



4 Benefits of Robotic Assisted Hip Replacement Surgery 機械臂輔助髖關節置換手術的好處

- Preoperative Planning: Accurate and detailed planning of the artificial joint size and position is achieved through a 3D bone model, allowing for simulation of surgical outcomes.
- High Precision: The accuracy of prosthesis placement is significantly improved to 98%, much higher than the approximately 80% achieved in traditional surgeries.
- Increased Safety: Through preoperative planning, the surgeon can lock in the depth and boundaries of the robotic bone resection. The haptic feedback control system can avoid errors during bone resection, reducing risk of damaging surrounding nerve, blood vessels and soft tissues.
- Fewer Complications: The risk of postoperative hip dislocation is significantly lowered by up to four times, and issues like leg length discrepancy are minimized.
- Faster Recovery: Due to less surgical trauma and bleeding, patients experience less postoperative pain and recover more quickly, with many able to get out of bed on the same day of the surgery, reducing hospital stays.
- 術前規劃: 透過術前三維骨模型準確詳細規劃人工關節尺寸和位置，模擬手術效果。
- 精準度高: 假體放置準確性大幅提升至98%，遠高於傳統手術的約80%



4 Hospital Introduction 醫院簡介



The Hong Kong Adventist Hospital - Stubbs Road established the Robotic Surgery Center in 2024. The center provides robotic assisted surgical services for various diseases, including orthopedic surgery, cancer surgery, and others, offering patients more advanced and precise treatment. The hospital's experienced orthopedic specialists, along with a professional medical team, are able to cater to and care for the needs of patients.

香港港安醫院一司徒拔道於2024年成立機械臂外科中心，中心為各種疾病提供適合的機械臂輔助手術服務，包括骨科手術、癌症手術等，為患者提供更先進、更精準的治療。本院的骨科



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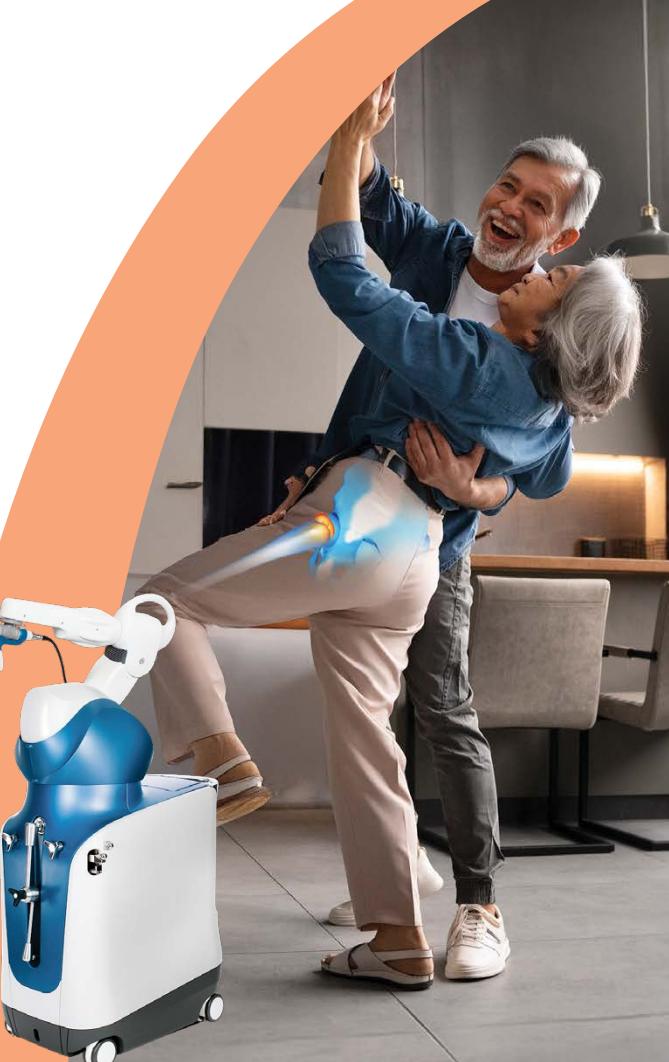
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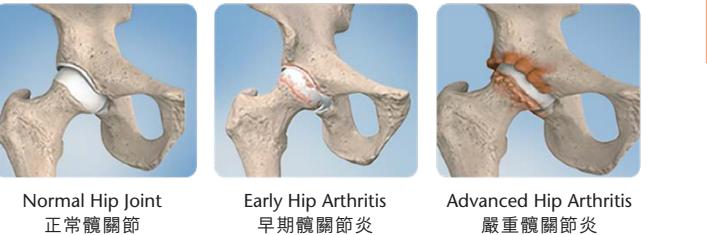
Robotic Surgery Center
Robotic Assisted
Hip Replacement Surgery
機械臂外科中心
機械臂輔助
髖關節置換手術



