



MINISTRY OF HEALTH  
HOSPITAL KUALA LUMPUR

PHARMACY UPDATES | ARTICLES | INSIGHTS

# PHARMVOICE

2024



FEATURING >>>

NEPHROLOGY PHARMACY  
SPECIAL INTEREST GROUP

*"Shaping the Future of Kidney Care"*

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# PHARMVOICE

## NEWSLETTER

## Connecting Our Pharmacy Team

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PharmVoice is a go-to annual update, created especially for the hardworking pharmacy staff of Hospital Kuala Lumpur, Hospital Tunku Azizah and Institut Perubatan Respiratori.

Packed with highlights of recent events, team achievements, and engaging health articles, our newsletter celebrates the amazing work we do together while keeping you informed and inspired.

From sharing success stories to featuring practical health tips, PharmVoice is all about staying connected and supporting each other. It's a space to recognise milestones, celebrate our team spirit, and stay updated on what's happening in our pharmacy community.

# Table of Contents

Editorial Board	05
Editor's Note	07
Highlights of The Year	08
Sports	41
Hall of Fame	48
Nephrology PSIG	61



# Editorial Board



*Meet the dedicated team behind Pharmvoice 4.0!*

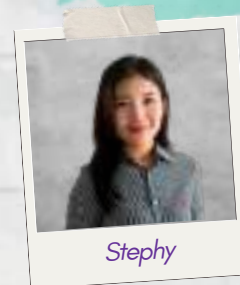
*From left: Ms Angeline, Dr. Farizan, Mr Leow,  
Mr Victor, Ms Seow Huey, Ms Aima, Ms Fariza and Ms Merina.*



# Editorial Board

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*Advisor*

## *Editor's Note*

Dear Readers,

Welcome to the latest edition of **Pharmvoice 4.0**! We are excited to bring you a rich blend of event highlights, insightful articles, latest updates and reflections on the victories achieved throughout the year 2024.

This year, we are proud to feature a special focus on the **Nephrology Pharmacy Special Interest Group**. Nephrology, a critical field that addresses kidney health and disease management, is gaining prominence as we continue to uncover the complexities of renal health. Our Special Interest Group has been working tirelessly to provide you with cutting-edge research, innovative treatment approaches, and practical guidance to enhance patient care.

We hope you find this edition both informative and inspiring as we delve into the vital world of nephrology. Thank you for your continued support and engagement with Pharmvoice.

Happy reading!



*Chief Editor*





# HIGHLIGHTS OF THE YEAR

"MEMORIES MADE, LESSONS LEARNED, AND DREAMS CHASED"







# WORLD KIDNEY DAY

## HEALTHY KIDNEYS, HEALTHY FUTURE

9 MARCH 2024 | LAMAN ASTAKA, TAMAN TASIK TITIWANGSA

By LEE XIN NEE



Group photos of our cheerful organizing committees and Duta Kenali Ubat Anda, En. Faiza!

The public was introduced to the “Know Your Medicines” programme by our pharmacists through counselling and interactive activities. This programme emphasises the 5Rs to ensure the quality and safe use of their medicines. The event was a success!

# 5R

Right Patient  
Right Medicines  
Right Dose  
Right Route of Administration  
Right Time of Administration

World Kidney Day is a global initiative aimed at raising awareness about kidney health and reducing the impact of kidney disease. On March 9, 2024, the Pharmacy Department of Hospital Kuala Lumpur (HKL) participated in an event organized by the National Kidney Foundation of Malaysia. The event featured activities such as games, a lucky draw, zumba, a coloring contest, face painting, and quizzes. Notable speakers included Dato Dr. Zaki Morad Mohd Zaher, Dr. Lily Mushahar, and former Minister of Health, Khairy Jamaluddin.



Khairy Jamaluddin, former Minister of Health Malaysia, and Dr. Rafidah participated in a discussion during the event.



Always do you best! One day, you can be someone's hero!

# COACHING TO BE CHAMPION!

11 MARCH 2024 | SEMINAR ROOM 5, SCACC HKL

By CHUA KE WEI

In the pursuit of providing high-quality healthcare services, various studies have been conducted to enhance our healthcare system. One such initiative was the **Bengkel Pengukuhan Champion Projek Kualiti Jabatan Farmasi Hospital Kuala Lumpur (HKL), Hospital Tunku Azizah (HTA), Institut Perubatan Respiratori (IPR) Tahun 2024**. This workshop was organised to guide facilitators or champions-to-be from the Department of Pharmacy in HKL, HTA and IPR, equipping them with the skills and capabilities needed to lead research projects within the Department of Pharmacy and produce high-quality research.

This workshop focused on three domains of research:

- QA Research
- Innovative Research
- LEAN Healthcare Research



Two projects from each domain were presented in the workshop and the facilitators were invited to share their ideas and comments on how to provide useful suggestions in a project.



Dr. Farizan, Head of Ambulatory Pharmacy, presented an appreciation gift and certificate to Dr. Nur Azeema, Deputy Chairperson of the Lean Healthcare Committee at HKL, in recognition of her contributions as the invited facilitator



A participant presenting his project during the workshop



Dr. Hadijah, Head of Inpatient Pharmacy, presented an appreciation gift and certificate to En. Mohd Fadhli, Pharmacist Assistant U32 from Hosp. Serdang, in recognition of his contributions as the invited facilitator



Group photo of the participants and committee members who attended the workshop

May the knowledge shared in this workshop benefit the participants and bring them success in leading their research.





# A SYAWAL TO REMEMBER AIDILFITRI SPIRIT OF TOGETHERNESS

19 APRIL 2024 | BLOK UNIT KENDERAAN HKL

By TAN JU JIN



*Backbone of the pharmacy team in charge for the festival*

The celebration aimed to foster stronger bonds among our dedicated staff. The event commenced at 10 a.m. with excitement and anticipation, graced by YBhg. Datin Paduka Dr. Rohana binti Johan, the Director of HKL.



As the blessed month of Ramadan transitions into the joyous occasion of Hari Raya Aidilfitri, all staff of Hospital Kuala Lumpur (HKL) gathered to celebrate this Hari Raya feast on 19th April 2024.



*Musical rendition of the popular song "Selamat Hari Raya"*



*Welcome to our Mee Kari Pharmacy Stall*

Every department beamed with pride as they unveiled their culinary treasures, from the aromatic nasi beriyani to an array of delightful kuih-muih. A special mention goes to the Pharmacy Department, which prepared a magnificent 1,000 servings of mee kari, earning resounding praise from many delighted guests. The venue, adorned with traditional decorations, resonated with the lively melodies of musical performances, creating an atmosphere that was both vibrant and festive.



*Opening speech by Director of HKL, YBhg. Datin Paduka Dr. Rohana binti Johan*



*Scrumptious "mee kari" prepared by Pharmacy Department*



May the connections made during this celebration foster collaboration and unity in healthcare, and may we carry this spirit into the future.

# CONGRATS, CHAMPION!

## WORLD RECYCLE DAY: "RECOGNIZING HKL"

22 APRIL 2024 | AUDITORIUM HOSPITAL KUALA LUMPUR

By LOH JING YING



Recycling is a crucial part of the circular economy, which aims to minimise waste and maximise the use of resources. By recycling, we can reduce the amount of waste that ends up in landfills and oceans, conserve natural resources, and reduce greenhouse gas emissions.



In line with World Recycle Day 2024, the Engineering Unit of Hospital Kuala Lumpur (HKL) arranged a series of activities centered around the theme "Recognizing HKL". All HKL staff are welcomed to join the activities they are interested with. The organised activities included:

"Innovations in Design: The 3R Recycle Bin"

Treasure Hunt

Innovation Video: What is 3R?

Trash To Cash

A significant highlight of this event is the Non-sterile Pharmaceutical Production Unit's outstanding success in winning the video production competition. Let's give them a huge round of applause!

Watching their concise yet informative video gives the audience a basic understanding of what the 3Rs are and how prevalent they are in our daily lives. The result is a cohesive and engaging piece that leaves a lasting impression on all. Congratulations on their excellent work once again!



SCAN ME



Let's give a round of applause to the winner from Cawangan Farmasi Institutusi Khusus II for winning the competition!





# EMPOWERING PRECEPTORS THROUGH PRECEPTORSHIP WORKSHOP

23-24 APRIL 2024 | SEMINAR ROOM 3, SCACC HKL

By SYAMALA DEVI GANESH



The purpose of this workshop is to provide preceptors with exposure on how to conduct training and evaluate provisionally registered pharmacists (PRPs) based on the latest logbook. Additionally, this workshop aims to produce a PRP training guide kit to ensure that the information and training delivered to PRPs is consistent among all preceptors.

At the same time, preceptors were updated on the key elements in the latest training logbook, introduced to guided coaching and mentoring techniques, and taught how to write constructive comments as preceptors.



*Preceptors discussing about the training guide kit in their respective group.*



*Presenting ideas on the PRP's training guide kit.*



*Dr Hadijah Mohd Taib, Ketua Cawangan Farmasi Pesakit Dalam, delivered the opening speech at the workshop on its first day.*



*Preceptors listening attentively to their colleague's speech.*



*Ms. Syazreen Abdullah Sidit explaining the training guide kit.*

On Day 2, the group focused on discussing the *PRP Training Kit*. This kit encompasses the key features of all training, essential information for each department, necessary references, and hands-on exercises to guide the PRPs during their training at Hospital Kuala Lumpur.



# VISIT PROGRAMME AND DIALOGUE SESSION WITH ZUELLIG PHARMA

30 APRIL 2024 | ZUELLIG PHARMA SDN. BHD.

By DALJIT



Zuellig Pharma stands out as one of the leading healthcare solution providers in Asia. On April 30th, the Logistics Pharmacy Division of Hospital Kuala Lumpur, in collaboration with Primabumi Sdn. Bhd., organised a visit and dialogue session with Zuellig Pharma.

The programme aims to help employees observe and understand supply management operations for clinics and government hospitals, assist in filing complaints about received supplies, and address any doubts regarding logistics services.

During the visit, participants received an overview of order processing and how to manage complaints related to the supplies received. The session concluded with a question-and-answer segment.

Participants then toured the Distribution Centre of Zuellig Pharma, where they were briefed on safety protocols. Finally, they observed demonstrations conducted by representatives at various checkpoints within the Distribution Centre.



*Participants in the programme listening to the briefing given by a representative from Zuellig Pharma.*



*A representative from Zuellig Pharma giving a demonstration of their newest inventory management technology.*



*Pn. Asmalina presents a token of appreciation to En. Aznan, a representative from Primabumi Sdn. Bhd.*



# STRENGTHENING TEAMS THROUGH TEAMBUILDING GETAWAYS



6-9 MAY 2024 | INTAN NORTHERN REGIONAL CAMPUS (INTURA)

By IRIS PEREIRA

The Pharmacy Department prioritises the growth and development of its team. This team-building retreat served as a platform for pharmacy staff from diverse units and positions to foster a spirit of enthusiasm for teamwork and build harmonious relationships.

Forming

Storming

Norming

Performing

Adjourning

*Tuckman's five stages of team development*

Thirty-nine enthusiastic staff members from the Pharmacy Department embarked on a memorable four-day retreat filled with invigorating team-building activities!

The journey began on Day 1 with engaging ice-breaking games, as participants were grouped into teams, fostering new connections and camaraderie among colleagues.



*Ice-breaking activities on Day 1 of the retreat*

Day 2 took place at InCUBE @ iLEAD-PARK, offering thrilling adventures, including a daring 2-storey abseiling mission, navigating through a challenging dark-room maze, and engaging in stimulating indoor activities. These experiences encouraged participants to follow instructions, conquer their fears, and sharpen their quick-thinking skills.



*Abseiling activity*

The excitement continued on the third day with a refreshing hike at Ulu Legong, culminating in a relaxing soak in the waterfall. Additionally, participants collaborated to start a barbecue using limited resources, promoting teamwork and problem-solving amidst the great outdoors.

Wrapping up the retreat on the final day, participants gathered for a reflective session, sharing insights gained from the trip. The retreat concluded with heartfelt speeches from the coordinator and various participants, leaving everyone inspired and united.

## Objectives of the Teambuilding Retreat

Learn the 5 stages of team development and put them into action!

Discover the importance of verbal and non-verbal communication

Uncover the vital role of teamwork in effective organisational management



*Group picture at the refreshing waterfall*



*Participants cooking up a storm*





# KNOW YOUR MEDICINE CENTRAL ZONE WORKSHOP

27 MAY 2024 | HOSPITAL TUNKU AZIZAH

By YEN JIA QI

Quality Use of Medicines is a cornerstone of Malaysia's National Medicines Policy, prioritising optimal healthcare and patient well-being. Pharmacists play a vital role, offering personalised guidance throughout patients' medication journeys.

