

LIFENET saves lives in race against time

Allows paramedics to transmit important electrocardiogram information to RCH doctors to ensure patients get the best care at the best place

In the race against time to save the life of a heart attack victim, Dr. Gerald Simkus' medical team at Royal Columbian Hospital is like the pit crew ready to spring into action.

Each member—including emergency room physicians, nurses, a cardiologist, cardiology and lab technicians, cath lab nurses and technologists, and sometimes a perfusionist—has a specific role to help give the incoming patient their best chance to make it to the checkered flag.

And just as in-car telemetry gives engineers and mechanics a good idea of what is ailing a race car before it pulls in for repairs or adjustments, the LIFENET system communicates vital information from the paramedics attending the patient to the team awaiting their arrival at RCH. Except there's a lot more at stake than a champagne shower on the winner's podium.

"Without rapid treatment the risk for death as a result of the heart attack increases," says Dr. Simkus, the program medical director of cardiac sciences for Fraser Health.

LIFENET uses cellular technology to allow paramedics to alert doctors at RCH that they are incoming with a heart attack patient and transmit important electrocardiogram data directly to the assembling acute cardiac intervention team so they know what sort of heart attack to expect. Alarms alert the cardiologist who mobilizes the cardiac catheterization team that can prepare one of the hospital's two catheterization suites.

The detailed advance notice allows the ambulance crew to whisk the patient directly to the catheterization suite for specialized care, saving valuable time.

Bypassing local emergency rooms can save 30 minutes to an hour from the time paramedics first attended the call to the beginning of treatment in the catheterization suite.

"This process allows us to make an accurate diagnosis immediately and redirect the patients to where they need to go immediately," says Dr. Simkus.

One person grateful for that time savings is Yvonne Greer, who is happy to still be able to attend her twice-weekly exercise classes, driving herself there in her own car.

Did you know?

- RCH's Cardiac Centre is among the best in Canada. Show them your support by purchasing a heart tile for the Cardiac Wall of Gratitude. Visit rhc cares.com for more information.



ABOVE: Helen Elliott (left) STEMI Project Manager for Fraser Health joins Dr. Gerald Simkus, Program Medical Director, Cardiac Sciences, Fraser Health and Randy Hansen, BC Ambulance Service Superintendent in the back of an ambulance.

BELOW: Dr. Simkus works in a catheterization suite at RCH.

The Burnaby senior was on her weekly visit to the Highgate Save-On-Foods when she was felled by a heart attack two years ago. A staff member at the grocery store administered CPR until paramedics arrived, who were then able to expedite her return to health by using LIFENET.

"The doctor said not many people come through that, but I suppose I was one of the lucky ones," says Greer, 84, who had three blocked arteries corrected with stents.

Her rapid care allowed her to leave hospital after two weeks and resume most of her regular activities after a month.

Since LIFENET was implemented in 2009, Dr. Simkus says 491 heart attack patients have been redirected for immediate care at RCH rather than going first to a local emergency room in Surrey, Burnaby or Port Moody before being sent on to the cardiac unit in New Westminster.



That's a lot of extra laps of life for those patients.

Like every racing team looking to shave those extra few seconds that can be the difference between winning and losing, Dr. Simkus says there's always room for improvement.

"The cath lab team is always mindful of new ways the system can be made even faster."



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