

Strengthening Care And Inspiring Hope

In the continual pursuit of enhancing care delivery and excellence, KKH is launching new initiatives to benefit patients, their families and the community through technological innovation, dedicated, multidisciplinary care and community partnerships.

PAINLESS GLUCOSE MONITORING FOR CHILDREN WITH DIABETES

Self-monitoring of blood glucose is essential for people living with diabetes to manage their condition and remain healthy.

Leveraging on technological advances in glucose monitoring, KK Women's and Children's Hospital (KKH) has started to incorporate a flash glucose monitoring system (FGMS) to help children with diabetes monitor their glucose levels in a more convenient and painless way. The FGMS was approved by the Health Sciences Authority for use in Singapore since mid-2017.

The FGMS comprises a small, flat, circular sensor which is discreetly inserted in the upper arm for up to two weeks and an electronic reader which is light, pocket-size and portable. Once the sensor is inserted, it continuously measures and records the glucose level in the interstitial fluid under the skin of the arm.

The patient and caregivers can wave the reader over the sensor at any time to obtain a reading of their prevailing glucose level, as well as a chart of their recent glucose levels, displayed on the screen of the reader.



Diabetes Nurse Educator and Nurse Clinician, Ms Lim Pei Kwee, guides a paediatric patient on obtaining a glucose level reading using the flash glucose monitoring system.

"Patients with diabetes typically need to monitor their blood glucose levels using the finger-prick test at least four times a day. The FGMS is a useful adjuvant to finger-prick blood glucose testing, as it can keep track of glucose readings more frequently round-the-clock in between the finger-prick blood tests," shares Diabetes Nurse Educator Ms Hui Yuen Ching Angela, Nurse Clinician, Division of Nursing, KKH.

The ambulatory glucose profile that is displayed on the reader enables patients to conveniently observe in real-time the changes and fluctuations in their glucose levels on a daily basis. "Using this glucose monitoring technology, patients can respond faster to fluctuations in their glucose levels through well-timed insulin doses and food intake to keep their glucose levels within a healthy range," explains Ms Hui.

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MANAGING DIABETES BETTER WITH INDIVIDUALISED AMBULATORY GLUCOSE PROFILE

Since July 2017, the Endocrinology Service team has been guiding paediatric patients with diabetes and their caregivers to make full use of the FGMS' capabilities to manage their diabetes better.

"Over six months, more than 70 paediatric patients and their caregivers have learnt how to use the FGMS technology and review their daily glucose readings and profile," adds Diabetes Nurse Educator Ms Lim Pei Kwee, Nurse Clinician, Division of Nursing, KKH.

"We have also found that children and their caregivers are now more motivated to self-monitor their glucose levels due to the convenience and painlessness that the FGMS provides."

The reader also stores a patient's glucose readings for up to three months. Detailed reports of the stored glucose readings can be generated retrospectively by downloading the data from the reader to a computer via a USB cable.

Using reports of individual patient's unique ambulatory glucose profile, the



The flash glucose monitoring system, comprising a sensor (left) which is worn on the arm, and portable electronic reader (right).

KKH Diabetes Nurse Educators are able to provide targeted advice to patients on fine-tuning their dietary choices, meal times and lifestyle activities, as well their insulin treatment, to achieve optimal diabetes management.

"We are constantly exploring better and simpler ways for patients to self-monitor their condition, so as to mitigate the risk of developing diabetes-related complications.

"With the introduction of FGMS being one of such ways, we hope to continue to engage and motivate patients in their on-going journey of managing the chronic condition, and remove the barriers towards optimal diabetes management so that they can experience an active and fulfilling life," adds Ms Lim.

NEW CLINIC FOR COUPLES WITH RECURRENT PREGNANCY LOSS

Recurrent pregnancy loss affects approximately one per cent of couples trying to conceive. To provide a place of care and support for affected couples, KKH has established a dedicated Recurrent Pregnancy Loss Clinic to provide comprehensive assessment, treatment recommendations and psycho-social counselling.

"Recurrent pregnancy loss is defined as the loss of three or more pregnancies, and can be associated with a diverse range of causes such as endocrine problems like thyroid disease, abnormalities of the uterus, chromosomal aberrations and antiphospholipid syndrome," shares Dr Liu Shuling, Consultant, Department of Reproductive Medicine, KKH, who leads the Recurrent Pregnancy Loss Clinic.

"Common causes of recurrent pregnancy loss seen by KKH include Asherman's syndrome (scarring of the uterus lining), fibroids, obesity and smoking."

STRENGTHENING THE CIRCLE OF CARE FOR CHILDREN

KKH is partnering Canossaville Children and Community Services (CCCS) in pioneering a new approach to develop a coordinated continuum of care and support available to children and their families through a project called the Circle of Care@Canossian Eduplex.

