

AOA appliances, etc.

In This Issue:

- Simpli5®
- STb™ Social 6
- Archwire Extender

In this issue of AOAppliances, we are excited to offer a practical perspective on two aesthetic appliances that will fulfill the needs of the adult patients in your practices. As more and more adult patients are requesting an aesthetic option to labial braces, there continues to be an increased demand on the next generation in invisible orthodontics. In the featured article by Dr. Neal D. Kravitz from South Riding, VA, you will find how his office responds to these aesthetic demands by offering an express aligner and a Social 6 lingual system.

Although this approach does not replace the use of full orthodontic appliances in his office, it does compliment it by providing a quality aesthetic option for patients in need of moderate correction.

While Dr. Kravitz has found these options very valuable for his practice; we hope that you find this issue as helpful in implementing an aesthetic express appliance in your office.

If you have any questions or would like to get started, please feel free to call me or our technical team. We look forward to seeing you at the upcoming meetings.



David Allesee
President,
AOA Laboratory



Dr. Neal D. Kravitz, D.M.D., M.S., is a Diplomate of the American Board of Orthodontics, and Faculty at the University of Maryland and Washington Hospital Center.

Dr. Kravitz currently maintains two thriving practices in White Plains, Maryland and South Riding, Virginia.

Contact information:
Kravitz Orthodontics,
25055 Riding Plaza, Suite 110,
South Riding, VA.
Email:
nealkravitz@gmail.com.
Website:
www.kravitzorthodontics.com

STb™ Social 6 and Simpli5®:

The next generation in invisible orthodontic therapy

An increasing number of late adolescent and adult patients are seeking invisible orthodontic care to correct mild to moderate anterior malocclusions. Since 2000, Invisalign® has been the treatment alternative to patients seeking invisible orthodontics for minor tooth correction. Recently, there has been growing interest by orthodontists in alternative methods of invisible orthodontics to address limitations of the Invisalign® system.

This article will review two popular invisible orthodontic appliances provided byOrmco's AOA Laboratory: (1) Simpli5®, and (2) the STb™ Social 6 anterior lingual system.

Simpli5®

Simpli5® is a series of five sequential orthodontic aligners for correction of minor to moderate anterior malocclusions. Introduced in 2006, Simpli5® was an elaboration of AOA's previously available three-aligner system, Red White & Blue®. The additional two aligners allow for greater case complexity and improved finishing.

The DuraClear aligners are made of 0.030 in. polyurethane vacuum formed over a stone model set-up. Each aligner programs up to 0.5 mm of tooth movement, allowing for up to 2.5 mm of movement per arch.

Clinical Indications for Simpli5®

The ideal candidates for Simpli5® treatment are non-growing patients with Class I malocclusion with minor or moderate anterior crowding or spacing or who have experienced minor orthodontic relapse. Simpli5® is appropriate for the following conditions:

- 1) Crowding or spacing 2.5 mm or less;
- 2) midline correction 2 mm or less; and
- 3) rotations 10 degrees or less

Clinical studies have shown that the least predictable tooth movements with removable aligners are incisor extrusion, canine/premolar rotation, and root uprighting.^{1,2} Therefore, even a Class I malocclusion that requires extrusion of the maxillary lateral incisors, canine rotation, or bodily tooth movement to close a large diastema may be less suitable for removable orthodontic aligners and more appropriate for anterior lingual braces.

Getting Started

1). Call the AOA customer service phone number (800.262.5221) to ask for a Simpli5® starter kit, which includes: case selection examples and patient education pamphlets, prepaid mail packaging, and prescription forms.

2). Take upper and lower polyvinyl siloxane (PVS) impressions with bite registration. I prefer to use an Aquasil Easy Mix Putty® base lined with Aquasil Ultra XLV (Extra Low Viscosity) Fast Set® liner (DENTSPLY International, York, PA 17405). (Fig. 1)

3). Fill out the Simpli5® Rx form, which is also available on-line at: <http://www.aolab.com>. (Fig. 2) Select which teeth to reset; which teeth to reproximate, or whether to leave space for future restorations. Due to the limited number of aligners, clinicians should be conservative with reproximation. For more difficult cases or for highly-demanding patients, clinicians can also choose to receive a final diagnostic setup via express service to review with the patient.

