



## 臺北醫學大學 泌尿腎臟研究中心 會議記錄

時間：**113年8月12日(星期一) 10:30-11:30**

地點：視訊會議-(請以正式全名登入會議室，以利進行會議簽到)

使用 Google Meet (會議前 10 分鐘即開啟會議室)

會議室連結：<https://meet.google.com/kdn-nwrz-cmn>

(敬略稱位)

會議主席：洪冠予

與會人員：

【附醫】劉明哲、葉劭德、吳建志、林孝友、吳政誠、張景欣、  
陳偉傑、羅詩修、方德昭、陳錫賢、林彥仲、高治圻、  
陳靜怡、葉曙慶、戴定恩、邵月珠、周安琪

【萬芳】溫玉清、李良明、林克勳、林雍偉、蕭志豪、許軒豪、  
賴宗豪、鍾卓興、鄭仲益、陳作孝、劉崇德、楊韻紅、  
吳岳霖、許永和、吳逸文

【雙和】吳佳璋、陳冠州、劉家宏、江怡德、鄒凱亦、高偉棠、  
胡書維、魏汶玲、吳美儀、李明哲、洪麗玉、鄭彩梅、  
邱怡仁、廖家德、游博翰、陳正憲、邱惠雯、高芷華、  
林冠宏

【新國民】蘇裕謀、鄒居霖

長官指導：

吳麥斯校長、許志成教授、陳瑞明所長、盧星華副院長

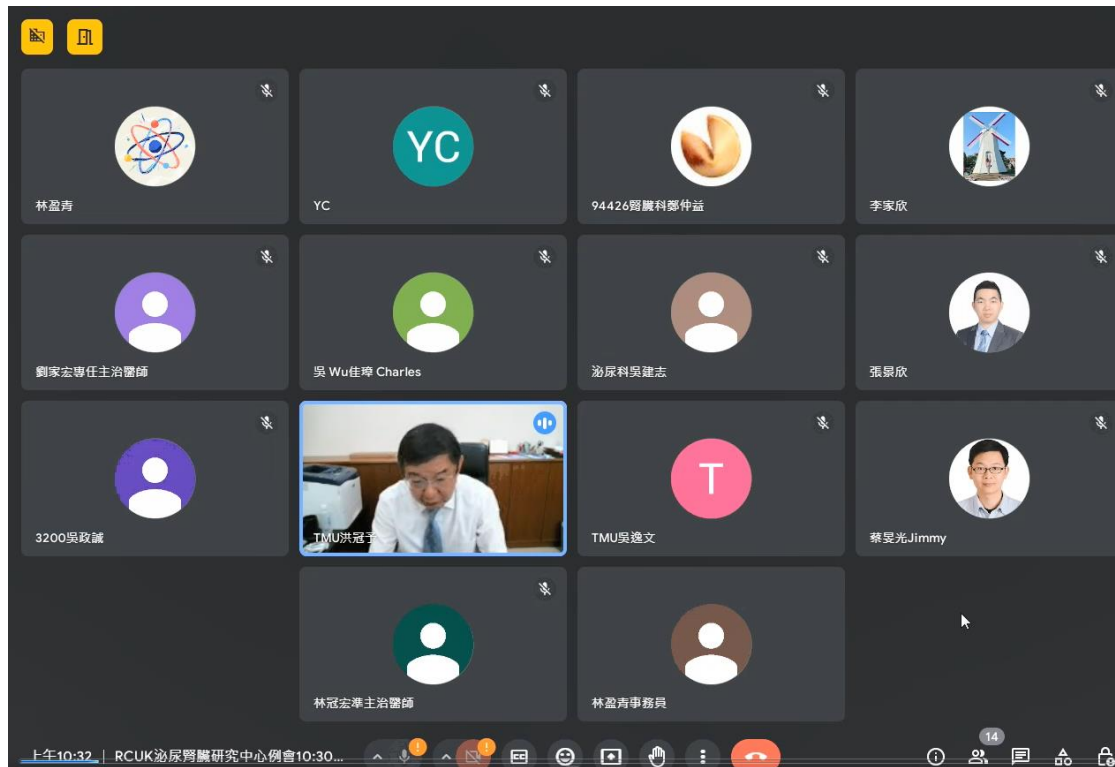
議程：

一、 腎臟泌尿精準健康計畫及生物檢體資料庫進度報告(吳逸文

醫師)

二、 研究中心評鑑報告(溫玉清中心副主任)

三、 急性腎病團隊(林冠宏醫師)



