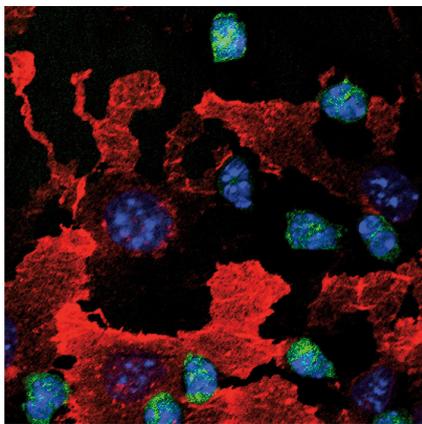


## Press release

12.12.2017

### **Vascular regeneration from within: patrolling monocytes repair blood vessels after arterial injury.**

**Hannover Medical School scientists discover cells that can repair inner layer of blood vessels / New basis for the treatment of vascular disease**



Blood vessels are lined with a single-cell layer made up of endothelial cells that maintain normal blood vessel function and blood flow. Injury to the endothelium can lead to blood clots, which results in myocardial infarction or stroke. Researchers at Hannover Medical School (MHH) have now discovered that specialized repair cells detect and repair endothelial wounds. The team headed by Professor Florian Limbourg from the Dept. of Nephrology and Hypertension at Hannover Medical School published their findings in the

renowned journal **EMBO Molecular Medicine**.

The specialized cell population, known as patrolling monocytes because of their constant blood vessel-patrolling behavior, is recruited to endothelial cells at the edge of vascular wounds through a guidance cue encoded by the chemokine Fractalkine. Once near the wound edge, monocytes release the growth factor vascular endothelial growth factor (VEGF), whereupon the endothelial cells proliferate and the wound closes. "This discovery provides surprising new insights into mechanisms of vascular regeneration, which could open new opportunities for cell-based therapy for arterial repair," says Professor Limbourg. The project was funded by the Deutsche Forschungsgemeinschaft and the German-Israeli Foundation.

Link to the original publication via open access:

<http://embomolmed.embopress.org/cgi/doi/10.15252/emmm.201707502>

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*The illustration shows the monocytes at work: Image from the inner side of blood vessels. Endothelial cells at the edge of a vascular wound after injury are shown in red, attracted monocytes green.*

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