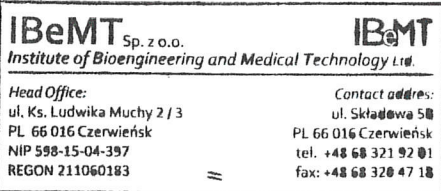


Czerwieńsk, 24.08.2019r.



## The possibility of using magnetic resonance imaging in the case of implanted spine implants

Ladies and gentlemen,

Magnetic resonance imaging (MRI) is a widely used and accepted diagnostic medical procedure. Literature reports indicate that although implants made of non-ferromagnetic materials pose a minimal risk to patients, individual evaluation of the implant properties and MRI-related interactions is fully justified [1] ÷ [5].

The risk associated with magnetic resonance imaging (MRI) for a patient with an implanted implant results mainly from the possibility of loosening and displacement of the device or, in the case of larger objects, heating in a magnetic field. MRI implants can also generate artifacts that distort the image and make it difficult to interpret. According to the scientific literature [1]: "*Studies have shown that implants firmly fixed to the bone are not affected by MRI-induced displacement.*" and "*RF heating is theoretically possible because the eddy currents in implants are parallel to the static magnetic field of the scanner. However, all cohort studies have revealed that this temperature change is negligible (...)*".

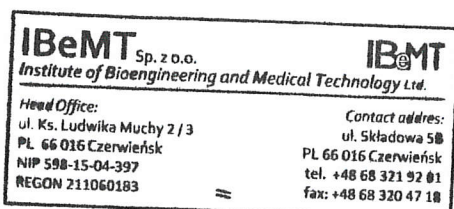
LfC implants are manufactured from the following non-ferromagnetic materials: Ti6Al4V alloy, PEEK polymer (plastic). Scientific research on implants made of these materials has shown their safety in a magnetic field of 1.5 to 3 Tesla (research results in the available scientific literature [1] ÷ [5]). This applies to passive, non-ferromagnetic implants made of Ti6Al4V titanium alloy and PEEK polymer (non-metallic material) containing elements of Ti6Al4V titanium alloy.

Due to the differences in the production of MRI devices by various manufacturers and the use of different MRI devices in medical centers, LfC cannot guarantee the compatibility of LfC implants with a particular MRI device.

**Note!:** The use of magnetic resonance imaging with LfC implants requires reading the instructions for use of the device, including the contraindications and warnings of the MRI manufacturer, on which the examination is planned. This information must be strictly adhered to. In addition, it is recommended to consult the possibility of performing an MRI examination with a representative of the MRI manufacturer.

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