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News from the ISPD

Message from ISPD-APC Chapter Convenor

Professor Talerngsak Kanjanabuch, M.D.

As 2025 draws to a close, the ISPD Asia-Pacific Chapter continues to stand on a strong and inspiring foundation. Our membership has now reached 647 colleagues, accounting for 53% of the global ISPD community—a remarkable testament to the region's leadership, collective momentum, and shared commitment to advancing PD. I warmly encourage more clinicians, nurses, researchers, and allied health professionals to join our community through the Individual, Collective Institutional, and Society pathways at https://ispd.org/member-categories-join/ and help shape the future of PD across Asia and the Pacific.

A defining highlight of the year was the **11th APCM-ISPD & MSN Congress 2025** in Kuala Lumpur, co-hosted by the ISPD-Asia Pacific Chapter and the **MSN**. The meeting brought together 1,828 delegates, including 580 international participants, and offered an energising programme featuring a vibrant opening ceremony, three well-attended pre-congress courses, and an impressive 400 abstract submissions. With plenary lectures delivered by distinguished regional and global PD leaders, the congress showcased the depth, diversity, and innovation of PD practice in our region. The event also made history as Malaysia's first zero-waste-to-landfill medical congress, underscoring our shared commitment to sustainability.

Looking ahead, our warmest congratulations go to **KSN** for being selected to host the **12th APCM-ISPD in Busan in 2027**, a milestone year that will celebrate the **25th anniversary** of our Chapter. We look forward to an exciting and forward-thinking congress that builds on the spirit and momentum generated in Kuala Lumpur.

In alignment with the ISPD mission—*a future in which PD is freely available and equitably accessible worldwide as a reliable, affordable, sustainable, and life-saving therapy*—our Chapter remains deeply committed to expanding PD across **Pacific Island and Archipelagic Nations**, where geographical and resource challenges require collaborative, innovative, and context-sensitive solutions. Strengthening PD in these regions will be a central priority in the coming years.

Thank you for your enduring dedication, collaboration, and support. I look forward to the milestones we will achieve together, and to meeting many of you again as we move toward **Busan 2027**.

Talerngsak Kanjanabuch, M.D.
Director of the Center of Excellence in Kidney Metabolic Disorders
Professor of Medicine, Division of Nephrology | Department of Medicine
Faculty of Medicine | Chulalongkorn University | Bangkok Thailand
ISPD-APC Chapter Convenor and ISPD Council Member

11th APCM-ISPD and MSN Congress 2025 in Kuala Lumpur, Malaysia

The 11th APCM-ISPD and MSN Congress 2025, with the theme **" Transforming & Empowering Success in PD"**, was organized by the Malaysian Society of Nephrology (MSN) and ISPD Asia-Pacific Chapter (APC). It was held in the Kuala Lumpur Convention Centre, Malaysia, on 3rd -7th September 2025 and supported by ISN, APSN and the Malaysia Convention Exhibition Bureau (MyCEB). The 2.5-day congress was a huge success with a total of 1828 delegates, with 580 international delegates representing 44 countries and 47 invited faculties. There was a one-day concurrent 3 pre-congress sessions (PD foundation, PD access and PD Nursing) with 204 attendees.

A total of 400 abstracts were received, and 42 travel grants were awarded to LIC and LMIC awardees (10 grants from MSN, 13 grants from ISPD-APAC and 19 grants from APSN). The congress was supported by 164 sponsors and exhibitors.

The first day started with the congress opening ceremony, officiated by the Deputy Minister of Health Malaysia, YB Dato' Lukanisman Awang Sauni. This was followed by the welcome reception with a variety of local delicacies and cultural activities for the delegates. The congress was filled with exciting scientific programs, debates and quizzes for fellows representing the Asia Pacific region. Plenary topics presented were "PD: An Answer to Uberisation of Care" by Prof. Goh Bak Leong (Malaysia), "Regional Differences in PD Practice'" by Prof. Philip Li (Hong Kong), PD in AKIN in Limited Resource Setting" by Prof Brett Cullis (South Africa) and "Navigating the Future of Home-Based Care in an Ageing Population" by Prof. Edwina Brown (United Kingdom).

In addition to this, the congress was the first medical congress in Malaysia with a Zero-waste to landfill congress. About 928kg of event waste was collected and diverted from the Malaysian landfill, avoiding 0.93 kg of CO_2 emissions.

ISPD Asia-Pacific Chapter Scholarship Application

This is a scholarship to support **up to 3 months** training in clinical PD for doctors and nurses from Asia-Pacific region. The purpose is to promote PD awareness, knowledge, and expertise by visiting a center of excellence.

Applicants must be **ISPD members**.

- For medical applicants, candidates who have completed their nephrology training and with some working experience as a junior consultant would be preferred.

- For applicants of other healthcare professionals, candidates who have a working experience of at least 5 years would be preferred.

Each application must include the following documents: (1) A completed application form along with (2) a curriculum vitae, (3) a recommendation letter from the director of the nephrology unit or department, (4) a letter of acceptance from the institution to be visited; and (5) a motivation letter.

A letter of support from the administrator of the applicant's institution is advisable.

The next deadline is **31 December 2025.**

Details and application procedures can be found under the Regional Chapters – Asia-Pacific Chapter, at the ISPD website. Asia-Pacific Chapter - International Society for Peritoneal Dialysis

ISPD Call for Research Proposal

The ISPD welcomes research proposals that are of importance to the international peritoneal dialysis community.

Eligibility Criteria

Any member or non-member of ISPD can submit a proposal (receipt of grant is conditional on confirming membership if successful).

The study should require international collaboration.

The study should be of importance to the international PD community OR should clearly help the career development of an emerging researcher/PD leader in a LMIC country where PD usage is limited.

How to Prepare Your Application

Please read the application guidelines carefully, available here [LINK]

Funding

Small grants (up to $10,000 USD) may be awarded at the discretion of the ISPD Council to help enable these projects.

Submission Deadlines

Applicants are encouraged to discuss the proposal with the ISPD International Studies Committee before finalising and submitting the application.

Please contact the team by email [admin@ispd.org] before **January 31st, 2026,** with a brief research summary and a few available times to meet, and the International Studies Committee Chair Professor Yeoungjee Cho (or someone else from the team) will contact you to schedule the meeting.

Finalised applications should be submitted to admin@ispd.org by **February 15th, 2026**.

Delve Deep into the Position Paper on Teaching PD for Patients and Caregivers

The Position Paper on Teaching PD, published in the November issue of the PDI Journal, has been explored in depth twice by some of its authors: first in a webinar held in partnership with the International Society of Nephrology and second in the just-released episode of the #PDExchange Podcast. We invite you to watch or listen to these interesting approaches to the Position Paper, and to share the information with the nurses in your PD unit.

Original article: https://doi.org/10.1177/08968608251375512

Webinar recording: https://www.youtube.com/watch?v=fIXG4P99tLw

Podcast on Spotify: https://open.spotify.com/episode/7I7oSLh6d952nIIT0wyCh6?si=f84f57f36192494cPodcast on Apple Podcasts: https://podcasts.apple.com/us/podcast/the-pdexchange-podcast/id1639754425

Renew your membership!

Individual memberships

- For Trainees and Fellows: A very discounted membership for USD $60 per year.
- For Doctors: Full membership for one year costs USD $175, but there are great discounts for 2- and 3-year membership packages.
- For Nurses/AHPs: Full membership for one year costs USD $100, and there are also discounted packages for 2- and 3-year membership packages.

  - An Associate Nurse/AHP option is also available for $15 USD per year (with limited benefits).
- Retired Professionals can enjoy a discounted membership for $80 USD per year.

Group memberships

- Society Membership: Your national society can contact the ISPD and negotiate a discounted price for groups of members.
- Institutional/Collective memberships: in low and middle income countries, groups of up to 10 members can join in a combined membership for only USD $175.

Visit https://ispd.org/memberships/ to join the ISPD or renew your membership.

