SingHealth Aescapulus

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A **SINGHEALTH NEWSLETTER** FOR GENERAL PRACTITIONER EMPOWERMENT PROGRAMME (GPEP) MEMBERS

Curing Stomach Cancer – Moving from Open Surgery to Endoscopic Submucosal Dissection

Dr Ang Tiing Leong, Consultant Gastroenterologist, Division of Gastroenterology, Changi General Hospital

The Scourge of Stomach Cancer

Stomach cancer is a major clinical burden. Globally it is the 4th most common cancer, and 2nd most common cause of cancer death. In both Malaysia and Singapore, it ranks among the top 10 cancers. In Malaysia, the 2003 Cancer Registry Data showed that stomach cancer is the 7th most frequent cancer among males, and 9th most frequent cancer among females. In Singapore, it is the 4th most common cancer in males and ranks 6th in females. In both Malaysia and Singapore, among the different ethnic groups, the Chinese, especially males, have the highest risk for stomach cancer. The risk for stomach cancer also increases with age, especially after age 40 – 50 years.

Stomach cancer may be totally without any symptoms at the early stage. It could also manifest as mild upper abdominal discomfort. When more worrisome symptoms such as severe pain, weight loss and difficulty in swallowing occur, it is usually at an advanced stage and curative treatment would no longer be possible. Unfortunately, most patients consult a doctor only at such a late stage, and this has resulted in very poor overall survival for patients with stomach cancer even with treatment. The 5-year survival rate was estimated to be 27% in Western Europe. In Japan, the estimated survival rate was better at 52%, due to frequent earlier diagnosis from a national program of stomach cancer screening. Hence it is important that when an individual has persistent upper abdominal discomfort, a doctor should be consulted so that a proper medical evaluation can be performed. This is especially crucial when certain risk factors are present, such as a positive family history of stomach cancer and an older age.

Traditional Curative Treatment

The most sensitive and accurate method of diagnosing stomach cancer is to perform endoscopy. This involves inserting a small calibre fibreoptic tube with a video camera at its tip into the stomach cavity. The endoscopist can examine the entire stomach wall visually and take tissue samples of suspicious areas for histological confirmation. Once the diagnosis is confirmed, the stage of the cancer is assessed using further tests such as computer tomography to determine whether curative treatment is possible. Traditionally whether the stomach cancer is at a very early stage, being limited to the most superficial layer of the stomach wall or when it is at a more advanced stage, with invasion through the entire stomach wall, the procedure of choice for curative treatment is surgery. Depending on the location of the cancer, either the entire stomach or half of the stomach will be cut away (gastrectomy). The main drawback with gastrectomy is that there is loss of the normal stomach function. There is also

> "Curative Endoscopic Therapy does not cause any break in the normal stomach wall, and therefore it fully preserves stomach function. It will also lead to faster recovery since there are no surgical wounds. More importantly, research has shown that the long term success rate with this novel treatment is similar to open surgery."

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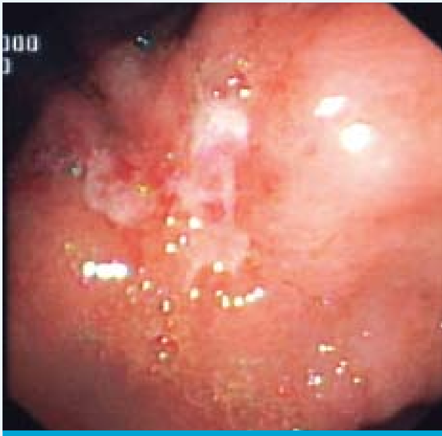


