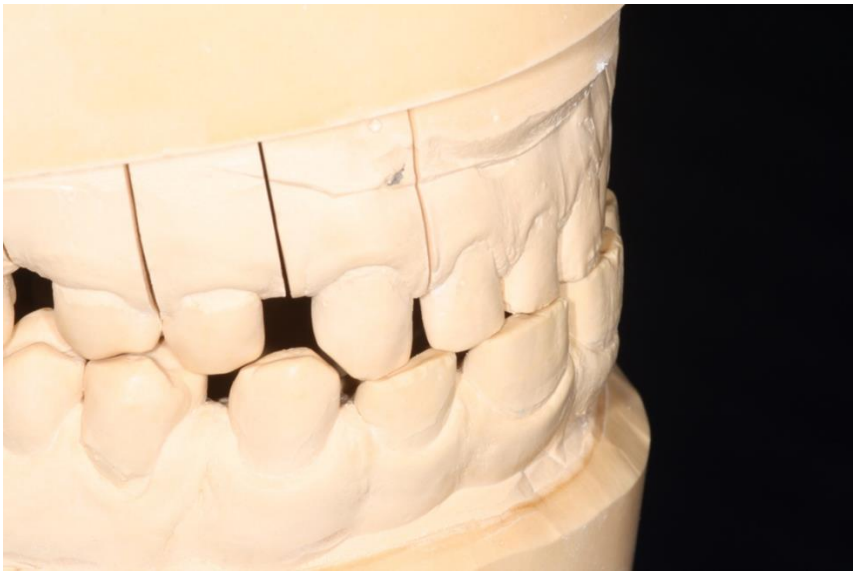
Intraoral photos

Casts in RP



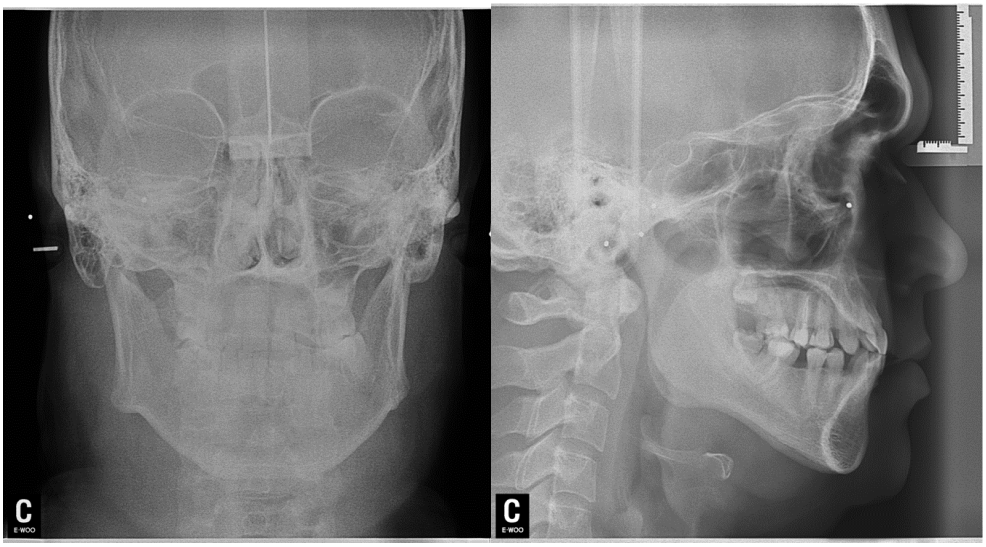






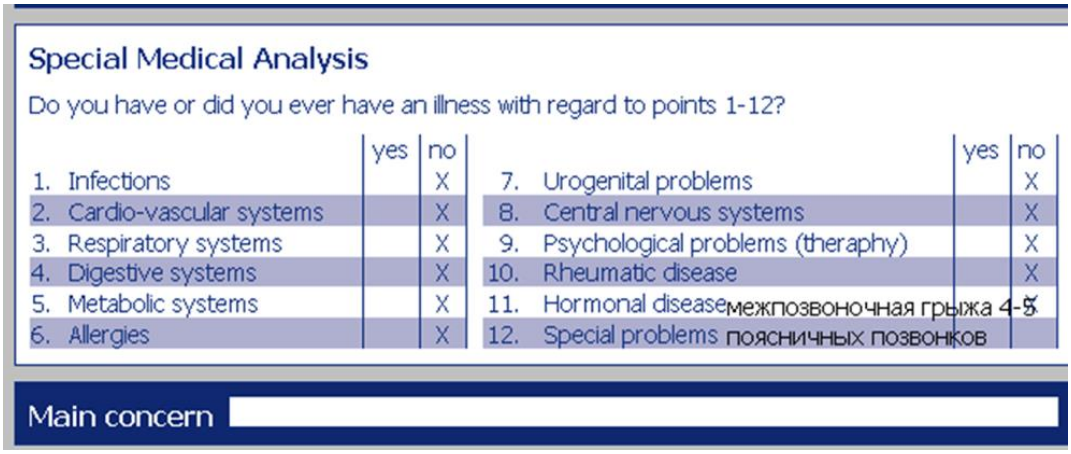
OPG

Lateral X - ray



List of problems

- Muscle problems
- Esthetic problems – tremas and diastemas
- Impacted 18
- Absence of 16, 46, 37,27

