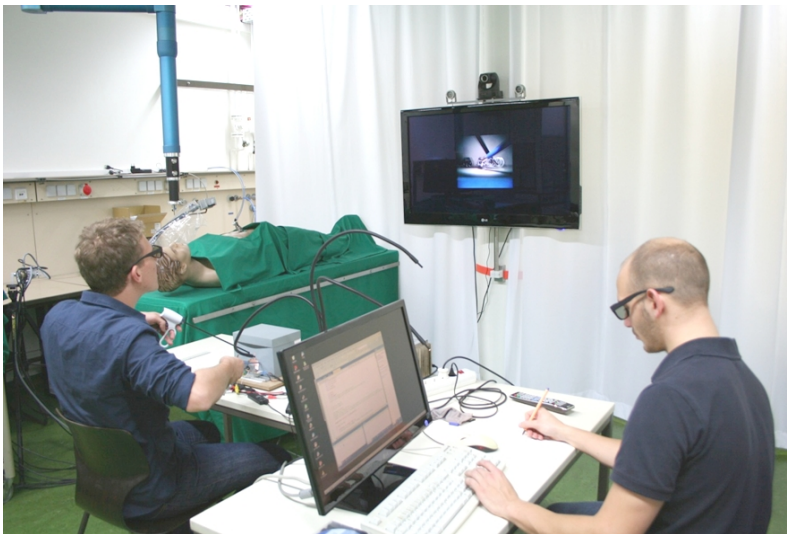


Chip-on-the-Tip Medical Wireless Stereo Endoscope

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Highly developed endoscopic systems offer bright illuminated high definition images during a laparoscopic surgery. Nevertheless today's endoscopes for minimally invasive surgery show major disadvantages. A high weight of the external camera, the fiber optic light conductor, the camera cable, along with the drape, hinders the handling of an endoscope. A standard device provides only a monoscopic image so there is a lack of depth reception for the surgeon since the two-dimensional image impedes the orientation and estimation of distances.



A newly developed wireless stereoscopic endoscope overcomes both of these restrictions. Two chip-on-the-tip systems which include light emitting diodes as light sources provide a stereoscopic image pair of the abdominal cavity which delivers a realistic information of depth. Lightweight lithium polymer batteries as an energy supply source together with radio transmitters for wireless image transfer permit an endoscope without any cable connection. Because of the light weight and the absence of any wires, an excellent handling of the stereo endoscope is warranted. Furthermore superior instrument handling and depth perception due to the 3D technology is guaranteed.

This talk will be presented by Martin Kelp at the 46th DGBMT German Society for Biomedical Engineering Annual Conference in Jena, Thuringia