Figure 1

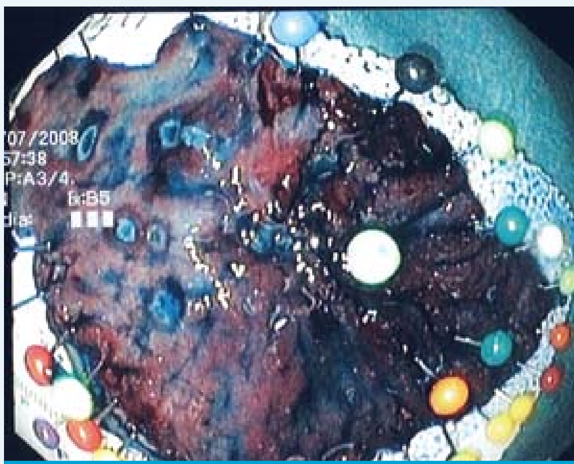


Figure 2

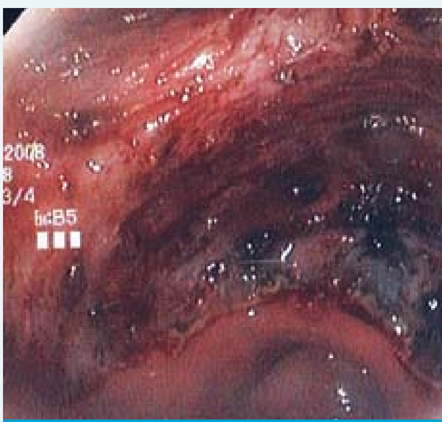


Figure 3

a period of convalescence as the patients recovers. Food intake would have to be reintroduced gradually since the integrity of the digestive tract has been interrupted and one needs to wait for the surgical wounds to heal.

Curative Endoscopic Therapy

Based on scientific data, it is now quite clear that when stomach cancer is localised and restricted to the topmost superficial layer of the stomach wall (this layer is termed mucosa), regardless of the lateral extent of the cancer, the risk of microscopic spread to more distant locations is nil to minimal. This makes the process of performing the traditional treatment of either partial or total gastrectomy excessively invasive. In recent years, whenever the expertise is available, more and more doctors are adopting the technique of endoscopic submucosal dissection (ESD) to treat such cases of early stomach cancer. In this technique, the patient with the early cancer undergoes endoscopy, as described earlier. There are no external surgical incisions. The area of the stomach wall with the early cancer is identified visually (Figure 1). Dye is sprayed around it to show up the margins better. Using an endoscopic knife, the lateral borders of the cancer is clearly marked out first, in order to ensure the entire cancer is cut out in one piece later. The superficial layer containing the cancer is then separated from the deeper muscular wall by the injection of a solution. Thereafter with the use of various endoscopic knives, this superficial layer with the cancer is cut away in one piece (Figure 2), leaving behind an ulcer base (Figure 3). Simplistically, it is similar to peeling away the skin of a fruit. This procedure does not cause any break in the normal stomach wall, and therefore it fully preserves stomach function. It will also lead to faster recovery since there are no surgical wounds. More importantly, research has shown that the long term success rate with this novel treatment is similar to open surgery.

As with all procedures and surgery, ESD is not without its risks. The main risk is perforation, which is about 4 per cent. But in over 95 per cent of the instances, the perforation can be treated endoscopically by endoscopic clipping, with no need for surgery. In addition, in about 3 per cent of the cases, there may be delayed bleeding, which is also easily treated by endoscopy.

Patient View

Mr Tan, aged 83 years, underwent endoscopy to evaluate his symptom of upper abdominal discomfort. Endoscopy showed early stomach cancer. He was offered curative treatment with either. He chose ESD. Mr William Tan, his son, says: "We're very happy with the outcome. Dr Ang had explained to us that ESD would cause much less pain than the conventional treatment. Indeed, my father said he felt no pain throughout the entire process. In fact, on the same day he was discharged home, he was back to his daily routine activities and usual diet of steamed fish, oats and white bread." And in the Senior Tan's simple Teochew words, undergoing the procedure was just "plain easy".

National Neuroscience Institute
SingHealth

Supporting Patients with Multiple Sclerosis and Transverse Myelitis

By Dr Kevin Tan, Consultant, Department of Neurology, National Neuroscience Institute

Whenever we make the diagnosis multiple sclerosis (MS) for patients in our wards or clinic, there is often a sense of helplessness not just for the patient, but for the doctors too. Besides having to face the reality of being diagnosed with a chronic illness with limited treatment options, there is the added burden of affordability of treatment. The current treatments that are available in Singapore, Rebif (Interferon beta-1a), Betaferon (Interferon-1b), Copaxone (Glatiramer Acetate) and Mitoxantrone are expensive and are only partially effective and in some cases have significant side effects. Some common questions from patients in the clinic include, "Are there any new treatments for MS?" and "When will I be able to stop injecting myself and take tablets instead?"

What is MS?

MS is a chronic inflammatory condition of the central nervous system, often affecting young people, causing significant morbidity. While less common in tropical countries such as Singapore and other parts of Asia compared to countries in the West, it is a significant burden for patients who suffer from it. Worldwide, MS is thought to affect more than 2.5 million people. In eastern Asia (China, Hong Kong, Taiwan, Singapore, Thailand, Korea and Malaysia), the MS prevalence is estimated to be between 0.8 and 2 cases per 100 000. Hence we estimate that there are around 100 diagnosed cases in Singapore. Transverse myelitis (TM) is a parainfectious disorder which may be idiopathic or related to autoimmune conditions such as MS or other immunological diseases.

