

Patients treated with SMA (Shape Memory Aligner) (Clinical Case Report)



**Molar uprighting
without attachment**



**Class I, Spacing,
tooth missing**



**Class I,
Severe crowding**



**Class I, Crossbite,
moderate crowding**



**Class I,
OB correction**



**Class I,
Derotation without
attachment**



**Class II,
Molar distalization**



**Class III, #43 cross bite,
4 bicuspids extraction**



**Class III,
Lateral openbite**



**Class III,
Anterior openbite**



**Class III,
4 bicuspids extraction**



**SMA with
Expansion bar**



**SMA with
Precision wings**



**SMA with
Biting spring**

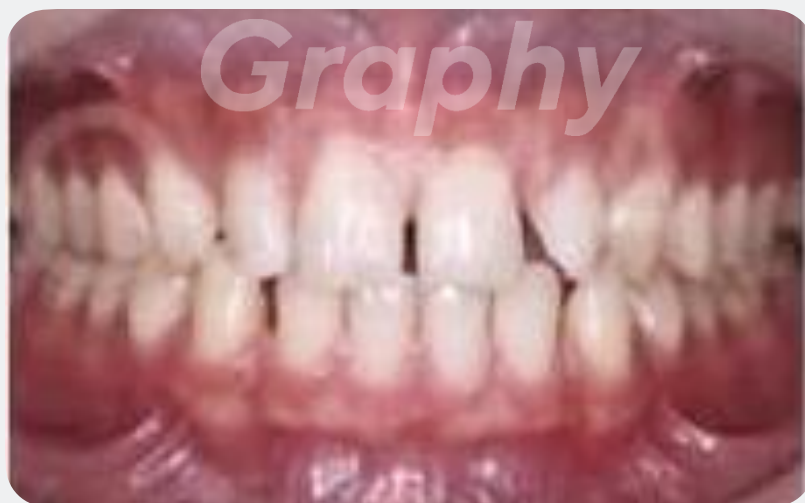


**SMA with
Pressure area**

Patients treated with SMA (Shape Memory Aligner) (Clinical Case Report)



Mix dentition -
Anterior crossbite



Class I, spacing



Class I bimaxillary -
4 premolar extraction



Class I, deep bite, severe
crowding - Non-extraction



Class I, deep bite



Class III, #21, 22 cross bite,
arch asymmetry



Class I,
Deep bite, teeth missing



Teeth missing
result in spacing



Mix dentition -
Severe crowding



Class III, Moderate
crowding, Cross bite



Class III, Anterior crossbite,
Bite up + Class III elastic on SMA



Class I, Severe Crowding
- Non-extraction



Class I, Severe Crowding
- Non-extraction



Class I, Severe Crowding,
Deep bite - Non-extraction



Class II, CMD
SMA combine Splint

1. Class I Malocclusion with severe crowding

4 premolars extraction,
Class II elastic for canine retraction then causes lower molars mesial tipping

→ Changed from thermoformed aligner to **Shape Memory Aligner**

Courtesy of Dr. Kenji Ojima



No Attachments Needed

Uprighting the molars only with
2mm extension of the margin line
SMA

2. R't Class I, L't Class III malocclusion with #34 missing

35Y, F / Anterior spacing

→ Anterior space closure by SMA without attachment (15weeks),
#33, 34 restoration and Gingivectomy

Courtesy of Dr. Werner Schupp

Initial



Progress



Final



3. Class I Malocclusion severe crowding

55Y, M
#22, 32 crossbite, slight OJ
→ SMA (27 weeks, Mx. 27 steps, Mn. 16 steps)

Courtesy of Dr. C Gwak

Initial



Final



4. Class I Malocclusion moderate crowding

22Y 5M, F

#22 cross bite, #12, 13 spacing, upper midline shift to left

→ SMA (27 weeks, 11 steps)

