

APCN x TSN 2025

23rd Asian Pacific Congress of Nephrology

Gene, Immunology, Vast, M^Etabolism at its Finest!



Dialysis Access Care- The benefit of the integrated roles with Clinical nephrologist and Interventional Nephrologists in Taiwan

Department of Nephrology
Zuoying Armed Forces General Hospital
Dr. Hsiu-Chien Yang

2025.12.6



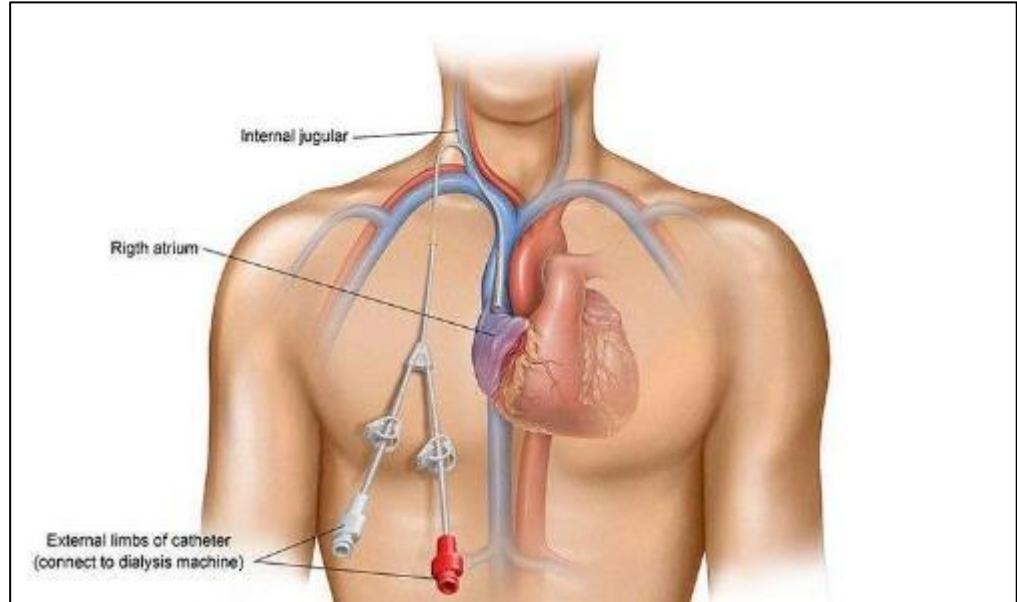
Daily work

- Dialysis patients care
- OPD patients and inpatients care
- Consultation
- Research
- Teaching



Daily work

- Kidney sonography
- Double lumen insertion
- Sono. guide biopsy
- Renal transplant ultrasound



Technique...

For **fellows** in training & young **nephrologist**

- CVC catheter insertion
- Double lumen insertion
- Kidney sono & biopsy
- POCUS / VExUS
- ?

That's all ? Can we do more ?



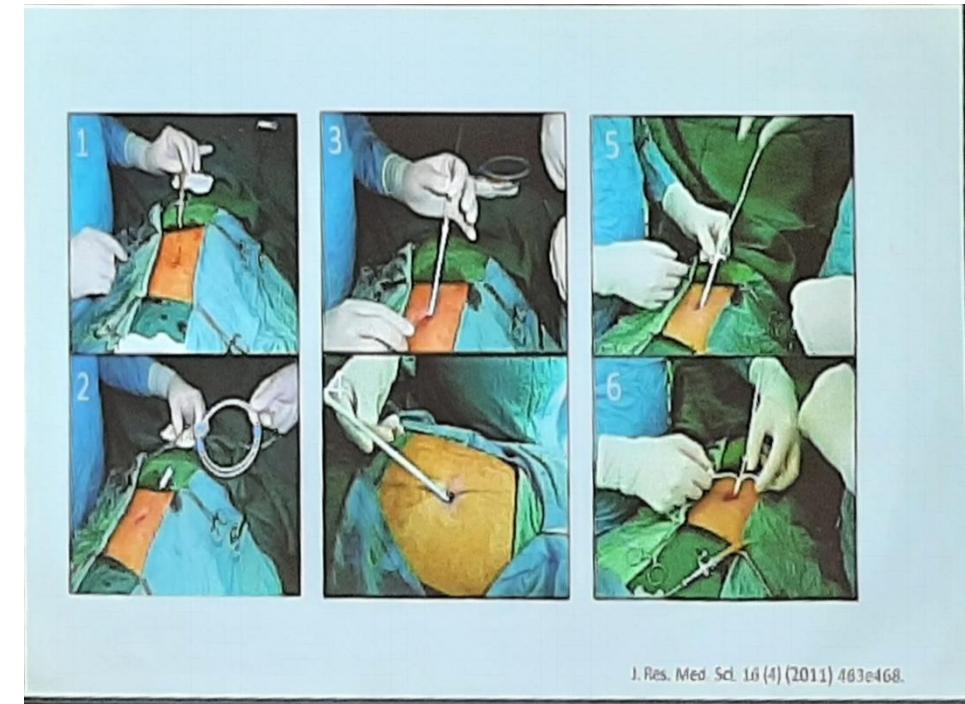
Table 1 | List of procedures that a nephrologist can learn to improve patient care

Procedure	Description
Clinical assessment skills	Proficiency in evaluation of arteriovenous access and peritoneal dialysis catheter for maturation/function, signs of infection, and non-infectious complications
Hemodialysis	
• Central vein catheter	 Non-tunneled catheter placement Tunneled catheter placement Tunneled catheter removal
• Arteriovenous access	
Endovascular procedures (basic)	Diagnostic angiography Percutaneous angioplasty
Endovascular procedures (advanced)	Stent placement Coil embolization Ligation of accessory veins Identifying central vein stenosis Endovascular arteriovenous fistula creation
Surgery (basic)	Creation of arteriovenous fistula at conventional site (radiocephalic and brachiocephalic)
Peritoneal dialysis	Acute non-cuffed catheter placement Cuffed tunneled catheter placement Cuffed tunneled catheter removal
 Kidney biopsy	Native kidney Transplant kidney (where available)
 Ultrasonography	Fundamentals of bedside point-of-care ultrasonography

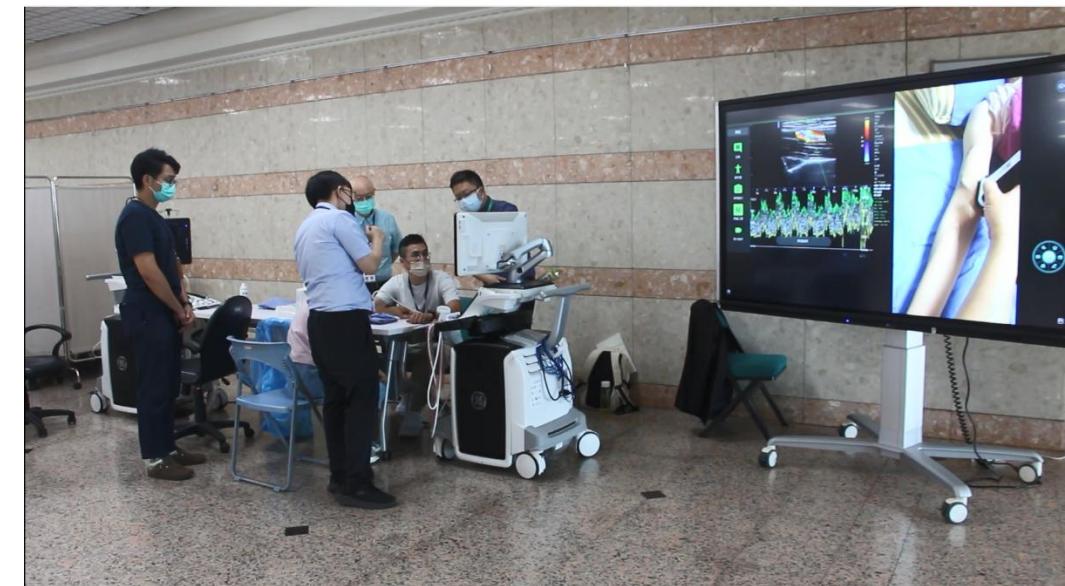
2022年台灣腎臟醫學會 Interventional Nephrology 工作坊

- 日期：111年10月30日(日) 9:00~12:30
- 地點：高雄榮總第三及四會議室
- 議程：

時間	內容	講師	主持人
08:45~09:00	報到		
09:00~09:05	開幕致詞	黃尚志理事長 台灣腎臟醫學會	
09:05~09:10	開幕致詞	陳金順副院長 高雄榮民總醫院	
09:10~09:20	PD catheter Insertion	鄭本忠醫師 高雄長庚醫院	吳逸文主任
09:20~09:30	Sonography of AV fistula and Graft	吳重寬主任 新光紀念醫院 傅崇銘醫師 高雄長庚醫院 陳靜怡醫師 臺北醫學大學附設醫院	吳逸文主任
09:30~09:40	Native & Transplant kidney biopsy	李明峰醫師/陳信佑醫師 高雄榮民總醫院	方華章主任
09:40~09:50	Permcath insertion	李明峰醫師/陳建良醫師 高雄榮民總醫院	方華章主任
09:50~10:00	Tea Break		
10:00~12:20	實作		
Team-1 (25 mins)		Team-2 (25 mins)	Team-3 (25 mins)
Team-4 (25 mins)		Team-4 (25 mins)	
PD catheter insertion	Sonography - AV fistula and Graft	Sonography-guide Renal biopsy	Permcath insertion
12:20~12:30	Q&A		
12:30	賦歸		



J. Res. Med. Sci. 16 (4) (2011) 463e468.



Training program

- Learn PTA/ thrombectomy/ PICC skill from radiologist in VGH-KS every W1 afternoon/ W5 morning.
- Learn Perm-cath/ PD tube insertion from CV doctor in our hospital every W4/W5 afternoon.
- Perform interventional procedure independently under the supervisor instruction.

PTA: percutaneous transluminal angioplasty

PICC: peripherally inserted central venous catheter

Clinical nephrologist → **interventional nephrologist**

Seldinger technique

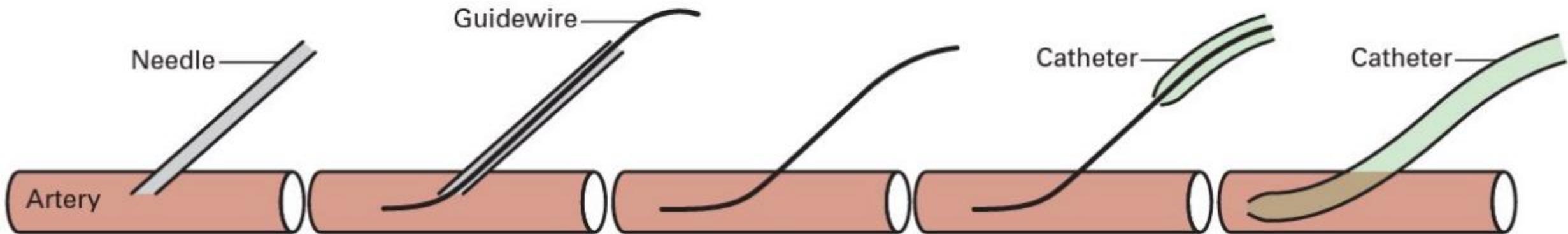
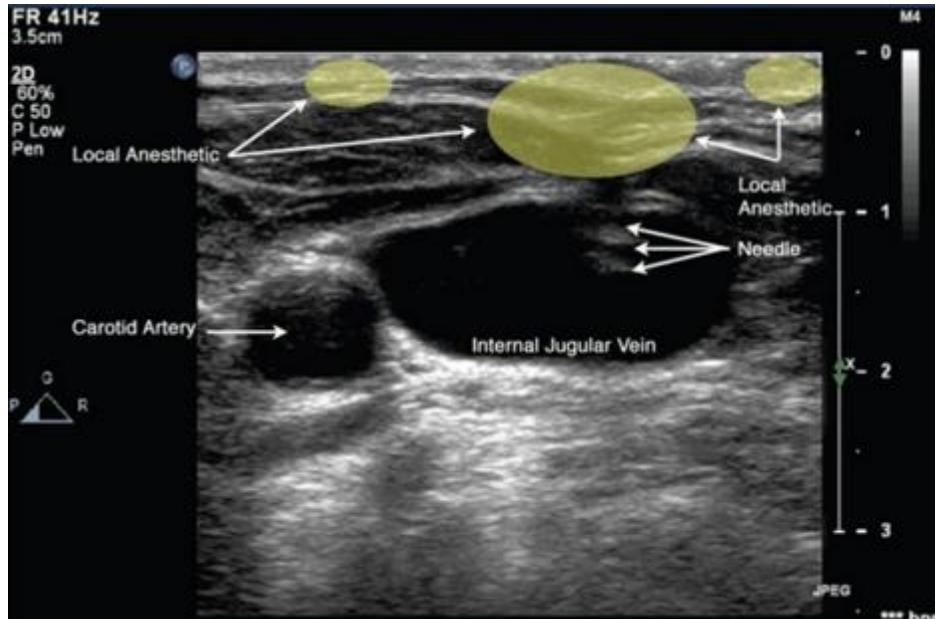
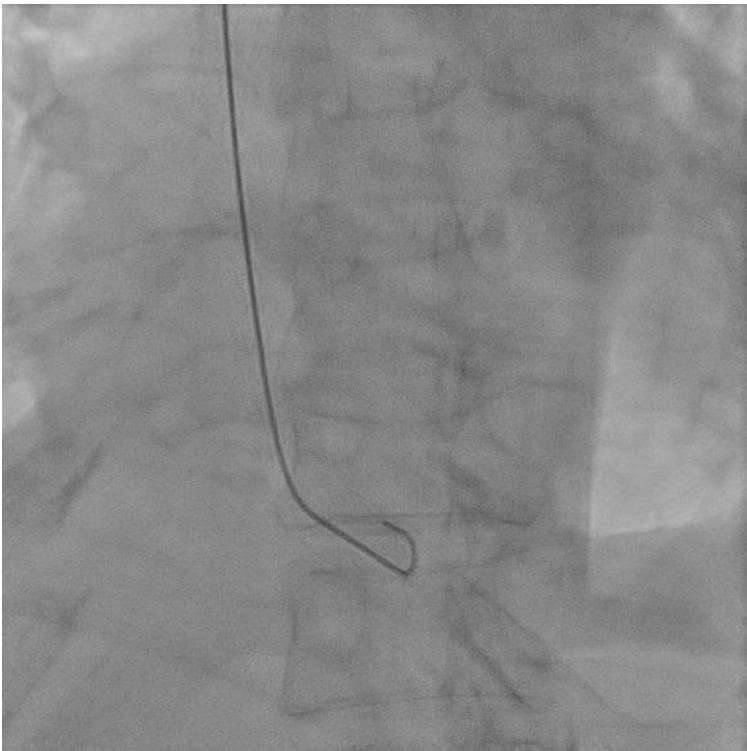