This year, HKL hosted the annual "Know Your Medicine Central Zone Workshop," bringing together pharmacists from Hospital Kuala Lumpur, Hospital Tunku Azizah, Institut Perubatan Respiratori, Jabatan Kesihatan Wilayah Persekutuan Kuala Lumpur, Institut Kanser Negara, and Klang Valley community pharmacies. The workshop focused on sharing the latest insights, safety protocols, and best practices in medication management to improve patient care.

## MODULES DISCUSSED DURING WORKSHOP:

Module 1: Know Your Medicines

Module 2: Requirement of registration and notification – medicines, supplement and cosmetic

Module 3: Right Medication Administration

Module 4: Right Medication Storage

Module 5: Antibiotics



Opening speech by the Deputy Director of Pharmacy, Pn. Noraini binti Mohamad



Engaging presentation and VIPP activity on the Kenali Ubat Anda modules



Congratulations to the Top 3 winners of the post test!



Portrait of the workshop's vibrant participants









## DUTA KENALI UBAT ANDA WORKSHOP CENTRAL ZONE KL & PUTRAJAYA

19-21 NOVEMBER 2024 | AVILLION  
ADMIRAL COVE, PORT DICKSON

By NUR ALYA BALQIS AZMAN

The annual *Duta Kenali Ubat Anda (DKUA)* workshop was successfully conducted by the *Jabatan Kesihatan Wilayah Persekutuan Kuala Lumpur & Putrajaya* in collaboration with Pharmacy Department, HKL. The workshop aimed to train eleven new DKUA members from both organisations, with the goal of educating and creating a network of community health representatives dedicated to promoting the use of quality medicines.



Congratulations to HKL's new DKUA: Mr. Suhaimi and Pn. Zarina

The workshop centered around six key aspects of quality medication use, organised into the following modules:



Scope 1: "Kenali Ubat Anda"

Scope 2: "Keperluan Ubat Berdaftar"

Scope 3: "Cara Pengambilan Ubat Yang Betul"

Scope 4: "Cara Penyimpanan Ubat Yang Betul"

Scope 5: "Antibiotik"

Scope 6: "Peranan dan Tanggungjawab Duta"



Group Activity - Understanding the concept of "5B"







# INTRODUCTORY TO EVIDENCE BASED MEDICINE WORKSHOP (1ST SESSION)

24 - 25 APRIL 2024 & 28 - 29 AUGUST 2024  
BILIK SEMINAR 2 & 3 IUN B, HKL

By ZAFIRAH ABDULLAH



Evidence-based medicine (EBM) is vital in healthcare, merging scientific inquiry, clinical expertise, and patient values. In pharmacy, EBM promotes medication safety and effectiveness, enabling pharmacists to optimise therapy based on evidence and patient preferences, thereby improving patient outcomes through medication reviews and adherence support.

On 24-25 April 2024, the Pharmacy Department of Hospital Kuala Lumpur (HKL) held a workshop titled "Introduction to Evidence-Based Medicine (EBM)." The workshop aimed to introduce the principles and applications of EBM to pharmacists from HKL, Hospital Tunku Azizah, and Institut Perubatan Respiratori, equipping them to integrate EBM into their practice to enhance the quality of pharmaceutical services.



*Pn. Tan Meng Wah delivering a warm introduction to the participants.*



*Participants actively engaging in the activities with enthusiasm*

Many participants left the workshop with a deeper understanding of EBM after attending the insightful lectures and listening to the inspiring speakers. With the second session approaching, many peers are eager to participate in this invigorating workshop.

## STRUCTURE OF THE TRAINING:

**First Session: 24th & 25th April 2024**

Basic & Intermediate Tier  
Theory

**Second Session: 28th & 29th August 2024**

Intermediate Tier  
Theory  
Group Activities



*Ms. Evelyn Chee Li delivering her lecture*



*A lovely group picture after the workshop*



# INTRODUCTORY TO EBM WORKSHOP (2ND SESSION)

28-29 AUGUST 2024 | SEMINAR ROOM 2 & 3, BANGUNAN IUN B, HKL

By LAI SALLY



Group photo session with YBrs. Puan Noraini Mohamad (middle), Dr. Azmi Nor Mohd Farez, Puan Noor Hidayah and Puan Haarathi Chandriah

"EBM is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."

The second session of the Introductory Evidence-Based Medicine (EBM) Workshop 2024 took place on 28-29 August 2024, offering in-house pharmacists an opportunity to further develop their skills in EBM and learn how to effectively apply these principles in their daily practice.

Additionally, pharmacists enhanced their ability to identify biases in articles, ultimately contributing to improved patient therapeutic outcomes.

EBM is not about being 'right' but about making informed decisions based on the best available evidence and continuously refining practices as new information emerges. This session also included various group activities designed to strengthen communication and collaboration among healthcare professionals.



Engaged participants concentrating on the presentation



Closing ceremony by our esteemed Pn. Noraini (Timbalan Pengarah Farmasi HKL)



Participants sharing their thoughts during group activities.

# BE PRECISE PRE-CONFERENCE

## WORKSHOP 1: SYSTEMATIC REVIEW AND META-ANALYSIS

7TH JUNE 2024 | BILIK SEMINAR 2 IUN B, HKL

By CARRIE CHEW

A systematic review comprehensively summarises research on a specific question, while a meta-analysis combines data from multiple studies to provide precise effect estimates. These methods help pharmacists evaluate medication efficacy and safety, inform guidelines, and support evidence-based decision-making.

On 7 June 2024, our department held a workshop titled "Systematic Review and Meta-Analysis." The workshop aimed to equip participants with the skills to conduct literature reviews and statistical analyses, enhancing their ability to evaluate evidence, synthesise data, and improve clinical decision-making and patient care in pharmacy practice.

### WORKSHOP SUMMARY

- Formulating a Focused Clinical Question
- Developing Eligibility Criteria
- Study Selection and Data Abstraction
- Hands-on Exercise
- Meta-Analysis and Effect Estimates
- Assessing Certainty of Evidence Using GRADE



*Prof. Datin Dr. Zorah Aziz Leading a Session on Systematic Review and Meta-Analysis*



*Participants Engaging in Hands-On Exercises*

The workshop, attended by 39 participants including pharmacists, academicians, researchers, and students from hospitals, clinics, universities, and teaching hospitals, featured interactive learning, practical exercises, and valuable insights to equip attendees with the skills for conducting systematic reviews and meta-analyses effectively.



*A Group Photo to Conclude the Workshop*



# BE PRECISE PRE-CONFERENCE

## WORKSHOP 2: AMS GAME-BASED LEARNING

7 JUNE 2024 | BILIK SEMINAR, IUN B, HKL  
By TEO JING TIAN



Event poster



### Key highlights included

- Management of Multidrug-Resistant Organisms (MDROs),
- Antibiotic drug interactions,
- Alternative antibiotics for allergies,
- Antimicrobial Stewardship (AMS) startup-moving forward

The workshop aimed to raise awareness and enhance knowledge of infection control and antibiotic management through engaging and interactive learning activities.

Participants explored antimicrobial stewardship concepts through three creative games: the *Scavenger Antibiotic Hunt*, *Spot the Errors in Managing MDROs*, and *Snakes & Ladders*. Each activity was carefully designed to provide a unique learning experience, highlighting key AMS principles while ensuring the session was both educational and enjoyable.



Management of MDROs: Spot the Errors



Scavenger Antibiotic Hunt



Snake & Ladder game



Participants and committee members

# HOSPITAL KUALA LUMPUR PHARMACY CONFERENCE



8-9 JUNE 2024 | AUDITORIUM PERDANA, HOSPITAL TUNKU AZIZAH

By GOH XINYI

With the theme **"Precision Medicine: One Unique Strand At A Time"**, Hospital Kuala Lumpur (HKL) Pharmacy Conference: Be Precise 2024 aimed to bring a deeper understanding of precision medicine to participants.

Among the VIPs present were Pn. Norhaliza Bt. A Halim (*Timbalan Ketua Pengarah Kesihatan, Perkhidmatan Farmasi, Kementerian Kesihatan Malaysia*) and notable figures such as Pn Nor Aziah Bt Abdullah (*Ketua Penolong Pengarah Kanan, Cawangan Amalan & Perkembangan Farmasi, JKWP KL&P*) and Pn. Rohana Bt Hasan (*Timb. Pengarah Kesihatan Negeri Perkhidmatan Farmasi, Jabatan Kesihatan Negeri Selangor*).



*Precision Medicine: One Unique Strand At A Time*

Organised by HKL Pharmacy Department, this was Malaysia's first Precision Medicine Conference aimed at enhancing the understanding of precision medicine in the context of cancer, non-communicable diseases, and genetic disorders. The conference highlighted the importance of genetic profiling in personalised treatment and emphasised the need to safeguard patient data confidentiality.



*Talk Session: "Revolutionising Healthcare – Malaysia's Leap into Precision Medicine Excellence" by Prof. Datuk Dr A. Rahman Bin A. Jamal*



*Group Photo of the Attendees of the Conference*



*Booth visit*



*Inauguration ceremony by esteemed guests*



*Talk Session of the Conference*



# TRANSFORMATIONAL LEADERSHIP: PAVE THE WAY FORWARD

1-2 JULY 2024 | DEWAN DATO' BORHAN, HOSPITAL KUALA LUMPUR  
By HO ING MIN



*Pn. Noraini binti Mohamad presenting a token of appreciation to the speaker Mr. Zukernain Wook*

The theme of Transformational Leadership emphasises how leaders can inspire and motivate teams by aligning individual and organisational goals, with a focus on enhancing leadership skills and fostering collaboration.

**"Good Leaders are made, not born – it is a skill that can be developed through experience and intentional learning." – Centre for Creative Leadership**

The Transformational Leadership programme aimed to empower upper and middle management, with 45 participants from the Pharmacy Departments of Hospital Kuala Lumpur, Hospital Tunku Azizah, and Institut Perubatan Respiratori (IPR). Over one and a half days, participants engaged in leadership modules, energiser sessions, and group challenges, guided by speaker Mr. Zukernain Wook and his aide, Mr. Hafizul, from Innotech Excel Consulting.



*Pn Azatul Shima from IPR emerged as the champion of the individual challenge organised*



*Winning team of the group challenge organised*



*Participants playing indoor leadership games during the event*



*Group photo with all the attendees of this event*

# KURSUS PENGUKUHAN ANGGOTA JABATAN FARMASI HKL, HTA & IPR

14 - 17 JULY 2024 | INSTITUSI TADBIRAN AWAM NEGARA (INTAN), JOHOR

By Nur Afifah Binti Mohd Zulkafly

The Pharmacy Departments of Hospital Kuala Lumpur (HKL), Hospital Tunku Azizah, and Institut Perubatan Respiratori organised a successful four-day team-building event for 40 participants at a scenic venue.

The event aimed to enhance unity and collaboration among healthcare providers through team challenges, trust-building exercises, and communication workshops. Informal networking sessions provided opportunities for participants to share experiences.

Feedback highlighted a renewed sense of camaraderie and commitment to teamwork, fostering improved collaboration in daily roles. Overall, the event had a lasting positive impact, reinforcing the importance of unity in achieving collective goals.

## Objectives:

- Improve communication for effective idea exchange
- Build trust and mutual respect
- Enhance collaboration
- Boost team spirit
- Develop individual and collective skills
- Foster interpersonal relationships among team members



Deputy Director of Pharmacy, YBr. Puan Noraini Mohamad, accompanied by representatives from HKL and INTAN



"Coming together is a beginning. Keeping together is progress. Working together is success." – Henry Ford



Kembara Gunung Lambak - Exploring the great outdoors and embracing nature through hiking activities.



# STRATEGIC ACTION PLAN MEETING ALIGNING GOALS FOR SUCCESS

7-9 AUGUST 2024 | KSL ESPLANADE, KLANG

By NICOLE CHAN

**"Good planning is the key to success; it turns dreams into achievable goals and helps navigate the path to aspirations."**



*Ms Tan Sin Yee delivering the proposed action plan*

This year, the annual Action Plan Meeting was held at the KSL Explanade Hotel, which provided a well-equipped seminar room and a professional ambience conducive to focused discussions and strategic planning.

Chaired by the Deputy Director (Pharmacy), Pn. Noraini, the meeting brought together Heads of Departments, Branches, and Sections to review the 2024 action plan and explore opportunities to enhance pharmacy service management in 2025.