Courtesy of Dr.C Gwak

Initial



Final



5. Class I Malocclusion

20Y, M
Mx. & Mn. mild crowding

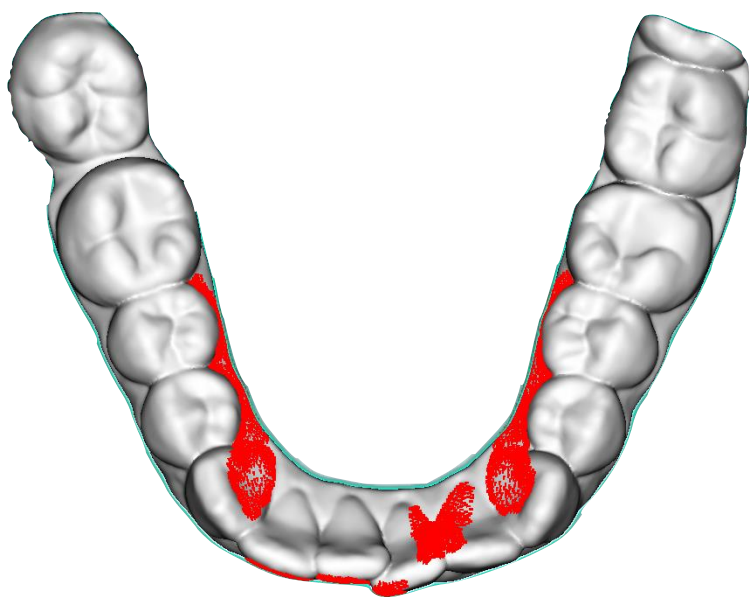
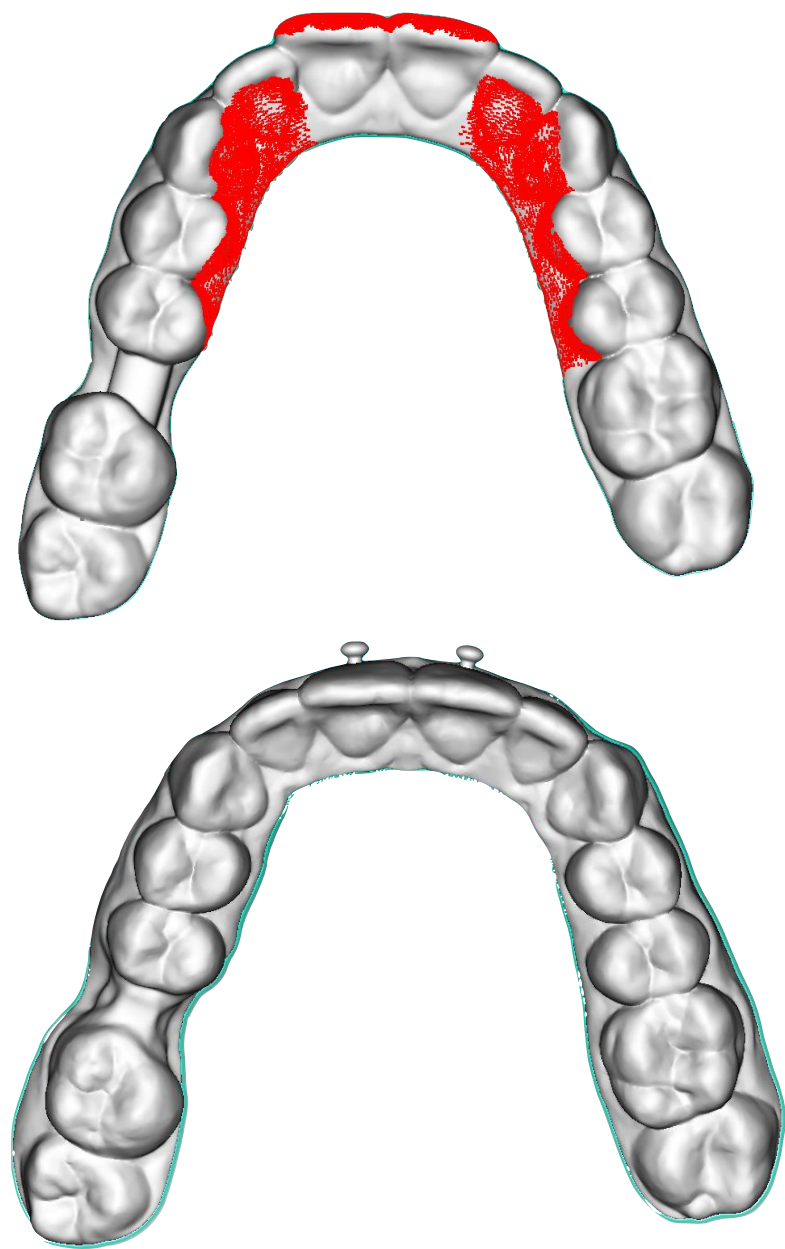
→ SMA (7 weeks, 7 steps), Buttons on aligner for intrusion

Courtesy of Dr Giovanni Battista

Initial



Progress



5. Class I Malocclusion

20Y, M

Mx. & Mn. mild crowding

→ SMA (7 weeks, 7 steps), Buttons on aligner for intrusion

Courtesy of Dr Giovanni Battista

Initial



Final



6. Class I Malocclusion

31Y, M
#11, #21 rotation, Mx. spacing, Mn. anterior mild crowding
→ SMA (12 weeks, 11 steps)

Courtesy of Dr. Viet Hoang

Initial



Final



7. R't Class II, L't Class I Malocclusion

20's, F

Mx. & Mn. severe crowding, deep bite

→ SMA (expansion, upper molar sequential distalization)

Courtesy of Dr. Kenji Ojima

Initial

Final



8. Class III Malocclusion

20's, F
#33 cross bite, Mx. & Mn. crowding
→ 4 premolars extraction

Courtesy of Dr. Kenji Ojima



9. Class III Malocclusion with unilateral disocclusion

11Y 8M, F
#12-15, #23 crossbite, Mx. spacing, Mn. crowding
→ SMA (55 weeks, 37 steps)

Courtesy of Yonsei University

Initial



Progress (step 16)



Final



10. Class III Malocclusion

35Y, F
#12 to #22, #25 open bite, anterior cross bite
→ SMA (47 weeks, 47 steps)

