



# **SAMSUNG MEDICAL CENTER**

—  
ENGLISH

# We aspire to be the frontier of future medicine

Since its opening in 1994, Samsung Medical Center (SMC) has been at the forefront of the transformation in the Korean healthcare sector. With the new vision, **"SMC, The Frontier of Future Medicine,"** we are committed to achieving outstanding treatment outcomes by treating patients with critical and highly complex illnesses by utilizing the most leading-edge medical technology.

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## Samsung Medical Center at a Glance



Staff Members

8,067

Physicians: 1,284 / Nurses: 3,109  
Support Staff: 3,674



Licensed Bed Capacity

2,000 beds

Intensive Care Unit (ICU): 189 / Operating Room (OR): 56  
Emergency Room (ER): 73



SCAN ME  
for SMC history



Outpatient Visits per Year

2,355,245

Outpatient Visits per Day: 9,460 / Inpatient per Day: 1,703



No. of Surgery per Year

51,179

Surgeries per Day: 205

# Samsung Comprehensive Cancer Center

## 5-Year Relative Survival Rates

Cancer Types	SMC <sup>1)</sup> (2008–2021)	KCCR <sup>2)</sup> (2016–2020)	SEER <sup>3)</sup> (2013–2019)
Stomach	88.2	78.0	35.7
Colon	84.0	74.3	65.0
Lungs	54.1	36.8	25.4
Breast	95.6	93.8	90.8
Liver	57.6	38.7	21.6
Prostate	101.6	95.2	97.1
Pancreas	19.4	15.2	12.5
Cervix	84.7	80.1	67.2
Brain and Central Nervous System	43.7	40.5	33.8
Non-Hodgkin Lymphoma (NHL)	73.0	65.4	74.3

### World-class Cancer Survival Rate

Samsung Comprehensive Cancer Center stands as a leading institution in Korea, treating the highest number of patients with conditions such as **breast cancer, lung and esophageal cancer, genitourinary cancer, and brain tumors** (as of 2022).

In the field of cancer surgery, the hospital is a leader in minimally invasive treatments that incorporate cutting-edge technologies, including **single-port surgery, robot-assisted surgery, endoscopic surgery for complex surgeries, painless Radio Frequency Ablation (RFA) therapy, and proton therapy**.

1) SMC cancer patient statistics

2) Korea Central Cancer Registry (KCCR)

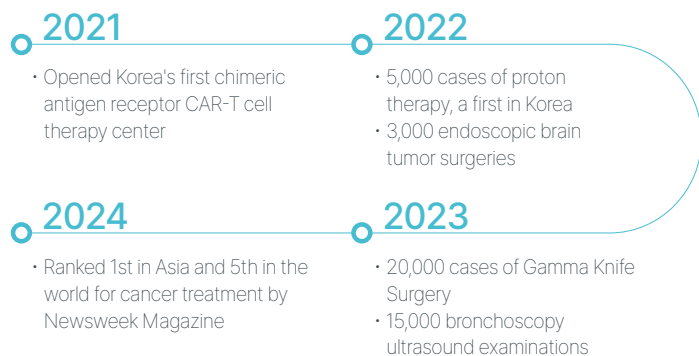
3) Surveillance, Epidemiology, and End Results (SEER), United States

## Key Cancer Treatment Areas

### High-Frequency Cancer Surgeries Performed at SMC (2022)

Cancer Types	Proportion	No. of Cases
Breast Cancer	17%	2,967
Lung and Esophageal Cancer	13%	2,268
Colorectal Cancer	11%	1,997
Gynecological Cancer	9%	1,572
Brain Tumors (Open Surgery)	7%	1,270
Prostate Cancer	7%	1,254

### Key Medical Achievements and Awards



## Leading the Way in Robot-Assisted Surgeries

SMC is fully equipped with **8 Da Vinci robots**, ranking among the top 10 institutions in the world for the number of robotic surgeries in 2021. In particular, in the case of genitourinary cancers including prostate cancer, SMC secured the third position globally and emerged as the leading institution in Korea by successfully performing 1,700 robotic surgeries in a single year.

