Hybrid Atrial Fibrillation Ablation

Thoracoscopic RFCA(TS) + Endocardial RFCA(Cardiology)
for the treatment of atrial fibrillation

Innovative arrhythmia treatment
Hope of chronic atrial fibrillation patients having little chance of full recovery
What is Hybrid Atrial Fibrillation Ablation?

It is the latest hybrid treatment method that combines surgery and medical procedure. While the heart is beating, a thoracoscope is inserted to the outside of the heart, and the area that causes arrhythmia is ablated with radiofrequency. Radiofrequency catheter ablation, a medical procedure, is subsequently done inside of the heart so that all the areas that cause arrhythmia from the inside and outside of the heart are removed. It is a surgical method that has the highest full recovery rate.

Object
- Atrial fibrillation patient with a medical history of stroke
- Chronic atrial fibrillation patient with high risk of stroke or recurrence
- Patient experiencing recurrence after radiofrequency catheter ablation

What is arrhythmia?
Because of abnormality in the electrical system of the heart, the heart does not beat regularly. It is a serious disease that causes the heart to beat too fast, slow, or irregularly, which can result in chronic tiredness, heart failure, or even stroke.

Advantage of the Procedure

Compared to the previous surgery that requires the heart to be stopped, it is the latest surgical method that is performed while the heart is still beating. As such, surgery time is reduced, and stability is improved. As it is performed while seeing the heart directly through a thoracoscope, it has the highest success rate among arrhythmic procedures with a low recurrence rate.

The cut area is small so that scar is also small. Pain is light and recovery is fast after surgery. Surgery lasts for about two hours, and the average admission period is about eight to nine days. As there is no drug (warfarin) required to be taken after surgery, the quality of the patient's life is significantly improved by enabling daily activities such as exercise, etc.
Why Samsung medical Center?

Since Korea’s first successful surgery in February 2012, the most number of cases have been performed in Samsung Medical Center. Moreover, Samsung Medical Center is the only hospital in Korea where hybrid surgeries have been successfully performed.

The success rate of hybrid surgery largely depends on the proficiency of the physician. Many cases have been performed in SMC for a short time, and it is the world’s best in both the number of surgery cases and the proficiency of physicians. Professor Dong Sub Jeong of the Cardiovascular Center, who leads hybrid surgery, was selected for the Graham Foundation Fellowship program. Every year, this program offers talented physicians selected by the American Association For Thoracic Surgery from all over the world with a training opportunity in American hospitals. Also, he was invited to various international conferences, thus introducing the medical level of SMC to many physicians all over the world.

In addition, Professor Young Keun On, Chair of Division of Cardiology, is a highly experienced RFCA specialist as well as a physician who has an expertise for cardiac arrhythmia. SMC has Korea’s best cardiac resynchronization therapy and ventricular arrhythmia procedure.

Surgical Outcome in Samsung Medical Center

**Number of procedures**: More than 200 cases of thoracoscopic arrhythmia surgeries by 2016 (in 4 years)

**Mortality rate**: 0%

**Early events (conversion to surgical procedure)**: 0.7% (2/260)

**Successful rate at 1 year (freedom from AF)**: 92.6+3.3% (including antianrhythmic drug administration)

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<thead>
<tr>
<th>Accumulated no. of surgery cases from 2012–2016</th>
<th>Heart beat maintenance rate</th>
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<tbody>
<tr>
<td>2012 10</td>
<td>0.5yr 96</td>
</tr>
<tr>
<td>2013 67</td>
<td>1yr 93.7</td>
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<tr>
<td>2014 134</td>
<td>2yrs 90</td>
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<tr>
<td>2015 183</td>
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<td>2016 241</td>
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Process flow of Hybrid Atrial Fibrillation Ablation

Patient’s Medical Record Review
- Medical history check: The date of diagnosis, medication, treatment history (RFCA, Cardioversion)
- Echocardiography (optional)

Does the patient need an arrhythmia treatment?
- The patient needs to take an anticoagulant from one month prior to the treatment.

Referral to other department

Consultation with a specialist
- Making treatment decisions. (TTA & Hybrid procedure, RFCA)

Admission

Evaluation (Work-up) & Pre-op test
- Echocardiography (TTE, TEE), Coronary Aorta CT Angio
- Pulmonary Function Test, EKG, Chest X-ray, Blood Test
- CAG will be needed additionally in case of a coronary problem
- Carotid ultrasonography will be strongly recommended for safety to patients over the age of 60.