Courtesy of UC Clinic



Initial



Final



11. Class III Malocclusion

20's, F / Anterior cross bite

→ 4 premolars extraction

Changed from thermoformed aligner to **Shape Memory Aligner**

Courtesy of Dr. Kenji Ojima



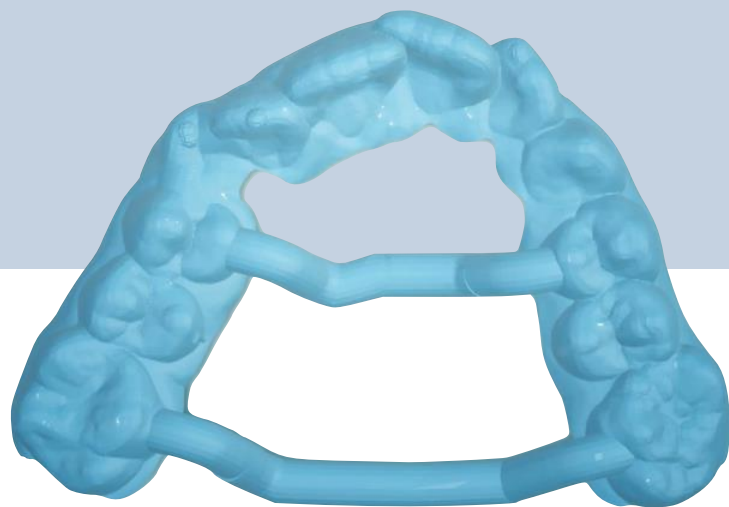
Improved fitness

By changing from thermoforming aligner to shape memory aligner

12. Class II, Div. 2, with narrow arch

#13 high position, #25 cross bite, Mx. severe & Mn. Mild crowding,
tapper arch form, deep bite

→ SMA with expansion bar



Courtesy of Pf. KB KIM

Initial



Progress (step 11)



Final



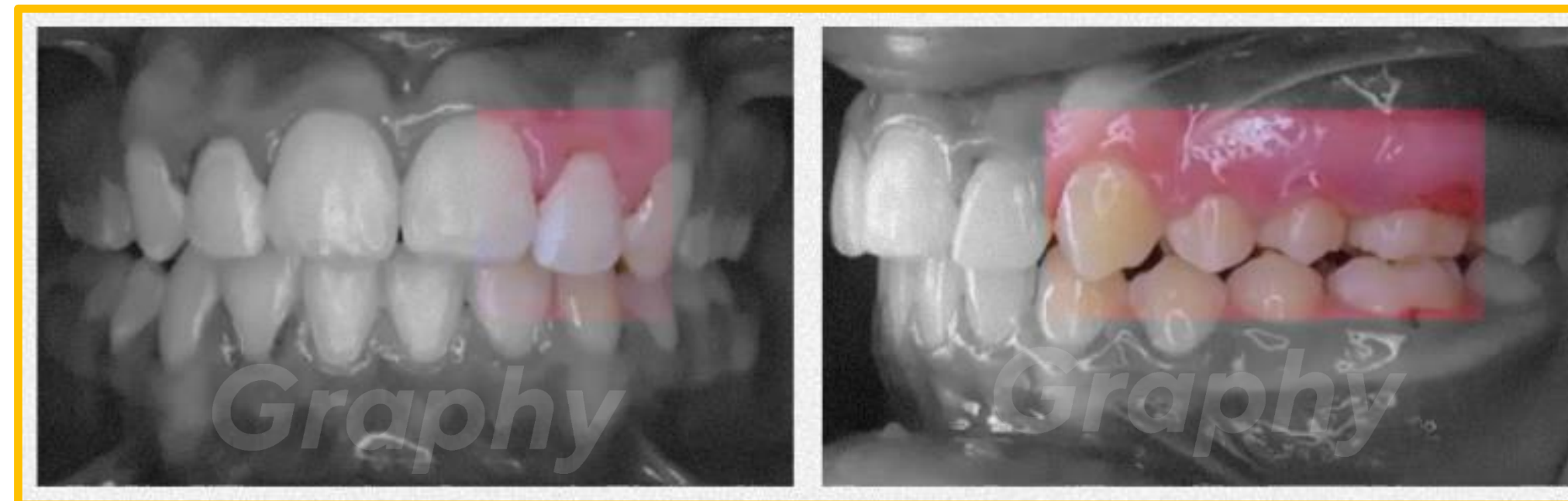
13. Skeletal and dental Class II malocclusion

14Y, F

→ SMA with precision wings (12 weeks, Mx. 6 steps, Mn. 5 steps)