Membership benefits of the ISPD include:

- Subscription to Peritoneal Dialysis International
- ISPD Newsletter sent every two months
- Direct access to all ISPD Educational materials: ISPD Guidelines, Webinars, Journal Clubs, Case Discussions...
- Special registration fees at ISPD events, including the ISPD APC Meeting in September 2025 in Kuala Lumpur
- Opportunity to apply for ISPD Scholarships and Grants

Upcoming Meetings

23rd Asian Pacific Congress of Nephrology 2025 (endorsed by ISPD)

5-7 December 2025

TaiNEX2, Taipei, Taiwan

More information: APCN x TSN (www.apcn2025.org)

ISPD 2026 Congress

29 September - 3 October 2026

Cape Town International Convention Centre (CTICC), Cape Town, South Africa

Early Registrations: Until **30 April 2026**

Abstract Submissions NOW OPEN!

More information: ISPD 2026

Guideline Update

Teaching Peritoneal Dialysis: ISPD Position Paper Now Published

Professor Josephine Chow (Australia, renal nurse)

Chair, ISPD Standards and Guidelines Committee

Foundation Chair, The HOME Network Australasia

Email: Josephine.Chow@health.nsw.gov.au

We are delighted to announce the publication of “Teaching Peritoneal Dialysis: A Position Paper for the International Society for Peritoneal Dialysis” in *Peritoneal Dialysis International (PDI)*. Despite the lack of high certainty evidence in teaching PD, this position paper provides contemporary approaches to training a patient/care partner for PD to be performed at home, based upon an evolution in healthcare practices broadly and the cumulative evidence to support recommendations to date.

The position paper outlines key areas in teaching PD, which include: (a) Education, knowledge, skills and attributes for the PD nurse trainer; (b) Preparation for the training; (c) Methods of training/educational interventions; (d) Post-training; and (e) Measures of outcomes. It also identifies areas for future research, including best practices for educational interventions and strategies to capture patient experience.

A list of what's new with the 2025 update of the teaching PD is outlined below:

Pre-PD training

- Expanded suggestions for preparation of the patient for PD: assessment of the home environment; learning preferences, health literacy, psychosocial assessment, sensory and motor skills, and, for older adults,

assessment for frailty, all to help ensure a person-centered learning plan for each patient.

PD training

- Expanded suggestions for the education, knowledge, skills and attributes necessary for the PD nurse not only to be able to train patients on PD successfully but also to help support these patients on PD safely at home.
- New suggestions for virtual training options to enhance flexibility and accessibility for patients.
- A new proposition for incorporating the use of digital technologies, including e-learning platforms and virtual simulations, creating a hybrid approach to PD training.
- A new proposition for incorporating patient-reported outcomes into practice, better to capture and measure the patient experience related to PD training.
- A new proposition for those patients starting PD urgently is to begin PD training in the hospital.

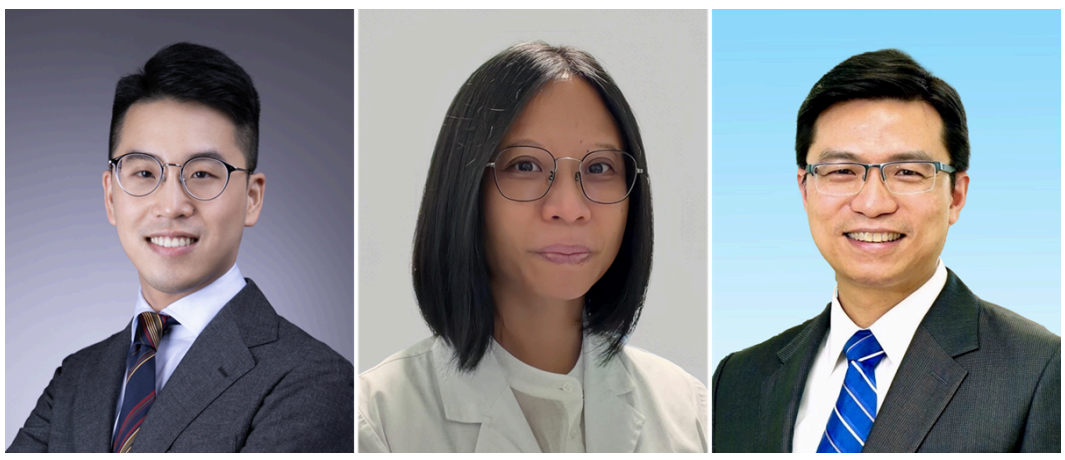
Post-PD training

- New suggestions for 24-h telephone support for patients and for the patient to be seen in the outpatient PD clinic by the nephrologist/nurse practitioner every one to three months with access to other members of the multidisciplinary team (MDT) where available.
- New suggestions for the PD nurse to include simple refreshers on a list of rotating topics for patients on PD at each PD clinic visit – to aid in preventing peritonitis and managing potential complications.
- A new proposal that the PD nurse should actively participate in multidisciplinary home PD team meetings to review, discuss and update the patients' plans of care.

Access the position paper: *Chow JS, Brunier G, Figueiredo AE, et al. Teaching peritoneal dialysis: A position paper for the International Society for Peritoneal Dialysis. Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis. 2025;45(6):327-343. doi:10.1177/08968608251375512*

Research News from Asia-Pacific Region

Polymerase chain reaction tests for *Mycobacterium tuberculosis* in peritoneal dialysis effluent



Wai Lun Will Pak [1] (left), Sandy Ka Yee Chau [2] (middle), Sze Ho Sunny Wong [3] (right)

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Peritoneal dialysis (PD)-associated peritonitis is a major complication of PD treatment and a major contributor to PD discontinuation [1]. PD peritonitis due to *Mycobacterium tuberculosis* (MTB), while less common, causes considerable morbidity and is associated with poor prognosis, particularly in tuberculosis-endemic regions [2]. Establishing a timely and accurate diagnosis of MTB-PD peritonitis, however, is challenging due to several reasons. First, MTB-PD peritonitis often mimics bacterial PD peritonitis clinically, including symptomatology, clinical signs, and initial laboratory findings. Second, traditional diagnostic standards have significant limitations: Ziehl-Neelsen (ZN) smear microscopy has low sensitivity, while acid-fast bacilli (AFB) culture often takes weeks to yield positive results. In recent years, newer diagnostic tools have been explored, and since 2010, the International

Society for Peritoneal Dialysis (ISPD) has recommended MTB polymerase chain reaction tests (PCR) as a diagnostic adjunct [3].

The advantages of MTB-PCR include a much shorter turnaround time and high specificity, which accelerate the diagnostic process and allow earlier anti-tuberculosis treatment initiation in the case of positive results. This has increasing clinical relevance in light of the newer ISPD guidelines, which do not recommend routine removal of the PD catheter in MTB-PD peritonitis [1]. The ability of MTB-PCR to establish a timely diagnosis may therefore prevent unnecessary catheter removal in patients who would otherwise be presumed to have refractory culture-negative bacterial peritonitis. It is important to note, however, that false-negative MTB-PCR results are common in extra-pulmonary specimens; hence, negative results should not be used to exclude extra-pulmonary tuberculosis, a caution highlighted in the joint guidelines for the diagnosis of tuberculosis issued by the American Thoracic Society, Infectious Diseases Society of America and the Centres for Disease Control and Prevention [4]. In the PD setting, negative MTB-PCR in PD effluent should therefore not be taken as a means to rule out MTB-PD peritonitis; while some authors used a combination of positive ZN smear and negative MTB-PCR results as a clue to start non-tuberculosis mycobacteria (NTM)-directed treatment [5,6], false-negative MTB-PCR results have been reported even in such scenarios [7]. AFB culture remains the standard microbiological investigation for MTB-PD peritonitis, especially since it can provide information regarding drug susceptibility and identify NTM.