There is currently no cure for MS. The strategies that are available modify the disease course, treat exacerbations (also called attacks, relapses, or flare-ups) and manage symptoms. There are presently 6 US Food and Drug Administration (FDA) approved disease-modifying therapies for MS. Thankfully for our patients there is a great deal of research on the therapeutic approaches being tested for MS. Of the immunomodulatory agents which have shown promise, there are 4 monoclonal antibodies and 5 oral agents that are in the late phases of trials.

Symptoms of MS

Symptoms of MS are highly variable from person to person and from time to time in the same individual. While symptoms can range from mild to severe, most can be successfully managed with strategies that include medication, self-care techniques, rehabilitation (with a physio or occupation therapist, speech therapist, cognitive behavioural therapist, among others), and the use of assistive devices.

The National Neuroscience Institute (NNI) works closely with various medical and surgical departments and allied healthcare professionals to provide multidisciplinary care for our patients.

Cause and Risk Factors

MS is caused by an autoimmune reaction in which the body attacks the nerve tissues by mistake. Currently, the cause of MS is unknown and there is no way of predicting who might get it. Some of the risk factors that lead to someone developing MS are listed below. It is likely that a combination of genetic and environmental factors contributes to the development of MS.

Genetic Factors

Some people carry genes that make them more susceptible to MS. These could be genes that regulate immune reactions or genes that are responsible for producing components of the central nervous system.

Environmental Triggers

There may be environmental factors that trigger MS. Studies show that MS is more common in certain parts of the world. But if you move from an area with higher risk to one of lower risk, you acquire the risk of your new home if the move occurs prior to adolescence. Such data suggest that exposure to some environmental agent encountered before puberty may predispose a person to MS.

Diagnosis

Diagnosing MS can be difficult. There is no single test to make the diagnosis of MS. The disease is diagnosed with a combination of the clinical features and diagnostic tests which may include:

- MRI scan of the brain and spinal cord
- Lumbar puncture for cerebrospinal fluid analysis
- Evoked potentials – electrical tests of conduction along a person's nerve pathways
- Blood tests to rule out other conditions that masquerade as MS

MS Support Group : MS CARE

For patients living with a chronic illness such as MS, it is useful to have a support network where fellow patients and care-givers may provide each other with various types of help. The help may take the form of providing and evaluating relevant information, relating personal experiences, listening to and accepting others' experiences, providing sympathetic understanding and establishing social networks. A support group also works to inform the public or engage in advocacy.

MS Care was set up in 2003 to play such a role. Some of the services provided include, a 24-hour Care-Line, arranging chaperons for hospital visits and check-ups, healthcare services at the patient's home and regular visits to patients and their families. MS Care is a result of dedicated work from a small group of volunteers led by Mr Derek Dunn and Ms Amelia Mok.

Since its inception, MS Care has organised both social activities where MS patients, families and volunteers gather for fun and celebration, as well as sessions to provide practical care services to help people living with MS continue to have a better quality of life. At present, MS Care is actively serving 65 patients with the help of approximately 30 volunteers.

For patients who are interested in joining the support group and volunteers keen to help, they may contact Ms Amelia Mok at **info@chcsa.org.sg** or **6835 9916**.

Changi General Hospital
SingHealth

Endoscopy as a less invasive alternative to surgery for the treatment of pancreatic abscesses and infected pancreatic necrosis

Dr Ang Tiing Leong, Consultant Gastroenterologist, Division of Gastroenterology, Changi General Hospital