*Discussion and presentations on progress of action plan*

## MEETING AGENDA

**7/8/2024 (Wednesday)**

*'Closing the Gap' Session*

**8/8/2024 (Thursday)**

AM : Management meeting 3/24

PM : Action plan meeting 1/24 & discussion of 2025's action plan

**9/8/2024 (Friday)**

Presentation of 2025's action plan



*Participants engaged in 'Closing the Gap' session filled with excitement & laughter*

The event successfully met its objectives, with every aspect carefully planned and executed. Attendees were engaged and enthusiastic, actively participating in dynamic discussions and interactions. The flawless organization, effective communication, and compelling presentations left participants both satisfied and inspired, fully achieving the event's goals.







# MONASH UNIVERSITY PHARMACY SOCIETY EDUCATIONAL VISIT

27 AUGUST 2024 | HOSPITAL KUALA LUMPUR

By MELISSA ONG ZHIE CHING



*Group Photo with students from Monash University*

During the visit, the students explored several main departments, including:

- (1) Inpatient Pharmacy
- (2) Outpatient Pharmacy
- (3) Cytotoxic Drug Reconstitution
- (4) Total Parenteral Nutrition
- (5) Non-Sterile Preparations

Pharmacy students from Monash University had the chance to take part in an educational visit to Hospital Kuala Lumpur, providing them with a firsthand experience of a pharmacist's daily responsibilities. This visit was a key component of their professional development, giving them valuable insight into the various roles pharmacists fulfill in healthcare environments.



*Inpatient Pharmacy*

The students observed and learned about the workflows, challenges, and responsibilities pharmacists face in different clinical settings. They witnessed firsthand how various departments operate and how pharmacists contribute to the healthcare system in multiple ways.



*Cytotoxic Drug Reconstitution*



*Non-Sterile Preparation*



*Outpatient Pharmacy*

This visit enhanced the students' knowledge and motivated them toward academic and career excellence. By connecting classroom learning to real-world applications, they developed a deeper appreciation for the pharmacy profession and its role in patient care. Experienced professionals addressed their questions about hospital pharmacy, providing clarity and valuable insights into future responsibilities.



# HKL NEUROLOGY PHARMACOTHERAPY WORKSHOP "NAVIGATING NEUROLOGICAL TERRAINS (NEURX)"

2 SEPTEMBER 2024 | AUDITORIUM UTAMA, HOSPITAL KUALA LUMPUR

By Balqis Binti Iskandar



NeuRx Workshop held at Main Auditorium

In partnership with Persatuan Farmasi HKL, Pharmacy Department successfully hosted a workshop themed "Navigating Neurological Terrains."

The workshop was carefully crafted to enhance the ongoing professional development of pharmacists and other healthcare professionals, offering the latest insights into neurology pharmacotherapy. It drew an enthusiastic crowd of 130 participants, including a diverse mix of healthcare professionals such as pharmacists, pharmacy assistants, doctors, and nurses from both MOH and non-MOH facilities.

Invited speakers included:

1. Dr. Hiew Fu Liong (Consultant Neurologist, Sunway Medical Centre)
2. Dr. Ahmad Shahir (Consultant Neurologist, Hospital Kuala Lumpur)
3. Dr. Dhayalen Krishnan (Consultant Neurologist, Hospital Kuala Lumpur)
4. Dr. Koh Kee Leong (Consultant Neurologist, Hospital Selayang)
5. Mdm. Farah Waheeda Tajurudin (Clinical Pharmacist, Hospital Tuanku Muhriz)
6. Mdm. Wan Noor Hazimah Wan Harun (Clinical Pharmacist, Hospital Kuala Lumpur)

In addition to the enriching sessions, participants enjoyed the exciting opportunity to win prizes through lucky draws and Kahoot sessions.



Lucky Draw winners of the day!



Dr Ahmad Shahir Mawardi presenting on "Beyond Tremors: Navigating the Landscape of Parkinson's Disease"

Topics covered:

- Stroke
- Seizures
- Parkinson's Disease
- Autoimmune Neuromuscular Disorders
- Series of case discussions



Ms. Tan Ai Leen handing a token of appreciation to Timbalan Pengarah Farmasi, Madam Noraini Binti Mohammad



Group photo of speakers along with participants



# WORLD PHARMACIST DAY 2024

## "PHARMACIST: MEETING GLOBAL HEALTH NEEDS"

24 & 25 SEPTEMBER 2024 | SCACC, HOSPITAL KUALA LUMPUR

By Nursahira Kamar & Cheng Zhi Qin

World Pharmacists Day (WPD), celebrated on 25 September, recognises the crucial role of pharmacists in global health. This year's theme, "Pharmacist: Meeting Global Health Needs", was highlighted through a two-day event featuring engaging activities. In the lead-up to WPD, we kickstarted a pre-event programme with a weekly quiz, open to healthcare staff from Hospital Kuala Lumpur, Hospital Tunku Azizah, and Institut Perubatan Respiratori. This initiative aimed to increase awareness and foster engagement with the important role of pharmacists in medication management, patient education, and public health.



Various **Health Exhibition Booth** were opened for public:

- Counselling - Asthma & Smoking Cessation
- Medication Safety
- ADR Reporting
- Know Your Medicine
- Value-Added Services
- Health Screening



'Know Your Medicine' Booth



Counselling, Asthma & Smoking Cessation Booth



Health Screening Booth



Customized tote bags were given away as a token of appreciation for booth visitors, providing patients with a convenient way to carry their medication refills



Group photo after gimmick ceremony



On the second day of the event, a Coffee Talk session was held with special guests Dr. Fahmi Hassan and Dr. Amanda Elli, moderated by Ms. Shazwani Zulkifli. The discussion focused on **"Exploring the Evolving Roles of Pharmacists in Today's Dynamic Healthcare Landscape."**



*Coffee Talk Session*



*The committee members who made WPD event a success*

The speakers shared valuable insights into the changing responsibilities of pharmacists amidst a challenging global health environment, inspiring attendees with fresh perspectives and renewed motivation. Adding a special touch, participants were treated to complimentary coffee crafted by **Laiyan KL** to enjoy during the session.

**"Pharmacists are not only the guardians of medication but also the backbone of accessible healthcare, ensuring that every prescription, from the simplest to the most complex, supports a healthier global community."**



*Official launching by the HKL Director YBhg. Dato' Dr. Harikrishna K.R. Nair*



*Winner of WPD Quiz: Mr Muhammad Hazeri, Nuclear Department HKL*



*Winner of Best Ward Competition: Ward UN3A*



*Winner of Best Pharmacy Counselling Room: Farmasi Klinik Pakar, HTA*

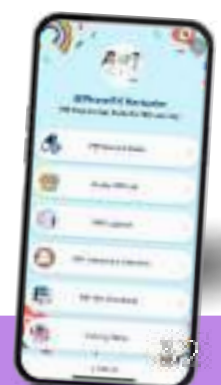


*Winner of "Inisiatif Pendigitalan Penyampaian Kaunseling": Farmasi Klinik Pakar, HKL*

The event was officially launched by the HKL Director, YBhg. Dato' Dr. Harikrishna K.R. Nair. Several impactful initiatives were also unveiled on this day, including the **Oncology MTM Program, Vancomycin Rx Stewardship, the Pharmacy Orientation Kit and the PharmRx Navigator (Training Kit for PRPs)**, each designed to advance pharmaceutical services at HKL.

Awards were also presented to recognise outstanding achievements, including winners of the **World Pharmacists Day Quiz, Best Pharmacy Counselling Room, and Best Ward Competition.**

*A snapshot of the "PharmRx Navigator" – a training kit designed to assist PRP doing attachment in HKL*





# MEDICATION REVIEW AND MANAGEMENT SEMINAR (MEDREV) 2.0

1 OCTOBER 2024 | AUDITORIUM PERDANA HOSPITAL TUNKU AZIZAH

By CHEE SHAUN WENG

## ***"Decoding Geriatric Frailty"***

Following the success of the inaugural seminar, MEDREV 2.0 focused on the healthcare challenges Malaysia will face as it becomes an aged nation by 2030, with over 15% of the population aged 60 and above.

This year's seminar centred on geriatric care, with experts addressing issues such as frailty, dysphagia, polypharmacy, and deprescribing. The importance of interprofessional collaboration among healthcare providers to ensure effective care for the elderly was also strongly emphasised.



*Dr. Rizah, Head of Geriatrics Clinics Hospital Kuala Lumpur, delivering her speech to the audience*



*Guests visiting the exhibition area outside of the Auditorium Perdana*



*The organising committee of MEDREV 2.0*



*The panelist discussing about the management of frailty in the community setting*





# MEDICATION SAFETY ENHANCEMENT WORKSHOP

30-31 MAY 2024 | SEMINAR ROOM, HOSPITAL TUNKU AZIZAH

By TANG YITIAN



This workshop was organized to enhance patient safety among pharmacy staff and to ultimately reduce medication errors. With 45 participants, including pharmacists, pharmacy assistants, and medication safety experts from Hospital Kuala Lumpur, Hospital Tunku Azizah, and Institut Perubatan Respiratori, the event aimed to strengthen knowledge and practical skills in safe medication administration. Another key focus was to train HTA staff, helping to build and support the Medication Safety Committee within the organization.



*Dr. Nur Syafika Zazili giving lecture on "What is RCA & How to report?"*



This two-day workshop focused on several key components:

- Understanding the structure and roles of Medication Safety Committees, including the Prescribing, Administration, and Dispensing Committees.
- The significance and workflow of the Medication Error Reporting System.
- Proper methods for conducting Root Cause Analysis and formulating strategies.
- Developing a training module (theory and practical-based): Training Module for Medication Safety (TRAMMS) and Check-It-Right Assessment.



Practical sessions were conducted on the TRAMMS and the Check-It-Right Kit—tools designed to help healthcare providers ensure accurate medication administration and improve patient safety.

The workshop successfully achieved its objectives by fostering collaboration and knowledge-sharing among healthcare professionals, ultimately strengthening medication safety practices.



*Group discussion ongoing*



*Group photo of attendees of this event*



# WORLD PATIENT SAFETY DAY

## IMPROVING DIAGNOSIS FOR PATIENT SAFETY

17 SEPTEMBER 2024 | AUDITORIUM UTAMA, HOSPITAL KUALA LUMPUR

By Cheng Zhi Qin, Lim Dhi Vya

**World Patient Safety Day (WPSD)** is celebrated on September 17 each year under the initiative of the World Health Organisation to emphasise the importance of accurate and timely diagnosis for patient safety. This year, Hospital Kuala Lumpur (HKL) organised the event in collaboration with Hospital Tunku Azizah and Institut Perubatan Respiratori, with the theme **"Improving Diagnosis for Patient Safety"**.

A series of sharing sessions were held during the event, featuring various specialties from the healthcare field. These sessions aimed to raise awareness of patient safety practices within hospital settings, aligning with the Malaysian Patient Safety Goals 2.0 guidelines.



*Ms. Bavahrni Subramaniam, the coordinator of the Medication Safety Action Team (MSAT) HKL, delivered an insightful talk on medication safety practices and improvements during the WPSD. Her presentation highlighted the ongoing efforts to enhance medication safety and the crucial steps being taken towards achieving zero medication harm, underscoring the importance of continuous improvement in patient care.*

### Medication safety practices and improvements; leaping towards Zero Medication Harm

Bavahrni Subramaniam  
Coordinator  
Medication Safety Action Team HKL





## VIDEO CHALLENGE!

In conjunction with World Patient Safety Day, HKL's Unit Kawalan Kualiti launched a Video Challenge to raise awareness about patient safety among staff. Open to all departments, the competition encouraged creativity under the theme **"Get It Right, Make It Safe!"**

Participants were invited to focus on any of the 7 Malaysian Patient Safety Goals 2.0, including Infection Prevention and Control and Incident Reporting.



YBhg Dato' Dr. Harikrishna presenting the third runner-up prize to Ms Ainin, representative from Pharmacy Department of HKL and consolation prize to



*Congratulations winners!*

Dynamic videos were submitted to the contest, each showcasing inventive approaches to patient safety. Staff and the broader public were able to support their favorite videos by liking them on YouTube, with bonus points awarded to the most popular entries. This initiative highlighted Hospital Kuala Lumpur's commitment to enhancing patient safety and fostering a proactive culture of learning.

The Pharmacy Department of HKL proudly scooped two spots in the esteemed competition with the title **"Keselamatan Anda Adalah Tanggungjawab Bersama, Sentiasa Amalkan Konsep 5B"** and **"Medication Safety : Safety Is The Treatment"** winning the third runner-up and consolation prizes respectively.

