

# **Department of Neurosurgery**

## **(Seoul National University Hospital)**

### **1. Introduction**

Established in 1957, the Department of Neurosurgery at Seoul National University College of Medicine is the one of the oldest neurosurgical departments in Korea. The department is regarded as the “Heart” of neurosurgery in Korea because of its outstanding achievements and the many distinguished alumni with leadership roles in the academic field. The seven past Chairs have devoted themselves to the development of the department. The current chair, Chun Kee Chung, assumed the position in July 2010. The current department comprises several clinical programs that encompass the entire spectrum of neurosurgical practice, with 33 faculty members and care teams in three hospitals: Seoul National University Hospital (SNUH), Boramae Medical Center (BMC), and Seoul National University Bundang Hospital (SNUBH). There are specialized centers; epilepsy center, Gamma Knife center, MEG center, Parkinson’s disease center, endovascular unit, endoscopic skull base surgery center, intraoperative neurophysiology monitoring unit, brain tumor center, spine center, and spine tumor center. The remarkable growth of the department during the last half century made it possible to perform 6,252 operations during 2011. A total of 1,435 articles authored by faculty members have been published in scientific journals between 1958 and 2011, approximately 32% of which were published in international journals.

The current subspecialty areas in the department are cerebrovascular disease (including endovascular surgery), pediatric neurosurgery, spinal disease (including spine tumor surgery), brain tumor (including endoscopic skull base surgery and radiosurgery), epilepsy surgery, and Parkinson’s disease with other functional diseases. The department is divided into 4 clinical teams according to the subspecialty; A team (cerebrovascular disease), B team (brain tumor), C team (spinal disease and epilepsy) and pediatric neurosurgery. Each team has its own operation schedule, postoperative care system, and conferences. Therefore visitors can participate in training from the subspecialty areas to the general neurosurgery according to their own interests.

The department of neurosurgery at SNUH can be the best option for the education of neurosurgery for the foreign visitor, and they were supported by the highest number of cases in the world, even for a short duration of a few weeks.

### **2. Short-term visiting fellowship program**

This practical education course is purposed to let the trainee have a structured concept and knowledge of each division of neurosurgery. The training is focused on operative indication, operative technique and postoperative management. We hope this experience from relatively large number with various diagnosis of neurosurgical disease could be effectively applied to their own practice in their own practical fields.

**1) Educational contents**

① **Conferences:** The daily schedule starts from the morning conference (MC) in room 5314 at 7:30AM. The chief resident of each team reports on the new patients, operative records, and today's operative schedule, and it continues about 30 minutes. Conferences of subspecialty part and multidisciplinary meeting open on weekdays.

	Mon	Tue	Wed	Thu	Fri	Sat
7:30	MC	MC	MC	MC	7AM STC, SCC (monthly) MC	
8:00	OPD + OR	OPD + OR	OPD + OR	OPD + OR	OPD + OR	Staff Lecture
9:00				ESC (biweekly)		
10:00						
11:00				OPD + OR		
12:00						
13:00	OPD + OR	OPD + OR	OPD + OR	OPD + OR	OPD + OR	
14:00						
15:00						
16:00		NEC (biweekly) PNRC	NVC	RSC (biweekly)		
17:00	MMC(monthly) NOC (biweekly) POC (biweekly)	SC PPR	NRPC	NSGR		

ESC: Epilepsy Surgery Conference  
 MC: Morning conference  
 MMC: Mortality-Morbidity Conference  
 NEC: Neuroendocrinology Conference  
 NOC: Neuro Oncology Conference  
 NRPC: Neuro-Radio-Pathology Conference  
 NSGR: Neurosurgery Grand Round  
 NVC: Neurovascular Conference  
 OPD: Outpatient Division

OR: Operation Room  
 PNRC : Pediatric Neuro-Radiology Conference  
 POC: Pediatric Oncology Conference  
 PPR: Pediatric Pathology Review  
 RSC: Radiosurgery Conference  
 SC: Spine Conference  
 SCC: Spine Center Conference  
 STC: Spine Tumor Conference