Fig. 17.1 Seldinger technique for catheterizing blood vessels. The femoral artery or vein are the usual vessels used. (a) A needle is inserted through the skin into the blood vessel. (b) A guidewire is passed through the needle into the lumen of the vessel. (c) The needle is withdrawn, leaving the guidewire in the lumen of the vessel. (d) A catheter is threaded over the guidewire and passed into the lumen of the vessel. (e) The guidewire is withdrawn, leaving the catheter in position in the lumen of the vessel.

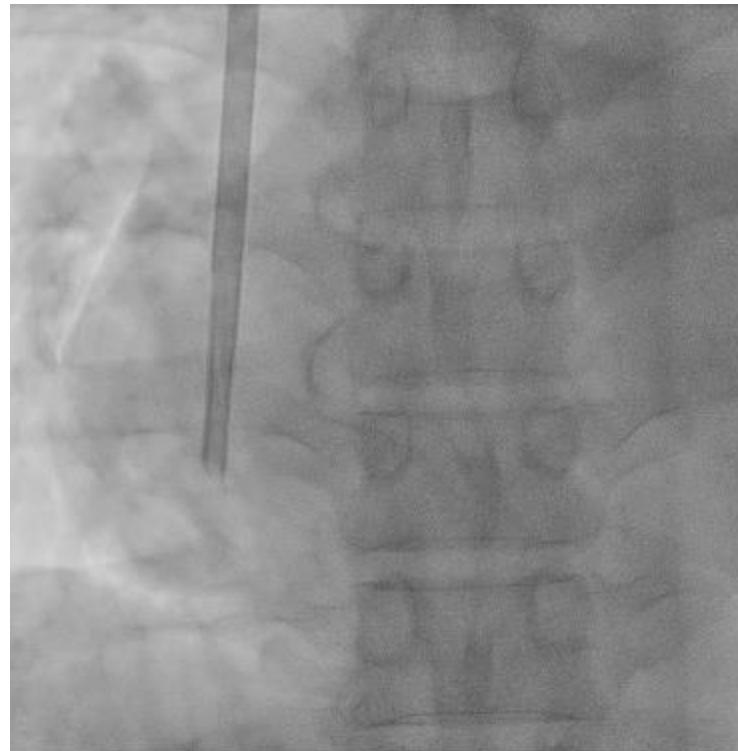
Perm-cath implantation



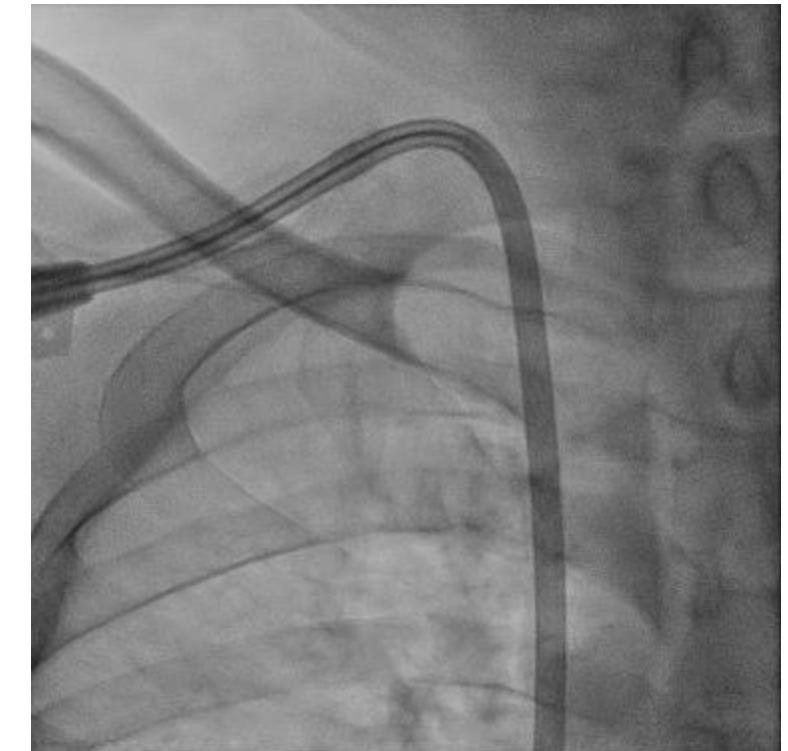
Perm-cath implantation



Check the tip of guidewire



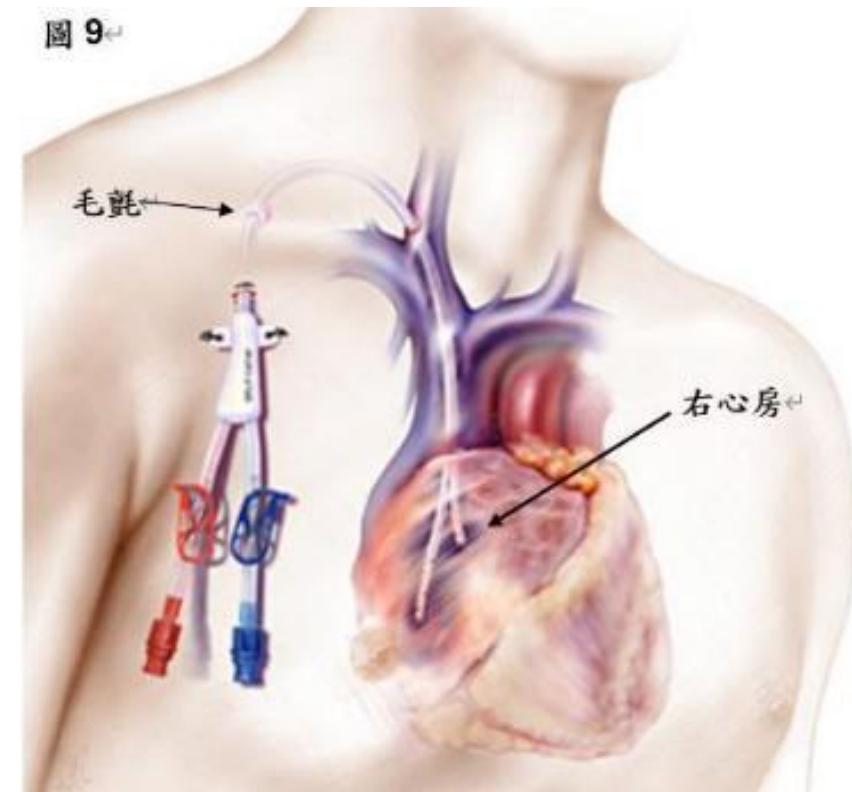
Check the tip of perm-cath



Observe any twisting of tube

Perm-cath implantation

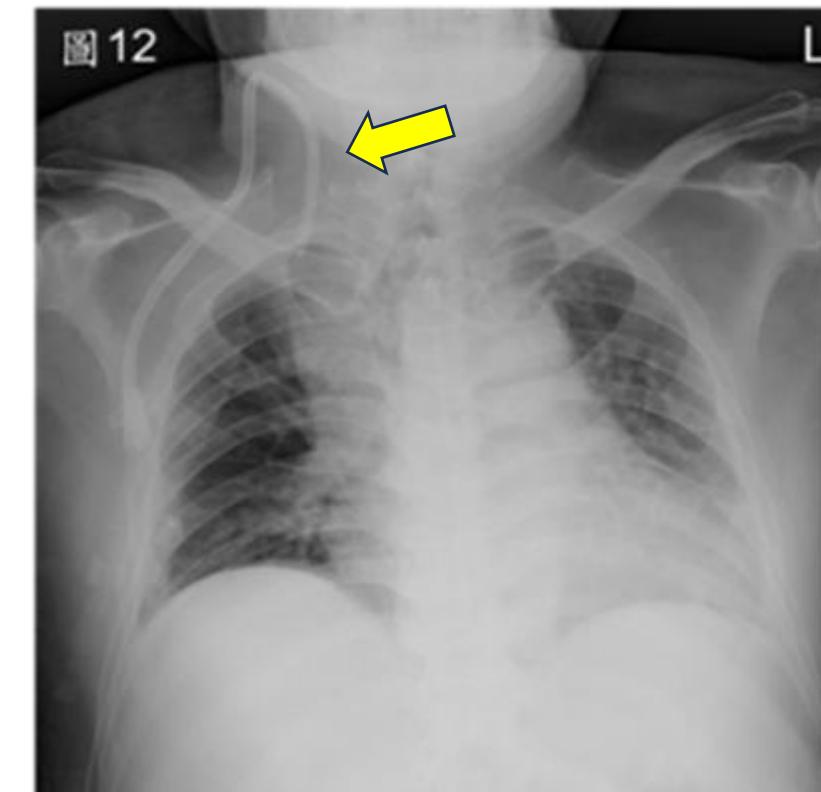
圖 9



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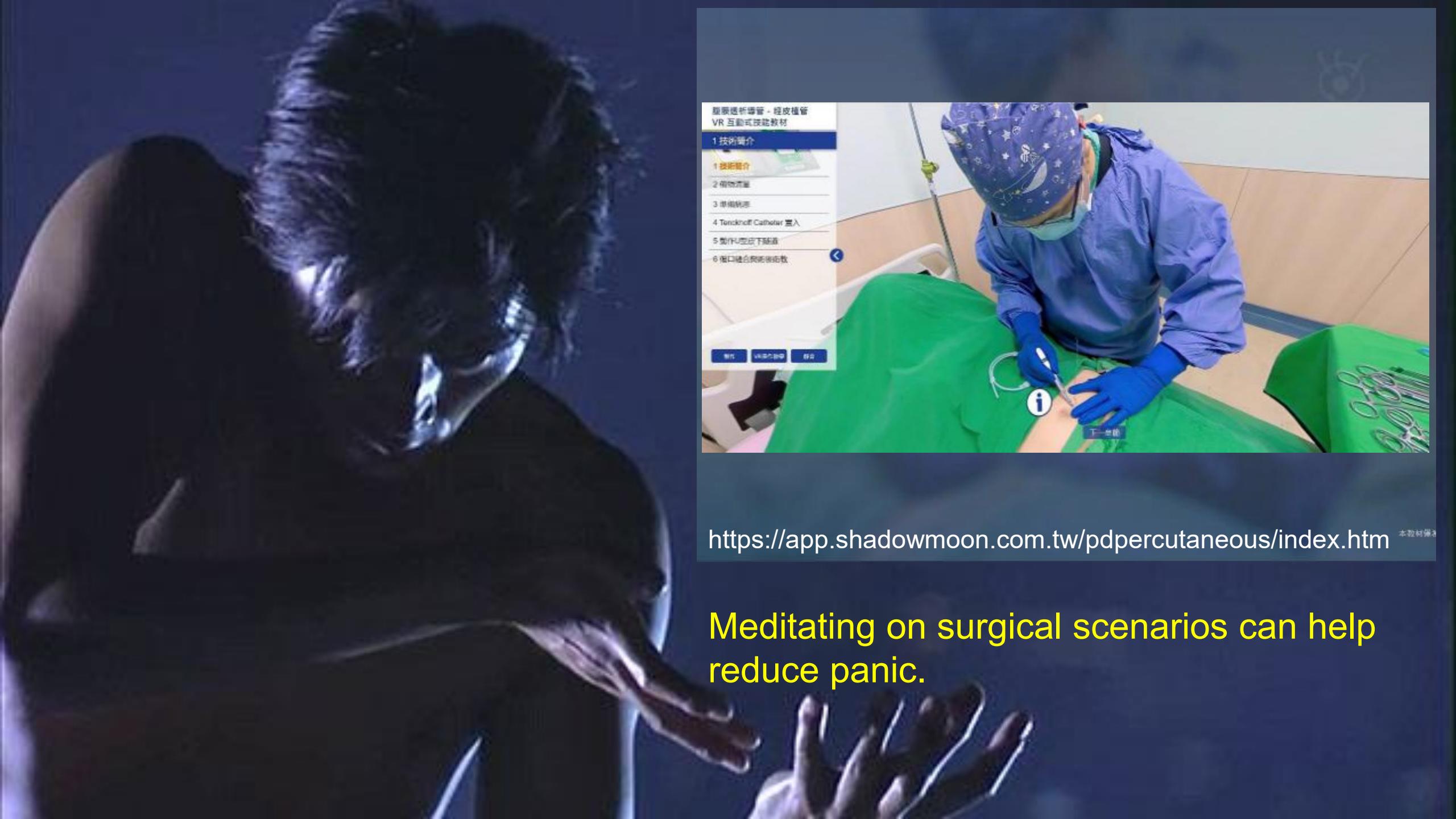