TAIPEI MEDICAL UNIVERSITY  
臺北醫學大學  
TAIPEI MEDICAL UNIVERSITY

臺北醫學大學  
泌尿腎臟研究中心  
TMU Research Center of  
Urinary and Kidney Diseases

# 腎臟泌尿精準健康計畫及生物檢體資料庫進度報告

報告人：吳逸文 副教授

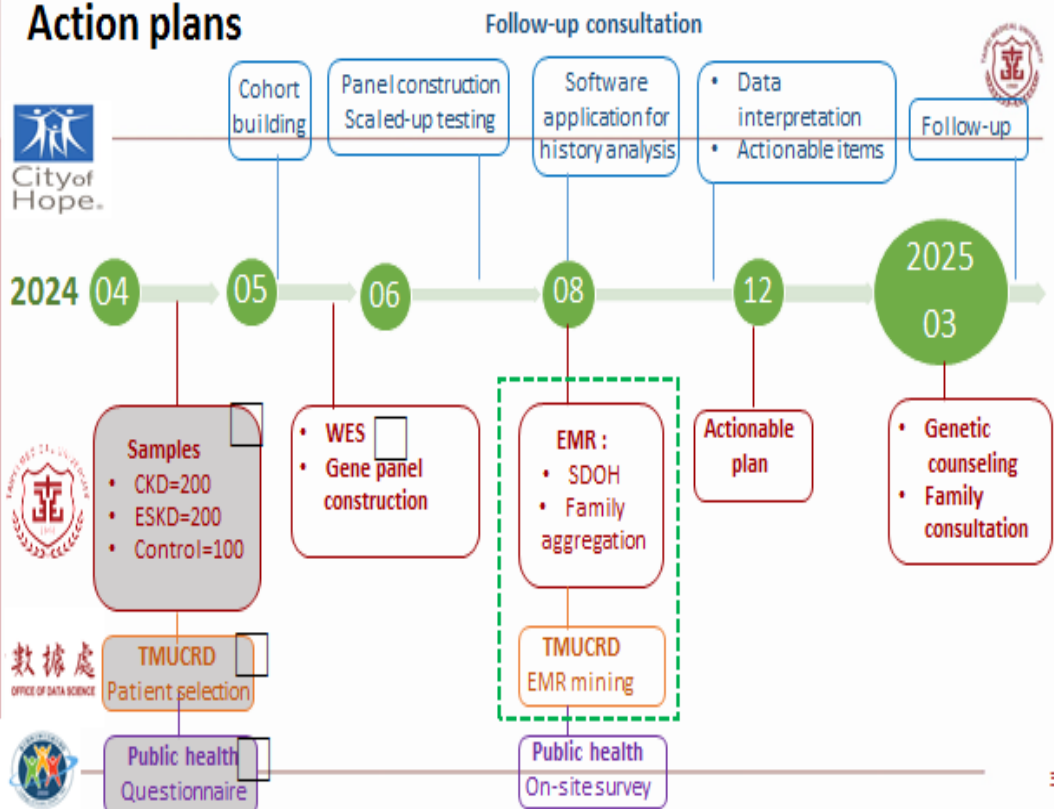
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113年08月12日

# 腎病精準醫學計畫：改變疾病照護策略，實現數位精準管理



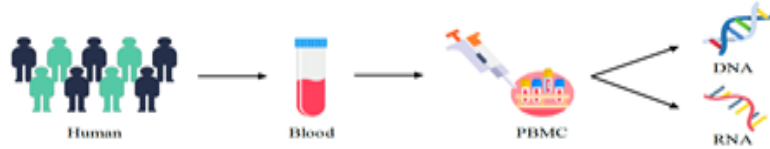
## Action plans



# Whole exosome sequencing (WES) 進度



Samples from TMU Biobank



Disease	No. case	進度
Normal control	100	100個-8/2完成萃取 60個-8/23預計上機 40個-8/30預計上機
CKM stage1 (Obesity)	200	未來可增加組別
CKM stage 2 (CKD)	200	DNA萃及 library建庫預計分批8/16上機
CKM stage 4b (ESKD)	200	8/9 全數完成上機定序