While the widespread uptake of MTB-PCR in PD effluent to assist the diagnosis of MTB-PD peritonitis denotes its likely role and value, the published literature supporting its use consists mostly of case reports and small-scale case series that only included up to six tests [8,9]. Data regarding its diagnostic accuracy have largely been extrapolated from studies on MTB-PCR in ascitic fluid in abdominal tuberculosis [10]. It should be noted that PD effluent differs from ascitic fluid both in composition and in the fact that it undergoes continuous exchange, which may affect diagnostic yield. To address this evidence gap, our group conducted a retrospective review of the institutional data of a single centre in a tuberculosis-endemic region over a span of 20 years, with the aim of formally evaluating the diagnostic accuracy and the clinical value of MTB-PCR in PD effluent.

Over the study period from January 2002 to July 2022, a total of 387 tests were performed, of which 372 tests were eligible for final analysis after appropriate exclusions. Using diagnoses based on a composite of clinical and laboratory criteria as the reference standard, MTB-PCR had a sensitivity of 50%, a specificity of 100%, a negative predictive value of 94.6% and a positive predictive value of 100%. All patients with positive MTB-PCR results in our study also had positive AFB culture for MTB. Four different MTB-PCR assays were used over the study period; their respective sensitivities showed a numerical trend of increase from 33.3% with earlier assays to 50-85.7% with newer assays. Among 72 patients with culture-confirmed MTB-PD peritonitis, six died before MTB was diagnosed, while 13 (18.1%) were diagnosed and started on anti-tuberculosis treatment based on positive MTB-PCR results. These MTB-PCR-diagnosed patients had a shorter time (median 8 vs. 22 days, $p \leq 0.001$) and a shorter hospital stay (median 8 vs. 17 days, $p= 0.008$) from presentation to anti-tuberculosis treatment initiation compared to patients who were diagnosed by non-PCR methods. MTB-PCR-diagnosed patients also had a numerically lower rate of PD catheter removal before anti-tuberculosis treatment initiation [0/13 (0%) vs. 9/53 patients (17.0%), $p= 0.186$]. At one year after anti-tuberculosis treatment initiation, no significant differences in the rates of permanent transfer to haemodialysis and all-cause mortality were noted between MTB-PCR-diagnosed patients and non-PCR-diagnosed patients.

The limitations of this study included its retrospective nature, single-centre design, small sample size, and the use of different PCR assays over the study period. MTB-PCR tests were ordered at the treating clinicians' discretion, which might increase the pre-test probability and lead to an over-estimation of the positive predictive value. Despite these constraints, this analysis represents one of the largest real-world studies of MTB-PCR in PD effluent to date. Future studies with a prospective, multi-centred design and standardised PCR assays will be required to confirm these findings and further refine diagnostic strategies for MTB-PD peritonitis. Ultimately, it is hoped that such efforts may improve the clinical outcomes for this vulnerable patient population.

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The epidemiology of encapsulating peritoneal sclerosis in an era of biocompatible neutral peritoneal dialysis solution in Japan

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Encapsulating peritoneal sclerosis (EPS) is one of the most serious complications associated with peritoneal dialysis (PD). EPS is characterized by progressive thickening and sclerosis of the peritoneal membrane, leading to encapsulation of the intestines and often resulting in obstructive ileus. In the 1990s, the incidence of EPS in Japan was reported at approximately 2.5%, with a strikingly high associated mortality rate approaching 40% [1]. In contrast, reported rates in other countries ranged from 0.5 to 2.5% [2], reflecting differences in practice patterns, including the generally longer duration of PD therapy in Japan due to limited kidney transplantation opportunities. Pathophysiologically, EPS develops after chronic peritoneal injury involving mesothelial loss, submesothelial fibrosis, vasculopathy, and calcification [3]. Exposure to conventional acidic PD solutions rich in glucose degradation products (GDPs) was considered a major driver of these changes [3].

In response, Japan transitioned completely to neutral, lactate-buffered PD solutions in 2004, followed by the availability of bicarbonate/lactate-buffered neutral solutions in 2014. These biocompatible solutions were expected to preserve peritoneal membrane integrity, attenuate fibrosis, and ultimately reduce the risk of EPS. Nevertheless, whether EPS had truly become less frequent in the nationwide dialysis population remained uncertain.

We utilized the Web-based Analysis of Dialysis Data Archives (WADDA) system, part of the Japanese Society for Dialysis Therapy (JSDT) Renal Data Registry. The analysis covered the period 2012–2022 [4]. EPS was defined as a history of PD therapy followed by a clinical presentation with obstructive ileus caused by intestinal adhesions. Patients with ascites, intestinal calcification, or bloody PD effluent alone were not categorized as having EPS.

For each identified case, information was collected on sex, age, dialysis modality, dialysis duration, primary cause of end-stage kidney disease (ESKD), and, for deceased patients, cause of death. Prevalence was estimated by calculating the ratio of EPS cases to the combined population of ongoing PD patients and those on other dialysis

modalities with prior PD exposure. Crude death rates (CDRs) were determined by pooling all deaths among EPS patients across the study period and comparing them with contemporaneous data for the general dialysis population.

Table 1 summarizes the findings of this study [4]. Across 2012–2022, approximately 700 patients with EPS were identified nationwide, corresponding to about 5% of the at-risk dialysis population. Prevalence showed a modest but consistent decline from around 5% at the beginning of the study period to approximately 4% in 2022. EPS patients were predominantly male (60–65%) and their mean age increased over the decade from 61 to 66 years, reflecting aging trends in the dialysis population overall. Regarding primary renal disease, the proportion of chronic glomerulonephritis (CGN) decreased, while diabetes mellitus and nephrosclerosis became increasingly common causes of ESKD. Most patients with EPS were no longer on PD at the time of analysis. Instead, more than 95% were receiving hemodialysis (HD) or hemodiafiltration (HDF). The mean total dialysis duration was 12–14 years, highlighting the long treatment exposure typically preceding EPS.

Table 1. Characteristics of patients with encapsulating peritoneal sclerosis (EPS) (Adapted from Ref. 4)

Year	No. of EPS patients	Prevalence of EPS	Crude death rate of EPS patients	Male [%]	Age [year]	The cause of ESKD			Dialysis duration [year]	Dialysis modality	
						CGN	Diabetes	Nephrosclerosis		PD	HD
2012	679	4.8%	5.6%	416 (61.3%)	61 ± 12	389 (57.3%)	100 (14.7%)	42 (6.2%)	12 ± 7	48 (7.1%)	631 (92.9%)
2013	714	5.0%	6.4%	434 (60.8%)	62 ± 12	400 (56.0%)	115 (16.1%)	42 (5.9%)	12 ± 7	42 (5.9%)	672 (94.1%)
2014	673	4.6%	5.3%	399 (59.3%)	62 ± 12	369 (54.8%)	104 (15.5%)	52 (7.7%)	13 ± 8	39 (5.8%)	634 (94.2%)
2015	676	4.6%	5.5%	411 (60.8%)	62 ± 12	373 (55.2%)	98 (14.5%)	53 (7.8%)	13 ± 8	36 (5.3%)	640 (94.7%)
2016	692	4.7%	6.9%	414 (59.8%)	63 ± 13	363 (52.5%)	108 (15.6%)	48 (6.9%)	13 ± 8	33 (4.8%)	659 (95.2%)
2017	717	4.8%	4.7%	428 (59.7%)	63 ± 12	385 (53.7%)	113 (15.8%)	54 (7.5%)	14 ± 8	27 (3.8%)	690 (96.2%)
2018	733	4.7%	4.4%	445 (60.7%)	63 ± 12	379 (51.7%)	132 (18.0%)	50 (6.8%)	14 ± 8	28 (3.8%)	705 (96.2%)
2019	716	4.3%	6.6%	454 (63.4%)	64 ± 12	347 (48.5%)	135 (18.9%)	57 (8.0%)	13 ± 8	27 (3.8%)	689 (96.2%)
2020	732	4.3%	4.5%	453 (61.9%)	64 ± 12	332 (45.4%)	129 (17.6%)	75 (10.2%)	13 ± 9	38 (5.2%)	694 (94.8%)
2021	724	4.1%	3.6%	465 (64.2%)	65 ± 13	313 (43.2%)	165 (22.8%)	68 (9.4%)	14 ± 9	38 (5.2%)	686 (94.8%)
2022	747	3.8%	5.4%	499 (66.8%)	66 ± 12	314 (42.0%)	173 (23.2%)	79 (10.6%)	13 ± 9	32 (4.3%)	715 (95.7%)

Abbreviations: EPS, encapsulating peritoneal sclerosis; ESKD, end-stage kidney disease; CGN chronic glomerulonephritis; PD, peritoneal dialysis; HD, hemodialysis.

