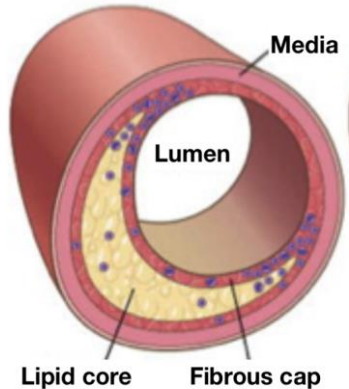


Magneto- relaxometry

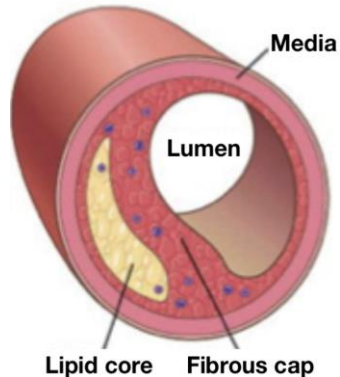
06

Magnetorelaxometry (MRX) or superparamagnetic relaxometry (SPMR) is a technology that utilizes SQUID sensors and superparamagnetic nanoparticles (NPs) to detect diseased tissues.

Vulnerable plaque



Stable plaque



Goal: Reliable Non-Invasive Detection of Vulnerable Plaques

Vulnerable plaques are a common cause of thrombotic complications such as strokes or heart attacks. A further important element of the bmp-platform strategy is a two-step diagnostic approach. With the help of the SQUID-MCG and the "Vulnerable Plaques" diagnostic score, suspected cases, i.e. patients with a risk greater than e.g. 70%, are diagnosed. Subsequently, an exact diagnosis is made with SQUID-MCG magneto-relaxometry (alternatively MRI-based procedure), which then justifies a possibly mandatory catheter intervention.

The technical proof of concept (PoC, part I) for SQUID MCG-based magneto-relaxometry was started in August 2021 with the bmp CS MAG III at the Charité Berlin. Since then, the project has been paused. For further activities, a cooperation with Imagion (leading in quantum sensing based cancer detection with MRX) and Supracon Jena is to be established.

<https://imagionbiosystems.com>, http://www.supracon.com/en/magnetic_relaxometry.html.