



To News Editor
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**CUHK is the first in Asia to Introduce a
New Ablation Technology to Treat Cardiac Arrhythmia**

Cardiac arrhythmia is a common heart problem. Among various types of arrhythmia, atrial fibrillation (AF) is the commonest disease. AF is characterized by a disorganized and very rapid beating of the heart's upper chambers, known as the atria. It is a major health problem worldwide. Around 7 million people worldwide and roughly 1% of the general population in Hong Kong are estimated to have AF. AF is more common in the elderly though it can happen at any age. It is estimated that about 70,000 people over 65 years old in Hong Kong may be affected. AF can lead to palpitation, heart failure, stroke and frequent hospitalization, and has a higher death rate than those in normal rhythm.

Conventional treatment approaches to AF have relied mostly on drug therapy although the efficacy is well-known to be low. As a result, patients often remain bothered by symptoms and complications of AF as well as side effects of the drugs, such as thyroid disorder or lung complication which can be lethal. A few years ago, it was discovered that the cause of AF is related to electrical impulses from the pulmonary veins, and blocking of these impulses from going to the heart may lead to elimination or even cure of AF. At present, doctors would maneuver a small catheter to the heart and deliver a controlled amount of radiofrequency (RF) energy to create a blockage between the pulmonary veins and the heart. However, this ablation catheter has only a single tip to deliver the energy. Although this standard approach has shown to be safe and effective for treating AF, such point to point method usually takes quite a long time (5-6 hours) to accomplish and the success rate is only about 70%.

Professor Yu Cheuk-man and Dr. Fung Wing-hong, Division of Cardiology, Department of Medicine and Therapeutics and the Institute of Vascular Medicine at The Chinese University of Hong Kong (CUHK) are among the first two physicians in Asia to introduce a new ablation technology to treat AF. The new technology is a major breakthrough which delivers a fast, flexible and effective RF energy during ablation of AF. It makes use of multi-electrode catheters to deliver RF to any or all electrodes simultaneously. Furthermore, doctors can further adjust the shape of the catheter and then activate (or de-activate) specific electrodes. The catheter designs are suitable for reaching the pulmonary veins to perform ablation safely and quickly. Apart from these advantages over conventional ablation, the new technology consumes less energy and for the first time allows the operator to control the depth of the structure for ablation at the touch of a button.

Since its introduction in November 2008, 12 patients have undergone AF ablation using the new technology in the Prince of Wales Hospital. The mean procedural time has been shortened significantly to 2-3 hours with more than 50% reduction when compared to those using conventional approaches in the CUHK catheter laboratory. With a mean follow-up of 3 months, over 80% of the patients have no recurrence of AF even without medication, which appears to be slightly better than the conventional approach.

Therefore, the study demonstrated that the use of the new ablation technology can greatly reduce procedural time with a higher success rate. This in turn shortens the waiting time and benefits more patients who can now receive effective treatment timely for a common but serious arrhythmia disorder.



致新聞編輯
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中大率先於亞洲引入嶄新消融技術治療心律不整

心律不整是常見的心臟疾病，當中尤以心房纖維性顫動（心房纖顫）最為普遍。心房纖顫的病徵是心室搏動過快及不規律，全球患者約有 700 萬人，本港則約有 1% 人口受此疾病困擾。雖然心房纖顫可發生於任何年齡人士身上，但尤以長者的發病率最為普遍，本港 65 歲以上的人士中，估計約有 7 萬人患有此症。心房纖顫會引致心悸、心衰竭和中風，患者需經常入院接受治療，其死亡率亦較高。

傳統治療心房纖顫的方法多以藥物為主，但成效並不理想，患者仍會受到病情及併發症的困擾，而藥物亦會帶來副作用，如甲狀腺疾病和可致命的肺部併發症等。數年前，有醫學研究發現心房纖顫是由肺靜脈的電脈衝流向心臟所引致，若能阻截這個現象，便可消除甚或治癒心房纖顫。現時醫生可導入細小的導管至心臟，發放定量的射頻，以堵截電脈衝從肺靜脈流到心臟。雖然此標準治療方法安全可靠，惟它所使用的導管只有單一端頭，以點對點方式發放射頻，手術需要 5-6 小時才完成，其成功率亦只有約 70%。

香港中文大學（中大）內科及藥物治療學系心臟科和心腦血管醫學研究所余卓文教授及馮永康醫生在亞洲率先引入嶄新的射頻消融技術治療心律不整。這項新技術是一個重要突破，能快速、靈活及有效地治療心房纖顫。此技術使用多個電極導管，能同時或分別發出射頻至任何或所有電極。此外，醫生只需調整導管的形狀，便可啟動（或關閉）個別電極。導管的設計亦適合進入肺靜脈，能有效和安全地進行消融術。新技術使用較少能量，且首創讓醫生只需按鈕便能準確地控制消融的深度。

自 2008 年 11 月首次引入此項技術起，已有 12 名患者先後在沙田威爾斯親王醫院接受此嶄新療法。相對以往的方法，新治療方法平均所需的手術時間大大縮減了一半（約需 2-3 小時），超過 80% 的患者於術後三個月內，在沒有服用藥物的情況下，皆沒有再次出現心房纖顫，可見嶄新療法更為優越。

是項研究顯示，這項嶄新的射頻消融技術不但能大幅縮短手術時間，其成功率亦較高，有助縮短病人的輪候時間，令更多患者受惠，使他們能適時接受有效的治療。

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