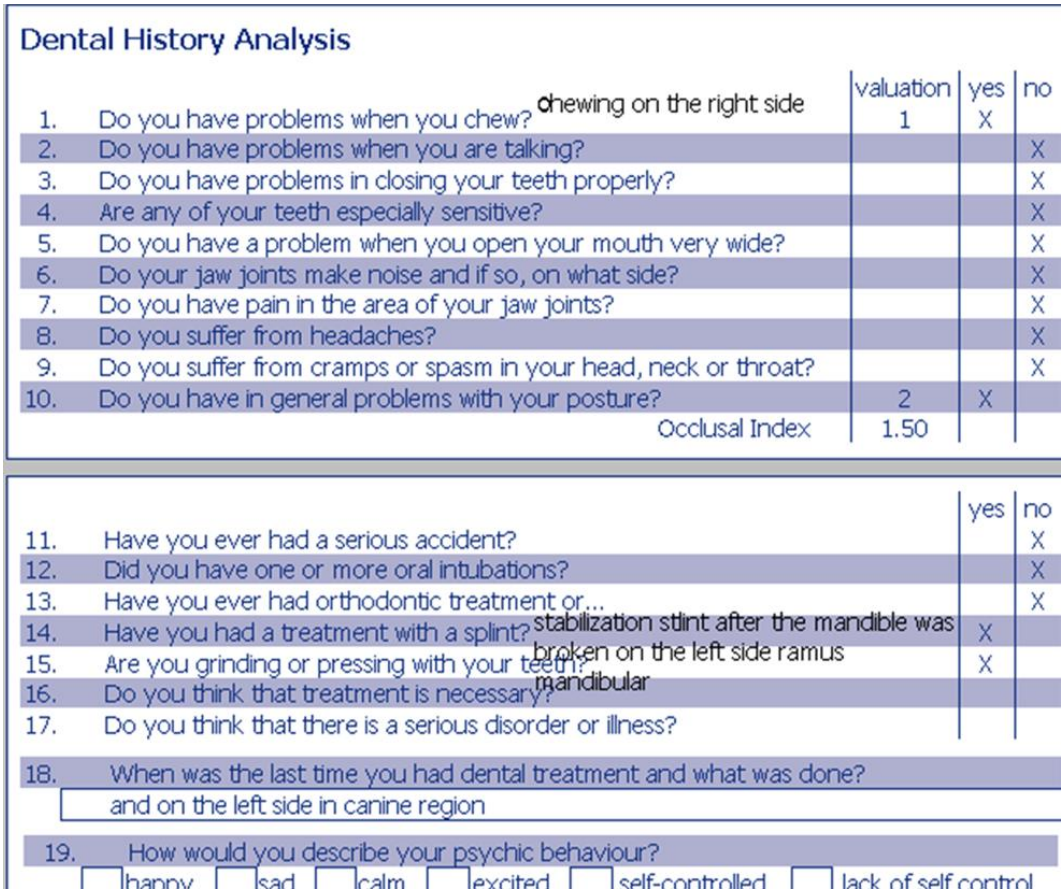


Special Medical Analysis

Do you have or did you ever have an illness with regard to points 1-12?

		yes	no
1.	Infections		X
2.	Cardio-vascular systems		X
3.	Respiratory systems		X
4.	Digestive systems		X
5.	Metabolic systems		X
6.	Allergies		X
7.	Urogenital problems		X
8.	Central nervous systems		X
9.	Psychological problems (theraphy)		X
10.	Rheumatic disease		X
11.	Hormonal disease межпозвоночная грыжа 4-5		X
12.	Special problems поясничных позвонков		

Main concern



Dental History Analysis

		valuation	yes	no
1.	Do you have problems when you chew? chewing on the right side	1	X	
2.	Do you have problems when you are talking?			X
3.	Do you have problems in closing your teeth properly?			X
4.	Are any of your teeth especially sensitive?			X
5.	Do you have a problem when you open your mouth very wide?			X
6.	Do your jaw joints make noise and if so, on what side?			X
7.	Do you have pain in the area of your jaw joints?			X
8.	Do you suffer from headaches?			X
9.	Do you suffer from cramps or spasm in your head, neck or throat?			X
10.	Do you have in general problems with your posture?	2	X	
	Occlusal Index	1.50		

		yes	no
11.	Have you ever had a serious accident?		X
12.	Did you have one or more oral intubations?		X
13.	Have you ever had orthodontic treatment or...		X
14.	Have you had a treatment with a splint? stabilization stlint after the mandible was broken on the left side ramus mandibular	X	
15.	Are you grinding or pressing with your teeth?	X	
16.	Do you think that treatment is necessary?		
17.	Do you think that there is a serious disorder or illness?		

