

TREATMENT PLANNING FOR EFFECTIVE AND EFFICIENT CORRECTION OF CLASS II MALOCCLUSION

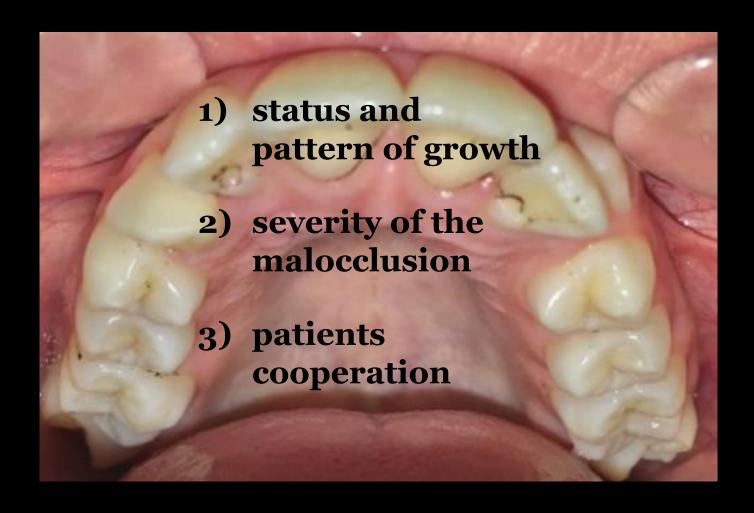


Asst. Prof. D-r Vesna Trpevska

PHO University Dental Clinical Center "St. Panteleimon", Department of Orthodontics, Skopje, Republic of North Macedonia,

Faculty of Medical Sciences, Goce Delcev University, Stip, Republic of North Macedonia, Faculty of Medical Sciences, Goce Delcev University, Stip, North Macedonia

TREATMENT APPROACH OF CLASS II MALOCCLUSION...



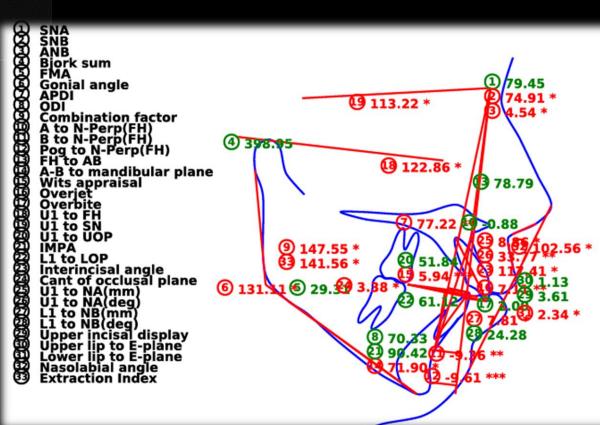
We must make fundamental treatment planning decisions that are based on the patient's long term benefit.

Esthetics
Health and stability
Treat in harmony with growth

DIMENSIONS OF THE DENTURE (anterior, posterior and lateral limit)

