

Brighter smiles, shorter time

American company BriteSmile Inc. is making inroads into the Asian dental cosmetics market with its namesake teeth whitening system. *Danny Chan* finds out about this revolutionary dentist-administered system — touted as the first ever to lighten up to 20 front teeth and 10 shades in a single session.

It might have taken them more than two years, but it finally made it here to Asia. Yup, we're talking about the BriteSmile teeth-whitening system that has taken the U.S. dental cosmetics market by storm. As of July last year, the much-lauded American product had waded quietly into the unpredictable markets of Asia, without as much a hint of the fanfare and brouhaha that followed its huge publicity launch back home. While the lack of media advertising was not surprising — since the size of the regional markets here simply does not warrant a big-budget marketing blitz — one cannot be blamed for expecting a little more from BriteSmile's so-called Asian invasion. BriteSmile Inc., the company that manufactures and distributes the product, is after all a Nasdaq-listed Multi-National Corporation.

But as it turned out, the company had in mind a different marketing approach for Asia and the rest of the world.

For loan only

Indeed, the Asian operations and marketing arm of BriteSmile Inc. had cleverly opted for a novel licensing system to target its Far Eastern audience. What that means is instead

of marketing and then selling its proprietary technique and wares directly to dentists — the only people the company deems as being qualified to administer the product — the whitening system is "loaned" to the practitioners on a pay-per-use basis.

Under the scheme, the dentist functions much like an agent for the company, such that each time he uses the system on a client, he pays BriteSmile a capped portion of the profits. To keep track of the licensees' level of usage, a store-value card system is being used — the card actually records down the number of times the operator runs the whitening machine. This way the licensee only needs to pay for each instance the machine is in use and not during its idle time, which makes pure economic sense.

Zero start-up costs

"We work on a licensing system whereby it costs the dentists nothing to operate with us," emphasised Mr Leow Kee Peng, Vice President International for Asia-Pacific. Indeed, unlike most other commercial equipment loan schemes, there are absolutely no start-up costs involved for BriteSmile licensees.

In fact, only two things are required of the dentists: One, fulfil certain basic qualifying conditions and two, sign up with BriteSmile. Then presto, the company literally takes care of everything else — from delivering the BriteSmile machine to following-up on its maintenance and repair; and providing all the necessary in-office materials. The materials include the whitening kit, refills, marketing posters, brochures and training VCDs, etc. There will also be a three-hour training session to advise dentists on the do's and don'ts, as well as a step-by-step procedure guide to ensure nothing is left to chance.

A regular procedure consists of three whitening cycles, which takes just over an hour, excluding dental consultation and preparation of 15-20 minutes. The dentist will



prepare the patient for the whitening procedure by first isolating the gums. The BriteSmile whitening gel is then applied to the tooth enamel and the proprietary "cool blue" light is positioned over the teeth to activate the gel. Unlike other in-office whitening methods that administer the treatment tooth by tooth, the BriteSmile "cool blue" light can whiten 16-20 front teeth simultaneously. After every 20 minutes (i.e. one cycle), a new layer of whitening gel is applied to the teeth

The eventual shade reduction – averaging a remarkable 8 shades – is based on the Vita shade guide, which measures tooth whiteness in 16 shades. The statistical average was culled from results for 1,000 whitening cases at the Walnut Creek Centre, USA, where the company is based.



Mr Leow Kee Peng, VP International for Asia Pacific, BriteSmile, posing with the breakthrough BriteSmile teeth whitening system.

Using light minus the heat

The BriteSmile system uses a 15 per cent hydrogen peroxide gel that has a balanced pH level. That means the gel causes less tooth sensitivity and can cater to a wider range of patients, including those with history of mild tooth sensitivity. The gel also contains a secret ingredient – a photo-sensitive agent – which can

only be triggered by the special "cool blue" light.

Most, if not all, of existing whitening systems make use of a heat-based oxidation process to activate the whitening gel. Such heat-activated systems normally use a very high concentration of hydrogen peroxide, which can cause severe tooth sensitivity.

The BriteSmile system, however, uses a specific "blue" band of the colour spectrum found in light rays. The "blue" light – located within 400 – 505 nanometers of the wavelength – is actually "cool", without the presence of infra-red and ultra-violet heat waves. When the high-energy light hits the chemical in the gel, it accelerates the oxidation process by about three to four times. This catalytic action of the light source enables a reduction in the ratio of hydrogen peroxide in the gel.

BriteSmile Q&A

We spoke to Dr Chin Yee Fatt, one of the first dentists in Asia to use the BriteSmile system and posed him some FAQs, ranging from frequency of tooth sensitivity cases to whether light-activated bleaching works better ...

DA: How long have you been using this product?

Dr Chin: I have around two years of clinical experience using this system, which is pretty long considering that it was only officially launched last year. Through a special arrangement, we had the system in our clinic about a year before it was even introduced to the region.

DA: What are some of the things that a dentist should take note of when administering the system?