18. When was the last time you had dental treatment and what was done?
and on the left side in canine region

19. How would you describe your psychic behaviour?
happy sad calm excited self-controlled lack of self control

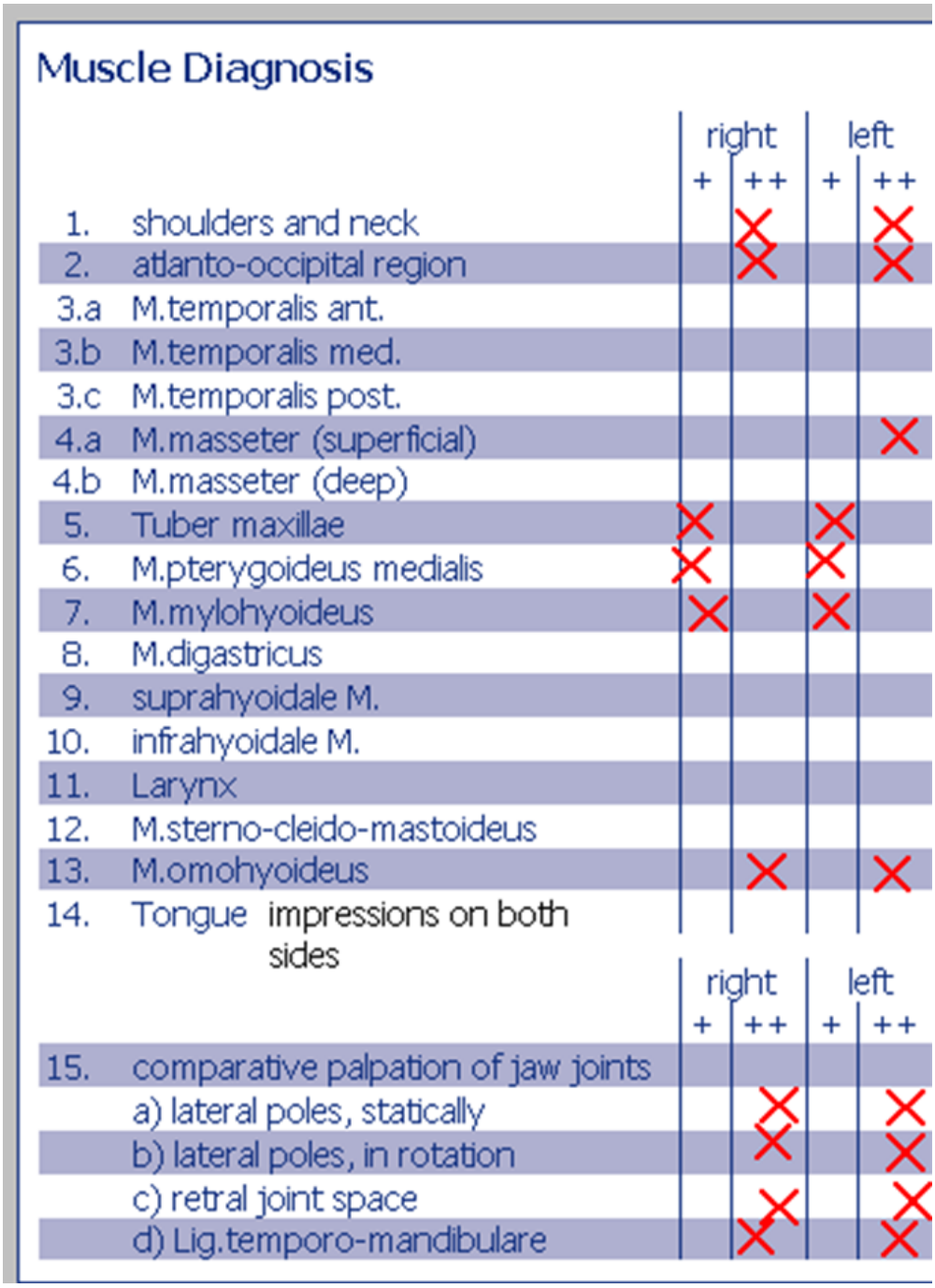
Posture

Protractors-retractors

Avoidance pattern

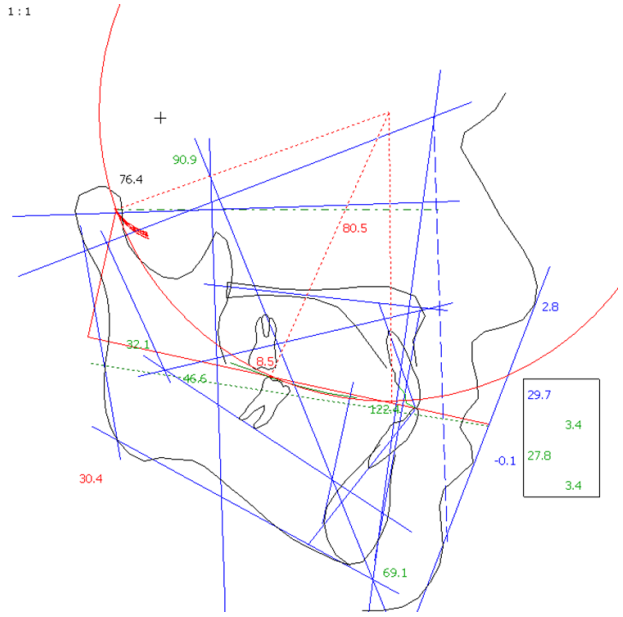
TMJ position

Bruxism



Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	90.8	
Facial Depth	91.5 °	80.4	3-***
Mandibular Plane	21.5 °	30.4	2D**
Facial Taper	68.0 °	69.0	
Mandibular Arc	31.2 °	32.0	
Maxillary Position	65.0 °	69.6	1+*
Convexity	-1.0 mm	2.8	1X*
Lower Facial Height (by R.Slavicek)	45.9 °	46.5	
Lower Facial Height to Point D	52.4 °	50.8	
Dental Measurement	**Norm**	**Value**	**Trend**
Interincisal Angle	132.8 °	122.4	
Upper Incisor Protrusion	4.3 mm	3.4	
Upper Incisor Inclination	23.1 °	29.7	1+*
Upper Incisor Vertical	mm	0.0	
Lower Incisor Protrusion	1.2 mm	3.4	
Lower Incisor Inclination	24.1 °	27.8	
Upper Molar Position	21.0 mm	8.4	6-***>
Occlusal plane	**Norm**	**Value**	**Trend**
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	12.2	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	9.9	
Distance Occlusal plane - Axis (DPO)	40.9 mm	34.3	
Radius of Curve of Spee	----- mm	76.3	
Lip Embrasure	0.0 mm	0.9	
Occlusal Plane Xi Distance	-1.4 mm	4.1	1+*
Functional Measurement	**Norm**	**Value**	**Trend**
Horizontal Condylar Inclination right	----- °	45.1	
Horizontal Condylar Inclination left	----- °	50.8	
Horizontal Condylar Inclination	----- °	47.9	
Relative Condylar Inclination	----- °	35.7	
Relative Condylar Inclination 6	----- °	29.8	
Relative Condylar Inclination 7	----- °	28.8	
Relative Condylar Inclination 8	----- °	47.9	
Anterior Guidance (S-AOP)	----- °	67.1	
Relative Anterior Guidance	----- °	54.8	
Esthetic Measurement (Lip Relation)	**Norm**	**Value**	**Trend**
Esthetic Plane	-2.9 mm	0.0	1+*



SCI = 47 degrees

AG = 67 too strong inclined

DOA = 5 degrees – unterference

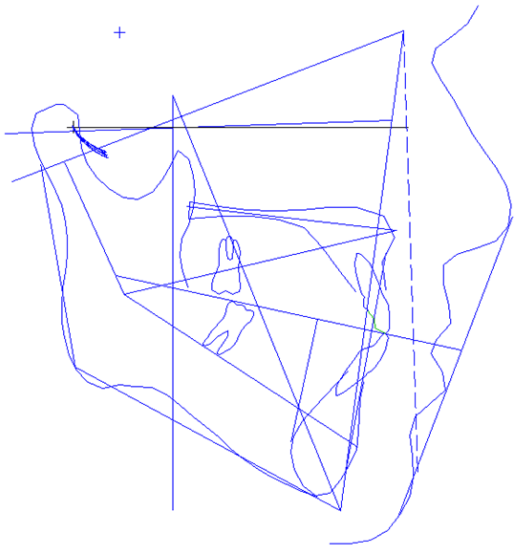
Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is dolichofacial
The skeletal trend of the mandible is mesiofacial
Skeletal class is II with tends to I
The maxilla is positioned prognatic, with tendency to neutral
The mandible is positioned neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is increased
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is normal
Occlusal concept: Tendency to group function
No functional statement available

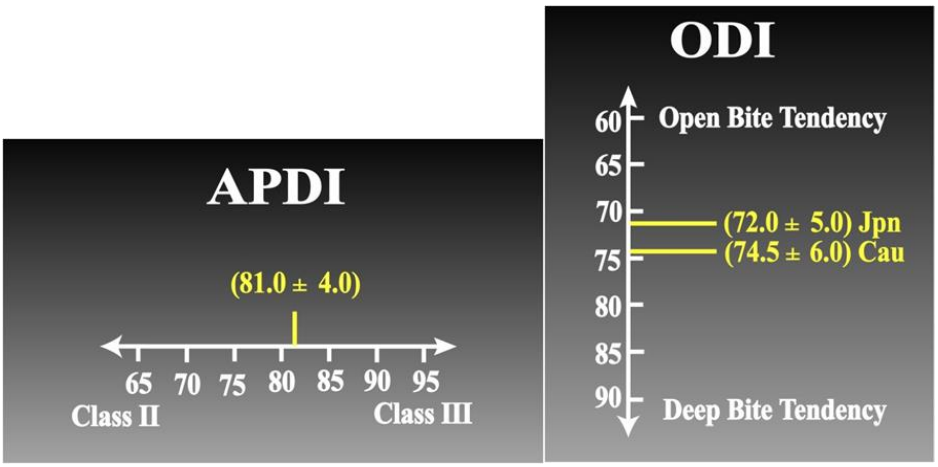
Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	90.8	
Facial Depth	91.5 °	80.4	3-***
Facial Taper	68.0 °	69.0	
Mandibular Plane	21.5 °	30.4	2D**
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	390.1	2-**
Facial Length Ratio	63.5 %	68.5	2+**
Y Axis to S N	67.0 °	65.6	
Y Axis (Downs)	61.8 °	67.3	1+*
S N to Gonion Gnathion Angle	31.6 °	30.1	