圖 12



Perm-cath removal

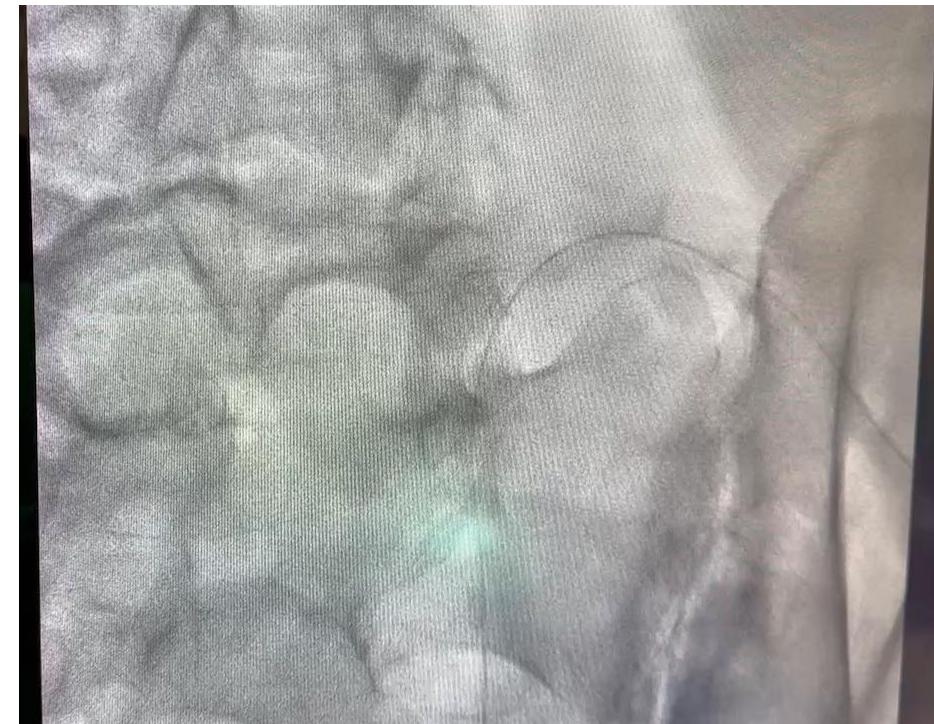
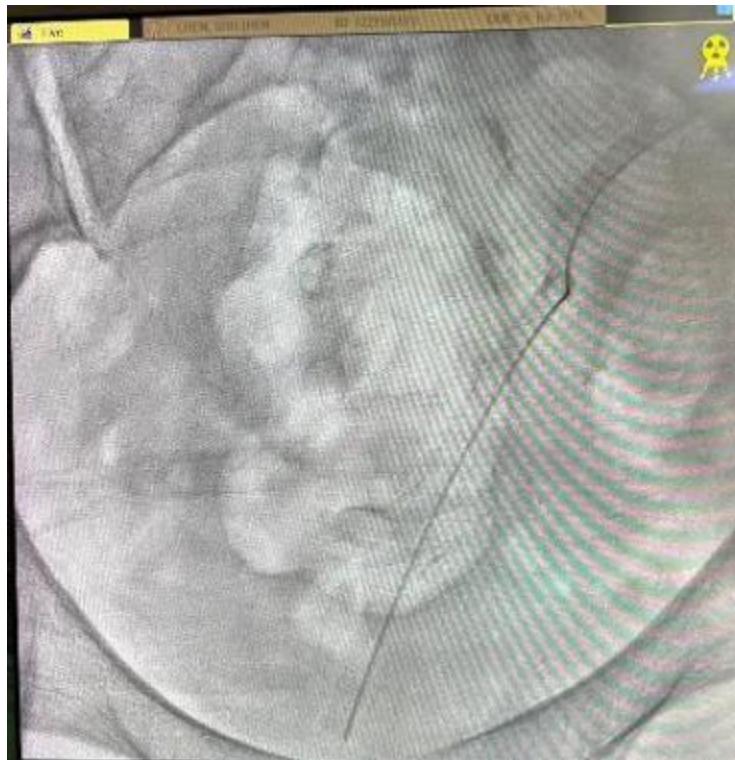
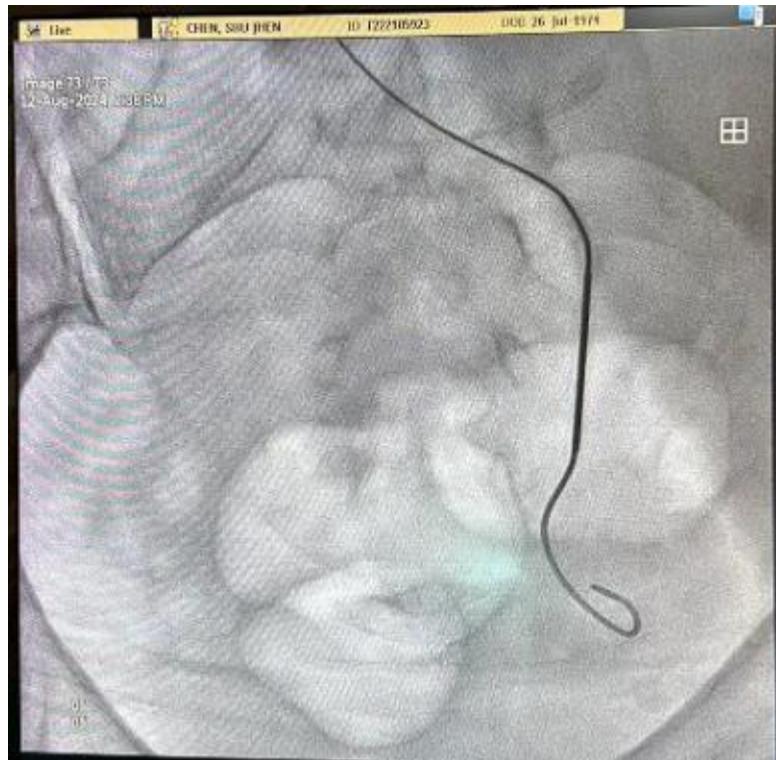




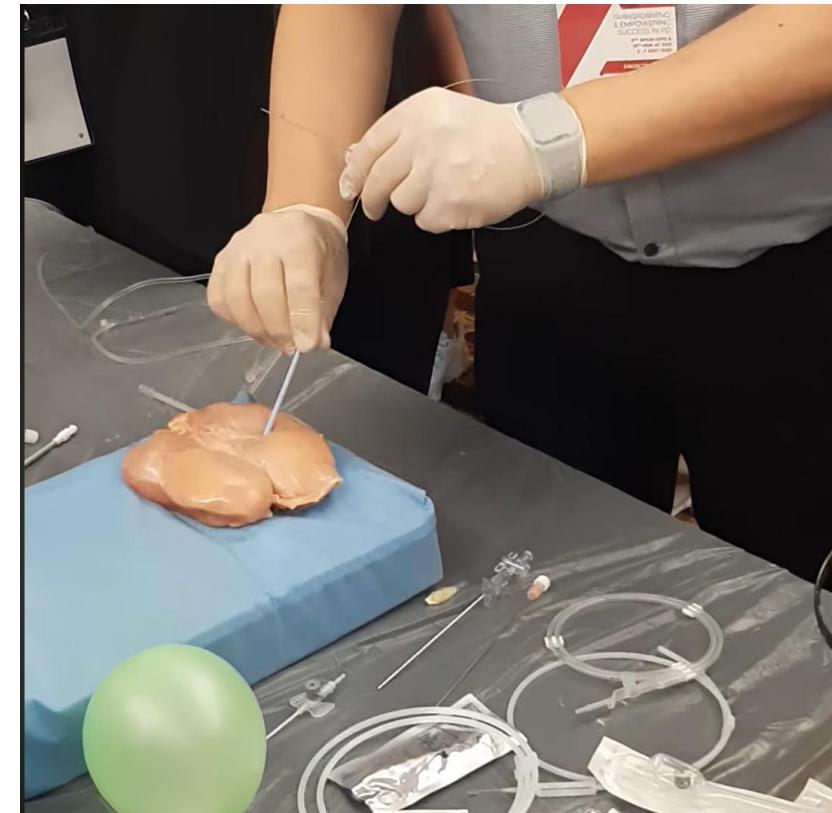
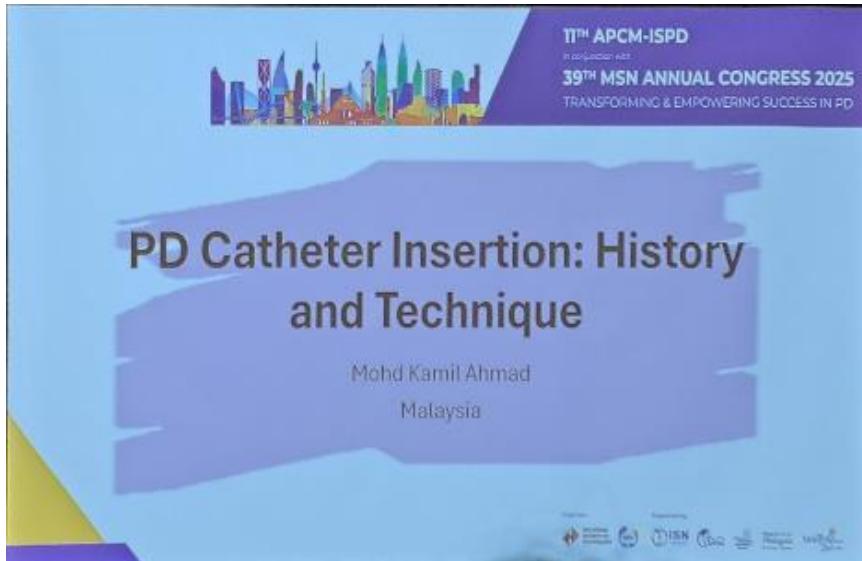
<https://app.shadowmoon.com.tw/pdpercutaneous/index.htm>

Meditating on surgical scenarios can help reduce panic.