### Prominent Medical Achievements



### Robotic Surgery by Department





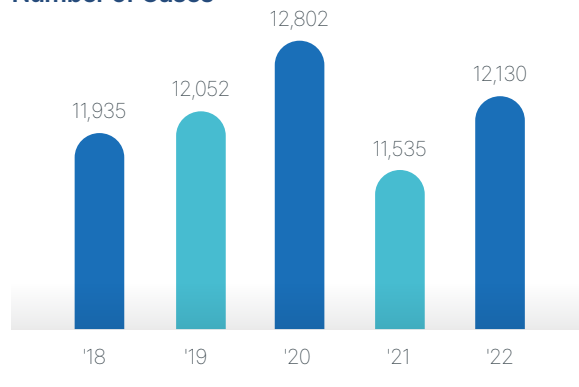
# Samsung Comprehensive Cancer Center

## State-of-the-art Radiation Therapy

## Proton Therapy Center

At the Proton Therapy Center, we harness the power of **state-of-the-art, next-generation radiation therapy** known as proton therapy. This advanced technology allows us to administer precise and high doses of radiation directly to cancerous tissues while meticulously minimizing exposure to normal tissues. Proton therapy is a versatile solution, capable of treating all types of cancer traditionally treated with conventional radiation therapy.

### Number of Cases



### Proportion of Proton Therapy by Cancer Type

Cancer Types	No. of Cases	Proportion	Treatment Session (on average)
Head and Neck Cancer	16,277	21.9%	10-30 sessions
Liver Cancer	14,500	18.1%	4-10 sessions
Brain Tumor	13,140	17.8%	20-30 sessions
Lung Cancer	11,265	14.7%	8-30 sessions
Genitourinary Cancer	3,583	4.8%	20-28 sessions

\* Treatment sessions can vary depending on the patient's condition.

Data: 2016~2023

## Ultraprecision Personalized Treatment

## Precision Cancer Therapeutics Center

To provide opportunities for clinical application and tailored treatment through a multidisciplinary approach using the nation's first genomic analysis method, we established the Precision Cancer Therapeutics Center in 2022. The Precision Cancer Therapeutics Center leverages accumulated experience to transform multi-omics results into actionable insights for cancer patients. With this approach, SMC provides differentiated cancer treatments and has increased the survival rates of patients with metastatic cancers.

**Providing care for 10% of the country's cancer patients by combining clinical drug trials with treatment infrastructure**

Key success stories:  
Rapid clinical implementation of genomics

Numbers for screening  
SMC: 2,000+ patients/year  
USA: 1,000 patients/year  
(average per hospital)

Clinical Trials integrated with medical infrastructure: Clinical trials for high-risk patients for new drugs development

**Pioneering the Implementation of Advanced Cancer Treatments**



Opened the nation's first Precision Oncology Clinic (2014)



Incorporated next-generation Artificial Intelligence (AI) prediction programs for advanced operations



Secured integrated information from over 30,000 patients with cancer through a precision medicine reporting system based on genomics-drug response big data



Improved cancer treatment outcomes by establishing a comprehensive precision medicine treatment system



Precision cancer treatment with multidisciplinary care

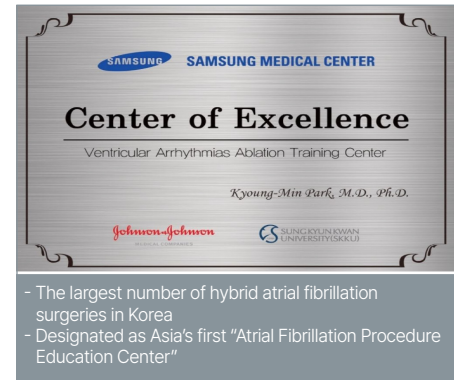
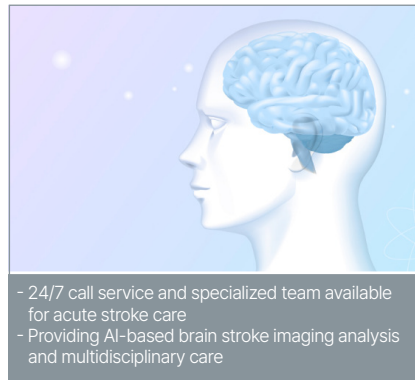
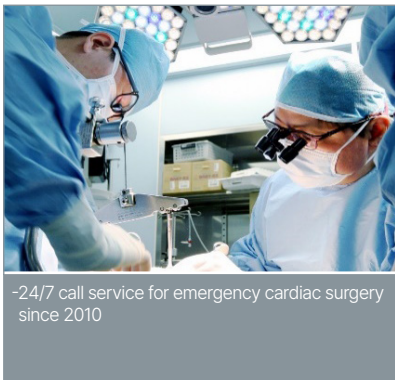


Precision Oncology Clinic opened in 2014  
Precision Cancer Therapeutics Center established in 2022

