Materials List for:

Evaluation of the Feasibility, Safety, and Accuracy of an Intraoperative High-intensity Focused Ultrasound Device for Treating Liver Metastases

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Materials

Name	Company	Catalog Number	Comments
MFOCUS		N/A	The transducer has a toroidal geometry and is divided into eight radial ultrasound emitters of 4.16 cm^2 each. The working frequency of the transducer is 3 MHz. Each of the eight emitters is divided into 32 individual transducers of equal surface (13 mm^2). The radius of curvature of the transducer was 7 cm and the diameter was 7 cm. A curved array ultrasound imaging probe working at a frequency of 7.5 MHz (Vermon, Tours, France) was placed in the center of the device and connected to an ultrasound imaging scanner. The imaging transducer is composed of 128 elements with a 63% bandwidth. The ultrasound imaging plane was aligned with the HIFU acoustic axis in order to position the region to be treated and visualize the ablation with the same device. Due to the geometrical characteristics of a torus, the ultrasound beams coming from each of the eight emitters intersect beyond the principal focal ring and form a secondary focal zone, which contributes to reinforce the homogeneity of the lesion at its center. The location of the focal zones could be changed by electronic focusing or by adjusting the quantity of liquid between the device and the tissue.
Curved array ultrasound imaging probe working at a frequency of 7.5 MHz	Vermon	6,5/R11,5/192	
Ultrasound imaging scanner BK HAWK	B-K Medical	2102 EXL	
Metallic marker	BIP GmbH	O-twist-marker	
ImageJ Image analysis software	Wayne Rasband		
Sterile envelope	CIVCO	CIV-Flex Transducer Cover	

Ultrasound coupling liquid	EDAP-TMS	Liv-kit	