

Droplet and aerosol reducing tent

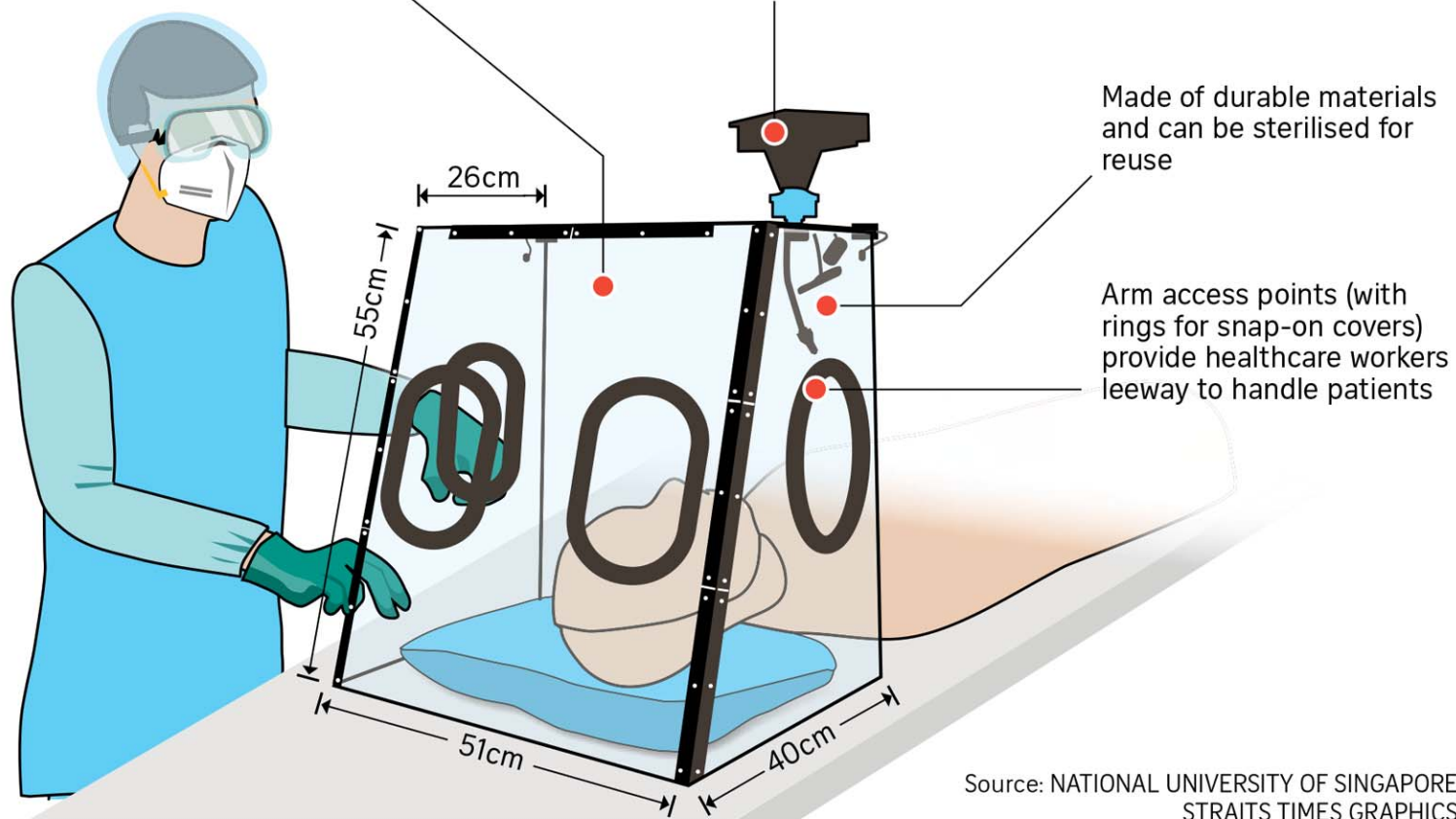
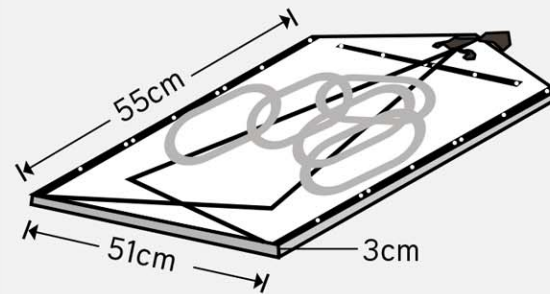
A team from the National University of Singapore and National University Hospital has developed a new device to provide additional protection for healthcare workers caring for Covid-19 patients.

HOW IT WORKS

Can be placed around the patient's head when performing procedures such as intubation and extubation

Has a unique exhaust function with filter to reduce leakage of exhaled aerosols or droplets from the patient

Foldable, easy to transport and store



Source: NATIONAL UNIVERSITY OF SINGAPORE
STRAITS TIMES GRAPHICS

NUS invents tent to protect docs when treating infected patient

Shabana Begum

A clear plastic tent that can be placed over a patient while medical procedures are carried out will offer greater protection to healthcare workers against Covid-19.

Researchers from the National University of Singapore (NUS) invented the foldable device, which acts as a physical shield against the virus in procedures that generate droplets and aerosols.

Intubation, for instance, in which a tube is inserted down the patient's windpipe, may cause him to cough, putting medical staff at risk.

The droplet and aerosol reducing tent (Dart), made of clear, rigid plastic, measures about 51cm by 40cm at its base and is 55cm high.

It is placed around a patient's head, and has four access ports where disposable sleeves can be attached for medical staff to reach in and safely perform medical procedures.

The tent also reduces contamination of the surroundings, another source of transmission, as it is connected to the hospital's central vacuum system or a battery-operated filtration system using a Hepa filter to suck away aerosols or droplets that are exhaled.

This makes the tent useful in hospitals as well as makeshift wards, said Professor Freddy Boey, NUS' deputy president of innovation and enterprise, who led the project.

The device can be sterilised for reuse by alcohol, steam or other methods used in hospitals. It weighs 3kg and can be folded flat for portability

and easy storage.

"There is a need to additionally provide a safe environment for our healthcare workers who are treating Covid-19 patients. I think just having PPE (personal protective equipment), goggles and N95 masks may not be fully sufficient," said Prof Boey.

Dart was designed in collaboration with doctors from the National University Hospital (NUH).

The research team has sent 25 prototypes for testing in various departments and hospitals including NUH, Tan Tock Seng Hospital and Thomson Medical Centre, before the product is commercialised.

The team will also partner Temasek Foundation to distribute Dart to hospitals in the region.

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