A new tracking system piloted by KK Women’s and Children’s Hospital (KKH) will revolutionise surgical process practice in the Operating Theatre, providing a significant enhancement to patient safety.

KKH’s Surgical Counting and Operating Theatre Tracking (SCOTT) system is able to electronically locate and identify every gauze and instrument used during a surgical procedure, eliminating the risk of retained surgical instruments, gauzes or any other sterile consumables in a patient’s body after surgery.

“How incidences here are very low, eliminating human counting errors and avoiding unnecessarily prolonged surgery due to surgical gauzes or instruments miscount significantly enhances patient safety,” says A/Prof Bernard Chern, Deputy Chairman, Division of Obstetrics & Gynaecology; Head and Senior Consultant, Minimally Invasive Surgery Unit, KKH.

**HOW THE SCOTT SYSTEM WORKS**

The SCOTT system utilises radio-frequency identification (RFID) technology to locate surgical gauzes and instruments within the Operating Theatre. Each surgical gauze and instrument used during the surgery contains an RFID tag. These enable the scrub team to keep track of the number of gauzes and instruments moving in and out of the operative field, enhancing patient safety through minimising human counting error.

During normal Operating Theatre procedure, manual counting takes place at five different stages during a surgery to ensure all surgical gauzes are accounted for. The process can take up to 30 minutes collectively. The final-stage count can also take up to 90 minutes if items are found to be missing and need to be located.

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The SCOTT system comes with two RFID bins to count and calculate the number of gauzes used, and a hand-held scanner that can detect any tagged item that has been misplaced or left inside the patient. These tools minimise the additional time and resources required when there is a discrepancy and can significantly shorten the duration of the patient's stay in the Operating Theatre.

RISK OF RETAINED FOREIGN OBJECT AFTER SURGERY

The risk of surgical equipment being accidentally left in a patient's body during surgery, while low, is an ever-present concern for operating theatres throughout the world. The US reports more than 1,500 incidences of retained foreign object (gossypiboma) after surgery each year. Of these, 80% are surgical gauzes, and 20% are surgical instruments and others (Brisson, 2009).

The risk of gossypiboma is compounded by the dynamic nature of surgeries, which have no predetermined duration or number of gauzes and instruments used – a routine caesarean section may utilise 30 to 500 surgical gauzes, with an operating time ranging from 45 minutes to over two hours, depending on the complexity of the case.

The SCOTT system overcomes the risk of gossypiboma by providing an innovative and comprehensive solution for the medical and nursing staff in the Operating Theatre that can be fully integrated into existing work flow. The system is fully self-contained and does not interfere with other medical devices in the Operating Theatre.

Clockwise from top left: Hand-held RFID scanner; SCOTT system with RFID bins; surgical scissors with RFID tag; surgical gauze with RFID tag.

INNOVATIVE USE OF TECHNOLOGY TO ENHANCE OPERATING THEATRE PRACTICE

Wholly designed and developed in Singapore, the SCOTT system is the brainchild of a multi-disciplinary team of nurses, doctors, biomedical engineers and information systems staff from KKH, and O’Connor’s Singapore.

For the effective use of technology in enhancing the safety of Operating Theatre practice, KKH was recognised with the ‘Most Innovative Use of Infocomm Technology (Public Sector)” award in the prestigious National Infocomm Awards 2012. The award was presented by the Infocomm Development Authority of Singapore.


O&G Residency Program RiSES to new heights

Led by a core team of faculty from KK Women’s and Children’s Hospital and Singapore General Hospital, the SingHealth Obstetrics & Gynaecology (O&G) Residency Program has been awarded the RISE Award for ‘Best Residency Program’ 2012 by SingHealth Group CEO Prof Ivy Ng.

The RISE Award recognises outstanding faculty, staff and residents who best exemplify a career of dedicated service, accomplishment and contribution to SingHealth Residency.

