

Discover ... precision!



# EVOLUTION<sup>®</sup> SLT and JOY<sup>®</sup> Lingual

Precise Lingual Treatment Systems  
for 2D and 3D Cases





## Table Of Contents

## Page

EVOLUTION SLT® complete lingual system

1 - 5

EVOLUTION SLT® clinical cases

6 - 7

EVOLUTION SLT® ordering info

8 - 9

JOY® lingual information

10 - 11

JOY® clinical cases

12

JOY® ordering info

13

Lingual Wires

14

Lingual pliers

15

Lingual course information

16 - 17

# Discover ... precision!

EVOLUTION SLT® – The world's only intelligent lingual treatment system with a rotational flexible clip



## Overcoming the limitations of self-ligating brackets with 3 patents

- Patented non-locking rotating clip resulting in unique flexibility
- Patented slot for horizontal arch wire insertion in the front
- Patented Crown Base – individual tooth shaped base for easy direct bonding and true 3D base coverage
- Precise and reusable indirect bonding system

## Patented non-locking rotating clip resulting in unique flexibility



- Early torque, rotation, and angulation control
- Passive, intermediate, and truly active treatment options
- Secure and reliable clip opening even with bad patient oral hygiene
- Outstanding oral hygiene with no hooks to accumulate plaque or overlap the marginal gingival
- Built-in safety release – the only self-ligating bracket in the world that safely opens in order to prevent the periodont from being overstressed without deforming the clip

## Patented slot for horizontal arch wire insertion in the front and unique milled truly one-piece bracket



- Easy wire insertion
- Direct and full transmission of torque and angulation
- Early transmission of torque and angulation
- Smooth round edges providing highest patient comfort and oral hygiene
- Self-ligating clip is used as a bite plane accelerating bite opening.

## The non-locking flexible clip – overcoming the limitations of self-ligating brackets

The adenta EVOLUTION SLT® bracket eliminates the need for ligation significant chair time reduction. It was designed to solve the problems ligation that are usually experienced in lingual orthodontics.



Minimizing binding in highly rotated teeth and avoiding notching, resulting in low friction

- Ensuring the protection of the periodont as the clip flexes as needed and releases the wire if appropriate
- No deformation of the clip ensures secure and reliable ligation and re-ligation

Ultra low IN/OUT resulting in remarkable proximity of the archwire to the point of force application, the center of resistance of the tooth

Easy, reliable, and forceless opening and closing of the clip



Simpler and faster horizontal archwire insertion in the front due to the patented slot

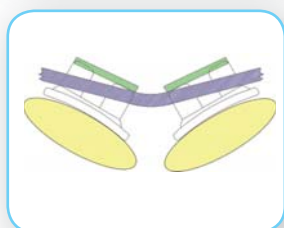
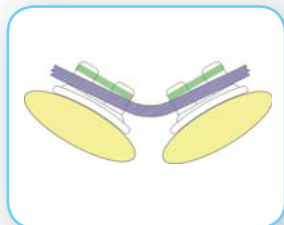
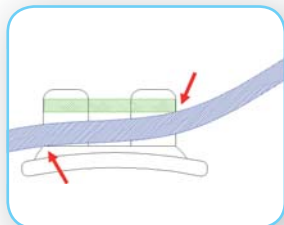


## Overcoming the limitations of self-ligating brackets by using the advantages of elastomerics

adenta's vestibular and lingual patented self-ligating brackets combine the best of both worlds.

They were designed in order to combine the flexibility of an elastic ligature with the economic advantages of a self-ligating clip by eliminating the clinical limits of a locking self-ligating sliding clip.

### Responsive



The patented adenta EVOLUTION SLT® self-ligating clip flexes like an elastomeric ligature and therefore responds to the actual malocclusion without losing force, which reduces binding and prevents notching especially with highly rotated teeth.

### Passive and active

It is passive with wires smaller than .016" producing nearly frictionless movement resulting in an efficiency increase in the leveling stage.

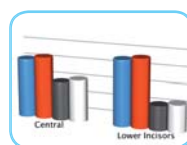


With wires larger than .016" the bracket actively but gently guides the wire into the slot, creating early torque control and increasing treatment time and efficiency.



### Outstanding biocompatibility due to the built-in Safety Release Function

With its built-in world-wide unique SAFETY RELEASE Function the rotational clip will release the wire at the appropriate force starting from approx. 900 grams in order to protect the periodont from overpowering. The Safety Release does not damage the clip and allows easy re-ligation.



### Optimum Force

With an active force of approx. 650 cN/ grams the adenta self-ligating clip provides on average approx. 50% more power than a new elastomeric ensuring a safe and reliable archwire ligation. Especially in the finishing phase with large rectangular wires, as the lumen of the adenta self-ligating brackets will be increasing, the clip is stronger as a new elastic ligature.



