2025 國際心衰竭與機械性循環輔助治療研討會

相輔相成 - 機心得生機

International Clinical Workshop on Mechanical Circulatory Support for Severe Heart Failure

~~ *The Future of Heart Failure Management: From Cellular Therapy to Total Artificial Circulation* ~~

9/6-7

台大國際會議中心 402 會議室
(Room 402, NTU International Convention Center)

【課程目標 | Objectives】

本課程聚焦當代心衰竭治療之發展，整合藥物治療、細胞療法與機械性循環支持（MCS）系統，透過專題演講、操作實作與臨床見習，培養跨團隊整合照護能力，並促進國際經驗交流。

Day 1 — 9 月 6 日（六）Advanced Heart Failure & Mechanical Circulatory Support

時間	主題	Topic	講者 Speaker	座長 Moderator
08:30–08:40	開幕致詞	Welcome Remarks	台大醫院 / 器官勸募暨移植中心 / 國際醫療中心	
08:40–09:10	晚期心衰竭的治療策略：聚焦藥物	Treatment Strategies in Advanced Heart Failure: Focus on Medical Therapy	陳盈憲 醫師（台大醫院）	陳益祥 醫師（台大醫院）
09:10–09:40	粒線體新知	What is New in Mitochondrial Research	Prof. Koichiro SHINOZAKI（Kindai University Hospital, Japan）	Prof. Takaaki NAKADA（Chiba University Hospital, Japan）
09:40–10:10	小左心室的臨床挑戰	When the Left Ventricle is Small: Challenges and Strategies	賀立婷 醫師（台大醫院）	Prof. Shingo ICHIBA（Nihon University Itabashi Hospital, Japan）
10:10–10:30	休息		Break	
10:30–11:00	臨床人員應掌握的 MCS 知識	MCS: What Every Clinician Should Know	周恒文 醫師（台大醫院）	Prof. Jae-Seung JUNG（Korea University Anam Hospital, Korea）
11:00–11:30	MCS 轉換與併發症管理	Managing Transitions and Complications in MCS	葉競仁 醫師（台大醫院）	Prof. Pat ONGCHARIT（Bumrungrad International Hospital, Thailand）
11:30–12:00	綜合討論	Panel Discussion	所有講者	陳益祥 醫師（台大醫院）
12:00–13:30	午餐		Lunch Break	
13:30–14:00	Impella 在臨床的應用	Impella Support for Advanced Heart Failure	Tammy Ma（Queen Mary Hospital, Hong Kong）	陳益祥 醫師（台大醫院）
14:00–14:30	右心衰竭與併發症挑戰	Hemodynamic Challenges: Right Ventricular Failure	蔡孝恩 醫師（台大醫院）	紀乃新 醫師（台大醫院）
14:30–15:00	兒童心衰竭之 MCS	MCS for Pediatric Heart Failure	傅薰儀 醫師（台大醫院）	陳益祥 醫師（台大醫院）
15:00–15:30	MCS 患者之護理	Nursing Care for Patients with MCS	趙映澄 護理師（台大醫院）	曹傳怡 護理師（台大醫院）
15:30–16:00	綜合討論	Panel Discussion	所有講者	陳益祥 醫師（台大醫院）

Day 2 — 9 月 7 日（日）ECMO, MCS Team Building & Heart Transplant

時間	主題	Topic	講者 Speaker	座長 Moderator
08:30–09:00	可攜式長效 ECMO 系統	Portable and Long-Term ECMO Systems	Prof. Tomohiro NISHINAKA（National Cerebral and Cardiovascular Center, Osaka, Japan）	Prof. Shingo ICHIBA（Nihon University Itabashi Hospital, Japan）
09:00–09:30	建構高效 MCS 團隊	Building a Successful MCS Team	王植賢 醫師（台大醫院）	虞希禹 醫師（台大醫院）
09:30–10:00	器官運送創新系統	Organ Delivery Systems in Transplantation	韋凌亦 醫師（台大醫院）	
10:00–10:30	我如何計劃	How I Perform Heart Failure Surgery	紀乃新 醫師（台大醫院）	陳益祥 醫師（台大醫院）
10:30–11:00	心臟移植之創新與趨勢	Innovations in Heart Transplantation	陳政維 醫師（台大醫院）	
11:00–11:30	綜合討論與閉幕	Discussion & Closing	所有講者	陳益祥 醫師（台大醫院）

【特別課程 | Special Sessions】（限東南亞學員）

❖ 操作課程 Hands-on Workshops
- 9/6（六）13:30–15:30 ECMO 操作課程 | 地點：臺大醫院研究大樓 9 樓會議室
- 9/7（日）13:30–15:30 VAD 操作課程 | 地點：臺大醫院微創手術訓練中心