The overall CDR among EPS patients was 5.3%, with annual values ranging from 3.6% to 6.9%. Age-stratified CDRs were 2.0%, 2.5%, 4.1%, 8.8%, and 14.9% in patients <50, 50–59, 60–69, 70–79, and ≥80 years, respectively. Notably, these figures were generally lower than the age-matched CDRs for the broader dialysis population, except among the youngest subgroup [5]. Cause-of-death analyses revealed that infections and cardiovascular disease were common, but ileus stood out as particularly important.

This large-scale study is the first to describe the nationwide prevalence of EPS in Japan during the era of biocompatible neutral PD solutions. The identification of approximately 700 cases over a decade confirms that EPS remains a clinically significant problem, even though prevalence has declined modestly. The findings also underscore the chronic nature of the condition: patients typically had more than a decade of dialysis experience, and nearly all had transferred from PD to HD or HDF by the time EPS manifested.

An intriguing aspect of the study is the observation that overall mortality among EPS patients was lower than in the general dialysis population. This may reflect the relatively preserved health status of patients who survived long enough to develop EPS, as well as successful transition to HD/HDF after PD cessation. However, the high frequency of ileus-related deaths highlights the specific risks conferred by EPS and its long-term sequelae.

The study also echoes broader demographic changes in Japanese nephrology. The decline in CGN and the rise in diabetes and nephrosclerosis as underlying causes of ESKD mirror trends in the dialysis population overall. Increasing age at diagnosis of EPS also reflects the aging dialysis cohort.

From a mechanistic perspective, low-GDP neutral solutions could relieve structural and functional deterioration via the suppression of fibrosis, neo angiogenesis and accumulation of advanced glycation end products and the preservation of peritoneal mesothelial cells [6-8]. In addition, bicarbonate/lactate-buffered, neutral PD solution, widely used in Japan, appeared more biocompatible than lactate buffered neutral solution due to reduced formation of new vessels [9] or lower concentrations of GDPs [10].

In summary, this nationwide analysis demonstrates that EPS continues to affect a substantial number of Japanese dialysis patients despite widespread use of biocompatible neutral PD solutions. Although prevalence has declined slightly and overall mortality is not higher than in the dialysis population at large, EPS remains associated with a significant risk of ileus-related death. Future research will need to focus on longitudinal, patient-level studies that can disentangle the role of PD duration, solution type, and other risk modifiers in EPS pathogenesis. Such studies will be essential to clarify whether newer PD solutions truly protect against EPS and to guide preventive strategies in high-risk populations.

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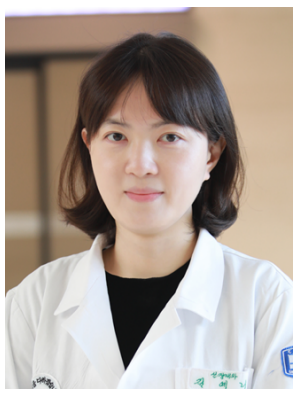
Successful Localization and Repair of Pleuroperitoneal Communication Using Indocyanine Green Fluorescence: A Novel Practical Approach



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Background

Pleuroperitoneal communication (PPC) is an uncommon but serious complication of peritoneal dialysis (PD), occurring in approximately 1–10% of patients [1]. It typically manifests as hydrothorax caused by the leakage of dialysate through a diaphragmatic defect [2]. Unfortunately, more than half of affected patients must permanently discontinue PD, significantly affecting quality of life and treatment satisfaction. The greatest challenge in PPC management lies in accurately localizing the diaphragmatic defect. Imaging modalities such as CT peritoneography and radioisotope scans can confirm the presence of leakage, but intraoperative identification of the exact site is often difficult [3]. Conventional dye tests with indigo carmine or pneumoperitoneum frequently fail to reveal small or intermittent defects [4]. If the defect is missed, repair becomes incomplete, leading to recurrence and eventual conversion to hemodialysis. To address this challenge, we developed and standardized a fluorescence-guided surgical technique using indocyanine green (ICG) mixed with peritoneal dialysate. This simple yet powerful method allows real-time visualization of even the smallest defects and provides immediate confirmation of repair.

Clinical Cases

We applied this method in three PD patients who developed right-sided hydrothorax shortly after initiating PD [5]. All had radiographic evidence of pleural effusion and elevated glucose concentrations in pleural fluid, consistent with PPC. In each case, CT peritoneography confirmed leakage of contrast-enhanced dialysate from the peritoneal cavity into the thorax. After failure of conservative management, patients underwent thoracoscopic repair using ICG-stained dialysate for defect localization.

Technique Overview

Under general anesthesia, 2 liters of dialysate containing 20 mg of ICG were infused through the PD catheter with the patient in a Trendelenburg position. Using an infrared thoracoscopic camera, we visualized the diaphragm surface in a darkened surgical field. Within 15–20 minutes, green fluorescent leakage appeared through the diaphragmatic defect, clearly delineating the margins. After localization, the defect was sutured and plicated with pledgeted stitches, and talc was applied for pleural adhesion. Fluorescence disappearance after suturing confirmed complete closure. The procedure required no specialized equipment beyond standard thoracoscopic imaging with a near-infrared (NIR) capability.

Outcomes

The ICG-guided technique enabled precise localization of the defect in all three cases. Two patients successfully resumed PD within two weeks and remained free of recurrence for over two years. One patient developed a loculated pleural effusion secondary to pleurodesis, not PPC recurrence, and later transitioned to hemodialysis. All patients tolerated ICG infusion without adverse reactions. The method provided clear visualization, immediate intraoperative confirmation of repair, and facilitated the early resumption of PD.

Advantages of ICG Fluorescence

ICG is a safe, water-soluble dye widely used in medical imaging and surgery. It fluoresces at an infrared wavelength (805 nm), allowing high-contrast visualization of fluid leaks in real time [6]. When added to peritoneal dialysate, ICG offers several key advantages:

Superior sensitivity: Detects small or intermittent leaks missed by conventional dyes.

Real-time feedback: Fluorescence disappears immediately once the defect is closed.

Safety: No reported toxicity or interference with postoperative dialysis.

Simplicity: Easily performed using existing thoracoscopic systems.

Compared to traditional indigo carmine or methylene blue tests, the ICG approach provides a much higher diagnostic yield and significantly improves surgical precision.

Practical Recommendations

1. Mix 20 mg ICG in 2 L peritoneal dialysate immediately before surgery.
2. Position the patient head-down (Trendelenburg) to pool dialysate against the diaphragm.
3. Use an infrared thoracoscope or NIR camera system in low-light conditions.
4. Observe for green fluorescence at the defect within 15–20 minutes.
5. Confirm closure by the disappearance of fluorescence after suturing.
6. Restart PD cautiously with 1 L fill volumes on postoperative day 7, increasing gradually.

This method requires minimal adjustment to standard thoracoscopic practice and can be easily integrated into PD complication management protocols.

Clinical Significance

When diaphragmatic defects are clearly identified and repaired, surgical success rates for PPC approach 89%, compared to only 38% when the site remains uncertain [7]. The ICG fluorescence method bridges this critical gap by transforming the search for elusive fistulas into a precise, visualized process. For nephrologists and thoracic surgeon, this approach represents a valuable addition to multidisciplinary care. By ensuring definitive repair, the technique supports preservation of PD modality and prevents unnecessary conversion to hemodialysis. It also provides surgeons with a visual endpoint to confirm successful closure intraoperatively.

Future Perspectives

Further studies are warranted to evaluate this technique across larger, multicenter cohorts. Quantitative fluorescence imaging might also enhance objectivity by measuring leak intensity before and after repair. Non-surgical adaptations—such as transabdominal NIR imaging—could one day enable bedside identification of peritoneal leaks without invasive procedures.