### Unique Rotation Control

With highly rotated teeth, the interactive self-ligating clip flexes as the archwire presses against one side of the clip, gently rotating the tooth into its position by reducing at the same time binding and avoiding notching.



### Patient satisfaction

As the leveling is achieved at an early stage, it contributes considerably to the relief of a patient's anxiety, often experienced in lingual treatments. Thus, achieving it early in treatment helps the establishment of a trustful and more relaxed doctor-patient rapport.



### Early Torque Control

The adenta EVOLUTION SLT® self-ligating flexible clip provides stable torque by the application of constant pressure to a rectangular archwire by the spring clip, offering full and early torque control.



### 2.35 mm effective slot width

EVOLUTION SLT® bracket has a broader width with 2.35mm effective slot width, the than other lingual brackets, making it very effective in rotation control. In addition, tipping of premolars in extraction cases seems to be less likely to occur due to the effective slot width.



## EVOLUTION SLT® Self-ligating Clip in focus

### The built in SAFETY RELEASE FUNCTION

The elastic ligature flexes especially with highly rotated teeth and therefore does not force the wire into the slot as locking self-ligating clips do – the periodont is unlikely to be over-powered.

- At a certain degree of rotation, all locked/sliding self-ligating brackets create a tunnel with four rigid walls, resulting in undesired considerable forces, adding friction to the system. Especially in highly rotated teeth, locked/sliding self-ligating clips produce binding and create notching, which slows down the treatment process.
  - + The adenta EVOLUTION SLT® self-ligating clip functions as an active flexible spring that will alleviate pressure appropriately when force is exceeded over 900gms and will release the wire totally as soon as the force created on the tooth is too high. This feature plays a key role for the earlier insertion of stronger wires and protects the periodont.
- = **More comfortable for the patient as pressure is alleviated on over stressed teeth.**

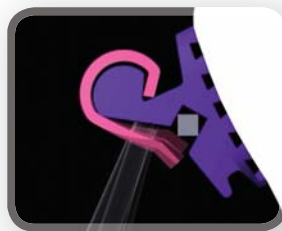
### The built-in ROTATIONAL SPRING CLIP

- The self-ligating clip is engaged even if the wire does not fill the slot, this early torque control and passive ligation significantly shortens treatment time compared to conventional bracket
- The adenta EVOLUTION SLT® self-ligating spring clips flexes according to the malocclusion. As the spring clip constantly presses the archwire into the slot it ensures effective rotation and torque control allowing earlier archwire changes and less visit frequencies than with other conventional self-ligating systems.
- Clip produces an average of 650gms of force when active, optimal force needed to control treatment.
- Sturdy clip withstands the rigors of numerous wire changes.

## Easy to open, easy to close



Very little force is needed to open and close the bracket, creating optimum handling for the doctor and comfort for the patient.



The EVOLUTION® self-ligating clip is designed to work like a spring, very little force is needed to open and close.



Insert the opening instrument into the hole located on the top of the clip. Holding the opening instrument between your thumb and forefinger, make a small rotation gingivally of the instrument by rolling between your fingers.



To close insert the opening instrument into the hole located on the top of the clip. Holding the opening instrument between your thumb and forefinger, make a small rotation occasionally. An audible “click” confirms the spring is safely closed.

## EVOLUTION SLT® SMART CAP – precise, easy, and reusable bonding system

The EVOLUTION SLT® SMART CAP bonding system is an innovative lingual Bracket positioning system, which differs considerably from all the other common positioning systems. The aim was to provide a secure, repeatable, fast and precise way – considering the individual situation for each patient and the habits of the practitioner – for every indirect bracket transfer.

The EVOLUTION SLT® SMART CAP is a unique indirect bonding system based on the principles of the HIRO® system. It offers the practitioner the benefits of bonding each tooth individually, offering at the same time the speed of a full bonding tray.





### Superior clinical benefits – independent bracket bonding and precise re-bonding

The prefabricated components work systemically and offer highest precision. They work securely, fast, precise and dependable during the bonding stage and consider each individual patient situation and the clinician's working habits. The individual transfer caps can be stored and reused, if you need to re-bond a bracket later.

### The EVOLUTION SLT® SMART CAP at a glance

- Fast, safe and precise transfer of lingual bracket positions
- Deformation-free, easy bracket fixation
- Fast and precise re-bonding
- Single cap placement
- Segmented working
- Tray bonding
- Timesaving
- Teamwork

## Individual tooth bonding and tray bonding



The desired bracket position is encoded in the non-deformable individual transfer cap. The individual transfer caps then can be inserted into the transfer tray. As the transfer cap is made of a special silicon material, it is flexible enough to correct minor teeth movement that often happen between the dental cast and the bonding. Thus, the point of time when the brackets are inserted into the mouth is unlimited, as the tray will fit thanks to its high elastic factor. This will not have any negative influence on the



actual bracket position. If placed separately, the caps will always fit. However, it should be generally avoided to change the crown shapes during the treatment period.