❖ 臨床見習課程 Clinical Observation
- 第一梯次：9/3–9/5
- 第二梯次：9/8–9/10
- 內容：台大醫院心臟外科、ICU 團隊見習與交流

❖ 點此報名 | Click Here to Register

❖ 匯款資訊 | Payment Info
戶名：台灣體外維生系統學會
帳號：1346-717-035744

❖ 研習證明與學分申請：
完成本課程學習並填寫課後評值問卷者，將核發研習證明書。
相關學會學分陸續申請中。

❖ 聯絡人 | Contact
曹傳怡（台大醫院心室輔助器 & 心臟移植護理師）
電話：(02) 2312-3456 分機 263089

【報名資訊 | Registration Info】

❖ 參加對象 | Who Should Attend
- 台灣心臟重症醫療人員（限額 80 人）
- 東南亞心臟重症醫療人員（邀請制 20 人）

❖ 費用 | Fees

類　別	費　用
台大體系同仁	免費
台灣體外維生系統學會會員	免費
非上述學員	NT$3,000 ／人
東南亞學員（含操作與見習）	USD 500 ／人 或 NT$16,500 ／人

〔主辦單位〕台大醫院器官勸募暨移植中心、台灣體外維生系統學會、台大醫院國際醫療中心
〔協辦單位〕臺大醫院心臟外科、外科部、護理部、心血管中心、財團法人享翔葉克膜基金會
台灣靜脈學會

Curriculum Vitae

Name: Chen, Ying-Hsien (陳盈憲)

Institute: Department of Internal Medicine
National Taiwan University Hospital
No. 7, Chung-Shan South Road, Taipei, Taiwan

E-mail: [redacted]

ORCID: https://orcid.org/0000-0002-0585-5847

Website: https://scholars.lib.ntu.edu.tw/entities/person/8cc517bc-5236-49ee-9cf7-00e32c575eb6

Title:

Attending physician, National Taiwan University hospital

Assistant professor

Secretary-General of Taiwan Society of Heart Failure

Secretary-General of Taiwan Society of Cardiovascular Interventions

Department:

Internal Medicine

Division:

Cardiovascular Medicine

Education, Training

1996-2003	Tzu-Chi University, Medical College
2003-2006	National Taiwan University Hospital, Department of Internal Medicine, Residency
2006-2008	National Taiwan University Hospital, Cardiovascular Division, Fellowship
2008-2010	Master's degree of Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University
2008-	National Taiwan University Hospital, Internal Medicine, Attending Physician

Board Certifications

2003	Board of Physician
2006	Board of Internal Medicine
2008	Board of Cardiology
2009	Board of Intervention Cardiology

2010 Board of Emergency Medicine and Intensive Care
2024 Proctor recognition for Sapien TAVR
2024 Proctor recognition for Evolut TAVR

Membership:

Society of Internal Medicine, Taiwan
Society of Cardiology, Taiwan
Society of Emergency Medicine and Intensive Care, Taiwan
Taiwan Society of Cardiovascular Interventions
Taiwan Society of Heart Failure

Major Fields of Interest:

Complex PCI
Transcatheter aortic valve replacement
Carotid artery intervention
Transcatheter endovascular intervention
General cardiology
Heart failure
Telehealth care

Abstract:

Advanced heart failure (HF) represents a complex clinical stage characterized by persistent symptoms despite optimal standard therapies, frequent hospitalizations, and high mortality. While device-based and surgical interventions are options for select patients, optimized medical therapy remains the foundation of care. This session will focus on evidence-based pharmacologic strategies, including the use of guideline-directed medical therapy (GDMT): beta-blockers, ACE inhibitors/ARBs/ARNIs, MRAs, and SGLT2 inhibitors. Additional agents such as ivabradine, diuretics, and inotropes will be discussed in the context of symptom relief and end-stage palliation. Emphasis will be placed on individualized therapy, up-titration protocols, and challenges in polypharmacy, with practical insights into managing advanced HF patients medically when invasive strategies are limited or contraindicated.

CURRICULUM VITAE

Name: Li-ting Ho 賀立婷

Date of Birth: [redacted]

Address:

Office: Department of Internal Medicine (Division of Cardiology)
National Taiwan University Hospital, No.7, Chung-Shan South Road, Taipei, Taiwan (100)

Telephone: [redacted]

E-mail: [redacted]

Education

Ph.D., Institute of Epidemiology and Preventive Medicine, Public Health College, National Taiwan University

M.D., Medical College, National Cheng Kung University

Training

2007-2010	National Taiwan University Hospital, Department of Internal Medicine, Resident
2010-2012	National Taiwan University Hospital, Cardiovascular Division, Fellowship
2012-	National Taiwan University Hospital, Cardiovascular Center, Department of Internal Medicine, Attending physician

Licensing:

2007	Board of physician
2010	Board of internal medicine
2012	Board of cardiology
2013	Board of critical care medicine
2015	Board of cardiac electrophysiology and interventions

Clinical Specialty

General cardiology, cardiac arrhythmia, cardiac critical care medicine, device implantation, simple and complex arrhythmia ablation.