This accolade underscores the Pharmacy Department's unwavering dedication to promoting a culture of safety and accountability, reinforcing their role as advocates for patient and staff welfare within the hospital community.



*Video snippets of the Pharmacy Department demonstrating "Konsep 5B" and strategies to overcome LASA medications emphasizing shared safety responsibility at HKL.*



**WATCH NOW**





# CHILDREN'S DAY CELEBRATION A DAY FOR OUR LITTLE HEROES

13 DECEMBER 2024 | HOSPITAL TUNKU AZIZAH

By Tan Hui Yen



Education and awareness are crucial for improving public health literacy and ensuring the safe and effective use of medicines. Pharmacists support the National Medicine Policy by engaging with communities to empower the public in making informed decisions about medications.

In celebration of this year's Children's Day, Hospital Tunku Azizah (HTA) organized a "Know Your Medicines" exhibition, featuring 12 pharmacists and engaging approximately 200 participants, including children and hospital visitors. The event was honored by the presence of our "Know Your Medicines" ambassadors, En. Mohd Faizal bin Samsudin and En. Nur Areisman Bin Mohd Salleh. The exhibition included interactive games and prizes, which helped enhance engagement with both children and their guardians. The focus of the event was on educating children about different medication formulations and the proper storage of medicines.



"Know Your Medicines" committee from HTA & HKL



A photo with Duta Kenali Ubat Anda, En. Faizal and En. Areisman



Hands-on compounding experience with the children



Jigsaw puzzle game to identify the medication formulation



"Where to keep your medicines at home?" game









# Pharmacy Festive Moments

UNITY IN CELEBRATION











# SPORTS

"GOOD PLAYERS INSPIRE THEMSELVES, GREAT PLAYERS INSPIRE OTHERS."





# FUN RUN & PHARMILY DAY

## A DAY TO MOVE, BOND AND ENERGIZE

28 SEPTEMBER 2024 | PADANG BOLA HKL

By Cheong Ka Seng



In celebration of World Pharmacist Day on 25th September 2024, the Pharmacy Department and Persatuan Farmasi Hospital Kuala Lumpur proudly hosted the thrilling Fun Run, themed **"Racing Towards Health"**. The event brought together healthcare professionals, fitness enthusiasts, and the entire community for an action-packed day of wellness, awareness, and a shared tribute to the incredible contributions of pharmacists in shaping healthier lives!



Plenty of activities to keep participants engaged and entertained!

- Zumba
- Kids Colouring Contest
- Lucky draw
- Food carnival
- Pre-loved booth sale
- Sports house games and more!



The Pharmily Day featured a thrilling lineup of four spirited sports houses, each showcasing their uniquely decorated camps: Red (Mario), Blue (Doraemon), Green (Omnon), and Yellow (Minion)! Get ready to cheer them on, because the winning house will take home an exciting prize!







*Group photos of the victorious Sports House teams*



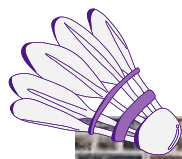
What an unforgettable day filled with energy, excitement, and community spirit! From start to finish, your enthusiasm made this Fun Run a huge success. Whether running, walking, or cheering, each of you helped make it special. Now, let's relive the amazing memories—here are the day's best moments and highlights!



# KEJOHANAN BADMINTON TERTUTUP PIALA TIMBALAN PENGARAH FARMASI HKL 2024

27 OCTOBER 2024 | PUSAT KOMUNITI SENTUL PERDANA

By TANG YITIAN



The **Kejohanan Badminton Tertutup Piala Timbalan Pengarah Farmasi Hospital Kuala Lumpur (HKL) 2024** took place at the Pusat Komuniti Sentul Perdana, drawing **108 participants** from various pharmacy departments across the hospital. The event, organized by the **Cawangan Perkhidmatan Farmakoterapi** and **Persatuan Farmasi HKL**, aimed to strengthen professional ties among pharmacy staff while promoting a spirit of sportsmanship within the community. The ceremony was hosted by MC Muhammad Fauzul Kabir bin Kasim, who kept the event lively and engaging.

## TEAMS

1. Perkhidmatan Farmakoterapi
2. Farmasi Ambulatori
3. Farmasi Pesakit Dalam
4. Farmasi Institusi Khusus I
5. Farmasi Institusi Khusus II
6. Farmasi Institusi Khusus III
7. Cawangan Koordinasi & Sumber Farmasi/Institut Perubatan Respiratori
8. Hospital Tunku Azizah
9. Farmasi Logistik

The badminton tournament began at 7:30 AM with participant registration, followed by a prayer recital and an opening speech by the Deputy Director (Pharmacy) of HKL, officially launching the event at 8:10 AM. A briefing session then explained the competition format and rules to all participants.

From 9 AM to 3 PM, the tournament featured matches in three categories: Men's Doubles, Women's Doubles, and Mixed Doubles. The event provided a lively and competitive atmosphere, allowing participants to showcase their skills and team spirit.



Speech by Pn. Noraini binti Mohamad, Deputy Director (Pharmacy) of HKL



Briefing session



Prayer recitation





The event concluded with a lively closing ceremony at 3 PM, where medals were awarded to the champions and runners-up. **Farmasi Institusi Khusus I** emerged as the overall champion, while **Farmasi Ambulatori** claimed the runner-up spot. As a special highlight, the Overall Champion Cup was awarded to **Farmasi Institusi Khusus I** in recognition of their outstanding performance throughout the day.



With great enthusiasm and support from all involved, the tournament was a resounding success, leaving participants looking forward to future events filled with sportsmanship and collaboration.



# FARMASI CF STRIKES HARD IN PIALA PENGARAH LEAGUE!

7 OCTOBER 2024 | PADANG BOLA HOSPITAL KUALA LUMPUR

By Um Dhiyya



"Farmasi CF" Team

The Kejohanan Liga Bolasepak Piala Pengarah HKL 2024/2025 has united healthcare professionals from HKL, Hospital Tunku Azizah, and IJN in a thrilling display of skill and teamwork. Kicking off on 7 October 2024, this exciting league runs until June 2025, fostering sportsmanship and fitness along the way.

On 20 February 2025, Farmasi CF stole the spotlight with a stellar performance, breaking into the top 8 and securing a Round 16 spot. Led by their dynamic team leader and coach, PPF Mr. Izzul Faliq bin Mazlan, they are proving to be strong contenders. As the competition intensifies, all eyes are on the coveted Piala Pengarah title—who will emerge victorious? Stay tuned!

Standings					
Pl	Team	G	Goals	+/-	Pts
1.	ORTHO HAWK	12	29:11	+18	28
2.	RCKL	12	23:5	+18	28
3.	IJN FC	11	25:6	+19	25
4.	ED CITY FC	12	20:6	+14	23
5.	SURGICAL FC	11	22:12	+10	22
6.	FARMASI CF	12	22:17	+5	17
7.	WCH AVENGERS FC	12	19:21	-2	17
8.	PBHKL FC	12	19:23	-4	16
9.	REAL RESPIRA FC	12	10:14	-4	16
10.	RADIO FC	12	23:18	+5	14

Leaders				
Pl	Player	Team	Goals	Matches
1.	SHADIZIK...		11	11
2.	ASYRAF		11	11
3.	SAIFUL A...		9	10
4.	ARAYSH		8	10
5.	SAIFOL A...		7	11
6.	KHAIRUL...		7	11



Despite facing tough competition, Farmasi CF maintains its resilience, securing 6th of 8 qualifiers for Round 16. The team continues to push forward, eyeing a strong finish in the league. Can they break into the top ranks in the coming matches?

We extend our heartfelt thanks to Lembaga Tabung Haji, Persatuan Farmasi HKL, Mr. Muhammad Fauzul Kabir Kasim, Mr. Abdul Fatah Hambali, Mr. Izzul Faliq Mazlan, and fellow pharmacy staff for their generous sponsorship and unwavering support of Farmasi CF. Your contributions have been vital to the success of this league.

Shadi takes top spot: Farmasi CF's star leads the scoring race









# HALL OF FAME

"IT'S NOT WHETHER YOU GET KNOCKED DOWN, IT'S WHETHER YOU GET UP." - VINCE LOMBARDI





# ANUGERAH PERKHIDMATAN CEMERLANG PERINGKAT HKL TAHUN 2023

23 APRIL 2024 | PUTRA WORLD TRADE CENTRE

By WONG WEI JIE



For individuals who have devoted their time and effort to the institution, Hari Anugerah Perkhidmatan Cemerlang 2023 will undoubtedly be remembered as a special day. This annual event by Hospital Kuala Lumpur was held to honour exemplary service by both current employees and future retirees of HKL.

To add an extra special touch to this historic occasion, we were excited to invite some wonderful VIPs! Among them were the Deputy Minister of Health Malaysia, the Director of HKL, the Director of Hospital Tunku Azizah, and the Heads of Departments.

The officiating speech was delivered by YBhg. Datin Paduka Dr. Rohana Binti Johan, Director of Hospital Kuala Lumpur, followed by Dato Lukanisman Awang Sauni, Deputy Minister of Health Malaysia. Both expressed their heartfelt appreciation for the winners' unwavering dedication and tireless efforts, which perfectly embody the spirit of collaboration and teamwork.

The Pharmacy Department recognised 32 recipients, including the honourees of *Sijil Pesara Tahun 2023* and *Sijil Anugerah Perkhidmatan Cemerlang 2023*. Each awardee received an appreciation certificate and a deposit worth RM1,000.00 in SSPN account. Our heartfelt congratulations to all the recipients!





# RECIPIENTS OF HKL'S EXCELLENT SERVICE AWARD YEAR 2023



YONG KING TIN  
PHARMACIST



TAN SIN YEE  
PHARMACIST



CHIN KHENG YING  
PHARMACIST



NURUL HAZWANI ZAINAL ABIDIN  
PHARMACIST



SAFAWATI SAMSURI  
PHARMACIST



LIM WEI CHING  
PHARMACIST



NURUL MAISARA JAAFAR  
PHARMACIST



MANJIT KAUR BHAIJAN SINGH  
PHARMACIST



GOH YEAN HUI  
PHARMACIST



ONG YIN SIN  
PHARMACIST



TAN CHU PING  
PHARMACIST



HAYATUN NUFUS OTHMAN  
PHARMACIST



KANTHENEERAJASEKARAN  
PHARMACIST



NUR SYAFIQAH MOHD JEFFRI  
PHARMACIST



JONATHAN WEE TZE HAN  
PHARMACIST



OON XIN YING  
PHARMACIST



FAIZATUL IMAN MAKPOL  
PHARMACIST



ISHMAH MUSFIRAH NAZARI  
PHARMACIST



NURUL AIN OMAR  
PHARMACIST



SALWANI ABDUL HAMID  
ASSISTANT PHARMACIST



FADILAH MOHMAD BASRI  
ASSISTANT PHARMACIST



SURIYA AFZAN MOHD SURI  
ASSISTANT PHARMACIST



NUR AIN AQILA AHMAD  
PEN.PEGAWAI FARMASI



MAISARAH OTHMAN  
ASSISTANT PHARMACIST



ELFIRAH GANDI @ MEDI  
ASSISTANT PHARMACIST



HANIS FARHANA RADZUAN  
ASSISTANT PHARMACIST



NUR AFQAH NABIHAH MOHD ZAHID  
ASSISTANT PHARMACIST



MOHD ZURAIDI ZOLKEPLI  
ASSISTANT ADMINISTRATIVE OFFICER



ABDUL KALAM AHMAD  
HEALTHCARE ASSISTANT



MOHAMMAD SAHIDIN MOHAMMAD SAID  
HEALTHCARE ASSISTANT



AZIZI NASRI  
ADMINISTRATIVE ASSISTANT  
(CLERICAL/OPERATION)



VICKNESWARAN RAMAN  
HEALTHCARE ASSISTANT



# MAJLIS ANUGERAH PEKERJA CEMERLANG & PERSARAAN

16TH AUGUST 2024 | BILIK MESYUARAT IUN ARAS 2 | 9 AM - 12.30 PM

By Priya Shirin Kaur

The *Majlis Anugerah Pekerja Cemerlang dan Persaraan* Pharmacy Department of HKL, HTA and IPR was a meaningful blend of celebration and reflection. The event began by recognising outstanding employees for their dedication, passion, and commitment, setting a new standard of excellence. Their accomplishments served as an inspiration to all.

The focus then shifted to honouring retiring colleagues in 2024, marking the end of an era. Retirees were celebrated for their decades of service, with personalised tributes highlighting their impact on the organisation. Heartfelt speeches from friends and colleagues paid tribute to their dedication and lasting legacy, inspiring all present to uphold the values of hard work, perseverance, and community spirit.