### Increase team work and practice efficiency

The EVOLUTION SLT® SMART CAP Indirect Bonding System offers the possibility to reconsider the work flows. Utilizing this indirect bonding system, you get a new scope of action, supporting the teamwork in your practice optimally.

### Impression

The positioning of the bracket can be performed on a

- Malocclusion-model (labial/lingual)
- Set-up model (labial/lingual)
- Digital labial or lingual bracket positioning (transfer on a model situation).

## The EVOLUTION SLT® SMART CAP Components

Safe and easy work means advantage in time and more precision for the orthodontist and the practice team.



### SMART BASE

The Smart Base is the basic module of the EVOLUTION SLT® SMART CAP Bonding System. This prefabricated part with its ball button is the connection module between the elastic tray and the Smart Stick.



### SMART TUBE

The Smart Tube is an individual prefabricated PE cap, precisely matching the dimensions of the EVOLUTION SLT® bracket and fixes the bracket securely.



### SMART CONNECTOR

The Smart Connector is a metal sheet, connecting Smart Base and Smart Tube. These two prefabricated elements form an inseparable unit creating remarkably unique bonding precision.



### SMART STICK

The Smart Stick can be connected to the ball button of the Smart Base for comfortable placement of single individual transfer caps. It allows precise alignment and secure fixation of the individual transfer cap. It can be put on the rear side of the EVOLUTION SLT® opening and closing instrument, offering comfortable handling.

## Clinical Cases

### Patient Female, 39 year

- Class II div 2
- Deep Bite
- Crowding
- Treatment Time: 19 months

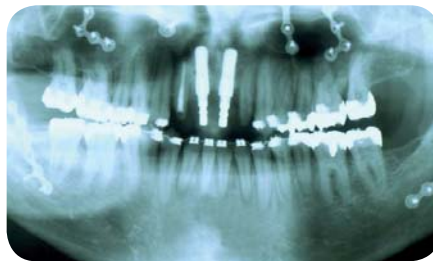


Orthodontist:  
Dr. Hatto Loidl, Berlin GER



Patient Male, 38 years

- Class III
- Asymetric
- Trauma in the upper front
- Perio problems, recessions
- Treatment Time: 18 months



Orthodontist:  
Dr. Hatto Loidl, Berlin GER

## EVOLUTION SLT® lab setup at a glance



## EVOLUTION SLT® prescriptions and order info

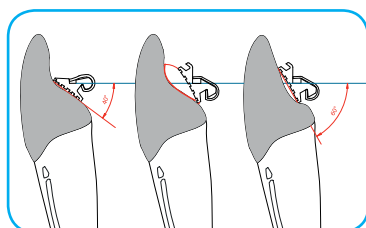
### EVOLUTION SLT® Brackets



Tooth	40°	60°	40°	60°	Tooth
11 - Central					21 - Central
12 - Lateral	300-40	300-60	300-40	300-60	22 - Lateral
13 - Cuspid					23 - Cuspid
14 - 1. Bicuspid	300-14/45	—	—	—	24 - 1. Bicuspid
15 - 2. Bicuspid					25 - 2. Bicuspid
16 - 1. Molar	300-10W	—	300-10W	—	26 - 1. Molar
17 - 2. Molar	300-10W	—	300-10W	—	27 - 2. Molar

Tooth	40°	60°	40°	60°	Tooth
41 - Anterior					31 - Anterior
42 - Anterior	300-40	300-60	300-40	300-60	32 - Anterior
43 - Cuspid					33 - Cuspid
44 - 1. Bicuspid	300-14/45	—	—	—	34 - 1. Bicuspid
45 - 2. Bicuspid					35 - 2. Bicuspid
46 - 1. Molar	300-10W	—	300-10W	—	36 - 1. Molar
47 - 2. Molar	300-10S	—	300-10S	—	37 - 2. Molar



#### Which bracket – 40° or 60°?

Due to the variation of the lingual crown surface, two EVOLUTION SLT® and JOY® brackets are available with 40° and 60° base inclination. Choosing the correct degree will help keep the customized base to be as thin as possible, creating a lower and more comfortable profile.

NOTE: Degree values are NOT torque or tip values, but only lingual crown anatomical inclination values.





