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Prestigious award for Bernese neurosurgeon

Prof. Andreas Raabe, Head of the Department of Neurosurgery at Inselspital, Bern University Hospital, will be honoured with an exceptional award at this year's congress of the European Association of Neurosurgical Societies EANS in Dublin: to give the European Lecture. Prof. Raabe has merited the European Lecture Award with two inventions that have transformed neurosurgery worldwide and significantly improved patient safety.

The European Lecture Award honours the merits of persons whose many years of work in research and development have made significant contributions in their field and is by no means presented every year. The physician, researcher, discoverer and inventor Prof. Andreas Raabe will speak on the topic of "Knowledge, wisdom, technique, technology, and the quest for near zero morbidity".

Rapid and lasting changes in neurosurgery

Avoiding complications is the highest priority in neurosurgery. Even the slightest deviation during an operation can have a dramatic impact on the brain and neural pathways. The quest, therefore, is to attain near-zero morbidity. Prof. Dr. Andreas Raabe has made a decisive contribution to this quest with two inventions. Prof. Dr. Jürgen Beck, Medical Director of the Department of Neurosurgery at the University of Freiburg deems his peer's achievements as follows: "ICG and dynamic mapping have truly changed the game by providing the surgeon with an extra eye and an extra hand. The novel tools can be easily integrated and are so intuitive that the surgeon is soon convinced it was always done like this."

Avoiding complications

Continuous improvement of patient safety involves four mainstays: knowledge, wisdom, technique and technology. According to Andreas Raabe, these contribute to continuous developments in the medical field. A surgeon's key task is maintaining the level of knowledge by refreshing what has been learned and integrating new knowledge. In times of information overload, novel approaches are indispensable. It is here – as well as in the operating room – that technology can make a real contribution to improving quality. A new software principle for medical studies is therefore also the subject of a current research project at Inselspital, Bern University Hospital. However, technological progress does not replace manual skills. The importance of surgical technique is and remains a mainstay of neurosurgery – just like wisdom, which should focus on the future application of what has been learned and one's experience.

Innovations increase patient safety

Raabe's particular merit in neurosurgery lies in his persistent, constant quest for finding practical solutions to patient safety issues. Raabe is responsible for the invention and market-ready development of the dynamic, continuous mapping during neurosurgical brain operations, which has also been called "brain navigation" by laymen. It is a special probe that enables the surgeon to navigate the margin at a safe distance to the brain during a tumour resection. If the surgeon approaches the intact margin of brain tissue too closely, a cautionary knocking sound is emitted. With the aid of the probe, the number of cases involving severe motoric disturbances due to inadvertent injury to healthy brain tissue when operating this specific type of tumour were halved from 10% to 5%.

A further invention is indocyanine green angiography (ICG), which reduces radiation exposure and helps detect imperfections even during the resection of aneurysms and thus avert strokes or incomplete aneurysm clips. This method has also improved patient safety worldwide and helped reduce the number of cases from 10% to 3%.

Expert:

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