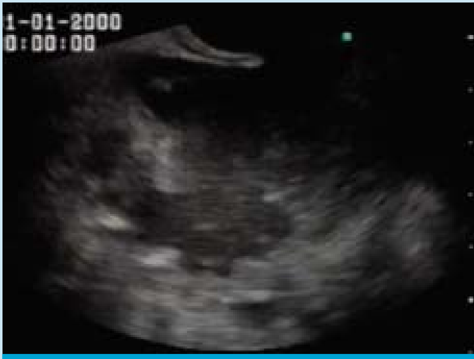


Figure 1

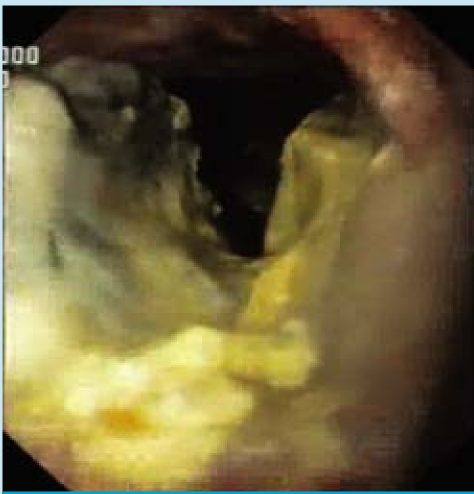


Figure 2

Figure 1: An abscess collection visualised through endoscopic ultrasound

Figure 2: Looking at the inside of a necrotic collection through a scope inserted across the stomach wall.

What is acute pancreatitis and what are the problems?

The pancreas is an organ located behind the stomach. It secretes enzymes which are important for the digestion of food. It is also responsible for the secretion of important hormones such as insulin, the lack of which will result in diabetes mellitus.

Acute pancreatitis is a condition in which the pancreas becomes inflamed and swollen. The most common symptoms include severe upper abdominal pain, nausea, vomiting, diarrhoea and loss of appetite and even cardiopulmonary instability in severe cases. The most common causes of acute pancreatitis are gallstones and alcohol consumption. Other causes include certain medications, pancreatic tumours, ERCP (an endoscopic procedure used to treat bile duct and pancreatic duct disorders) and metabolic disorders such as high triglyceride levels and high calcium levels.

Most cases of acute pancreatitis are mild attacks. After a few days, the pain will subside and the patient will be able to resume normal food intake and normal activities. The subsequent issue will be to identify and treat the disposing factors. In 10 – 20% of cases, the acute attack is severe, and in this situation, the attack of acute pancreatits will run a more protracted and difficult clinical course. In the acute phase, patients may even go into multiple organ failure requiring acute supportive measures such as intubation with mechanical ventilation, dialysis and medications to support the cardiovascular system. In these severe cases, the death rates may reach greater than 20%, and even higher than 50% in certain cases. In the acute phase, the focus of the treatment is on fluid resuscitation and supporting organ functions. Empiric use of intravenous antibiotics may be required as well to either treat concomitant infections such as cholangitis or to prevent secondary bacterial infections. In the intermediate to late stage, at 3 – 4 weeks later, local complications develop. This is because during the process of severe inflammation, intraabdominal fluid collections form due to leakage from blood vessels and pancreatic cell death (necrosis) occurs. This will lead to local problems around the pancreas, such as pseudocysts (a walled off collection of fluid), abscess formation (a collection of pus) and infection of necrotic (dead) tissues. Walled off fluid collections can lead to problems such as mechanical obstruction of bile flow and obstruction of the normal passage of food from the stomach to the intestines; these fluid collections can also rupture and bleed, becoming a surgical emergency. The development of pancreatic abscesses and infected necrosis will affect the effectiveness of antibiotics.

What are the options for treating pancreatic abscesses and infected necrosis?

Open surgery has been considered the standard treatment for treatment of symptomatic pancreatic fluid collections. However, it requires general anaesthesia, and is relatively invasive, with considerable morbidity and mortality, depending on the type of fluid collection and the status of the patient. Surgery for abscesses and infected necrosis involves steps such as exploration, debridement, closed packing and external drainage.

Less invasive alternatives to open surgery include percutaneous drainage and endoscopic drainage. In the case of percutaneous drainage, under either

ultrasound or computer tomography guidance, an external indwelling drainage catheter is inserted across the skin and abdominal wall into the cavity for drainage. This approach has limitations such as the occurrence of local complications like bleeding, accidental puncture of an adjacent organ, superimposed infection and the development of a fistulous tract from the cavity to the skin. In addition, due to the narrow diameter of these drainage tubes, it is not possible to remove necrotic debris with approach and salvage surgery may still be necessary.

Endoscopic drainage involves inserting a scope into either the stomach or duodenum (the first part of the small intestine), visualising the precise location of the abscess or necrotic collection through an ultrasound transducer at the tip of the scope (endoscopic ultrasound), puncturing across the gut wall into the cavity which is just adjacent to the gut lumen under real time ultrasound guidance and then inserting drainage tubes between the abscess or necrosis cavity and the gut lumen. Pus is then drained internally into the stomach cavity. When there is a lot of solid material within the cavity that cannot be drained out through the tubes, one can actually also perform endoscopic necrosectomy to remove all these solid debris and hence facilitate resolution and recovery. In the process of endoscopic necrosectomy, the opening from the stomach wall into the abscess cavity is dilated such that a scope can be inserted into the cavity. Under direct visual guidance, the necrotic solid material is then physically removed with the scope and endoscopic accessories.