Peritoneal tube insertion



Peritoneal tube insertion

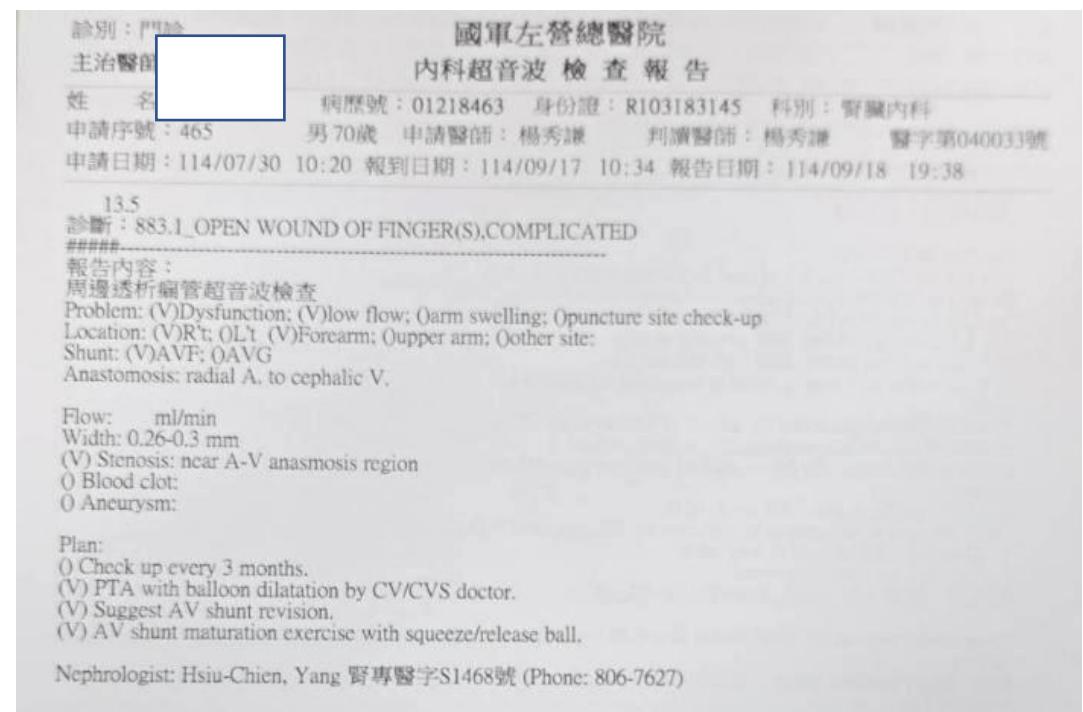
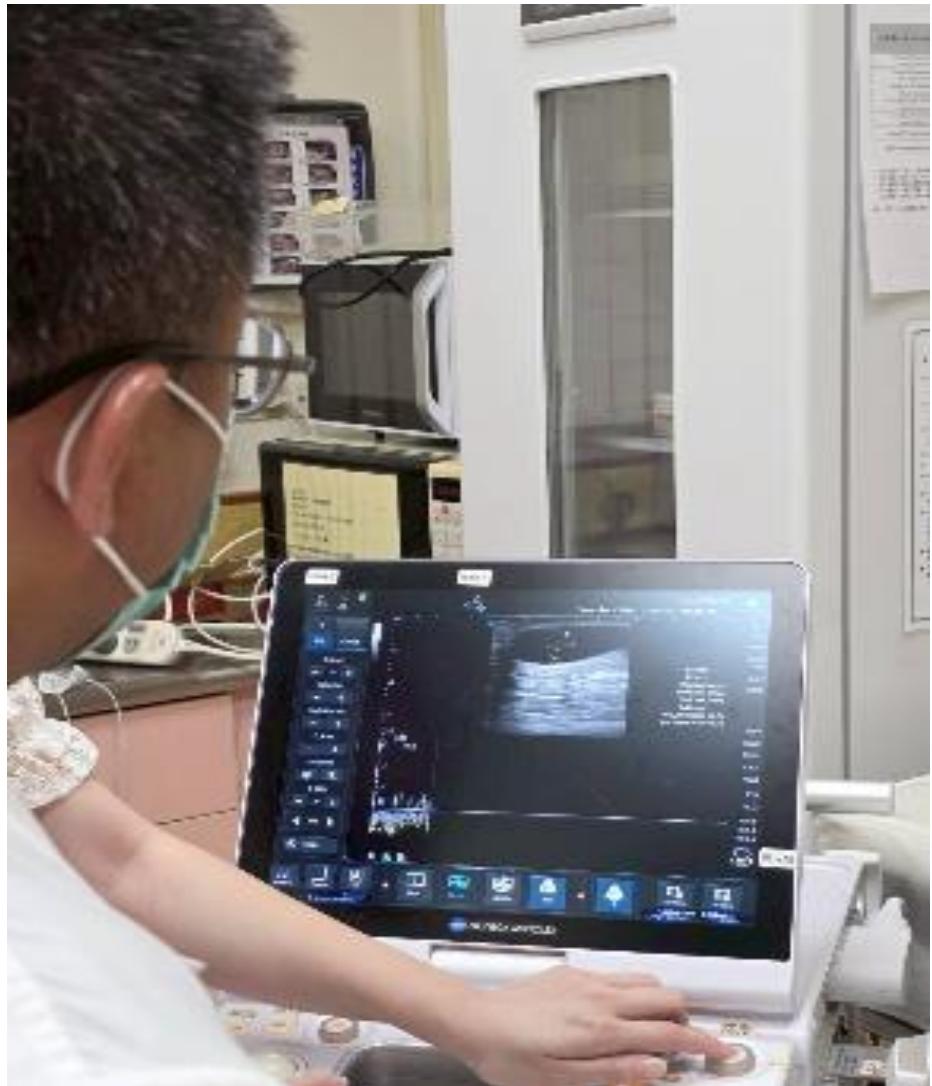


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Vascular ultrasound



Vascular ultrasound

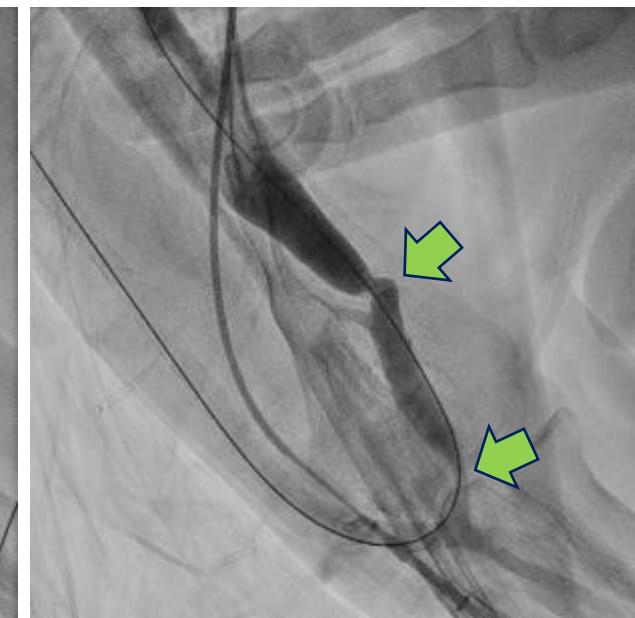
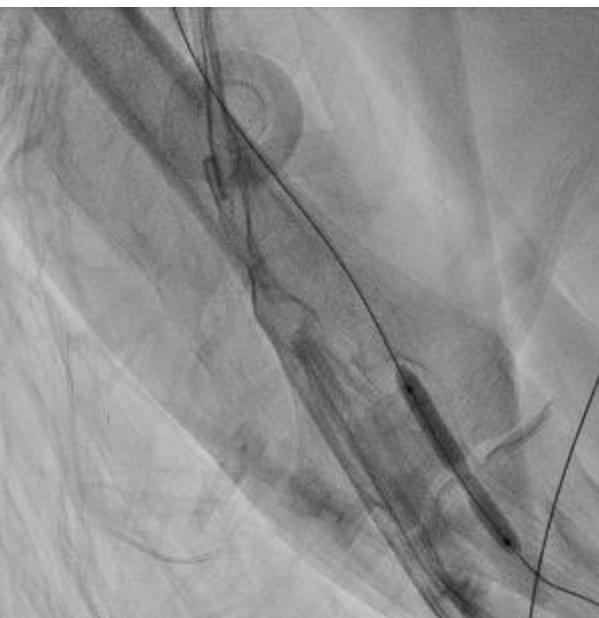
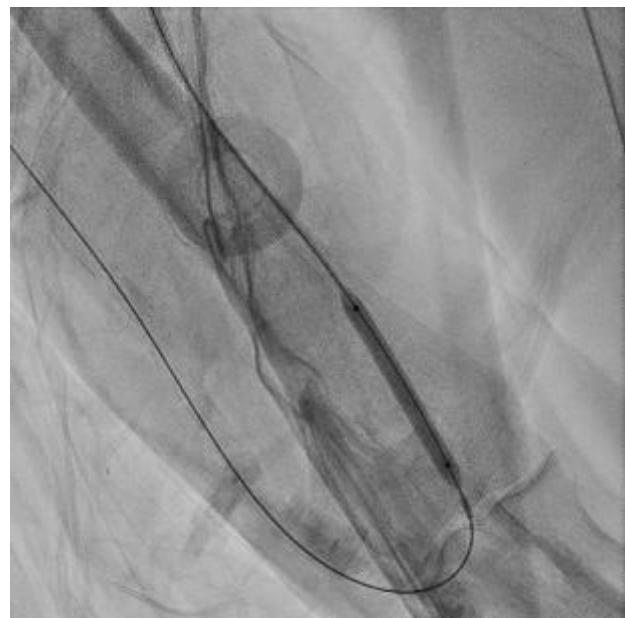
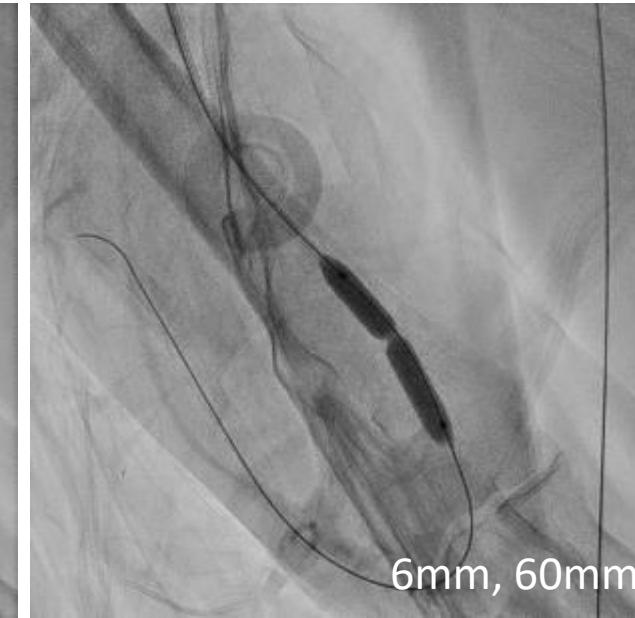


Percutaneous transluminal angioplasty



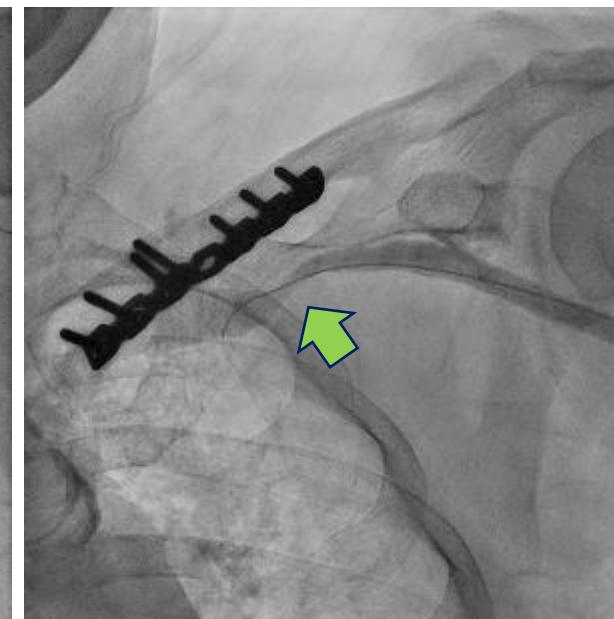
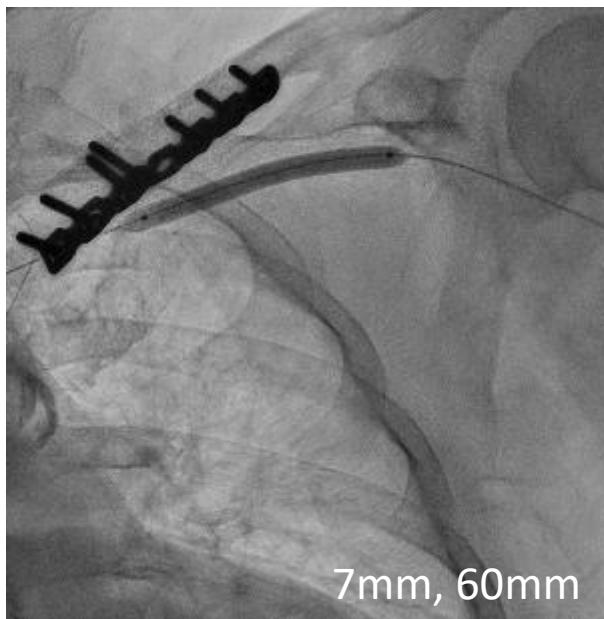
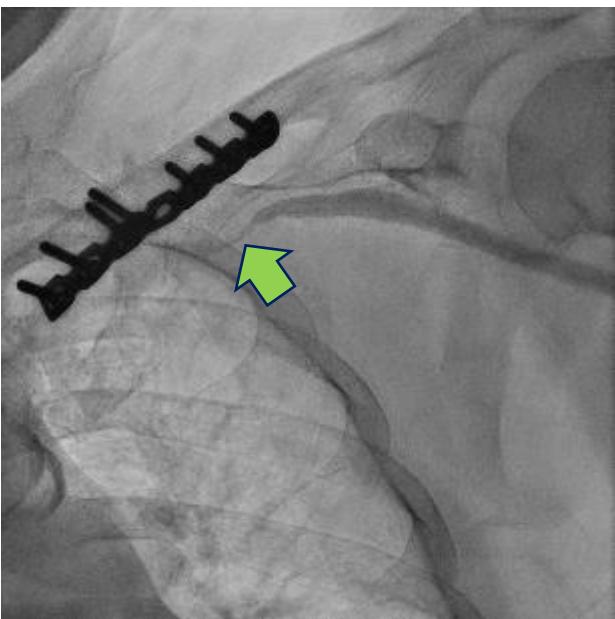
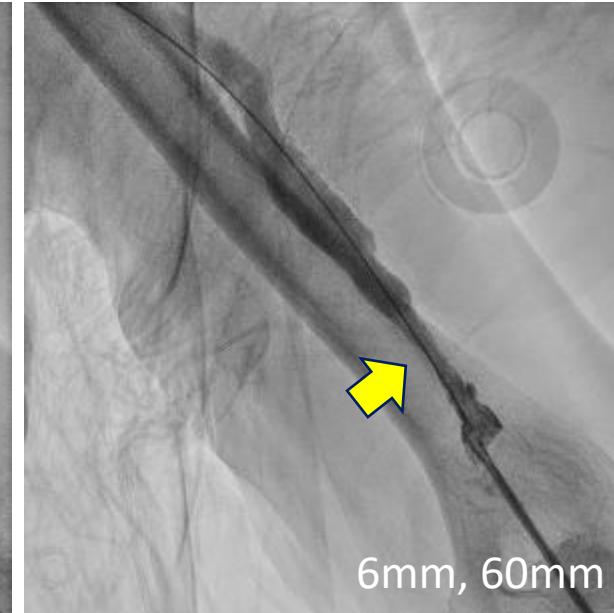
PTA (Percutaneous transluminal angioplasty)

