

## CURRICULUM VITAE

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#### EDUCATION

1995-2001 Kyunghee University, College of Medicine, Seoul, Korea; MD

#### POSTDOCTORAL TRAINING

2013- Assistant Professor, Bundang CHA Medical Center  
2012-2013 Researcher, Department of Neurologic Surgery, Mayo Clinic, Rochester, MN, USA  
2010-2012 Clinical Fellow, Yonsei University College of Medicine, Seoul, Korea  
2009-2010 Clinical Fellow, Kyunghee University, College of Medicine, Seoul, Korea  
2005-2009 Resident, Kyunghee University, College of Medicine Seoul, Korea  
2001-2002 Internship, Kyunghee University, College of Medicine, Seoul, Korea

#### CERTIFICATION AND LICENSURE

2009 Korean Board of Neurosurgery (#2239)  
2001 Korean National Board of Medical Examiners (#74408)

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

The Korean Neurosurgery Society  
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## Stereotactic Radiosurgery using Linear Accelerator Stereotactic Radiosurgery (Novalis)

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Radiosurgery has become an important alternative treatment to surgery for a variety of intracranial and extracranial lesions. Radiosurgery techniques have evolved rapidly with the development of technologies, enabling more complex and more efficient treatment.

As a result, these technologies have widened the applications of radiosurgery and improved radiosurgery outcomes.

Currently, the main systems of radiosurgery include the Gamma Knife, manufactured by Elekta based in Sweden; Novalis, manufactured by BrainLabs based in Germany; and CyberKnife, manufactured by Accuray based in the United States.

The Novalis device is an extensible platform integrating hardware and software allowing for application of the radiosurgery paradigm to a wide spectrum of disease including both intracranial and extracranial lesions.

One of the advantages of Novalis for stereotactic radiosurgery is that treatment takes as little as 15 to 20 minutes to complete. Short treatment time makes a Novalis radiosurgery more comfortable than other radiosurgery options. It also offers a frameless and frame-based treatment of cranial indications as well as extracranial treatment such as spine, lung, liver. There are also flexible treatment options available for use such as single, hypofraction and hyperfractionation using circular and conformal beams.

Novalis shapes the cancer fighting radiation beam around tumor or lesion. Then the maximum prescribed dose of high energy radiation is delivered to the tumor or target lesion. Novalis also adapts treatment based on patient's breathing and other body movements so that radiation delivery is safe, complete and accurate. Also, the Novalis system offers frameless radiosurgery, which is more comfortable than the head frame used with some other systems. In future, according to the development of new technology, Novalis will broaden radiosurgery application and will improve radiosurgery outcomes.