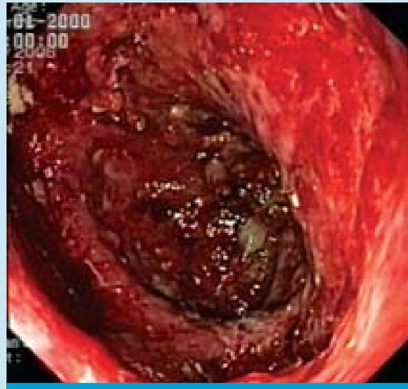


Figure 3

Case example

A 42 year old man was admitted for severe pancreatitis. In the early phase he had respiratory failure needing intubation and mechanical ventilation as well as renal failure needing dialysis. Subsequently he developed high fever that did not respond to antibiotics treatment. Computer tomography showed an infected necrotic collection at the pancreas. After discussion of the various treatment options, he opted for endoscopic treatment. He first underwent endoscopic drainage, in which internal drainage tubes were inserted to drain the pus. This was followed by endoscopic necrosectomy in which solid dead tissues were removed internally through a scope. The procedures were successful and he recovered fully.

Figure 3: After endoscopic necrosectomy, the inside of the necrotic collection appeared pink and healthy.

National Neuroscience Institute
SingHealth

NNI Neuroimmunology and Neuroinfectious Disease Service and Research

Regional Tertiary Referral Centre

As a tertiary referral centre for neurological disease in Singapore and the South East Asia region, the National Neuroscience Institute (NNI) has enhanced its services in Neuroimmunology and Neuroinfectious disease.

There is now a weekly Neuroimmunology and Neuroinfectious disease sub-specialty clinic available for the management of autoimmune or infective neurological disorders. Inpatients with complex neuroimmune and neuroinfectious disorders can also be referred for evaluation.

NNI is also developing its capability for research in autoimmune neurological disorders. The Neuroimmunology Database and Tissue Repository was set up in 2007 to aid in the study of these diseases. It is a repository of DNA, blood cells, plasma, serum and cerebrospinal fluid (CSF) linked to a comprehensive database of neuroimmunological conditions such as Multiple Sclerosis and other autoimmune disease which causes central nervous system demyelination.

This standing database will describe phenotype, demographics, risk factors, results of diagnostic tests performed, and pedigree/family history of similar conditions. Blood and CSF will be collected and banked during routine diagnostic investigations. Banked tissue will be used for future research studies. A similar database and tissue repository of patients with Guillain-Barré Syndrome is currently being set up.

1st Multi-centred MS-related Trial

In the area of clinical trials, NNI will, this year also be participating for the first time in a multi-centre, randomised, placebo-controlled MS-related trial. This trial aims to treat patients with the first clinical demyelinating event suggestive of MS with an oral agent to delay subsequent relapses and disability.

Making An Appointment

National Neuroscience Institute
Tel : (65) 6357 7095
Fax : (65) 6357 7103
Website : www.nni.com.sg

Innovative KAMRA™ Corneal Inlay Offers Solution to Near Vision Difficulties

By age 45, a person is likely to face difficulties in focusing on near objects like printed text in newspapers, price tags and text messages on the mobile phone.

Presbyopia comes with the normal ageing process and affects people aged 40 years and beyond, reducing the ability of the eye to focus on near objects. Traditionally, reading glasses are prescribed to improve vision.

Now KAMRA™ corneal inlay offers an innovative treatment solution, correcting loss of near vision. This is a safe, effective and innovative treatment that reduces the need for reading glasses.

Success of World-wide Clinical Trials

After a 5-year study by the Singapore Eye Research Institute and the Singapore National Eye Centre, more than 60 patients from SNEC experienced improved functional near vision after having their presbyopia treated with the use of a similar type of corneal inlay. It was part of a worldwide multi-centre trial involving several hundred patients and top research institutions in the USA, Europe and Australia. The Singapore National Eye Centre with its research arm, the Singapore Eye Research Institute (SERI), was the exclusive site in Asia.

With the success of the trials, SNEC is now offering this service to suitable patients. The KAMRA™ corneal inlay is CE approved.

Frustrations with Reading Glasses

A healthy young eye is able to focus light from both far and near objects to create a clear image at all distances. Over time, the eye's natural lens is too stiff to focus up close. As a result, words and other near objects including price tags and phone messages become blurry.

