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## NEW PUBLICATIONS SUPPORT OPTISCAN'S ENTRY INTO NEURO AND RESEARCH FIELDS

Optiscan is pleased to announce the recent publication of key data from both animal and human studies using its confocal microscope devices in the fields of neurosurgery and neuroscience.

The American Journal "Neurosurgery" this month released a supplemental issue (Neurosurg Focus/Volume 36/February 2014) devoted to applications of fluorescence imaging methods in improving brain tumor resection surgery. Highlights of the supplement included three separate papers releasing data obtained from the use of Optiscan's endomicroscopy technology in both human and animal studies:

- 1. Laser scanning confocal endomicroscopy in the neurosurgical operating room: a review and discussion of future applications <sup>1</sup>**
- 2. Potential application of a handheld confocal endomicroscope imaging system using a variety of fluorophores in experimental gliomas and normal brain. <sup>2</sup>**
- 3. In vivo visualization of GL261-luc2 mouse glioma cells by use of Alexa Fluor-labeled TRP-2 antibodies. <sup>3</sup>**

In the first paper, the authors reported that "The application of confocal imaging into a handheld endomicroscope with in vivo utility has spurred the exploration of this technology in the management of brain tumors intraoperatively. When combined with intravenous and topical fluorophores, real-time information about brain neoplasms at the cellular level can be gathered in the operating room". The second paper further reported that "handheld confocal microscopy can distinguish between normal brain and neoplastic tissue intraoperatively, which is important for instrument capability if fully implemented to help ensure completeness of glioma resection".

In each of the first two papers, the authors reviewed extensive data collected using Optiscan's devices from both humans and animals and reviewed the five previous clinical (human) reports of neurosurgical endomicroscopy as well as numerous other animal studies. The third paper represented a longer range view utilising Optiscan's research instrument, the FIVE-1, to explore the potential of imaging novel molecular markers that would enable highly specific identification of tumour cells when combined with microscopic imaging as offered by Optiscan's technology.

These publications complement the outcomes from ongoing activity over recent years utilising Optiscan's human and animal imaging devices in both clinical and animal studies. There is now a solid range of published works that establish the utility of these devices,



and these three publications bring the total to nearly 20 in the fields of neurosurgery and neuroscience.

The publications provide a solid academic base to support product introduction, with application to both our clinical neurosurgical product development for Carl Zeiss Meditec Ag, and the recently announced OEM supply agreement with UK based MR Solutions to introduce a second generation product into the animal imaging market.

#### Footnotes

1. **Laser scanning confocal endomicroscopy in the neurosurgical operating room: a review and discussion of future applications.** *Michael A. Mooney, M.D.,<sup>2</sup> Aqib H. Zehri, B.S.,<sup>1,3</sup> Joseph F. Georges, B.S.,<sup>1</sup> and Peter Nakaji, M.D.<sup>2</sup>* <sup>1</sup>Neurosurgery Research Laboratory, <sup>2</sup>Division of Neurological Surgery, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix; and <sup>3</sup>College of Medicine, The University of Arizona, Phoenix, Arizona
2. **Potential application of a handheld confocal endomicroscope imaging system using a variety of fluorophores in experimental gliomas and normal brain.** *Nikolay L. Martirosyan, M.D.,<sup>1</sup> Joseph Georges, B.S.,<sup>4</sup> Jennifer M. Eschbacher, M.D.,<sup>2</sup> Daniel D. Cavalcanti, M.D.,<sup>1</sup> Ali M. Elhadi, M.D.,<sup>1</sup> Mohammed G. Abdelwahab, B.S.,<sup>3</sup> Adrienne C. Scheck, Ph.D.,<sup>3</sup> Peter Nakaji, M.D.,<sup>1</sup> Robert F. Spetzler, M.D.,<sup>1</sup> and Mark C. Preul, M.D.<sup>1</sup>* <sup>1</sup> Divisions of <sup>1</sup>Neurological Surgery and <sup>2</sup>Neuropathology, and <sup>3</sup>Neuro-Oncology Research, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix; and <sup>4</sup>School of Life Sciences, Arizona State University, Tempe, Arizona
3. **In vivo visualization of GL261-luc2 mouse glioma cells by use of Alexa Fluor–labeled TRP-2 antibodies.** *Kathryn E. Fenton, B.S.,<sup>1</sup> Nikolay L. Martirosyan, M.D.,<sup>2</sup> Mohammed G. Abdelwahab, B.S.,<sup>1</sup> Stephen W. Coons, M.D.,<sup>3</sup> Mark C. Preul, M.D.,<sup>2</sup> and Adrienne C. Scheck, Ph.D.,<sup>1,2</sup>* <sup>1</sup>Neuro-Oncology Research <sup>2</sup>Neurosurgery Research Laboratory, and <sup>3</sup>Division of Neuropathology, Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, Phoenix, Arizona

## About Optiscan

Optiscan is a global leader in microscopic imaging technologies for medical markets. Optiscan's unique and patented technologies enable high-powered microscopes to be miniaturised and used inside the body. The technology enables microscopic imaging of up to 1000 times magnification to be achieved. Doctors can use the technology to instantly see cellular level details of tissue without the requirement to surgically remove tissue (biopsy).

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