## One campus: 共同收案，共享資料，共同發表



### Prospective Genomic Cohort Establishment:



高治圻

IgA nephropathy



廖家德/林冠宏

Polycystickidney disease

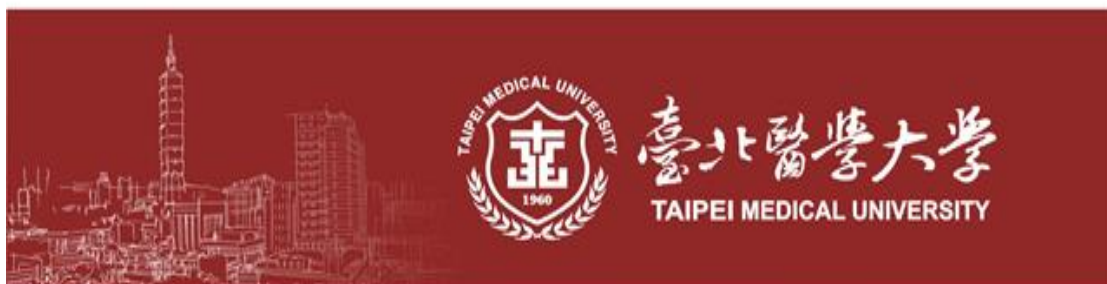
Diabetic kidney disease



吳岳霖

Other kidney disease

年度	月份	腎臟科_雙和_血液	腎臟科_附醫_血液	腎臟科_萬芳_血液	腎臟科_雙和_尿液	腎臟科_附醫_尿液	腎臟科_萬芳_尿液
2024	7	0	1	0	0	0	0
2024	8						
2024	9						



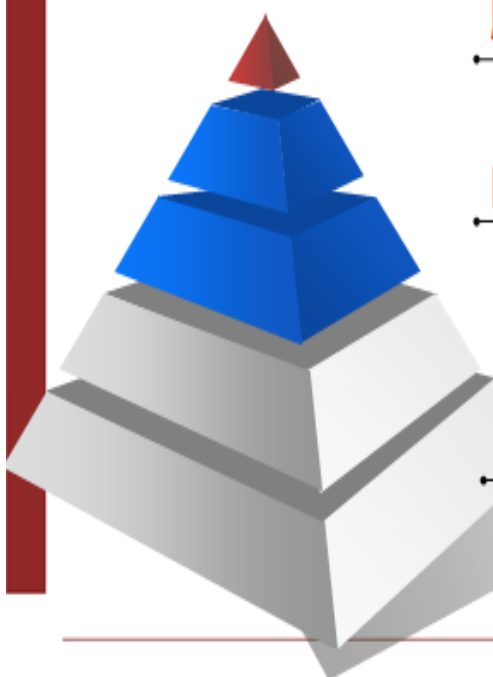
## 113年泌尿腎臟研究中心 評鑑暨研究進度報告

報告人：溫玉清 中心副主任

113.07.23

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### 泌尿腎臟研究中心



#### 願景

- 成為具有國際影響力之泌尿腎臟研究中心

#### 目標

- 具備高水準核心醫療能力
- 發展國際級研究計畫與臨床試驗
- 發表高影響力研究論文

#### 定位

- 培育國際級醫療人才
- 建立高品質研究量能的泌尿腎臟醫學中心

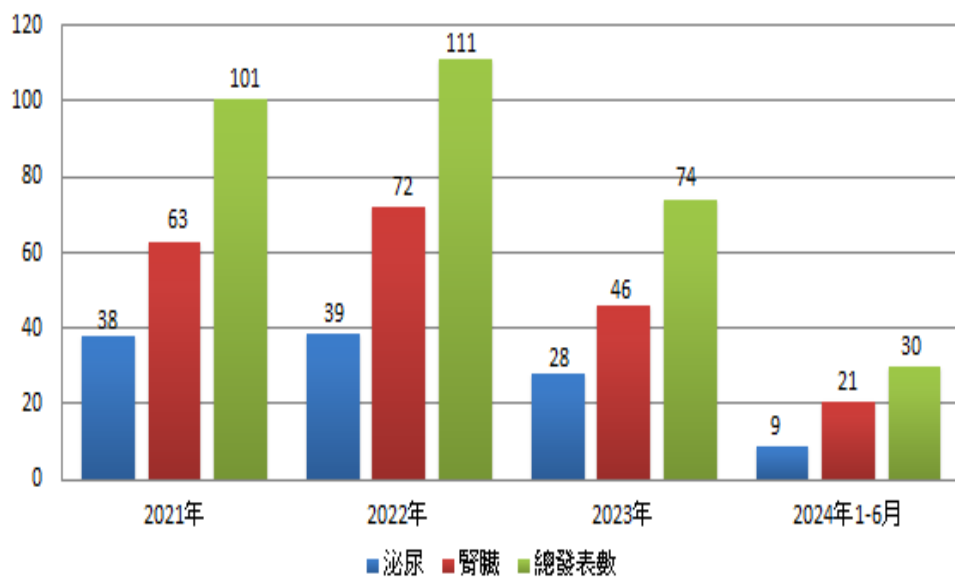
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## 組織架構