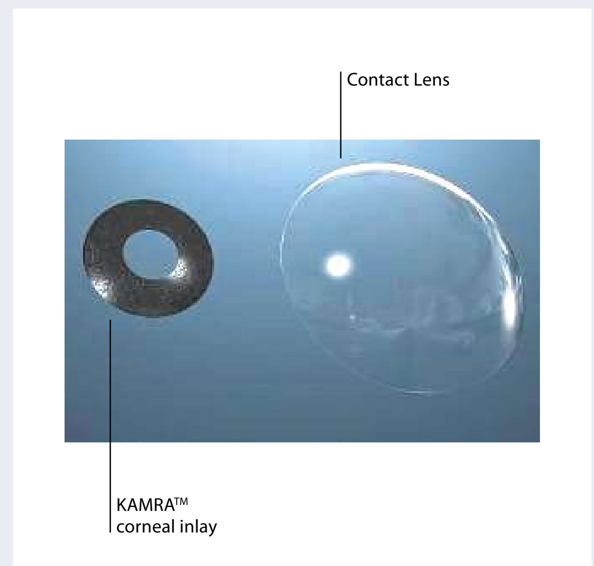
Reading glasses makes it easy to read a book, work on the computer or read phone messages. However, reading glasses impairs distance vision.

The different types of LASIK surgery procedure to-date have not successfully solved the presbyopia problem with numerous side effects including monovision adaptation problems, decreased contrast sensitivity and night vision disturbances etc.

The new KAMRA™ corneal inlay treatment offers good near vision while still maintaining good distance vision.

What It Is

KAMRA™ corneal inlay is smaller than a contact lens. It looks like a tiny black ring or a mini doughnut. Putting it simply, the hole in the centre of the ring restores near vision.



Facts about the Corneal Inlay

- Almost a decade of cutting edge research
- 3.8mm diameter - much smaller than a contact lens.
- 5 microns thin (5/1000 of a millimetre thick) - 1/10th the thickness of a sheet of paper, - 1/20th the thickness of a human hair.
- Curved like a contact lens to match average corneal curvature (7.5mm radius), and flexible enough to bend to different curvatures without buckling.
- Mass is about the weight of a salt crystal.

Singapore National Eye Centre
SingHealth

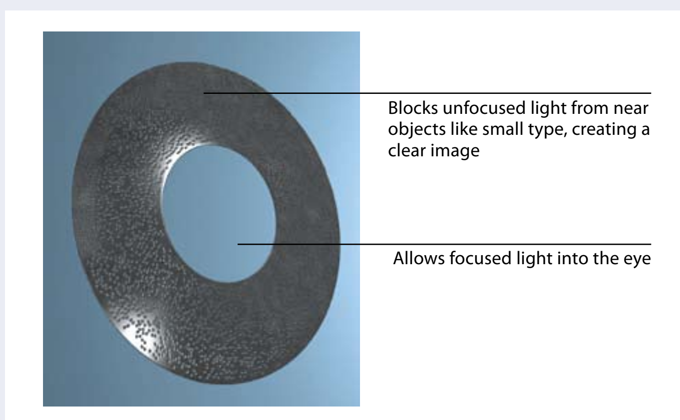
KAMRA™ corneal inlay in profile

How It Is Done

With KAMRA™, only one eye needs to be implanted for the treatment of presbyopia. From start to finish, the procedure takes less than 20 minutes.

The eye surgeon implants a KAMRA™ inlay in the cornea of one eye, under a LASIK-type flap or a smaller 'pocket' incision with a femtosecond laser (as used in 'bladeless' LASIK) in an outpatient procedure. The corneal inlay is inserted and centred. Topical anaesthetic eyedrops are administered onto one eye.

The tiny device is almost invisible to the naked eye, and need only be implanted in just one eye. In addition, the inlay has the potential to be removed and replaced with newer 'upgraded' versions if these come about. After the procedure, patients will notice an improvement in functional near vision almost immediately and visual quality for near vision will continue to improve even further with time.



How It Works

The 'presbyopic' eye of a 45 year old is unable to focus light from a near object, creating a blurred image when performing near tasks like reading or dialing a cell phone.

The same principle used in camera lenses to increase range of vision ('depth of field') is applied with the Kamra™ corneal inlay. A small aperture (opening) increases range of vision. The small aperture created by the corneal inlay reduces the blur when viewing near objects. Light rays pass through the small aperture over a small angle that increases the depth of focus.