# Heart Vascular Stroke Institute

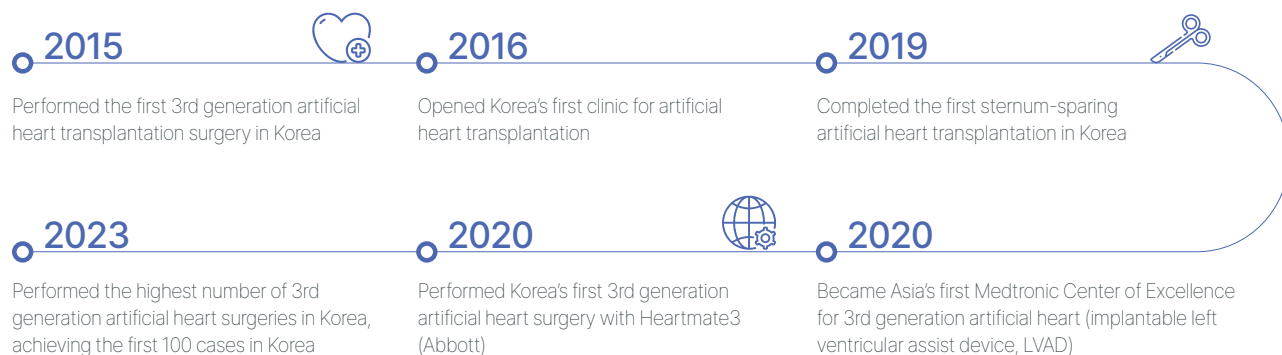
## Outstanding Treatment Outcomes in the Field of Cardiovascular Diseases

In 2014, SMC's Heart Vascular Stroke Institute established a pioneering integrated care model for heart, brain, and vascular diseases in Korea. Through a multidisciplinary approach to diagnosis and treatment, the institute operates with a patient-centered healthcare system aimed at fundamental disease prevention, treatment, and post-treatment management. As a result, it has achieved innovative outcomes in diagnosing, treating, and preventing cardiovascular diseases.



## Unparalleled Excellence in Artificial Heart Transplant Surgery

As of 2023, the Heart Vascular Stroke Institute has achieved the highest number of surgeries using the latest Left Ventricular Assist Device (LVAD) - Heartmate 3 in Korea, and successfully performed more than 156 cases of artificial heart surgeries in the past decade. The institute accounts for over 40% of artificial heart surgeries conducted in Korea, showcasing an impressive surgical success rate reaching 99%. It possesses unparalleled expertise in artificial heart surgery and treatment, not only in Korea but also in the Asia-Pacific region.



## Leading Role in Cardiology Treatment around the Globe

The excellent treatment outcomes have been published in prestigious medical journals in the field of cardiology and are being presented as part of global treatment guidelines.

**"Intravascular Imaging-Guided or Angiography-Guided Complex PCI" – World's first evidence**  
- Published in the New England Journal of Medicine, the world's most prestigious medical journal

**The world's first identification of the cause of severe aortic valve stenosis-related chest pain: "Coronary Microvascular Dysfunction as a Mechanism of Angina in Severe AS: Prospective Adenosine-Stress CMR Study"**

- Published in the Journal of the American College of Cardiology, the most authoritative journal in the field of cardiology





# Heart Vascular Stroke Institute

## Introduction of Pioneering Medical Services

### Percutaneous Pulmonary Valve Implantation (PPVI)

PPVI is a safe and effective method for treating pulmonary stenosis or regurgitation by percutaneously implanting a stent into the affected valve without open-heart surgery. Leading the way in Korea, the Heart Vascular Stroke Institute performs percutaneous closure of ventricular septal defects as an alternative to surgical treatment.

**The first successful nonsurgical closure of Patent Ductus Arteriosus (PDA) in extremely low birth weight infants in Korea**

- **The first case** in Korea with a weight of 1.76 kg (2021)
- **The smallest case** in Korea with a weight of 1.1 kg (2022)

#### Procedure Type

- PPVI-PULSTATM Transcatheter Pulmonary Valve System (TPV)  
: Self-expanding valve-stent
- PPVI-Melody Transcatheter Pulmonary Valve  
: Balloon-expandable valve-stent

### Transcatheter Aortic Valve Implantation (TAVI)

Transcatheter Aortic Valve Implantation (TAVI) surgery is a nonsurgical valve insertion treatment for patients with difficult-to-operate aortic valve stenosis. It offers a quick recovery and shorter hospital stays, expanding the pool of patients eligible for this procedure.

#### TAVI Treatment Fast Track

Consultation and Examination (1 week)	Admission and Treatment (4 days)
Electrocardiogram (ECG), blood works, chest X-ray, Pulmonary function tests (PFT), Echocardiogram (ECHO), Coronary aorta CT angiography (CTA)	Tests include: Transesophageal echocardiogram (TEE), Transthoracic echocardiogram (TTE), Echocardiography (ECHO)

We ensure systematic operation, from decision-making to post-procedure management, through multidisciplinary team collaboration.