To achieve and maintain excellence in the education and training of the next generation of obstetrician-gynaecologists, the O&G Residency Program recently transitioned to a new model of training principles in accordance with the Accreditation Council for Graduate Medical Education-International (ACGME-I) standards.

“The strength of the new O&G Residency lies in having a structured, competency-based, closely supervised approach to training with standardised evaluations, timely feedback and a committed faculty,” says A/Prof Bernard Chern, Program Director, SingHealth OBGYN Academic Clinical Program and Deputy Chairman, Division of O&G, KKH.

Revolutionary new innovations were put in place, such as simulation workshops in which residents could re-enact real situations, and the introduction of ‘Resident Nurses’ into clinics – nurses specially trained to take on roles of higher responsibility in patient care. Other improvements included standardised research training for residents and protected time for experienced and dedicated faculty, ensuring a high level of accountability and close supervision.

For A/Prof Tan Kok Hian, Chairman, SingHealth OBGYN Academic Clinical Program and Chairman, Division of O&G, KKH, the new model of residency education is well worth the hard yards.

“’The O&G Residency Program is now training twice as many residents compared to the previous year. We want to ensure that the next generation of obstetrician-gynaecologists are competent and confident specialists with an interest in lifelong learning, leadership skills, and the ability to adapt to the needs of their health care system. In this way we can continue to improve the quality of care for women well into the future.”


O2

KK Women’s and Children’s Hospital
Since 2002, KK Women’s and Children’s Hospital (KKH) has utilised the advanced technology of ECMO – or Extra-corporeal Membrane Oxygenation – to save the lives of many infants and young children who would otherwise have succumbed under conventional treatment alone.

To continually improve the care available to some of KKH’s most vulnerable patients, in 2011, Dr Chan Yoke Hwee, Deputy Chairman, Division of Medicine and Senior Consultant of Paediatric Subspecialties in Children’s Intensive Care at KKH, led a multi-disciplinary team of paediatric and neonatal intensive care physicians, cardiologists, cardiothoracic surgeons, perfusionists, intensive care nurses and haematologists to create the first Neonatal and Paediatric ECMO Programme in Singapore.
What you need to know about Breast Cancer to save your life

Dr Hong Ga Sze
Head and Senior Consultant, Breast Department
KK Women’s & Children’s Hospital

Breast Cancer is the most common cancer among Singaporean women. An estimated 1,400 women are diagnosed each year, and more than 300 die as a result. All women are at risk of getting Breast Cancer, and the chance of developing it increases with age. However with advancements in healthcare technology, cancer is no longer incurable. Early detection of Breast Cancer significantly improves the chances of cure and breast preservation.

WHAT IS BREAST CANCER?

Breast Cancer is the unregulated growth of abnormal cells in the breast, which can develop in the ducts or in the lobules. The transformation of the abnormal cells causes the cells to multiply in an uncontrolled manner. This results in cancer. Left undiscovered and untreated, Breast Cancer can spread to other parts of the body.

IS BREAST CANCER CURABLE?

Yes, Breast Cancer can be cured. Early detection saves lives - the earlier it is discovered, the higher the likelihood of complete cure. Treatment for Breast Cancer includes surgery, chemotherapy, radiotherapy, hormonal therapy and targeted monoclonal antibody treatment.

WHAT ARE THE SIGNS AND SYMPTOMS OF BREAST CANCER?

In early stages of Breast Cancer, there is usually no pain and there may be no symptoms at all. As the cancer grows, the following symptoms could appear:

- a persistent lump or thickening in the breast or armpit area
- changes in the colour or skin of the breast, areola or nipple (example dimpling or puckering)
- nipple retraction or changes
- blood or discharge from the nipple

Consult a doctor if you have any of the above present.

WHAT CAN I DO TO PREVENT BREAST CANCER?

There is no definitive way to prevent Breast Cancer. However you can consciously reduce your risk of Breast Cancer by maintaining healthy habits such as exercising regularly, eating healthily, abstaining from alcohol and avoiding hormone replacement therapy. Women who have undergone childbirth and breastfed their babies will also have a lower risk of developing Breast Cancer.