This technique to improve presbyopia will be a tremendous boon to adults over the age of 40, many of whom find it increasingly difficult to read small print and have to turn to the aid of reading glasses. Patients have benefited from the implant and are enjoying their new found functional reading vision.

Most of these patients have not undergone any surgery before and have normal distance vision but have problems reading or seeing near without glasses. They have minimum or no refractive error (ie myopia, hyperopia or astigmatism). Some who have undergone LASIK surgery have good distance vision but are finding themselves presbyopic and needing glasses for near work.

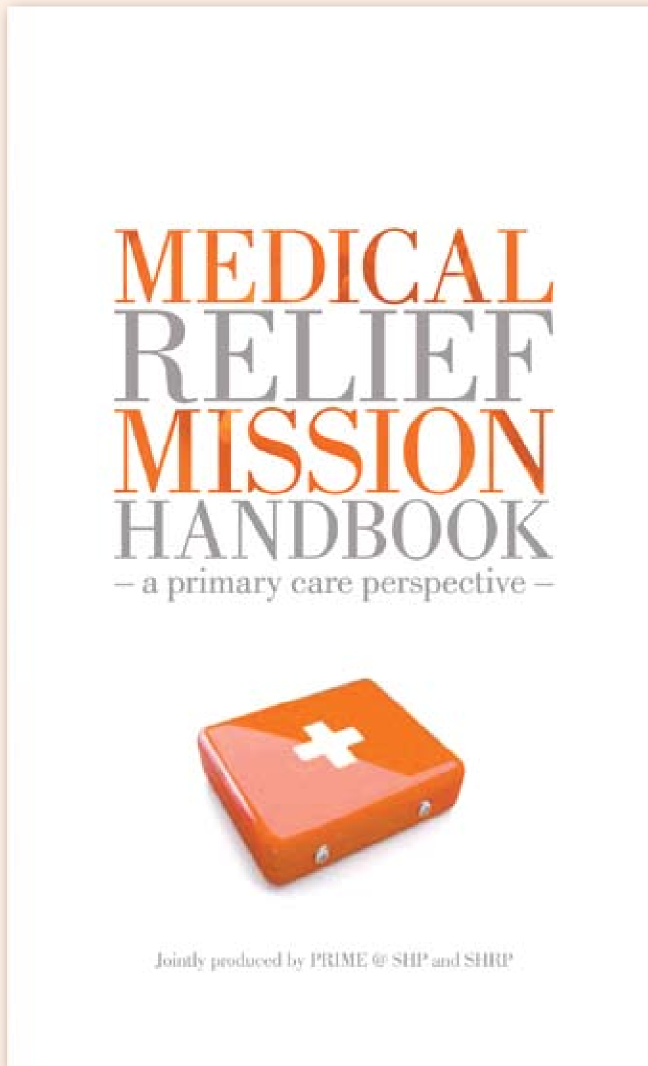
The KAMRA™ corneal inlay may also be used in combination with LASIK surgery for those with myopia, astigmatism and presbyopia, and may also be used in patients after LASIK surgery or cataract surgery, with residual presbyopia.

The corneal inlay and the procedure itself offers an excellent safety profile with no adverse complications seen throughout the trial (similarly in all other international sites). There were only minor side-effects: some do experience some glare and haloes which improves over time, similar to lasik. Some may still have difficult in reading in dim light conditions and may not be fully independent of reading glasses all the time as a consequence.

In summary, the KAMRA™ corneal inlay is easily implanted using existing 'bladeless' LASIK technologies with no stitches required. There is minimal impact on distance vision. The inlay is upgradeable if newer versions are available. With KAMRA™, only one eye needs to be implanted for the treatment of presbyopia.

For further information and details on the KAMRA™ corneal inlay for presbyopia, please contact the SNEC at **6322 8891** or email **feedback@snec.com.sg**.

Medical Relief Mission Handbook



Volunteers who have gone on humanitarian relief work often find it physically and mentally challenging – in the mission fields, they witness deaths and injuries, while having to deal with personal safety and stress issues. To better fulfill their commitment, humanitarian volunteers need to be well-equipped to face these challenges.

The Medical Relief Mission Handbook was published for this purpose. Written by a group of doctors from SingHealth Polyclinics, many of whom have themselves participated in relief missions, the handbook contains useful information for healthcare professionals deployed on humanitarian missions. It aims to better prepare them and manage expectations for their encounters in the field.

