



TMU-Research Center of Urology and Kidney Monthly Meeting

Times : **2024/11/25(Monday) 9:00-10:00**

Google meet link : <https://meet.google.com/hja-cnry-iga>

Meeting Chairperson : Kuan-Yu Hung

Participant :

【TMUH】 Ming-Che Liu 、 Yao-Chou Tsai 、 Shauh-Der Yeh 、
Chien-Chih Wu 、 Hsiao-Yu Lin 、 Jeng-Cheng Wu 、
Ching-Hsin Chang 、 Wei-Chieh Chen 、 Fang-Yu Ku 、
Shih-Hsiu Lo 、 Te-Chao Fang 、 Hsi-Hsien Chen 、
Yen-Chung Lin 、 Chih-Chin Kao 、 Ching-Yi Chen 、
Shu-Ching Yeh 、 TING-EN TAI

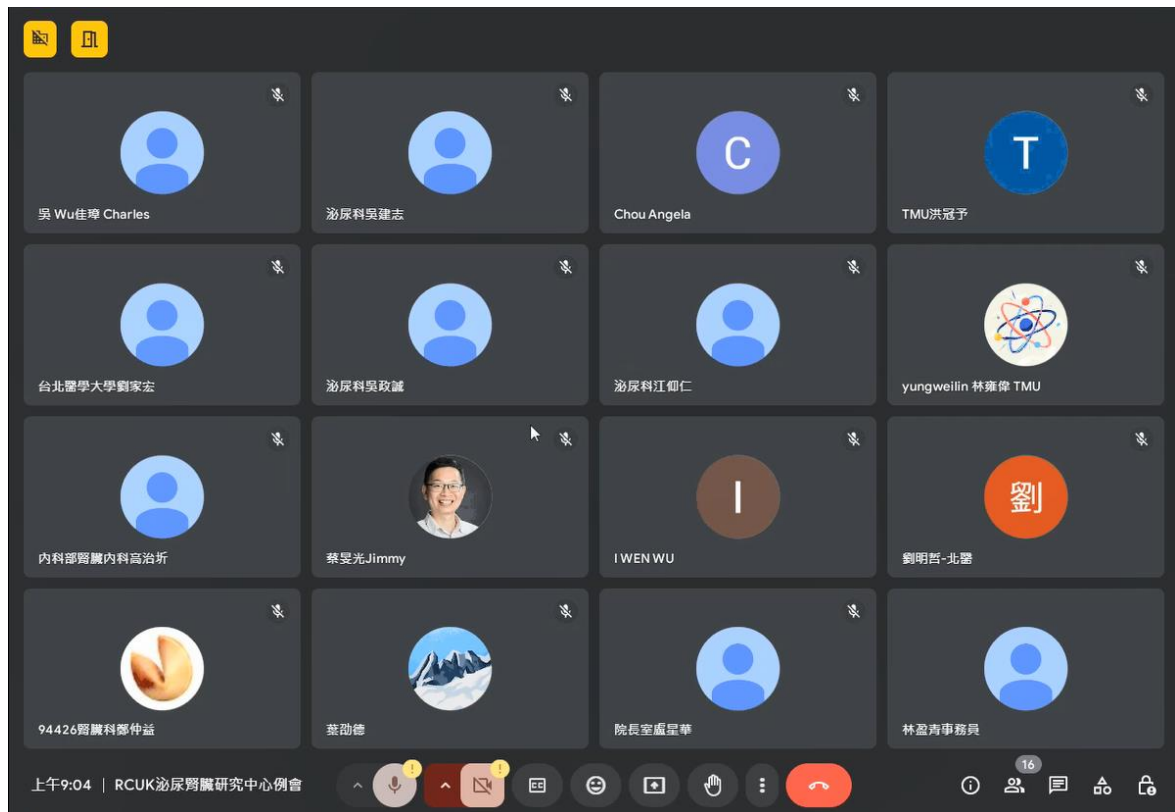
【WFH】 Yu-Ching Wen 、 Liang-Ming Lee 、 Ke-Hsun Lin 、
Yung-Wei Lin 、 Chi-Hao Hsiao 、 Syuan-Hao Syu 、
Chung-Howe Lai 、 Yung-Ho Hsu 、 Chih-Chen Hsu 、
Tso-Hsiao Chen 、 Cho-Hsing Chung 、 Chung-Yi
Cheng 、 Chung-Te Liu 、 Yun-Hong Yang 、 Ming-Che Lee 、
Yueh-Lin Wu 、 I-Wen Wu