李簡淑旼 T201236512 F/73



PTA

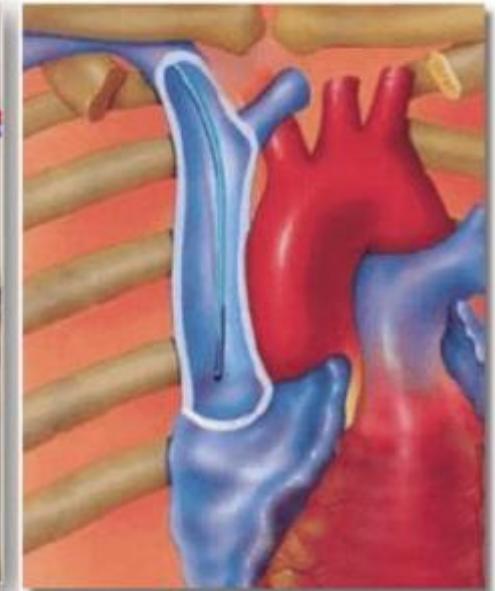
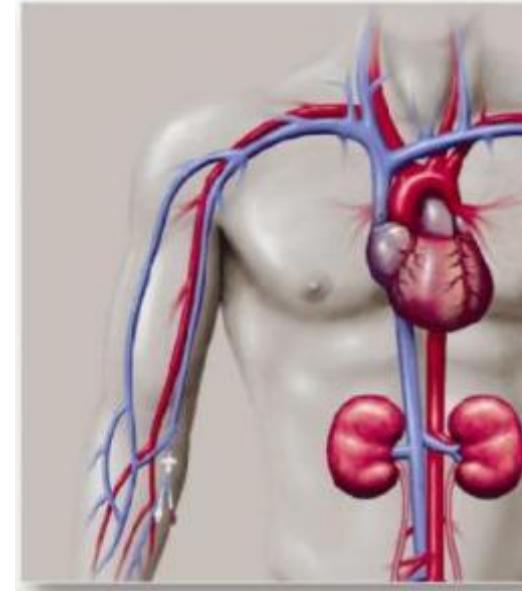
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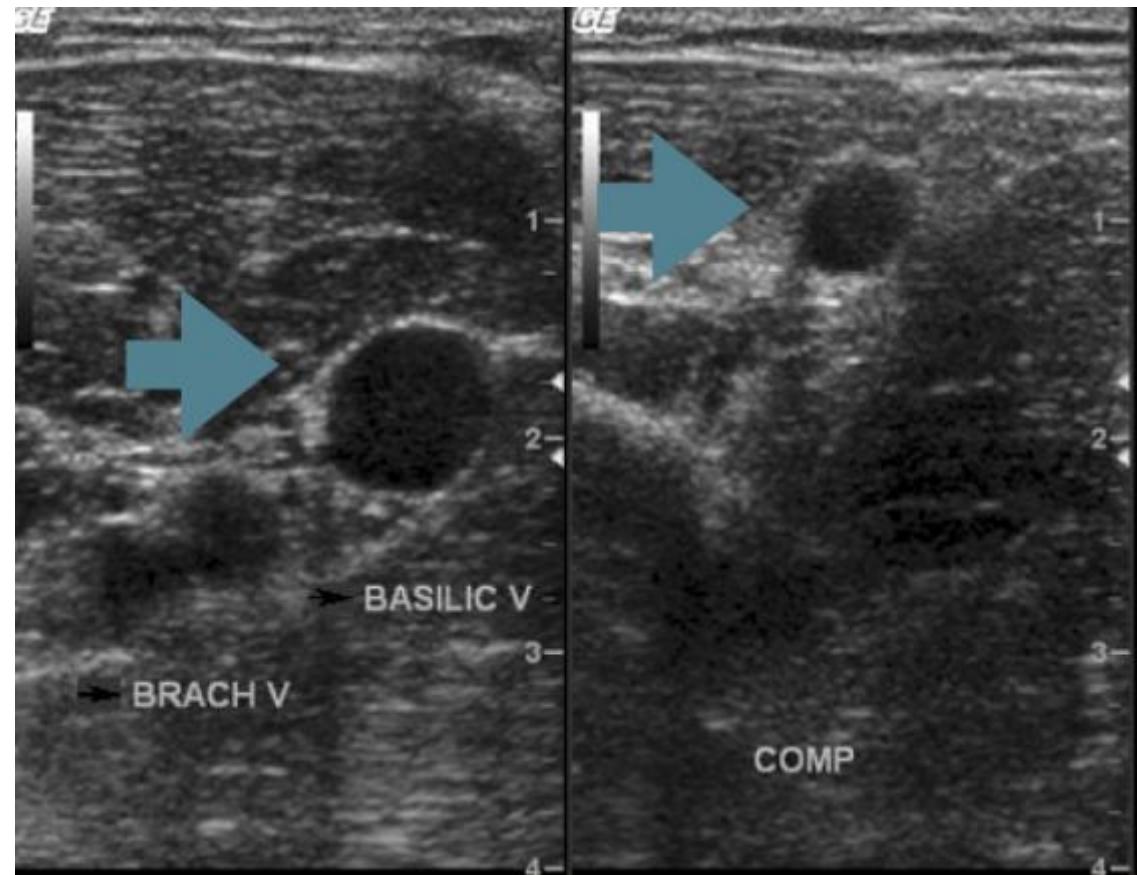
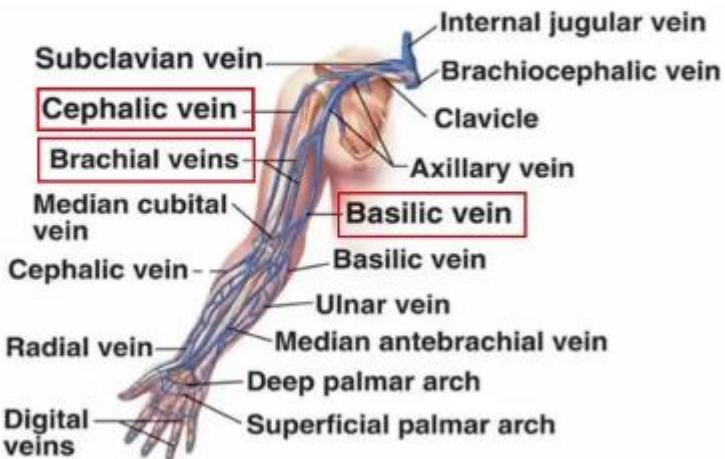
Peripherally inserted central catheter, PICC

Indications:

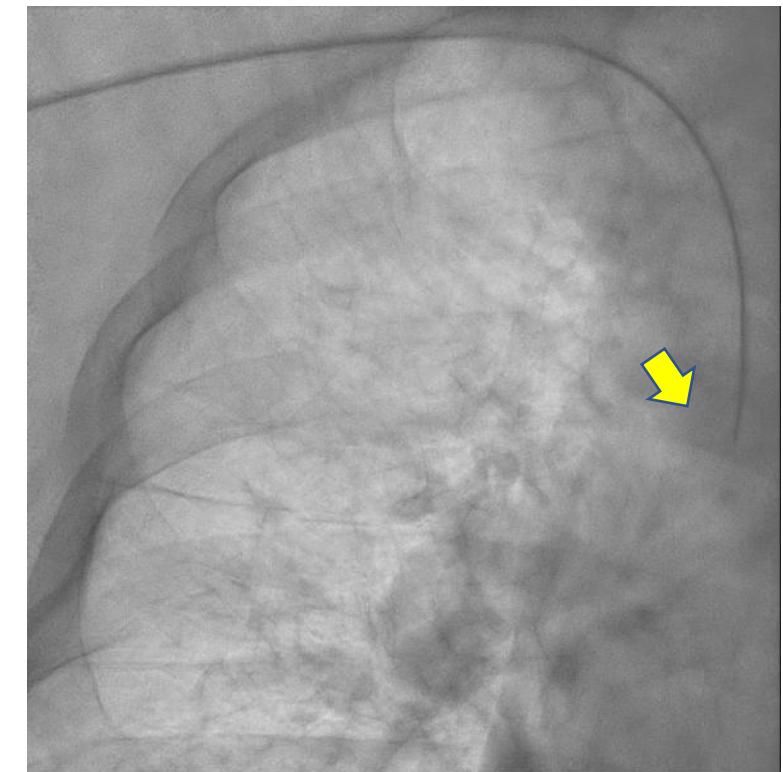
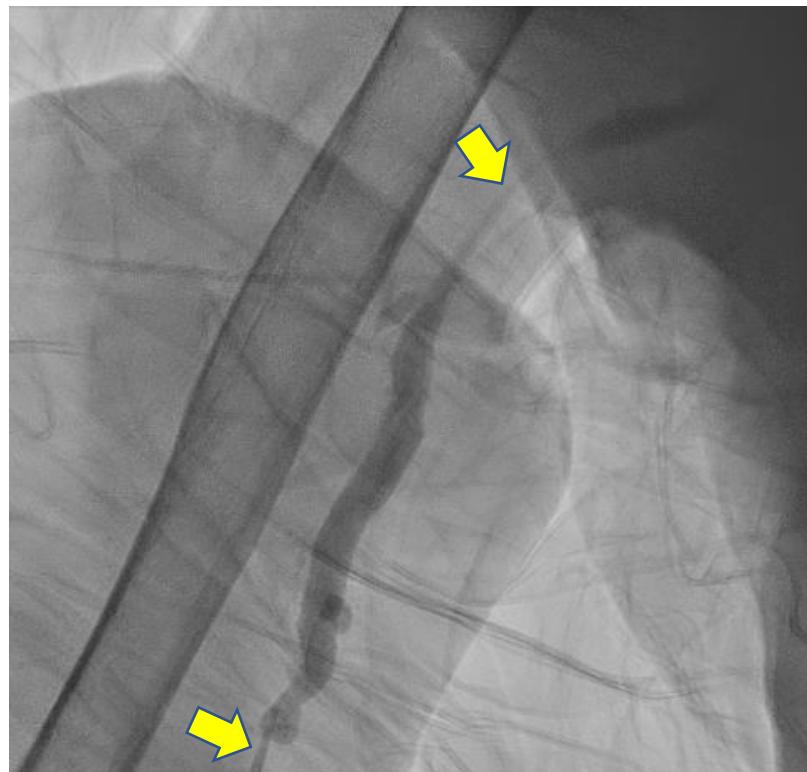
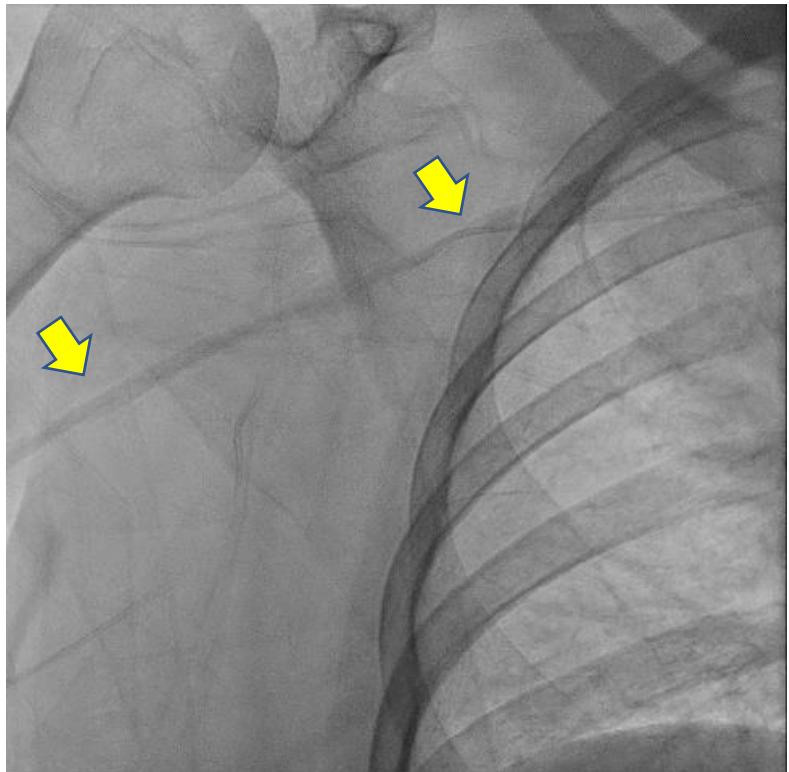
- Chemotherapy drugs or intravenous nutrition
- Long-term intravenous medication is required when peripheral superficial veins are in poor condition.
- Suitable for blood draws.