Abstract

A small left ventricle (LV), often seen in conditions such as restrictive cardiomyopathy, chronic underfilling, or post-LVAD implantation, presents unique clinical and hemodynamic challenges. Reduced LV cavity size can compromise preload, limit stroke volume, and increase susceptibility to dynamic obstruction or suction events. Accurate diagnosis using echocardiography and hemodynamic assessment is critical. Management requires careful volume optimization, afterload modulation, and avoidance of excessive unloading in device-supported patients. In surgical settings, small LV anatomy complicates cannulation, valve interventions, and device implantation. This presentation explores the underlying mechanisms, diagnostic considerations, and tailored strategies needed to manage patients with a small LV effectively and safely.

Curriculum Vitae

General Information

Name: 周恒文 （Chou, Heng-Wen）
Birthday: [redacted]
Gender: male
Phone: [redacted]
E-Mail: [redacted]

Current Position

Visiting staff
Division of Cardiovascular Surgery
Department of Surgery
National Taiwan University Hospital
Taipei, Taiwan

Education

Kaohsiung Municipal Kaohsiung Senior High School 1996-1999

National Taiwan University School of Medicine 1999-2005

Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University 2014 till now

Training and Work Experience

Residency in General Surgery of National Taiwan University Hospital 2007-2009

Residency in Cardiovascular Surgery of National Taiwan University Hospital 2009-2011

Chief Resident in Cardiovascular Surgery of National Taiwan University Hospital 2011-2012

Fellowship in Cardiovascular Surgery of National Taiwan University Hospital 2012-2013

Visiting staff in Cardiovascular Surgery of National Taiwan University Hospital Yunlin branch 2013-2015

Visiting staff in Cardiovascular Surgery of National Taiwan University Hospital 2015-2018

Visiting staff in Congenital Heart Surgery in National Taiwan University Hospital 2018 till now

Specialty

Adult heart surgery
Pediatric and congenital cardiac surgery
Mechanical circulatory support for adult and pediatrics

- ECMO
- Ventricular assist device

Abstract

Mechanical circulatory support (MCS) has become an essential tool in managing patients with cardiogenic shock, advanced heart failure, and during high-risk cardiac interventions. Understanding the fundamentals of MCS—including device types (e.g., IABP, Impella, ECMO), indications, contraindications, and basic hemodynamic principles—is critical for all clinicians involved in acute and critical care. Timely recognition of patient deterioration, appropriate device selection, and coordinated multidisciplinary management can significantly impact outcomes. This session aims to provide a practical overview of MCS, highlight clinical decision-making strategies, and address common pitfalls in initiation, monitoring, and weaning of support, ensuring that clinicians are equipped with the core knowledge needed to care for this complex patient population.

申請繼續教育課程積點及講師基本資料表

為配合各項活動研習繼續教育積分審定申請，敬請務必支持與配合提供**課程主題摘要內容**及講師學經歷**資料**；以方便至醫事人員繼續教育積分管理系統申請課程審定。

(一)課程主題摘要內容

課程日期		**課程時間**	
主講題目			
課程摘要大綱 (50-100 字左右)	本課程旨在提供學員系統性理解機械循環支持裝置（Mechanical Circulatory Support, MCS）之臨床應用，包括心室輔助器（VAD）的原理、裝置轉換策略（如 VA-ECMO → VAD、短期→長期支持）、以及各類常見併發症的診斷與處理方式，強化跨專業團隊合作與臨床決策能力。		

(二)講師資料表

講師姓名	葉競仁	**身份證字號**	[redacted]
連絡電話	[redacted]	**手機號碼**	[redacted]
通訊地址	[redacted]		
電子信箱	[redacted]		
最高學歷	**學　校：國立台灣大學**		
	科　系：醫學系	**畢業年度：**	107 年
	級　別：(請勾選) □研究所（博士）□研究所（碩士）v 大學（學士） □技術學院　□大專		

	單位名稱	職稱	教學年資	實務年資	研究年資
現職	台大新竹分院 2024/08-	主治醫師	1 年	1 年	1 年
經歷（至多 3 項）	台大醫院外科部 2019-2024	住院醫師	5 年	5 年	5 年
	台大醫院不分科 2023-2024	住院醫師	1 年	1 年	
專	成人心臟手術，成人血管手術，主動脈支架手術				

