

NUS Faculty of Dentistry's Dr Intekhab Islam (at left) and a dental assistant demonstrating the use of the Dental Dart for treatment with a mock patient at the National University Centre for Oral Health on Monday.
ST PHOTO: KEVIN LIM



Singapore researchers invent 'tent' to shield dentists and patients

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Going to the dentist can be nerve-racking at the best of times – and is especially so during a pandemic.

Now, Singapore researchers have invented a tent-like device that is designed to protect dentists and patients worried about being infected with the coronavirus.

The Dental Dart, which is placed around a patient's head, will soon be available to clinics locally and overseas at an affordable price.

It was developed by four researchers from the National University of Singapore (NUS) to help dental staff, who have a high risk of contamination due to their close proximity to patients and exposure to infectious droplets or particles during routine procedures.

It could also help patients feel safer.

The device's co-inventor, Professor Mandeep Singh Duggal from NUS' Faculty of Dentistry, said: "Our Dental Dart can help provide a safer environment in the dental clinic setting, and decrease the anxiety and psychological distresses imposed by the Covid-19 pandemic on all parties involved."

The Dental Dart – which stands

PROVIDING PEACE OF MIND

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NUS PROFESSOR MANDEEP SINGH DUGGAL, a co-inventor of the device.

for Dental Droplet and Aerosol Reducing Tent – follows a similar invention by NUS and National University Hospital in June to give front-line healthcare workers more protection from Covid-19.

The tent is portable, foldable and can be placed around a patient's head as a barrier to protect dentists, nurses and patients from exposure.

There are access ports to allow dentists and nurses to work with minimal limitations, and it can be sterilised and reused safely.

Its effectiveness was tested during scaling procedures, which are known to significantly increase air contamination.

The Dental Dart was put through early clinical tests between August and this month, with the researchers measuring the amount of bacteria found on the surface of dental chair lights, and on face shields worn by dentists after scaling procedures.

The results showed fewer viable bacteria on these surfaces following procedures done using the Dental Dart.

Co-inventor Vinicius Rosa, associate professor at NUS' Faculty of Dentistry, said: "Personal protective equipment, or PPE, can be infected after being exposed to aerosols from dental procedures. The use of the Dental Dart can decrease the PPE exposure to aerosols and prevent further environmental contamination."

A patent for the invention has been filed.

Professor Freddy Boey, NUS deputy president (innovation and enterprise) and lead researcher for the project, said that the research team will help clinics interested in purchasing the invention early to get in contact with the respective manufacturers.

Full-scale clinical studies to reinforce the product's effectiveness will begin early next year, and will focus on improving its functionality and user experience.

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