1 : 1



On casts I class



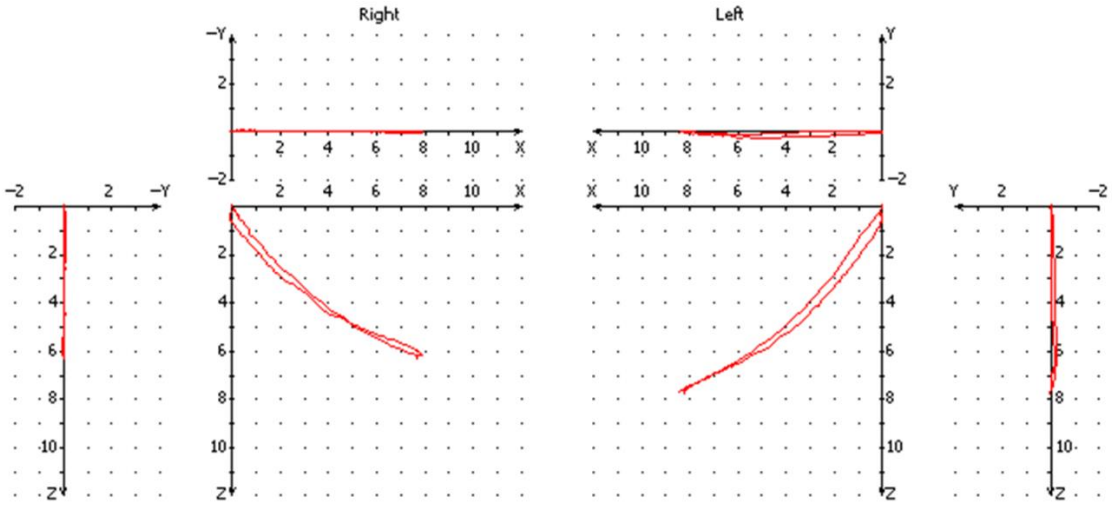
Deep bite tendency

Class III

Sato Analysis

Denture frame analysis	Norm	Value	Trend
FH - MP	25.9 °	31.7	1+*
PP - MP	24.6 °	23.5	
OP - MP	13.2 °	16.3	
OP - MP / PP - MP	54.0 %	69.3	1+*
AB - MP	71.3 °	70.6	
A'-P'	50.0 mm	53.6	
A'-6'	23.0 mm	30.8	3+***
A'-6' / A'-P'	50.0 %	57.5	
U1 - AB (degree)	31.7 °	29.7	
U1 - AB (mm)	9.5 mm	3.4	4-***>
L1 - AB (degree)	25.4 °	27.7	
L1 - AB (mm)	6.2 mm	3.4	1-*
Inter molar angle	174.0 °	135.6	10+***>
FH - PP	1.3 °	8.2	6+***>
Kim analysis	Norm	Value	Trend
ODI	72.0 °	78.9	1+*
APDI	81.0 °	85.8	1+*
Combination factor	153.0 °	164.7	1+*
Downs-Graber analysis	Norm	Value	Trend
Facial angle	85.1 °	80.4	
Convexity	-5.6 °	-5.7	
AB - Facial plane angle	-5.1 °	-2.9	
FH - MP	25.9 °	31.7	1+*
Y Axis	65.7 °	66.8	
FH - OP	9.5 °	15.4	1+*
Interincisal angle	129.7 °	122.4	
L1 - OP	68.0 °	64.0	
L1 - MP	94.7 °	98.4	
U1 - A.POG	7.9 mm	3.4	1-*
FH - SN	6.0 °	178.3	50D***>
SNA Angle	81.9 °	84.9	
SNB Angle	78.6 °	82.6	1D*
ANB Angle	3.3 °	2.2	
U1 - Facial Plane (mm)	9.9 mm	5.2	1-*
U1 - FH (deg)	108.9 °	107.3	
U1 - SN (deg)	103.1 °	108.9	1+*
Gonial angle	119.4 °	131.3	2+**
Ramus Inclination	2.6 °	9.5	1+*