長	成 成
特殊成就	文章發表 1. Surgery for fibrosing mediastinitis with severe pulmonary hypertension due to pulmonary venous stenosis Jing-Ren Ye, Szu-Yen Hu , Yen-Hung Lin , Chi-Hsiang Huang , Hsao-Hsun Hsu , Shu-Chien Huang MD, PhD *J Heart Lung Transplant*. 2024;43(1):28-31. doi:10.1016/j.healun.2023.08.019 2. Cardiac lymphangioma encasing the right coronary artery: A case report Jing-Ren Ye , Ya-Ting Chang , Chung-Chieh Wang , Jou-Hsuan Huang , Shu-Chien Huang , En-Ting Wu Pediatrics & Neonatology, Published: January 24, 2024 DOI:10.1016/j.pedneo.2023.12.004 3. Treatment Effectiveness and Tolerability of Long-term Adjuvant First- and Second-Generation Epidermal Growth Factor Receptor Tyrosine Kinase Inhibitor at Different Doses in Patients With Stage IIA–IIIB Epidermal Growth Factor Receptor-Mutated Lung Adenocarcinoma: A Retrospective Study Jing-Ren Ye , Pei-Hsing Chen , Jen-Hao Chuang , Mong-Wei Lin , Tung-Ming Tsai , Hsao-Hsun Hsu , Jin-Shing ChenFront Surg. 2022;9:816018. Published 2022 Mar 11. doi:10.3389/fsurg.2022.816018
備註	醫師證書 059178 號 外專 008453 號

**年資部份：可填臨床實務年資即可，教學年資指學校授課年資或帶實習年資。
**經歷：由近寫到遠，須寫實際工作年份，取整數，年資未滿 1 年的不計算。
**特殊成就：個報通過、專案通過、文章發表……。
**備　註：專業證書字號(護理師證書、醫師證書、講師證書……)

講師個人簡歷

一、基本資料

(此資料僅作講師資料建檔、聯繫與演講費申請之用，不另作他途)

中文姓名	蔡孝恩	身分證字號	[redacted]
聯絡地址	（為俾利後續稅務行政，敬請填寫戶籍地址）[redacted]		
聯絡電話	[redacted]		
傳真號碼		E-MAIL	[redacted]

二、學歷(因部份學會相當要求年資，煩請務必填寫)

學校名稱	科/系/所	學位	畢業年月
長庚大學	醫學系	學士	2023.06
台灣大學	臨床醫學研究所		博士候選人

三、教育部審定講師資格: 暫無

□教授	□副教授	□助理教授	□講師

四、現職及與專長相關之經歷(因部份學會相當要求年資，煩請務必填寫)

	單位名稱	職稱	起迄年月
現職	1. 台大醫院新竹台大分院 急重症醫學中心	主任	2018.09 – 至今
經歷	1. 台大醫院新竹分院心臟血管外科	主任	2012.07 - 2018.08
	2. 台大醫院新竹分院外科部	副主任	2017.09 – 2018.07

五、專長

1. 成人心臟血管手術	2. 急重症醫療照護	3. 心衰竭治療	4. 檢驗醫材創新開發

六、課程摘要(約 150-200 字)

Topic: Hemodynamic Challenges: Right Ventricular Failure

Abstract:

Right ventricular failure (RVF) poses significant hemodynamic challenges, especially in critically ill patients. Due to its sensitivity to changes in preload and afterload, the right ventricle is vulnerable to dysfunction in settings such as pulmonary hypertension or left heart failure. RVF can rapidly lead to systemic hypoperfusion and organ dysfunction. Early recognition through imaging and monitoring is essential. Management focuses on optimizing volume status, reducing afterload, enhancing contractility, and considering mechanical support if needed. This presentation highlights key pathophysiological mechanisms, diagnostic tools, and treatment strategies, underscoring the need for coordinated multidisciplinary care.

台灣體外維生系統學會
講師個人簡歷

一、基本資料

(此資料僅作講師資料建檔、聯繫與演講費申請之用，不另作他途)

中文姓名	傅薰儀	身分證字號	[redacted]
聯絡地址	（為俾利後續稅務行政，敬請填寫戶籍地址）[redacted]		
聯絡電話	[redacted]		
傳真號碼		E-MAIL	[redacted]

二、學歷(因部份學會相當要求年資，煩請務必填寫)

學校名稱	科/系/所	學位	畢業年月
台灣大學	醫學系	學士	2006/09 - 2012/06
台灣大學	臨床醫學所	博士	2020/09-

三、教育部審定講師資格

□教授	□副教授	□助理教授	☑講師

四、現職及與專長相關之經歷(因部份學會相當要求年資，煩請務必填寫)

	單位名稱	職稱	起迄年月
現職	1. 台大醫院外科部	主治醫師	2024/02 -
	2.		
	3.		
	4.		
經歷	1. 台大醫院外科部	住院醫師	2013/08 - 2019/07
	2. 新竹台大分院	主治醫師	2020/08 – 2024/01
	3.		
	4.		