Similar to Invisalign®, football-shaped tooth attachments or DuraClasps - invisible clasping insets, can be selected for greater tray retention. I do not recommend placing attachments

CENTRALIZED
COMMUNICATION CENTER

800-262-5221

INTERNATIONAL #262-886-1050

AOA Wisconsin
Fax 262-886-6879

AOA Connecticut
Fax 860-741-7655

AOA California
Fax 760-357-9844

on upper incisors, as many patients find attachments bulky and unsightly. For malrotated canines, the clinician may consider placing both buccal and lingual attachments or requesting for slight overcorrection. Lastly, I do not recommend placing attachments if the patient intends on bleaching during treatment (by using the aligner as a bleaching tray), as the composite buttons result in unbleached circles around the tooth. (Fig. 3)

The impressions and prescription form are packaged in an AOA Laboratory box and are sent via priority mail. The plaster-model setup technique allows for rapid turnaround time, typically 3 weeks – nearly half the time of competitor brands.

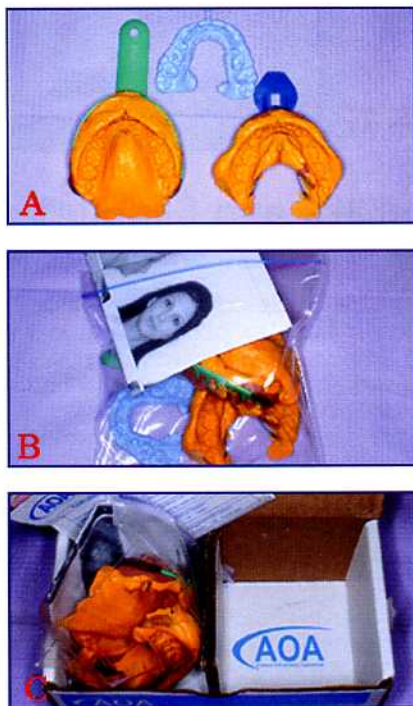


Figure 1. A. Upper and lower PVS impressions with bite registration. Stone-models are also acceptable, however PVS impressions are preferred. B. Packaging of impressions with composite photographs. C. Packing of the impressions and prescription sheet in AOA box. Similar steps are followed for the STB™ Social 6.

AOA Allesee Orthodontic Appliances

Centralized Communication Center
1-800-262-5221

AOA Wisconsin: 13931 Spring Street, Shurlevant, WI 53177, Fax 262-886-6879
AOA Connecticut: 6 Natick Road, Enfield, CT 06082, Fax 860-741-7655
AOA California: 341 E. First Street, Calexico, CA 92231, Fax 760-357-9488
International +262-886-1050

Simpli5 / Five Appliance System
 Upper Lower

RWB / Three Appliance System
 Upper Lower

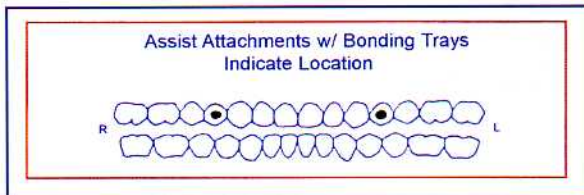
"X" Teeth to be Reset

Reset Ideal – call if not feasible
 Best overall result – (compromised correction)

Leave space:
 Mesial NO SPACE
 Distal _____

Position for future restoration
 ↳ Note details in Special Instructions
 Consultation / diagnostic set up (set up returned – no trays)
 Strip as necessary and record
 Strip as indicated on chart
 Contacts already stripped
 Do not strip **IF POSSIBLE**

NO IPR IF POSSIBLE



Dr. NEAL KRAVITZ Acct# _____
 Address 10665 STANHAVEN PLACE
 City St Zip WHITE PLAINS, MD
 Patient _____
 Tel: 201.682.5480 Fax _____
 E-Mail NEALKRAVITZ@EMAIL.COM
 Shipped 1.11.08 Placement Date 2.5.08
 (Placement date should be 1-2 days before the actual insertion date)

Special Instructions

• GOAL OF TMT IS TO IMPROVE TORQUE OF U 2112

• U 2.5 NEED RETROCLINATION AND IMPROVE ROTATION

Figure 2. A. Select Simpli5 and material choice. B. Instruct which teeth to reset. Note that no reproximation was requested. C. Add any special instructions. Written: "Goal of treatment is to improve torque of U2112. U2s need retroclination and improved rotation."

Treatment with Simpli5®

Included in the Simpli5® package are the five aligners sealed in individualized plastic bags and separated according to arch, and the reproximation form. The aligners are labeled (one-dot for aligner one, two-dots for aligner two, etc.) on the outside of the plastic bag and on the inner right posterior region of the tray. (Fig. 4)

When seating the first aligner, I encourage patients to bite edge-on to ensure full seating. Attachments should be placed at the first appointment using aligner one – there is no separate aligner for placing attachments. Finally, I choose to perform all reproximation at the second aligner visit, and never at the first appointment, which should be an enjoyable experience for the patient.