Height Width Length



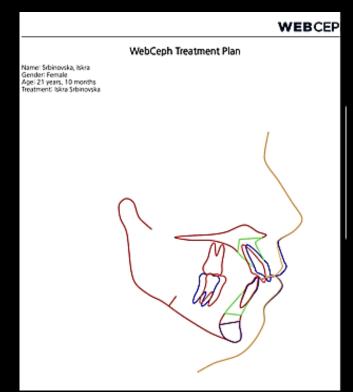




WebCeph Analysis

Measurement	Mean	S.D.	Result S	Severity	y Polygonal chart	Meaning
SNA	81.08	3.7	79.45		70 75 80 85 90	Normal A-P position of maxilla
SNB	79.17	3.8	74.91	*	70 75 80/85 90	Retruded mandible
ANB	2.46	1.8	4.54	*	-10 -5 0 1 10 150	Skeletal Class II
Bjork sum	397.16	3.6	398.95		390395400405	Normodivergent Skeletal Pattern
FMA	29.63	3.0	29.31		20 25 30 35 40	Normodivergent facial pattern
Gonial angle	124.31	5.4	131.11	*	115 120 125 130	Obtuse gonial angle
APDI	85.74	4.0	77.22	**	75 80 85 90 95	Skeletal Class II
ODI	72.15	5.5	70.33		65 70 75 80	Normal ODI
Combination factor	157.9	6.5	147.55	*	150 155 160 165	Small combination factor value
A to N-Perp(FH)	0.4	2.3	-0.88		-10 -5 0 5 10	Normal A-P position of maxilla
B to N-Perp(FH)	-3.5	2.0	-9.36	**	-15-10 5 0 5	Retruded mandible
Pog to N-Perp(FH)	-1.8	2.5	-9.61	HONOR	-10-\$ 0 5 10	Retruded chin point
FH to AB	81	3.0	78.79		70 75 80 85 90	Skeletal Class I
A-B to mandibular plane	69.3	2.5	71.90	*	60 65 70 75 80	Large AB to mand, plane angle
Wits appraisal	-2.74	0.3	5.94	***	-15-10-5 0 3 10	Skeletal Class II