\* Optional schedules can be arranged individually

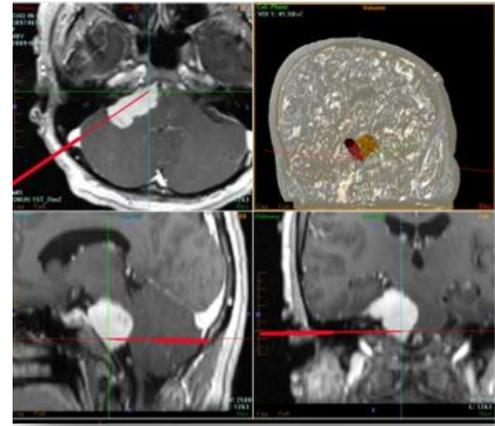


- ESC (Epilepsy Surgery Conference, Thu 10am, biweekly): epilepsy surgery case discussion with epileptologist and neurosurgeon
- NRPC (Neuro-Radio-Pathology conference, Wed 5pm, weekly): practical case conference for preoperative imaging diagnosis, surgical intervention and pathologic diagnosis by Neurosurgery, Neuroradiology and Neuropathology
- RSC (Radiosurgery conference, Thu, 4pm, biweekly): case discussion in radiosurgery group
- NOC (Neuro Oncology conference, Mon 5pm, biweekly): glioma case discussion with neurooncologist and neurosurgeon
- NEC (Neuro-endocrinology Conference, Tue 5pm, biweekly): pituitary adenoma case discussion with endocrinologist and neurosurgeon
- SC (Spine conference, Tue, 4pm, weekly): case discussion in spine group
- SCC (Spine center conference, Fri 7am, monthly): multidisciplinary approach to the patients with spinal disease by neurosurgeon, orthopedics, neurologist, rheumatologist
- STC (Spine tumor conference, Fri 7am, monthly): multidisciplinary approach to the patients with spinal metastasis by neurosurgeon, orthopedics, oncologist
- MMC (Mortality-morbidity conference, Mon 5pm, monthly): residents' conference with mortality and morbidity cases
- NSGR (Neurosurgery grand round, Thu, 5pm, monthly) : Faculty lecture or invited lectures on all over the fields associated with neurosurgical diseases

② **Operation schedules:** The induction of operation start before 8:00AM and the trainee can participate in the whole procedure of operation after attending the morning conference. Four operative rooms are available and various operations have been performed at the same time.

Operative room	Mon	Tue	Wed	Thu	Fri
C2	Tumor (JW)	Vascular (K)	Tumor (Y)	Vascular (K)	Tumor (Y) Trauma (L)
C4	Epilepsy (C)	Tumor (Q)	Tumor (J) Spine (C)	Tumor (Q)	Tumor (B)
C5	Functional surgery (P)	Tumor (P)	Tumor (B)	Spine (H)	Spine (H)
Pediatric	K	W Ph	K	W	Ph

Division of the department	Individuals	Common operations
A team (cerebrovascular disease)	Jeong Eun Kim (K) Hyun-Seung Kang (S)	Aneurysmal clipping STA-MCA bypass surgery Endovascular surgery (Neurointervention room)
B team (brain tumor)	Hee-Won Jung (J) Dong Gyu Kim (Q) Sun Ha Paek (P) Chul-Kee Park (B) Yong-Hwy Kim (Y) Jin Wook Kim (JW)	Brain tumor surgery Radiosurgery (GKS center) Endoscopic surgery Deep brain stimulation (DBS) Microvascular decompression
C team (spinal disease and epilepsy):	Chun Kee Chung (C) Chi Heon Kim (H) Soo Eon Lee (L)	Spine surgery Epilepsy surgery Awake brain surgery Spinal tumor surgery Minimally invasive surgery including Endoscopic surgery Trauma surgery
Pediatric neurosurgery	Kyu-Chang Wang (W) Seung-Ki Kim (K) Ji Hoon Phi (Ph)	Brain tumor surgery EDAS surgery Congenital anomaly for spinal bifida



③ **Post-operative care:** After morning conference, most of the faculty have time for in-patients ward rounds. The main ward is 55 and 45 wards. And surgical intensive care unit (SICU) for neurosurgery is also set-up. The trainee can observe from the usual postoperative care to intensive neurosurgical care such as intracranial pressure monitoring and coma therapy.