4 Introduction to Hip Arthritis 髋關節炎簡介

The hip joint consists of a spherical femoral head and a cup-shaped acetabulum, connecting the pelvis and the femur. Hip arthritis occurs when the cartilage wears down due to degeneration, inflammation, or injury. Patients typically experience joint pain and stiffness, significantly affecting their daily activities, such as walking, sitting, or standing. Symptoms like redness and heat are often less noticeable because the hip joint is surrounded by a thick layer of muscle.

髋關節由球形股骨頭和杯狀髋臼組成，是盆骨和大腿骨相接的關節。當髋關節因退化、炎症或創傷等原因導致軟骨磨損，就會引發髋關節炎。患者會感到關節疼痛及僵硬，日常活動能力大受影響，例如步行、坐下或站起都感到困難。由於髋關節被厚厚的肌肉層包裹，紅腫發熱等症狀通常較不明顯。



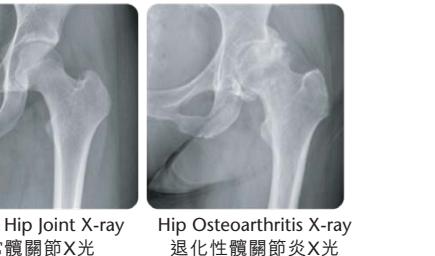
4 Common Causes of Hip Arthritis 髋關節炎的常見成因

According to local studies, the most common causes include:

- Avascular Necrosis of the Femoral Head: This is the leading cause of hip replacement surgery among patients. It occurs when blood supply to the femoral head is blocked, leading to necrosis. Alcohol abuse has been identified as the most common factor contributing to this condition.
- Degenerative Arthritis: As people age, the cartilage in the joints gradually wears down.
- Rheumatoid Arthritis
- Congenital Hip Dysplasia

根據本港研究，最常見的成因包括：

- 缺血性股骨頭壞死（俗稱「骨枯」）：這是本港患者接受髋關節置換手術最常見的病因。股骨頭因血液供應受阻而壞死，其中酗酒被研究證實是引發骨枯的最常見因素。
- 退化性關節炎：隨著年齡增長，關節軟骨逐漸磨損。
- 類風濕關節炎
- 先天性髋關節發育不良



4 Typical Symptoms 典型病徵

If you experience the following symptoms, it may indicate a problem with the hip joint:

- Groin Pain: Pain in the front of the groin area, where the abdomen connects to the thigh.
- Pain with Movement: Difficulty and pain when taking steps, bending over, sitting down, or standing up.
- Joint Stiffness: Especially in the morning or after prolonged sitting, the joint may feel stiff and less mobile.
- Limping: An unconscious change in gait due to pain.
- Limited Mobility: Difficulty performing daily activities, such as putting on shoes and socks or trimming toenails.
- Leg Length Discrepancy: A sensation that the lengths of the legs are uneven.