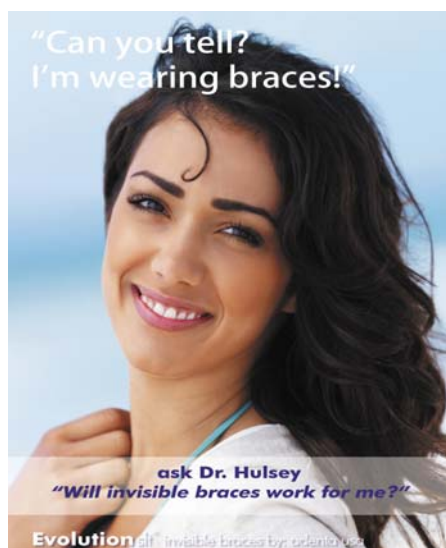
## EVOLUTION SMART JIG and SMART CAP

Tooth	SMART JIG	SMART CAP	SMART JIG	SMART CAP	Tooth
11 - Central					21 - Central
12 - Lateral	300-SJ-1	300-SC-1	300-SJ-1	300-SC-1	22 - Lateral
13 - Cuspid					23 - Cuspid
14 - 1. Bicuspid	300-SJ-2	300-SC-2	300-SJ-2	300-SC-2	24 - 1. Bicuspid
15 - 2. Bicuspid					25 - 2. Bicuspid
16 - 1. Molar	300-SJ-3	300-SC-3	300-SJ-3	300-SC-3	26 - 1. Molar
17 - 2. Molar					27 - 2. Molar

Tooth	SMART JIG	SMART CAP	SMART JIG	SMART CAP	Tooth
41 - Anterior					31 - Anterior
42 - Anterior	300-SJ-1	300-SC-1	300-SJ-1	300-SC-1	32 - Anterior
43 - Cuspid					33 - Cuspid
44 - 1. Bicuspid	300-SJ-2	300-SC-2	300-SJ-2	300-SC-2	34 - 1. Bicuspid
45 - 2. Bicuspid					35 - 2. Bicuspid
46 - 1. Molar	300-SJ-3	300-SC-3	300-SJ-3	300-SC-3	36 - 1. Molar
47 - 2. Molar					37 - 2. Molar

## The EVOLUTION SLT® Merchandising support



Office Poster



Patient Brochure



Consultation Model

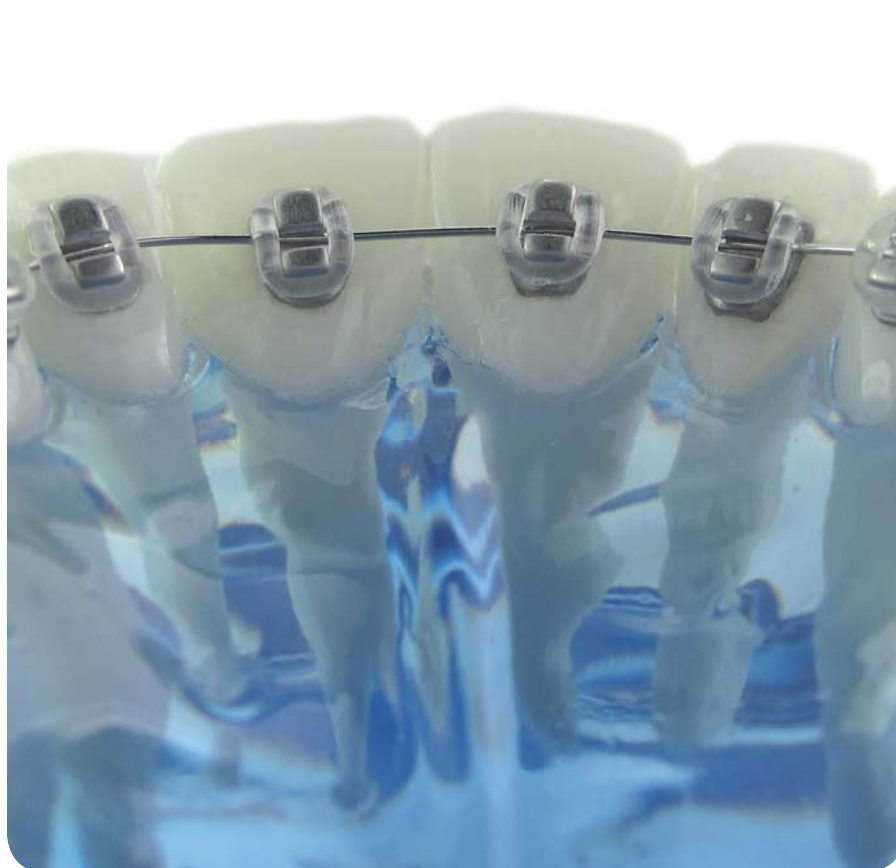
## Design Services Available

Website design • Postcard design • HTML emails design  
Please call our office for more details



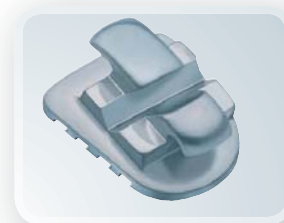
# Discover ... joy!

JOY® Lingual- Freedom for the tongue, full treatment control for the orthodontist



## JOY® advantages at a glance

- A perfect and truly undetectable alternative to clear aligners, as no patient compliance is required and they are truly undetectable
- Frictionless with archwires up to .016"
- Choose between indirect or direct bonding
- Choose between 3D and 2D treatment options
- Cost effective
- Minimize high laboratory costs
- Easy to handle



## Slim Profile for superior treatment Joy®

The adenta JOY® lingual bracket brings treatment joy to both the patient and the orthodontist. It is one of the smallest lingual brackets, but offers unlike other systems manifold treatment options to the clinician.