Overbite 2 2.0 2.00 -10 -5 0 5 10 15 Normal overbite U1 to FH 113.8 6.4 122.86 * 105/110 115 120 Proclined upper incisor U1 to SN 105.28 6.6 113.22 * 100/105 170 Proclined upper incisor U1 to UOP 55 4.0 51.84 45 50 55 60 65 Normal upper incisor IMPA 91.62 3.2 90.42 80 85/90 9100 Normal lower incisor inclination L1 to LOP 66 5.0 61.12 60 65 70 75 Normal lower incisor Interincisal angle 128 5.3 117.41 * 100/125 130/135 Proclined interincisor angle Cant of occlusal plane 9.3 3.8 3.38 * 0 5 0/15 20 Flat occlusal plane angle U1 to NA(mm) 4 3.0 8.86 * .5 5 10 15 Proclined upper incisor L1 to NB(mm) 4 2.0 7.81 * .5 5 10 15 Protruded lower incisor L1 to NB(deg) 25 5.0 24.28 15 20 5 30 35	Overjet	2	2.0	7.11	**	-10 -5 6 5 10 15 Large overjet
U1 to SN 105.28 6.6 113.22 * 100 105 110 Proclined upper incisor U1 to UOP 55 4.0 51.84 45 50 55 60 65 Normal upper incisor IMPA 91.62 3.2 90.42 80 85 90 95 100 Normal lower incisor inclination L1 to LOP 66 5.0 61.12 60 65 70 75 Normal lower incisor angle Cant of occlusal plane 9.3 3.8 3.38 * 0 5 0 15 20 Flat occlusal plane angle U1 to NA(mm) 4 3.0 8.86 * -5 0 10 15 Protruded upper incisor U1 to NA(deg) 22 5.0 33.77 ** 15 20 25 30 35 Normal lower incisor L1 to NB(mm) 4 2.0 7.81 * -5 0 5 10 15 Protruded lower incisor L1 to NB(deg) Upper incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 15 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 105 Retruded lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	Overbite	2	2.0	2.00		-10 -5 0 5 10 15 Normal overbite
U1 to UOP 55 4.0 51.84 45 50 55 60 65 Normal upper incisor IMPA 91.62 3.2 90.42 80 85 90 95 100 Normal lower incisor inclination L1 to LOP 66 5.0 61.12 60 65 70 75 Normal lower incisor Interincisal angle 128 5.3 117.41 * 120 25 130/135 Proclined interincisor angle Cant of occlusal plane 9.3 3.8 3.38 * 0 5 10 15 20 Flat occlusal plane angle U1 to NA(mm) 4 3.0 8.86 * -5 5 10 15 Protruded upper incisor U1 to NA(deg) 22 5.0 33.77 ** 15 20 25 30 35 Proclined upper incisor L1 to NB(mm) 4 2.0 7.81 * -5 5 10 15 Protruded iower incisor L1 to NB(deg) 25 5.0 24.28 15 20 25 30 35 Normal lower incisor inclination Upper incisal display 2.5 1.5 3.61 -10 -5 0 5 10 Normal incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	U1 to FH	113.8	6.4	122.86	*	105/110 115 120 Proclined upper incisor
MPA 91.62 3.2 90.42 80 85 90 95 100 Normal lower incisor inclination	U1 to SN	105.28	6.6	113.22	*	100 105 170 Proclined upper incisor
L1 to LOP 66 5.0 61.12 60 65 70 75 Normal lower incisor Interincisal angle 128 5.3 117.41 * 120 125 130 135 Proclined interincisor angle Cant of occlusal plane 9.3 3.8 3.38 * 0 5 0 15 20 Flat occlusal plane angle U1 to NA(mm) 4 3.0 8.86 * -5 0 5 10 15 Protruded upper incisor U1 to NA(deg) 22 5.0 33.77 ** 15 20 25 30 Proclined upper incisor L1 to NB(mm) 4 2.0 7.81 * -5 0 5 10 15 Protruded lower incisor L1 to NB(deg) 25 5.0 24.28 15 20 25 30 35 Normal lower incisor inclination Upper incisal display 2.5 1.5 3.61 -10 -5 0 5 10 Normal incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	U1 to UOP	55	4.0	51.84		45 50 55 60 65 Normal upper incisor
Interincisal angle 128 5.3 117.41 * 120 25 130/135 Proclined interincisor angle	IMPA	91.62	3.2	90.42		80 85 90 95 100 Normal lower incisor inclination
Cant of occlusal plane 9.3 3.8 3.38 * 0 5 0 15 20 Flat occlusal plane angle U1 to NA(mm) 4 3.0 8.86 * -5 0 5 10 15 Protruded upper incisor U1 to NA(deg) 22 5.0 33.77 ** 15 20 25 30 Proclined upper incisor L1 to NB(mm) 4 2.0 7.81 * -5 0 5 10 15 Protruded lower incisor L1 to NB(deg) 25 5.0 24.28 15 20 25 30 35 Normal lower incisor inclination Upper incisal display 2.5 1.5 3.61 -10 -5 0 5 10 Normal incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	L1 to LOP	66	5.0	61.12		60 65 70 75 Normal lower incisor
U1 to NA(mm) 4 3.0 8.86 * -5 5 5 10 15 Protruded upper incisor U1 to NA(deg) 22 5.0 33.77 ** 15 20 25 30 Proclined upper incisor L1 to NB(mm) 4 2.0 7.81 * -5 5 10 15 Protruded lower incisor L1 to NB(deg) 25 5.0 24.28 15 20 25 30 35 Normal lower incisor inclination Upper incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	Interincisal angle	128	5.3	117.41	*	120 \25 130/135 Proclined interincisor angle
U1 to NA(deg) L1 to NB(mm) 4 2.0 7.81 * -5 0 5 10 15 Protruded lower incisor L1 to NB(deg) 25 5.0 24.28 15 20 25 30 35 Normal lower incisor inclination Upper incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	Cant of occlusal plane	9.3	3.8	3.38	*	0 5 0 15 20 Flat occlusal plane angle
L1 to NB(deg) L1 to NB(deg) 25 5.0 24.28 L1 to NB(deg) 25 5.0 24.28 L1 to NB(deg) 25 5.0 24.28 L2 25 30 35 L2 26 25 30 35 L2 26 25 30 35 L2 27 28 28 29 30 35 L2 28 29 29 30 35 L2 29 29 30 35 L2 20 25 30 35 L2	U1 to NA(mm)	4	3.0	8.86	*	-5 0 5 10 15 Protruded upper incisor
L1 to NB(deg) 25 5.0 24.28 15 20 25 30 35 Normal lower incisor inclination Upper incisal display 2.5 1.5 3.61 -10 -5 0 5 10 15 Normal incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	U1 to NA(deg)	22	5.0	33.77	**	15 20 28 30 Proclined upper incisor
Upper incisal display 2.5 1.5 3.61 -10 -5 0 5 10 15 Normal incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	L1 to NB(mm)	4	2.0	7.81	*	-5 p 5 10 15 Protruded lower incisor
Upper incisal display 2.5 1.5 3.61 -10 -5 0 5 10 15 Normal incisal display Upper lip to E-plane 0 2.0 1.13 -10 -5 0 5 10 Normal upper lip position Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 5 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	L1 to NB(deg)	25	5.0	24.28		15 20 25 30 35 Normal lower incisor inclination
Lower lip to E-plane 0 2.0 2.34 * -10 -5 0 10 Protruded lower lip Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	Upper incisal display	2.5	1.5	3.61		
Nasolabial angle 95 5.0 102.56 * 85 90 95 100 105 Retruded lip	Upper lip to E-plane	0	2.0	1.13		-10 -5 0 5 10 Normal upper lip position
85 40 95 100 105	Lower lip to E-plane	0	2.0	2.34	*	-10 -5 0 Protruded lower lip
Extraction Index 153.8 7.8 141.56 * 145150155160165 Extraction considered	Nasolabial angle	95	5.0	102.56	*	85 90 95 100 105 Retruded lip
	Extraction Index	153.8	7.8	141.56	*	145150155160165 Extraction considered



