



Hong Kong Adventist Hospital – Stubbs Road’s Robotic Surgery Center Commences Services and Features Hong Kong’s First Robotic Surgery System that Targets the Entire Spine and the All-New Robotic Knee Replacement Surgery System

(Hong Kong – May 6, 2024) With continued advancements in medical technology and the rising popularity of precision medicine, patients today enjoy a wide range of treatment options that are safer and offer a reduced risk of postoperative complications. Robotic surgery, an increasingly utilized method of surgery, enables surgeons to perform procedures with a higher degree of precision and accuracy thanks to the assistance of robotic arm systems. Hong Kong Adventist Hospital – Stubbs Road (HKAH – SR) is pleased to announce the establishment of its Robotic Surgery Center, which features some of the latest robotic surgery systems and a comprehensive range of surgical equipment that significantly enhance surgical outcomes and offer patients the best treatment results.

“The establishment of the Robotic Surgery Center is a testament to Hong Kong Adventist Hospital’s commitment to continuously pioneering advanced technologies and pursuing medical excellence,” says Mr. Alex Lan, President and CEO of Hong Kong Adventist Hospital. “Excellence is one of our hospital’s core values, and we consistently strive for the highest standards in clinical and service quality. Our hospital has offered robotic surgery since 2013, employing the use of advanced technologies in an effort to elevate patient care standards, improve the quality of our medical services, and enhance treatment outcomes.”

Introducing Hong Kong’s First Robotic Surgery System that Targets the Entire Spine

The Robotic Surgery Center provides robotic arm-assisted surgical services that target a wide range of diseases and conditions across neurosurgery, orthopedic surgery, and surgical oncology, offering patients more advanced, precise treatment options.

The Center features Hong Kong’s first robotic surgery system that targets the entire spine, which is supported by artificial intelligence and real-time navigation technology to facilitate safe and accurate placement of implants. “With age and improper posture, issues such as herniated or degenerated discs, spinal stenosis, or scoliosis can occur, leading to nerve pain or weakness in the limbs. In severe cases, spinal fusion or corrective spinal treatment may be required,” says Dr. Clarence Leung, Clinical Director of the Minimally Invasive Spine Surgery Center and Consultant in Neurosurgery at HKAH – SR. “The Center is equipped with advanced surgical systems that allow patients to avoid traditional surgeries that require larger incisions. Procedures that involve smaller incisions, less blood loss, and more precise implantation of screws maximize the effectiveness of surgery.”



New Robotic Knee Replacement Surgery System Increases Accuracy of Bone Resection

In addition to spine-related issues, aging can also affect the health of the joints, in which knee degeneration and osteoarthritis is the commonest joint disease in the territory. In severe case of osteoarthritis, patients require total knee replacement surgery as a definitive treatment. A robotic arm-assisted system used for total knee replacement offers patients a safer, more precise treatment option.

“Unlike traditional surgery, where the surgeon determines the positioning of the femur and tibia by primitive measurement and experience, the new robotic surgery does not require patients to undergo complex examinations prior to surgery. After the patient’s X-rays are uploaded, the robotic system generates personalized 3D images and ascertains the bone resection position, thereby reducing the risk of excessive bone resection or malpositioning of the artificial joint,” says Dr. Cheung Man Hong, Consultant in Orthopedics & Traumatology at HKAH – SR. “Furthermore, the system is also able to provide objective soft tissue feedback, offering a more accurate assessment compared to that which relies on a surgeon’s experience and judgment. The system will also adjust the positioning of the artificial joint based on the tension of the patient’s ligaments.”

Robotic Surgery Center Provides Comprehensive, Multidisciplinary Surgical Services

The Robotic Surgery Center also offers a wide range of robotic surgeries targeting areas including cancer surgeries (surgical oncology), for liver cancer, stomach cancer, pancreatic cancer, bile duct cancer etc., as well as other complex surgical procedures. “Robotic surgery systems are equipped with high-definition cameras with 3D capabilities, together with high precision and versatile robotic arms, greatly enhance surgical capability.” says Dr. George Yang, Clinical Director of Robotic Surgery (General Surgery) and Consultant in General Surgery at HKAH – SR. “In addition, with the robotic surgical system, those complex surgeries required big and long open wound, are now made possible to be done through several 8mm keyhole wounds. This not only speed up patient’s post-operative recovery, it also reduces the risk of large open wound related complications such as post-operative pain, bowel adhesion which may lead to bowel obstruction, incisional hernia, and wound infection which may delay cancer patients for their subsequent oncology treatment.”