Dr Chin: First and foremost, this is an easy system that does not involve rocket science. Like all new proce-



dures, there are a few basic steps that require you to take certain precautions but learning itself is not a problem. You will need to know the clinical limitations and what are the cases that you need to be aware of – and that will only come with clinical experience. It is not possible to spell out all the conditions for the operator.

The most important things to take note occur at the consultation stage, which could be in the same session as the procedure or done separately. The consultation of course involves managing the patient's expectations, such as the degree of "whiteness" the patient hopes to achieve.

BriteSmile Centres not for Asia

So far, the licensing scheme has garnered slow but progressive results in Asia. Singapore was the first Asian country where the whitening system was launched last June, followed by Hong Kong in August; Taiwan and Malaysia in September. Although the licensing system is also being practised in the U.S., cosmetic patients there have an additional option of having their procedures done at BriteSmile Centres.

Otherwise known as Professional Teeth Whitening Spas, these are exclusive Ritz-Carlton-styled establishments that are wholly owned, managed and operated by the company and are found only within the U.S. As the name suggests, they serve no other purpose than whitening teeth. "If you have a problem with your gums, or a cavity, we can't fix it," Mr Leow explained, "you have to go see



Before

After

your dentist, get them all fixed before you visit the spa."

Asked whether the company is

considering to bring the spa concept to the region, Mr Leow replied plainly: "No. We made it a policy not

In all bleaching systems at the moment, we cannot dictate what the finishing colour will look like. By and large, as far as statistical data can prove, we are able to lighten between 6-9 shades with the BriteSmile system, most of the time. Working on that principle, when we look at the patients' pre-op colour, you can give a rough prediction of what the final shade may look like. The shades are according to the vita shade guide system, which arranges according to the value, not simply the hue of the shade.

By managing their expectations, it means we have to tell the patients that the shade reduction or the extent of it is not a guarantee, but a likely outcome based on existing records. Of course, we also have to go through the patients' dental history. If the patients are found to have any active diseases such as gum disease, caries or other forms of oral disease; they would have to be rectified before the whitening procedure can be carried out. A cosmetic procedure should never precede a restorative procedure.

DA: Is training necessary?

Dr Chin: Ideally so. BriteSmile advocates that every operator and their assistant undergo proper training to

be familiarised with case selection. First, you have to understand how the system work. Number two, you have to know what cases you can and cannot do. Lastly, you must be able to maintain the system and the result. Basically, someone who is trained should go through the protocol with you, at least once.

DA: Is it common for dentists to find BriteSmile patients with other oral ailments?

Dr Chin: Under normal circumstances, no. Since the patient is usually someone you have been serving for sometime – which means you would know his situation and have his medical records on hand – therefore you would have solved any of his oral problems before recommending him the system. The patient could also have been referred from another colleague which means should there be any active disease, the colleague would have taken care of it.

Of course there are instances that require minor "touch-ups" prior to the whitening procedure such as exposed root or a receded gum. We might want to protect those roots first with GIC or something like that before we do the whitening. We also check against the

to go beyond U.S. because the dentists in Asia will fear that we are competing with them."

The teen market

When it was first introduced, the BriteSmile system only accepted patients 21 years and above. The reason for the initial reluctance to allow younger patients to use the system was because all the clinical safety studies had previously been conducted on patients above 20 years of age, as such did not validate its use by anyone below that age group.

The main worry was the issue of tooth sensitivity surrounding the larger and thus, more sensitive pulp of younger patients. Since then, new case research studies – which can take between 1 year to 18 months to produce conclusive results – have been undertaken that prove the BriteSmile system can accommodate patients as young as 14 years old.

That effectively opened up an entire demographic bracket of potential teenage customers for the procedure. In particular, the age group also represents the majority of "after braces" – a term used to describe patients who have recently removed their orthodontic braces after wearing them for two to three years. The removed braces usually leave yellowish or brownish stains on their teeth,

BRITE SMILE
Treatment Procedure
Six Steps to a BriteSmile

Step one: Exam with Photo & Shade

- Exam
- Photo with Shade (2)
- Brush with Pre-whitening paste

Step two: P

- Prep
- Check marks
- Filters

Step 3: Whitening Gel

Step 4: Gels/Creams (3)

- Apply BriteSmile (1) - one quad at a time
- Apply smoothing cream (2) - 2-3 gently over lip
- Doctor applies (3) whitening gel - 1.2 mm thick

Step 5: Exposure

- Slide light with occlusal plate - 1500 in place
- Use suction if necessary
- Repeat for 3-20 minute exposure
- Doctor supplies gel

Step 6: Final Photo with Shade & Clean-up

- Remove gel with suction tip
- Remove barrier materials
- Place patient in cone
- Clean check retractors
- Take post shade (Photo 2)

This easy-to-follow, six step procedure guide helps dentists get started on the BriteSmile system.

patient's medical history, whether the patient has any underlying medical conditions, which may affect the patient's ability to go through that one hour treatment or the person has got a medical condition that may have contraindication to any whitening procedures.

DA: How often does tooth sensitivity occur after the procedure?