Protrusion

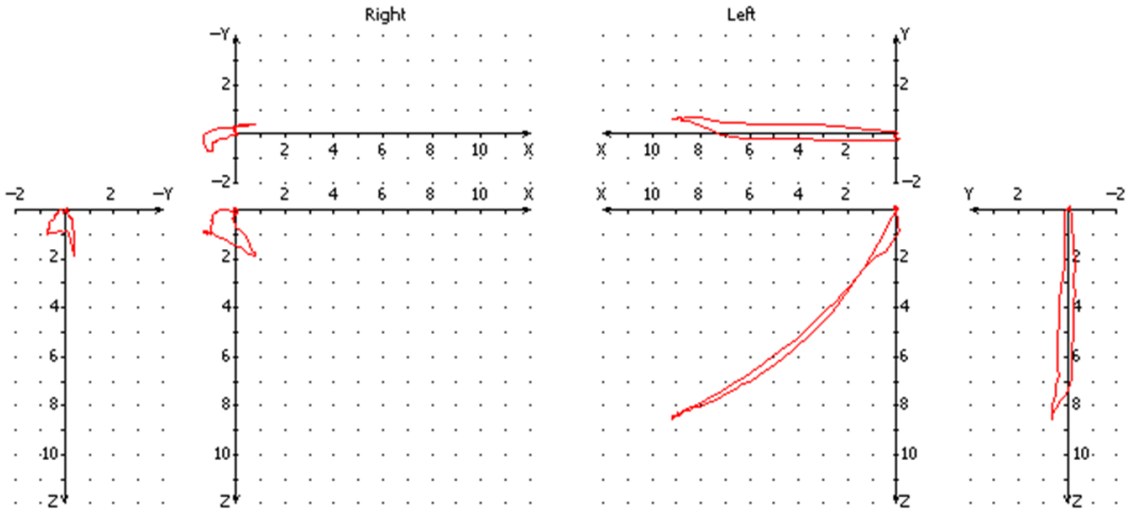


Mediotrusion right

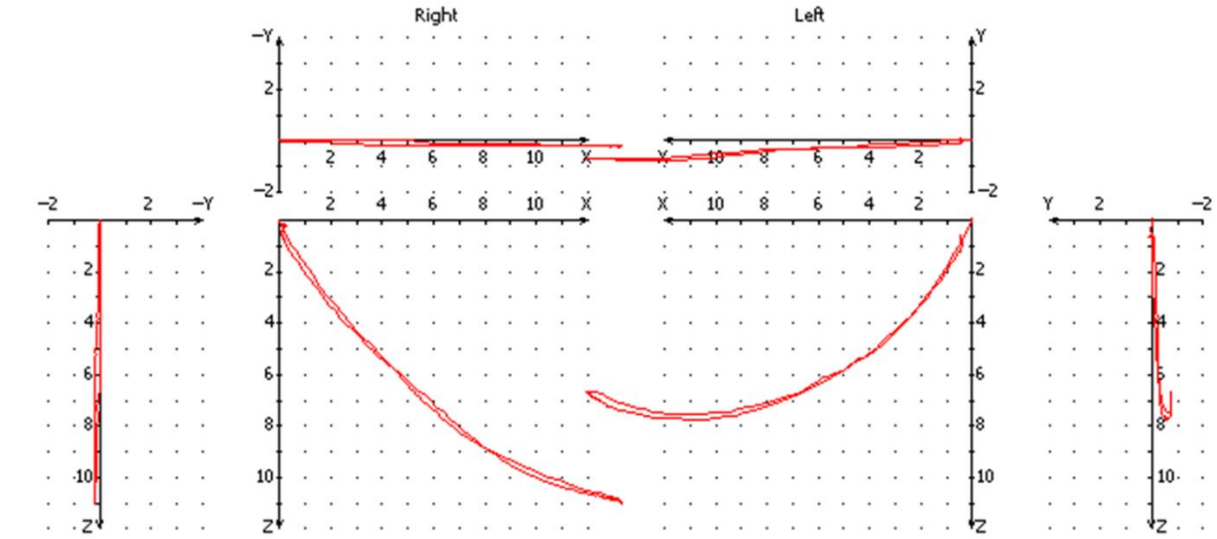
Medially displaced disk right

Mediotrusion left

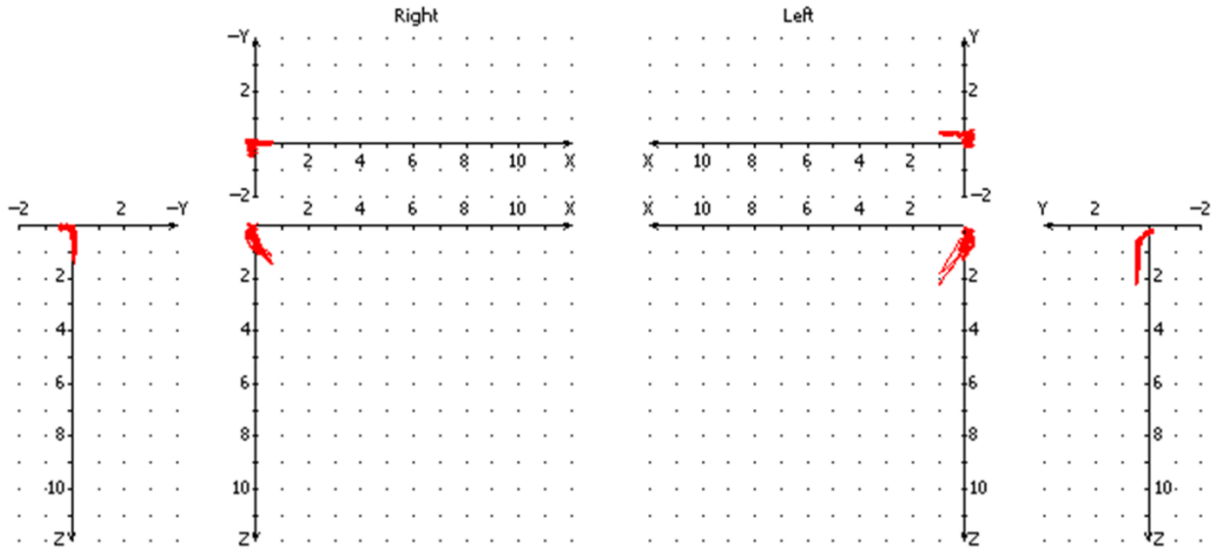
The same without reduction



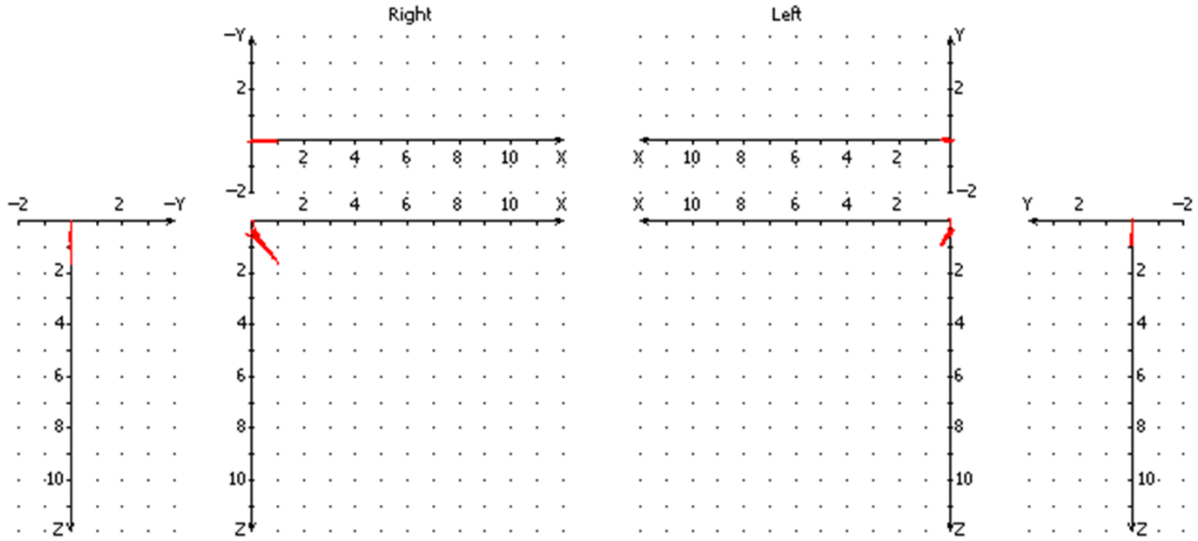
Open-close



Brux

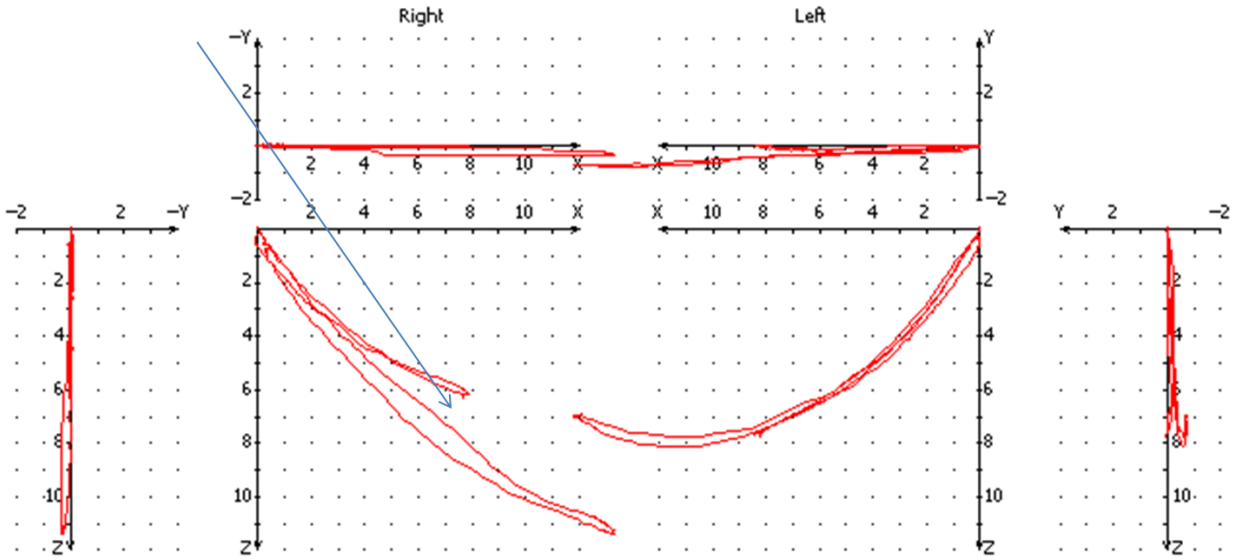


Speech



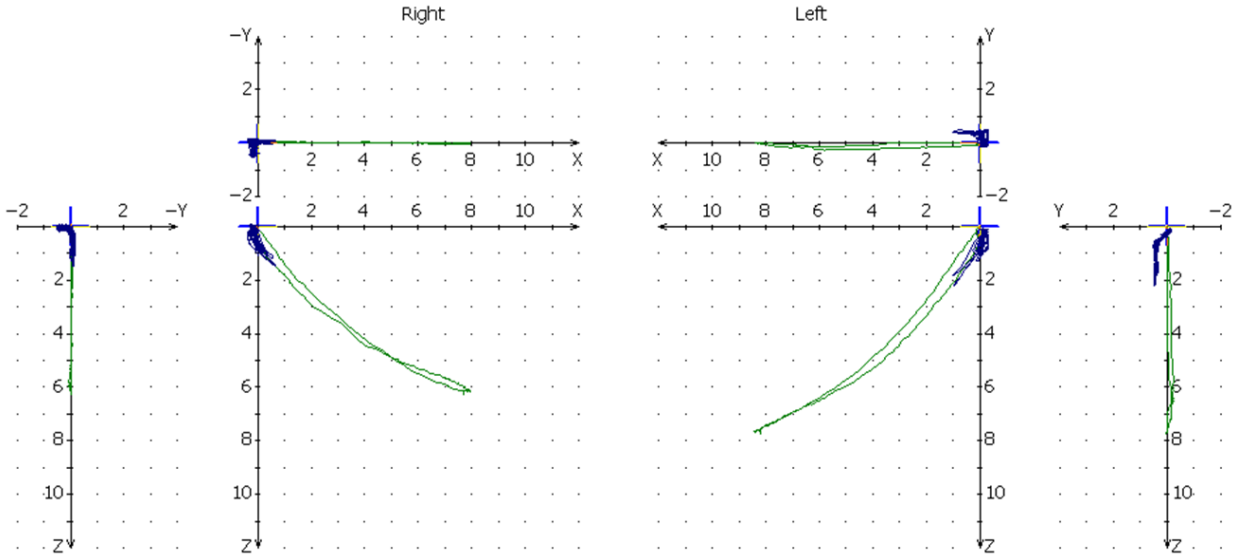
Open –close – protrusion

Is it Fisher angle that shows medially displacement



Protrusion- brux

During brux the condyle is pressing the bilaminar zone



Treatment objective

- Extract 18, 48
- Open space for 16, 27, 37, 46
- Decrease inclination of upper incisors according to SCI
- No changes in LFH
- Upper arch
- Lower arch