Commissioned by the Lien Foundation, the initiative aims to benefit over 900 children between the ages of 18 months and 14 years who are receiving education at Canossian Eduplex, including a population

of children with hearing impairment and/or developmental needs, and their families.

"The Canossian Eduplex includes a preschool, primary school, special school, and student-care centre – providing an ideal setting for evolving an effective, integrated, efficient, and sustainable framework for the coordination of care," explains Dr Hamimah Ahmat, Principal Speech and Language Therapist, Department of Child Development, KKH, who is leading the initiative.

A COORDINATED CONTINUUM OF CARE FOR CHILDREN AND FAMILIES

At present, a KKH multidisciplinary team – comprising a speech and language therapist, educational psychologist, learning support facilitators, and medical social worker – is collaborating closely with CCCS to explore and identify opportunities for integration,

as well as formulate recommendations to its existing practices.

"We are currently at the exploratory stage of the project; looking at services 'as is', identifying gaps and formulating our recommendations with a model or practice framework," shares Dr Hamimah.

"There is good potential and opportunities for enhancing current delivery of care at CCCS in order to optimise child development outcomes holistically, through building the capabilities of educators, allied health professionals and caregivers, and harnessing collaborative efforts in the children's ecology.

"Our shared vision is for the Circle of Care to serve as a springboard for the development of a service framework that would be applicable to the wider community, and eventually develop into a viable model for large-scale care delivery."



Under the guidance of Prof Tan Heng Hao (left), Head, Department of Reproductive Medicine, KKH, Dr Liu Shuling (centre), Consultant, Department of Reproductive Medicine, KKH, runs the Recurrent Pregnancy Loss Clinic with Patient Service Associate Ms Niki Fann.

Due to the complexity of the condition, more than 50 per cent of affected couples may not have the cause of their recurrent pregnancy loss definitively identified, despite extensive investigations. In addition, prolonged loss and grief can be highly stressful, and couples experiencing recurrent pregnancy loss may refrain from open discussion and avoid seeking support from friends and family, out of fear of the perceived stigma surrounding miscarriage.

"Whilst challenging to treat, there is growing evidence that the management

of recurrent pregnancy loss by dedicated clinics can provide excellent prognoses for future pregnancy outcomes among affected patients," says Dr Liu.

A PLACE OF CARE AND SUPPORT

Many conditions leading to recurrent pregnancy loss, and their treatment options, overlap with care plans for subfertility in couples. Assisted reproductive techniques with in-vitro fertilisation and pre-implantation genetic diagnosis or pre-implantation genetic screening may also be required for these couples.

"The KKH Recurrent Pregnancy Loss Clinic is the first in Singapore to be run by specialists in reproductive medicine – who are experienced in the management of subfertility – with the capacity to refer patients for additional help from medical social workers, psychologists, immunologists and endocrinologists, when necessary," shares Dr Liu.

Drawing on the expertise of various medical and allied health specialties, KKH is able to provide holistic care for couples with a variety of medical conditions, and be a place of support for them.

"If a couple wishes to and is ready to try for a child again, we will support them through exploring treatment options that are available to prepare them for the next pregnancy," says Dr Liu.

REFER A PATIENT

Polyclinics and community healthcare practitioners can contact KKH at **+65 6294 4050** to refer patients to the Department of Obstetrics and Gynaecology or the Department of Reproductive Medicine for an assessment on their suitability for referral to the Recurrent Pregnancy Loss Clinic.



The Circle of Care@Canossian Eduplex project team, comprising members from Canossaville Children and Community Services (CCCS), and the Department of Child Development at KKH (KKH DCD).

From left to right: Ms Grace Tan, Principal of Canossa Convent Primary School; Ms Seah Yoon Choon, Senior Education Facilitator and Dr Lily Lau, Principal Psychologist, KKH DCD; Ms Julie Conceicao, Principal of Magdalene Kindergarten, Ms Regina Davamoni, Curriculum Developer, Student Care Centre and Sister Marilyn Lim, Supervisor, CCCS; Ms Angela Tang, Principal Education Facilitator, Dr Hamimah Ahmat, Principal Speech Therapist, Ms Catherine Tan, Medical Social Worker and Ms Quinza Lim, Clinical Research Coordinator, KKH DCD; Ms Veronica Tan, former Executive Director and Ms Catherine Michael, Principal of Canossian School; and Ms Oh Shu Jun, Senior Psychologist, KKH DCD.

Not pictured: Ms Raine Too, Senior Learning Support Facilitator and Mr Tang Hui Nee, Deputy Director, KKH DCD; Ms Elizabeth Thambidurai, Social Worker and Ms Judy Lim, Executive Director, CCCS.