



National
University
Hospital

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Media Release

First Robotic Surgery For Gynaecologic Cancer In South East Asia

Women who need to undergo surgery for gynaecological cancers now have an option to have surgery that is less painful, results in less scarring, allows them to get back on their feet faster while being just as effective in removing cancer - by opting for robotic cancer surgery. With this surgical breakthrough, patients avoid the complications associated with more traditional approaches to surgery for women's cancers.

The GRACES @ NUH surgical programme (**G**ynaecologic **R**obot-**A**ssisted **C**ancer and **E**ndoscopic **S**urgery at the National University Hospital) started offering this option to gynaecologic cancer patients in August 2008. The first patient to receive this treatment was a 52-year-old woman with endometrial cancer. She was ready to be discharged after only 48 hours in hospital following a major cancer surgery. She was back on her feet in less than half the time it would take for a patient undergoing traditional surgery for endometrial cancer. She was able to accomplish this feat because she did not have to contend with the painful handicap of a sizeable surgical wound, the side effects of multiple pain medications or weakness from blood loss which remain common problems associated with traditional endometrial cancer surgery.

The GRACES @ NUH surgical team involved in this surgery comprised Dr Jeffrey Low and Prof Ilancheran (both Senior Consultants), Dr Joseph Ng (Consultant), Dr Fong Yoke Fai (Consultant) and Dr Suresh Nair (Visiting Consultant) from the Department of Obstetrics & Gynaecology.

What is Robot-Assisted Cancer Surgery?

Robot-assisted surgical systems involve two integral components – the Surgeon's Console and a Patient Cart. During the surgery, the surgeon sits at the console and controls the actions of the robotic arms that reside in the bedside patient cart where the actual cutting takes place.

Through this surgical system, the surgeon's technical expertise, understanding of disease and knowledge of human anatomy are enhanced by the robot's strength, stability, dexterity, and visualisation. The synergy of man and machine results in higher surgical functionality which ultimately translates into better surgical outcomes for the patient.

Robot-Assisted Versus Traditional Cancer Surgery

Traditionally, cancer surgery requires that a patient's abdomen be opened as this approach allows the surgeon to use his hands naturally and directly while allowing direct visualisation of the structures that the surgeon needs to work with and around to facilitate smooth, efficient and ultimately effective surgery.

However, this method has its disadvantages, the traditional approach leaves a large surgical wound with common complications of pain, infection and the likelihood of poor wound healing and wound infection. This, coupled with a slower return of bowel function, the need for intravenous fluid support and the need for IV medication to provide adequate post-operative pain relief translate into longer hospital stays and slower return to a normal daily functioning.

These shortcomings led to the search for a better alternative - minimally invasive, or key-hole surgery. Through minimally invasive surgery, the same surgical objectives can be achieved without the disadvantages of open surgery. Through key-hole surgery, access to the abdominal cavity is achieved without a large incision, while providing good visualisation with magnification provided by scopes, cameras and optical systems. However, learning to work with key-hole surgery instruments is not an easy task. The surgeon has to learn a whole new set of skills to be able to move and use keyhole surgery instruments within the body cavity. This is a main disadvantage of keyhole surgery as the approach robs the surgeon of the ability to work naturally and directly on the disease with his hands.

Robotic surgery represents the latest iteration in a series of improvements and innovations brought to women's cancer surgery. It combines the advantages of traditional open surgery and minimally invasive or keyhole surgery. The concept of surgery is minimally invasive, which patients will recognise as a benefit in terms of overall experience, speed of recovery and the perceived ease of recovery and return to normal function. It also capitalises on the superior visualisation offered by optics in keyhole surgery and pushes this advantage further by providing higher visual definition and stereoscopic third-dimensional vision in the operative field. The surgeon therefore not only sees the operative field more clearly and in magnification, but in the most natural of ways, in three dimensions with good perception of depth. Finally, robotic surgery through its innovative instrumentation, allows the surgeon to operate naturally within the abdominal cavity and directly and intuitively on diseased tissue. This is made possible by the "wristed" instruments which mimic all the degrees of freedom (and more) of the human hand. Surgeons are no longer limited to working with clumsy and, unyielding graspers and scissors in the abdomen as with key-hole surgery, instead they have "hands" *in situ* and not just hands that move and manoeuvre naturally, but are powered to burn, cut, coagulate and grasp.

Dr Jeffrey Low, Head, Division of Gynaecological Oncology explained, why women suffering from gynaecological cancer should welcome this state-of-the-art surgical option, "Endometrial Cancer is on the rise in Singapore. Freedom from this disease and the reassurance of knowing that one can be cured of this disease comes from having definitive surgery done in a timely fashion. Robot-assisted cancer surgery provides this definitive treatment while affording patients a smooth recovery with the same ease as patients delivering a baby."

Endometrial cancer is the 5th most common cancer among Singapore women and the 4th most common cancer among Singaporean Chinese women. The number of patients suffering from endometrial cancer has almost trebled from 4.1 to 11.3 per 100,000, from the 1970s to 2007.

Women suffering from endometrial cancer and early stages of cervical cancer should consult their doctors for an assessment to ascertain their suitability for robot-assisted surgery.

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About National University Health System

Established in January 2008, the National University Health System (NUHS) groups the National University Hospital and the National University of Singapore's Yong Loo Lin School of Medicine and Faculty of Dentistry under a common governance structure to create synergies to advance its tripartite mission of excellence in clinical care, translational clinical research and education.

For more information, please visit www.nuhs.edu.sg

The National University Hospital

The National University Hospital (NUH) is a specialist hospital that provides advanced, leading-edge medical care and services. Equipped with state-of-the-art facilities as well as dedicated and well-trained staff, the NUH is a major referral centre that delivers tertiary care for a wide range of medical specialties including Cardiology, Gastroenterology & Hepatology, Obstetrics & Gynaecology, Oncology, Ophthalmology, Paediatrics and Orthopaedic Surgery. Backed by substantive expertise and experience, the NUH has been chosen by the Ministry of Health to develop two new national specialist centres to meet the growing need for cardiac and cancer treatments.

The NUH, together with the National University of Singapore's Yong Loo Lin School of Medicine and Faculty of Dentistry, are under the common governance of the National University Health System (NUHS). With combined capabilities and facilities (from the teaching hospital and medical faculty), the NUH will be able to meet the healthcare needs of patients, train future generations of doctors more effectively, and help develop solutions to our healthcare problems through research.

In 2004, the NUH became the first Singapore hospital to receive Joint Commission International (JCI) Accreditation, an international stamp for excellent clinical practices in patient care and safety. It was also the first hospital in Singapore to receive a triple ISO certification concurrently for Quality, Environmental, and Occupational Health & Safety Management Systems in 2002.

For more information, please visit www.nuh.com.sg