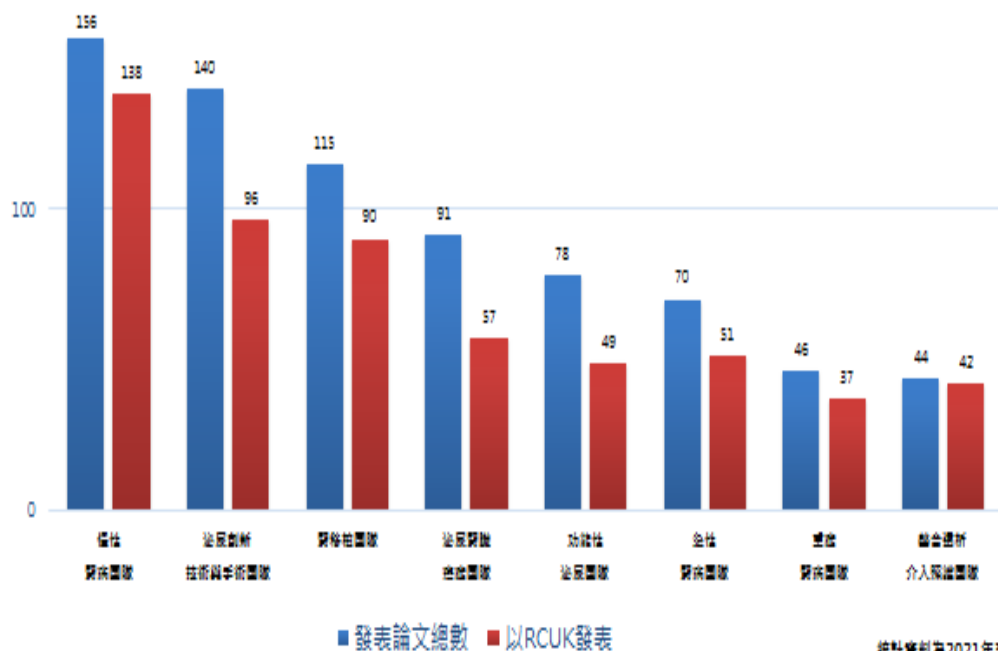
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## 論文篇數



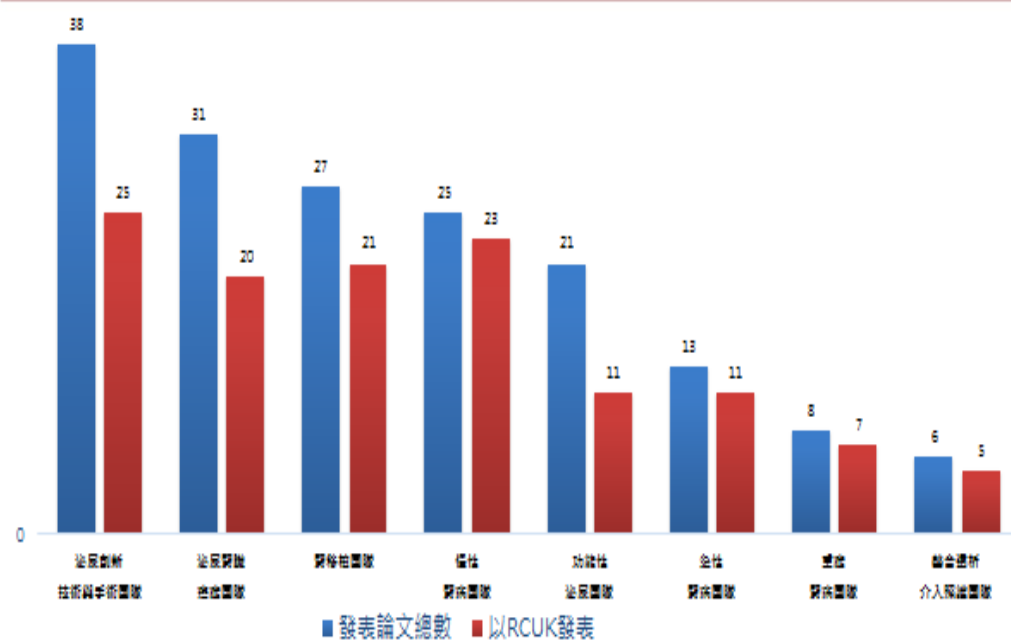
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## 泌尿腎臟研究中心論文(2021-2024)