A collection of cheerful moments from the recipients of the *Anugerah Pekerja Cemerlang dan Persaraan* for January to June 2024. ▼



This event was successfully organised by JK Budaya Kerja Premier, Pharmacy Department HKL



# Tahniah

## Anugerah Pekerja Cemerlang

Sesi Januari - Jun 2024



**ZIRAN**  
PF UF52



**MERINA**  
PF UF52



**RACHEL**  
PF UF52



**SUK YEN**  
PF UF52



**ADIBAH**  
PF UF48



**JACYNTA**  
PF UF48



**SYAFIKAH**  
PF UF48



**YI YEEN**  
PF UF48



**HEMA**  
PF UF44



**HIDAYATUL**  
PF UF41



**NORLIA**  
PK W32 (TBK1)



**NAUURAH**  
PPF U32 (KUP)



**SYAKIRAH**  
PPF U29



**AZURA**  
PPF U29



**SYAFIQA**  
PPF U29



**NORAZLI**  
PT N29



**NAZRI**  
PPK U11



# Tetamat Bersara



**RUZILAH BT MOHD KHAIRY**  
PPF U38



**TAN KIM ENG**  
PPF U38



**JEEVANANTHAN A/L  
M. ARUMUGAM**  
PPF U36



**MOHD TEMIZI AZIS**  
PPK U14



**SHANTY A/P PERUMAL**  
PPK U11

## Jasamu Dikenang



# 12TH NATIONAL PHARMACY RESEARCH AND DEVELOPMENT (R&D) CONFERENCE OUR TRIUMPH AS GRAND CHAMPION!

19-21 AUGUST 2024 | KSL ESPLANADE HOTEL, KLANG

By AININ SOFIYA BINTI MOHAMED SHARIFF

Unity for Medicine Security: Collaborative Solutions for a Safe Future



Conference held at KSL Esplanade Hotel, Klang

This year, the 12th National Pharmacy R&D Conference 2024 (12NPRnDC) had been organised by the Pharmaceutical Services Programme (PSP) Ministry of Health, in collaboration with the Malaysian Pharmaceutical Society (MPS) on 19-21 August 2024 at KSL Esplanade Hotel, Klang, Selangor.

#### *The main objectives of the event:*

- Sharing research findings on medicines and vaccines in Malaysia
- Covering drug and vaccine development
- Enhancing consumer access to medications and pharmaceutical care

Pharmacy Department of HKL proudly showcased its excellence at the 12NPRnDC 2024, with our representatives making a significant impact. Our team participated with outstanding research and innovative solutions, underscoring our commitment to advancing pharmacy practice and patient care. Their contributions not only highlighted our institution's leadership in the field but also reinforced our dedication to excellence and progress in pharmacy research.



Pharmacy department delegates from HKL



HKL Representative Winners in 12NPRnDC 2024

We are thrilled to announce that HKL has achieved remarkable success at 12NPRnDC 2024. Our institution was honoured with the grand prize **Piala Pusingan Dato' Eisah A. Rahman**, recognising our overall excellence in pharmacy research and development.

We proudly celebrate the outstanding achievements of our individual team members.

- **Wilson Koh Hock Peng**, achieving **Gold** in the Pharmacotherapy category for his groundbreaking study, 'Clinically Significant Renal Function Decline among Non-Valvular Atrial Fibrillation Patients on Direct Oral Anticoagulant: A Retrospective, Multicentre Study in an Asian Population'.
- **Chang Cheok Ee**, achieving **Consolation Prize** in the Published Research category with her innovative 'Development and Validation of STORIMAP: A Pharmaceutical Assessment Screening Tool for Prioritising Patient Care in a Tertiary Care Hospital'.

*Congratulations to all for these impressive accomplishments!*





**PIALA PUSINGAN DATO' EISAH A. RAHMAN  
WON BY PHARMACY DEPARTMENT HOSPITAL KUALA LUMPUR**





# 12TH NATIONAL QA CONVENTION 2024 HKL LEADS WITH EXCEPTIONAL ACHIEVEMENTS

8-10TH OKTOBER 2024 | KLANA RESORT, SEREMBAN

By Ko Chen Jie



The Ministry of Health Malaysia hosted the National QA Convention that attracted participants from healthcare institutions nationwide, providing a platform to showcase the finest improvements and solutions in healthcare. HKL was a notable contender, entering all three competition categories and achieving remarkable results.

Guideline on **Prescribing, Supplying and Administration of Immunoglobulin for Neurological Disorders, Hospital Kuala Lumpur (GPS-Ig)**



SCAN ME



## Competition categories:

### 1. Protégé (LISAN)

- Improving Appropriate Use of Intravenous Immunoglobulin (IVIG) for Neurological Disorders at Hospital Kuala Lumpur
- Improving Appropriate Management of Chemotherapy Drugs in Paediatric Oncology, Hospital Tunku Azizah

### 2. Poster

- Optimising Pharmacotherapy in Medical Ward Patients: Enhancing Ward Pharmacists)

### 3. Video Seminit

- Improving Utilisation of Parenteral Iron for Treatment of Iron Deficiency Anemia (IDA) in Medical Wards of Hospital Kuala Lumpur



In the **Protégé (LISAN) Category**, the HKL team, represented by Pn. Hazrin Mohamed Radzi secured **1st prize** for their entry, "Improving Appropriate Use of Intravenous Immunoglobulin (IVIG) for Neurological Disorders at Hospital Kuala Lumpur"





In the **Anugerah Projek Strategi Inovatif (Lisan)**, the HTA team, presented by Ms Loo Yee Shen, made a strong impression with their entry, "Improving Appropriate Management of Chemotherapy Drugs in Paediatric Oncology, Hospital Tunku Azizah," which also stood out.



HKL continued its success in the **Poster Category**, with 50 entries from various healthcare teams. Presented by Mr. Muhammad Amir Saifuddin Hj Muhamad Juhari, the HKL team secured **2nd place** with "Optimising Pharmacotherapy in Medical Ward Patients: Enhancing Ward Pharmacists". The project was praised for improving patient outcomes by optimising medication regimens through the expanded role of ward pharmacists.





## KONVENSYEN QA KEBANGSAAN

KALI KE-12 "Compassionate Co-production"  
8 - 10 Oktober 2024 | Klasa Resort, Seremban

# Jahniyah!

## KEPADA PARA PEMENANG

### JOHAN KATEGORI PEMBENTANGAN LISAN

Nama PN HAZRIN MOHAMED RADZI

Projek OP-07: IMPROVING APPROPRIATE USE OF INTRAVENOUS  
IMMUNOGLOBULIN (IVIG) IN NEUROLOGICAL DISORDERS AT  
HOSPITAL KUALA LUMPUR

Institusi HOSPITAL KUALA LUMPUR



Atau Pembawa Or Bearer

**RM 5,000.00**

Cheque No.

20210411 50698378 21



**MSQH**

### NAIB JOHAN KATEGORI PEMBENTANGAN POSTER

Nama ENCIK MUHAMMAD AMIR SAIFUDDIN HJ MUHAMAD JUHARI

Projek PP-07: OPTIMISING PHARMACOTHERAPY IN MEDICAL WARD  
PATIENTS: ENHANCING WARD PHARMACISTS' REVIEW  
EFFICIENCY AT HOSPITAL KUALA LUMPUR

Institusi HOSPITAL KUALA LUMPUR



Atau Pembawa Or Bearer

**RM 3,000.00**

Cheque No.

20210411 50698378 21



**MSQH**

### PEMENANG ANUGERAH PROJEK STRATEGI INOVATIF (LISAN)

Nama CIK LOO YEE SHEN

Projek OP-25: IMPROVING APPROPRIATE MANAGEMENT OF  
CHEMOTHERAPY DRUGS IN PAEDIATRIC ONCOLOGY,  
HOSPITAL TUNKU AZIZAH

Institusi HOSPITAL TUNKU AZIZAH



Atau Pembawa Or Bearer

**RM 300.00**

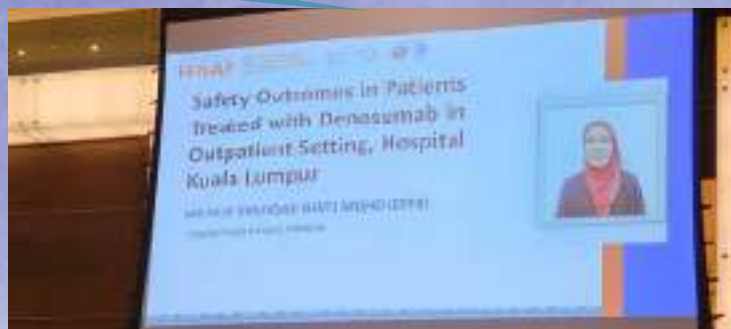
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**MSQH**





## PHARMACY DEPARTMENT SHINES AT 2ND FRAGILITY FRACTURE NETWORK ASIA PACIFIC REGIONAL CONGRESS

By AIMA NABILA BINTI ABDUL BASID

Kuala Lumpur, June 13-15, 2024 – Congratulations to the HKL's Pharmacy Department for securing **2nd Runner-Up** in the **Best Rapid Oral Presentation Award** at the 2nd Fragility Fracture Network Asia Pacific Regional Congress 2024.

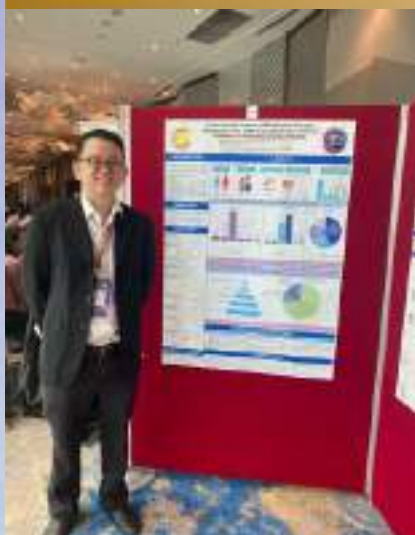
The study, **"Safety Outcomes in Patients Treated with Denosumab in Outpatient Setting at HKL,"** was presented by Pharmacist Nur Syafiqah Mohd Jeffri, with contributions from Hannah Abdul Halim (Principal Investigator), Nur Farah Diana Zamry, and Faizatul Iman Makpol.

This congress, held in Kuala Lumpur, brought together over 400 attendees from various disciplines and countries in the Asia-Pacific region.

We hope this success serves as an inspiration and catalyst for further achievements in the future. Congratulations once again!







## HEALTHCARE EXCELLENCE IN NEPHROLOGY RECOGNIZED AT THE 4TH NATIONAL RENAL SCIENTIFIC MEETING

By AIMA NABILA BINTI ABDUL BASID

The 4th National Renal Scientific Meeting, held on 20th-21st September 2024, brought together healthcare professionals, researchers, and experts to explore the latest advancements in the field of nephrology.

A highlight of the event was the recognition of Mr. Victor Ong, a pharmacist representing HKL, who received a **consolation prize** for his impactful contributions to renal care.

His innovative approaches, showcased among a competitive field, demonstrated HKL's unwavering commitment to advancing kidney health in Malaysia.

Mr. Ong's achievement not only brought pride to HKL but also inspired attendees, emphasising the vital role of research and collaboration in driving progress in nephrology.





DAPATKAN BUKU  
DIGITAL PERCUMA!



# NEPHROLOGY PSIG

"PATIENT CARE THRIVES ON COMPASSION AND DEDICATION,  
TURNING CHALLENGES INTO SUCCESS."





# NEPHROLOGY PHARMACY SPECIAL INTEREST GROUP

By Merina Aw Kar Ling

Our renal pharmacy services have been a cornerstone at HKL for many years. We began with our pioneering Ward Pharmacotherapy Service and have since expanded to include the **Peritoneal Dialysis (PD) Medication Adherence Therapy Clinic (MTAC)** and **Renal Transplant (RT) MTAC**. These services emphasised our commitment to advancing patient care and enhancing the role of pharmacists within multidisciplinary renal teams.

The COVID-19 pandemic presented significant challenges in our services, but it also accelerated our use of digital technologies to continue providing essential services. This period has proven our ability to adapt, ensuring we remain connected and deliver effective patient care despite physical barriers.

The Nephrology PSIG has been a vital platform for education and professional growth. We provide opportunities for our members to learn and advance in the field of renal pharmacy, aiming to enhance the visibility and impact of pharmacists in renal services.