Sequencing Treatment

Each aligner is worn 22 hours per day, for 2 to 4 weeks, resulting in treatment duration of 10-20 weeks. AOA Laboratory literature suggests that checkup evaluations may be as infrequent as six to eight weeks, with the patient given the subsequent aligners to change on their own. In my office, we give one-aligner per office visit, with each aligner to be worn for a minimum of 3 weeks. Patients may assume a certain amount of chair time to justify the cost of treatment, which without, may cause frustration despite achieving high-quality results.

At each visit, reinforce patient compliance and check for aligner lag-space between the aligner and the tooth, an indication of poor tooth tracking. If lag is occurring, confirm patient compliance, and even consider removing tooth attachments to aid aligner seating. Instruct the patient to wear their current aligner for additional three weeks or step back into the previous aligner. At the completion of treatment I retain patients in a bonded U2112 and L321123 gold chain; however, the durable, crystal-clear aligners make for adequate retainers.



Figure 4. Simpli5 Package. (1) Upper and Lower Simpli5 boxes. Unlike Red-White-and-Blue, which can be used for a single arch, Simpli5 is a dual arch system. (2) Plastic package and Simpli5 aligner. Note the five dots on the plastic package and on the inside right posterior region of the aligner indicate aligner five. (3) Reproximation clinical guide form.

STb™ Social 6

In 1976, Dr. Kurtz submitted the first lingual appliance patent to the U.S. Patent Office, and three years later, with the collaborative work of Dr. Craig Andreiko and Ormco Corporation, the popular Ormco-Kurz lingual bracket system (1979) was fabricated. For the next 25 years, lingual orthodontics maintained a low level of popularity outside of Europe, Asia, and Australia, due to challenges with treatment planning, biomechanics and ergonomics. Recently, lingual orthodontics has undergone resurgence due to advancements in indirect bonding and bracket design.³

STb™ was developed by two of the leading lingual practitioners in the world, Drs. Giuseppe Scuzzo and Kyoto Takemoto, as the first lingual straight wire bracket and technique. STb™ Social 6 is a low-profile, anterior lingual bracket system, indirectly bonded either canine-to-canine or first premolar-to-first premolar, ideal for correcting anterior malocclusion with maximum control. (Fig. 5) Often, no more than two wires are needed to quickly unravel the anterior teeth, without the need for finishing bends.

Clinical Indications for STb™ Social 6

1. Crowding 6 mm or less;
2. Spacing of 3mm or less;
3. Midline correction of 2 mm or less;
4. Rotations of 25 degrees or less; and
5. Cases not suitable for removable aligner treatment.



Figure 5. The STb™ (Scuzzo/Takemoto bracket) Social 6 bracket has low 1.5 mm profile and rounded contours to reduce lingual interference and minimize speech difficulties.

Getting Started

1). Call the AOA customer service phone number to ask for a STb™ Social 6 starter kit. In addition, I strongly encourage you to call AOA (1-800-262-5221) and purchase a typodont for your consultation room. (Fig. 6)



Figure 6. Typodont of the STb™ Social 6 in the consultation room.

2). Take upper and lower polyvinyl siloxane impressions with bite registration. Fill out the STb™ Social 6 prescription form which is available online. You can even request for the laboratory to return chair-side adhesive (**OrthoSolo™**) with the transfer tray. (Fig. 7) If you are derotating canines or consolidating space distal to the canine, request the addition of first premolar brackets.

The indirect setup provided by AOA Laboratory is a double-tray technique, using a clear 0.030 in. hard outer tray and a translucent

polyvinyl siloxane inner tray to allow for light curing. All STb™ Social 6 cases do not require full T.A.R.G. (**Torque Angulation Reference Guide**) or C.L.A.S.S. (**Custom Lingual Appliance Setup Service**) setup for indirect bonding. As such, the setup is simplified which reduces the laboratory cost and allows for a short turnaround time.

3). After indirect bonding, thoroughly clean interproximally and at the palatal or lingual gingival margin where flash often accumulates. I recommend using interproximal strips (.006 inch) with a serrated edge to saw between contacts.



Figure 3. STb™ Social 6 Package. 1. Upper PVS impressions with laboratory poured stone models. 2. Indirect bonding tray and 013 CuNiTi wire. 3. Light cured bonding adhesive. 4. Step-by-step bonding instructions. 5. Laboratory prescription form including specialized instructions.