The best way to protect yourself from Breast Cancer is through regular breast examinations. The Health Promotion Board, Singapore, recommends that all women start monthly breast self-examinations from age 30, yearly mammograms from age 40, and mammograms every two years from age 50. If you have a family history of Breast Cancer, act on the recommendations 10 years earlier.

MONTHLY BREAST SELF-EXAMINATION

Breast Self-Examination (BSE) helps you become familiar with the way your breasts normally look and feel. Knowing what is normal for you may help you detect changes in your breasts that could be early symptoms for Breast Cancer.

YEARMAMMOGRAM SCREENING

Another important annual examination is a screening mammogram – essentially an x-ray picture of the breast. This procedure takes 15 to 30 minutes, and can detect cancer which is not felt in the breast. BreastScreen Singapore (BSS), a national Breast Cancer screening programme, encourages all women who are Singaporean and Permanent Residents, aged 50 and above, to go for screening mammograms once every two years, at subsidised rates.

“Never live in denial, and see your doctor whenever you are in doubt about your health. Early treatment is better than no treatment at all; we are responsible for our own health.”

- Noor Aisah, Breast Cancer Survivor

“Cancer is not synonymous with death and the best chance for survival is to find and treat it early. Early detection is the key to a quick, easy, and complete recovery.”

- Kelly Ang, Breast Cancer Survivor
Mindfulness – a new treatment approach
Dr Choo Chih Huei, Senior Consultant Psychiatrist, Department of Psychological Medicine, KKH

Mindfulness is a natural capacity we all possess. Interest in the clinical application of mindfulness has grown over the past years and its use is also expanding into different clinical areas.

WHAT IS MINDFULNESS?
In our usual wakeful state, we are more often more mindless than mindful. Some examples of mindlessness are: rushing through our daily activities without being attentive to them, finding ourselves preoccupied with the future or the past, and snacking without being aware of eating.

In contrast, mindfulness is a way of paying attention to the present moment. Mindfulness involves self-regulation of attention, to observe and be aware of our sensations, feelings and thoughts from moment to moment. The other important aspect of mindfulness is that a particular orientation to the experience is adopted: an attitude of curiosity, openness and acceptance. This means experiencing the event fully (whether pleasant or unpleasant) without any preoccupation or suppression.

WHAT ARE SOME CLINICAL BENEFITS OF MINDFULNESS PRACTICE?
Mindfulness meditation training is associated with lower levels of psychological distress, including less anxiety, depression, anger, worry and rumination. The emotional well-being is probably related to greater emotional awareness, acceptance and ability to manage unpleasant mood states.

Mindfulness meditation training has also been reported to have a therapeutic effect on physical conditions such as psoriasis, fibromyalgia, chronic back pain and cancers. Mindfulness is helpful not only in reducing the experience of intensity of physical symptoms and negative mood states; it also increases emotional well-being and quality of life.

Mindfulness Based Stress Reduction (MBSR) is the first mindfulness meditation training programme that has been shown to be effective in helping chronic pain patients who have not improved with traditional medical care. In the programme, the experience of moment-to-moment awareness is introduced by a simple raisin-eating exercise. Participants are asked to observe and slowly eat a raisin, focusing on the direct sensory observation – what can be seen, felt, smelted or tasted – rather than opinions or memory of past experiences. Besides improvement in their pain scores, large and significant reductions in mood disturbance and psychiatric symptomatology accompanied these changes and were relatively stable on follow-up. (Kabat-Zinn, 1982).

WHAT ARE SOME BRAIN CHANGES ASSOCIATED WITH MINDFULNESS PRACTICE?
Holzel (2010), in a controlled longitudinal study to investigate pre-post changes in brain gray matter concentration of 18 individuals who took part in an eight-week MBSR, found increases in gray matter concentration within the left hippocampus, posterior cingulated cortex, temporo-parietal junction and the cerebellum. The authors concluded that “participation in MBSR is associated with changes in gray matter concentration in brain regions involved in learning and memory processes, emotion regulation, self-referential processing and perspective taking.”