Dr Chin: The BriteSmile gel that we use has almost neutral pH or is balanced. That means we are not causing any morphological or physical changes to the enamel or dentin. Because of its balanced pH, it will significantly reduce cases of tooth sensitivity. However, let me qualify that mild tooth sensitivity usually occurs within 24 hours following the procedure.

From my personal experience, one in every five of my patients reports from mild to moderate sensitivity. Severe sensitivity is very rare. To counter the sensitivity, in the local context, you can take any of the painkillers like paracetamol and ponstan. Sensitivity per se is not rare because about 20 per cent will report such symptoms, but do not last beyond 24 hours.

As responsible dentists, we always warn our patients in advance to be prepared for the occurrence of

tooth sensitivity, but not to be overly alarmed since it shouldn't last more than 24 hours. If there is a need, patients should take a painkiller immediately after the procedure.

DA: Is it true that the system does not work on veneers, bonds, dentures or crowns?

Dr Chin: Like all bleaching agents, the system cannot change the colour of artificial material, be it resin, porcelain or any other dental material.

DA: Do all bleaching agents make use of peroxides?

Dr Chin: At the moment yes – at least some form of peroxides. They are either carbamide or hydrogen peroxide. At present, no other chemicals have been used for tooth whitening except for those found in whitening toothpaste.

These products tend to use different type of chemicals, which is why their effective rates also varies. With whitening toothpaste, the results are less predictable whereas those that use the carbamide or hydrogen peroxide have more predictable results.

which make them perfect candidates for the BriteSmile procedure.

"The areas which are obscured by the braces cannot be reached by normal brushing and become demineralised," Mr Leow said, "with BriteSmile, the younger patients require only 40 minutes instead of an hour to remove all the stains at one go!" Younger patients are not advised to go for the full hour as their teeth are not fully developed and are prone to problems of sensitivity. There is no age limit for older patients, who are accepted as long as they are medically fit to undergo routine dental procedures.

No promises please

The biggest breakthrough for the BriteSmile teeth whitening system has to be its ability to remove inherent teeth stains caused by an antibiotic known as tetracycline. The effects of tetracycline appear to be a

"generational" problem, beginning with its widespread use amongst pregnant mothers during the 60s and early 70s.

Doctors then had discovered that the very affordable and popularly prescribed drug had a side effect: it interfered with the teeth development of the newly born, who were found with coloured teeth at birth.

Years later, even with the advent of tooth whitening and bleaching systems, few products have been able to reduce the effects of "tetracycline stains" – the BriteSmile system is one of them. Mr Leow reckoned the system had a "85 per cent success rate with 'tetra' cases", but said he preferred to be conservative when commenting on this subject.

"After all," Mr Leow explained, "it is still a very queer condition, some respond very well while others only get two to three shades off, which is both puzzling and highly

unpredictable."

That is also the reason that dentists administering the BriteSmile procedure have been cautioned by the company against "over-promising" their patient clients, especially those with "tetracycline stains". Even though the results thus far have been commendable, BriteSmile dentists are taught to refrain from giving any form of assurance that may be construed as a promise.

"It is not that we lack the confidence to back this product, in fact we carry out extensive clinical studies that support the quality and efficacy of our whitening system.

"We also conduct formal training for the dentists, which is something I believe no other competitor is doing.

Having said all that, teeth whitening remains an unpredictable procedure and its results vary from patient to patient." DA

DA: Why is there a need to isolate the gingiva before applying the gel?

Dr Chin: Since we are only interested in bleaching the teeth, we would need to protect the gingiva with light-cure resin shield, to isolate the gums from the teeth. Moreover, we would not want the gel to flow into the exposed gingiva and cause chemical burns on it. So before we apply the gel, we would isolate the gingiva either with a light cure resin or a rubber dam. In BriteSmile, we opt for the former. If your gum bleeds, that would affect the resin from adhering to your gingiva properly and that would cause leakage, which will lead to the gel causing chemical burn on the gingiva. Therefore it is important to place the light cure resin properly. We isolate the gums and lips by retraction to protect them.

DA: How do most of your patients come to know about BriteSmile?

Dr Chin: We recommend our own patients, get referrals, and the rest find out through the media. When we first began, there was no publicity at all that contributed to a slow start in the beginning. This year, because

of the recent media launch, more people are aware of the ability of this system. Business has picked up for BriteSmile since the media launch. There is definitely more interest now that it's a proven system, and not one that is still on trial.

DA: Are you a believer of light-activated teeth whitening now?

Dr Chin: The biggest controversy in teeth whitening is that light activation does not make any difference to bleaching. Some dentists still advocate using bleaching gel without administering light.

I agree to a certain extent since the bleaching gel is basically the same, whether with or without light activation. It may differ minimally in terms of formulation or concentration but the active ingredients are generally the same. But in all chemical reactions, if you can find a source of energy to activate the chemical reaction, the result is usually that the procedure gets done faster!

I mean why is it that you require so many days and weeks for the home-use product to achieve the same, if not lesser results than with light activation, which takes slightly more than one hour? DA