TREATMENT PLAN

- •Upper first premolars extraction•Alternative(camouflage) treatment plan
 - Normal **Patient**

Group/Moss	rement.	Value	Norm	Std Dov	DovNorm		
Saddle/Sclla /	Angle (SN-Ar) (e)	129.1	124.0	5.0	1.0	•	
Articular Angl	l= (e)	139.4	155.5	6.0	0.2		
Conial/Jaw A	ngic (Ar-Go-Mc) (e)	115.9	121.0	6.7	-0.8		
Sum Total: N	-S-ArC + S-ArC-Go + ArC-Go-Mic (e)	384.4	396.0	4.0	-2.9	**	
Anterior Crani	ial Basic (SN) (mm)	72.0	77.1	3.0	-1.7	•	
Posterior Chr	nial Sasc (3-Ar) (mm)	59.0	56.8	4.0	0.6		
Nation-Conir	on Longth (mm)	116.3	155.7	4.0	-4.3	****	
Y-Axia Longth	(mm)	117.0	139.0	6.0	-3.7		
SNA (e)		83.5	82.0	3.5	0.4		
SNB (e)		79.2	80.9	3.4	-0.5		
ANS (e)		4.3	1.6	1.5	1.8		
Scta Angle (a))	15.3	31.0	4.0	-5.9		
Wita Appraise	ıl (mm)	4.5	-1.0	1.0	5.5		
Convexity (N/	A-APo) (e)	5.5	2.5	5.0	0.9		
E							
		102.5	157.5	5.0	-7.1		
Postorior Fac	c Hoight (SGo) (mm)	70.8	59.2	5.0	-3.7	***	
P-A face Heig	ht (3-Go/N-Mc) (%)	69.2	65.0	4.0	1.0	•	
		28.2	45.0	4.0	-4.2		
		81.1	81.8	4.0	-0.2		
Y-Axia (SGm-Sf	N) (e)	61.4	67.0	5.5	-1.0		
	Interincisal Angle (U1-L1) (e)		109.9	130.0	6.0 -3	.5 ***	
_							
æ	Lower Lip to 8-Plane (mm)		-3.6	-2.0	2.0 -0		
				-A-14	4.0	- 14	
					20 .	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	Upper Lip to 8-Plane (mm)		-1.6 74.8	-7.8		.1 ***	
			-1.6	-7.8 75.0	4.0 -0		
	Saddle/Sollar Articular Angl Gonial/Jaw A Sum Total: N Antorior Cran Posterior Cran Nasion-Gonia Y-Axis Longth SNA (s) SNS (s) ANS (s) Side Angle (s) With Appraisa Convexity (No E Antorior Face Posterior Face P-A Face Heig Lower Face H Facial Plane (s)	SNS (s) ANS (s) Sicta Anglic (s) With Appraisal (mm) Convexity (NA-AFo) (s) E Anterior Face Height (NaMe) (mm) Posterior Face Height (30o) (mm) P-A Face Height (3-0o/N-Me) (%) Lower Face Height (ANS-Xi-Pm)(s) Facial Plane to SN (SN-NFog) (s) Y-Axis (30n-SN) (s) Interinciaal Anglic (U1-L1) (s)	Saddle/Sella Angle (SN-Ar) (e) 129.1 Articular Angle (e) 159.4 Conial/Jaw Angle (Ar-Co-Me) (e) 115.9 Sum Total: N-3-Art + 3-Art-Co + Art-Co-Me (e) 354.4 Anterior Cranial Basic (SN) (mm) 72.0 Posterior Cranial Basic (3-Ar) (mm) 39.0 Nasion-Conion Longth (mm) 116.5 Y-Axis Longth (mm) 117.0 SNA (e) 53.5 SNA (e) 4.3 Seta Angle (e) 4.5 Seta Angle (e) 4.5 Convexity (NA-APo) (e) 5.5 E	Saddle/Sella Angle (SN-Ar) (s) 129.1 124.0	Saddle/Sella Angic (SN-Ar) (a) 129.1 124.0 5.0	Saddle/Sella Angle (SN-Ar) (e) 129.1 124.0 5.0 1.0 Articular Angle (a) 139.4 135.5 6.0 0.2 Conial/Jav Angle (Ar-Ge-Me) (a) 115.9 121.0 6.7 -0.8 Sum Total: N-S-Art + S-Art-So + Art-Ge-Me (a) 584.4 596.0 4.0 -2.9 Anterior Cranial Sasc (SN) (mm) 72.0 77.1 3.0 -1.7 Posterior Cranial Sasc (S-Ar) (mm) 59.0 56.5 4.0 0.6 Nation-Genion Length (mm) 116.5 133.7 4.0 -4.5 Y-Axis Length (mm) 117.0 139.0 6.0 -5.7 SNA (a) 83.5 82.0 5.5 0.4 SNS (a) 79.2 80.9 5.4 -0.5 ANS (a) 4.5 1.6 1.5 1.5 Seta Angle (a) 15.3 51.0 4.0 -5.9 With Appraisal (mm) 4.5 -1.0 1.0 5.5 Convexity (NA-APe) (a) 5.3 2.5 3.0 0.9 Seta Angle (a) 5.3 157.8 5.0 -7.1 Posterior Pace Height (NaMe) (mm) 70.8 89.2 3.0 -5.7 P-A Pace Height (SO) (mm) 70.8 89.2 3.0 -7.1 Posterior Pace Height (ANS-Xi-Pm)(a) 28.2 45.0 4.0 -4.2 Pacial Plane to SN (SN-N-Prog) (a) 81.1 81.5 4.0 -0.2 Y-Axis (SOn-SN) (a) 61.4 67.0 3.3 -1.0 Interiodial Angle (U1-L1) (a) 109.9 130.0 6.0 -3	Saddle/Sella Angle (SN-Ar) (e)