【SHH】 Mai-Szu Wu 、 Chia-Chang Wu 、 Chia-Hung Liu 、 Yi-Te
Chiang 、 Kai-Yi Tzou 、 Wei-Tang Kao 、 Su-Wei Hu 、
Wen-Ling Wu 、 Mei-Yi Wu 、 Lie-Yee Hung 、 Cai-Mei
Zheng 、 Yu-Wei Chen 、 Chia-Te Liao 、 Cheng-Hsien
Chen 、 Hui-Wen Chiu 、 Po-Han Yu 、 Tze-Wah Kao 、
Kuan-Hung Lin

【SKMH】 Yuh-Mou Sue 、 Chu-Lin Chou

Chief : Mai-Szu Wu (President, TMU) 、 Chih-Cheng Hsu (Professor,
NHRI) 、 Ke-Hung Tsui (Vice President, SHH) 、 Shing-Hwa Lu

- Agenda :
1. School-level research center indicator tracking
 2. Progress report on the renal and urinary precision health plan and biological sample database
 3. Severe Kidney Disease Team
 4. Urinary and Kidney Cancer Team



113學年度研究績效指標



績效指標	113學年度目標值	8-10月			11-1月		2-4月		5-7月	
		實際值	目標值	達成率	目標值	達成率	目標值	達成率	目標值	達成率
國科會計畫件數	20	18							20	
大型/專案計畫件數	1	0							1	
發表論文數 (SCIE、SSCI、EI等)	90	22	22	100%	22		22		24	
學術論文 IF ₂ 8 篇數	15	3	3	100%	4		4		4	
舉辦共識營	1	1	1	100%						

1.

113學年度臨床轉譯績效指標



績效指標	目標值	Q1 (8-10)			Q2 (11-1)			Q3 (2-4)			Q4 (5-7)			負責者
		目標值	實際值	達成率	目標值	實際值	達成率	目標值	實際值	達成率	目標值	實際值	達成率	
三院AKD收案 量年增率10% (現況累計330例)	380	350	351	100.3%	360			370			380			(T)吳逸文 (W)鄭仲益 (S)蘇家楨
三院攝護腺癌 局部精準治療 (海福刀)	60例	15	14	93.3%	15			15			15			(T)鄭明燾 (W)林雅儀 (S)吳倫理

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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

