$2 egg-beater could save lives in developing countries

October 15 2008

(PhysOrg.com) -- Plastic tubing taped to a handheld egg-beater could save lives in developing countries, the Royal Society of Chemistry's journal *Lab on a Chip* reports.

The low-cost centrifuge replacement can separate plasma from blood in minutes, which is used in tests to detect lethal infectious diseases responsible for half of all deaths in developing countries.

George Whitesides and colleagues at Harvard University, US, say the plasma obtained is easily good enough to use in tests to detect diseases such as Hepatitis B and cysticercosis.

“The object was to separate serum [plasma] from blood using readily-obtained materials in a resource-constrained environment,” explains Whitesides.

The equipment can be bought from shops for around two dollars. It needs no special training to use, no electricity or maintenance, and can be sterilised with boiling water and reused.

The user can even prepare several samples at once – just by taping more lengths of tubing to the beater.

Contrast this with the bulky, sensitive commercial centrifuges, costing thousands of dollars and requiring extensive operation training, and it’s easy to see how this development could save lives.

“This technique is simple and works remarkably well,” says Doug Weibel, an expert in microbiology at the University of Wisconsin-Madison, US. “This technique complements several other ‘simple solutions’ that the Whitesides group has developed to tackle point-of-care diagnostics in resource-poor settings.”

Article: G. Whitesides et al, Lab Chip, 2008, DOI: 10.1039/b809830c

Provided by Royal Society of Chemistry