

New non-invasive continuous blood pressure for MRI

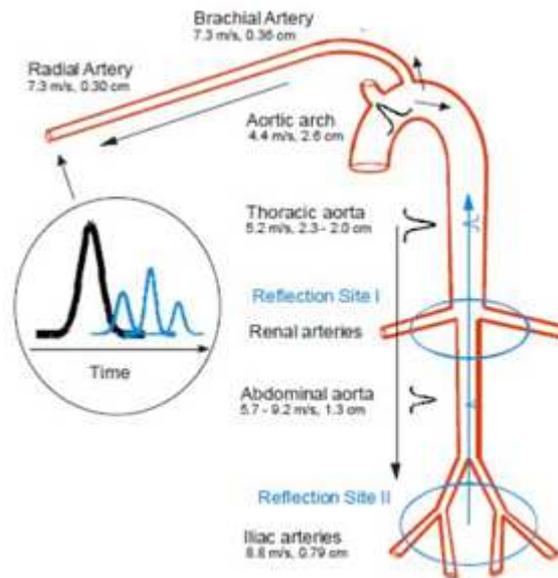
Continuous blood pressure monitoring is important not only as routine during surgery and other critical medical conditions in health care but also very interesting for many psychophysiological research studies because blood pressure is regulated by stress and therefore provides more information as a complement to other measures such as pulse, respiratory, HRV and skin conductance measures. But measuring continuous blood pressure in all these contexts has practical and technical challenges.



NIBP-MRI-A is a brand new model for non-invasive blood pressure monitoring optimized for MRI sold only by BIOPAC/JoR AB. It comes with software to import this to an AcqKnowledge compatible .acq file that can be added to other measurement signals.

The subject has a pressure-regulated pressure sensor on the finger which, via plastic tubing, enters the MR chamber through the waveguide. In the control room there is a measurement logger that regulates and measures the pressure variations, and communicates wirelessly to a tablet where you also have live feedback.

The measurement method is based on Pulse Decomposition Analysis (PDA), which is a model of the pressure-interference in the vascular system where, with mathematical methods, the various sub-waves from the morphological fine structure of the measured pressure pulse in the finger's radial artery are decoded. The various sub-components has been found to correlate well with the systolic and diastolic blood pressure in the upper arm; against which one calibrates the entire method. In addition to the pressure wave propagating from the left ventricle, reflective contributions from the thoracic/adomincal aorta junction, as well as the abdominal/ilic artery junction and also other minor reflections.



[Read more about blood pressure in MRI »](#)

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