Additionally, Nephrology PSIG is a central hub for discussion and support among team members. We facilitate sharing knowledge and insights on current nephrology issues, helping our members stay informed and engaged with the latest guidelines.

Moreover, our active collaboration with the Nephrology Department at HKL has enabled us to celebrate World Kidney Day, underscoring our commitment to raising awareness and improving kidney health.



With the new Nephrology PSIG committee for 2024-2025, we look forward to further advancing our services and making an even more significant impact in the field.

## ***Nephrology PSIG Committee year 2024***

**Chairperson:** Merina Aw Kar Ling

**Deputy Chairperson:** Farah Nadirah binti Abd Rahman

**Secretary I:** Victor Ong Sheng Teck

**Secretary II:** Norazah binti Shaari

**Treasurer:** Siti Fariza Bt Fuad

**Preceptor:** Nurul Hizwani Azahar

**Coordinator (Pharmacotherapy):** Leong Min Nah

**Coordinator (MTAC) I:** Sofiah binti Ibrahim

**Coordinator (MTAC) II:** Len Yi Won

**Coordinator (Training) I:** Siti Fatimah Azzahra binti Bakar

**Coordinator (Training) II:** Low Seow Huey  
**Member:**

Humamageswary A/P Ramakrishnan  
Tan Xin Qian

Jacynta Jasmine A/P Manuel Jeyaraj  
Maisarah binti Abdul Hamid

Nor Izni Sajidah binti Abdul Hamid  
Lim Yi Ying

Ooi Shu Nee

Lisa Tan Bee See

Chuah Ying Qi

Nafisah binti Hasan

Nur Syahirah binti Abu Bakar

Swee Choong Lii





# PERITONEAL DIALYSIS AND RENAL TRANSPLANT MTAC

By Farah Nadirah Abd Rahman



## INTRODUCTION

Nephrology Medication Therapy Adherence Clinic (MTAC) programme is a specialised service aimed at improving **medication management** and **adherence** among patients with kidney disease, particularly those in end stage renal disease or post renal transplant recipients. It focuses on optimising the use of medications to slow the progression of kidney disease, manage complications such as hypertension and electrolyte imbalances, and minimise adverse drug reactions. Through regular follow-ups, patient education, and medication reviews, the MTAC ensures that patients understand their treatment regimen, adhere to prescribed therapies, and make necessary lifestyle adjustments to support their kidney health.



## ESTABLISHMENT & SCOPE OF SERVICE

In HKL, there are 2 MTAC clinics : Renal Transplant (RT) MTAC has been established since 2008, while the Peritoneal Dialysis (PD) MTAC was started in 2009. Each MTAC session there will be 2 pharmacists on duty to review an average of 3-9 MTAC patients. The operational hours of HKL MTAC Clinics are as below:

**Day:** Wednesday & Thursday (9:00am to 1:00pm)

**Venue:** RT MTAC at Nephrology Clinic (SCACC 3rd floor, Room 11) and PD MTAC at CAPD Clinic (SCACC 3rd floor)



## OBJECTIVES

- To empower patients with knowledge on medications and disease.
- To improve and sustain adherence towards medications.
- To optimize pharmacotherapy in terms of quality, safety and cost-effectiveness.



## KEY PHARMACIST ROLES

- Medication review and optimisation.
- Adherence towards medications.
- Patient education on renal disease complications and their management (PD Patients).
- Patient education on the importance of immunosuppressants to prolong graft survival (Renal Transplant Patients).
- Lab results monitoring and recommending medications dose adjustment.
- Provide information or recommendations on medication therapy to doctors.



PD MTAC Consultation



Renal Transplant MTAC Consultation

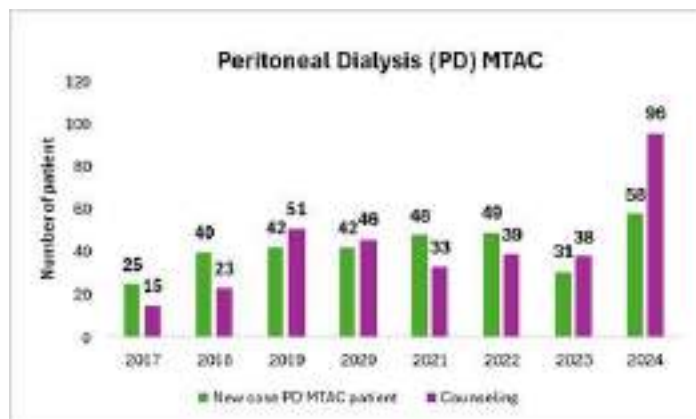


# KEY ACHIEVEMENTS OF THE NEPHROLOGY PSIG

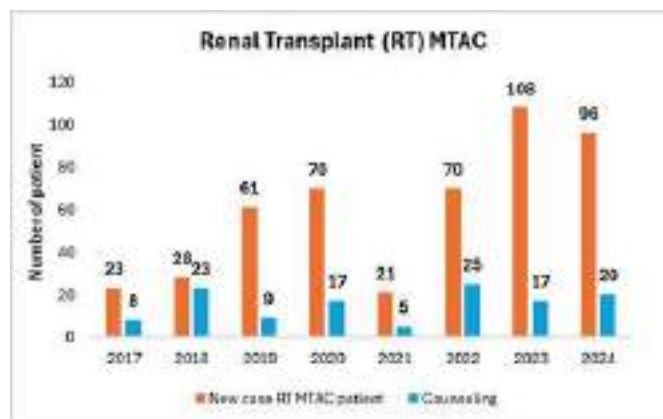
By Nurul Hizwani Azahar



## Peritoneal Dialysis MTAC



## Renal Transplant MTAC



## Nephrology MTAC achievement 2023-2024



2023

2024

60% serum phosphate within 1.1-1.8mmol/L (upon discharge PD MTAC)

80%

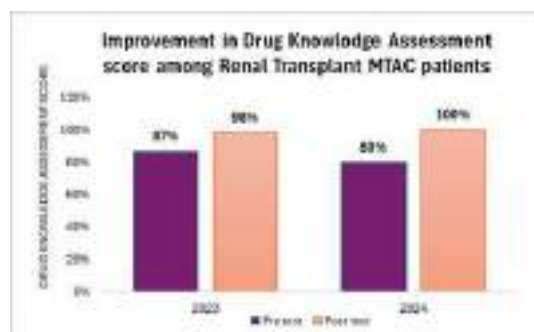
82%

> 80% of Hb within 10-11.5g/dl (upon discharge PD MTAC)

86%

85%

Drug Knowledge Assessment Score >80% upon discharge RT MTAC



## Activities as National Nephrology Pharmacy Training Center

In 2011, the Pharmacy Department HKL was conferred the status of National Nephrology Pharmacy Training Centre by the Pharmaceutical Services Program, Ministry of Health Malaysia (MOH). The training program comprised Renal Transplant and PD MTAC with the addition of nephrology ward pharmacy practice.

As one of the only two transplant centres within the MOH, HKL was responsible for the nationwide training of renal pharmacists, particularly in transplant pharmacotherapy. To date, HKL has trained 22 MOH pharmacists and 2 pharmacists from other ministry.





# MEDICATION RELATED PROBLEMS AMONG PERITONEAL DIALYSIS MTAC PATIENTS

By Nurul Hizwani Azahar and Victor Ong Sheng Teck

The prevalence of Medication Related Problem (MRP) among adult patients in the pre-dialysis and dialysis stages of chronic kidney disease have remained over 90%. MRP will cause prolonged hospitalization, increase overall treatment cost and even death in some extreme cases. Peritoneal Dialysis (PD) is becoming an acceptable option to Haemodialysis (HD) for patients with end-stage kidney disease (ESRD) as PD provides better preservation of renal function, residual urine volume, reduced blood pressure as compared to HD. The aim of the study is to identify and investigate the prevalence and MRPs characteristics (types, causes, types of interventions, and outcomes) among PD MTAC patients.



## Results and Discussions

68 patients were included in this analysis. The mean age was  $46.9 \text{ yo} \pm 17.6$  years and the majority was female ( $n=35$ , 51.4%). The majority of patients have hypertension ( $n=50$ , 73.5%) and diabetes mellitus ( $n=31$ , 45.6%). The average number of medications use was  $10.4 \pm 2.6$ .

A total of 92 MRPs were identified. The three top MRPs type found were suboptimal drug effects ( $n=59$ , 64.1%), non-allergic drug reactions ( $n=9$ , 9.8%), and no drug treatment effect ( $n=8$ , 8.7%). The most common contributing factor for MRPs in this study was patient factors, which account for 47.3%.

Reasons could be explained by poor understanding of drugs prescribed or disease and patient's forgetfulness. This has been shown in an earlier study that found 80.5% of CKD patients on drug treatment do not know the benefits of their medications.

Nearly 90% of MRPs found were intervened via counselling sessions. The majority of MRPs were resolved during the next MTAC visit, and upon discharge MTAC with percentages of 58.4% and 64%, respectively.



## Conclusion

This study highlights that drug effectiveness is the common MRP type found among PD MTAC patients and demonstrates the crucial role of drug counseling among pharmacists in ensuring patients' drug safety, efficacy, and quality of life.

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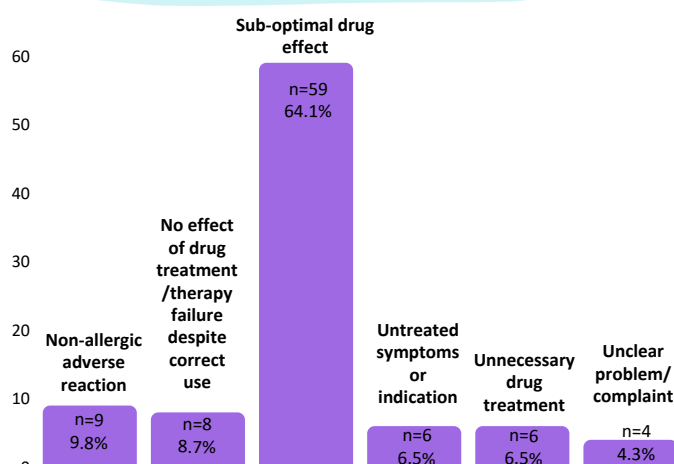


Figure 1: Type of MRPs

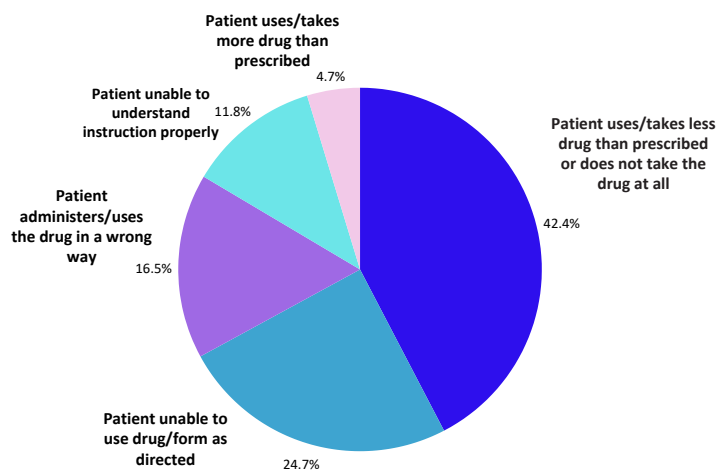


Figure 2: Top contributing patient factors of MRPs

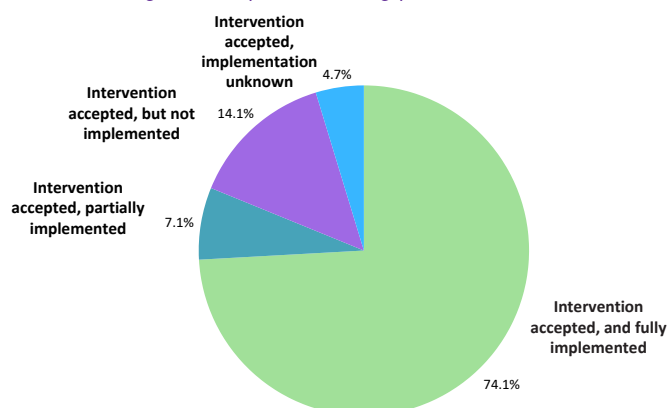


Figure 3: Acceptance of MRPs intervention and outcome



# THE SILENT BURDEN : KIDNEY DISEASE

By Merina Aw Kar Ling

## Overview of Chronic Kidney Disease (CKD)



**Global Impact:**  
CKD affects approximately 10% of adults worldwide, leading to millions of premature deaths.



### Malaysia Statistics:

2011: CKD prevalence at 9.07%  
2018: Increased to 15.48%

## The Silent Progression of CKD

CKD often goes unnoticed until advanced stages, with low global awareness:



General Population Awareness: 6%  
High-Risk Individuals Awareness: 10%

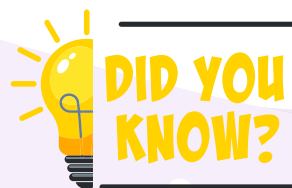
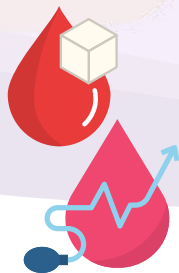
## Primary Causes of End-stage kidney disease (ESKD)

- Diabetes Mellitus (DM) :
  - 52% of new dialysis cases
- Hypertension (HPT) :
  - 35% of new dialysis cases



### CKD Risk Factors

- An ageing population increase the number of people at high risk of CKD.
- Traditional risk factors to CKD continue to rise: DM, HPT, obesity



Not only in Malaysia, kidney disease prevalence is increasing globally

It's the 3rd fastest-growing cause of death and the only non communicable disease to exhibit a continued rise in age-adjusted mortality

By 2040, CKD is projected to be the 5th highest cause of years of life lost (YLL) globally

## Trends of Dialysis in Malaysia

- Dialysis Acceptance Rate: Increased from 238 pmp (2013) to 293 pmp (2022)
- Dialysis Prevalence Rate: Rose from 1,099 pmp (2013) to 1,568 pmp (2022)
- Projected Growth: By 2040, over 106,000 patients may depend on dialysis, with estimated costs reaching RM4 billion.