如果出現以下症狀，可能是髋關節出現病變的信號：

- 腹股溝疼痛：腹股溝前方（即腹部連接大腿的位置）感到疼痛
- 活動時痛楚：每行一步、彎身、坐下或站起來時感到困難和痛楚
- 關節僵硬：特別是早晨或久坐後，關節活動不靈活
- 跛行：因疼痛而不自覺地改變步姿
- 活動受限：難以進行日常動作，如穿鞋襪、剪腳甲
- 長短腳：感覺雙腿長度不一

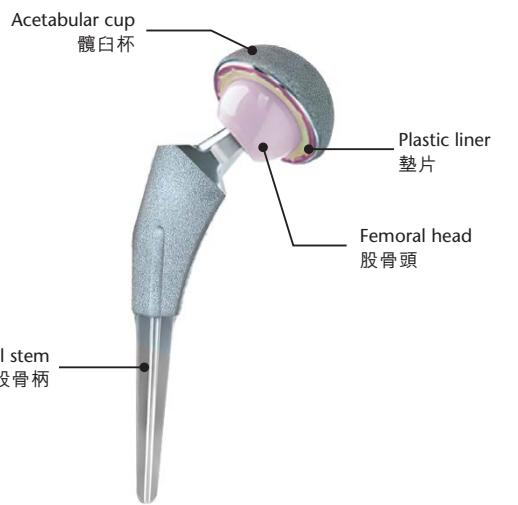
4 Understanding Hip Replacement 認識人工髋關節置換術



When the hip joint is severely damaged and neither medication nor physical therapy effectively alleviates pain, a doctor may recommend hip replacement. During the procedure, the damaged femoral head and acetabular cartilage are removed and replaced with artificial implant made from metal alloys, ceramics, and wear-resistant plastic (polyethylene). This surgery aims to eliminate pain and restore joint function. Currently, over 95% of artificial joints can last up to 10 years, with about 90% lasting up to 20 years. With proper care, artificial hip joints can potentially be used for a lifetime.

當髋關節嚴重受損，藥物或物理治療均無法有效緩解疼痛時，醫生有可能建議進行人工髋關節置換術。手術會將已損壞的股骨頭和髋臼軟骨切除，換上由合金、陶瓷及耐磨塑料(聚乙烯)製成的人工關節組件，從而消除痛楚，恢復關節功能。現時有逾95%的人工關節的使用壽命可達10年，而有約90%的人工關節使用壽命可達20年，只要保養得宜，人工髋關節能夠終生使用。

4 Artificial Hip Joint Structure 人工髋關節構造



4 Robotic Assisted Hip Replacement Surgery 機械臂輔助髋關節置換手術

Traditional hip replacement surgery often relies on 2D X-ray images for preoperative planning, which can lead to errors. Moreover, the surgery primarily depends on the surgeon's manual skills for procedures such as bone resection, reaming, and component placement. The introduction of **robotic assisted hip replacement surgery** combines advanced technology to provide patients with a more precise and safer treatment option.

傳統人工髋關節置換術以平面的X光影像作術前規劃，或會引致誤差；而且手術主要靠醫生手進行截骨、打磨及裝嵌等程序。現時引入的**機械臂輔助髋關節置換手術**，結合先進科技，為患者提供更精準、安全的治療選擇。

4 Overview of the Surgical Process 手術過程簡介

1. Preoperative 3D Planning: Prior to the surgery, the patient undergoes a CT scan, which is used to develop a pre-operative 3D computer model of the patient's anatomy. The doctor can then plan the specific size and positioning of the acetabular cup and femoral stem based on the individual patient's actual conditions.

2. Precise Execution: During the surgery, the robotic arm, controlled by the surgeon, performs the bone reaming and placement of the prosthesis. Its navigation system ensures that angles and positions are precisely accurate.

3. Safety Features: The robotic arm is equipped with a haptic feedback control system that immediately stops operations if there is any deviation from the planned procedure. This minimizes the risk of errors during osteotomy and reduces damage to surrounding soft tissues and bleeding.