Landmarks



Antegrade venography



Malaysia Society of Diagnostic Interventional Nephrology



MSDIN

16TH ANNUAL DIAGNOSTIC AND INTERVENTIONAL NEPHROLOGY MEETING
ULTRASOUND in NEPHROLOGY (POCUN): BASICS to ADVANCED

22nd NOVEMBER 2025

VENUE : SUNWAY MEDICAL CENTER DAMANSARA

HOT! TOPICS

- ✓ Managing AKI in Critical Care with POCUS
- ✓ POCUS Guided AVF Cannulation
- ✓ VIRGIN Collaborative Care in Dialysis Access Intervention
- ✓ Ultrasound Guided Fistuloplasty When and Where
- ✓ POCUS in Nephrology: Lectures and hands-on sessions
- ✓ AVF Care
- ✓ In conjunction with POW WINDOW, WINFOCUS

Endorsed by:





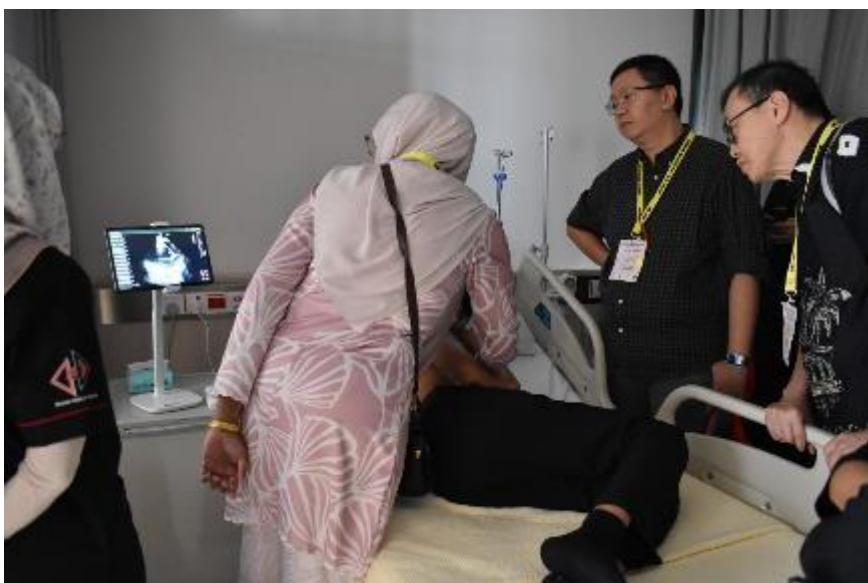
Organized by
Malaysian Society of Diagnostic and Interventional Nephrology
MS DIN

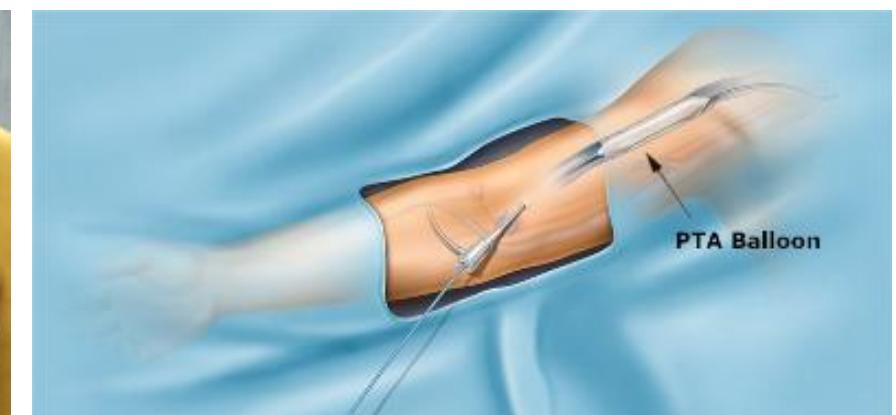
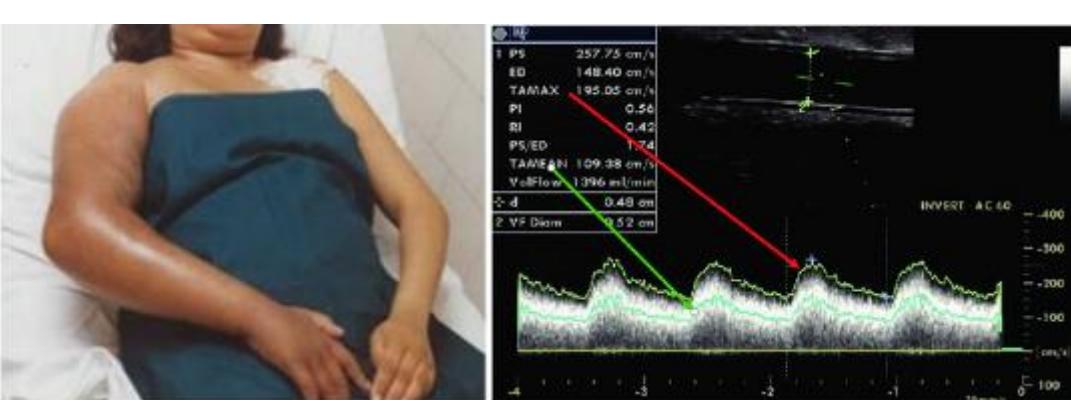
In collaboration with SUNWAY MEDICAL CENTRE

UTILIZATION of ULTRASOUND in NEPHROLOGY: BASICS to ADVANCED					
REGISTRATION					
0730-0800	Welcoming Speech from President MSDIN				
0815-0830	Opening Remarks from SMCD				
0830-0900	Managing AKI in Critical Care Beyond Hydronephrosis with POCUS Nurul Zaynah Nordin				
0900-0930	Plenary 1: POCUS Guided AVF/AVG Cannulation by Paramedics: A Paradigm Shift Suryati Yakob				
0930-1000	VIRGIN: Collaborative Care in Dialysis Access Interventions Between Vascular, Interventional Nephrology and Interventional Gan Chye Chung				
1000-1030	Sponsored Morning Tea Talk				
1030-1100	Plenary 2: US Guided Fistuloplasty: The Selection Criteria and The Japanese Experience Masanori Wakabayashi, Bosoil Daichi Clinic, Japan				
1100-1300	POCUS Didactic Lectures		AVF /AVG Assessment/Dialysis Lectures		
Time	Title	Speaker	Time	Title	Speaker
1100-1115	Basic US Principles	Nurfariah Abdul Ghani	1100-1120	Types of AVF and AVG: Pros and Cons	Datuk Hanif Hussein
1115-1130	POCUS Abdomen +KUB				
1130-1145	Lung US	Poh Yee Han	1120-1140	AVF Examination: Clinical and Basic US	Eddie Wong Fook Sem
1145-1200	Basic Cardiac US (FoCUS)	Hidayah Shafie	1140-1200	Cannulation and Decannulation Technique	Siti Fatimah Khalid
1200-1220	US Guided HD Catheter Insertion	Mohd Kamil Ahmad	1200-1230	Managing Non-infective HD Catheter Complication	Kong Boon Huei
1220-1240	AVF Duplex: Preop-mapping and Normal	Vinoth Kasi Rajan Athmaalingam			

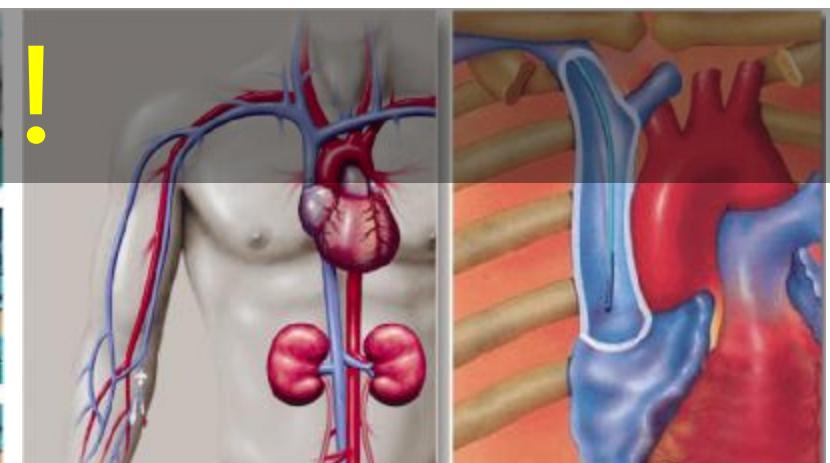
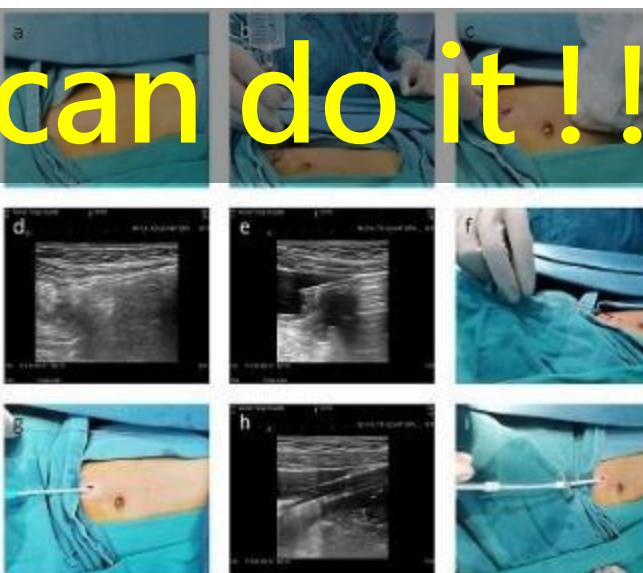
UTILIZATION of ULTRASOUND in NEPHROLOGY: BASICS to ADVANCED							
1240-1300	AVF Duplex: Abnormal	Putra Mas Pian	1230-1300	US Guided AVF Cannulation	Dato Zaiha Harun		
1300-1400	Sponsored LUNCH Talk						
HANDS ON SESSION							
1400-1700	Physician	Paramedic					
	Title & Facilitator	Group	Time	Title & Facilitator	Group		
1400-1430	Lung US Poh Yee Han	1	1400-1445	US Guided AVF Cannulation Dato Zaiha Harun	A		
1430-1500	Abdomen+KUB Yudishcha M Ganeshadeva	2	1445-1530	Plastic Cannulation Siti Fatimah Khalid Noorayuni	B		
1500-1530	Cardiac US Hidayah Shafie	3	1530-1615	Dialysis Catheter, Guidewire Type and care Danny Ong Yu Chen Nur Zuhafiah Nurhamziah	C		
1530-1550	Sponsored Evening Tea Talk						
1550-1620	US Guided Fistuloplasty Masanori Wakabayashi and Gan Chye Chung	4	1615-1700	AVF Clinical Examination Kong Boon Huei	D		
1620-1640	AVF Duplex (Normal & Abnormal) Won Haikol Putra Mas Pian	5	1640-1700	AVF US Examination Suryati Yakob			
1640-1700	AVF Duplex (Pre-op Mapping) Vinoth Kasi Rajan Athmaalingam	6	1700	Closing Ceremony and Bon Voyage			
1700-1800	AGM 2024 and 2025						
1800-1900	Faculty Dinner by Invitation						

Malaysia Society of Diagnostic Interventional Nephrology





We can do it !!!

