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Unique blood testing method developed

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Australian scientists have created a process for rapidly separating blood plasma at the microscopic level without any moving parts.

The Monash University researchers say their method will allow doctors to conduct blood tests without sending samples to a laboratory.

Separating blood plasma from red blood cells and other microscopic particles is an essential step in many medical tests. But current technology requires blood samples to be sent to a laboratory to be analyzed with a centrifuge -- a process that can take several days.

In the new method, a tiny amount of blood enters a fluid chamber and a needle tip is placed close to the surface of the blood. A voltage applied to the needle generates ions around its tip that repel the oppositely charged ions close to it. That creates an airflow known as "ionic wind" that sweeps across the surface of the blood, causing it to circulate.

The circulation causes the blood particles to be pulled inward near the bottom of the chamber, leaving a clear layer of plasma above.

The study by researchers Dian Arifin, Leslie Yeo and James Friend appears in the current issue of the journal *Biomicrofluidics*.

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