MEDIA RELEASE

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For Immediate Publication

NUH AND NUS LAUNCH NEW MOLECULAR IMAGING AND THERANOSTICS CENTRE TO STRENGTHEN PATIENT CARE AND RESEARCH

Powered by Singapore's first next-generation total-body PET/CT system, the new facility aims to transform diagnostics, treatment and research in cancer and beyond

The National University Hospital, the Yong Loo Lin School of Medicine, National University of Singapore and Siemens Healthineers formalised a Memorandum of Understanding on 16 October, to advance clinical diagnostics, translational research and technological innovations together.

SINGAPORE — The National University Hospital (NUH) and the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine) have jointly launched the Molecular Imaging and Theranostics Centre, a novel integrated clinical, education, research and development facility that brings together advanced diagnostics, targeted therapy and pioneering research. This landmark development is set to transform the way diseases such as cancer are diagnosed, treated and studied, positioning Singapore at the forefront of molecular imaging in Asia.

At the heart of the new centre is Singapore's first total-body PET/CT (Hybrid Positron Emission Tomography and Computer Tomography) system launched in partnership with Siemens Healthineers, located at the NUH Medical Centre. The next-generation scanner sets a new benchmark in advanced medical imaging and a major step forward in enhancing patient care.

A game-changer for patient care

The total-body PET/CT system represents a significant advancement over traditional PET/CT systems, offering a range of unique benefits to patients that go beyond what conventional PET/CT systems can offer:

Parameters	Total-Body PET/CT	Conventional PET/CT	Benefits to Patients
Detection Sensitivity	~171 cps/kBq	~23 cps/kBq*	More detailed and accurate diagnostic information due to ~8 times better detection sensitivity
Scan Speed	< 5 minutes	8 – 15 minutes	Up to one-third time savings for patients undergoing the PET/CT procedure
Scan Comfort	A single bed position (continuous bed motion)	6 – 14 bed positions	Only a single patient position is needed to acquire images, as the system enables continuous bed motion throughout scan, leading to better patient comfort.
Scan Throughput	Up to 6 patients / hour	~3 patients / hour	Shorter wait times for patients due to higher scanner capacity
Scan Field of View	106 cm	~25 cm	Greater efficiency due to wider scanning area, with > 4 times coverage
Radiation Dose	Up to 80% reduction	~3.5 to 5 mSv**	Lower exposure to radiation for patients
Radiotracer Dose	Up to 50% reduction	6 mCi***	

**Counts per second per kilo Bequerel = how many counts of the injected activity are detected*
***mSv is an ionising radiation dose measurement unit on health risk to the human body*
****mCi is the measurement unit on the amount of radioactivity present*

"Total-body PET/CT allows us to capture the whole body in a single bed scan with unmatched clarity," said Professor Khong Pek Lan, Head & Senior Consultant, Department of Diagnostic Imaging, NUH, and Head, Department of Diagnostic Radiology, NUS Medicine. Professor Khong is also the Director of the NUS Clinical Imaging Research Centre (CIRC), based at NUS Medicine.

"Patients benefit from faster, safer and more precise diagnoses, while our clinicians can harness these insights to explore innovative therapies more effectively. This is a step forward in personalised medicine."

Unlocking new frontiers in research

Beyond direct patient care, the new centre will also act as a research powerhouse. Researchers now have the capability to observe the real-time movement of tracers throughout the entire body using advanced total-body PET/CT technology. This opens new possibilities for validating next-generation diagnostics and therapies, **advancing theranostics – a fast-emerging field that combines diagnostic imaging with targeted therapy**.

Theranostics enables clinicians to first identify disease using a specific diagnostic tracer, and to deliver targeted radiation directly to the very same cancer cells, once suitable molecular targets are identified. This serves to destroy them while sparing most of the healthy tissues.

The ability to conduct such comprehensive studies within a clinical setting will accelerate the development of practice-changing approaches that could become future standards of care. It also strengthens Singapore's position as a hub for global collaborations and translational research.

NUH, NUS Medicine and industry partner Siemens Healthineers have formalised a Memorandum of Understanding to establish a framework, with the aim of improving patient outcomes through clinical diagnostics, translational research and technological innovations. Together, the partners aim to ensure that the new centre not only benefits patients in Singapore but also drives scientific advancement across Asia.

"Siemens Healthineers is proud to partner NUH and NUS Medicine to launch Singapore's first total-body PET/CT system, which enables faster, safer, and more accurate diagnostics, while unlocking new frontiers in theranostics and translational research, and shaping the future of healthcare in Singapore and across Asia," said Ms Siow Ai Li, Managing Director, Siemens Healthineers Singapore, Malaysia and Brunei.

