



Coming soon: while-you-wait lab results

A small, one-step, diagnostic testing device created by researchers at the University of British Columbia may eventually be used to carry out many of the procedures currently conducted in clinical laboratories.

The Rapid Analyte Measurement Platform (RAMP), the first unit of its kind in the world, was invented by Dr. Don Brooks, a professor of pathology and laboratory medicine and chemistry, and Dr. Dana Devine, an associate professor of

pathology and laboratory medicine. The device is being manufactured and marketed by Response Biomedical Corporation, a company specializing in point-of-care diagnostic tests. It holds an exclusive worldwide licence for the technology.

The project started when Devine was asked to develop a device to count blood platelets. Over the next few months, she and Brooks expanded the invention to include any immunoassay. The 1-kg unit looks like a desk telephone. A drop of blood, urine or saliva is placed on a single-use testing stick that is inserted into the unit. The patient's identification number is entered on the keypad, and within a few minutes quantitative test results are displayed digitally. By changing testing



The 1-kg RAMP: fast device for fast times

The RAMP will “calm down physician frustration surrounding the turn-around time for test results”

cartridges, the unit can measure everything from the presence of the hepatitis B virus to drug levels in asthmatic patients.

The unit can also be modified to test for new diseases as they develop. The response speed is “where it comes into its own,” says Devine. Another advantage is that it can be used by a wide range of health care professionals, from ambulance personnel to family doctors, as well as patients at home. In the emergency room the unit could

test blood from patients with acute coronary disease, and in a doctor's office it could help diagnose infectious diseases. Devine thinks the RAMP will “calm down physician frustration surrounding the turn-around time for test results.”

Point-of-care diagnostic testing will probably be cost-effective because the RAMP will sell for less than \$1000. The cost per test will vary according to the cartridges being used and the test being conducted. Currently, a core antibody test for

hepatitis B costs \$37.50 if done by a BC laboratory. The RAMP has just received its US patent and the creators hope to begin testing it by this fall and to receive approval from the US Food and Drug Administration about 6 months later. Joanne Stephenson, manager of business development for Response Biomedical, says the company expects to receive Health Canada's blessing within 30 days of RAMP's approval by the FDA.

Devine and Brooks foresee clinical applications in many fields, from rural and veterinary medicine to the military and the insurance industry. Interest has already been expressed by some Middle Eastern and Asian countries. — © Heather Kent