113年11月25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



S1

建立精準照護流程

S2

培育基因專業人才

S3

驗證精準照護效益

【基因檢測】建立檢體及定序流程

【基因檢測】結果判讀及報告

【基因資料庫】建立世代研究族群

【公衛環境】建立公衛及環境測值

【基因體學】基因分析人員培育與訓練

【遺傳諮詢】建立諮詢內容及訓練

【精準治療】建立基因建議介入項目

【驗證療效】確認精準檢測與預後關係

【臨床應用】數位精準管理

2024
04

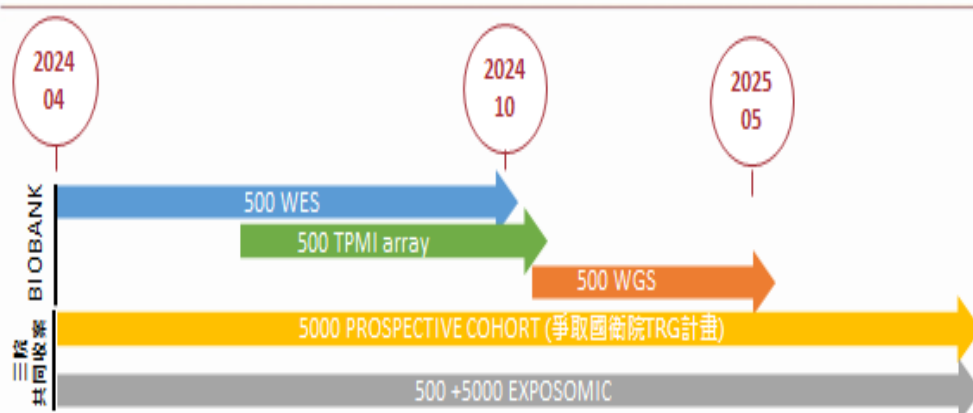
2024
06

2024
12

2025
03

2025
12

精準腎臟健康計畫進度：



Biobank 收案時，公衛學生同時收集問卷

附醫	雙和	萬芳
高治圻	林冠宏	吳岳霖
吳逸文	廖家德	

https://docs.google.com/forms/d/e/1FAIpQLSeWj3dV5ue8jDkuU8RqtUY7-G3mW43UIG8jy49kic9c5w/viewform?usp=pp_url&entry.1813352768=T20241103-01

One campus: 共同收案，共享資料，共同發表



Prospective Genomic Cohort Establishment:



高治圻/吳逸文

IgA nephropathy



廖家德/林冠宏

Polycystic kidney disease

Diabetic kidney disease

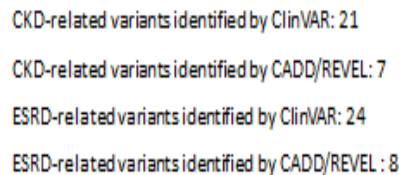


吳岳霖

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	0	2	0	0	0	0
2024	9	0	7	0	0	0	0
2024	10	0	13	0	0	0	0

- We used Fisher's exact test to identify significant CKD/ESRD related pathogenic rare variants ($p < 0.05$).
- For CKD, we identified 26 pathogenic rare variants, including 4 risk variants and 22 protective variants.
- For ESRD, we identified 30 pathogenic rare variants, including 1 risk variant and 29 protective variants.
- Notably, rs201835496 on PROKR2 was identified by ClinVAR, CADD, and REVEL scores, and this variant was identified to be protective against both CKD and ESRD.



- The study identified 26 CKD novel variants, 4 of them were reported to be related to conditions that involved kidney function.
- Likewise, we identified 30 ESRD novel variants, 5 of them were reported to be related to conditions that involved kidney function.
- A second WES cohort is needed to validate the significant role of the identified variants.
- Integration of multi-omic data for developing a polygenic risk score to predict renal progression.

