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# Navigation system significantly improves the surgical accuracy oftotal knee replacement for arthritis patients

Hong Kong Sanatorium & Hospital brings the surgical skill to the next level by introducing navigation system in rotating-platform total knee replacement



(13 February 2009, Hong Kong) The Hong Kong Sanatorium & Hospital (HKSH) announced today that the orthopaedic surgical team had successfully performed a large number of cases of total knee replacement surgeries on arthritis patients with the application of computer-assisted navigation system since its first introduction four years ago. HKSH is the only private hospital in Hong Kong which has acquired the state-of-the-art navigation system.

Arthritis of the knee is very common in Hong Kong. Among the population aged above 50 years old, about 20% and 10% suffer persistent knee pain and arthritis, respectively.2 Now through a total knee replacement surgery, patients whose knee joints are badly damaged can relieve pain and regain mobility.

Total knee replacement surgery is for badly damaged knee joint caused by primary osteoarthritis related to aging, rheumatoid arthritis and post-traumatic arthritis. Computer-assisted navigation system in total knee replacement surgery is a new technology that uses infrared to produce a model of the patient's knee joint in the computer. With a sophisticated software, the navigation system helps surgeons to know exactly where to cut the bones and how to put prosthesis (implant) in the best position during operation. The surgical accuracy would be much improved.

"To date, our orthopaedic surgical team has attained a high level of surgical skill in performing the total knee replacement surgery with navigation system, and has achieved a high surgery success rate. Besides patients from Hong Kong, patients from Mainland China, US, Canada, and Australia, also chose to undergo total knee replacement surgery at HKSH," said Dr. Wu Wing Cheung Stephen, Director of the Orthopaedic and Sports Medicine Centre of the HKSH. "This is a really significant achievement for the patients, and we want to bring this to the next level. I am glad to announce two experienced orthopaedic



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香港跑馬地山村道2號 2 Village Road, Happy Valley, Hong Kong Tel: (852) 2572 0211 Fax: (852) 2835 8008 surgeons, Dr. Tang Wai Man and Dr. Wong Wai Kwok Jimmy, have recently joined our team."

Furthermore, HKSH recently introduced the application of navigation system in rotating platform total knee replacement. "Rotating-platform knee prosthesis helps arthritis patients to regain more normal movement of the knee. When the knee rotates, more stress is placed on the joint. This may accelerate the aging of a knee implant," explained Dr. Tang Wai Man, Specialist in Orthopaedics and Traumatology of the HKSH. "The rotating-platform knee implant is designed to accommodate these stresses and help to increase the implant's longevity." In fact, studies show that rotating-platform knees have been proven to reduce implant wear by 94% over traditional fixed-bearing knee implants. And more than 97% of these implants are still in use even after 20 years.4

"With the newly expanded Physiotherapy Department, we hope to provide patients with more comprehensive post-operative rehabilitation services so as to help them to achieve the best rehabilitation result," added Dr. Wong Wai Kwok Jimmy, Specialist in Orthopaedics and Traumatology at HKSH. "In celebration of the expansion of the Physiotherapy Department, the Li Shu Fan Medical Foundation will donate charitable surgeries to 5 arthritis patients who are in need for total knee replacement surgery."

The surgical costs of the total knee replacement surgeries will be donated by the Li Shu Fan Medical Foundation, and the required rotating-platform knee prostheses will be donated by Johnson & Johnson Medical. Priorities will be given to arthritis patients who are in the queue for total knee replacement surgery at hospitals under the Hospital Authority.

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- 3. McNulty, D. et al. "The Effect of Crosslinking UHMWPE on In Vitro Wear Rates of Fixed and Mobile Bearing Knees." ASTM STP 1445. Gsell, R. et al. American Society for Testing and Materials, West Conshohocken, PA. Available online at www.astm.org (2004).
- 4. Buechel, F.F. et al. "Twenty-Year Evaluation of Meniscal Bearing and Rotating Platform Knee Replacements." Clinical Orthopaedics and Related Research, July 2001, pp. 41-50.



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## **About Hong Kong Sanatorium & Hospital**

Hong Kong Sanatorium & Hospital (HKSH) is one of the leading private hospitals in Hong Kong. It is owned by the Li Shu Fan Medical Foundation (LSFMF), which is a not-for-profit organization. HKSH is committed to fulfilling LSFMF's vision of providing quality health care and advancing medical education and research, with an overriding concern for the public good.

For more details, please visit www.hksh.com/eng

### **About Orthopaedic and Sports Medicine Centre**

The Orthopaedic and Sports Medicine Centre is established on 5th March 2004 in the Hong Kong Sanatorium & Hospital. It was the first and only facility in Hong Kong's private hospitals, in response to the demand for comprehensive services in orthopaedics and sports medicine. It aims to provide complete health care and preventive treatment for a variety of disorders, including trauma and tumours. The Centre is managed by orthopaedic specialists who are leading experts in such fields as tumour management, hand, upper limb and microsurgery, sports medicine, joint replacement and spine. The Centre also works closely with the Physiotherapy Department to design training and rehabilitation programmes for patients to restore physical capabilities.

For more details, please visit www.hkeye.org/eng/services/sms/ortho/ortho\_main.html

#### Li Shu Fan Medical Foundation

The Li Shu Fan Medical Foundation was established in March 1963 to promote and support medical education, research and charity in Hong Kong. Since inception, the non-profit Foundation has by far been the single largest shareholder of the Hong Kong Sanatorium & Hospital (HKSH), which supports the development and improvement of HKSH. Any excess of income over costs can only be used to support medical research, educational activities and the development and improvement of services.

For more details, please visit www.hkeye.org/eng/LSF\_%20Foundation/LSF\_Foundation\_main.html

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