Conclusion

ICG fluorescence provides a cost-effective, and highly accurate solution to one of the most persistent challenges in PD management. By enabling real-time detection and confirmation of diaphragmatic defects, it ensures complete repair, reduces recurrence, and preserves PD as the patient's chosen modality. For PD clinicians, this represents a simple yet transformative advancement in the management of pleuroperitoneal communication.

Key Message

ICG fluorescence-guided localization allows real-time identification and successful repair of diaphragmatic defects in pleuroperitoneal communication, improving surgical success and preserving peritoneal dialysis modality.

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Collaboration of multidisciplinary team to manage the complications of increased intraperitoneal pressure

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Introduction

Abdominal complications related to the increased intraperitoneal pressure such as hernia and leakage are relatively rare peritoneal dialysis (PD)-related complications, with an incidence of about 5% in the Chinese population as reported by us [1, 2]. However, abdominal complications are one of the important causes for technique failure of PD [3, 4], thus, are urgently demanded to investigate their prevention and treatment. Our center reported two cases of abdominal complications in the Kidney International in 2022 [5] and 2025 [6], respectively.

Case presentation

Case 1. A 59-year-old female patient developed decreased ultrafiltration volume accompanied by a swollen hip and intermittent vaginal discharge after 2 years of PD treatment. Computed tomography peritoneography (CTP) showed the extensive leakage of contrast in the perirectal fat space, perianal space, and especially subcutaneous tissue of the midline of the pelvic floor (**Figure 1**). The diagnosis of Douglas hernia was confirmed. A gynecologist performed multi-layer repair of extensive pelvic floor leakage sites under laparoscopy. The patient resumed incremental PD 4 weeks after surgery and still on maintenance PD now. The CTP was repeated two months later, showing no leakage of contrast (**Figure 2**). This is the first internationally reported case of PD complicated with Douglas hernia [5].

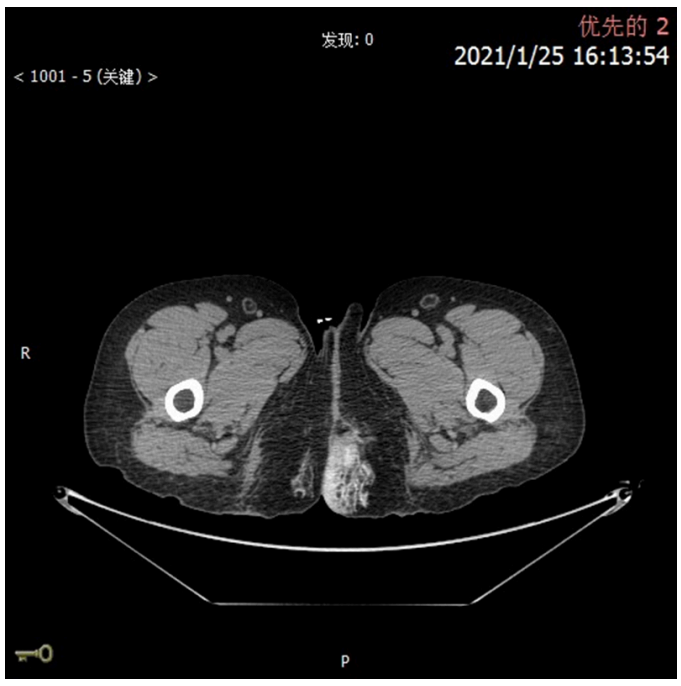

Figure 1. Preoperative computed tomography peritoneography. The leak of contrast was obviously seen in the subcutaneous space of both sides of the midline of the pelvic floor. (adapted from Ref 5.)

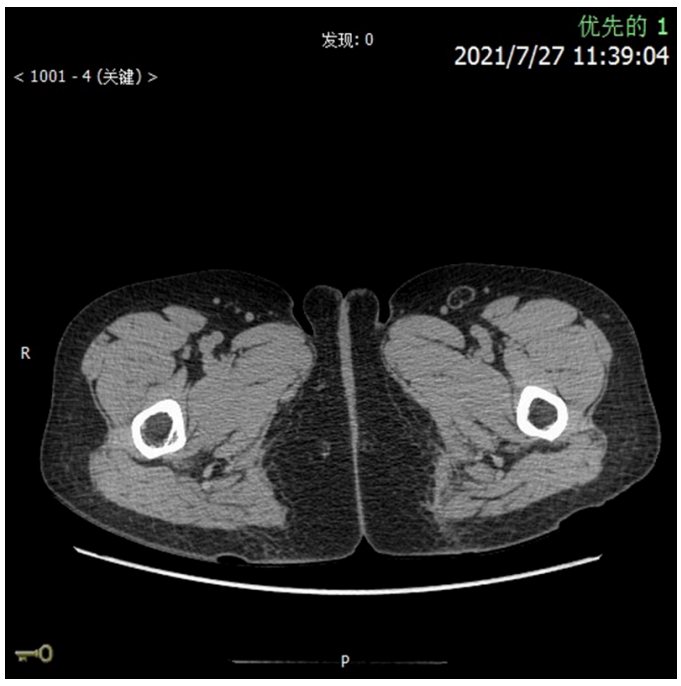

Figure 2. Postoperative computed tomography peritoneography. After surgical repair, there is no leak in the subcutaneous space of both sides of the midline of the pelvic floor. (adapted from Ref. 5)

Case 2. A 59-year-old male patient developed edema of both lower limbs and his scrotum, accompanied by decreased ultrafiltration volume after 5 years of PD treatment. Conventional CTP demonstrated diffusive contrast extravasation in the right extraperitoneal space through the right paracolic gutter, but the specific leakage point could not be clearly identified, which made it very difficult to repair the leak by surgery. We attempted to use dynamic CTP (dCTP) to locate the leakage site. Computed tomography scans were performed during the instillation of dialysate, with acquisitions conducted at 2-minute intervals. The leakage image developed at the 6th minute, and the leakage point was determined at the 10th minute (**Figure 3**). Subsequently, surgeons performed laparoscopic suturing and repair of the 1.0-centimeter leakage site (**Figure 4**). The patient resumed PD treatment one month after surgery without recurrence of edema in lower limbs or scrotum, also still on maintenance PD now [6]. The advantage of dCTP lies in anchoring the site of peritoneal leakage more accurately, which is helpful to drive the surgical repair success.