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## 2023年各團隊論文

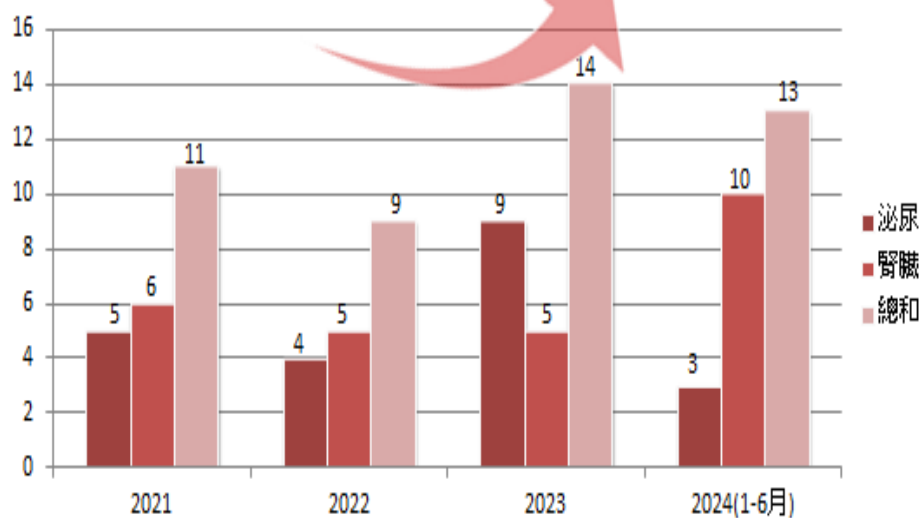


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## 優質研究論文



IF  $\geq 8$ 發表論文篇數共47篇，其中第一作者或通訊作者共24篇

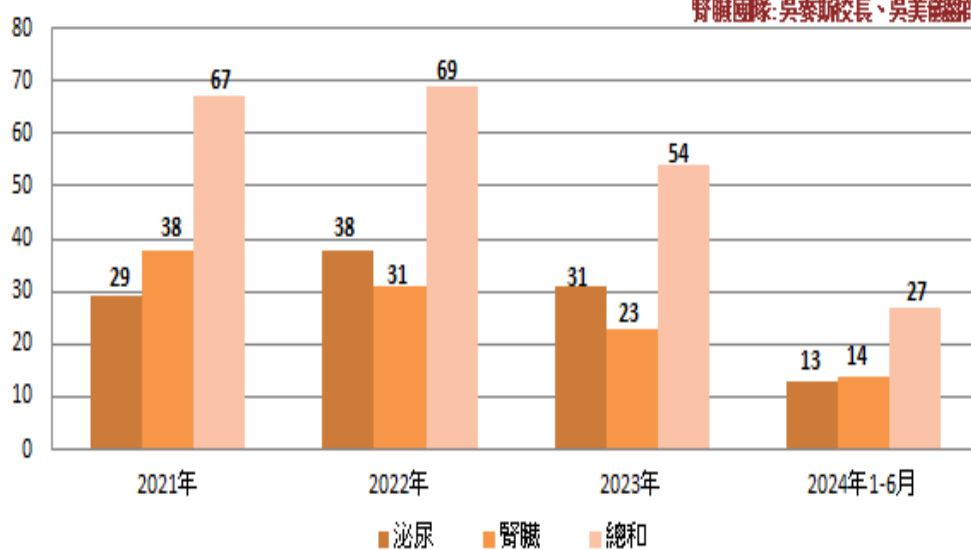


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## 臨床試驗案件



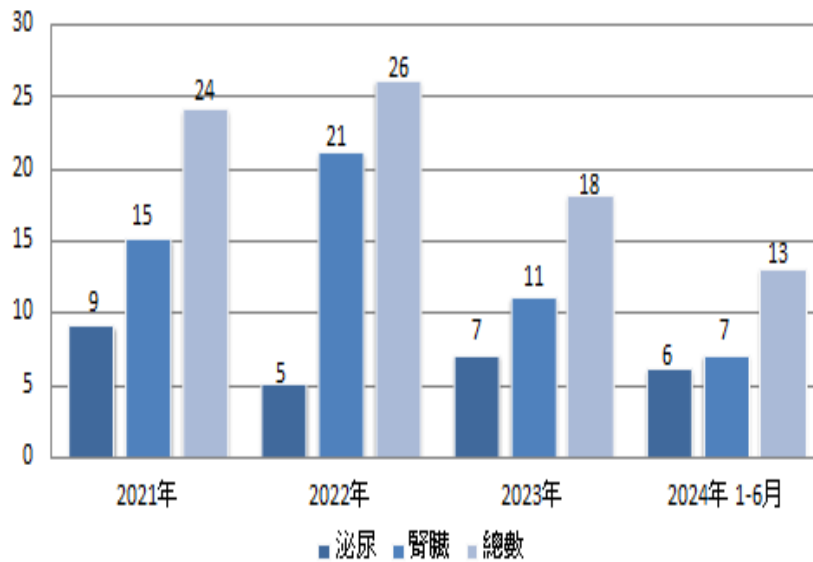
泌尿團隊: 劉明哲醫師  
腎臟團隊: 吳奕斯校長、吳美儀醫師



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# 研究計畫案



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## 泌尿人才培育



**胡書維醫師**-預計就讀醫療暨生物科技法律研究所



**賴宗豪醫師**-北醫大臨床醫學研究所博士班



**許軒豪醫師**-北醫大臨床醫學研究所博士班



**董勁偉醫師**-北醫大生物工程研究所博士班



**鄒凱亦醫師**-腎臟移植受訓



**林雍偉醫師**-腎臟移植受訓

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# 腎臟人才培育



**林冠宏醫師**-台大分子醫學碩士班



**陳佑璋醫師**-南加州大學進修2年



**楊韻紅醫師**-北醫大臨床醫學研究所



**邵月珠醫師**-北醫大學臨床醫學研究所



**林哲宇醫師**-專研腹膜透析床邊植管技術



# 國際合作



Harvard Macy Institute, A systems approach to assessment

哈佛大學

City of Hope

哈佛醫學院

密西沙加中心計劃 SAS-KIDNEY

香港中文大學

立陶宛

Stan Top Manclinic

順天堂大學

USP發展研究合作 普爾大學

佛羅里達大學

南加州大學

合作研究 A: 腹瀉 B: 腸胃阻滯

腎臟科科學家 Dr. Lun-Ching Cheng 合作



# 急性腎病團隊

報告人：林冠宏 醫師

113.08.12

## Outline



- AKI alert system and clinical application
- Multi-omics research investigating molecular signature of septic AKI
- Integrate into TED-ICU



