

## 01-SPEEDING UP SEPSIS DIAGNOSIS

*Rapid diagnosis of sepsis is a matter of life and death. However, detecting bacteria in blood is like finding a needle in a haystack – for every bacterial cell there are ten billion other cells! This novel technology removes these cells and captures the bacteria for further analysis.*



Current protocols for sepsis diagnosis take up to a week, resulting in lengthy patient hospital stays and potentially inappropriate use of antibiotics. This technology reduces this timescale to less than one day, by removing the “haystack”. Human cells are eliminated by an electric field, leaving intact bacteria behind. These bacteria can then immediately be analysed diagnostically, resulting in quick and appropriate patient care. The technology also has the potential to be expanded for other purposes, because the electric field can be modified to target other specific cells. For example, cancer cells in the blood, either in the context of leukaemia or metastatic cancer, could be isolated from the “haystack” and analysed in order to prescribe patient-tailored therapy.

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