If bonding the upper anterior teeth, check for lower incisor contact against the brackets; if contact is heavy, consider occlusal buildups on the posterior teeth. I prefer to use colored occlusal buildup material (**Ultra Band-lok, Reliance Orthodontic Products, Inc., Itasca, IL 60143**). This avoids patient from thinking that their tooth has fractured if the buildup comes off during treatment. (Fig. 8)

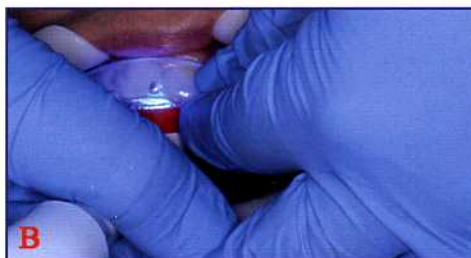


Figure 8. A. Indirect bonding tray with laboratory supplied resin. B. Curing the brackets. Note the lingually applied pressure with the light cure machine. C. Space consolidation with an 016 SS using RMO Closed Energy Chain. Begin bracket ligation on the most posterior tooth.

4). For crowded cases, begin with the straight length .013" CuNiTi wire, which comes included with purchase of the brackets. **Pre-curved CuNiTi archwires are also available for the upper and lower arches.** For spacing cases, consider starting with .016" Lingual NiTi. (Fig. 9)

ORDERING INFORMATION

ARCHWIRES

Phase 1 Light Round Wire

Objective: Initiate and complete leveling
Duration: 5-16 weeks
Archwire: .013 Copper Ni-Ti

Wires	Part Number
.013 Copper Ni-Ti (8.5" Straight Length)	266-1360

Phase 2 Finishing Wire

Objective: Additional alignment if necessary
Duration: 5-8 weeks
Archwire: .016 Ni-Ti or .016 TMA

Wires	Part Number
.016 Ni-Ti Upper Size 1	205-0025
.016 Ni-Ti Upper Size 2	205-0023
.016 Ni-Ti Upper Size 3	205-0021
.016 Ni-Ti Lower Size 1	205-0031
.016 Ni-Ti Lower Size 2	205-0029
.016 Ni-Ti Lower Size 3	205-0027
.016 TMA	202-0025

BRACKETS

Maxillary Brackets

	Torque	Angle	D/O	Part Number
Upper 3-3 Universal Standard	+40°	0°	0°	367-2100

Mandibular Brackets

	Torque	Angle	D/O	Part Number
Lower 3-3 Universal Standard	+40°	0°	0°	367-2110

Figure 9. Wire Guide

The clinician may consider using a traditional (labial) lower arch NiTi extending canine to canine. The only disadvantage of using a traditional labial wire rather than a mushroom-shaped lingual wire is that the canines may expand and roll out distally if left unmonitored. **AOA will return with the case with an appropriate number of specially designed .008 steel ligature ties** (recommended by Drs. Scuzzo and Takemoto). (Fig. 10)

5). Following tooth leveling and alignment, a .016" stainless steel or .017" x .017" TMA® wire can be placed for space closure and finishing bends if needed. Due to the short inter-bracket distance, I recommend closed Energy Chain® for space consolidation, (Rocky Mountain

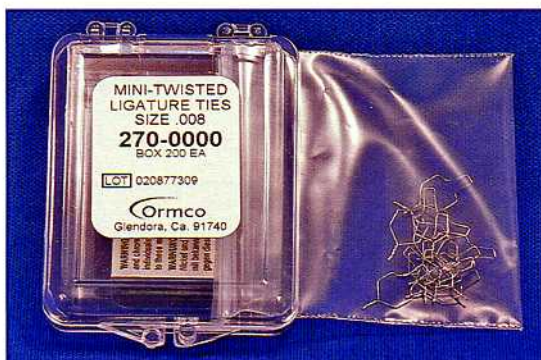


Figure 10. Specially designed .008 steel ligature ties (recommended by Drs. Scuzzo and Takemoto)

Orthodontics, Denver, CO 80204). I find it significantly easier to finish and detail with a round wire for my lingual cases to avoid creating unwanted third-order movement.

Treatment duration with the STb™ Social 6 is approximately 3-9 months, often requiring only 1-2 wires. At the completion of treatment, the brackets are easily debonded with a pin and ligature cutter, and composite removed with a football bur.

In conclusion, the Simpli5® and STb™ Social 6 are highly efficient orthodontic treatments alternatives, with reduced laboratory costs and faster turnaround time, to competitor removable aligner systems.

References

1. Nguyen CV, Chen J. In: Tuncay OC ed. The Invisalign System. New Malden, UK: Quintessence Publishing Co, Ltd; 2006: 121-132.
2. Kravitz ND, Kusnoto B, Agran B, Vienna G. Influence of attachments and interproximal reduction on the accuracy of canine rotation with Invisalign. Angle Orthod. 2008; 87: 682-687.
3. Kravitz, ND. Anterior lingual braces. Regaining control of invisible tooth movement. Orthod Products. 2008; July: