

Gießener Abendgespräche Kognition und Gehirn

Mittwoch, 18.00 bis 20.00 Uhr im Philosophikum I, Raum F5

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Spatial Cognition in Laparoscopic Surgery

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Surgical error is the most frequent and costly type of medical error, posing the greatest threat to patient safety. These surgical errors have been described as a 'cognitive phenomenon', as it is largely the shortcomings of the surgeons own cognitive processing that leads to error. This is largely unsurprisingly, as to ensure a desired patient outcome, the surgeon must utilize a wide array of cognitive functions and processes, maintain high levels of attention and awareness, whilst simultaneously maneuver purposeful and economic bimanual movements accordant to the attending patient. Nonetheless, when considering the scale of cognitive demand amongst surgical techniques, many argue it is the laparoscopic approach, which poses the greatest cognitive challenges for the surgeons.

Laparoscopy refers to a minimally invasive surgical technique within the abdominal region, whereby small incisions are made, to allow trocars to enter the abdominal cavity, through which a viewing device and other surgical equipment are inserted. The endoscope will illuminate the surgical field in view and project its image on a 2D monitor, whilst the long and thin laparoscopic instruments will be used to manipulate the tissue and organs inside the body. Although such a technique offers many post-operative benefits for the patient, the complex series of visuospatial challenges faced by the surgeon make this technique much more difficult to perform, learn and acquire, as compared to the conventional open technique.

In this talk, an overview of the recent research developments from the ongoing longitudinal study exploring the role and development of specific visuospatial process on the intra-operative surgical skill learning will be presented and discussed. A case on how bridging human factors, cognitive science and medicine can be proven helpful for informing and shaping the evidence- based clinical practice, whilst yielding interesting theoretical findings will also be discussed.

Alle Interessierten sind herzlich willkommen!