## Call to Action

- Early Detection: Crucial for delaying disease progression and improving outcomes.
- Awareness & Intervention: We must prioritize awareness, early detection, and optimized treatment strategies to combat CKD effectively.



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# CHALLENGES IN DELAYING CHRONIC KIDNEY DISEASE PROGRESSION

By Chuah Ying Qi

Chronic kidney disease (CKD) is a **progressive** clinical condition characterised by the **deterioration of renal function** over time, which is inevitable and frequently irreversible.

Progression of CKD is defined as:

- a) a decline in glomerular filtration rate (GFR) category or a drop in GFR category accompanied by a 25% or greater drop in eGFR from baseline.
- b) a sustained decline in eGFR  $>5 \text{ mL/min/1.73 m}^2$ .

Various risk factors can lead to a rapid deterioration in renal function, and such factors should be identified promptly.

## Risk Factors

Risk factors for the rapid progression of CKD include:

- Persistent and severe proteinuria
- Uncontrolled hypertension
- Poor glycaemic control
- Smoking
- Cardiovascular disease
- Multiple episodes of acute kidney injury
- Anaemia

## CKD Retardation

ESKD is a **preventable** disease. Hence, established and potential management strategies should be focused on **slowing down the deterioration of renal function** and **treating the relevant complications** in patients with CKD.

The goal of management of CKD would be:

- To delay the progression of CKD
- To reduce cardiovascular risk
- To avoid nephrotoxic drugs
- Manage complications of CKD such as anemia and chronic kidney disease-mineral bone disease (CKD-MBD)
- To identify patients who need renal replacement therapy (RRT), then plan the necessary preparation for transition into RRT phase

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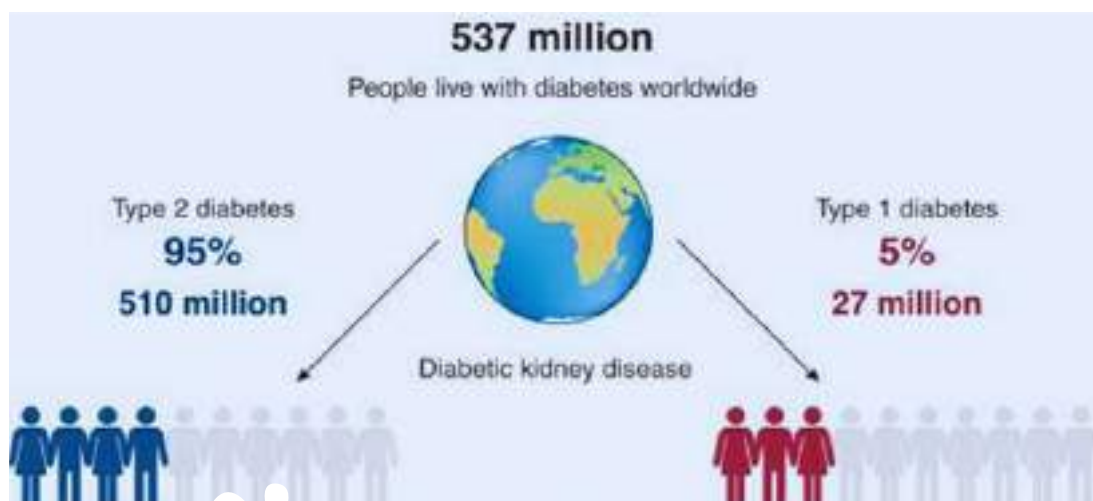
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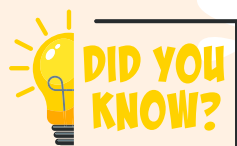
# THE BIGGEST CULPRIT OF ESKD IN MALAYSIA

## DIABETIC KIDNEY DISEASE (DKD)

By Chuah Ying Qi



**Poor glycemic control drives the development and progression of DKD**



**1 in 5 Malaysian adults has diabetes**

**That's about 3.9 million people aged 18 years and above!**

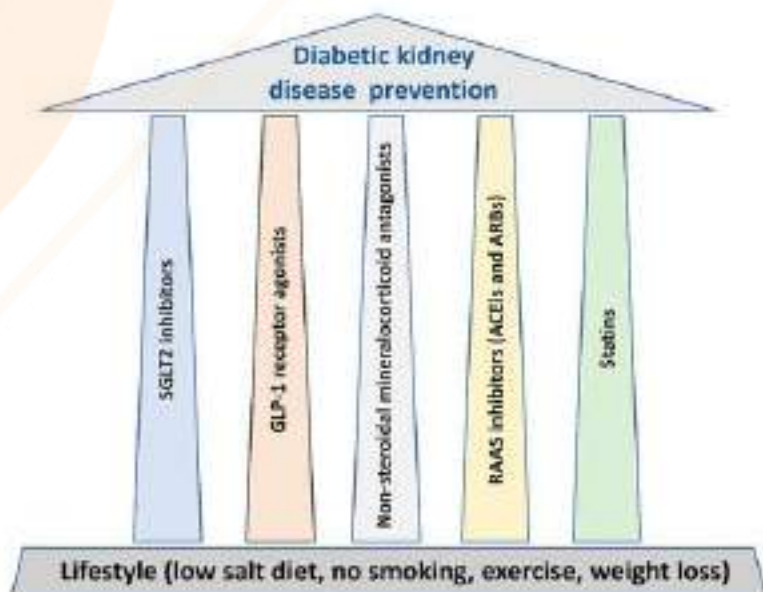
### ESTABLISHED DKD THERAPY

- Renin-angiotensin-aldosterone (RAAS) blockade system
- Statin

DKD therapies have been shown to have important **renoprotective effects** in patients with diabetes, which also results in significant and important **reductions in cardiovascular morbidity and mortality.**

### NOVEL DKD THERAPY

- Sodium-glucose co-transporter-2 (SGLT2) inhibitors
- Glucagon-like peptide 1 (GLP1) receptor agonists
- Non-steroidal mineralocorticoid receptor antagonists



*The treatment "pillars" for renal protection in diabetes.*

The figure outlines five major drug treatment "pillars" that possess significant renal protective properties. These pillars, along with lifestyle changes that promote good glucose and blood pressure control, are essential for preventing DKD.

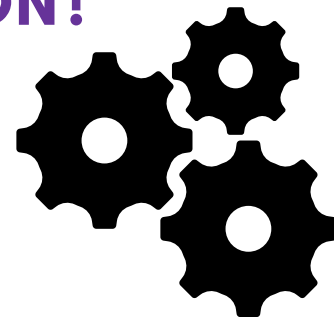
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# HOW DOES RAAS BLOCKADE PREVENT DKD PROGRESSION?

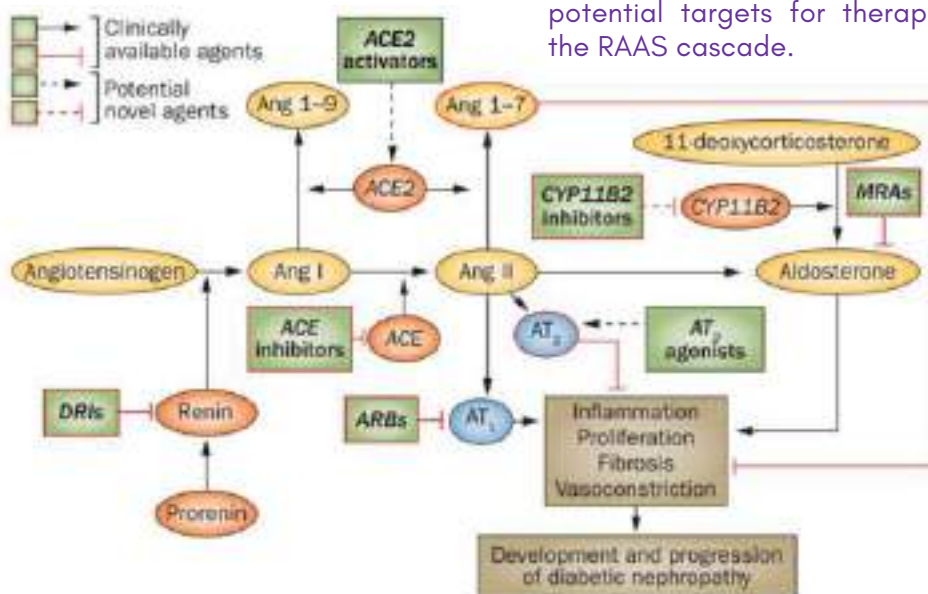
By Nafisah binti Hasan



The Renin-Angiotensin-Aldosterone System (RAAS) regulates blood pressure and body fluid balance. In DKD, excessive activation of the RAAS results in progressive renal damage.

Angiotensin-converting enzyme (ACE) inhibitors or angiotensin-receptor blockers (ARBs) help to **lower the blood pressure** by blocking this system, and it is the cornerstone of treatment for DKD, as can **reduce proteinuria and preserve kidney function**.

**MOA: RAAS** blockers help **reduce glomerular pressure (the pressure within the filtering units of the kidney) through vasodilation of the efferent arterioles, decrease inflammation, and reduce oxidative stress**. Indirectly, it preserved kidney cells from damaging effects & slowed down the CKD progression. Figure 3 shows current and potential targets for therapeutic interventions in the RAAS cascade.



However, combination therapy of ACE inhibitors and ARBs, may have a risk of increase serum creatinine and potassium levels. For people with type 2 diabetes, it's recommended to add another type of anti-proteinuric agent as DKD retardation regime.



**Common side effects:** increased serum potassium level, renal impairment, angioedema, and dizziness. When starting these medications or changing the dose, close monitoring of the kidney function and serum potassium levels within a couple of weeks is needed. Patients with severe kidney disease or heart failure are more at risk for complications. Therefore, combining these medications needs careful risk-benefit evaluation.

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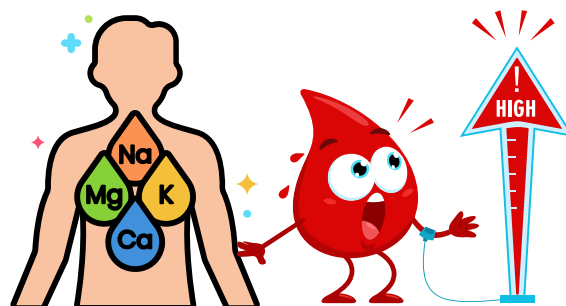


# FINERENONE VS. STEROIDAL MRAS: A NEW ERA IN MANAGING CKD AND CARDIOVASCULAR DYSFUNCTION

By Nur Syahirah binti Abu Bakar Musaddik

**Mineralocorticoid receptors** play a critical role in regulating **electrolyte balance** and **blood pressure**.

Activation of these receptors can lead to inflammation and fibrosis, worsening CKD and cardiovascular dysfunction. Steroidal MRAs like spironolactone and eplerenone have been widely used to manage CKD and heart failure. However, their use is often limited due to concerns about **hyperkalaemia**, **gynaecomastia**, and **menstrual disturbances**, which can further affect a patient's quality of life.



