

## **MEDIA RELEASE**

**11 December 2021**

### **PANCREAS TRANSPLANT SERVICE – NOW A NATIONAL PROGRAMME**

*First simultaneous pancreas-kidney transplant completed this July after pancreas transplantation service becomes a national programme*

Singapore — With the approval by the Ministry of Health (Singapore) for the pancreas transplantation service as a national programme in April 2021, Singapore's National University Hospital (NUH) and Singapore General Hospital (SGH) will continue to collaborate and bring together best practices to further enhance patient care and outcomes in deceased donor pancreas transplantations. With this programme, Singapore will be the only Southeast Asian country with a pancreas transplant service. The programme is intended for Singaporeans and permanent residents.

The Director of the National Pancreas Transplant Programme (NPTP) is A/Prof Tiong Ho Yee, who is a Senior Consultant in the Adult Kidney & Pancreas Transplantation Programme at National University Centre for Organ Transplantation (NUCOT), and in the Department of Urology at NUH. He is also the Surgical Director of NUCOT's Adult Kidney Transplantation Programme. NPTP's Deputy Director is Dr Valerie Gan, Programme Director, Pancreas Transplant Programme, and Surgical Director, Kidney Transplant Programme, SingHealth Duke-NUS Transplant Centre (SDTC). Dr Gan is also Senior Consultant, Department of Urology, SGH.

As part of NPTP, a multidisciplinary team of surgeons, physicians and transplant coordinators at both NUCOT and SDTC will screen for patients who are suitable to be placed on the waiting list, and also oversee patients' pre- and post-operative care. For the initial two-year period, the procedure will be performed at NUH and MOH will review the progress of the programme after two years.

The pancreas transplant service was first introduced in 2012 as a pilot programme supported by MOH and was a collaboration between NUH and SGH's transplant units. The pilot programme was then headed by Project Director Prof Krishnakumar Madhavan of NUH. In the same year, the Republic's very first simultaneous pancreas-kidney (SPK) transplant was successfully performed at NUH. An SPK transplant has been shown to prolong survival in patients with selected type I diabetes and renal failure. SPK helps patients with type I diabetes to be insulin free, improving their quality of life and reducing long-term diabetic complications such as kidney failure, blindness and stroke. Since 2012, five SPK transplants have been performed for type I and type II diabetes mellitus patients.

NUH and SGH will continue to work together to build expertise and experience in pancreas transplantation. This includes rigorous monitoring of clinical outcomes as well as strengthening of transplant education and research. The national programme will also strengthen processes and outreach efforts to ensure that potential patients at all hospitals are identified and screened for pancreas transplant suitability.

A/Prof Tiong said: “The approval of pancreas transplantation as a national programme marks the culmination of several years of clinical efforts and research to bring this life changing surgery to suitable patients suffering from type I diabetes mellitus with complications including renal failure. We will continue to work closely with our SGH colleagues to build expertise and experience in pancreas transplantation, to strengthen it as a sustainable national programme.”

Dr Hersharan Kaur Sran, Senior Consultant, Adult Kidney & Pancreas Transplantation Programme, NUCOT, NUH, said: “Pancreas transplant surgery can add quality of life and years of life to patients with type I diabetes, especially those who also have end-stage kidney failure or have received a kidney transplant. It is thus important to be able to offer this treatment option for patients in Singapore, and to be on par with the best transplant centres worldwide.” She is also the Medical Director of NUCOT’s Adult Kidney Transplantation Programme and a Senior Consultant with NUH’s Division of Nephrology.

“Having been involved in the development and growth of the pancreas transplant service, I am glad to see it become a national programme. This is a timely addition to the range of transplant services that patients should have access to. Patients in need of such a transplant will benefit greatly from the combined knowledge, skill and experience of the teams at NUH and SGH,” said Dr Gan.

### **First SPK transplant since mainstreaming of service**

An SGH patient became the first to undergo an SPK transplant under the national programme in July 2021. The 39-year-old Singaporean male had type I diabetes mellitus and renal failure. The eight-hour surgery was successful. The patient is recovering well and has returned to SGH for follow-up care.