The establishment of the Robotic Surgery Center marks an important step for HKAH – SR within the field of medical technology. Thanks to this significant advancement in medical service standards, the hospital is poised to provide even more precise and personalized treatment options to patients while benefiting Hong Kong’s healthcare sector as a whole.

Patient Sharing (Robotic Spinal Fusion)

- Mr. Oliver Kadhim, in his 40s
- Started experiencing foot pain, numbness, and paralysis two years ago. At times, he could not walk for more than one minute, which affected his ability to work.



- Previously tried acupuncture and epidural steroid injections, but did not see any improvement.
- As he has four children, he decided to undergo surgical treatment.
- After examination, he discovered he was suffering from a collapsed disc, which was compressing the L5 nerve and required spinal fusion of L5S1 segment.
- In March of this year, he underwent surgery performed with the robotic surgery system mentioned in the press release. He was able to get out of bed a few hours after the surgery and was discharged the next day.
- Approximately three to four weeks after surgery, he had largely recovered and was able to resume normal physical activities.
- He currently attends monthly follow-up consultations to monitor his condition.

Patient Sharing (Robotic Knee Replacement Surgery)

- Ms. Lin, in her 60s
- About seven years ago, she experienced sudden pain and swelling in her left knee that resembled the feeling of having twisted her knee.
- Ms. Lin was traveling at the time, and sought medical advice from multiple orthopedic doctors upon her return to Hong Kong.
- One doctor suggested undergoing magnetic resonance imaging (MRI) to determine whether she had a meniscus tear. Subsequent examinations confirmed that she did indeed have a torn meniscus.
- The doctor recommended surgery, but Ms. Lin was hesitant and instead opted to take anti-inflammatory and pain relief medications to manage the knee pain, which did not impact her daily life much at that point.
- Ms. Lin's knee pain worsened last summer, requiring her to take breaks after walking for short periods of time.
- In late December, she traveled to Chongqing, known as the "mountain city," where she had to walk extensively. After returning to Hong Kong, her knee pain intensified, and she could no longer straighten her leg.
- Ms. Lin sought medical advice again, hoping to undergo surgery to alleviate the pain.
- She found a doctor who arranged for her to undergo robotic knee replacement surgery.
- The entire procedure took approximately 1.5 hours, and she was able to walk with the aid of a walker about two hours after surgery, with no knee pain.
- Three days after the surgery, she was able to walk independently and climb stairs, going up and down two flights.
- The entire process from hospital admission to recovery and discharge took approximately five days.
- Ms. Lin was pleasantly surprised by her quick recovery and is now able to resume traveling and exercising.



新聞稿

迎合醫療科技大趨勢

機械臂外科中心投入服務

引入全港首部可應用於全脊椎的機械臂手術系統
以及全新全膝關節置換術的機械臂手術系統

（香港——2024年5月6日）精準治療成大勢所趨，隨著醫療科技日益進步，患者有更多治療選擇，而且安全性及術後亦取得極大改善。機械臂輔助手術是一項日益廣泛應用的醫療技術，透過機械臂系統的協助，醫生能夠更加精準進行手術。香港港安醫院—司徒拔道今日宣布成立機械臂外科中心，引入最新機械臂系統，並配合全方位的手術設備，以大幅提升手術成效，為患者取得最大效益。

香港港安醫院院長及行政總裁凌宏寶先生在致辭時表示，「機械臂外科中心的成立是香港港安醫院對帶領先進技術和推動醫療卓越的承諾的明證，卓越是本院核心價值之一，以高質素醫療服務為志，精益求精，自2013年，本院已提供機械臂手術，致力善用高端醫療科技儀器，不斷尋找提升病人護理和治療效果的方法，希望透過尖端和先進的機器臂技術為病人提供更高質素的醫療服務。」

引入全港首部可應用於全脊椎的機械臂手術系統

機械臂外科中心將為各種疾病和病情提供適合的機械臂輔助手術服務，包括神經外科手術、骨科手術、癌症手術等，使患者能夠得到更先進、更精準的治療。

中心引入全港首部可應用於全脊椎的機械臂手術系統，該系統藉着人工智能及實時導航，能夠安全且精準地植入螺絲。香港港安醫院—司徒拔道脊椎微創手術中心醫務主管、神經外科顧問醫生梁顯信醫生指出，「隨着年齡增長、日常姿勢不當的情況下，容易會導致椎間盤突出、退化、狹窄或脊柱側彎的問題，引致神經痛，及四肢無力的情況，嚴重者更需要接受脊椎融合術或矯型治療。中心引入的最新儀器，能夠讓患者免受傷口較大的傳統外科手術；在傷口切口更細、出血量更少的情況下接受治療，植入最貼合患者病情所需的螺絲，能夠將手術的成效發揮至最大。」