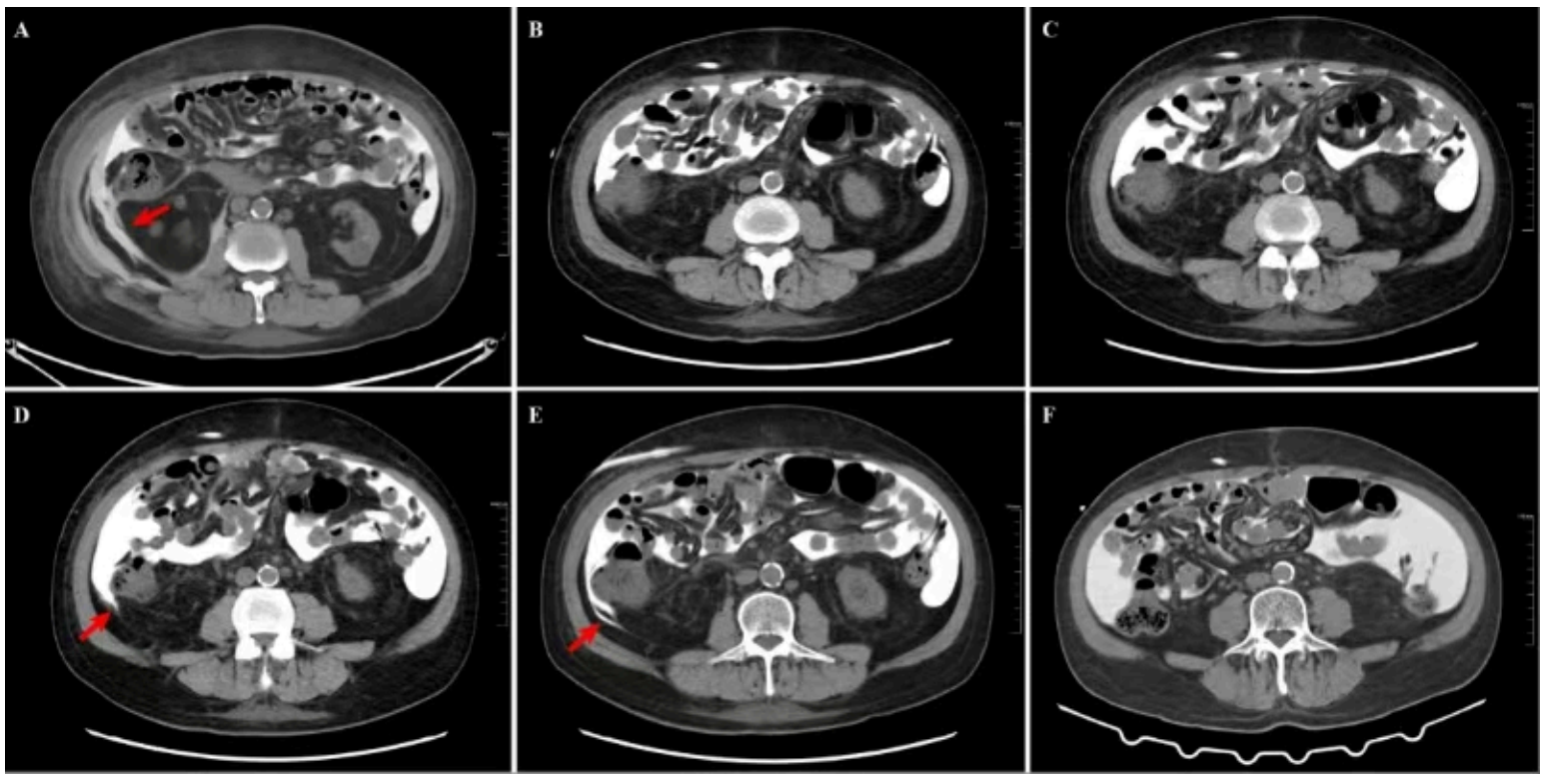

Figure 3. (adapted from Ref. 6)

A. Preoperative conventional computed tomography peritoneography. The diffusive contrast extravasation was observed in the right extraperitoneal space through the right paracolic gutter, which made it impossible to accurately identify the location of the leakage.

B-F. Preoperative dynamic computed tomography peritoneography (dCTP). Computed tomography scans were performed during the instillation of peritoneal dialysis solution, with acquisitions conducted at 2-minute intervals.

1. Images at the 2th minute of dCTP.
2. Images at the 4th minute of dCTP.
3. The leakage image developed at the 6th minute of dCTP.
4. The leakage image was fully identified by the 10th minute of dCTP.
5. Postoperative computed tomography peritoneography (CTP). After surgical repair, there is no leak in the right extraperitoneal space through the right paracolic gutter.

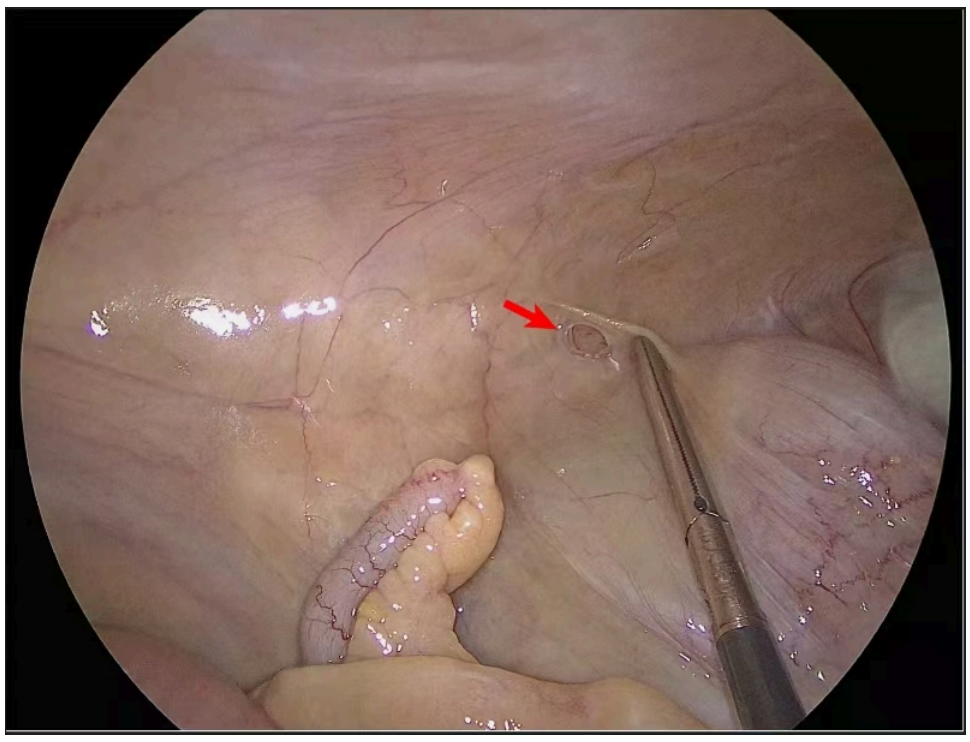

Figure 4. Laparoscopic repair of paracolic gutter leakage. Laparoscopic exploration identified a peritoneal defect measuring 1.0-centimeter in diameter within the right paracolic gutter of the ascending colon, which was consistent with the location of the leakage site identified by dynamic computed tomography peritoneography. (adapted from Ref. 6)

Discussion

The diagnosis and treatment of the abdominal complications of PD patients require close multidisciplinary collaboration. Since 2010, led by Professor Dong Jie, collaborations have been established with the General Surgery Department, Radiology Department, Thoracic Surgery Department, Obstetrics Department, and Nuclear Medicine Department to form a multidisciplinary team in Peking University First Hospital. This team has successively managed over 150 patients from North China with various complications such as hernia, thoracoabdominal fistula, and intra-abdominal leakage, achieving a 100% surgical success rate and a recurrence rate of only 3.7%. In addition to reporting the diagnosis and treatment of rare leakage sites and innovating CTP detection methods, a prospective follow-up cohort for abdominal complications was established since August 2022, laying a solid foundation for conducting more subsequent clinical studies in the near future.

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Peritoneal Dialysis in Papua New Guinea: A Feasible First Step Toward Equitable Kidney Care

Grace Baiwan [1], Steven Bogosia [1], Talerngsak Kanjanabuch [2] and Peter G Kerr [3] (Photos from left to right)

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Papua New Guinea (PNG), the largest Pacific Island nation by population and geography, has long stood at the edge of nephrology development. With a population exceeding 11 million, PNG currently has only one nephrologist, no structured chronic peritoneal dialysis (PD) program, and highly limited access to hemodialysis (HD). For decades, patients with kidney failure faced near-certain mortality, with CKD largely unrecognized in national policy frameworks.

Like many Pacific nations, PNG is undergoing a sharp rise in non-communicable diseases—particularly diabetes, hypertension, and obesity—which collectively fuel a growing CKD burden. While regional estimates place CKD prevalence at 10–14%, PNG's true rates are likely underreported due to limited screening infrastructure and data surveillance.[3–4] At Port Moresby General Hospital (PMGH), the country's 1,200-bed national referral center, CKD now accounts for 10% of internal medicine admissions, with mortality among kidney failure patients approaching 100% in the absence of KRT access.

Yet despite these entrenched challenges, recent developments suggest a turning point—with renewed clinical leadership, international engagement, and strategic consensus now converging to make PD not only possible but pragmatic.

A System Ready for Change: Why PD Is the Right Modality

PNG's health system is constrained by limited infrastructure and severe workforce shortages. Over 85% of the population lives in rural or remote areas, where care is largely delivered through a government–church partnership, with mission hospitals playing a central role in primary services. Physician density remains below 1 per 10,000 people,[2] and there is a critical shortage of trained renal nurses and technicians.