In another longitudinal MRI study, participants of a stress-reduction intervention reported significantly reduced perceived stress – which is positively corrected with decreases in right basolateral amygdala gray matter density. (Holzel, 2009) The basolateral region of the amygdala is important for the relay of sensory information from subcortical and cortical sensory areas to the central nucleus of the amygdala during anxiety responses.

It has been postulated that mindful people have a greater ability to control emotional reactions from amygdala by activating the prefrontal cortex which is associated with attention, concentration and emotion regulation. (Jeffrey, 2009)

HOW DOES MINDFULNESS WORK?
Some of the psychological processes that have been postulated as the mediators of the beneficial effects of mindfulness interventions include: increase in mindful awareness, metacognitive awareness, exposure, acceptance, attention control, memory, value clarification and behavioural self-regulation.

Increase in metacognition, for example, enhances the ability to see one's thoughts and emotions, and view them as passing mental events rather than to identify with them or believe thoughts to be accurate representations of reality. This can lead to reduction in rumination, which can be a risk factor in many psychological disorders such as depression.

Acceptance involves being non-judgmental and open to cognition, emotions and sensations as they occur. There is no attempt to control the experiences which paradoxically will increase in frequency and intensity if efforts are made to avoid them. This can promote exposure to previously avoided experiences, leading to an extinction of the feared experiences.

CONCLUSION
Treadway (2009), in a review of the neurobiology of mindfulness, concludes that “we now possess sufficient evidence to demonstrate that meditation is a unique mental state – distinct from resting states – and that it appears to promote long-term structural and functional changes in brain regions important for performing clinically relevant functions.”

References:
What are my options for breast reconstruction after cancer treatment? Will it look natural?

**A:**

Breast reconstruction does not interfere with your cancer treatment. It also does not increase the risk of Breast Cancer recurrence, nor does it interfere with subsequent cancer surveillance.

**The aim of breast reconstruction is to return the breast to its normal appearance after cancer treatment (which may consist of either a mastectomy or a lumpectomy).**

Breast reconstruction can be conducted either at the time of your mastectomy or at a later date. The benefits of immediate breast reconstruction include a superior aesthetic result, as the breast skin is usually preserved and you have the psychological advantage of waking up with a reconstructed breast - thereby reducing the trauma of losing an important part of your body.

The disadvantage of immediate reconstruction is longer surgery as well as recovery time. However, breast reconstruction has not been shown to cause a significant delay to additional treatments such as chemotherapy.

Delayed reconstruction should be considered if you are not prepared to undertake a longer surgery or if you prefer to consider reconstruction after all cancer treatment is completed. The aesthetic result is usually inferior to that of an immediate reconstruction and you would have to live without a reconstructed breast for an extended period of time - which some women might find emotionally or psychologically challenging.

Breast reconstruction can be performed using implants or using your own tissue. KK Women's and Children's Hospital offers all possible options available for breast reconstruction, including the transverse rectus abdominis flap (pedicled, free or perforator based) reconstruction, oncoplastic breast reconstruction and fat grafting.

**MAILBAG**

Genuine care from the heart for KKIVF patient

I was a patient with the KKIVF Center in 2011. My journey, from IVF to delivery, was challenging and trying. I fell pregnant with twins in August 2011, and suffered a series of bleeding and threatened miscarriages which required me to be hospitalised several times in 2011 and 2012.

After losing one twin at 13 weeks, my baby girl, Faith, was delivered by Dr HH Tan on 27 April 2012. Challenging and trying though it was, I am very blessed to have met my doctor and many kind and dedicated nurses. I would like to thank those who have given me endless support and kindness throughout the past year.

I would like to thank the nurses in the KKIVF Centre - Nurse Sarah, for patiently explaining the IVF process to me not once but twice; Nurse Chen, for without her timely coordination and patience, I would not be holding my lovable daughter Faith; and Nurse Angie, for her patience and encouragement when administering injections, and giving me moral support and encouragement during the embryo transfer.