# AKI eAlert system & AKD tracking system



## 1 Electronic alert of AKI



## 2 AKI care bundle



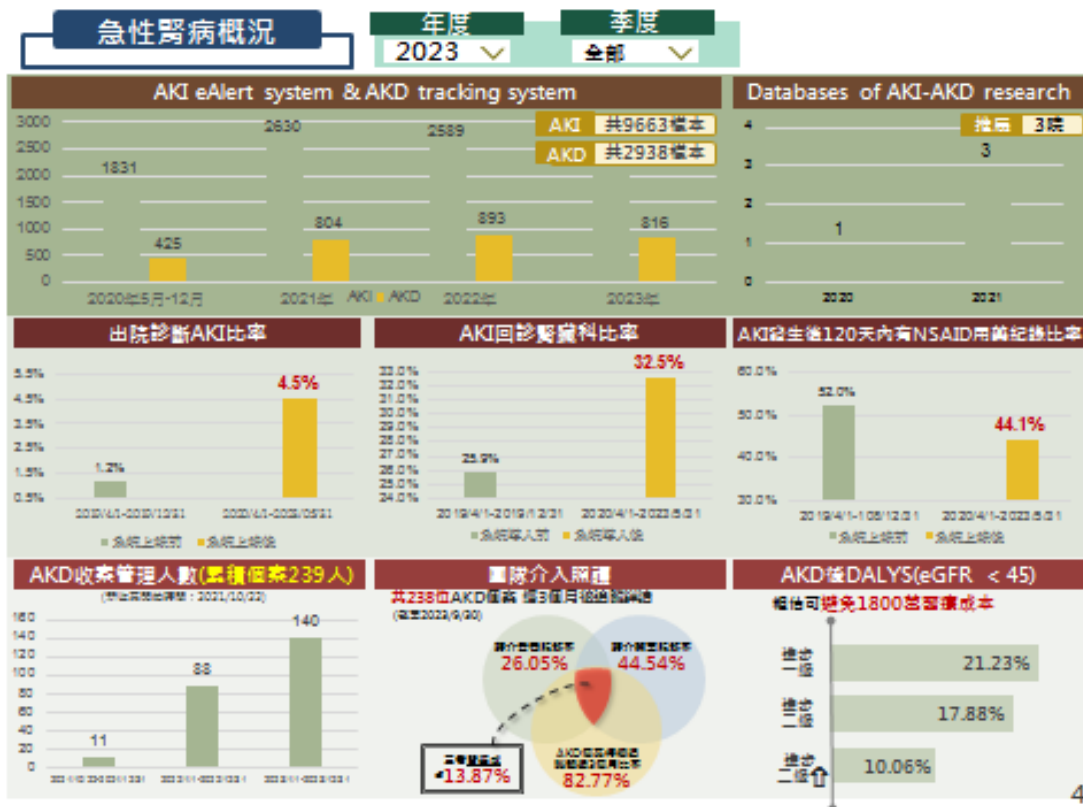
## 3 AKI care bundle embed in HIS



## 4 Automatic laboratory tests



AKI, acute kidney injury

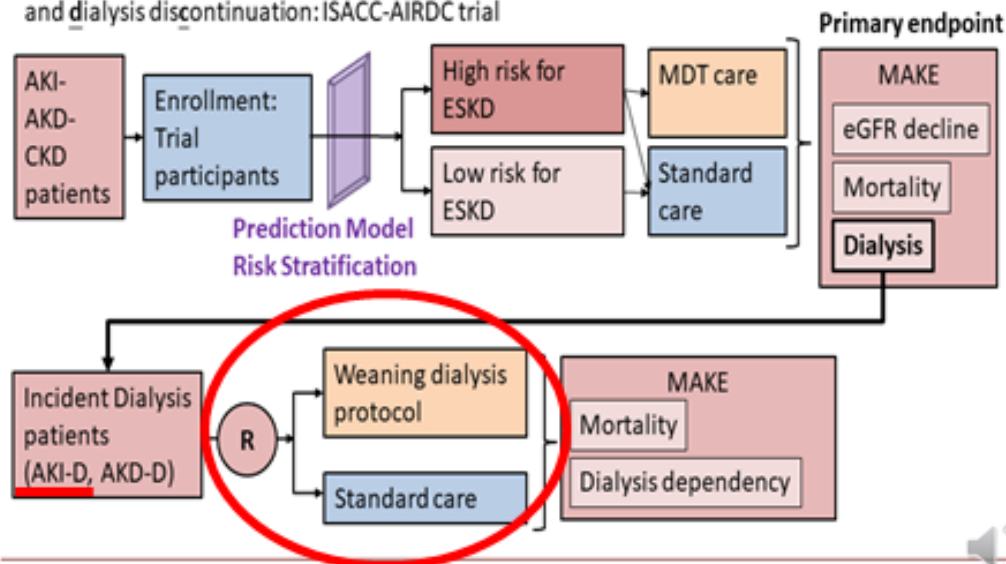




# Prediction model-assisted risk stratification of AKI patients



Intensified AKD care to reduce CKD with AI prediction model-based risk stratification and dialysis discontinuation: ISACC-AIRDC trial



## SCAMPs Data Form

Acute Kidney Injury in the MICU

BWH MRN: \_\_\_\_\_  
Patient name: \_\_\_\_\_

Attending: \_\_\_\_\_ Fellow: \_\_\_\_\_ Date: \_\_\_\_\_

### Complete on the First Day

First nephrology consult was:  On the floor  In the ICU  
Do you believe this consult is:  Too Early  At the right time  Too late

#### Reasons for AKI

- Sepsis
- Hypotension
- Contrast
- Glomerulonephritis
- Other nephrotosis
- Pre-renal azotemia
- Tubulointerstitial nephritis
- Rhabdomyolysis
- Thrombotic microangiopathy
- Hepatorenal syndrome
- Cardioresnal syndrome
- Other: \_\_\_\_\_
- Hemolysis
- Vasculitis
- Obstruction

#### ATN RISK SCORE INFO:

Chronic hypoxemia	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Immunosuppressive therapy	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Malignancy	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Post-surgical	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Cardiovascular disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Has this patient been on RRT in the last 24 hrs?  