### Polyvascular Screening Clinic

Cardiovascular, cerebral vascular, and peripheral vascular diseases all have a common underlying cause: atherosclerosis. When one vascular disease is present, there is a significant likelihood of abnormalities in other vascular systems. **The Polyvascular Clinic provides services to prevent vascular diseases through multidisciplinary treatment after various vascular assessments.**

#### Process



#### Types of Examinations by Area

<b>Cerebrovascular</b>	MRI/MRA, carotid ultrasound, cerebral blood flow assessment
<b>Cardiovascular</b>	CT, ECHO, stress ECHO, cardiac MRI
<b>Peripheral vascular</b>	Vascular ultrasound, peripheral arterial disease assessment
<b>Basic examinations</b>	Blood tests, chest X-ray, ECG

### One-Stop Service for Stroke

#### Consultation, Testing, and Treatment Plans All in One Visit



#### One-Stop Service

- A medical service where new patients suspected of having a stroke and requiring tests and diagnosis can undergo examinations, receive treatment plans, and complete testing all on the same day

#### Target Patients

- Patients who have had suspected stroke symptoms but have not yet undergone testing at the hospital (e.g., hemiparesis, sensory abnormalities on one side, speech and language disorders, dizziness, headache, etc.)
- Patients suspicious of nonruptured cerebral aneurysms on MRI (vascular bulges, swelling of blood vessels)

## Specialized Centers

### Mother-Child Intensive Care Center



#### Hospital with the Safest Care for Mothers and Infants

With over 12 specialized departments including Obstetrics, Pediatrics, and Pediatric Cardiology, we prenatally diagnose congenital abnormalities in the fetus and provide optimal medical care after birth.

#### Treating 20% of Extremely Premature Infants in Korea

SMC has high-risk maternal-fetal intensive care units (11 MFICU), neonatal intensive care units (59 NICU), and delivery rooms, all located on the same floor, in close proximity, enabling seamless and fast delivery, surgery, and neonatal care in case of unexpected deliveries for high-risk pregnant women.

### Gamma Knife Center

#### Performing the Most No. of Gamma Knife Surgeries (GKSs) in Korea

SMC Gamma Knife Center operates an average of 1,800 surgeries per year, surpassing a cumulative total of 20,000 cases as of 2023, making it the center with the highest number of GKS procedures in Korea.

#### Key Treatment Areas

Metastatic brain tumors, meningiomas, vestibular schwannomas, cerebral arteriovenous malformations, trigeminal neuralgia, tremors, epilepsy, and other related disorders

#### The 2 Gamma Knife Icon™ Units, the Only Ones in Korea

Gamma Knife Surgery (GKS) provides a sophisticated and precise radiation treatment without surgical incisions, offering equivalent therapeutic outcomes to conventional surgery.



### Organ Transplant Center



#### Leading in Laparoscopic Surgery for Living Donor Liver Transplants

Among domestic hospitals, SMC is the only one performing all living donor liver transplants using laparoscopic surgery, which significantly reduces surgical time, pain, and scarring compared to those of open surgeries.

#### High Success Rate for Incompatible Blood Type Kidney Transplants

A kidney transplant that can be performed without immunosuppressants was successfully performed through the induction of immune tolerance for the first time in Korea.

#### One-Stop Care and Multidisciplinary Transplant Teams

SMC provides integrated services for the entire process of organ transplantation, from pre-transplant consultations and registrations to post-transplant outpatient care, patient education, and medication management, ensuring a seamless experience for patients

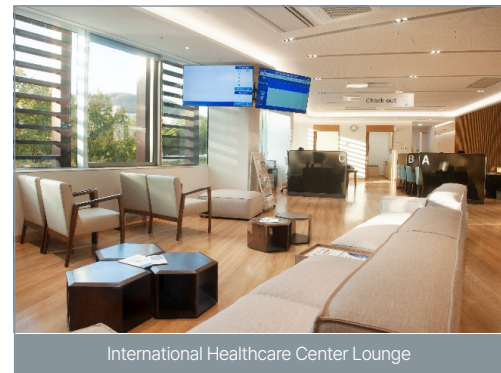
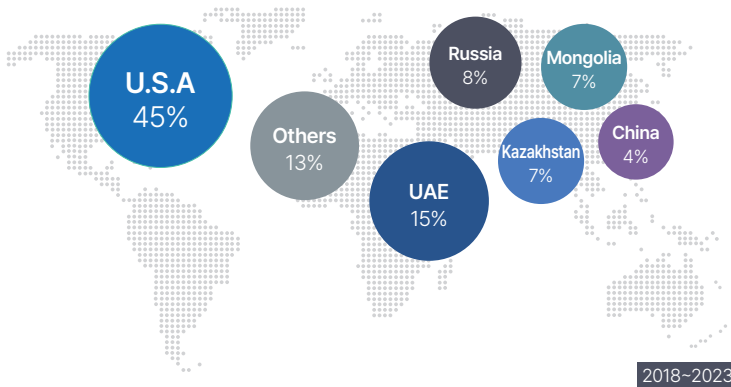


# International Healthcare Center

## Better Care than Home

The International Healthcare Center was established in 1995 and provides international-standard medical services to patients from more than 120 countries. We have dedicated professors, nurses, coordinators, and staff available on-site to support international patients from their initial visit until the completion of their treatment, ensuring a smooth and seamless experience throughout their journey.