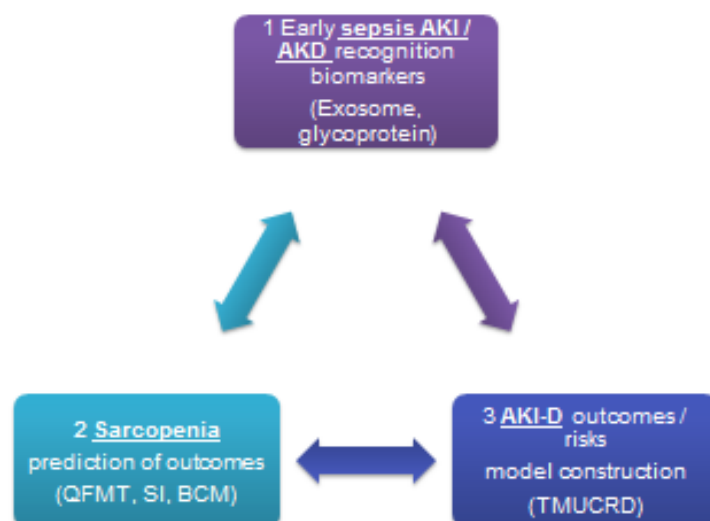


重症腎病團隊

報告人：高治圻

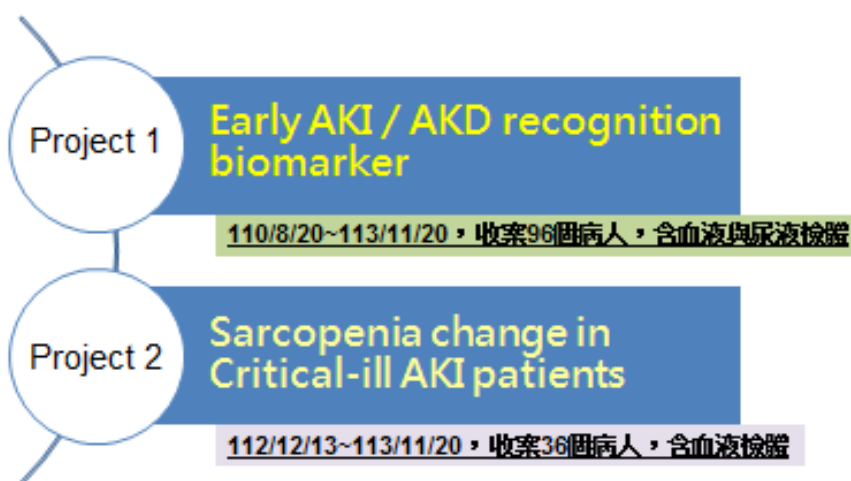
113.11.25

Critical-ill patients



* TMUCRD: TMU-Clinical Research Database

Clinical samples collection



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Project 1

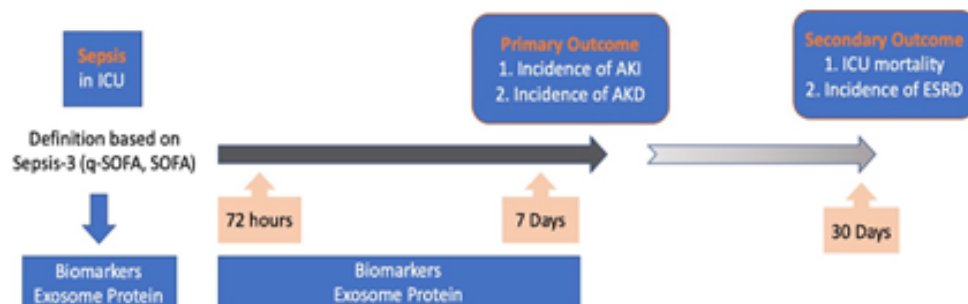
Early AKI / AKD recognition biomarker



Patient enrollment

IRB 110/8/20已通過, 到113/11/20為止、已收案96個病人

We enroll critical-ill patients aged 20-80 years with the diagnosis of sepsis, without a history of malignancy, ESRD and organ transplantation. Sepsis is defined by 1. microbiological proof (cultures) or 2. suspicion of sepsis + >2 SOFA score. Patients will be divided into 2 groups, 1: septic AKI (n=100), 2: septic non-AKI (n=100)



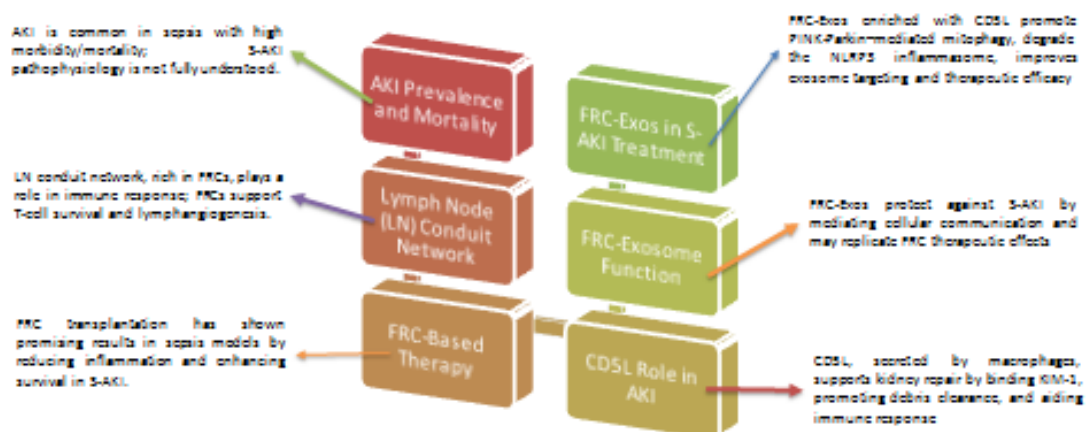
Plasma and Urine samples are collected on Day 1, Day 4, and Day 8.