* Medical procedures will be determined according to the test result of the patient for better treatment.

Operation
- Hybrid Operation
- Thoracoscopic RFCA
- Maze operation (Sternotomy)

Other Medical Procedure Options
- RFC Cardioversion
- EPS ablation
- Medication

Monitoring at TSICU

Monitoring in an inpatient ward

Discharge

Follow-up consultation 1 week after operation

Recurrence follow-up for 6 months
- Multidisciplinary consultation with a Cardiologist and a Surgeon
- This consultation can be done in the hospital of a patient’s country and our physician will have a video consultation with a local doctor.

The average length of Hospital stay will be about 8–9 days in the standard cases.

* This process applies to standard cases and the treatment plan may be changed depending on the patient’s actual condition after the consultation/evaluation.
* For more information and inquiry of the estimated cost, please contact us.
* Email: ihs.smcs@samsung.com
### Our doctors of excellence

#### Chair of division of Cardiology, Samsung Medical Center

**On, Young Keun M.D., Ph.D.**

**Professor, School of Medicine, Sungkyunkwan University**
**Director, CPR operation office, Samsung Medical Center**
**Specializing in cardiac arrhythmia**
**Internationally renowned RFCA specialist**
**Pioneer of Hybrid Atrial Fibrillation Ablation in South Korea**

- **RFCA**: Radiofrequency Catheter Ablation
- **CPR**: Cardiopulmonary resuscitation

<table>
<thead>
<tr>
<th>TITLES</th>
<th>Professor, Division of Cardiology, Samsung Medical Center, Sungkyunkwan University School of Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIALTY INTERESTS</td>
<td>Arrhythmia, Atrial fibrillation, Radiofrequency catheter ablation Cardiac resynchronization, Syncope</td>
</tr>
<tr>
<td>INTERNATIONAL EDUCATION CAREER</td>
<td>Visiting Physician, Cardiac Electrophysiology, Detroit Medical Center, Harper University Hospital, Detroit, MI, USA  Post doc research scholar, Pacing and Electrophysiology Lab, Heart Center, Cleveland Clinic, Cleveland, OH, USA  Visiting Physician, Clinical EP Rotation, Utah Valley Regional Medical Center, Provo, UT</td>
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#### Developer of novel surgical techniques

**Jeong, Dong Seop M.D., Ph.D.**

**Hybrid Atrial Fibrillation Ablation and thoracoscopic Ablation that is known as techniques with high level difficulty and the most challenging clinical skill to be learned.**

**World renowned cardiac surgeon for Arrhythmia surgery, Minimally invasive cardiac surgery.**

**No. 1 for Hybrid Atrial Fibrillation Ablation in the number of cases with outstanding results in South Korea. (Performed over 200 cases successfully)**

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<th>TITLES</th>
<th>Associate Professor of Thoracic and Cardiovascular Surgery, Sungkyunkwan University School of Medicine</th>
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<tr>
<td>SPECIALTY INTERESTS</td>
<td>Adult Cardiac Surgery, Heart valve surgery, Off pump coronary artery bypass Minimally invasive cardiac surgery, Mechanical assist device, Arrhythmia surgery Transcatheter aortic valve implantation, Heart and Heart-Lung transplantation</td>
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<td>MILESTONES ON SURGICAL HISTORY</td>
<td>2012 Performed the Hybrid Atrial Fibrillation Ablation a first in South Korea  2013 Performed the Live surgery (totally thoracoscopic ablation) a first in Asia  2016 Performed the most cases of thoracoscopic ablation in South Korea (200 cases)</td>
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Contact US

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Services

Cashless  SMC currently has contracts with world-wide insurance companies. For insurance inquiry, contact us at +82-2-3410-0203/0230
Language  SMC International Health Services offer medical interpretation services during working hours (Arabic/Russian/Mongolian/Japanese)
Concierge  Airport pick-up and drop-off, domestic transportation, accommodation reservations are available.

From Incheon International Airport

Departure  Incheon International Airport 5A : 6009 (Get off at the main gate of SMC)
Arrival  Samsung Medical Center, across the main entrance, About a 5 minute walk.

►►► If you take a taxi, please show this message to a driver. ◄◄◄

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Please take me to Samsung Medical Center.