### Visits by Country



### PCP (Primary Care Physicians)

Ensuring comprehensive patient care from the first visit to treatment completion by operating the Primary Care Physician (PCP) system, where each foreign patient is assigned to a doctor at the International Healthcare Center

Initial Consultation	Referral to Specialists	Closing
<ul style="list-style-type: none"> <li>Physical examination and medical records review</li> <li>On-site assessment of symptoms</li> </ul>	<ul style="list-style-type: none"> <li>Referral to specialists by symptom</li> <li>Discussion of treatment direction between PCP and specialists</li> </ul>	<ul style="list-style-type: none"> <li>Follow-up and closing (if necessary)</li> <li>Future appointments</li> </ul>

## Expert & Expeditious

Before Hospital Visit	During Hospital Visit	After Hospital Visit
<ul style="list-style-type: none"> <li>Quick appointment scheduling</li> <li>Assistance with insurance payment guarantees</li> </ul>	<ul style="list-style-type: none"> <li>Support for rapid progress of consultation, tests, and multilingual interpretation support</li> <li>Dedicated team for inpatient care (nurses and doctors)</li> </ul>	<ul style="list-style-type: none"> <li>24/7 emergency on-call service for foreign patients</li> <li>Future appointment scheduling</li> <li>Insurance claims and provision of English medical certificates</li> </ul>

### Visiting Doctor

Within the International Healthcare Center, specialized clinical departments provide with extended consultation hours dedicated to foreign patients, minimizing wait times and enhancing patient satisfaction.

#### Clinical Departments Available

Internal Medicine	Family Medicine	Gastroenterology
Rheumatology	Pulmonology	Cardiology
Pediatrics Neurology	Orthopedic Surgery	Obstetrics and Gynecology
General Surgery (Division of Breast Surgery)		

## Concierge Service

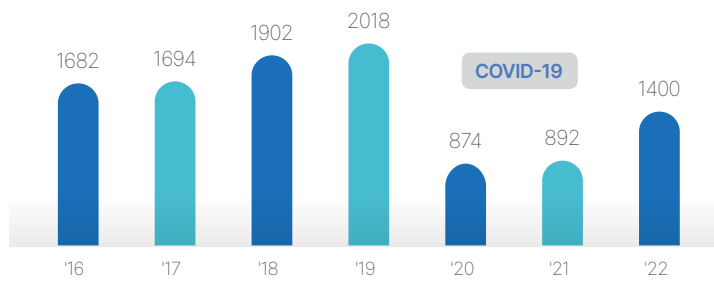
<b>Interpretation Services</b>   Available for Arabic, Russian, Mongolian, Chinese, and Vietnamese Patients	<b>Accommodation Arrangement</b>  Hospital-Affiliated Hotels Nearby	<b>Airport Pickup Arrangement</b>  Airport Transportation Services	<b>Inpatient Meals</b>   Western, Halal, Russian, and Mongolian Meals
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# Health Promotion Center

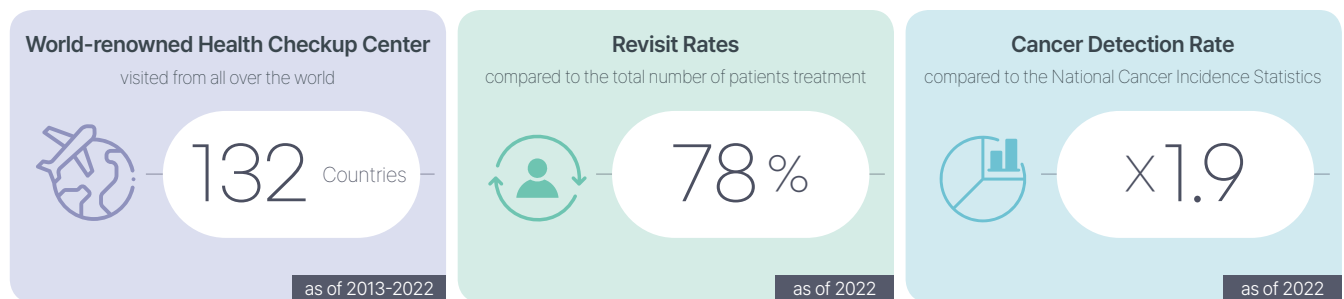
## Customer-oriented Space for Healthy Life

**The First, The Best:** SMC's Health Promotion Center, based on its excellent medical staff and technological capabilities, has maintained a pioneering and leading position in the field of precision health examinations in Korea. You can receive examinations using state-of-the-art medical equipment and reliable health consultations. In the event of findings during the examination, swift and systematic outpatient referrals to the proper clinical department are made, providing optimal diagnosis and treatment.