I would like to thank the nurses in Ward 71 - Sister Ng, for her care and comfort when she made her rounds every morning. My conversations with her gave me great comfort during my stay; and Nurses Pauline and Charmaine, for their unconditional care during my stay.

I would like to thank the staff at The Private Suite - Katryn, for being ever so accommodating, reassuring my doubts and answering all my requests; Priscilla, for keeping me calm with her pleasant disposition, comforting words and jokes; and Jacqueline and Thilagavathi, for being so gentle with me during my weekly jabs, and for their comforting words that consoled me.

I would especially like to thank Dr HH Tan for transferring the embryos successfully and most importantly for his endless efforts, reassuring gestures, genuine care and concern and patience that made it possible for me to be holding my lovely daughter in my arms today.

Thank you once again to all the above-mentioned staff. You have all truly showed me that there are genuine nurses and doctors in today’s society who truly care from the heart. You have touched my life with your sincerity. I would like to specially compliment all of you for your excellent service and genuine care from your heart (which is very rare in today’s society). Thank you so much and God bless you and your loved ones always!

Yours truly,

Charmaine
Mission I’mPossible: Changing the lives of our children

The three-year pilot of Mission I’mPossible – Singapore’s first community-based early detection and intervention programme in Singapore for preschoolers with mild developmental needs – drew to a close with great promise for the future of regular preschool-aged children with mild developmental needs.

Since its inception in July 2009, the Mission I’mPossible (MIP) pilot has screened over 1,700 preschool children, and provided learning support and therapy services to over 300 at-risk children with mild developmental needs.

Spearheaded by the KK Women’s and Children’s Hospital’s (KKH) Department of Child Development and supported by the Lien Foundation and the PAP Community Foundation, the MIP programme provides a model of integrated care for at-risk preschoolers in their natural learning environments, improving their skills and getting them ready for mainstream schools.

The programme also trained kindergarten teachers at participating PAP Community Foundation centres to recognise students with developmental needs, and provide them with better support in class.

The community-based and family-focused approach has been successful, with 85% of parents, teachers and principals surveyed indicating that they were very satisfied with the results of the MIP program.

“It has been wonderful seeing the children blossom from being quiet, passive and low in confidence to becoming happier, vocal children who are more ready to learn and participate in school,” says Dr Sylvia Choo, Senior Consultant, Developmental Paediatrician DSP-MIP, Department of Child Development, KKH.

With the success of the pilot, the MIP programme has been adopted by the Ministry of Social and Family Development (MSF) – formerly the Ministry of Community Development, Youth and Sports – for expansion into a larger-scale Development Support Programme (DSP). The first phase of the programme began in May 2012, and is currently being piloted in 30 childcare centres in Singapore.

A consultancy team from KKH has been appointed by MSF to support the initiative and assess the effectiveness of the first pilot phase and provide guidance on improvements.

Antenatal Breastfeeding Counselling – As easy as ABC!

As part of the Baby-friendly Hospital Initiative (BFHI), a global effort to protect, promote and support breastfeeding, KK Women’s and Children’s Hospital (KKH) is now offering Antenatal Breastfeeding Counselling (ABC) to teach soon-to-be parents the ABCs of breastfeeding.

According to the World Health Organisation, globally, less than 40% of infants under six months of age are exclusively breastfed.

“Breastfeeding ensures the best possible health, development and psychological outcome for the baby. We are committed to encouraging all mothers to breastfeed, and assisting professional caregivers to make breastfeeding a viable option for mothers”, says A/Prof Lim Sok Bee, Head and Senior Consultant, Department of Child Development, KKH.

Since the programme’s inception in August 2012, the Lactation Service at KKH has provided breastfeeding counselling to over 781 pregnant patients and 359 spouses. Educational topics include: breastfeeding benefits, breast care, latching techniques, skin-to-skin contact at delivery, rooming-in, baby feeding cues and reasons for avoiding routine formula supplementation or bottle-feeding.