④ **Research meeting:** clinical, translational research activities of SNUH

- Institutes for biomedical research: 8 benches
- Cancer research institute: 1 bench
- Magnetoencephalography (MEG) center: 1 dry lab
- Discussions and reports of a variety of research activities by clinicians, basic lab, collaborating co-researchers

## 2) Curriculum

**2 weeks' program:** we recommend a training of one division which the trainee is the most interested part during 2 week's program.

① Operation

- Observation of about 10-20 operations, Participation as an assistant in 1-2 operations
- Introduction to common operations of neurosurgical field

② Post-op care

Attendance of everyday ward round

③ Conferences

Attendance of everyday morning conference and multidisciplinary conference

④ Research meeting

- Participating 1 time

⑤ Reports on the last week of training periods

- Presentation of trainee about what the trainee learned and feedback from the faculties

**4 weeks' program:** we recommend a training of one or two divisions which the trainee is interested part or their subspecialty during 4 week's program.

① Operation

- Observation of about 30-40 operations, Participation as an assistant in 3-4 operations
- In-depth discussion about operative indications and operative techniques

② Post-op care

Attendance on everyday ward round

③ Conferences

Attendance on everyday morning conferences and multidisciplinary conference

④ Research meetings

Participating 2 times

⑤ Reports on the last week of training periods

Presentation by the trainee about what the trainee learned and feedback from the faculties

### 3. Current Faculty Member of the Department of Neurosurgery at SNUH

Seoul National University Hospital		
Cerebrovascular disease (A team)		Cerebrovascular surgery eunkim@snu.ac.kr
	Jeong Eun Kim, M.D., Ph.D.	
		Endovascular surgery kanghs@snuh.org
	Hyun-Seung Kang, M.D., Ph.D.	

Brain tumor (B team)	 <p>Hee-Won Jung, M.D., Ph.D.</p>	<p>President of SNUH hwjung@snu.ac.kr</p>
	 <p>Dong Gyu Kim, M.D., Ph.D.</p>	<p>Radiosurgery Functional neurosurgery gknife@plaza.snu.ac.kr</p>
	 <p>Sun Ha Paek, M.D., Ph.D.</p>	<p>Radiosurgery Functional neurosurgery Endoscopic surgery paeksh@snu.ac.kr</p>
	 <p>Hyun-Tai Chung, Ph.D.</p>	<p>Radiosurgery htchung@snu.ac.kr</p>
	 <p>Chul-Kee Park, M.D., Ph.D.</p>	<p>nsckpark@snu.ac.kr</p>
	 <p>Yong-Hwy Kim, M.D.</p>	<p>Endoscopic surgery Kimyh96@hanmail.net</p>

	 <p>Jin Wook Kim, M.D.</p>	Wook616@hanmail.net
Spine (C team)	 <p>Chun Kee Chung, M.D., Ph.D.</p>	Chairman chungc@snu.ac.kr
	 <p>June Sic Kim, Ph.D.</p>	Magnetoencephalography jskim@snuh.org
	 <p>Chi Heon Kim, M.D., Ph.D.</p>	chiheon@hanmail.net
	 <p>Seung-Hyun Jin, Ph.D.</p>	Intraoperative neuromonitoring jinse@meg.re.kr
	 <p>Soo Eon Lee, M.D.</p>	leesea8081@hanmail.net

Pediatric neurosurgery		kawang@snu.ac.kr
	Kyu-Chang Wang, M.D., Ph.D.	
		nsthomas@snu.ac.kr
	Seung-Ki Kim, M.D., Ph.D.	
		Phi.jihoon@gmail.com
	Ji Hoon Phi, M.D.	
		femiddang@hanmail.net
	Ji Yeoun Lee, M.D.	

#### 4. Contact point

Ji Hoon Phi

Clinical assistant professor

Phi.jihoon@gmail.com