- Skeletal class. If we have III class tendency and deep bite in Sato analyses

Treatment plan

1. Set up models to estimate the class of occlusion we will receive after closing gaps
1. Place implants 16, 27, 37, 46

Clinical case № 18

Patient`s birth date: female, 1990

Date of examination: 2018

Main concern: post orthodontic esthetic problem and low chewing efficacy

Clinical case № 19

Patient`s birth date: male, 1948

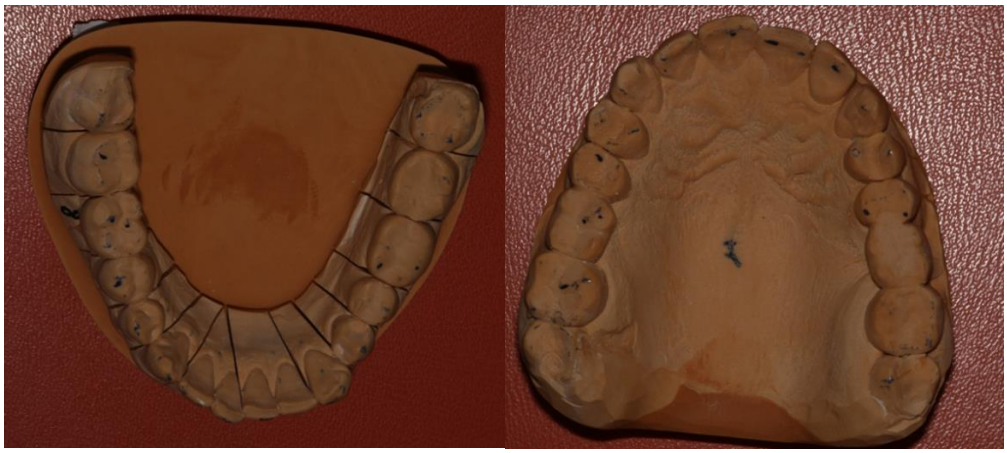
Date of examination: March, 2009

Main concern: post prosthodontic esthetic problem and low chewing efficacy, gum recession.

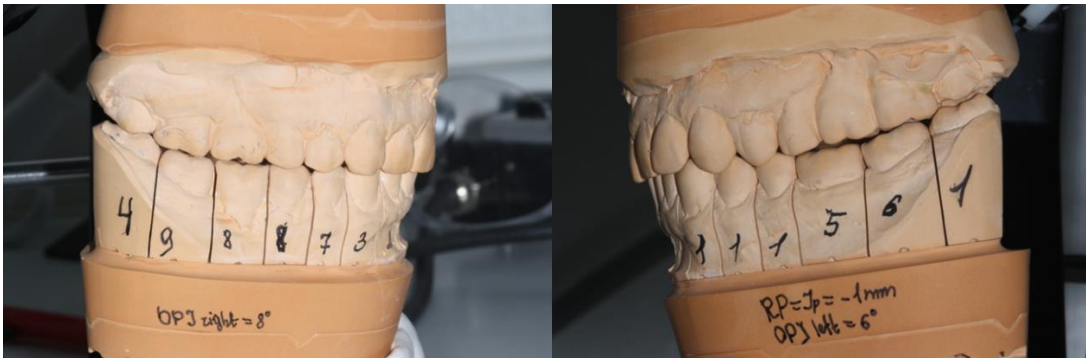
Intraoral photo

Right side II class occlusion, Left side - I class occlusion.