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- Focus on urine samples analysis for biomarkers discovery
- Clinical outcomes investigation
- From prognostic biomarker to potential treatment?

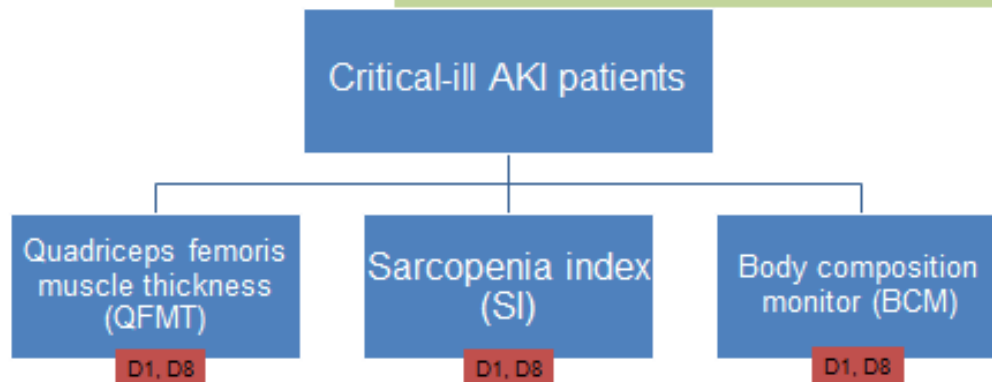
Exploring FRCs and exosomes as therapeutic targets in sepsis-induced AKI



Sarcopenia change in Critical-ill AKI patients



IRB 112/12/13已通過，到113/11/20為止，已收案36個病人

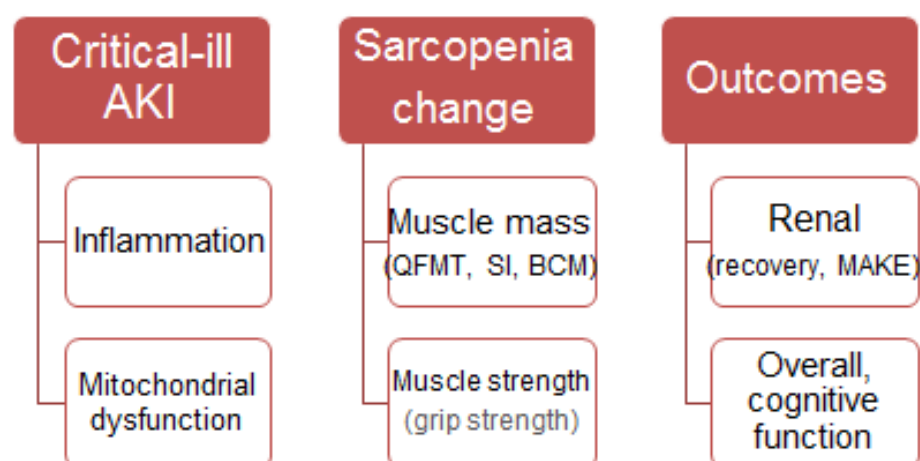


* Gold standard for muscle mass: paraspinal muscle surface area at L4 (CTMSA)

Construct sarcopenia model to predict patients' outcomes

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Sarcopenia change in Critical-ill AKI patients



-MAKE (major adverse kidney events)
 -QFMT (quadriceps femoris muscle thickness)
 -SI (sarcopenia index)
 -BCM (body composition monitor)