Courtesy of Dr. B Ludwig

Initial



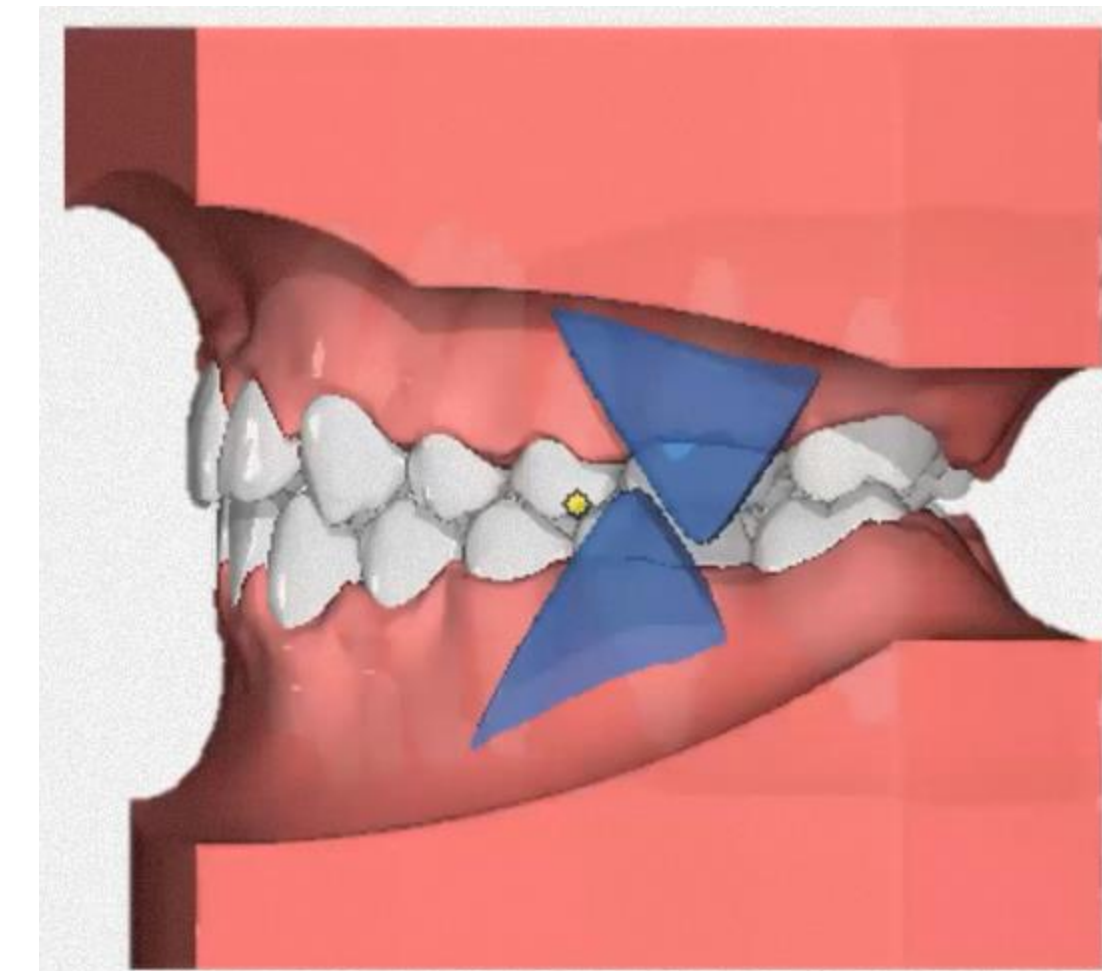
Progress



Final



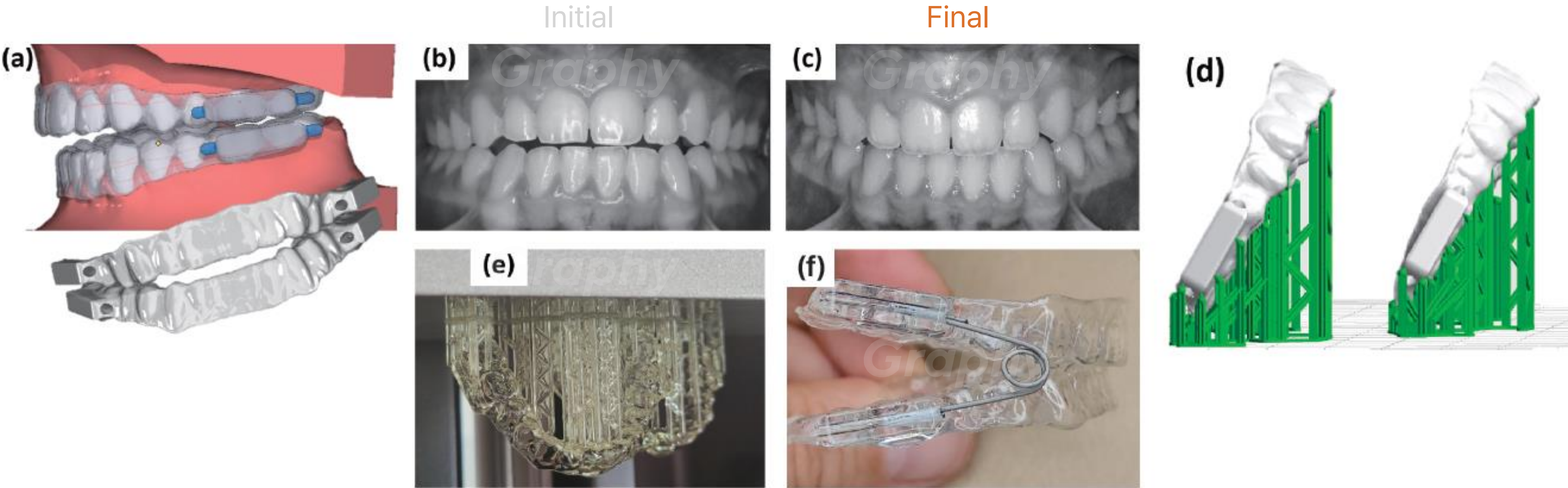
Set up



14. Open Bite

→ SMA with biting spring for poster teeth intrusion

Courtesy of Dr. B Ludwig



Bichu, Y. M., Alwafi, A., Liu, X., Andrews, J., Ludwig, B., Bichu, A. Y., & Zou, B. (2023). Advances in orthodontic clear aligner materials. *Bioactive Materials*, 22, 384-403.