“Our new ABC service provides patients easy access to breastfeeding counselling, and provides them answers to their questions. They have a better understanding of the benefits of breastfeeding, and appropriate information to prepare for their child. This enables them to have a satisfying breastfeeding experience,” says Ms Cynthia Pang, Assistant Director of Nursing and Lactation Consultant, KKH.

KKH has adopted guidelines from the Baby-Friendly Hospital Initiative (BFHI) to help new mothers enhance breastfeeding and bonding with their baby. This includes encouraging mothers to have their infants room in with them, encouraging skin-to-skin bonding and helping mothers establish correct breastfeeding techniques while in hospital.
IVF and Infertility

Infertility is a common problem, affecting at least one in eight couples at some time in their lives. It can often be treated. Achieving pregnancy spontaneously is always a matter of chance. A normal healthy couple in their 20s, having regular sex, has about a 20% chance of conceiving in any particular month. For the same couple in their 30s, the chance is about 10%. You may have infertility if you do not conceive after one year of regular intercourse without the use of contraceptives. It is important to seek medical attention as quickly as possible.

The KKIVF Centre is one of Singapore’s largest infertility centres and offers a wide range of testing, diagnostic and treatment procedures for people experiencing various infertility problems. The centre offers several Assisted Reproductive Techniques (ART) Services, including In-Vitro Fertilisation (IVF).

In-Vitro Fertilisation (IVF) involves putting the eggs and sperms together. By natural selection, the egg will usually allow only one sperm to enter and this usually leads to the fertilisation process in the laboratory. After fertilisation, the embryos are allowed to grow for a short period of time before being placed into the uterus. A successful pregnancy can be confirmed about two weeks later.

The best form of treatment for you can be established in consultation with an IVF specialist.

Please call the KKIVF Centre at +65 6394 1694 to make an enquiry.

Public Forum

What you need to know about infertility

Treatment options for infertility and latest advancements in fertility treatment

- What you need to know about IVF
- Male infertility
- Can surgery help my fertility
- New advancements in fertility treatment
- Laboratory aspects in IVF

Saturday, 15 December 2012, 2.00 pm – 4.30 pm
KKH Auditorium, Level 1, Women’s Tower
$8 per participant or $10 per couple (refreshments will be provided)

For more information, please call +65 6394 5038 (Monday to Friday, 8.30am to 5.30pm). Registration closes on Monday, 10 December 2012.

All forum registration forms are available at www.kkh.com.sg and at the KKH Patient Education Centre, Level 1, Women’s Tower. Seats are confirmed upon full payment on a first-come-first-served basis.

For full details of KKH forums, scan this code with your smart phone now.

High 5s Patient Safety Project wins outstanding award

KK Women’s and Children’s Hospital (KKH) was recognised for outstanding achievements in patient safety at the Asian Hospital Management Awards 2012. In keeping with the hospital’s strong patient safety culture, KKH embarked on the World Health Organisation (WHO) High 5s Project to fortify patient safety practice within the hospital. The project focused on five areas:

- Prevention of patient care hand-over errors
- Prevention of wrong site / wrong procedure / wrong person surgical errors
- Prevention of continuity of medication errors
- Prevention of high concentration drug errors
- Promotion of effective hand hygiene practices

In particular, Correct Site Surgery protocol received an overhaul, involving comprehensive process re-engineering and enhanced compliance with pre-operative verification, site marking and final time-out calls for all surgical cases.

For the head of the High 5s Committee, A/Prof Tan Kok Hian, Chairman, Division of Obstetrics & Gynaecology, KKH, the months of effort were well worth it. “The High 5s Project is an important upgrade of our defenses against adverse events of wrong-site surgery, and strengthens our patient safety culture.

Cooperative communication, consistent reinforcement and teamwork were our keys to success. We hope to benchmark and share experiences with other institutions implementing similar protocols, to identify more areas that need improvement, and find effective solutions.”

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