



A 2011 file photo of a paramedic and a trainee demonstrating how an electrocardiogram is performed on a patient. NUH is one of just two places here which can deal with even the most complex heart problems at any time, day or night. The other is National Heart Centre at the SGH campus. ST FILE PHOTO

# Facilities determine where heart attack victims are taken

## Patients taken by ambulance to a hospital best equipped to treat them, like NUH

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It is not always distance that determines which hospital should treat a patient in a critical condition.

It is the facilities which offer that patient the best chance of survival. The issue came into focus when victims of a recent accident at

Lucky Plaza were taken to Tan Tock Seng Hospital (TTSH), instead of Mount Elizabeth Hospital, which is next door.

The reason offered was that TTSH is far better equipped to handle such cases.

A cardiology expert says that the same approach holds true for heart attack victims, too.

That is why if someone suffers a

severe heart attack at Boon Lay Way - just a stone's throw from Ng Teng Fong General Hospital (NTFGH) - and calls an ambulance, he will be taken to National University Hospital (NUH), which is 11 minutes away by ambulance.

Despite the longer travel time, experts say this arrangement is better for the patient as NUH is one of just two places which can deal with even the most complex heart problems at any time, day or night.

The other is the National Heart Centre at the Singapore General Hospital campus.

Said Professor Tan Huay Cheem, director of the National University Heart Centre, Singapore: "It is a high-volume, 24/7 heart attack centre supported by a multidisciplinary cardiology team able to treat the highest-risk patients."

The team includes interventional cardiologists, cardiac care intensivists, heart failure cardiologists and a cardiothoracic vascular surgical team.

The preparation begins while the patient is still on the way to the hospital.

From inside the well-equipped

Singapore Civil Defence Force (SCDF) ambulance, paramedics send the patient's ECG (electrocardiogram) results to NUH, where they are analysed so that the correct team of experts can be at the ready at the emergency department.

This cuts the time needed to start patients on treatment.

Prof Tan assured: "There is no need for concern over the extradistance travelled to NUH as care is not compromised but rather enhanced."

For heart patients, time is muscle. The longer it takes for treatment to start, the more heart muscle is lost.

In the first half of last year, 144 patients at NUH's emergency department needed ballooning to unblock an artery.

For the 103 patients who were taken there by SCDF ambulance, the median time to treatment from arrival was 38 minutes - compared with 54 minutes for those who went to the hospital on their own.

For the 10 per cent of heart patients whose heart attack is complicated by cardiogenic shock - when there is insufficient blood and oxygen supply to vital organs - it is even more important to be taken directly to NUH, which has a "shock" team.

Both the specialist team and equipment, such as the heart-lung bypass machine that oxygenates the blood outside of the body, "give patients the best chance of survival", said Prof Tan.

This is why NUH and NTFGH have been working with SCDF to have all patients in the western part of Singapore with suspected heart attacks sent directly to NUH.

The norm is for the ambulance to take patients to the nearest public hospital with emergency capability.

While NTFGH, like other non-specialised general hospitals, has interventional cardiologists on site, it does not have the multidisciplinary set-up or on-site surgical service that NUH has.

Nor does it have round-the-clock medical manpower to provide stenting, which is the standard of care for heart patients.

Said Prof Tan: "NTFGH is capable of treating heart attack patients who go to the hospital by themselves during office hours. After office hours, these patients will still be transferred to NUH."

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