15. Class I Malocclusion

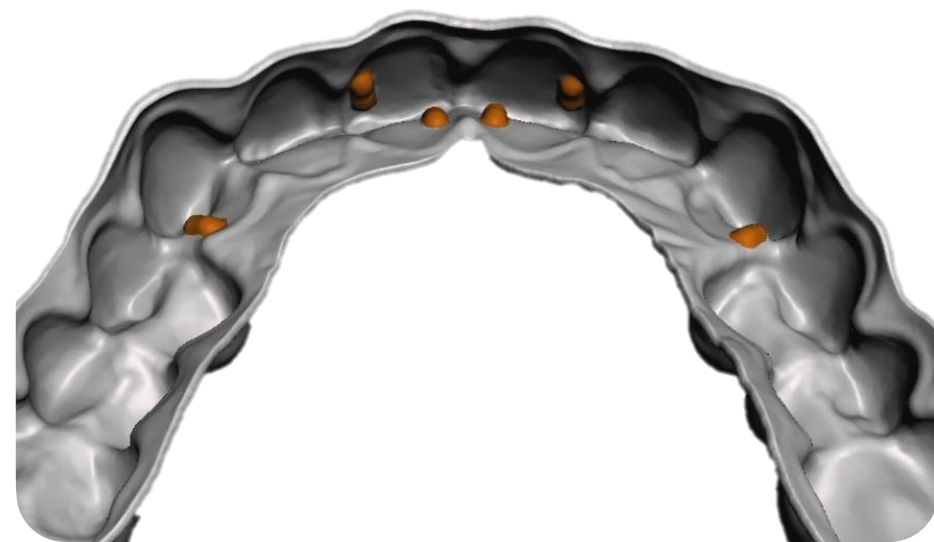
33Y, M

Mx. & Mn. crowding

→ SMA with pressure area(10 months, 37 steps), without IPR and extraction

Courtesy of Graphy

Initial



Final



16. Mix dentition - Anterior crossbite

10Y, F

#11, 21 crossbite, rotation

→ SMA (10 steps)

Courtesy of Dr. JH Jeon

Initial



Final



17. Class I Malocclusion spacing

40's, M
Anterior spacing

→ SMA with attachment

Courtesy of Dr. Kenji Ojima



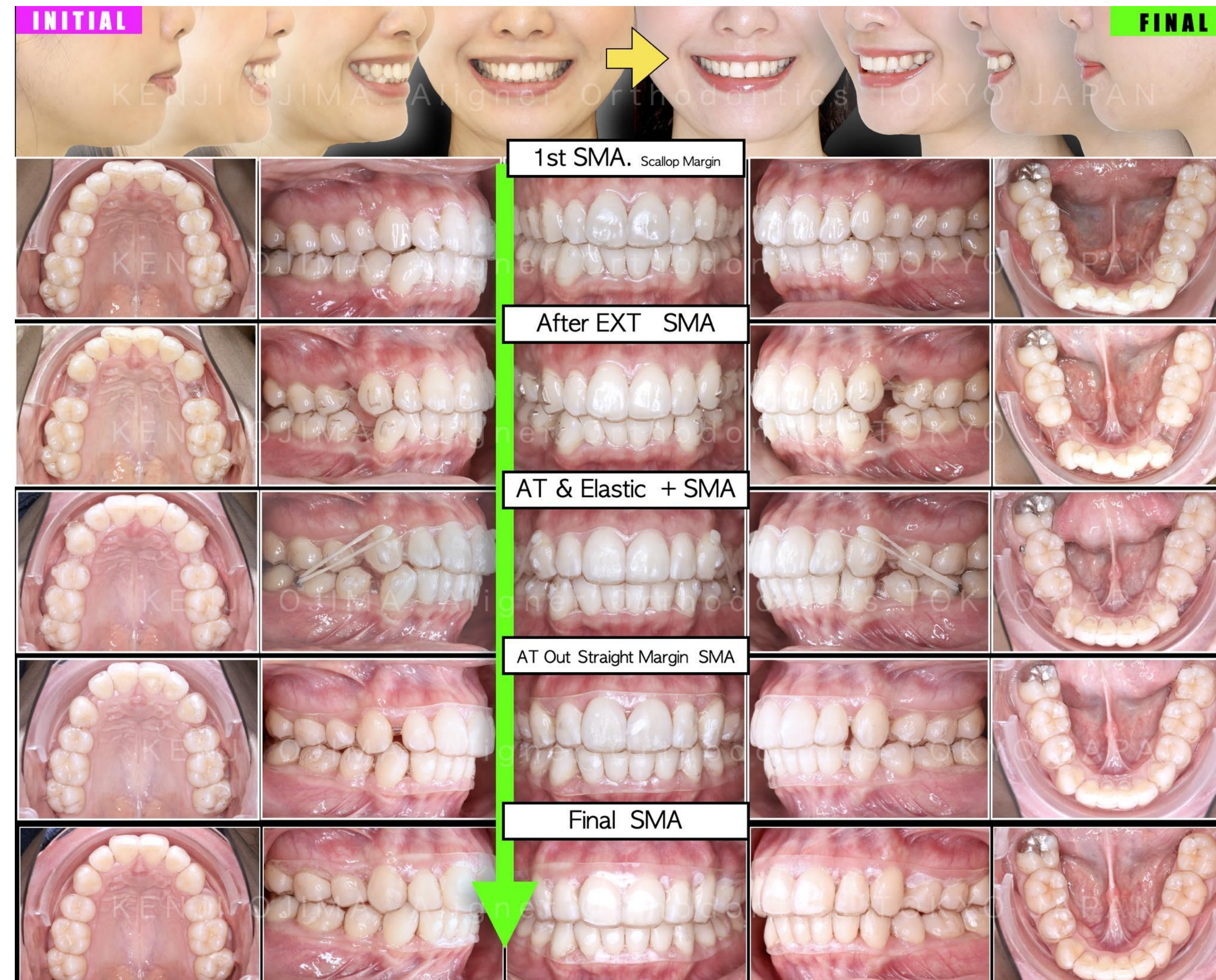
18. Class I bimaxillary Malocclusion, space deficiency

