

MRI-GUIDED NON-INVASIVE EPICARDIAL MAPPING IN PATIENTS WITH IMPLANTED PACING DEVICES

1. With appropriate monitoring and strict adherence to a safety protocol, MRI can be safely performed in patients with implanted pacing devices (this thesis)
2. Non-invasive imaging of cardiac excitation is considered a promising tool to complement conventional invasive electrophysiological studies (this thesis)
3. Body volume potentials can be used to gain insight in the genesis of body surface potentials and sources of local inaccuracies (this thesis)
4. Non-invasive imaging of cardiac excitation using only 62 torso electrodes without the aid of an a priori model is feasible by concentrating the available electrodes in the area directly overlaying the heart (this thesis)
5. The MRI-based non-invasive epicardial mapping technique developed in the research described in this thesis is clinically applicable and can identify sites of earliest depolarization with a clinically useful accuracy (this thesis)
6. Many different source configurations in the heart can correspond to the same potentials on the body surface, even for noise-free and error-free data. Therefore, the inverse problem is said to be "ill conditioned" (Med Biol Eng Comput. 2012;50:891-902)
7. The problem is that k-space is an abstract notion, not something one can touch or feel or even shake to get a idea of how it works (Radiology 1995;195:297-315)
8. For the vast majority of pacemaker and ICD patients, the presence of true bipolar leads and rationally adjusted sensitivity settings virtually eliminate the risk of clinical relevant electromagnetic interferences in daily life with rare events predominantly affecting the atrial channel (Eur Heart J. 2015;21;36:1798-804)
9. By 2025, Millennials will make up the majority of the workforce. The 2025 workforce will need more collaboration, relaxed rules and improved face-to-face communication. Medical professionals will have to be technologically nimble (Hosp Health Netw 2013;87:38-42)
10. During live performance, the vagal nerve activity increases and the sympathovagal balance tends to decrease regardless of the piece. The live performance appears to have led the audience's nerve activities toward induction of relaxation or reduction of anxiety. This finding implies that sharing time and place with a performer is not awkward but normal for the audience, supporting that such a social context facilitates stress reduction during a cognitive task and music listening (PLoS One 2016;11(4): e0154322)
11. I'd never just want to do what everybody else did. I'd be contributing to the sameness of everything (Captain Beefheart)