



The Incognito Appliance System: A Fully Customized Lingual Orthodontic Appliance

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Abstract

Lingual orthodontics was developed for adult treatment and aesthetic reasons, but today many adolescents are seeking orthodontic treatment. They often prefer treatment with invisible or nearly invisible appliances because they want to achieve a treatment objective without aesthetic impairment. Lingual orthodontics is getting more and more popular because this appliance system deliver both high patient satisfaction and clinically excellent results. It is necessary that a lingual appliance solves every orthodontic problem (as conventional labial appliances do). Incognito™ Appliance is the only customized individually fabricated lingual orthodontic appliance. The topic of this article is to detail the Incognito™ System (particularly features and advantages).

Introduction

The Incognito™ Appliance System was introduced to the market in 2004 as the first fully customized Lingual Bracket System in the world and, subsequently, technicians, engineers and clinical experts continued to further develop and evolve the system.

Incognito™ is suitable for treatment of all malocclusions and for all ages. It is a perfect combination of efficiency and aesthetics to achieve optimum results by means an invisible appliance. Thanks to full brackets-archwires customization, it allows the clinician to maximize quality of malocclusion corrections, predictability of treatment objectives and overall length of treatment. Moreover, it is also characterized by excellent aesthetics and a high level of comfort for the patient. Former problems such as discomfort, speech alteration, finishing difficulties, particular tooth anatomy have been overcome.

Clinicians have available two types of appliances: Incognito™ Appliance System and Incognito™ Lite Appliance System.

Fig. 1. Incognito™ Lite Appliance System and Incognito™ Appliance System.

Table I. Differences between Incognito™ Lite Appliance System and Incognito™ Appliance System.

Discussion

To begin Incognito™ therapy, the clinician have to take a two-phase, two step PVS (polyvinyl siloxane) impression. The plaster models are then used to prepare an individualized therapeutic setup (manual or digital setup). A 3D scanner scans the setup to create a complete 3D digital representation of the teeth: it consists of many thousands of triangles that can be observed and processed in the computer. CAD/CAM software is used to produced a truly individualized appliance: it design and build customized brackets (with large pad surfaces that provide improved bond retention). Brackets are made out of a dental gold alloy, which ensures optimum precision, additional comfort and a low risk of allergies.

Fig. 2. Bracket.

Customized archwires are realized by the CAD/CAM program and each one in the sequence has the same geometry, target to the final position of the teeth. The appliance is designed with 2nd and 3rd order prescription values built into the custom brackets, while 1st order values are built into the archwire.

Fig. 3. Manufacturing process.

Incognito™ has several advantages.

Table II. Advantages of this appliance.

The Incognito™ Appliance System presents a double insertion: the same archwire is inserted vertically from canine to canine and horizontally from first premolar to second molar.

Conclusions

The growing demand for aesthetic treatment (both in younger and adult patients) necessitates a fixed appliance system with specific characteristics. The Incognito™ Appliance System seems to be the ideal

solution. In fact, it is a perfect combination of efficiency and aesthetics to achieve optimum results by means an invisible appliance.

Fig. 4. The Incognito™ Appliance System is suitable for treatment of all malocclusions and for all ages. It is an invisible appliance with a perfect combination of efficiency and excellent aesthetics. It is also characterized by a high level of comfort for the patient.

The high quality technology that characterizes the laboratory processes allows to create an individually targeted setup. This is used as a basis for designing an optimized appliance. Utilizing this technology (including CAD/CAM design), the Incognito™ System allows full customization of each bracket for each tooth for each patient.

It is the first fully customized appliance and this system delivers both high patient satisfaction and clinically excellent results. The end result is a precision appliance that provides optimum patient comfort combined with minimal speech disruption, and at the same time provides easier and fully predictable finishing of every case.

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Illustrations

Illustration 1

Fig. 1. Incognito™ Lite Appliance System (left) and Incognito™ Appliance System (right).



Illustration 2

Table I. Differences between Incognito Lite Appliance System and Incognito Appliance System.

	<i>Incognito™ Lite Appliance System</i>	<i>Incognito™ Appliance System</i>
Extension	Only the anterior teeth are treated (canine-canine) and, in cases where anchorage is needed, a fourth bracket is available (first premolar-first premolar)	All teeth
Indications	Mild to moderate anterior crowding; Relapse cases	All cases
Archwire sequences	Three predefined wires: 14 ø SE NiTi 16 x 22 SE NiTi 18,2 x 18,2 Beta III Titanium	Clinician's choice (generally five wires)
Advantages	Easier to handle, less complications and cheaper than the Incognito™ Appliance System	
Bonding	Indirect	Indirect

Illustration 3

Fig. 2. Bracket.