20's, F

Mx. ant. mild crowding, Mn. Severe crowding

→ 4 premolars retraction, SMA with attachment & elastic

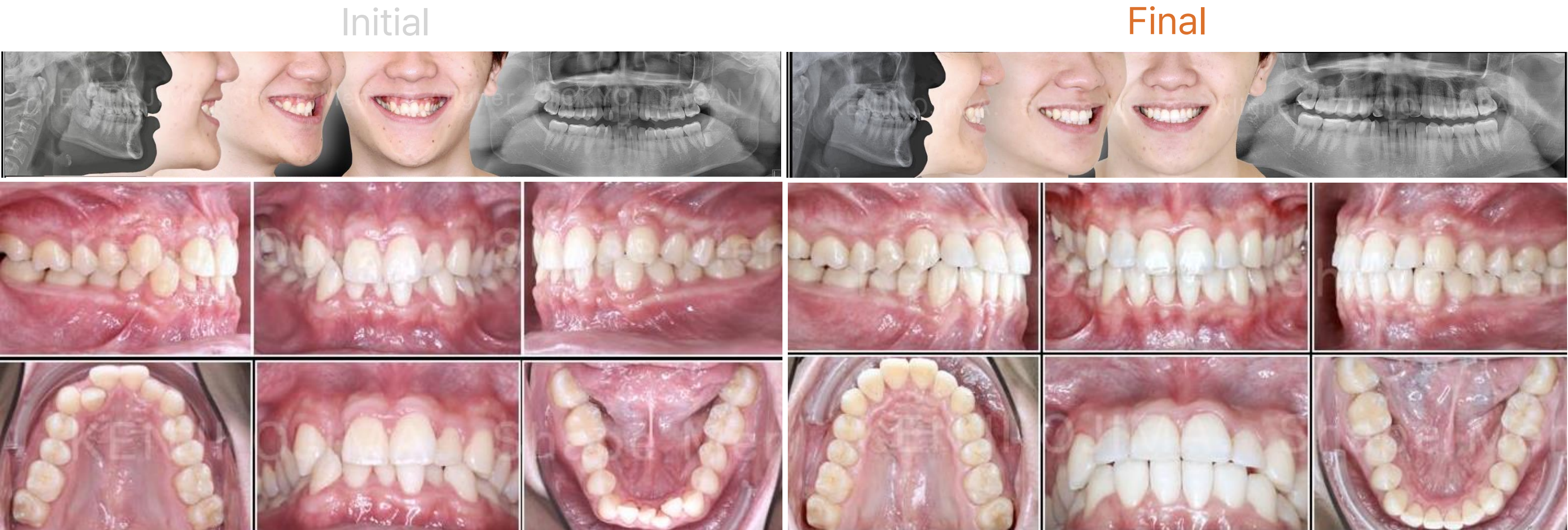
Courtesy of Dr. Kenji Ojima



19. Class I Malocclusion, deep bite, severe crowding

20's, M
Mx./ Mn. severe crowding, #12 crossbite, deep bite
→ non-extraction, SMA with less attachment (12m)