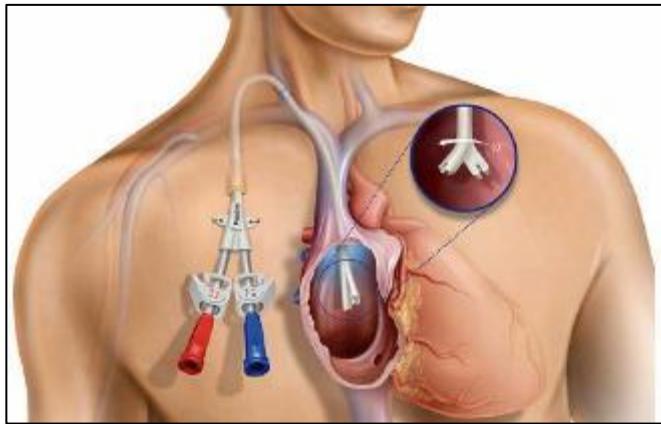


The cumulative number of cases

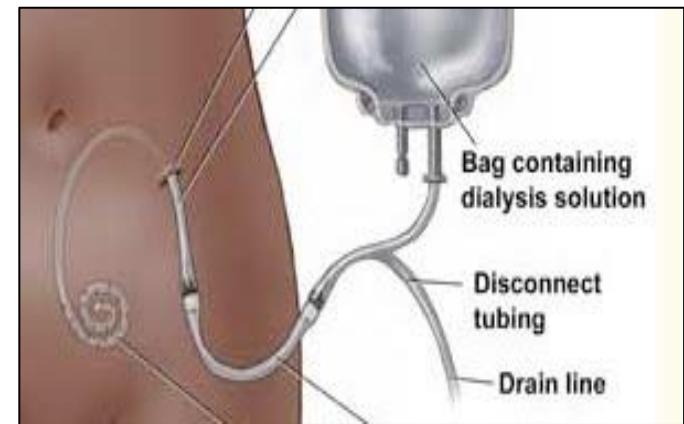
41 cases



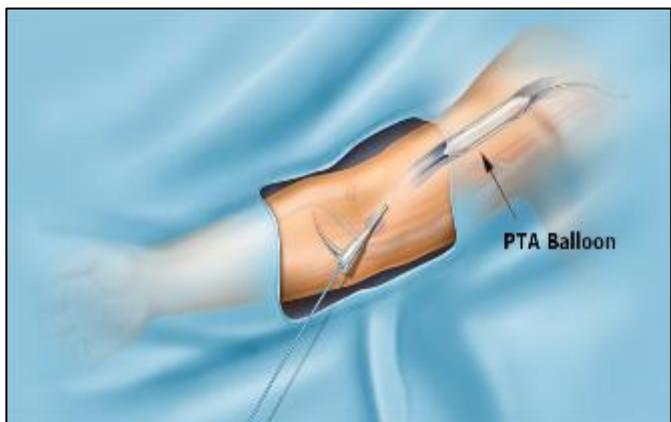
68 cases



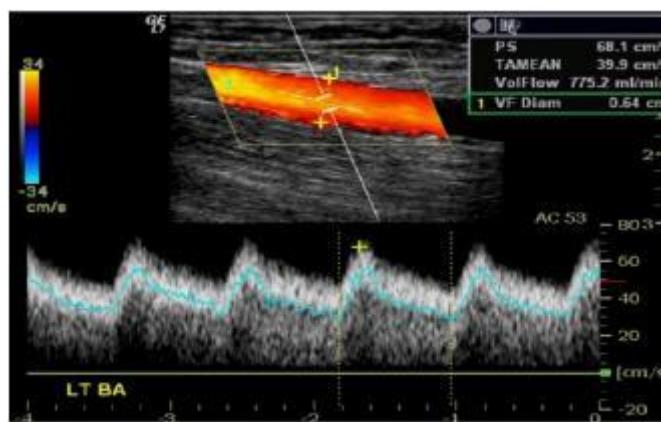
10+ cases



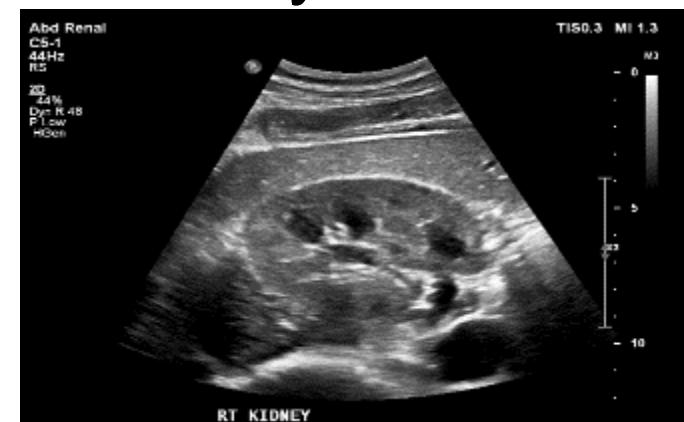
34 cases



32 cases



Daily work

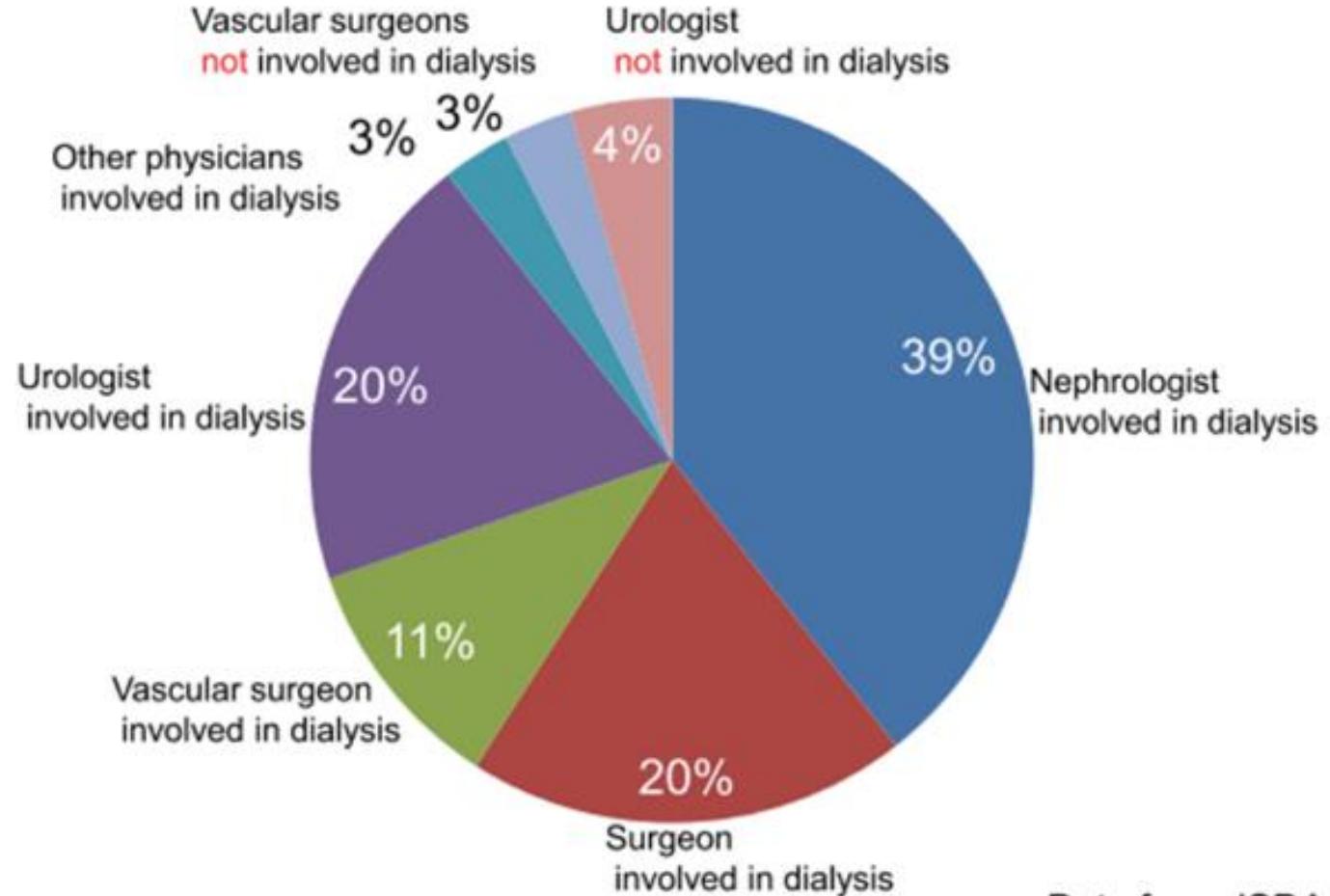


Current state of dialysis treatment and vascular access management in Japan

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JVA | The Journal of
Vascular Access

Takashi Sato^{1,2}, Hiroshi Sakurai², Kentaro Okubo²,
Risa Kusuta², Takeshi Onogi² and Masato Tsuboi²



Distribution in % of specialties involved in endovascular treatment of vascular access in Japan.

Interventional nephrology: current status and clinical impact in Japan

Masato Ikeda¹  · Hiroyuki Terawaki² · Eiichiro Kanda³ · Maiko Furuya¹ ·
Yudo Tanno¹ · Masatsugu Nakao⁴ · Yukio Maruyama⁴ · Masutaka Maeda⁵ ·
Chieko Higuchi⁶ · Tsutomu Sakurada⁷ · Tomohiro Kaneko⁸ · Hiroaki Io⁹ ·
Koji Hashimoto¹⁰ · Atsushi Ueda¹¹ · Keita Hirano¹² · Naoki Washida¹³ ·
Hiraku Yoshida¹⁴ · Kazuhiro Yoshikawa¹⁵ · Yoshihiro Taniyama¹⁶ ·
Kenji Harada¹⁷ · Nanae Matsuo⁴ · Ichiro Okido⁴ · Takashi Yokoo⁴

Table 3 Frequencies of procedure performance and involvement to procedure by nephrologists, non-nephrologists or their collaboration



	PD catheter insertion	PD catheter removal	PD catheter unroofing	Vascular access surgery	Endovascular intervention	Kidney biopsy
Total performing institutions	250 (76.2)	250 (76.2)	250 (76.2)	316 (96.3)	290 (88.4)	309 (94.2)
Nephrologists ^a collaboration ^a	75 (30.0)	72 (28.8)	89 (35.6)	110 (34.8)	113 (39.0)	263 (85.1)
Non-nephrologists ^a	44 (17.6)	38 (15.2)	26 (10.4)	61 (19.3)	41 (14.1)	27 (8.7)
	131 (52.4)	140 (56.0)	135 (54.0)	145 (45.8)	136 (46.9)	19 (6.1)

Current state of dialysis access management in Korea

Yong-Soo Kim¹, Yaeni Kim², Seok Joon Shin², Hyung Seok Lee³,
Sung Gyun Kim³, Seong Cho⁴, Ki Ryang Na⁵, Jin Kuk Kim⁶,
Seung Jung Kim⁷, Young Ok Kim⁸ and Dong-Chan Jin⁹ on behalf of
the Korean Society of Diagnostic and Interventional Nephrology