DENTAL						
	Interincisal Angle (U1-L1) (e)	109.9	150.0	6.0	-5.5	***
SOFT TISSUE						
	Lower Lip to 8-Plane (mm)	-3.6	-2.0	2.0	-0.8	
	Upper Lip to 8-Plane (mm)	-1.6	-7.8	2.0	5.1	***
	Z Angle (e)	74.8	75.0	4.0	-0.0	
	PMA (MP-PH) (e)	17.7	25.0	4.5	-1.2	
	PFH/AFH (%)	69.2	64.5	N/A	N/A	
	Chin Thickness (Fg-Fg') (mm)	14.5	14.2	3.5	0.1	
A STATE OF THE STA	Lower Lip Thickness @ Spt (5-5') (mm)	11.1	N/A	N/A	N/A	
	U-Lip Thickness A Point (mm)	19.5	17.0	3.0	0.8	
	Lower Lip Thickness (mm)		1.0	1.0		
	Chin Thickness (Pg-Pg') (mm)		15.9	3.5		
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TREATMENT PLAN

Alternative (camouflage)

Upper premolars extraction

9 mm canine retraction

CONCLUSION

The decision which orthodontic mechanics must be performed should be decided by the orthodontist after a good treatment planning since that there is no doubt of the patient collaboration necessity.

As each case distinguishes from one another because of growth variability orthodontist just cannot generalized the appliance therapy.

It is very important to select the cases carefully because application of knowledge and skills and good cooperation ensures long term stable results.