It is a cost effective treatment system designed to easily fit into the busiest of practices, offering highest patient comfort, uncomplicated application, and can be used in any kind of practice.

## Optimum design for adult treatments

The adenta Joy® Lingual bracket is designed specifically for adult cases that have relapsed or that only require two dimensional treatments.

### adenta NiTi lingual archwires

The adenta Flexadent Lingual Archwires are especially designed for lingual treatments. The preformed archwires are extremely flexible and take the lingual necessary force expression for faster treatment into consideration.

The adenta JOY® lingual bracket offer for many patients the ideal solution, to discretely, quickly, and comfortably correct minor misalignments.

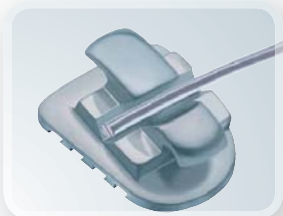




## Choose between direct and indirect bonding

The JOY® lingual bracket has been specifically designed for two-dimensional cases, allowing leveling and rotating with round wires within shortest time. For 2D treatments it can be bonded directly, eliminating the need for any laboratory services, indirect systems, or additional laboratory costs.

If the 3rd dimension of torque is required, the use of an indirect tray based on a set-up is necessary, which can be created either in the clinician's office or can be provided by any adenta Certified Lingual Lab.



### 2D as well as 3D treatment options

The JOY® lingual bracket is designed specifically for adult cases that have relapsed or who only require two dimensional treatment. If the 3rd dimension of torque is required, the use of rectangular wires and an indirect tray is necessary.



### Excellent biomechanics resulting in remarkably short treatment time

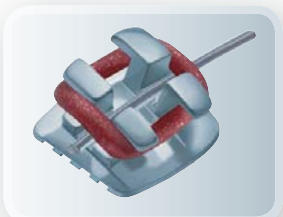
The bracket is bonded close the center of resistance, offering excellent biomechanics for tipping and rotating teeth. The first treatment phase can be achieved remarkably fast, as all 2 dimensional cases will range from 12 to 18 weeks. Generally, only one wire is required so treatment is fast, predictable and completely in your control.



### Minimal Friction and optimal control of tooth rotation and inclination

The JOY® bracket is distinguished by its unique twin shoulder wing design. The elastic ligature is placed on the shoulder wings of the JOY® bracket holding the archwire secure in the slot. Thus, no friction is added to the system as the elastic ligatures will not touch the archwire. These two supporting shoulders prevent friction in the slot in treated cases of wires up to .016". This will enable the leveling phase to move more rapidly and efficiently.

Even though the bracket has a very low profile, the archwire channel capacity in the mesio-distal region is broad. As a result, it is possible to achieve exceptional control of tooth rotation and inclination.



Taking into consideration that different bracket dimensions are required for the treatment of pre-molars, the JOY® pre-molar brackets are designed as a true 4 wing bracket in order to offer the mesio-distal slot dimensions necessary for outstanding rotation and tip control.



### Minimal Force with Flexadent NiTi archwires

The low profile achieved by a unique milled true one piece bracket design provides minimal IN/OUT occurrences. Thus, the bio-force application is very close to the lingual crown of the tooth. In combination with adenta's lingual thermoactivated NiTi alloy archwires as low as .012, which take into particular consideration the neuromuscular and biomechanical aspects, the patient comfort is remarkably increased.