五、專長

1. 心臟衰竭	2. 重症	3.	4.

六、課程摘要(約 150-200 字)

機械性循環支持（MCS）在兒童心衰竭的治療中扮演關鍵角色，無論是急性惡化時的急救、作為恢復或心臟移植的橋接，皆具有重要意義。由於患童體型小、解剖構造差異大、可用裝置有限，兒童 MCS 充滿挑戰。選擇適當的支持方式（如 ECMO 或 VAD）需考量年齡、疾病型態與臨床狀況。本主題將探討現行策略、病人選擇、介入時機及術後照護，並強調多專業團隊協作與新技術的進展，以提升此高風險族群的臨床預後。

Chao, Ying-Cheng

[redacted]

Education

School of Nursing 2015-2019
Taipei Medical University

Institute of Clinical Nursing 2019-2021
National Yang Ming Chiao Tung University

Work Experience

Registered Nurse 2021-
National Taiwan University Hospital

Introduction

Topic: Nursing Care for Patients with MCS

This course will introduce commonly used mechanical circulatory support (MCS) devices in the intensive care unit and outline key nursing considerations for ECMO, Impella, and LVAD (HeartMate 3). Topics include vital signs monitoring, comprehensive physical assessment, device securement, and wound care. The course will also emphasize the importance of interdisciplinary collaboration in supporting patient recovery and facilitating their transition back to the community.

National Taiwan University Hospital

Curriculum Vitae

Chih-Hsien Wang, M.D., PhD

Current Position:

Associate Professor of Cardiovascular surgery
National Taiwan University Hospital
No.7, Chung-Shan S. Rd.,
Taipei City 100, Taiwan
Tel: [redacted]

Specialty and Research Intresting:

Adult Cardiac Surgery, Mechanical Circulatory Support (ECLS, VAD), Heart Transplantation, Intensive Care Medicine, Cardiovascular Physiology

Education:

2001/6 M.D. National Taiwan University (with minor in Law), Taipei, Taiwan
2014/2 PhD, Graduate Institute of Physiology, National Taiwan University
2012/9-2013/8 Visiting Scholar, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

Postgraduate Training and Fellowship Appointments:

2000/7-2001/6 Internship, National Taiwan University Hospital, Taipei, Taiwan
2001/7-2003/6 Resident in General surgery, National Taiwan University Hospital, Taipei
2003/7-2006/6 Resident in Cardiovascular Surgery, National Taiwan University Hospital, Taipei
2006/7-2007/6 Fellowship in Cardiovascular Surgery, National Taiwan University Hospital, Taipei

Hospital and Administrative Appointments:

2007/7-2010/2 Attending physician of Traumatology and Cardiovascular surgery, Department of Surgery, National Taiwan University Hospital, Taipei
2010/3-2011/6 Attending physician of Cardiovascular Surgery, Department of Surgery, Hsin-Chu General Hospital
2011/7-present Attending physician of Cardiovascular Surgery, Department of Surgery, National Taiwan University Hospital, Hsin-Chu Branch
2009-2010 Director, Trauma Intensive Care Unit, National Taiwan University Hospital, Taipei
2010/3-2011/6 Director, Cardiovascular Surgery, Hsin-Chu General Hospital
2011/7-2012/7 Director, Cardiovascular Surgery, National Taiwan University Hospital, Hsin-Chu Branch
2012/8-present, Cardiovascular Surgery, National Taiwan University Hospital, Taipei

Specialty Certification:

2005 Board of Taiwan Surgical Association (No. 005299)
2006 Board of Taiwan Society for Vascular Surgery (No. S395)
2006 Board of Taiwan Association of Thoracic and Cardiovascular Surgery (No. 327)
2006 Board of Taiwan Society of Cardiology (No. S1218)
2008 Board of Specialist of Critical Care Medicine in Taiwan (No. 195)
2010 Board of Formosa Association for the Surgery of Trauma (No. 378)
2011 Instructor of Critical Care Medicine in Taiwan (No. 465)
2012 Instructor of Taiwan Association of Thoracic and Cardiovascular Surgery (No. 170)

Licensure:

Taiwan

Memberships in Professional & Scientific Societies and Other Professional Activities: (Include offices held.)