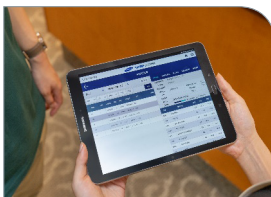
### The Number of Health Checkups (International Visits)



### Tailored Health Checkup Programs for International Patients

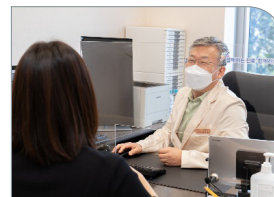


## Why SMC Health Promotion Center?



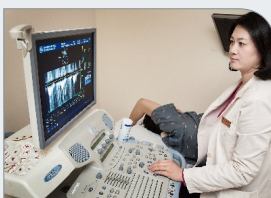
### Minimized Waiting Times

The center established a SMART examination environment using smartphones, RFID, and tablets to minimize waiting times and to enhance patient satisfaction.



### Same-day Consultation

After having a comprehensive health checkup, patients can get a doctor consultation on the same day in the afternoon, with the screening results in hand.



### Korea's Largest Number of Medical Staff

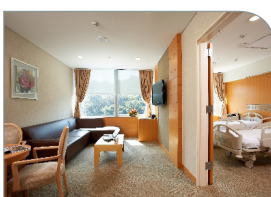
SMC has the largest team of specialized medical professionals in Korea to ensure reliable medical services through their expertise (62 doctors, 109 nurses, and 142 medical staff)



### State-of-the-art Medical Equipment

The Health Promotion Center and SMC utilize state-of-the-art medical equipment, such as CT, MRI, PET-CT, and etc.

## Tailored Health Checkup Programs for International Patients



The center provides various customized health checkup programs for foreign patients, including precision screenings for different types of cancer, premium checkups, and VIP accommodation programs. Health checkup items are tailored to each customer considering personal characteristics to the fullest including sex, age, family history, and life style.