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 SAGE

Procedure

Year

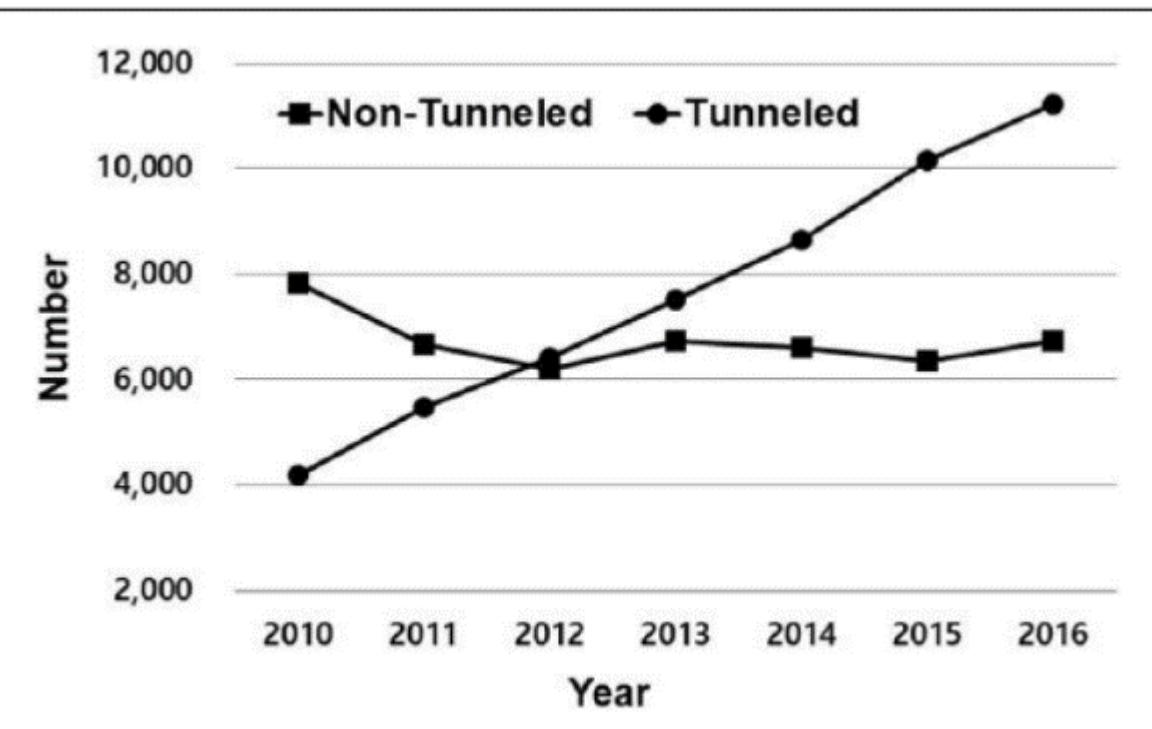
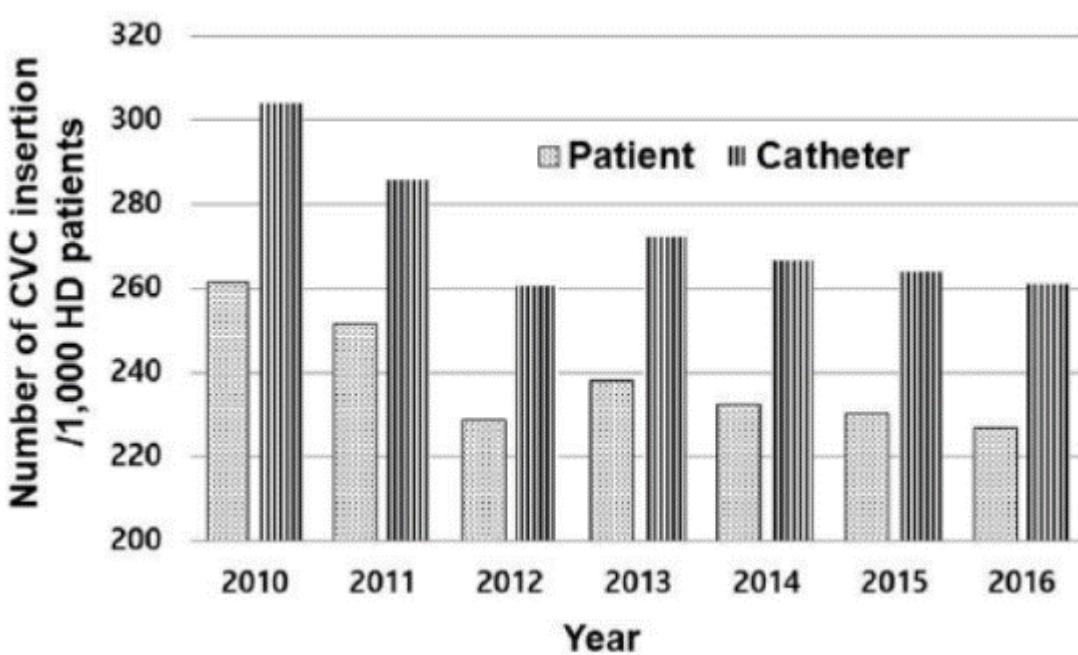
	2011 (%)			2017 (%)		
	N	R	S	N	R	S
Non-tunneled HD catheter insertion (central vein or femoral vein)	61	35	4	62	33	5
Tunneled HD catheter insertion (central vein)	7	71	21	18	70	9
Endovascular intervention (PTA or thrombectomy)	2	71	22	7	68	22
PD catheter insertion	26	1	73	19	3	78



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Interventional Nephrology: Opportunities and Challenges

ACKD
Advances in Chronic Kidney Disease

NATIONAL KIDNEY
FOUNDATION.

Interventional nephrology

Past

Present

Future



Subspecialty of nephrology



Diagnosis and procedures in patients with kidney disease



Establishment and maintenance of dialysis access



Dialysis access placement and education has decreased considerably



Nephrologist focused on the delivery of dialysis and care of vascular access was deferred to other specialties



No formal training: "see one – do one"



ASDIN offer interventional nephrology certifications (didactic training and hands-on experience)



Better outcomes of procedures performed by interventional nephrologist



Interventional nephrologist is responsible for the patient, plan, and manage dialysis access



Nephrology training programs should include vascular access knowledge and training experience



"Train the trainer"



Development of facilities designed, equipped, supplied, and staffed for the management of dialysis access

Summary: Success of interventional nephrology as an independent discipline depends on building on the vision and strong foundation that has been laid by the pioneers in this field. The nephrologist has a pivotal role as the leader of multi-disciplinary teams to optimize care of the patient on dialysis, and to promote collaboration in research, training and education.

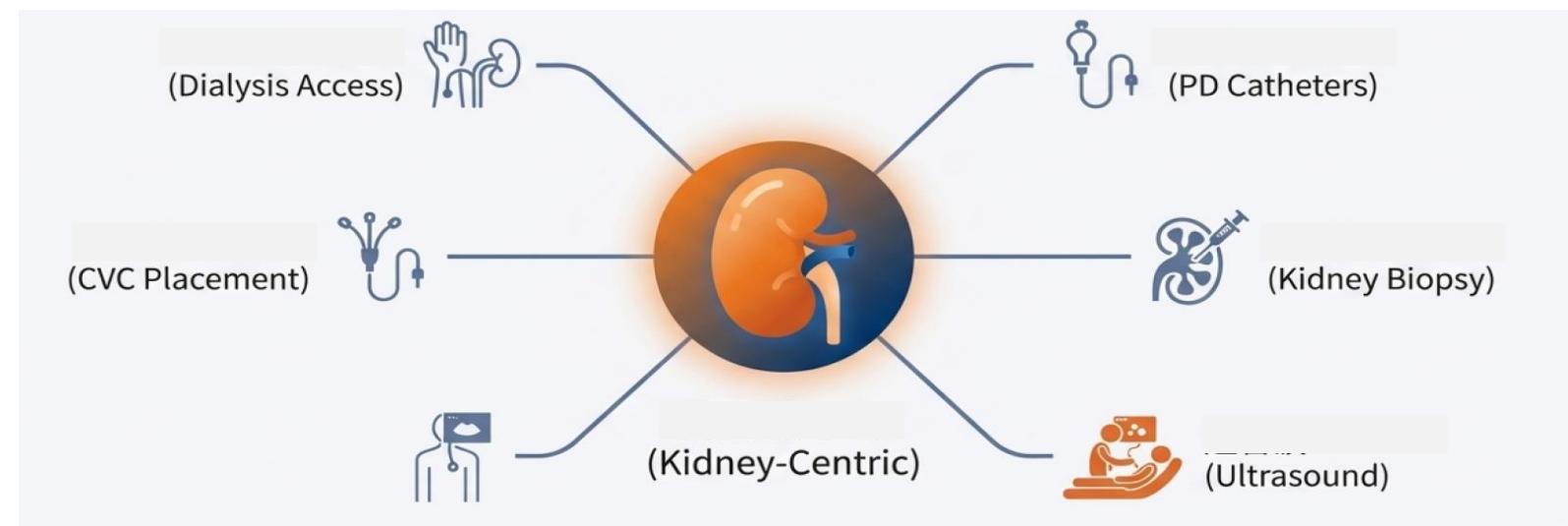
Reference: Niyyar VD, Beathard G. Interventional Nephrology: Opportunities and Challenges. *Advances in Chronic Kidney Disease*, 2020.

Visual abstract: Denisse Arellano, MD

@deniise_am

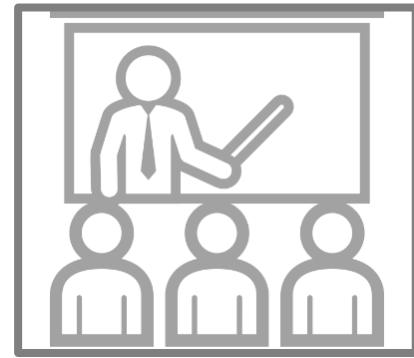
Next step of IN in Taiwan...

- Program- Set the training program
- Specialist- Cooperate with radiologist, surgeon and cardiologist
- Space- Book the time of Angiography room / Catheterization room
- Interest – Survey the intention to IN in our clinical nephrologist



The benefit of interventional nephrologist

- Early detect and manage the lesion of AV shunt
- Reduce the need of temporary dialysis catheter
- Increase the willingness and proportion of PD
- Improve the quality of dialysis care in hospitals
- Our role in disaster nephrology, ex: acute PD for AKI.



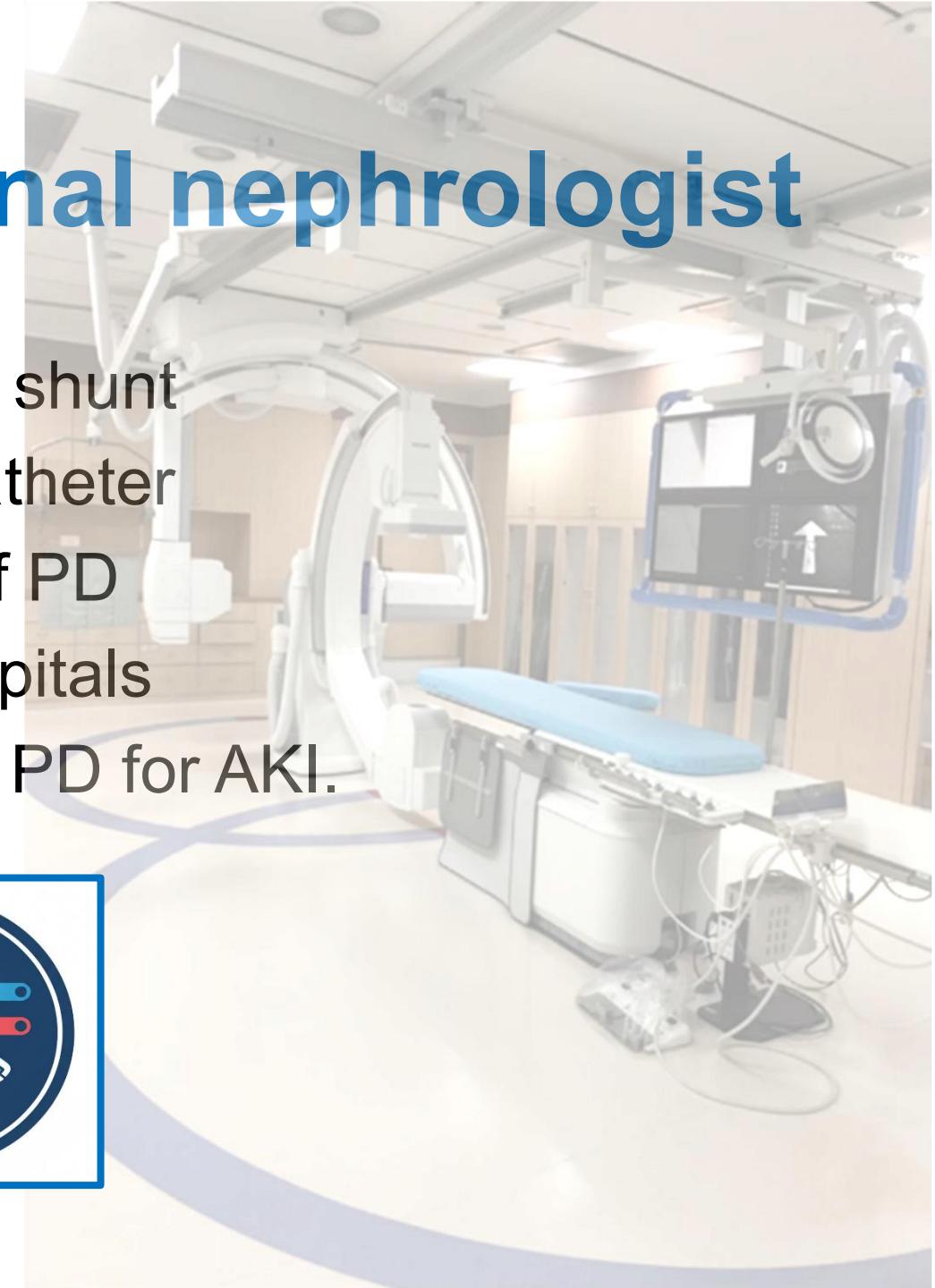
Teaching



Research



Clinical care





Be an Interventional Nephrologist !!!

You Can Do It !

Thank You