International:

2009-present Extracorporeal Life Support Organization (ELSO)
2015-present Asian-Pacific Chapter, Extracorporeal Life Support Organization (AP-ELSO), Member of Steering Committee

National:

2005–present Taiwan Surgical Association
2006-present Taiwan Society for Vascular Surgery
2004-present Taiwan Association of Thoracic and Cardiovascular Surgery
2005-present Taiwan Society of Cardiology
2007-present Society of Emergency and Critical Care Medicine
2010-present Formosa Association of the Surgery of Trauma
2011-present Taiwanese Society for Phlebology (President of TSP 2023-2025)
2017-present Taiwan Society for Extracorporeal Membrane Oxygenation and Organ Support (Secretary General 2017-present)

Abstract:

當代重症醫療中，機械性循環支持系統（Mechanical Circulatory Support, MCS）扮演著關鍵角色，特別是在心肺功能衰竭患者的急救與支持治療中。建構一支高效的 MCS 團隊，不僅仰賴專業技術，更需強調跨科整合、標準化流程及臨床應變能力。透過系統化訓練、模擬演練及持續教育，可提升團隊間的協作默契與應變效率，進而改善病患預後與照護品質。本摘要將探討建構高效 MCS 團隊的核心要素與推動策略，作為未來臨床實務與制度規劃的參考。

台灣體外維生系統學會
講師個人簡歷

一、基本資料

中文姓名	韋凌亦	身分證字號	[redacted]
聯絡地址	[redacted]		
聯絡電話	[redacted]		
傳真號碼		E-MAIL	[redacted]

二、學歷

學校名稱	科/系/所	學位	畢業年月
國立台灣大學	醫學系	學士	民國 99 年 7 月

三、教育部審定講師資格

□教授	□副教授	□助理教授	□講師

四、現職及與專長相關之經歷

單位名稱		職稱	起迄年月
現職	1. 台大心臟血管外科	主治醫師	2023/10 迄今
	2.		
	3.		
	4.		
經歷	1. 台大心臟血管外科	住院醫師	2011/07-2017/07
	2. 台大新竹分院心臟血管外科	主治醫師	2017/08-2023/10
	3.		
	4.		

五、專長

1. 成人心臟手術	2. 重症照護	3. ECMO 照護	4.

六、課程摘要

當器官移植成為現代醫學的重要里程碑，器官的保存與運送系統也隨之成為成敗關鍵。本課程將介紹器官移植中的運送技術與策略，包括傳統低溫保存法、機械灌流系統（如心臟與肝臟灌流裝置），以及新興的移植前評估平台。透過臨床案例與技術演進的比較，探討如何提升器官品質與延長可用時間，確保捐贈器官能安全、有效地抵達受贈者體內。

Nai-Hsin Chi

Job Title: Attending Staff

Organization: Department of Surgery, National Taiwan University Hospital

Major Field: Adult cardiac surgery, Heart transplantation, Mechanical support, Aorta surgery

License: Cardiovascular Surgeon license certified in Taiwan
General Surgeon license qualified in Taiwan

National Taiwan university hospital Cardiovascular surgery	Attending Physician
National Taiwan University College of Medicine	Associate Professor
Taiwan Association of Thoracic & Cardiovascular Surgery	Chief Executive Officer
Taiwanese Society of Phlebology	Secretary General
24th ASCVTS	Secretary General
Taiwanese Society of Phlebology	Member of Council
Taiwan Association of Thoracic & Cardiovascular Surgery	Secretary General
Taiwanese Society of Phlebology	President
Association of Thoracic and Cardiovascular Surgeons of Asia	Secretary General

Training:

1998-2000	National Taiwan University Hospital	Resident, general surgery training
2000-2003	National Taiwan University Hospital	Resident, Chief Resident in Thoracic & Cardiovascular Surgery
2004	National Taiwan University Hospital	Fellow in Thoracic & Cardiovascular Surgery

Honors & Awards:

2004	Taiwan Walton Lillehei young investigator award
2006	Asia Walton Lillehei young investigator award (Japan Osaka)
2012	Taiwan Association of Thoracic & Cardiovascular Surgery Distinguished paper award

2012	Taiwanese Society for Phlebology Distinguished paper award
2015	Best Video Presentation of Robotic Surgery (Taiwan Surgical Association)
2016	ASCVTS 2016 Furuse Award (Best Cardiac Paper)
2018	Taiwanese Society for Phlebology (BEST PAPER AWARD)
2020	National Taiwan University Hospital (Recipient of the Outstanding Research Award for Excellence in Innovation of Medical Technology)

Abstract

Heart failure surgery requires a tailored, patient-centered approach that balances timing, anatomical challenges, and systemic status. In this presentation, I will share my personal approach to surgical management of advanced heart failure, including patient selection, preoperative optimization, and intraoperative decision-making. I will cover key procedures such as durable LVAD implantation, mitral/tricuspid repair in the setting of dilated ventricles, and concomitant aortic procedures when indicated. Special attention will be given to surgical technique, cannulation strategy, hemostasis, and postoperative management to reduce complications. This session aims to provide practical insight, highlight common pitfalls, and support clinical reasoning for surgeons managing this high-risk population.

