There is currently no proposed stroke biomarker with consistent application in clinical practice. A number of studies have examined cell-free DNA (cfDNA), which circulates in biological fluids during stroke, as a potential biomarker of this disease. The data available suggest that dynamically-determined levels of blood cfDNA may provide new prognostic information for assessment of stroke severity and outcome. However, such an approach has its own difficulties and limitations. A review covers the potential role of cfDNA as a biomarker in stroke, and includes evidence from both animal models and clinical studies, protocols used to analyze cfDNA, and hypotheses on the origin of cfDNA [1)].

Stroke recovery is the next frontier in stroke medicine. While growth in rehabilitation and recovery research is exponential, a number of barriers hamper our ability to rapidly progress the field. Standardized terminology is absent in both animal and human research, methods are poorly described, recovery biomarkers are not well defined, and we lack consistent timeframes or measures to examine outcomes. Agreed methods and conventions for developing, monitoring, evaluating and reporting interventions directed at improving recovery are lacking, and current approaches are often not underpinned by biology. We urgently need to better understand the biology of recovery and its time course in both animals and humans to translate evidence from basic science into clinical trials. A new international partnership of stroke recovery and rehabilitation experts has committed to advancing the research agenda. In May 2016, the first Stroke Recovery and Rehabilitation Roundtable will be held, with the aim of achieving an agreed approach to the development, conduct and reporting of research. A range of methods will be used to achieve consensus in four priority areas: pre-clinical recovery research; biomarkers of recovery; intervention development, monitoring and reporting; and measurement in clinical trials. We hope to foster a global network of researchers committed to advancing this exciting field. Recovery from stroke is challenging for many survivors. They deserve effective treatments underpinned by our evolving understanding of brain recovery and human behaviour. Working together, we can develop game-changing interventions to improve recovery and quality of life in those living with stroke [2)].

1)
Glebova KV, Veiko NN, Nikonov AA, Porokhovnik LN, Kostuyk SV. Cell-free DNA as a biomarker in stroke: Current status, problems and perspectives. Crit Rev Clin Lab Sci. 2018 Jan 5:1-16. doi: 10.1080/10408363.2017.1420032. [Epub ahead of print] PubMed PMID: 29303618.
2)
Bernhardt J, Borschmann K, Boyd L, Carmichael ST, Corbett D, Cramer SC, Hoffmann T, Kwakkel G, Savitz S, Saposnik G, Walker M, Ward N. Moving Rehabilitation Research Forward: Developing Consensus Statements for Rehabilitation and Recovery Research. Neurorehabil Neural Repair. 2017 Aug;31(8):694-698. doi: 10.1177/1545968317724290. PubMed PMID: 28803534.