1.術前3D規劃：病人會進行電腦掃描，用於制定術前立體電腦掃描影像。醫生可以根據病人實質情況，具體而準確的計劃髋臼和股骨假體的尺寸和位置。

2.精準執行：手術時，機械臂在醫生操控下進行打磨和置入假體，其導航系統能確保角度和位置精確無誤。

3.安全防護：機械臂配有觸覺反饋系統，若操作偏離預定計劃會即時停止，避免手術期間截骨時的誤差，減少對周圍軟組織的損傷及出血情況。



Preoperative Planning
術前規劃



Robotic Assisted Hip Replacement Surgery

4 Robotic Assisted Hip Replacement Surgery

Package	Length of Hospital Stay	Package Charge
Robotic Assisted Hip Replacement Surgery	5 Days 4 Nights	\$129,200- \$166,500

Limited Time Privilege Until 31 March, 2026

The actual price will be determined by the brand and model of the robotic arm and artificial joint implant used.

Package includes:

- + Operating room charges including equipment, consumables, implants and instrument
- + Medication during operation and inpatient
- + Discharge medication
- + Basic consumables or materials charges
- + Related test / imaging
- + Accommodation charge for standard room (5 days, 4 nights)
- + Physiotherapist assessments conducted during hospitalization, along with physiotherapy sessions provided once daily
- + Pre-operation comprehensive assessment

Package excludes:

- + Doctor procedure fee
- + Hospital inpatient care
- + Anesthesiologist fee
- + Meals and personal consumables used during hospital stay
- + Changing bed within the same grade of accommodation
- + Additional operation charges, medication, diagnostic procedures, doctor's fee unrelated to the package operation
- + Any charges or services before actualisation of package and after patient discharge
- + Any lab test, treatment, medication, procedures fee related to pre-existing condition
- + Pre-operative diagnostic procedure charges
- + Emergency services or additional fees generated as a result of complications arising from treatment
- + Intensive care and re-operation charges
- + Extended hospital stay and additional fees incurred as a result of extended hospital stay, such as accommodation charge, medication, and nursing care fees

Appointment and Enquiries

: (852) 6463 0638

: (852) 3651 8990

: www.hkah.org.hk

Important Information

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2. Physicians must complete the required training and credentialing process to obtain Robotic Assisted Surgery Clinical Privileges before they are authorized to perform robotic surgery.

Effective Date: 1 January, 2026

2026/01 Revised



Robotic Assisted Hip Replacement Surgery

機械臂輔助 髓關節置換手術

Ⓐ 機械臂輔助髓關節置換手術

計劃	住院日數	套餐收費
機械臂輔助髓關節置換手術	5日4夜	\$129,200-\$166,500

限時禮遇至2026年3月31日

實際價格將按照所採用之機械臂及人工關節品牌及型號決定

手術套餐包括以下內容：

- + 手術室費用，包括設備、消耗品、植入物和儀器
- + 手術期間和住院期間的藥物
- + 出院藥物
- + 基本耗材或材料費用
- + 相關檢查/影像
- + 標準房間住宿收費 (5日4夜)
- + 住院期間的物理治療師評估，以及每日一次的物理治療
- + 術前綜合評估

手術套餐不包括以下內容：

- + 醫生手術費
- + 醫生巡房費
- + 麻醉科醫生收費
- + 住院期間的膳食和個人消耗品
- + 同等級病房內的換床費
- + 與套餐手術無關的其他手術費用、藥物、診斷檢查、醫生費用
- + 在套餐生效之前和患者出院之後發生的任何費用
- + 與既往病史相關的任何化驗、治療、藥物、費用
- + 術前診斷檢查費用
- + 因治療引起併發症而產生的急救服務或額外費用
- + 加護病房和二次手術費用
- + 因住院時間延長而產生的額外費用，如房間住宿收費、藥物費、護理費等

預約及查詢

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注意事項

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2. 醫生必須完成所需的培訓和資格認證過程，並獲得機械臂輔助手術臨床權限，方可被授權操作機械臂手術。