全新全膝關節置換術機械臂 提高截骨精準度

年齡增長除了引致脊椎出現毛病，關節健康亦日益退化，嚴重者需要接受全膝關節置換，而引入機械臂手術輔助全膝關節置換術，能夠為醫、患提供更精準的治療。

香港港安醫院—司徒拔道骨科顧問醫生張文康醫生表示，「有別於傳統手術受需要由醫生主觀判斷並定位股骨及脛骨位置，患者在接受機械臂全膝關節置換術前，毋須接受複雜的檢查，只需將X光片上傳至系統，便可以制定個人化3D輔助影像，系統便會精準計算截骨位置，減低出現截骨過多或偏離的情況。此外，系統亦可以客觀評估軟組織平衡的情況，比單純依靠醫生觸感經驗更為準確。系統會因應患者韌帶的柔韌度，將人工關節位置作個人化調整。」

機械臂外科中心提供全方位跨專科手術

此外，機械臂外科中心還提供其他領域的機械臂輔助手術，包括癌症手術、肝、膽、胰手術等。香港港安醫院—司徒拔道機械人手術系統（外科）醫務主管、外科顧問醫生楊丕祥醫生指出，「機械臂具備高清鏡頭及3D解像，能夠比肉眼更清楚了解患者體內情況，讓醫生更立體及集中進行手術。此外，由於機械臂手術切口更細，失血量小，患者康復更快，亦可以避免傷口後遺症，例如切口疝、腸黏連等等。」

機械臂外科中心的成立，標誌著香港港安醫院—司徒拔道在醫療科技領域的重要一步，全方位提升醫療水平，致力為患者提供更精準及個人化的治療方案，為本港醫療帶來裨益。



個案分享資料（機械臂脊椎融合術）

- Mr. Oliver Kadhim，現年40多歲
- 兩年前已開始受腳痛、腳麻、腳痺所困，嚴重時走路無法超過1分鐘，連工作亦受到影響
- 曾接受針灸治療、硬膜外藥物注射，惟未有改善
- 由於育有4名小朋友，故早前終下定決心接受手術治療
- 經檢查後確定其情況為椎間盤塌陷，壓住L5段神經線，需要安排L1及L5融合手術
- 今年3月獲安排以前文提及的機械臂手術系統進行手術，術後數小時後已能下床，翌日出院
- 術後約3至4星期已大致康復，現已可恢復如常運動
- 目前維持每月覆診一次跟進情況便可

個案分享資料（機械臂全膝關節置換術）

- 現年60多歲的林小姐
- 大約在七年前突然間出現左膝關節疼痛、腫脹問題，疑似「拗柴」的感覺
- 當時林小姐正在外地旅遊，回港後便立即四處求醫，尋求多位骨科醫生建議
- 當時有醫生建議需要接受磁力共振檢查，估計林小姐的半月板有裂開的問題；後來接受檢查後，亦證實有此情況
- 醫生曾經建議林小姐接受手術治療，但林小姐對手術感到卻步，因此便服用消炎止痛藥來減低膝關節痛楚，對日常生活的影響不大
- 直至去年夏天，林小姐膝關節疼痛的情況加劇，當時步行一段時間便需要休息
- 其後在十二月下旬，她前往重慶旅遊，當地以「山城」聞名，需要步行量大增；故回港後，膝關節疼痛的情況加劇，下肢已無法伸直
- 林小姐再尋求醫生建議，希望接受手術治療以減輕痛楚情況
- 其後，林小姐轉輾地找到醫生並安排接受全新全膝關節置換術的機械臂手術系統
- 整個手術時間大約1小時半，術後大約2小時便可以落地用推架輔助步行，膝關節亦沒有疼痛的情況
- 完成手術後，第三天便可以自行步行及行樓梯，可以上下來回兩層樓梯
- 由入院接受手術至康復出院大約五天
- 林小姐笑言沒有預料到自己可以這麼快就康復，可以繼續去旅行及運動習慣