

SIGHTINGS UNCOMMON BIRDS SEEKING REFUGE HERE FROM HAZE? B10

SCIENCE

Braces that give you more reason to smile

New product developed locally causes less discomfort to wearers and straightens teeth faster

Carolyn Khew

Researchers here have developed braces which would make any teenager beam. Not only do they cause less discomfort, but they also straighten teeth more quickly.

Developed by SimTech (Singapore Institute of Manufacturing Technology) in collaboration with dental products company Innobrace Orthodontics, the braces consist of bracket slots made of titanium alloy, which keeps them flexible, unlike those used in typical braces. When force is applied by the wire, the bracket slots flex.

In conventional braces, bracket slots are held together by rubber bands or clips. Pressure from the wire, which is placed over the slots, then helps to move the teeth into the desired position.

"We assembled the microstructure to make the material more flexible. This enables stresses over the teeth to be well distributed, causing less discomfort," said team leader Chua Beng Wah, who is from the metal and ceramic team at SimTech.

The first phase of the project start-

ed in 2010 and the braces are currently undergoing clinical testing.

The technology, which is the first of its kind, is also helpful to dentists who can now spend less time on each patient to tighten the braces.

A follow-up dental appointment can take about 15 minutes, compared with the usual half-hour, said its creators.

Mr Allan Lai, founder and managing director of Innobrace Orthodontics, said the braces are expected to be rolled out by the end of this year.

The team has been improving its design, with feedback from patients and dentists. "Our latest design, completed just this month, is smaller and slightly thinner than the first version," he said.

While the cost of the braces has not been fixed yet, Mr Lai said that it will be comparable to other models available commercially – which cost about \$200 to \$300.

The new braces worked well for Secondary 2 student Clemente Hannah Fraga. The 14-year-old wore braces for just 10 months – at least six months shorter than it would have taken if she had opted for conventional braces – to straighten her teeth.

"I thought I would have to wear braces for at least 1½ years. I'm very happy that I can take them out today!" she told The Straits Times.

kcarolyn@sph.com.sg



Secondary 2 student Clemente being treated by her dental specialist Tan Kok Liang. She wore a special type of braces made of titanium alloy, which is more flexible than normal ones. She also had them on for just 10 months, a much shorter period than would have been the case with conventional braces.
ST PHOTO: ALPHONSUS CHERN