Although HD capacity has expanded to 23 machines across five sites—including PMGH (2), Mendi (5), the PNG Kidney Foundation (10), and two private hospitals (6)—access remains highly restricted. With only 0.24 machines and 0.2 centers per million population, most patients must relocate to receive treatment, often incurring catastrophic household costs.

By contrast, PD offers a more adaptable, scalable solution:

- Home-based care reduces travel burden
- Less dependence on electricity, treated water, or large infrastructure
- Greater feasibility for nurse-led implementation in decentralized settings
- Potential to be embedded within PNG's primary care system and regional outreach services

Although three small-scale CAPD attempts have occurred in PNG, none were sustained. Yet clinicians report renewed interest, and ongoing improvements in urban housing and sanitation now offer improved feasibility for pilot programs. [Minutes, ISN-PNG Nov 2025]

A Turning Point: Strategic Consensus and Regional Momentum

At consultations in October and November 2025—co-hosted by ISN-OSEA, ISPD-Asia Pacific Chapter, and ANZSN—PNG stakeholders reaffirmed their commitment to launching a chronic PD program. Dr. Grace Baiwan and Dr. Steven Bogosia highlighted the rising burden of late-stage CKD—often from undiagnosed diabetes or unmanaged AKI—as a compelling case for expanding home-based dialysis.

Under the Pacific 5-Year Strategic Plan, which designates Fiji as the Regional Training Centre (RTC), PNG participates as part of an ISN Trio at Honorary Level C, reflecting temporary capacity constraints, including the overseas leave of renal nurses and Dr. Baiwan's upcoming ISN Fellowship. PNG is expected to progress to Level B as staffing stabilizes. Meanwhile, reintroducing chronic PD offers an immediate, practical step toward improving dialysis equity.

The consultations underscored that short-term, fly-in support is no longer viable. Advancing PD in PNG will require sustained mentorship, regional training partnerships, and alignment with both national goals and the Pacific nephrology roadmap.

The Way Forward: A Roadmap for Chronic PD in PNG

Building on the November 2025 consultation, the following priority actions were proposed to operationalize chronic PD as PNG's first scalable dialysis modality:

1. **Pilot a chronic PD program** at a provincial hospital (e.g., Rabaul or Lae), selected based on patient need, infrastructure readiness, and local leadership.
2. **Strengthen the workforce** through ISPD fellowships and hands-on training in regional PD hubs—including Malaysia, Thailand, and Australia.
3. **Deploy long-term ISN Educational Ambassadors** to support PD protocol development, complication management, and nurse-led service models.
4. **Leverage and re-align ISN Trio and RTC frameworks** to provide sustained mentorship, clinical governance, and cross-country collaboration as PNG transitions from Honorary Level C toward Level B.
5. **Engage international and regional PD suppliers** to highlight the urgency and strategic importance of expanding access in PNG, and to explore targeted support for national scale-up.
6. **Strengthen policy engagement** by aligning PD program development with national NCD and UHC strategies, ensuring endorsement from the Ministry of Health and integration into long-term service planning.
7. **Promote community awareness and social mobilization** through public education campaigns and patient advocacy, to reduce stigma, improve early detection, and build acceptance of home-based care.

These actions reflect ISPD's commitment to equitable PD access and align with ISN's broader Pacific strategy. Success will depend not only on clinical expertise but also on coordinated logistics, reliable supply chains, and continuous quality improvement.

Conclusion

PNG is now positioned to take meaningful steps toward expanding access to kidney care through a chronic PD program. With local leadership engaged, regional frameworks in place, and practical implementation pathways identified, PD represents a feasible and context-appropriate solution. While challenges remain, the foundation has been laid for sustained progress. Strategic, coordinated action over the coming years will be essential to ensure that PD becomes a reliable and equitable option for patients across the country.

Acknowledgments: We gratefully acknowledge the contributors to the August 2025 meeting from ANZSN, ISN–OSEA, ISPD–APC, NSOF, and Papua New Guinea (PNG). Attendees included Dr. Anna Toti (Pediatrician, PNG), Dr. Grace Baiwan (General Medicine, Papua New Guinea), Dr. Lily Mushahar (Nephrologist, Malaysia), Ms. Titiana Panteli (ISN Staff, Belgium), Prof. Peter Kerr (Nephrologist, Australia), and Prof. Talerngsak Kanjanabuch (Nephrologist, Thailand).

We further acknowledge the participants of the November 2025 meeting. Attendees included Dr. Anis Ta'eed (Nephrologist, Australia), Dr. Grace Baiwan (General Medicine, PNG), Dr. Lily Mushahar (Nephrologist, Malaysia), Dr. Steven Bogosia (Nephrologist, PNG), Dr. Vincent Lee (Nephrologist, Australia), Dr. Yogeshni Chandra (Nephrologist, Fiji), Prof. CC Szeto (Nephrologist, Hong Kong), Prof. Jesudason Shilpanjali (Nephrologist, Australia), Prof. Robert Walker (Nephrologist, New Zealand), Prof. Talerngsak Kanjanabuch (Nephrologist, Thailand), and Ms. Tatiana Panteli (ISN Staff, Belgium).

Applying Thailand's "PD First" Policy to the Philippine Setting: Lessons from the NHSO through my ISPD Fellowship

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Kidney failure continues to rise in the Philippines, driven by the growing burden of diabetes, hypertension, and other non-communicable diseases. Despite the increasing number of patients requiring kidney replacement therapy (KRT), access to dialysis remains limited and unevenly distributed, especially in rural areas. PD accounted for only 4% of all dialysis modalities in the country-far below the global average of ~11%.
The Department of Health's 2023-2024 Annual Report on the Distribution of CKD Patients Undergoing KRT shows a striking dominance of hemodialysis, with HD accounting for 99.6% and PD 0.4% in 2023, and 99.7% and 0.3% in 2024. These figures are far lower than the 4% PD prevalence reported by Tang et al. in 2019.

Overall access to KRT remains severely constrained, with only ~22% of patients able to receive treatment. In 2014, PhilHealth introduced the Z Benefit Package for kidney failure, designed to support PD as the first-line modality. The package covers PD solutions and transfer sets, providing 2-liter bags for 3-4 exchanges/day (~USD 6,800–8,900 annually), and includes catheter placement, exit site infection, and peritonitis prevention. However, these benefits are available in only 53 PhilHealth-accredited PD centers, with no coverage for automated PD, limiting true accessibility. The gap between the Philippines' high CKD burden and the low use of PD highlights the urgent need to make PD more accessible, affordable, and logistically feasible. Addressing gaps in insurance coverage, service distribution, and workforce capacity is essential to extending PD uptake.

Thailand's "PD-First" Policy offers a compelling model for adaptation. Implemented in 2008 by the National Health Security Office (NHSO), the policy mandated PD as the initial modality for all patients under the Universal Coverage Scheme. During discussions with NHSO leaders, Past Vice Secretary General, Dr. Prateep Thanakijcharoen, a long-time champion of "PD First," and current Secretary General Dr. Jadej Thammatach-Aree, several core elements emerged that the Philippines could adopt. Thailand's NHSO centralized dialysis service management, covering PD supplies, training, and monitoring. This approach reduced hospital workload, protected patients financially, and created a streamlined pathway for initiating PD. For the Philippines, this implies that PhilHealth could evolve from being solely a payer to becoming a true system manager, integrating procurement, training, and quality oversight, and long-term monitoring. A shift from a fragmented reimbursement model to a centralized, service-oriented framework would improve efficiency and accountability.Dr. Thammatach-Aree also highlighted the NHSO's investment in PD nurses training and the establishment of PD centers in remote provinces, enabling patients to start and sustain PD closer to home. For the geographically dispersed Philippines, a "one-stop hub" linked to tertiary hospitals or provincial facilities could enhance access. Strengthening nursing education and expanding PD-specific training would significantly increase workforce capacity.
Community engagement was another cornerstone of Thailand's success. The NHSO collaborated with local governments and civil society to provide patient education, home visits, and peer-support networks, thereby helping to maintain treatment adherence. In the Philippines, where family and community ties are deeply rooted, a community-based PD care model could significantly improve outcomes. Equally critical was Thailand's use of data to track outcomes, infection rates, and service coverage. For the Philippines, developing a national kidney registry integrated with PhilHealth data to monitor outcomes and guide resource allocation.