SCAN the QR for Health Checkup Programs

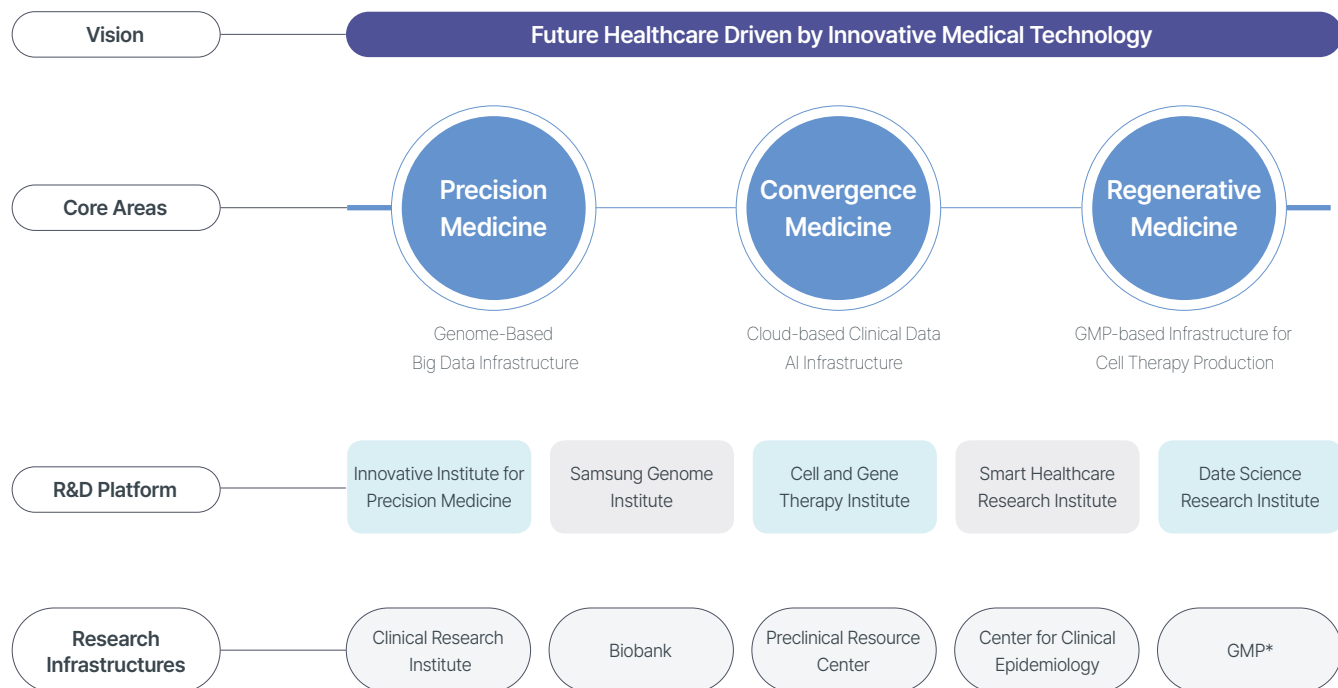




# Research Institute for Future Medicine

## Vision and Key Research Areas

The Research Institute for Future Medicine operates the Samsung Genome Institute and the Innovative Institute for Precision Medicine to implement personalized precision medicine based on genomics. Additionally, it runs the Cell and Gene Therapy Institute aimed at overcoming rare and incurable diseases. Furthermore, it conducts interdisciplinary medical research that combines advanced engineering, IT, and medical technology, including traditional medical devices, big data, AI, robotics, and etc.



## Promoting Innovative Medical Technology Research

SMC is dedicated to developing innovative medical technologies to overcome intractable and rare diseases, with a focus on the Research Institute for Future Medicine. To achieve this goal, the institute is concentrating on three main areas: **Precision Medicine**, which involves developing tailored treatment methods for severely ill patients; **Convergence Medicine**, which leverages core technologies of the Fourth Industrial Revolution, such as big data, artificial reality, virtual reality, and AI, to create novel digital therapeutics; and **Regenerative Medicine**, which focuses on developing cell therapies based on the institute's GMP facilities.

### Precision Medicine

Genome-Based  
Big Data Infrastructure



- Personalized treatments for patients with severe stages of cancer
- CAR-T cell therapy utilizing immune cells
- Development of innovative precision medical technologies such as cancer vaccines

### Convergence Medicine

Cloud-Based Clinical Data  
AI Infrastructure



- Advancement in medical engineering and medical device technology
- Research on AI service models based on medical data specific to each condition
- Development of digital therapeutic devices and electroceuticals

### Regenerative Medicine

GMP-based Infrastructure for  
Cell Therapy Production

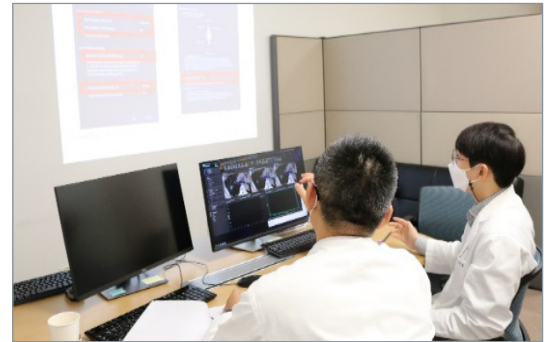
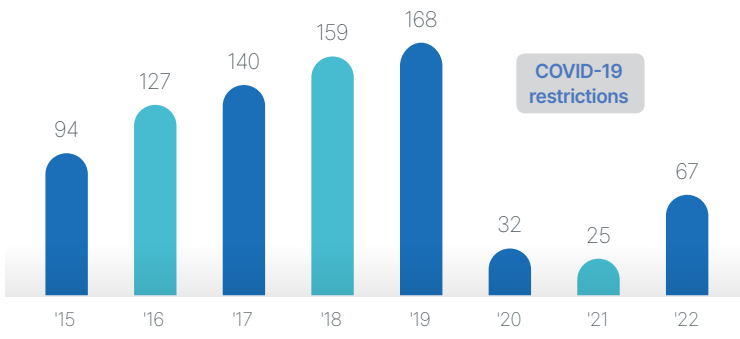


- Development of stem cell-based regenerative therapies
- Development of gene therapies for rare and intractable diseases
- Advancement in cell therapy production technology using GMP facilities

\* Good Manufacturing Practice

# Training Programs for Foreign Medical Professionals

## Foreign Medical Professional Trainees



## International Training Program

### Observership Program / Medical Student Clinical Elective

- Observership Program is a shadowing experience that enables participants to observe medical practice and participate in educational activities.
- Clinical Elective is for international medical students outside of Korea to attend clinical electives at Samsung Medical Center.