### **First SPK transplant on type II diabetes patient in 2019**

While most of the patients who undergo SPK suffer from type I diabetes, it has been found in recent years that pancreas transplant may also benefit selected type II diabetics patients who are on insulin.

The first SPK transplant for type II diabetes in Singapore was successfully performed at NUH in April 2019. The NUH patient, a 50-year-old Singaporean male, suffered from type II diabetes. Despite supposed insulin resistance in type II diabetes, the six-hour surgery was successful in rendering the patient free from dialysis and insulin injections. This is an important advancement in the management of kidney failure for suitable patients with type II diabetes.

### **The supplementary role of pancreas transplant for kidney failure and insulin-dependent diabetic patients**

Some patients with end-stage renal disease requiring dialysis who are suitable for kidney transplant and have insulin-dependent diabetes may undergo evaluation for pancreas transplant. Diabetes is the number one cause of kidney dialysis in Singapore, accounting for

about 2 in 3 new cases<sup>1</sup> – **Singapore is ranked among the top worldwide for diabetes associated end-stage renal failure patients on dialysis.**<sup>2</sup>

After a successful transplantation, the transplanted pancreas should be able to produce sufficient insulin to control the patient's blood sugar, preventing some diabetes complications. The patient will also not need any insulin injections and will have an improved quality of life with less diet and activity restrictions brought about by diabetes and renal failure.

There are currently three different types of pancreas transplant available under this national programme, namely simultaneous pancreas kidney (SPK) transplant; pancreas transplant alone (PTA) and pancreas after kidney (PAK) transplant.

Pancreas transplants have been carried out in North America, Europe and Asian countries such as Japan and South Korea. Based on the Global Observatory on Donation and Transplantation database, a total of 2,323 pancreas transplants were carried out in America, Europe, Western Pacific etc in 2019, of which, around 58% were carried out in America.

---

<sup>1</sup> 'Singapore Renal Registry Annual Report 2019', *National Registry of Diseases Office*,  
[https://www.nrdo.gov.sg/docs/librariesprovider3/default-document-library/srr-annual-report-2019.pdf?sfvrsn=8822fcf8\\_0](https://www.nrdo.gov.sg/docs/librariesprovider3/default-document-library/srr-annual-report-2019.pdf?sfvrsn=8822fcf8_0)  
(accessed 2 December 2021)

<sup>2</sup> 'USRDS 2020 Annual Data Report',  
<https://adr.usrds.org/2020/end-stage-renal-disease/11-international-comparisons>  
(accessed 2 December 2021)

**Chinese Glossary**

<p>Associate Professor Tiong Ho Yee Director National Pancreas Transplant Programme</p> <p>Senior Consultant Adult Kidney &amp; Pancreas Transplantation Programme National University Centre for Organ Transplantation National University Hospital</p> <p>Surgical Director Adult Kidney Transplantation Programme National University Centre for Organ Transplantation National University Hospital</p> <p>Senior Consultant Department of Urology National University Hospital</p> <p>Senior Consultant Division of Surgical Oncology National University Cancer Institute, Singapore</p>	<p>张和义副教授 主任 全国胰腺移植计划</p> <p>高级顾问医生 成人肾脏和胰腺移植计划 国大医院器官移植中心 国立大学医院</p> <p>外科主任 成人肾脏移植计划 国大医院器官移植中心 国立大学医院</p> <p>高级顾问医生 泌尿科 国立大学医院</p> <p>高级顾问医生 肿瘤外科 新加坡国立大学癌症中心</p>
<p>Dr Hersharan Kaur Sran Senior Consultant Adult Kidney &amp; Pancreas Transplantation Programme National University Centre for Organ Transplantation National University Hospital</p> <p>Medical Director Adult Kidney Transplantation Programme National University Centre for Organ Transplantation National University Hospital</p> <p>Senior Consultant Division of Nephrology National University Hospital</p>	<p><b>Hersharan Kaur Sran 医生</b> 高级顾问医生 成人肾脏与胰腺移植计划 国大医院器官移植中心 国立大学医院</p> <p>内科主任 成人肾脏移植计划 国大医院器官移植中心 国立大学医院</p> <p>高级顾问医生 肾脏科 国立大学医院</p>
<p>Professor Krishnakumar Madhavan Co-Director National University Centre for Organ Transplantation National University Hospital</p> <p>Senior Consultant Adult Liver &amp; Pancreas Transplantation Programme National University Centre for Organ Transplantation National University Hospital</p> <p>Head Department of Surgery National University Hospital</p>	<p><b>Krishnakumar Madhavan 教授</b> 同席主任 国大医院器官移植中心 国立大学医院</p> <p>高级顾问医生 成人肝脏和胰腺移植计划 国大医院器官移植中心 国立大学医院</p> <p>总主任 外科部门 国立大学医院</p>