Illustration 4

Fig. 3 A. Manufacturing process.

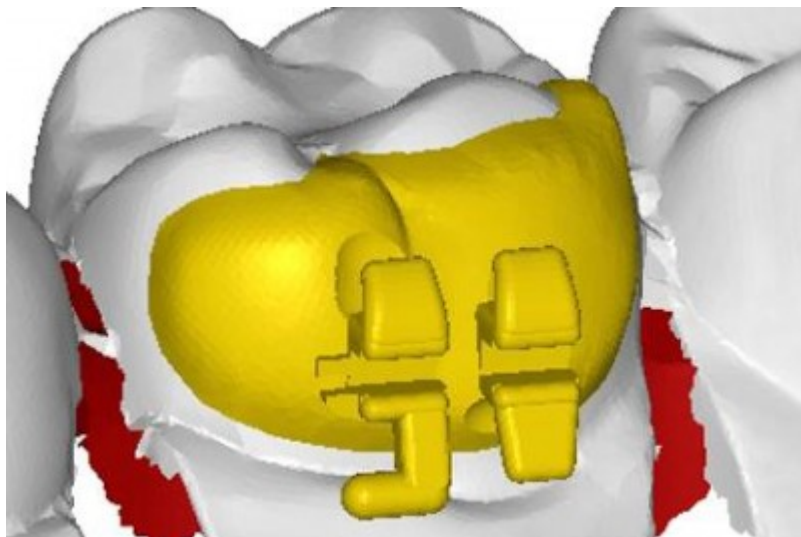


Illustration 5

Fig. 3 B. Manufacturing process.

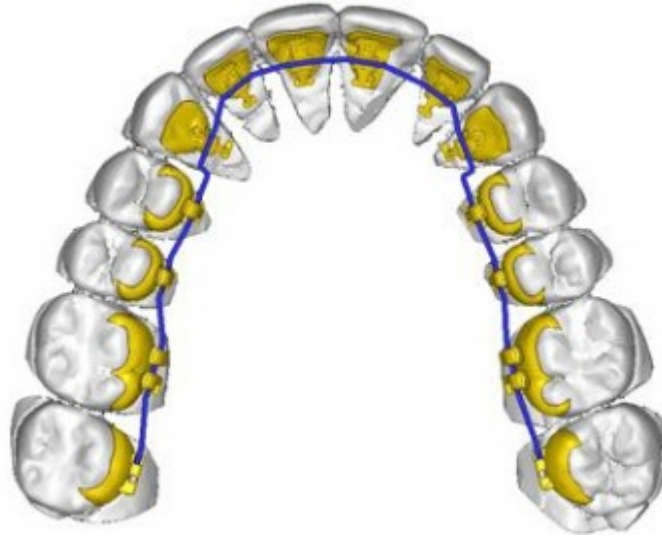


Illustration 6

Fig. 3 C. Manufacturing process.



Illustration 7

Fig. 3 D. Manufacturing process.



Illustration 8

Table II. Advantages of this appliance.

<i>Advantages for the clinician and for the patient</i>
Clinically proven system
Predictable treatment
Fully invisible from the outside (but, during the treatment, the clinician may use elastics and vestibular buttons)
High-tech manufacturing
Efficient
100% customization (each bracket pad and body conforms to the patient's dental anatomy)
Brackets: made out of gold, fully individualized bracket and body, one-piece design, low bracket profile for high patient comfort (about 1.5 mm), controlled slot precision, easy rebonding through precise customization
Full three-dimensional control (with excellent torque control and finishing)
Patient comfort
No appliance-related labial decalcification (lower incidence of caries than the vestibular appliances 1:5)
Do not require patient cooperation
Can be used in combination with Forsus or Herbst appliance

Illustration 9

Fig. 4 A. The Incognito™ Appliance System is suitable for treatment of all malocclusions and for all ages. It is an invisible appliance with a perfect combination of efficiency and excellent aesthetics. It is also characterized by a high level of comfort for the patient.



Illustration 10

Fig. 4 B. The Incognito™ Appliance System is suitable for treatment of all malocclusions and for all ages. It is an invisible appliance with a perfect combination of efficiency and excellent aesthetics. It is also characterized by a high level of comfort for the patient.



Illustration 11

Fig. 4 C. The Incognito™ Appliance System is suitable for treatment of all malocclusions and for all ages. It is an invisible appliance with a perfect combination of efficiency and excellent aesthetics. It is also characterized by a high level of comfort for the patient.