Courtesy of Dr. Kenji Ojima



Progress



20. Class I Malocclusion, Deep bite

20's, F

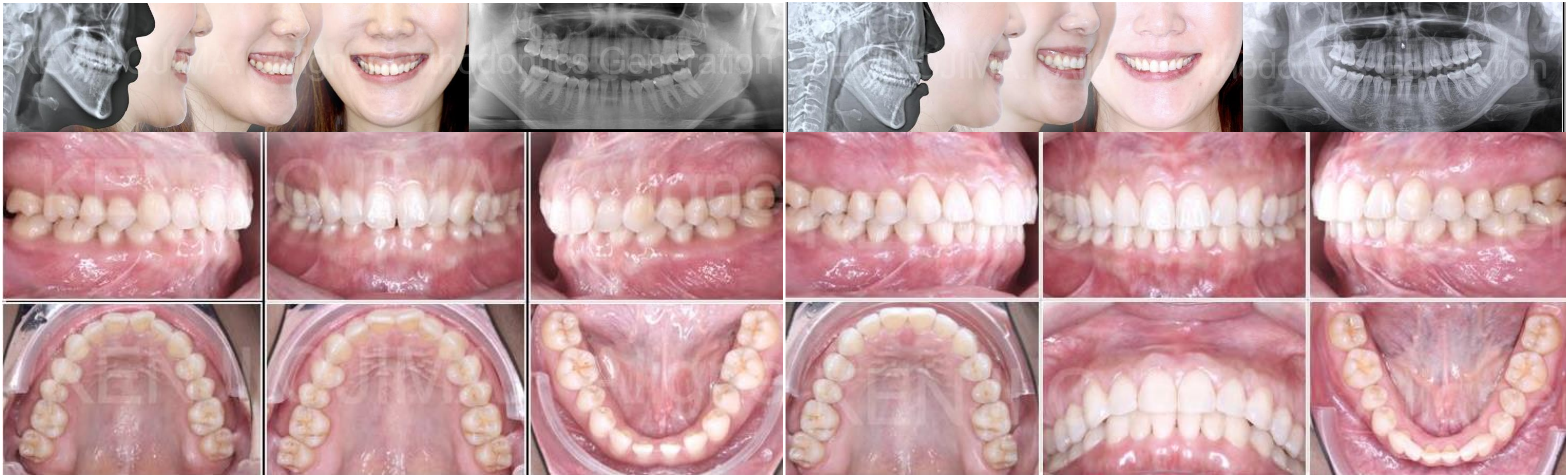
Missing #32#42, Deep bite, Gummy smile, CMD interdisciplinary

→ SMA with TAD for intrude Mx. incisors

Courtesy of Dr. Kenji Ojima

Initial

Final



Progress



21. Class III Malocclusion, arch asymmetry

24Y, F

#21, #22 crossbite, Ant. mild crowding, Mx. arch asymmetry

→ Lingual appliance(IDB) + SMA, IPR

Courtesy of Dr. Viet Hoang

Initial



Final



22. Class I Malocclusion, Deep bite, Teeth missing

Mx. moderate crowding, Mn. mild crowding,
#35, #45 missing, Deep Bite

→ SMA

Courtesy of Dr. Ali Kassem

Initial



Final



23. Teeth missing result in spacing

#14,#15,#25,#26,#27,#36,#46 missing, Spacing

→ SMA

Courtesy of Dr. Ali Kassem

Initial



Final



24. Mix dentition - Severe crowding

7Y 7M, F
Class II div. 1 malocclusion, Deep bite & narrow arch
→ SMA (10 steps)

Courtesy of Dr. YJ Joen

Initial



5 month



6 month



25. Class III Malocclusion

M
Mx. & Mn. moderate crowding, #11, 12, 41, 43 cross bite

→ SMA

Courtesy of Bacci Invisible Orthodontics

Initial



Final



26. Class III malocclusion - anterior cross bite

F
Class III malocclusion, anterior cross bite

→ MSE expansion + Bite up + Class III elastic with Botton on SMA

Courtesy of Dr. Kenji Ojima

Initial



Progress



After MSE Expansion phase



Final



27. Class I Malocclusion - Severe Crowding

60Y, F

Mx. & Mn. Severe crowding, #12, 22, 24, 25 cross bite, #13 missing

→ #25, 34, 44 extractions, SMA without attachment

Courtesy of Dr. Kenji Ojima

Initial



Final



28. Class I Malocclusion, severe crowding

60Y, F

Mx. & Mn. mild crowding, Deep bite, #34, 44 cross bite

→ Expansion with SMA, Non-extraction

Courtesy of Dr. Kenji Ojima

Initial



Final



29. Class I Malocclusion - Severe crowding, Deep bite

M
Mx. & Mn. Severe crowding, Deep bite, #23 cross bite
→ SMA (37 weeks), Buttons on aligner for intrusion

Courtesy of Dr. Kenji Ojima

Initial



Final



30. Class II Malocclusion - CMD Patient

F
Mx. & Mn. moderate crowding,
→ SMA with COPA Splint, non-attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress
- Splint Bonded



Progress
- Extrusion of
anterior teeth
and premolars



30. Class II Malocclusion - CMD Patient (cont.)

F
Mx. & Mn. moderate crowding
→ SMA with COPA Splint, non-attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress
- Detailing



Final



31. Mixed dentition - Class I Malocclusion

9Y, M
Mx. & Mn. anterior crowding
→ SMA without any attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress