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Chen, Jeng-Wei, MD, PhD

Email: [redacted]

Current position：

1. Cardiovascular surgeon, National Taiwan University Hospital
2. Assistant professor of surgery, National Taiwan University

Special field：

Adult cardiac surgery、Peripheral vascular disease、Mechanical circulatory support、Transcatheter valve and aortic surgery、Cardiac gene therapy

Education：

1. China Medical University, Taiwan, Medical Degree (2001-2008)
2. National Taiwan University, Graduate Institute of Clinical Medicine Ph.D. (2014-2022)

Experience：

1. National Taiwan University Hospital, Resident of surgery (2008-2010)
2. National Taiwan University Hospital, Resident of cardiovascular surgery (2011-2013)
3. National Taiwan University Hospital, Fellowship of cardiovascular surgery (2014)
4. Cardiovascular surgeon, National Taiwan University Hospital, Hsin-Chu branch (2014-2019)
5. International research fellow, Department of Cardiothoracic Surgery and Transplant Center, Duke Medical Center, Durham, NC (2023.01-2024.08)

Award:

1. 2013 Taiwan Association of Thoracic & Cardiovascular Surgery Lillehei Young Investigator Award
2. 2022 Taiwan Association of Thoracic & Cardiovascular Surgery President Investigator Award
3. 2024 Taiwan Association of Thoracic & Cardiovascular Surgery

OORCID: https://orcid.org/0000-0001-5648-9202

President Investigator Award

Publication：

1. **Chen JW**, Sainbayar N, Hsu RB. Outcome of emergency surgery for acute type A aortic dissection in octogenarians. J Card Surg. 2022 Mar;37(3):610-615.
2. **Chen JW**, Chou HW, Chou NK, Wang CH, Chi NH, Huang SC, Yu HY, Chen YS, Hsu RB. Impact of pre-transplant bloodstream infection on clinical outcomes after heart transplantation. Transpl Infect Dis. 2022 Apr 15:e13834.
3. **Chen JW**, Chou NK, Wang CH, Chi NH, Huang SC, Yu HY, Chen YS, Hsu RB. Impact of Pretransplant Renal Replacement Therapy on Clinical Outcome After Isolated Heart Transplantation. Transpl Int. 2022 Mar 21;35:10185
4. Jong CB, Lu TS, Liu PY, **Chen JW(corresponding author)**, Huang CC, Kao HL. Long-Term Clinical Outcomes of Fractional Flow Reserve-Guided Coronary Artery Revascularization in Chronic Kidney Disease. J Pers Med. 2022 Jan 1;12(1):21.
5. **Chen JW**, Hsu CC, Su CC, Hsu RB, Chiu YL, Jung CJ, Chia JS. Transient Bacteremia Promotes Catheter-Related Central Venous Thrombosis through Neutrophil Extracellular Traps. Thromb Haemost. 2021 Nov 12.
6. **Chen JW**, Hsu RB. Impact of surgeon experience on the rate of blood transfusion in off-pump coronary artery bypass. J Formos Med Assoc. 2016 Mar;115(3):145-51.
7. **Chen JW**, Lin CH, Hsu RB. Malignant ventricular arrhythmias after off-pump coronary artery bypass. J Formos Med Assoc. 2015 Oct;114(10):936-42.
8. **Chen JW**, Lin CH, Hsu RB. Mechanisms of early and delayed stroke after systematic off-pump coronary artery bypass. J Formos Med Assoc. 2015 Oct;114(10):988-94.
9. Hsu RB, **Chen JW**. Low incidence of late pseudoaneurysm and reoperation after conventional repair of acute type a aortic dissection. J Card Surg. 2014 Sep;29(5):641-6.
10. **Chen JW**, Lin CH, Hsu RB. Incidence, risk factor, and prognosis of end-stage renal disease after heart transplantation in Chinese recipients. J Formos Med Assoc. 2014 Jan;113(1):11-6.
11. **Chen JW**, Chen YS, Chang CI, Chiu IS, Chou NK, Huang HH, Huang CH, Huang SC. Risk stratification and outcome of cardiac surgery for patients with body weight <2 ,500g in an Asian center. Circ J. 2014;78(2):393-8.
12. **Chen JW**, Chen YS, Chi NH, Huang SC, Yu HY, Chou NK, Wang CH, Wang SS. Risk factors and prognosis of patients with primary graft failure after heart transplantation: an Asian center experience. Transplant Proc. 2014 Apr;46(3):914-9.
13. Su CC, **Chen JW**, Chou NK, Chen YS, Huang SC, Chi NH, Wang SS. Ocular

manifestations of patients receiving heart transplants: a single-center experience of 311 consecutive cases. Transplant Proc. 2014 Apr;46(3):937-40.