YES: Complete back of form  NO: Complete front of form

#### Are you considering RRT for this patient?

YES (continue with next question)  NO (move on to indications to start RRT)

What is your estimate of mortality during hospitalization:  
 Unlikely (<25%)  Possible (25-74%)  Very certain (75-94%)  Almost certain (>95%)

Do you think RRT would be futile for this patient?

- YES because of:
  - No meaningful chance of recovery from non-renal illness:
    - Metastatic cancer
    - Overwhelming lactic acidosis (10mmol/L)
    - Overwhelming sepsis (3 pressors, SBP<90, evidence of infection)
  - Profound, irreversible neurologic impairment
  - Other: \_\_\_\_\_
- NO move on to indications to start RRT

Will you still proceed with RRT?

- YES, because:
  - Discussion with MICU team
  - Family decision
  - Patient's goal of care
  - Other: \_\_\_\_\_
  - Time-limited trial
- NO

Indications to start RRT

Non-urgent characteristics

# Functional marker



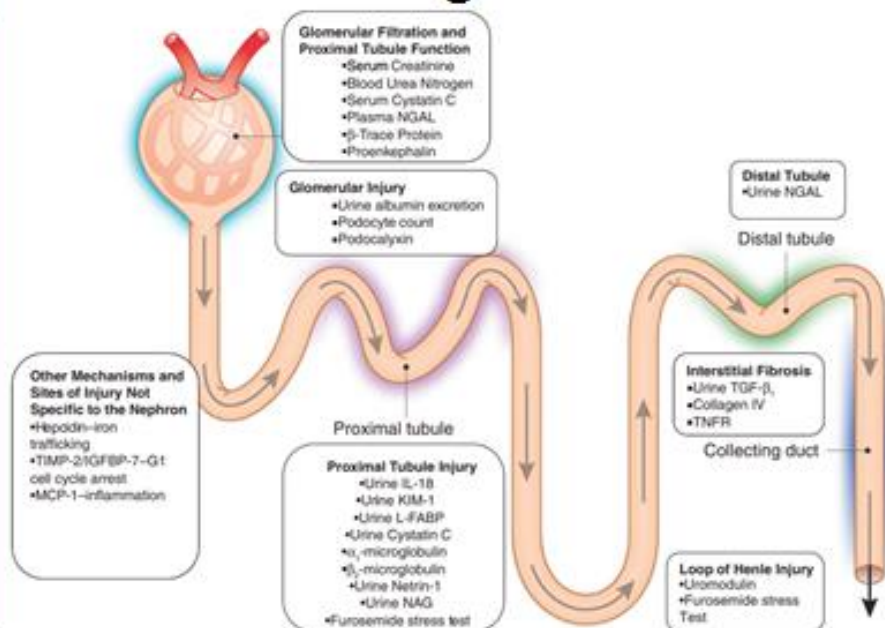
RIFLE, Acute Kidney Injury Network (AKIN) and Kidney Disease: Improving Global Outcomes (KDIGO) Definitions and Staging of Acute Kidney Injury