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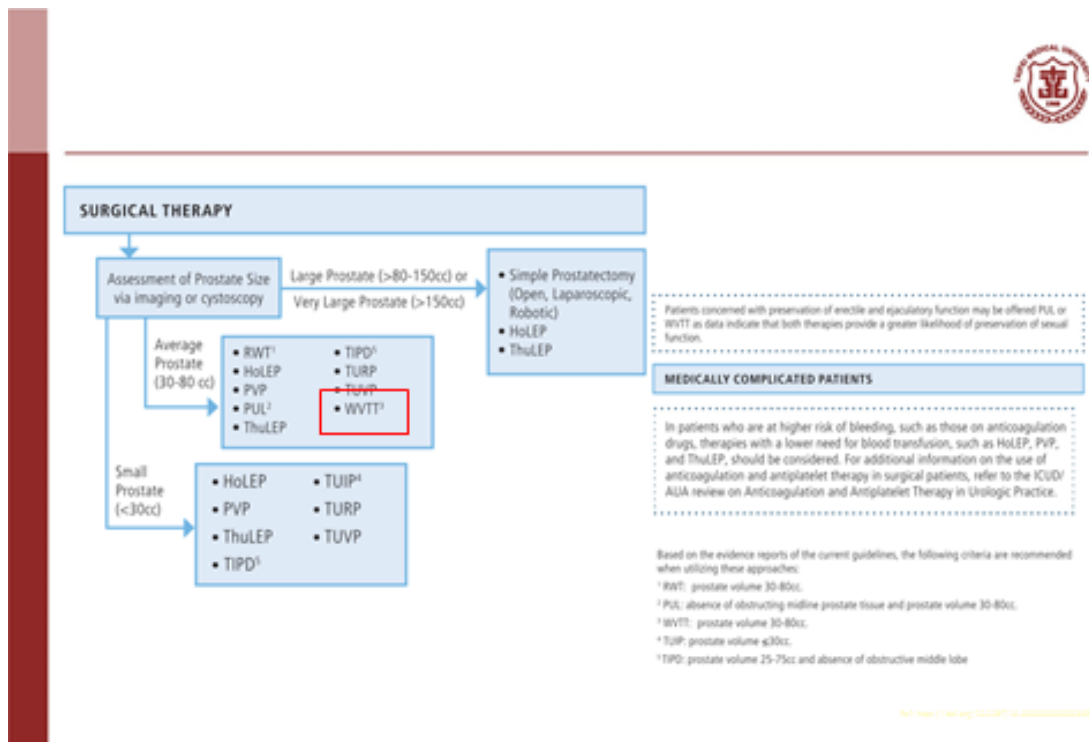