## Clinical Cases

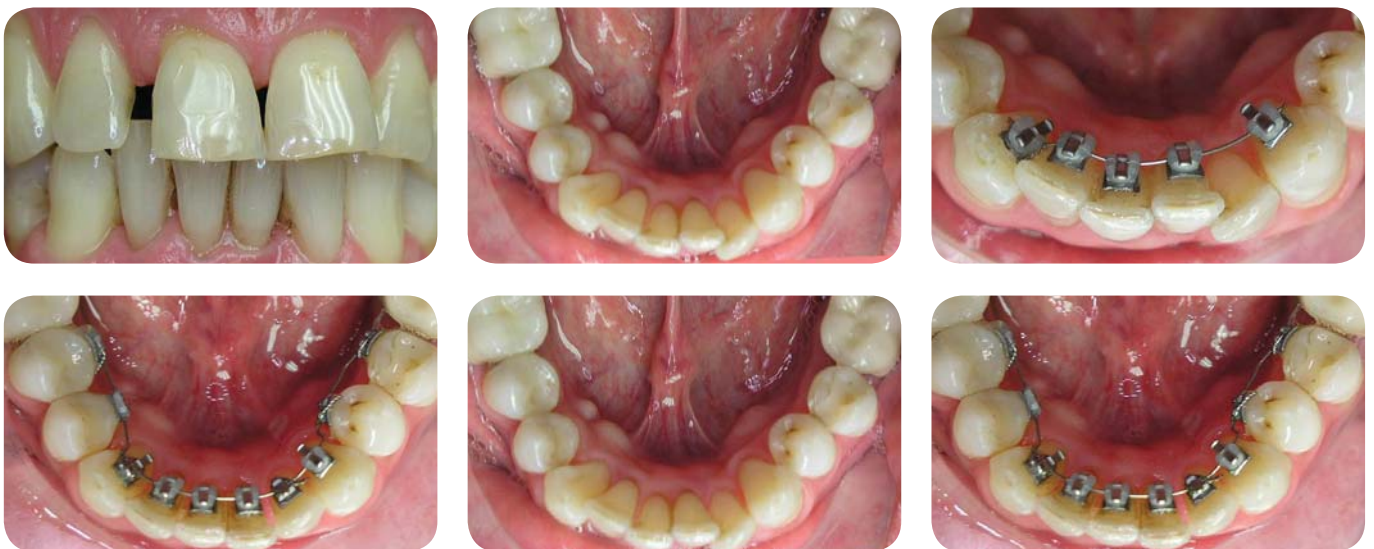
### Adult Treatment

Treatment Time 8 weeks

Pictures made by and property of Dr. Hatto Loidl, Germany

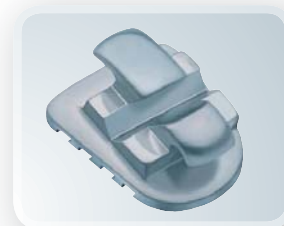


## Clinical Cases



## JOY® prescriptions and order info

JOY®

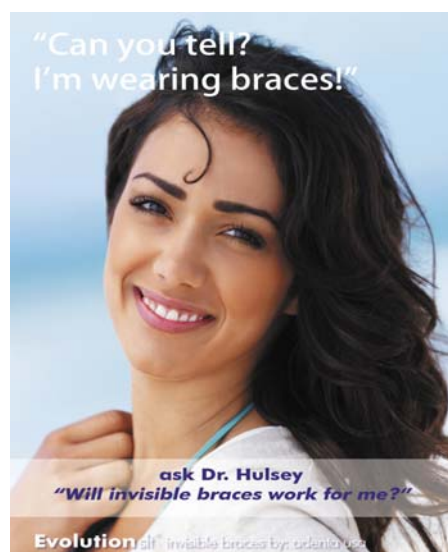


Tooth	40°	60°	40°	60°	Tooth
11 - Central					21 - Central
12 - Lateral	350-40U	350-60U	350-40U	350-60U	22 - Lateral
13 - Cuspid					23 - Cuspid
14 - 1. Bicuspid					24 - 1. Bicuspid
15 - 2. Bicuspid	350-14/45	—	350-14/45	—	25 - 2. Bicuspid
16 - 1. Molar	—	—	—	—	26 - 1. Molar
17 - 2. Molar	—	—	—	—	27 - 2. Molar

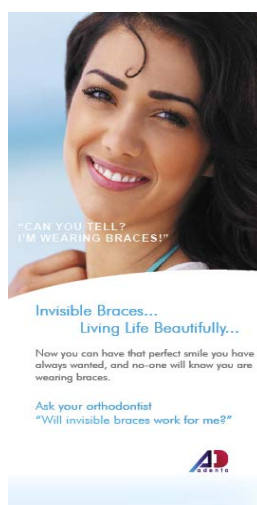
  

Tooth	40°	60°	40°	60°	Tooth
41 - Anterior					31 - Anterior
42 - Anterior	350-40L	350-60L	350-40L	350-60L	32 - Anterior
43 - Cuspid					33 - Cuspid
44 - 1. Bicuspid					34 - 1. Bicuspid
45 - 2. Bicuspid	350-14/45	—	350-14/45	—	35 - 2. Bicuspid
45 - 1. Molar	—	—	—	—	36 - 1. Molar
45 - 2. Molar	—	—	—	—	37 - 2. Molar

## The JOY® Lingual Merchandising support



Office Poster



Patient Brochure



Consultation Model

## Design Services Available

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## Adenta's Lingual Archwires



As lingual practitioners are well aware, there is zero tolerance for torque in any lingual straight wire system. Pre-made lingual mushroom arch-forms are available but not recommended, as the offset needs to be specific to your patient. Using lingual

archwires without an offset eliminates the need to buy many different sizes and the adjustment of premade offsets to fit the patient. Less forming, in turn lessens the chance of the improper torque, as perfect symmetry is the primary aim.

