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lose the **tin grin**

3M Canada's Incognito™ Braces are virtually invisible

Brace face. Railroad tracks. Metal mouth. Tin grin. The unfair but all-too-real insults are both numerous and hurtful. Kids can be cruel. But it can get worse.

Adults are hesitant to wear braces because of how they, well, look. And that's a dilemma; everyone wants the results that braces deliver but no one wants to wear them.

Until now.

3M Canada's Unitek Division, part of 3M's Health Care Business, began promoting its current generation of Incognito Braces in October 2009. They are totally invisible braces as they are worn on the inside of the teeth.

"There is a 100% aesthetic benefit over traditional braces," says Sheila Suzuki, Incognito and Digital Specialist, 3M Canada, "yet the patient finishes in the same place. Incognito Braces marry the patient's aesthetic treatment goal with the clinical goal to move teeth to an ideal finish."

A completely new world opened up when 3M took a fresh look at the hidden braces market. An adult patient pool existed who wanted invisible orthodontic treatment. Incognito provides the orthodontic treatment the patient wants, while giving orthodontists a tool that will not compromise results.

"The maturation of rapid prototyping technology is significantly changing manufacturers' ability to make customized orthodontic products," says Suzuki. Before these advances in rapid prototype technology, traditional orthodontic products were available in a limited number of standard prescriptions. Orthodontists would make a series of manual and cosmetic adjustments to the standard orthodontic appliances to achieve the desired clinical result.

Utilizing rapid prototype and other CAD/CAM technologies, Incognito Braces are 100 per cent customized to the orthodontists' prescriptions for their patients. With Incognito, a high-quality impression is taken of the patient's teeth, and tooth-specific brackets are made to exactly fit the inside of the patient's teeth. The benefits are that orthodontists can spend more time developing the prescription and planning the clinical result and less time making manual adjustments during treatment.

She says the system digitizes the patient's teeth and uses subsequent data as an input in the fabrication and design of a custom appliance.

"Incognito totally customizes lingual appliances," says Suzuki. "Using CAD/CAM technology, patient-specific brackets are made and robotic wire is attached. This moves teeth into the ideal location."

Intellectually, the idea of customizing a better brace isn't new, but only recently has the manufacturing technology evolved to meet expected cost and quality.

"The digitization is new. The CAD software is very new. The process of casting and fabrication is very new. The precision is very new; it's within thousands of a millimeter which significantly affects the quality of the result," says Suzuki. "This all works together to help the dentist get from A to B in the most effective, efficient way."

The orthodontist plays a significant role in helping the appliance to work. Rather than bending wire or making adjustments themselves, orthodontists write prescriptions, and the necessary elements, at the orthodontist's direction, are prefabricated at the beginning to move the teeth to simulate the outcome.

"The doctor owns the prescription," says Suzuki. "They decide which tooth moves where to get the end result. Then we make a bracket and wire to create the appliance, which delivers the results."

Orthodontists do have to understand that this is still orthodontics but things are different. She likes to use the metaphor of buying a custom-built house or one built in a factory. The people building both houses have the same knowledge, but apply it differently.

Doctors also need to educate themselves and their staffs on the best use of the application. 3M offers a two-day hands-on course for basic starter certification. Orthodontists use instruments specific to lingual orthodontics. And although the two-step impression system is different, there are many similarities to traditional impressions.

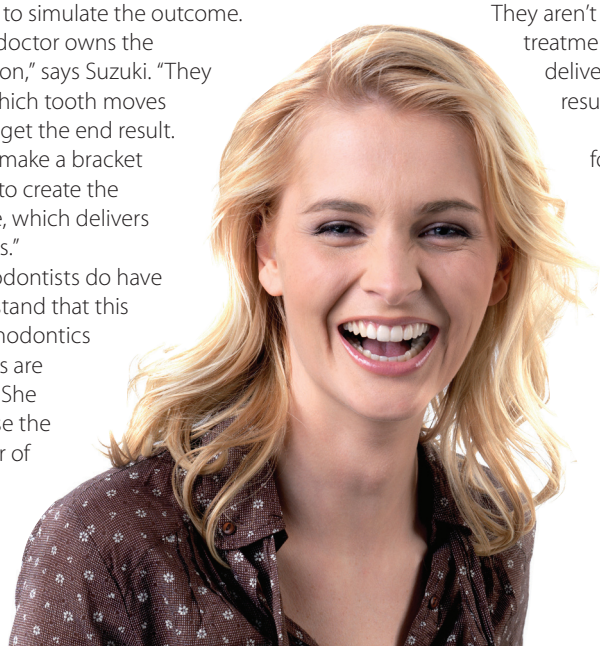
"There's no complete re-education," she says, though orthodontists will want to help patients manage their expectations. It takes a few weeks for them to adjust to wearing braces on the inside of their teeth. "Doctors need to explain what they need to do to adjust to the appliance. But the bracket is as close to the teeth as possible, because it's custom-fitted and an optimal shape, so the minimized profile equals greater comfort."

There are no limitations to the types of cases where orthodontists can use Incognito to treat patients, from mild Class 1 crowding to double-jaw orthodontic surgery cases.

"There's just no limit to the appliance," says Suzuki.

It also doesn't require patient compliance to reach the desired result. The brackets are bonded to the teeth so the orthodontist maintains control. They aren't removable during treatment, so Incognito delivers predictable results, she says.

"It allows a patient-focused treatment option that doesn't compromise orthodontists clinically."



"Invisible" braces encourage big smiles—a huge aesthetic benefit over the traditional "tin grin."