### Advanced Course for Clinical Skills

- Advanced robotic surgery training
- Proton therapy training program
- ESD training program
- ECMO training course
- POLLISS (POTENTIAL LEADERS In Spinal Surgery) Program
- Samsung MDS+AML training program
- SITAT (SMC Image-guided Tumor Ablation Training Course) for Liver Cancer

### Korea Medical Training Program

- Clinical Fellowship program based on training agreement between the Korean Ministry of Health and Welfare and countries in the Gulf region (Saudi Arabia, Kuwait, Bahrain, Oman)

## Interview with an Overseas Trainee

(Fellow in Transplant Surgery from Saudi Arabia)

Hello, I am Abdullah Almoflihi, a general surgeon from Saudi Arabia.

**I had the privilege to train as a fellow in the Department of Transplant Surgery at SMC from September 2021 to August 2023.** With that, I would like to express my gratitude to Saudi Arabia and Korea for providing me with this incredible opportunity.

During my fellowship, I had the honor of **learning from some of the finest professors in the field of transplantation, allowing me to work with diverse and complex patient cases through evidence-based training.** Along with this, I also learned the importance of teamwork and experienced how effective and productive teamwork can lead to better outcomes.





# Cutting-edge Intelligence Hospital

## Concept of SMC 7 Innovation Tasks

Samsung Medical Center (SMC) is dedicated to realizing the vision of an advanced intelligent hospital, a platform centered around the patient and specialized in critical and complex illnesses. To achieve an advanced intelligent hospital, SMC is now pursuing seven major innovation challenges, and introducing key technologies of the Fourth Industrial Revolution such as AI, robots, cloud computing, big data, and VR.

Clinical Process Innovation	Logistics Innovation	Patient Journey Innovation	Operational Innovation
Digitalizing the entire patient journey, including outpatient care, testing/medication, dispensation, surgery, admission/discharge	Standardizing medical supplies across wards and automating logistics delivery using robots	Digitalizing all touchpoints of the patient journey from appointments to hospital discharge	Monitoring and predicting appointment/treatment status and issues to provide timely care, surgery, tests, etc., to patients
Spatial Innovation	HR Innovation	Care Network Innovation	
Creating a patient-centered care, a future-oriented space plan capable of addressing critical illnesses and developing advanced medical techniques	Establishing a caregiver culture to grow as a member of a top-notch team to achieve the best treatment outcomes	Contributing to treatment integration and establishing a medical safety network through seamless sharing of treatment data and patient exchanges between SMC and partner hospitals	

## Key Digital Transformation and Innovation Cases

### Robot-Based Smart Logistics

The use of standardized supplies in the wards and an automated delivery system using transfer robots has significantly reduced logistics management tasks in the wards.



### Smart Bed-Electronic Bed Cards

SMC introduced electronic patient cards, AI-based bedsores diagnosis, mobile admission services, and mobile preexamination services to enhance the satisfaction of both staff and patients.



### Data-Based Operation & Communication Center (DOCC) Development

To minimize patient waiting times and to provide timely services such as examinations, consultations, admissions, and blood collection, SMC shares real-time information on the availability of medical resources and provide predictive data on future operations.



## Establishment of a World-Class Digital Transformation Infrastructure

SMC has proven itself as a leader in healthcare by achieving the world's first HIMSS\* Stage 7 certification in IT infrastructure, EMR, digital imaging, and adoption model for analytics maturity. Additionally, it scored the highest-ever rating in the Digital Health Index (DHI), reaffirming its position as a pioneer in smart healthcare.

### HIMSS Stage 7 Validated Categories



\* The Healthcare Information and Management Systems Society (HIMSS) in the United States is an organization that evaluates the level of healthcare information technology in medical institutions with the goal of improving healthcare quality and patient safety.

#### Mission

We are dedicated to improve health and to enhance the quality of life for mankind through the provision of the state-of-the-art patient care, clinical research and education.

#### Vision

### We aspire to be the frontier of future medicine

With state-of-the-art medical technology,  
we focus on providing personalized treatments  
with outstanding health outcomes for patients with critical illnesses.

#### Slogan

 **Care Together Happy Together**

#### Strategic Plan

Patient-Centered	Critical Illnesses	Cutting-edge Intelligence	Medical Cluster	Care Network
Patient-First hospital	Best treatments for critical & complex illnesses	Pioneer of the future medicine by building a cutting-edge intelligence hospital	Innovative collaboration of experts to develop novel treatments	A hub for healthcare experts within the medical community

#### Our Commitment

### Our happiness is patients' happiness.



We recognize and respect one another.

We will work together to deliver medical excellence.

We take pride in our expertise in medical field.

Empathy is the beginning of understanding patients.

We will listen first and explain with sincerity.

Our commitment to innovation is the future of SMC.

## CAREGIVER



# SAMSUNG MEDICAL CENTER





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