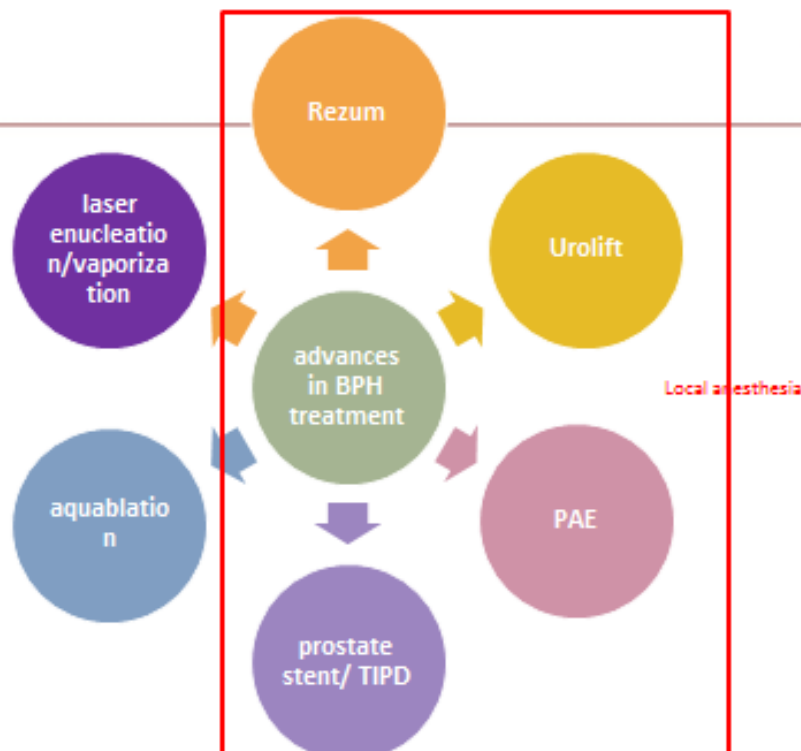
主題 Rezūm

攝護腺水蒸氣消融及臨床經驗分享

報告人：周安琪醫師
113.11.25

1





Exclude malignancy



Clinically Significant Tissue Volume Reduction⁷

Boston
Scientific



52cm³ prostate – 3Tx/RLL; 4Tx/LLL; 2Tx/ML

Results from case studies are not necessarily predictive of results in other cases. Results in other cases may vary.

Rezum Pivotal Study patient. Consent from this study. 2012.07.02 ICF Rev 03 Pivotal

EDUCARE

Catheterization^{2,3,7,10,11}

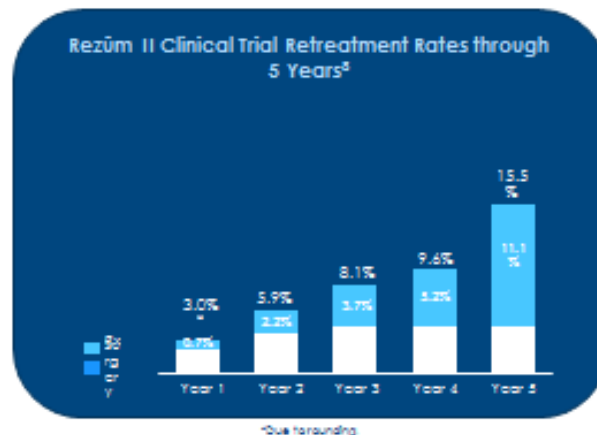
Boston
Scientific

- Short-term dysuria and inflammation can occur that may necessitate a catheter until the healing process is established
- Rezūm Pivotal Study mean duration of immediate post-procedure catheterization was **3.4 days** and this provided a **low post-operative retention rate of 5%**
- Factors that can **influence catheter duration and irritative symptoms**:
 - Patient intrinsic factors, such as the body's ability to heal
 - Bladder function
 - Progression of BPH, i.e., low flow or previous retention
 - Number and placement of vapor treatments, i.e., close to bladder neck or treatments in excess of the recommended treatment guidelines

EDUCARE

Rezūm™ Treatment Remains Durable Through 5 Years

Boston
Scientific



EDUCARE

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Indications & Contraindications¹⁰

Boston
Scientific

Indications:

- The Rezūm System is intended to relieve symptoms, obstructions, and reduce prostate tissue associated with benign prostatic hyperplasia (BPH)
- Prostate volume $\geq 30 \text{ cm}^3$
- Prostate with hyperplasia of the central zone and/or a median lobe
- ** Large IPP may need resection

Contraindications:

- Urinary sphincter implant
- Penile prosthesis
- Active urinary tract infection

EDUCARE



	Simple prostatectomy	TURP	Laser enucleation/vaporization	Urolift	Rezum	PAE
anticoagulation			✓	✓	✓	✓
Blood transfusion	✓	✓				
local anesthesia				✓	✓	✓
ejaculation				✓	✓	✓
Small P size		✓	✓	✓	✓	✓
Large P size	✓	✓	✓			✓
Median lobe	✓	✓	✓		✓	✓
Implant left				✓		
Effectiveness f/u	6 yr	22 yr	18 yr	5 yr	5 yr	2 yr
Surgical retreatment rate	6% (5yr)	2.6% (5yr)	4.3% (meta)	13.6% (5yr)	4.4% (5yr)	

10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6044441/>