Topics covered include pre-trip preparations, personal health and psychological issues, effects of disasters and post-trip activities. The handbook serves as a practical guide that will come in handy before, during and after the mission work. It can be a checklist for volunteers before departure, a quick reference on the mission scene, and a review guide after the trip. Published by SingHealth Academy, the book is a substantial read for both first-time and seasonal volunteers.

To obtain a copy of the Medical Relief Mission Handbook, please contact SingHealth Academy at **6321 4862**.

"The handbook can be a checklist for volunteers before departure, a quick reference on the mission scene, and a review guide after the trip. Published by SingHealth Academy, the book is a substantial read for both first-time and seasonal volunteers."

www.healthxchange.com.sg – New health portal customised for Singaporeans

SingHealth has developed a 'one-stop' online health portal – www.healthxchange.com.sg – where everything on health can be found with a unique combination of content and applications.

As Singapore's largest healthcare group, SingHealth is able to provide trusted information from our large pool of doctors and other healthcare professionals across our 3 hospitals, 5 national specialty centres and network of polyclinics covering 42 medical specialties.

With Health Xchange, the public can have access to useful medical information and healthy lifestyle advice, and thus be able to make better, informed healthier lifestyle/ medical choices for themselves and their families. Expect to see all sorts of health and lifestyle related content catering to men, women and children that will be updated regularly.

Through the interactive forums, Health Xchange also offers a new channel for patients and public in general to interact online with each other and with SingHealth doctors and healthcare professionals under the 'Meet the Specialists' segment.

There will also be special 'Meet the GPs' sessions as well where GPs will be invited to address medical issues commonly faced or brought up by their patients.

Health Xchange has already lined up an interesting list of topics under 'Meet the Specialists' including LASIK, weight management, heart health and bones & joints concerns.

> The 'Meet the Specialists' segment will also include sessions for users to 'meet the GPs', where GPs will be invited to address medical issues commonly faced or brought up by their patients.

What makes Health Xchange different?

Tailored for Asians

There are currently many existing healthcare-related websites, but they are often written based on experiences and cultures that are quite different from ours. Health Xchange is unique in that it is created for Asians by Asians.

Health Xchange provides reliable and relevant information tailored for Singaporeans, taking into account local dietary habits, customs and religious beliefs.

Two-way communication

Users can also participate in interactive sections covering healthy living tips, recipes and healthcare information. Catering to all age groups, the forum encourages participants to share tips related to their everyday lives. The objective is to create a sense of community to help Singaporeans take charge of their healthcare needs and become partners with their doctors.

SINGHEALTH CONTINUING MEDICAL EDUCATION PROGRAMME

Urology GP Forum - The 3 Pains in Urology

By Department of Urology, Singapore General Hospital

Time	Programme
1300	Lunch and Registration
1400	Welcome Address **By A/Prof Christopher Cheng**
1405	Disease Update : Kidney Cancer **By Dr John Yuen**
1430	Approach to Dysuria **By Dr Ng Lay Guat**
1455	Tea Break
1510	Approach to Loin Pain **By Dr Henry Ho**
1535	Approach to Testicular Pain **By Dr Sim Hong Gee**
1600	End

Date : 9 January 2010 (Saturday)
Time : 1 to 4 pm
Venue : Postgraduate Medical Institute
Singapore General Hospital

Contact : **SGH Postgraduate Medical Institute**
Singapore General Hospital
Block 6, Level 1, Outram Road
Singapore 169608

Email : pgmi.gpcme@sgh.com.sg
Fax : 6223 9789

Closing Date for registration: 3 January 2010

Application for CME points in progress.

HOTLINE NUMBERS

GPEP HOTLINE : 6557 2233

SOC FAST TRACK APPOINTMENT CONTACT NUMBERS

SGH	Singapore General Hospital	6321 4402
KKH	KK Women's and Children's Hospital	6294 4050
CGH	Changi General Hospital	6788 3003
NCCS	National Cancer Centre Singapore	6436 8288
NDCS	National Dental Centre Singapore	6324 8798
NHC	National Heart Centre Singapore	6436 7848
NNI	National Neuroscience Institute @ SGH	6321 4402
NNI	National Neuroscience Institute @ TTSH	9637 9718
SNEC	Singapore National Eye Centre	6322 9399

DIRECT WARD REFERRAL CONTACT NUMBERS

SGH	Singapore General Hospital	6321 4822
KKH	KK Women's and Children's Hospital	6394 1183
CGH	Changi General Hospital	6850 1648

Members of the SingHealth Group