14. Chien CY, Lin CH, **Chen JW**, Hsu RB. Blood stream infection in patients undergoing systematic off-pump coronary artery bypass: incidence, risk factors, outcome, and associated pathogens. Surg Infect (Larchmt). 2014 Oct;15(5):613-8.
15. **Chen JW**, Lin CH, Hsu RB. Role of Left Main Coronary Artery Stenosis on Intraoperative Conversion and Mortality in Off-Pump Coronary Artery Bypass. Acta Cardiol Sin. 2014 Nov;30(6):522-8.
16. Lou WK, Chou HW, Chen TW, Hsu CY, **Chen JW (corresponding author).** Malignant granular cell tumour at the interventricular septum. Interact Cardiovasc Thorac Surg. 2022 Apr 7:ivac099.
17. Chen YA, Li Y, Lee JC, **Chen JW (corresponding author)**. Staged surgery for advanced cardiac intimal sarcoma involving the right atrium and the inferior vena cava. J Card Surg. 2021Oct;36(10):3973-3975.
18. **Chen JW**, Chen YS, Chi NS, Wang SS, Wu IH. Ventricular septal rupture following an acute inferior wall myocardial infarction detected by computed tomography imaging. J Card Surg. 2013 May;28(3):273.
19. Hsu CC, Hsu RB, Oon XH, Chen YT, **Chen JW**, Hsu CH, Kuo YM, Shih YH, Chia JS, Jung CJ. Streptococcus mutans PrsA mediates AtlA secretion contributing to extracellular DNA release and biofilm formation in the pathogenesis of infective endocarditis. Virulence. 2022 Dec;13(1):1379-1392.
20. Jung CJ, Liao YD, Hsu CC, Huang TY, Chuang YC, **Chen JW**, Kuo YM, Chia JS. Identification of potential therapeutic antimicrobial peptides against Acinetobacter baumannii in a mouse model of pneumonia. Sci Rep. 2021 Apr 1;11(1):7318.
21. Jung CJ, Hsu CC, **Chen JW**, Cheng HW, Yuan CT, Kuo YM, Hsu RB, Chia JS. PspC domain-containing protein (PCP) determines Streptococcus mutans biofilm formation through bacterial extracellular DNA release and platelet adhesion in experimental endocarditis. PLoS Pathog. 2021 Feb 12;17(2):e1009289.
22. Hsu CC, Hsu RB, Ohniwa RL, **Chen JW**, Yuan CT, Chia JS, Jung CJ. Neutrophil Extracellular Traps Enhance Staphylococcus Aureus Vegetation Formation through Interaction with Platelets in Infective Endocarditis. Thromb Haemost. 2019 May;119(5):786-796.
23. Yeh CY, Shun CT, Kuo YM, Jung CJ, Hsieh SC, Chiu YL, **Chen JW**, Hsu RB, Yang CJ, Chia JS. Activated human valvular interstitial cells sustain interleukin-17 production to recruit neutrophils in infective endocarditis. Infect Immun. 2015 Jun;83(6):2202-12.

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Signature: Chen, Jeng-Wei Date: 2023/01/19

Abstract:

Heart transplantation remains the definitive treatment for patients with end-stage heart failure. In recent years, the field has witnessed significant advancements that are reshaping clinical practice. Surgical innovations, including minimally invasive and robotic-assisted techniques, have reduced complications and improved recovery outcomes. Meanwhile, immunosuppressive strategies have become increasingly tailored, with the introduction of monoclonal antibodies and personalized regimens that reduce rejection and long-term toxicity.

To address the critical shortage of donor organs, the use of extended-criteria donors—such as older donors or those with mild cardiac dysfunction—is becoming more accepted, guided by advanced imaging and functional assessments. Mechanical circulatory support devices (e.g., LVADs and total artificial hearts) now serve not only as a bridge to transplantation but also as long-term therapy for selected patients.

Xenotransplantation, particularly with genetically modified pig hearts, has made promising progress, with early clinical trials demonstrating short-term graft survival in humans. In parallel, regenerative medicine is emerging as a transformative approach. Stem cell-based therapies, including mesenchymal stem cells, show potential in promoting graft tolerance and myocardial repair, offering a dual benefit in immune modulation and tissue regeneration.

Overall, heart transplantation is evolving into a safer, more effective, and increasingly accessible treatment. Ongoing research and interdisciplinary collaboration continue to drive innovation, offering renewed hope for patients with advanced heart disease.