## Order Information

### FLEXADENT Nickel Titanium superelastic

		Size 1	Size 2	Size 3	Size 4
5 pieces	.014"	NNTL1014	NNTL2014	NNTL3014	NNTL4014

### THERMADENT ULTRATHERM / heat activated NiTi

		Size 1	Size 2	Size 3	Size 4
5 pieces	.012"	NNTL1012	NNTL2012	NNTL3012	NNTL4012
	.014"	NNTL1014	NNTL2014	NNTL3014	NNTL4014
5 pieces	.016" x .016"	NNTL116x16	NNTL216x16	NNTL316x16	NNTL416x16
	.016" x .022"	NNTL116x22	NNTL216x22	NNTL316x22	NNTL416x22
	.017" x .025"	NNTL117x25	NNTL217x25	NNTL317x25	NNTL417x25

### TRIDENT CNA Beta 3

		Size 1	Size 2	Size 3	Size 4
5 pieces	.016" x .016"	CNAL116x16	CNAL216x16	CNAL316x16	CNAL416x16
	.016" x .022"	CNAL116x22	CNAL216x22	CNAL316x22	CNAL416x22
	.017" x .025"	CNAL117x25	CNAL217x25	CNAL317x25	CNAL417x25

### DURADENT Stainless Steel

		Size 1	Size 2	Size 3	Size 4
10 pieces	.016"	STL1016	STL2016	STL3016	STL4016
10 pieces	.016" x .016"	STL116x16	STL216x16	STL316x16	STL416x16
	.016" x .022"	STL116x22	STL216x22	STL316x22	STL416x22
	.018" x .018"	STL118x18	STL218x18	STL318x18	STL418x18
	.018" x .025"	STL118x25	STL218x25	STL318x25	STL418x25

## How to bend the lingual Offsets?

The antimony of the lingual arch is positioned in such a way that it is customary to offset your lingual wire at the canine and sometimes another offset at the distal face of the second premolar. This offset bend will adjust the lingual wire form and follow the lingual arch, avoiding the molars. This bend can be completed with a Niti Three prong plier for the heat activated wires and a Bird Beak for all other wires.



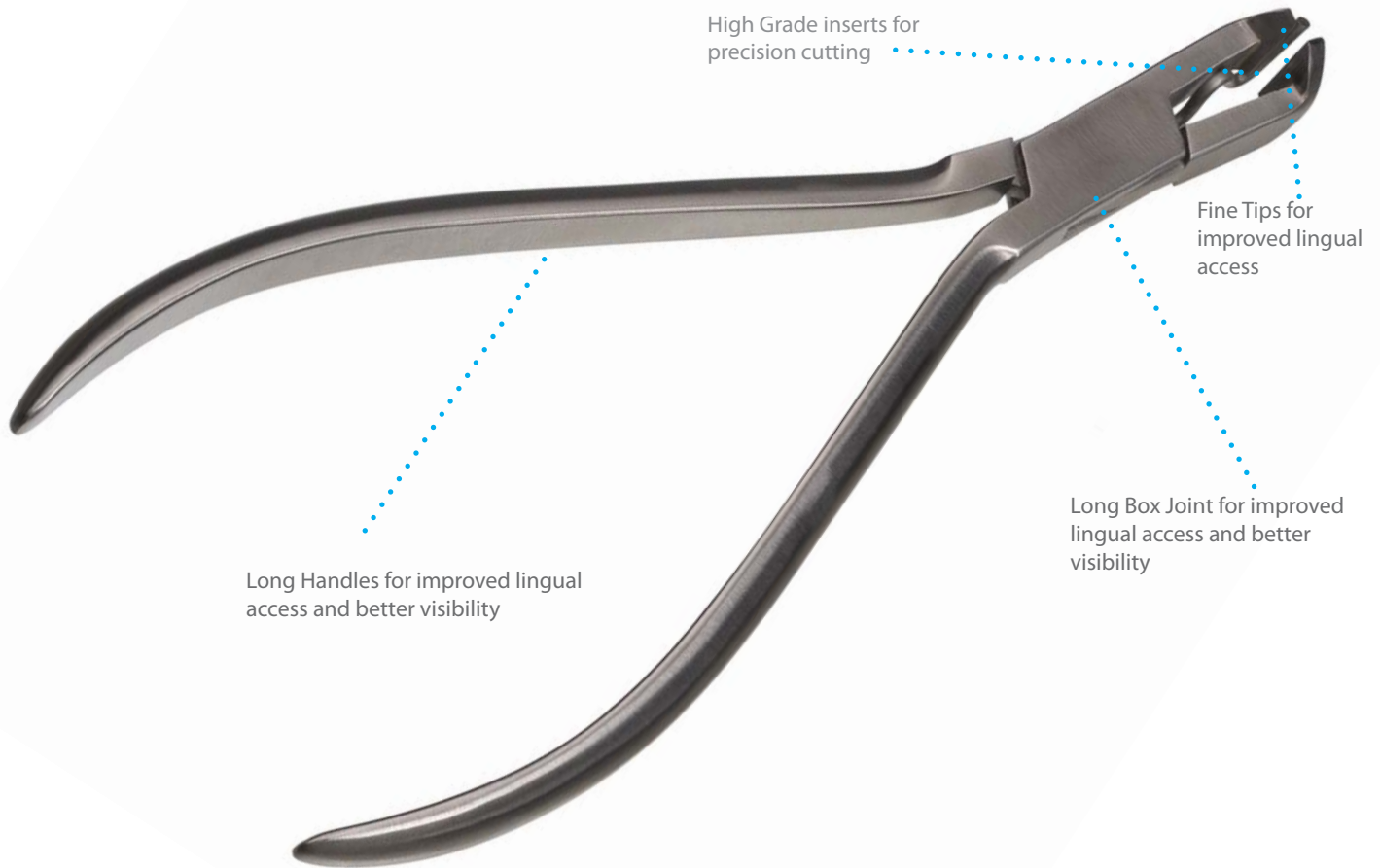
1. Mark the position of the distal face of the canine with a wax marker.
2. Place the Three Prong on this mark and bend 90 degrees.
3. With a wax pencil mark the distance to the first premolar and bend 90 degrees.
4. Make the same adjustment to fit the premolar/molar relation.
5. Eliminate any torque that would cause the wire to lift.