Expected to be operational by early November, the total-body PET/CT scanner will serve around 2,900 patients per year, while also supporting a wide range of clinical trials and research programmes.

The new Molecular Imaging and Theranostics Centre represents a seamless integration between clinical practice and research within the same facility, fostering greater synergy for the benefit of patient care and scientific advancement. Backed by a robust academic and clinical ecosystem, the collaboration will also drive translational research, provide specialised training, and spearhead regional outreach initiatives.

Chinese Glossary

National University Health System (NUHS)	国立大学医学组织 (国大医学组织)
National University Hospital	国立大学医院 (国大医院)
Molecular Imaging and Theranostics Centre	分子影像与诊疗中心
Yong Loo Lin School of Medicine, National University of Singapore (NUS)	国大杨潞龄医学院

National University of Singapore (NUS) Clinical Imaging Research Centre (CIRC)	国大临床影像研究中心
Professor Khong Pek Lan Head & Senior Consultant Department of Diagnostic Imaging National University Hospital Head Department of Diagnostic Radiology Yong Loo Lin School of Medicine, National University of Singapore (NUS)	孔碧兰 主任兼高级顾问医生 影像诊断科 国立大学医院 (国大医院) 主任 诊断放射学系 国大杨潞龄医学院
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About the National University Hospital

The National University Hospital (NUH) is Singapore's leading university hospital. While the hospital at Kent Ridge first received its patients on 24 June 1985, our legacy started from 1905, the date of the founding of what is today the NUS Yong Loo Lin School of Medicine. NUH is the principal teaching hospital of the medical school.

Our unique identity as a university hospital is a key attraction for healthcare professionals who aspire to do more than practise tertiary medical care. We offer an environment where research and teaching are an integral part of medicine, and continue to shape medicine and transform care for the community we care for.

We are an academic medical centre with over 1,200 beds, serving more than one million patients a year with over 50 medical, surgical and dental specialties. NUH is the only public and not-for-profit hospital in Singapore to provide trusted care for adults, women and children under one roof, including the only paediatric kidney and liver transplant programme in the country.

The NUH is a key member of the National University Health System (NUHS), one of three public healthcare clusters in Singapore. For more information, visit www.nuh.com.sg

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About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education, research, and entrepreneurship, with a focus on Asian perspectives and expertise. We have 15 colleges, faculties, and schools across three campuses in Singapore, with more than 40,000 students from 100 countries enriching our vibrant and diverse campus community. We have also established more than 20 NUS Overseas Colleges entrepreneurial hubs around the world.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments, and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, research centres of excellence, corporate labs and more than 30 university-level research institutes focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research, and cybersecurity.

For more information on NUS, please visit http://www.nus.edu.sg/

About the NUS Yong Loo Lin School of Medicine (NUS Medicine)

The NUS Yong Loo Lin School of Medicine is Singapore's first and largest medical school. Our enduring mission centres on nurturing highly competent, values-driven, and inspired healthcare professionals to transform the practice of medicine and improve health around the world.

Through a dynamic and future-oriented five-year curriculum that is inter-disciplinary and inter-professional in nature, our students undergo a holistic learning experience that exposes them to multiple facets of healthcare and prepares them to become visionary leaders and compassionate doctors and nurses of tomorrow. Since the School's founding in 1905, more than 12,000 graduates have passed through our doors.

In our pursuit of health for all, our strategic research programmes focus on innovative, cutting-edge biomedical research with collaborators around the world to deliver high impact solutions to benefit human lives.

The School is the oldest institution of higher learning in the National University of Singapore and a founding institutional member of the National University Health System. It is one of the leading medical schools in Asia and ranks among the best in the world (Times Higher Education World University Rankings 2025 by subject and the Quacquarelli Symonds (QS) World University Rankings by subject 2025).

For more information about NUS Medicine, please visit https://medicine.nus.edu.sg/

About Siemens Healthineers

Siemens Healthineers pioneers breakthroughs in healthcare. For everyone. Everywhere. Sustainably. The company is a global provider of healthcare equipment, solutions and services, with activities in more than 180 countries and direct representation in more than 70.

The group comprises Siemens Healthineers AG, listed as SHL in Frankfurt, Germany, and its subsidiaries. As a leading medical technology company, Siemens Healthineers is committed to improving access to healthcare for underserved communities worldwide and is striving to overcome the most threatening diseases.

The company is principally active in the areas of imaging, diagnostics, cancer care and minimally invasive therapies, augmented by digital technology and artificial intelligence. In fiscal 2024, which ended on September 30, 2024, Siemens Healthineers had approximately 72,000 employees worldwide and generated revenue of around €22.4 billion.

For more information about Siemens Healthineers, please visit www.siemens-healthineers.com.