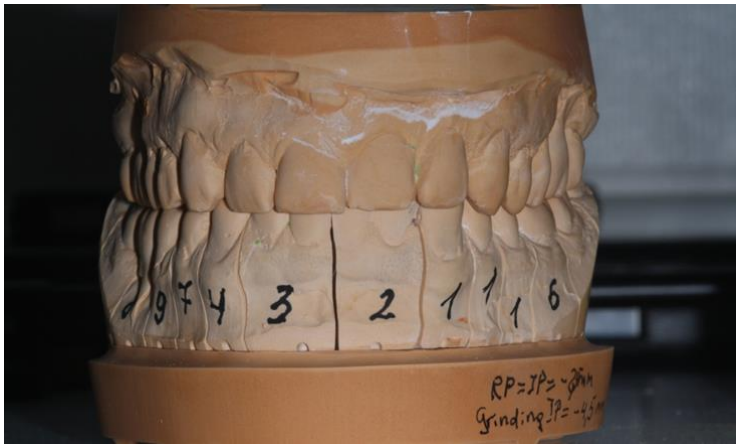
Casts

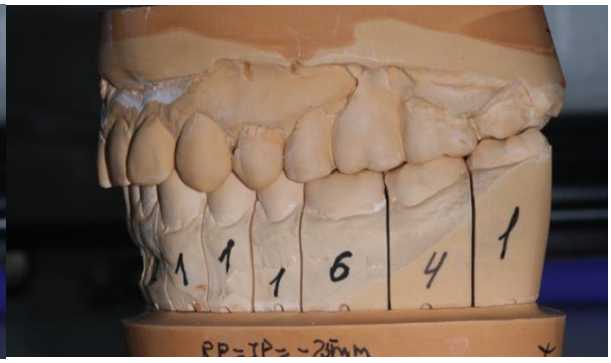


Casts in RP

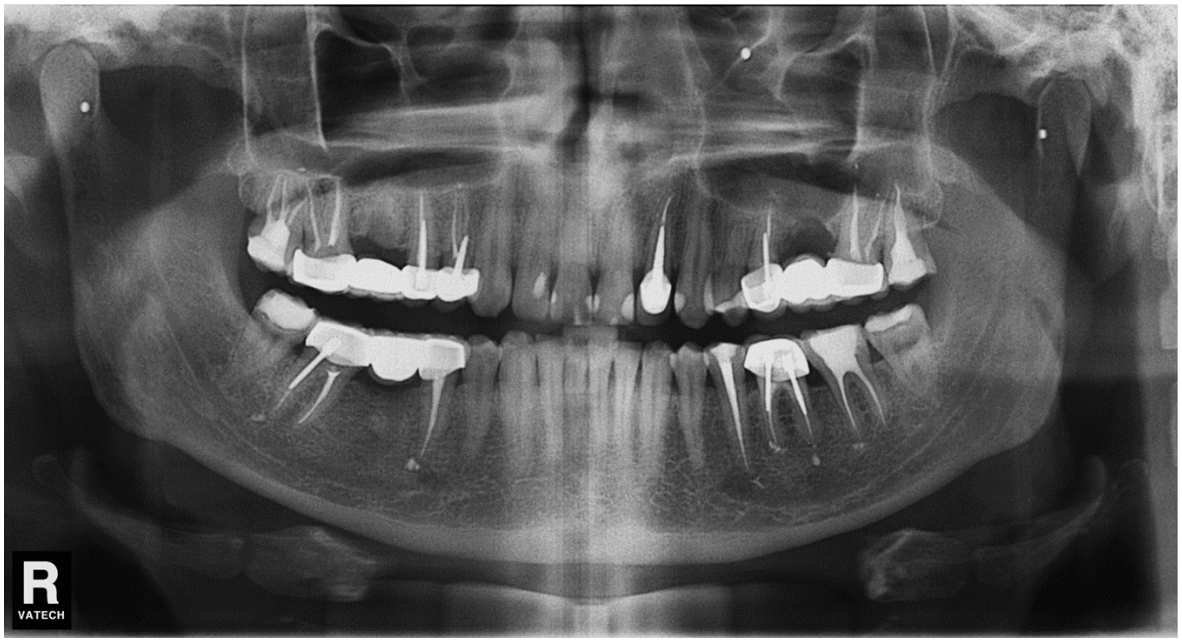


Casts in ICP



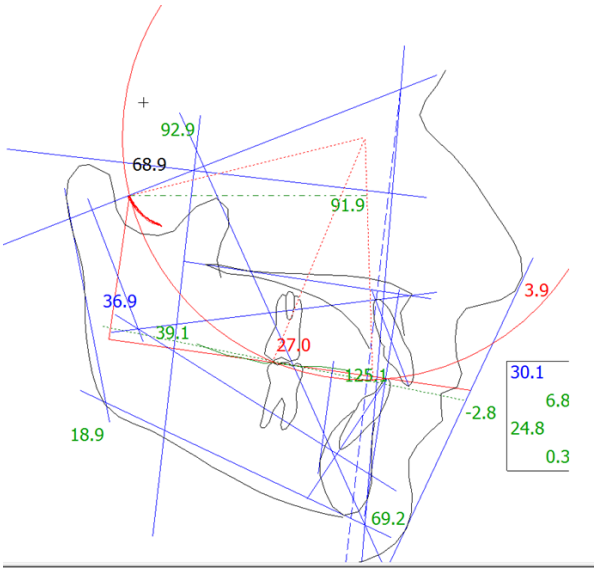


Panoramic



List of problems

- Aesthetic problems
- No rear support
- Reducing the height of the lower part of the face
- Worn teeth
- Palatal inclination of the upper canines
- First interference contacts 33 and 34



SCI = 55 degrees

55-8 (OPI) = 47 (RCI)

47-30 (CuI) = 17 low chewing efficiency

AG is better changed to 60 degrees

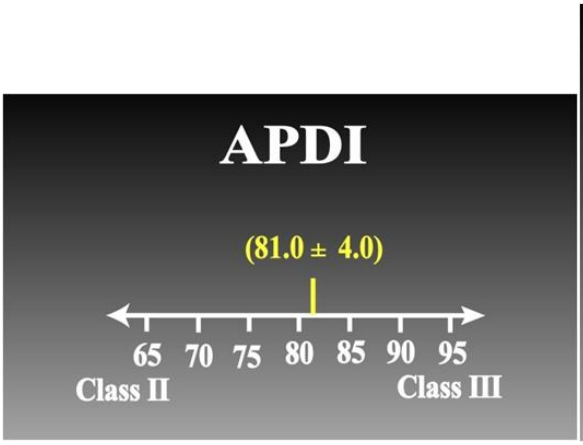
It is necessary to increase OPI to 12 degrees, and for 36 and 46 to 18 degrees

