



'Supernose' starts work at hospital

Kamala Hayman

A new medic potentially able to diagnose a range of ailments from cancer to kidney failure at the sniff of a patient's breath has begun work at Christchurch Hospital.

This medic is no ordinary doctor but a 400kg research machine on wheels, known as LDI2.

The "supernose", created by Christchurch-based Syft Technologies, is the first of four that will be installed at the hospital over the next four years through a \$4.8 million research grant from the Foundation for Research Science and Technology.

The machines will be used in research into the diagnosis of illnesses as varied as asthma and food poisoning with a simple breath test. The LDI2 can rapidly analyse air samples for the presence of minute quantities of volatile organic compounds that potentially indicate illnesses that would otherwise require blood tests or even surgery to detect.

Syft medical projects chief co-

ordinator Dr Randall Allardyce said tracking chemical markers on a person's breath could allow treatment to begin earlier.

One of the first projects for the LDI2 would be to test the breath of intensive-care patients for early indicators of kidney failure. Currently, the life-threatening condition could take days to become apparent, when it could be too late to treat.

Lead investigator Dr Geoff Shaw said intensive-care patients had

their heart and respiratory functions monitored continually. "Given that kidney failure in the ICU (intensive-care unit) is associated with a death rate of 40 to 80 per cent, we need to be able to track kidney function with the same precision and timeliness."

It was hoped the LDI2 would also

be able to detect pancreatic cancer, currently only diagnosed by dangerous surgery that carried the risk of killing patients who did not have cancer.

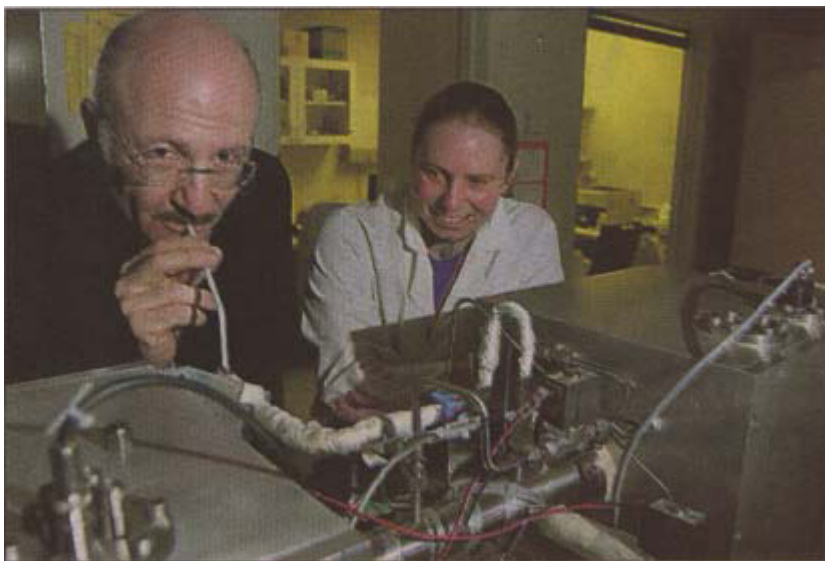
In this study, fluid near the pancreas would be extracted, put in a sealed vial and the air in the headspace tested for volatile organic compounds that could indicate cancer.

Syft sales and marketing manager Rebecca Bain said the LDI2 would also be used in health and safety research.

Operating theatre staff endured the strong smell of burnt flesh whenever wounds were cauterised. The LDI2 would examine whether this strong aroma carried any toxic compounds, and therefore whether protective masks or air extractors were needed.

Bain said breath research was not new, but the existing technology was either much slower or significantly less sensitive than the LDI2 and its commercial counterpart, the smaller and more mobile Voice100.

The Voice100, officially launched in February, could detect chemicals in concentrations as low as several parts per billion. Each machine cost between \$350,000 and \$450,000.



Breath test: Professor Zoltan Endre and Katy Ledingham demonstrate the "supernose" machine at Christchurch Hospital that checks breath for signs of illness.

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