Expansion and Distalization

#14, 25 erupting

End of Eruption

Final



32. Mixed dentition - Class I Malocclusion

9Y, M
Anterior Spacing, incomplete erupted #13, 23, 25
→ SMA without any attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress



Final



33. Class III Malocclusion

30's, M
Class III, Open bite

→ SMA without any attachment

Courtesy of Dr. Henrique Bacci, Brazil

Initial



Final



34. Class III Malocclusion

19Y, M
Class III, Open bite

→ MARPE + SMA Synergy

Courtesy of Dr. ES KIM

Initial



Progress



Final



35. Class III Malocclusion

20's F
Class III, Open bite

→ Bite ramp, mandible advance wing

Courtesy of Dr. Kenji Ojima



36. Class II Malocclusion

30's F
Class II, High canine

→ Zero attachment / 6 months shorter treatment period compared to others

Courtesy of Dr. Kenji Ojima



37. Class I Malocclusion

20's M

Class I, Asymmetric, Crowding

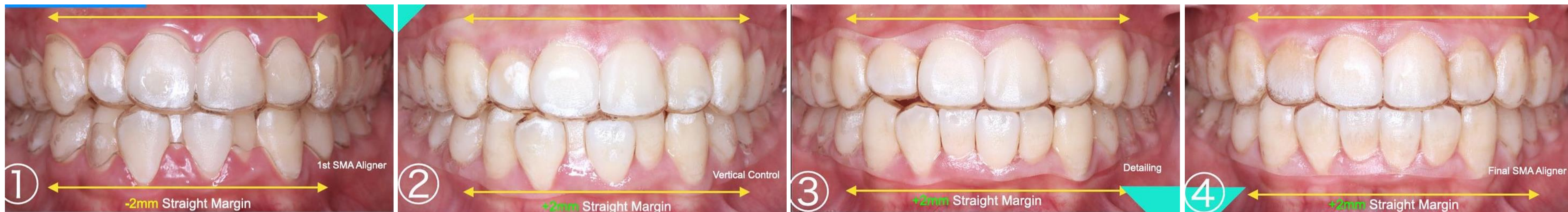
→ Zero attachment / Expansion

Courtesy of Dr. Kenji Ojima

Initial



SMA
10mTx



Final



38. Class I Malocclusion

60's F
Class I, Anterior crowding, Midline shift

→ Zero attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress



Final



SMA
12m Tx

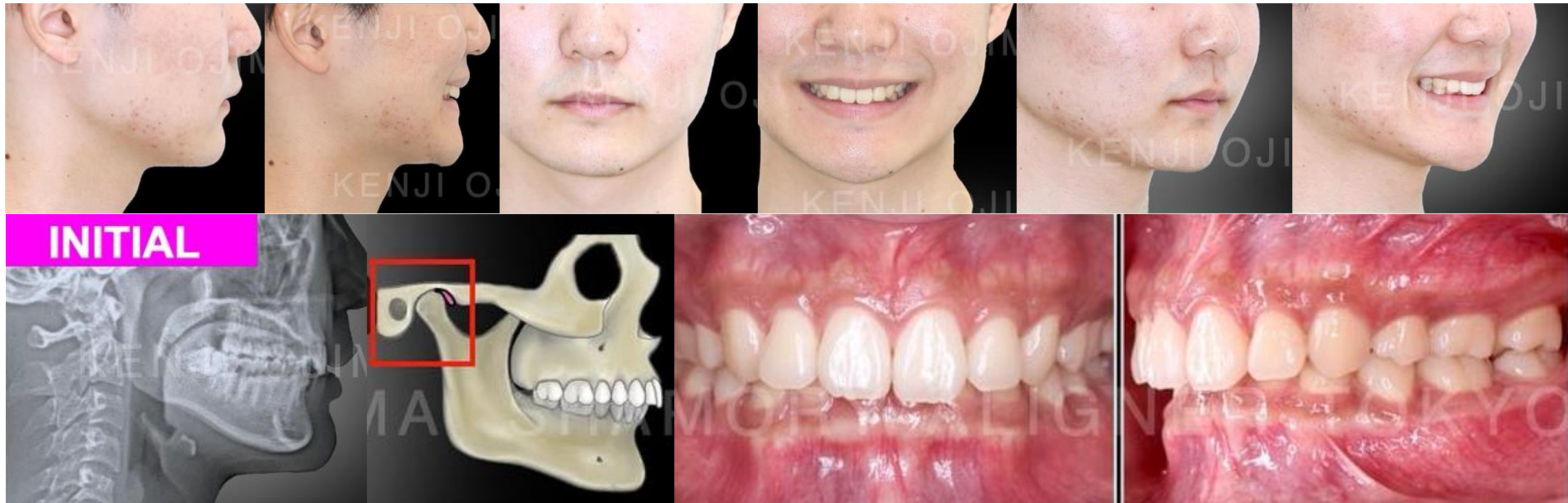
39. Class II Malocclusion

Class II, Deep bite, CO≠CR splint

→ Mandible advancement without Attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress



Final



40. Class I Malocclusion

20's M
Class I, 4 bicuspids extraction(14,24,34,45)
→ Zero attachment

Courtesy of Dr. Kenji Ojima

Initial



Progress



Final