# Discover ... access!

Long Handles • Long box Joint • High Grade Inserts



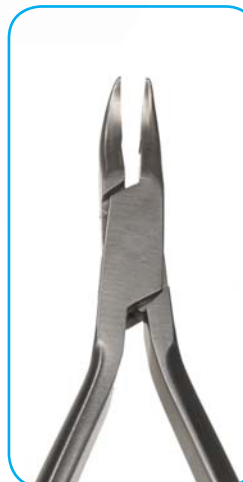
Angled Debonding



Distal End Cutter



Distal End Cutter  
Flush Cut



Weingart



Niti Bending Plier  
Hu-Friedy

## Lingual Courses

All educational courses explore in detail what every orthodontist should know to successfully introduce lingual orthodontics into your practice. New innovative appliances and new techniques now offer excellent results, with completely systemized protocols, predictable results, and standardized biomechanics. These Educational Lingual Courses will arm all those who attend with the knowledge, experience, and tools to confidently meet the growing demand for invisible orthodontics.

## Our Speakers



**Dr. Hatto Loidl**

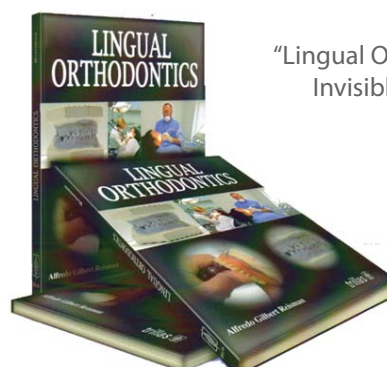
One of the leading experts in lingual orthodontics. Dr. Hatto Loidl has practiced lingual orthodontics since 1991 in his office in Berlin Germany. Dr. Loidl has traveled the globe sharing his extensive lingual experience and knowledge, and has been praised for his comprehensive approach to teaching all facets needed to practice, and be successful with lingual orthodontics.

	Education
1992- 1996	Studied at Berlin Doctoral Thesis on esthetic brackets
1997	Orthodontic Specialist
1997-1999	Assistant Professor at the University Hospital Benjamin Franklin, Berlin
1999 - Present	Private Practice, Berlin, Germany Co-developer of the Evolution Self-ligating Lingual Bracket



**Dr. Alfredo Gilbert**

Dr. Gilbert completed his Licenciatura en Odontología in 1979 at the Universidad Nacional Autonoma de Mexico and his Especialización in orthodontics in 1989 at eh Universidad Intercontinental, obtaining his Maestria from the latter university in 1998. He has a private practice in Mexico City where he applies the lingual technique. Dr. Gilbert recently published his first book on lingual orthodontics...



"Lingual Orthodontics The Truly Invisible Orthodontics"



## Lingual Course Theory & Practice

- Indirect bonding with the modified Hiro system.
  - Theory - The Hiro concept
  - Hands on practice
- Direct bonding with the Joy lingual.
  - 2 Dimensional cases
  - 3 Dimensional cases
- Why use Evolution Self-ligating brackets.
  - Set of Evolution brackets provided
- Lab procedure with the modified Hiro system.
  - Theory
  - Hands on practice
- Lingual biomechanics in detail.
  - Hands on practice
  - Non Extraction
  - Open Bite
  - Deep Bite
  - Cross Bite
  - Extraction
- Evolution Self-ligating bonding procedure.
- Treatment steps
- Lingual wire bending
  - Hands on practice
  - Increasing inter-brace distance.
  - Elaboration of a mushroom-shaped arch
  - Molar control techniques
  - Elaboration of rotation bends
- Case presentations
- Questions and answers





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