Associate Professor Glenn Bonney Consultant Adult Liver & Pancreas Transplantation Programme National University Centre for Organ Transplantation National University Hospital  Consultant Division of Hepatobiliary & Pancreatic Surgery National University Hospital	<b>Glenn Bonney 副教授</b> 顾问医生 成人肝脏和胰腺移植计划 国大医院器官移植中心 国立大学医院  顾问医生 肝胆胰外科 国立大学医院
Clin Asst Prof Valerie Gan Deputy Director National Pancreas Transplant Programme  Programme Director Pancreas Transplant Programme SingHealth Duke-NUS Transplant Centre  Surgical Director Kidney Transplant Programme SingHealth Duke-NUS Transplant Centre  Senior Consultant Department of Urology Singapore General Hospital	<b>颜慧俐 医生</b> 副主任 全国胰腺移植计划  胰腺移植主任 新保集团杜克-国大移植中心  肾脏移植外科主任 新保集团杜克-国大移植中心  泌尿科高级顾问医生 新加坡中央医院
Simultaneous pancreas-kidney transplant	胰肾联合移植
Pancreas transplant alone	单独胰腺移植
Pancreas after kidney transplant	肾脏移植后胰腺移植
Type I diabetes	一型糖尿病
Type II diabetes	二型糖尿病

For media enquiries, please contact:

YUANYI LI  
 Group Communications  
 National University Health System  
 HP: +65 96510153  
 Email: [yuanyi\\_li@nuhs.edu.sg](mailto:yuanyi_li@nuhs.edu.sg)

CAROL ANG  
 Communications Department  
 Singapore General Hospital  
 HP: +65 9845 5354  
 Email: [carol.ang@sqh.com.sg](mailto:carol.ang@sqh.com.sg)

### About the National University Hospital

The National University Hospital is a tertiary hospital and major referral centre with over 50 medical, surgical and dental specialties, offering a comprehensive suite of specialist care for adults, women and children. It is the only public hospital in Singapore to offer a paediatric kidney and liver transplant programme, in addition to kidney, liver and pancreas transplantation for adults.

The hospital was opened on 24 June 1985 as Singapore's first restructured hospital. Each year, the Hospital attends to more than one million patients.

As an academic health institution, patient safety and good clinical outcomes are the focus of the Hospital. It plays a key role in the training of doctors, nurses, allied health and other



A member of the NUHS



healthcare professionals. Translational research is pivotal in the Hospital's three-pronged focus, and paves the way for new cures and treatment.

A member of the National University Health System, it is the principal teaching hospital of the NUS Yong Loo Lin School of Medicine and the NUS Faculty of Dentistry.

### **About Singapore General Hospital**

Singapore General Hospital, a member of Singapore Health Services, is the public sector's flagship hospital. Established in 1821, SGH is Singapore's largest acute tertiary hospital with 1,700 beds and national referral centre offering a comprehensive range of more than 40 clinical specialties on its campus. Every year, about 1 million Singaporeans benefit from medical care delivered by its 800 specialists. As an academic healthcare institution and the bedrock of medical education, SGH plays a key role in nurturing doctors, nurses and allied health professionals, and is committed to innovative translational and clinical research in her continual strive to provide the best care and outcomes to her patients. [www.sgh.com.sg](http://www.sgh.com.sg)