Definitions				
Parameter	RIFLE	AKIN	KDIGO	
Serum creatinine	An increase of >50% developing over <7 days	An increase of >0.3 mg/dL or of >50% developing over <48 hours	An increase of >0.3 mg/dL developing over <48 hours or an increase of >50% developing over <7 days	
Urine output*	<0.5 mL/kg/h for >6 hours	<0.5 mL/kg/h for >6 hours	<0.5 mL/kg/h for >6 hours	
Staging Criteria				
Increase in Serum Creatinine				
RIFLE	AKIN	KDIGO	Urine Output*	
Risk	≥50%	Stage 1: ≥0.3 mg/dL or ≥50%	Stage 1: ≥0.3 mg/dL or ≥50%	<0.5 mL/kg/h for >6 hours
Injury	≥100%	Stage 2: ≥100%	Stage 2: ≥100%	<0.5 mL/kg/h for >12 hours
Failure	≥200%	Stage 3: ≥200%	Stage 3: ≥200%	<0.3 mL/kg/h for >24 hours or anuria for >12 hours
Loss	Need for renal replacement therapy for >4 weeks			
End-stage	Need for renal replacement therapy for >3 months			

not optimal to detect injury or dysfunction **early enough** to allow prompt therapeutic intervention

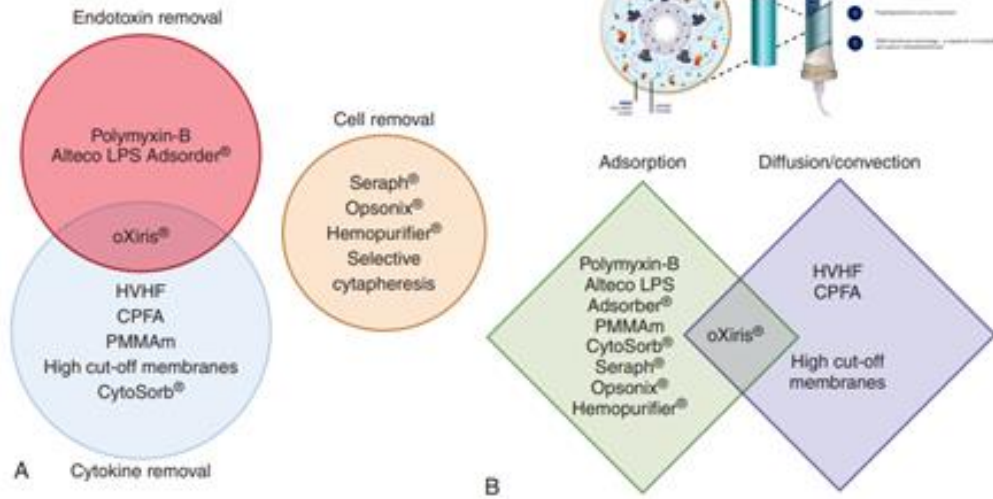
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# Damage marker



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# Blood purification techniques



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# AKI dashboard integrate with TED-ICU



- High-risk patient prediction and early detection
- Early non-RRT support
- **Timing initiation of RRT**
- **Early weaning from RRT**

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## Current practice



- patient with underlying Hx
- problem incubate
- ...
- patient present to ER/ICU
- ICU (or ER) consult Nephr.
- Nephr. bedside visit, collect information, discuss, judge and suggest
- apply treatment

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## Future practice



- patient with underlying Hx
- problem incubate
- ...
- patient present to ER/ICU
- ICU (or ER) consult Nephr.
- Nephr. bedside visit, collect information, discuss, judge and suggest
- apply treatment

### personalized health guide AI

- health education
- monitor
- alarm

### in-hospital assist AI

- real-time and automatic
- disclosure whole picture
- informative advice
- perspective prognosis

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