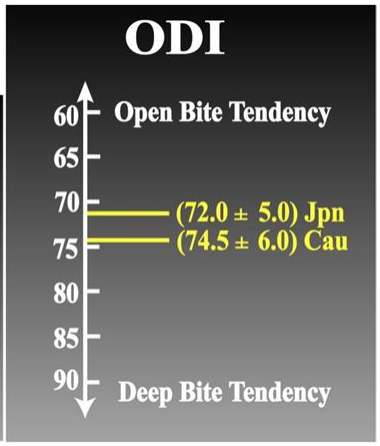
Slavicek Analysis

Skeletal Measurement	Norm	Value	Trend
Facial Axis	90.0 °	92.8	
Facial Depth	91.5 °	91.9	
Mandibular Plane	21.5 °	18.9	
Facial Taper	68.0 °	69.1	
Mandibular Arc	31.2 °	36.9	1B*
Maxillary Position	65.0 °	72.2	2+**
Convexity	-1.0 mm	3.9	2X**
Lower Facial Height (by R.Slavicek)	43.2 °	39.0	
Lower Facial Height to Point D	49.7 °	42.4	1-*
Dental Measurement	Norm	Value	Trend
Interincisal Angle	132.8 °	125.1	
Upper Incisor Protrusion	4.3 mm	6.7	
Upper Incisor Inclination	23.1 °	30.0	1+*
Upper Incisor Vertical	mm	1.2	
Lower Incisor Protrusion	1.2 mm	0.3	
Lower Incisor Inclination	24.1 °	24.7	
Upper Molar Position	21.0 mm	26.9	3+***
Occlusal plane	Norm	Value	Trend
Occlusal Plane - Axis Orbital Plane (Slavicek)	----- °	8.0	
Idealized Occlusal Plane - Axis Orbital Plane	----- °	12.3	
Distance Occlusal plane - Axis (DPO)	40.9 mm	41.0	
Radius of Curve of Spee	----- mm	68.8	
Lip Embrasure	0.0 mm	2.5	
Occlusal Plane Xi Distance	-1.4 mm	-4.0	
Functional Measurement	Norm	Value	Trend
Horizontal Condylar Inclination right	----- °	55.8	
Horizontal Condylar Inclination left	----- °	54.6	
Horizontal Condylar Inclination	----- °	55.2	
Relative Condylar Inclination	----- °	47.2	
Relative Condylar Inclination 6	----- °	47.5	
Relative Condylar Inclination 7	----- °	41.9	
Relative Condylar Inclination 8	----- °	34.7	
Anterior Guidance (S-AOP)	----- °	53.1	
Relative Anterior Guidance	----- °	45.1	
Esthetic Measurement (Lip Relation)	Norm	Value	Trend
Esthetic Plane	-2.9 mm	-2.7	

Sato Analysis

Denture frame analysis	Norm	Value	Trend
FH - MP	25.9 °	16.8	2-**
PP - MP	24.6 °	14.7	2-**
OP - MP	13.2 °	12.5	
OP - MP / PP - MP	54.0 %	85.0	3+***
AB - MP	71.3 °	77.3	1+*
A'-P'	50.0 mm	57.3	1+*
A'-6'	23.0 mm	23.7	
A'-6' / A'-P'	50.0 %	41.3	
U1 - AB (degree)	31.7 °	32.0	
U1 - AB (mm)	9.5 mm	7.4	1-*
L1 - AB (degree)	25.4 °	22.8	
L1 - AB (mm)	6.2 mm	0.9	3-***
Inter molar angle	174.0 °	1.0	46+***>
FH - PP	1.3 °	2.0	
Kim analysis	Norm	Value	Trend
ODI	72.0 °	79.4	1+*
APDI	81.0 °	87.8	1+*
Combination factor	153.0 °	167.2	1+*
Downs-Graber analysis	Norm	Value	Trend
Facial angle	85.1 °	91.9	1D*
Convexity	-5.6 °	-7.8	
AB - Facial plane angle	-5.1 °	-6.0	
FH - MP	25.9 °	16.8	2-**
Y Axis	65.7 °	55.7	3+***
FH - OP	9.5 °	4.2	1+*
Interincisal angle	129.7 °	125.1	
L1 - OP	68.0 °	64.3	
L1 - MP	94.7 °	100.2	
U1 - A.POG	7.9 mm	6.7	
FH - SN	6.0 °	9.5	1D*
SNA Angle	81.9 °	86.0	1D*
SNB Angle	78.6 °	82.2	1D*
ANB Angle	3.3 °	3.7	
U1 - Facial Plane (mm)	9.9 mm	9.1	
U1 - FH (deg)	108.9 °	117.8	1+*
U1 - SN (deg)	103.1 °	108.3	
Gonial angle	119.4 °	121.4	
Ramus Inclination	2.6 °	14.6	2+**





ODI = 79,4 tendency to deep bite

APDI =87,8 – tendency to III class

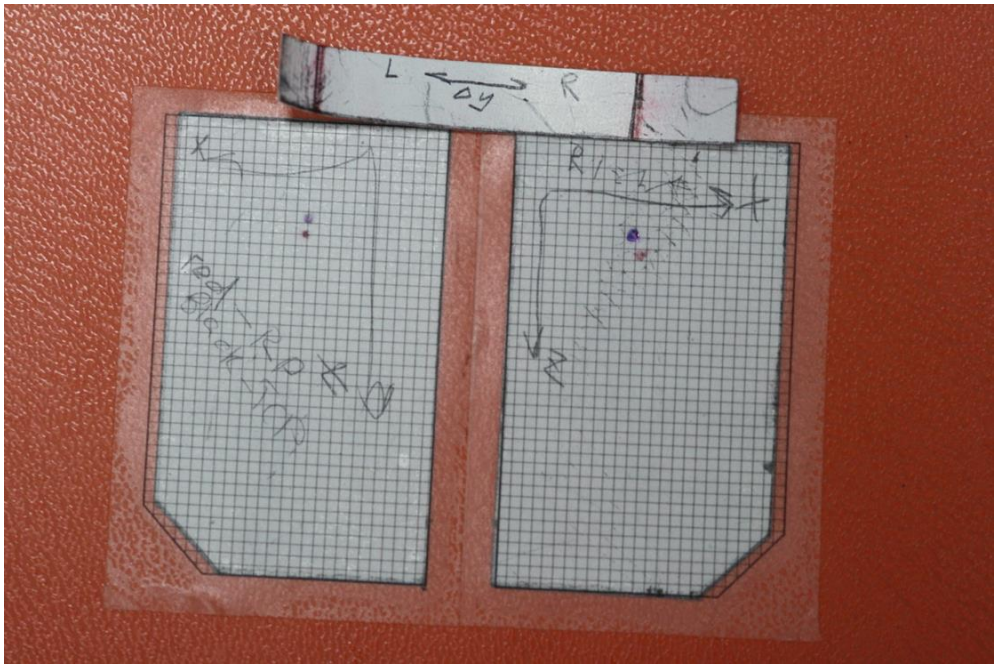
Slavicek Interactive Verbal Analysis

The skeletal trend of the skull is mesiofacial
The skeletal trend of the mandible is brachyfacial
Skeletal class is II
The maxilla is positioned strongly prognathic
The mandible is positioned prognatic, with tendency to neutral
The lower facial height is normal
Dental class unknown
The protrusion of the upper incisor is normal
The inclination of the upper incisor is increased
The protrusion of the lower incisor is normal
The inclination of the lower incisor is normal
The interincisal angle is normal
Occlusal concept: Tendency to group function
No functional statement available

Explanation

Determinants	Norm	Value	Trend
Facial Axis	90.0 °	92.8	
Facial Depth	91.5 °	91.9	
Facial Taper	68.0 °	69.1	
Mandibular Plane	21.5 °	18.9	
Related Values	Norm	Value	Trend
Bjoerk Sum	396.0 °	386.3	3-***
Facial Length Ratio	63.5 %	70.9	3+***
Y Axis to S N	67.0 °	65.2	
Y Axis (Downs)	61.8 °	55.7	2-**
S N to Gonion Gnathion Angle	31.6 °	26.3	1-*

MPI



Treatment Goals

- Increase in vertical size +3 mm of the incisal pin
- Create a back support
- Increase forward direction = 60 degrees
- Change OPI from 8 to 12 degrees completely and for first molars to 18 degrees
- Remove 18, 28, 38, 48
- Class II occlusion on the right. Class I with a tendency towards class III on the left

Treatment plan

- Crowns for the upper front teeth from 13 to 23
- Veneers for lower front teeth from 44 to 34
- Pins (precious alloy) 17, 15, 14, 24, 27, 36, 37, 35, 45, 47
- Removal of wisdom teeth