

## 4 Robotic Liver Resection 機械臂輔助肝癌切除術

At present, surgical resection is the only curative treatment for liver cancer. This is commonly done through a large abdominal incision. Surgical technology and techniques have advanced over the last two decades such that minimally invasive (keyhole) surgery for liver resection is now possible using the robotic surgical system. Over 200 robotic liver resection operations have been performed in Hong Kong since 2009.

Accuracy of fine surgical movements and shake-proof robotic dissection arms are vital to the effectiveness of resection operations and patients' safety because the liver is full of blood vessels and inter-connected bile ducts. The robotic visual system produces real-time three-dimensional magnified images, allowing the surgeon to perform the surgery more precisely.

For most patients, robotic liver resection has the following advantages:

- + Avoids a major transverse abdominal incision
- + Faster recovery and shorter hospital stays
- + Smaller wound without injury to muscles and fascias
- + Less burden on the respiratory system
- + Less pain and lower chance of infection
- + Less blood loss (fewer transfusions)

Please consult your doctor before deciding whether the operation is suitable for you.

以手術切除腫瘤連同部份肝臟，是現時唯一根治肝癌的方法。剖腹方式雖是主流，但醫療科技及技術於近二十年來日益進步，外科醫生已可以在機械臂系統輔助下，以微創方式進行。自2009年至今，香港已完成了逾二百宗機械臂肝癌切除術。

肝臟滿佈血管，又連接膽管，手術時必須異常小心。機械臂系統能提供立體、清晰、能放大的即時影像，加上能濾除醫生手部震顫，進一步提高手術的精確度。

對大部份患者而言，機械臂肝癌切除術有以下優點：

- + 毋須從腹部開一個大切口
- + 減低呼吸系統負擔
- + 住院時間較短，康復較快
- + 疼痛減少，感染機率較低
- + 傷口小，避免傷及肌肉與筋膜
- + 出血較少，輸血機會較低

請諮詢醫生意見，再評估是否適合接受機械臂手術。

### Map 路線圖



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## Robotic Liver Resection 機械臂肝癌切除術



## 4 da Vinci Robotic Surgery 達文西機械臂手術

As part of its mission to serve the community with the most advanced medical equipment and technology available, Hong Kong Adventist Hospital – Stubbs Road launched the DaVinci Xi Robotic Surgical System.

香港港安醫院—司徒拔道現已引進達文西Xi機械臂高清手術輔助系統，期以最先進的儀器及技術來服務大家。

### + Advantages 優點

- + The system incorporates a magnified 3D high-definition vision system, ensuring enhanced visibility, enabling surgeons to perform complex procedures with greater accuracy
- + Its advanced robotic arms and wristed instruments allows surgeons control the robotic arms with exceptional dexterity, thus provides more precise manipulation of tissues, better visualization, and improved surgical outcomes
- + Range of minimally invasive surgeries is expanded, and the effectiveness and safety of surgery increased
- + 高解像度的立體（3D）影像有助於提升醫生在手術過程中的視野，並且能夠更準確和穩定地執行複雜的手術。
- + 機身較上代纖巧，較容易旋轉至不同位置，活動範圍較廣。
- + 其先進的旋轉機械臂能從多個角度及位置進入病人體內，使醫生能以更靈活方式操控機械臂，從而提供更好的治療效果和病人安全性。



## 4 Liver Cancer 肝癌

Liver cancer refers to malignant tumors in the liver which are classified into primary and secondary (metastatic). One of the primary liver cancers – hepatocellular carcinoma – develops as a result of liver cirrhosis and is the fourth most common type of cancer in Hong Kong. There are about 1,900 new cases every year, according to Hospital Authority statistics. People with chronic hepatitis are at a particularly high risk for the disease.

肝癌是長在肝臟的惡性腫瘤，是現時香港第四大常見癌症。根據醫院管理局的統計，每年新增患者約1,900人。肝癌可分為原發性和繼發性（轉移性）。肝硬化是原發性肝癌的主要病因之一，患有慢性肝炎的患者亦屬高風險一族。



### + Risk Factors 風險因素

- + Liver cirrhosis
- + Hepatitis B or C virus carrier
- + Alcoholic liver cirrhosis
- + Intake of food contaminated with aflatoxins
- + 肝硬化
- + 乙型或丙型肝炎帶菌者
- + 長期酗酒
- + 進食被黃曲霉毒素污染食物

### + Symptoms 症狀

Symptoms of liver cancer may not emerge until a very late stage. They include:

- + Loss of appetite and weight
- + Pain in the upper abdomen and right shoulder
- + Jaundice, yellowish skin and eyes
- + Dark-colored urine and light grey-colored feces
- + Abdominal distension with fluid (ascites)

You should consult your doctor once any of the above conditions occur.

早期肝癌未必有徵狀，病徵往往到了晚期才會出現，其中包括：

- + 食慾不振，體重明顯下降
- + 上腹及右肩疼痛
- + 黃膽，皮膚和眼睛發黃
- + 小便茶色而大便呈淺灰色
- + 腹部積水

如發現上述任何徵狀，應該盡快求醫作適當檢查。

### + Examination and Diagnosis 檢查和確診

It is recommended that elderly men and patients with chronic liver diseases have routine body checks, including abdominal ultrasound examinations and alpha-fetoprotein (AFP) blood tests. If abnormal results arise, further investigation using computed tomography (CT) or position emission tomography (PET) may be performed.

建議年長男性和慢性肝病患者定期接受身體檢查，包括肝臟超聲波掃描和甲胎蛋白血液檢驗。如果發現指數偏高，可作進一步檢查如電腦掃描、正電子掃描等。



### + Treatment 治療

The best treatment for liver cancer is surgical resection, which involves resection of the part of liver containing the tumor. If this is not feasible, local ablative therapy is the second best available option, using various energy sources such as radiofrequency or microwave to localize the destruction of the tumor. Other less effective options include transarterial chemoembolization, Tomotherapy irradiation and targeted therapy. Choice of treatment depends on the tumor size, as well as the patient's own liver reserve. The liver reserve can be roughly predicted through biochemistry blood testing (Child-Pugh grading) and CT liver volumetric assessment, while more accurate assessment of the liver reserve can be obtained by performing an indocyanine green clearance test.

最理想方法是以外科手術切除。如果不能接受手術，可以考慮消融術治療，透過儀器將能量線（射頻或微波）射向腫瘤，將其消滅。其他治療方法包括化學治療、高速螺旋放射治療、標靶治療等。治療方案須考慮腫瘤大小以及病人的肝儲量。肝儲量可透過肝功能測試及肝臟電腦掃描作初步評估，IGC廓清檢測則是更準確的測試。