Adapting Thailand's "PD First" experience requires more than copying a protocol-it demands a system-wide transformation grounded in universal health care, decentralized service delivery, empowered communities, and robust data systems. Insights from Dr. Jadej Thammatach-Aree, Dr. Prateep Thanakijcharoen, and the NHSO illustrate that with political will, intersectoral collaboration, and patient-centered design, the Philippines can reposition PD as a viable, equitable, and sustainable option for every Filipino living with kidney failure.

Acknowledgements

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Reflections on the ISPD-APC Fellowship: Strengthening Peritoneal Dialysis Capacity Through Training in Thailand

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My name is Oryza Gryagus Prabu, nephrology fellow from Universitas Indonesia/Dr. Cipto Mangunkusumo Hospital. I was honored to receive the 2024 ISPD-Asia Pacific Chapter Fellowship (Second Round), which supported a 7-week intensive training in PD training from 15 July to 31 August 2025. The fellowship was hosted by King Chulalongkorn Memorial Hospital (KCMH), with additional placements at Banphaeo–Charoen Krung Dialysis Centre, and Chaiyaphum Hospital, under mentorship of Prof. Talerngsak Kanjanabuch. This experience broadened my clinical competency, deepened my technical expertise, and clarified how Indonesia can build a stronger and more equitable PD system.

Training Structure and Key Learning Themes

The fellowship integrated clinical immersions, hands-on procedure training, academic development, and direct exposure to national PD policy. I joined PD clinics, ward and ICU rounds, urgent-start PD services, and case discussions involving refractory peritonitis, catheter dysfunction, and complex fluid or solute management. Practical training included CAPD/APD setup, troubleshooting, exit-site care, and catheter insertion techniques. Academic sessions strengthened my understanding of PD research, quality indicators, and outcome-driven care pathways. A unique strength of the fellowship was the opportunity to learn directly from national leaders who shaped Thailand’s PD-first policy. The integration of clinical practice with system-level planning provided a holistic understanding of how large-scale PD expansion becomes possible.

Experience Across Three Thai Centres

At KCMH, I experienced multidisciplinary PD care within an academic environment where APD is widely used, diagnostics are advanced-complex cases are managed with systematic protocols. Under Prof. Talerngsak’s

supervision, I observed how clinical decisions are anchored in both evidence and patient-specific considerations. Mentorship from Nurse Piyaporn highlighted the central role of specialized nursing in training, home readiness, infection prevention, and long-term patient engagement.

At Banphaeo–Charoen Krung Dialysis Centre, a major PD hub for Universal Coverage patients led by Dr. Piyatida Chuengsaman, I observed how high-volume services can operate efficiently despite resource constraints. Participation in exit-site care, transfer set changes, and home-visits illustrated how workflow optimization, disciplined supply management, and strong patient education create a sustainable PD ecosystem.

At Chaiyaphum Hospital, I received intensive exposure to PD catheter insertion. Under Dr. Sajja Tatiyanupanwon, I observed approximately 20 insertions, assisted in several, and performed one hands-on using the modified Seldinger technique. This experience will be pivotal for Indonesia, where catheter access remains one of the main barriers to PD initiation, especially in regional hospitals without surgical teams.

Comparison of the Three Training Centres

Aspect	KCMH	Banphaeo–Charoen Krung Centre	Chaiyaphum Hospital
Primary Patient Group	CSMBS & SSS beneficiaries	UC population	UC patients in a provincial setting
Core Focus	Advanced PD practice, APD-dominant service, research, and multidisciplinary care	High-volume CAPD delivery with efficient resource use	Practical PD implementation and catheter insertion services
Key Training Exposure	Complex PD cases, APD techniques, ICU PD, research activities	Exit-site care, transfer set changes, home visits, and social barrier to PD	PD Catheter insertion (incl. modified Seldinger technique) and rural PD challenges
Team Structure	Comprehensive MDT with nephrologists, nurses, dietitians, and pharmacists	MDT with strong nurse and social worker leadership in daily care	Smaller team with strong procedural emphasis
PD System Strength	Technology-driven, academically oriented	Efficient, high-throughput PD service for large UC population	Practical accessibility and hands-on procedural capacity

Abbreviations: APD, automated peritoneal dialysis; CAPD, continuous ambulatory peritoneal dialysis; CSMBS, Civil Servant Medical Benefit Scheme; ICU, intensive care unit; KCMH, King Chulalongkorn Memorial Hospital; MDT, multidisciplinary team; NHSO, National Health Security Office; PD, peritoneal dialysis; SSS, Social Security Scheme; UC, universal coverage.

Health Policy Insights and Their Significance for Indonesia

One of the most inspiring components of the fellowship was meeting with Dr. Jadej Thammatacharee (Secretary General, NHSO) and Dr. Prateep Dhanakijcharoen (pioneer of Thailand's "PD-first" program). From them, I learned how Thailand built and sustained its national "PD-first" system through the "Triangle That Moves the Mountain," which unified policymakers, academic leaders, and civil society in advancing equitable dialysis access. Centralized procurement and nationwide distribution—implemented with Thailand Post—ensured reliable home delivery of PD solutions, while model clinics, satellite units, home visits, and structured patient education expanded service reach. These components embedded PD as a core pillar of Thailand's universal coverage system and demonstrated that PD expansion is not solely a clinical endeavor, but a coordinated policy and system-building effort requiring alignment across sectors. Discussions also focused on cost-effectiveness, increasing dialysis access in rural areas, and strategies to improve patient outcomes, principles highly applicable to Indonesia.

Applying the Fellowship Lessons to Indonesia

The fellowship clarified several practical and strategic directions for strengthening PD in Indonesia.

First, the hands-on experience in the modified Seldinger technique equips me to initiate and expand catheter insertion services within my institution. This is essential for improving timely PD initiation in hospitals where surgical resources are limited.

Second, the structured training culture in Thailand demonstrated the value of consistent, competency-based education for fellows, residents, and nurses. I plan to develop PD modules, simulation exercises, and standardized teaching materials to ensure that PD knowledge is disseminated uniformly across Indonesian institutions.

Third, observing home visits and patient-centered education highlighted the importance of patient empowerment. I aim to develop more comprehensive PD counseling pathways, integrate family involvement in patient preparation, and adapt communication strategies to Indonesia's diverse sociocultural contexts.

Fourth, the fellowship strengthened my commitment to policy engagement. Inspired by NHSO's governance model, I intend to collaborate with professional societies and policymakers to advocate for improved supply chain reliability, fair reimbursement mechanisms, and quality monitoring frameworks that can support PD expansion nationally.

Ultimately, the Thai experience showed that PD grows not from isolated clinical excellence but from the synergy of technical capability, standardized training, patient engagement, and well-coordinated national policy.

Conclusion

The **2024 ISPD-APC Fellowship** has been a defining step in my professional development. It strengthened my clinical insight into PD management, advanced my proficiency in catheter insertion, and deepened my understanding of how national PD system are built, supported, and sustained. The mentorship received at Chulalongkorn University, the exposure to diverse clinical environments, and the engagement with national PD leaders have collectively shaped my vision for PD development in Indonesia. I return home with renewed commitment, clearer strategies, and stronger inspiration to help expand PD services, strengthen training capacity, and contribute to more equitable access to improving kidney replacement therapy for patients across Indonesia.

Galleries

PD fellows and Prof. Talerngsak Kanjanabuch

Honorary meeting with Dr. Jadej, Secretary General of NHSO Thailand

Home visits with Dr. Piyathida and team

PD nurses' team in King Chulalongkorn Memorial Hospital

Chaiyaphum hospital with Dr. Sajja and PD nurses

Honorary meeting with Dr. Prateep, pioneer of PD-first policy in Thailand

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