**Finerenone**, a novel non-steroidal MRA, was shown to be more effective at reducing the pathological processes contributing to CKD than steroidal MRAs, with potentially fewer side effects. This is because Finerenone has **high selectivity for the mineralocorticoid receptor while having low affinity for androgen, glucocorticoid, progesterone, and estrogen receptors**.

Finerenone:

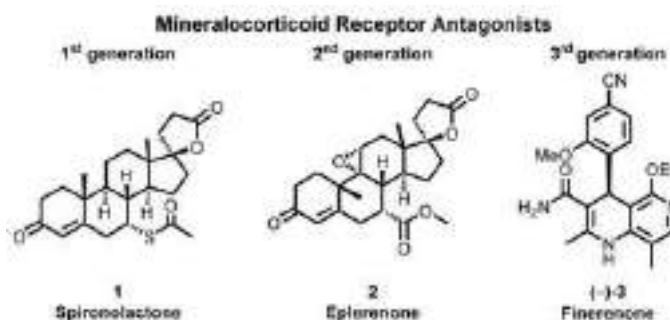
- Inhibits the effects of aldosterone and cortisol when mineralocorticoid receptors are overactivated.
- Unlike spironolactone, which primarily targets the kidneys, finerenone acts in both the **heart and kidneys** -> reducing inflammation and fibrosis in both these organs.
- It also provides **stronger anti-inflammatory and anti-fibrotic effects** than eplerenone in animal models.
- Provides a better benefit-risk ratio, with a **lower risk of hyperkalemia**.



According to the NICE guidelines

## Finerenone

- should not be initiated if the eGFR is  $<25 \text{ mL/min/1.73 m}^2$
- should be discontinued if the GFR falls below  $25 \text{ mL/min/1.73 m}^2$ .



Finerenone is a major step forward in managing CKD and cardiovascular dysfunction. Offering a more selective and safer alternative to steroidal MRAs, it overcomes many limitations of traditional approach. As clinical practice evolves, finerenone is expected to play an increasingly important role in improving patient outcomes with fewer side effects.

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# UNLOCKING THE POTENTIAL OF SGLT2 INHIBITORS: BEYOND BLOOD SUGAR CONTROL

By Leong Min Nah

## Introduction

The introduction of Sodium-Glucose Cotransporter-2 inhibitors (SGLT2-i) has revolutionized the management of diabetic kidney disease. These medications, initially designed to control blood glucose levels, have demonstrated significant renal protective effects, transforming the treatment landscape for patients with diabetes and CKD.

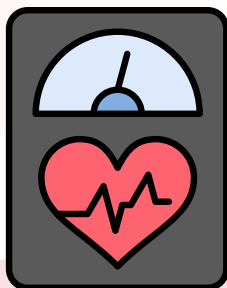
## Mechanism of Action and Renal Benefits

SGLT2 inhibitors work by blocking the sodium-glucose co-transporter-2 protein in the kidneys, preventing glucose reabsorption and promoting its excretion through urine. This mechanism not only aids in glycaemic control but also has benefits on renal function:



### Decreased Albuminuria

Albuminuria is a key marker of kidney damage. Studies have shown that SGLT2 inhibitors significantly reduce albuminuria, indicating a protective effect on the glomerular filtration barrier.

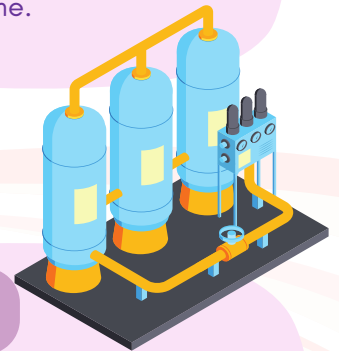


### Blood Pressure & Weight Management

SGLT2 inhibitors have a mild diuretic effect, leading to reductions in blood pressure. Lowering blood pressure is crucial in managing CKD and reducing the risk of cardiovascular events. Additionally, the weight loss associated with SGLT2 inhibitors contributes to overall better health and less strain on the kidneys.

### Reduction in Hyperfiltration

Diabetic hyperfiltration, characterized by increased glomerular filtration rate (GFR), is an early indicator in diabetic kidney disease. SGLT2 inhibitors reduce intraglomerular pressure by decreasing sodium reabsorption, which leads to afferent arteriole constriction. This reduction in hyperfiltration helps in preserving kidney function over time.



### Slowing Progression of CKD:

Clinical trials, such as the CREDENCE and DAPA-CKD studies, have demonstrated that SGLT2 inhibitors slow the progression of CKD in patients with type 2 diabetes. These medications reduce the risk of doubling serum creatinine, progression to ESRD, and renal death.





# UNLOCKING THE POTENTIAL OF SGLT2 INHIBITORS: THE LANDMARK TRIALS

By Leong Min Nah

## Clinical Evidence and Real-World Impact

The renal benefits of SGLT2 inhibitors are supported by robust clinical evidence. Important studies include:



### CREDENCE Trial:

- The Canagliflozin and Renal Events in Diabetes with Established Nephropathy Clinical Evaluation (CREDENCE) trial demonstrated that canagliflozin significantly reduced the risk of renal outcomes in patients with type 2 diabetes and established CKD. The trial showed a 30% reduction in the risk of ESRD, doubling of serum creatinine, or renal or cardiovascular death.

### DAPA-CKD Study:

- The Dapagliflozin and Prevention of Adverse Outcomes in Chronic Kidney Disease (DAPA-CKD) study highlighted the benefits of dapagliflozin in patients with CKD, with and without type 2 diabetes. The study reported a 39% reduction in the primary composite outcome of sustained decline in eGFR, ESRD, or renal or cardiovascular death.



### EMPA-KIDNEY Trial:

- The ongoing EMPA-KIDNEY trial aims to evaluate the efficacy of empagliflozin in patients with CKD, further expanding our understanding of the renal protective effects of SGLT2 inhibitors.

## Conclusion

SGLT2 inhibitors have become a groundbreaking advancement in managing diabetic kidney disease, providing significant renal protection in addition to their glucose-lowering benefits. Beyond their renal benefits, SGLT2 inhibitors also demonstrated cardiovascular benefits in patients with type 2 diabetes and established cardiovascular disease.



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# GLP-1 RECEPTOR AGONISTS: DECELERATING THE PROGRESSION OF CHRONIC KIDNEY DISEASE

By Farah Nadirah Abd Rahman

## What is GLP-1?

GLP-1 agonists, also known as glucagon-like peptide-1 receptor agonists, are a class of medications used primarily in the management of type 2 diabetes. They work by mimicking the action of the GLP-1 hormone, which enhances insulin secretion in response to meals, suppresses glucagon release, and slows gastric emptying. This helps to regulate blood sugar levels and promote weight loss, making them beneficial for diabetic patients with obesity. Additionally, GLP-1 inhibitors have shown potential cardiovascular benefits and retarding CKD progression. These have further established their values in managing type 2 diabetics with associated comorbidities.

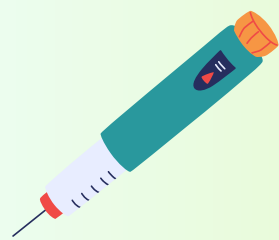
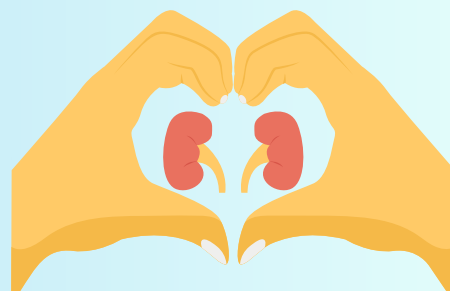
## Do you know that GLP1 can retards CKD progression?

There are several landmark trials that have shown beneficial impact of GLP1 in slowing progression of CKD.

### FLOW Trial:

In adults with type 2 diabetes and CKD, Semaglutide significantly reduced the risk of kidney disease progression and kidney-related death by 24% compared to placebo.

The mean annual decrease in the eGFR was also significantly lower in the semaglutide group by 1.16 ml per minute per 1.73 m<sup>2</sup>



### AWARD-7 Trial:

In Adults with type 2 diabetes and moderate CKD (Stage 3-4), Dulaglutide preserved eGFR better than insulin glargine and has shown greater reduction in albuminuria.

### LEADER Trial:

In adults with type 2 diabetes and high CV risk, Liraglutide reduced incidence of new or worsening nephropathy by 22%, driven mainly by reductions in new-onset macroalbuminuria



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# COMPARISONS BETWEEN GLP - 1 AGONISTS

By Farah Nadirah Abd Rahman

## Liraglutide:

On average, liraglutide can reduce HbA1c by approximately 1.0-1.5%. Studies indicate that patients can achieve an average weight loss of about 5-7% of their initial body weight with liraglutide.



## Lixisenatide + glargine:

On average, patients treated with Soliqua experienced a reduction in HbA1c of around 1.1% to 1.6%, depending on the baseline HbA1c levels and the duration of treatment. Patients treated with Soliqua experienced modest weight loss. On average, the weight reduction observed was around 0.5 kg to 2 kg compared to baseline.



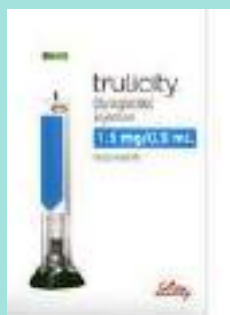
## Semaglutide:

Clinical trials indicate that Semaglutide can reduce HbA1c by about 1.5-2.0%, making it one of the more potent GLP-1 receptor agonists in terms of glycemic control. Clinical trials have demonstrated that patients using Semaglutide can achieve an average weight loss of around 10-15% of their initial body weight.



## Dulaglutide:

The average reduction in HbA1c with dulaglutide is around 1.0-1.5%, similar to liraglutide, though slightly less potent than Semaglutide. Patients using dulaglutide typically experience an average weight loss of about 3-5% of their initial body weight.



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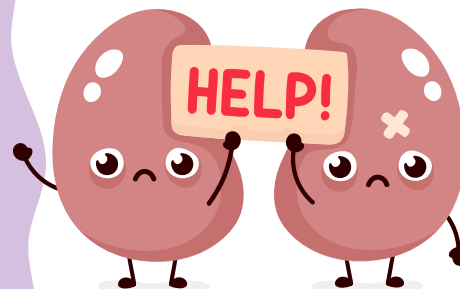
# DO YOU KNOW THE HIDDEN THREATS OF NEPHROTOXIC AGENTS

By Lisa Tan Bee See



**Nephrotoxicity is defined as the rapid deterioration in kidney function as a result of a nephrotoxin. Nephrotoxins can include molds and fungi, heavy metals such as arsenic or lead, and drugs.**

The hallmark of nephrotoxicity are demonstrated by the alteration of kidney function. Parameters such as the glomerular filtration rate (GFR), blood urea nitrogen, urine output, and serum creatinine are often used in the assessment of kidney function.



## Mechanisms of drug-induced toxicity include :

### 1. Alterations of renal intraglomerular haemodynamic

- Kidneys can keep a constant filtration rate as well as maintain the displacement of urine through regulation of blood flow in afferent and efferent arteries for adjustments or maintenance of intraglomerular pressure. Circulation of prostaglandin is used for expansion of afferent arteries.
- Some drugs incite renal injury via haemodynamic alteration from prostaglandins imbalance.
- Example: NSAIDs.

### 2. Renal tubular cytotoxicity

- The kidney metabolizes and excrete many drugs. Some of these drugs behave as exogenous toxins and can cause direct renal tubular injury leading to acute tubular necrosis.
- Example: Aminoglycoside, Amphotericin B, Tacrolimus.

### 3. Glomerulonephritis and interstitial nephritis

- Some drugs can cause inflammatory changes in the glomerulus, renal tubular cells, and the surrounding interstitium, leading to fibrosis and renal scarring.
- Example: Calcineurin Inhibitors.

### 4. Drug-induced crystal nephropathy

- Characterised by the histologic finding of intrarenal crystal deposition.
- Intrarenal crystal deposition occurs primarily owing to the high concentration of ions and molecules traversing the renal tubules, which enhances the likelihood for substrate supersaturation and crystal nucleation and subsequently deposition.
- Crystal deposition leads to tubular obstruction and both direct and indirect crystal-related kidney injuries.
- Example: Ciprofloxacin, Methotrexate, Sulfamethoxazole.

### 5. Drug-induced thrombotic microangiopathy

- The pathologic mechanisms include endothelial cell injury either from an immune-mediated drug induced thrombotic or direct endothelial toxicity, leading to formation of platelet microthrombi in the microvasculature.
- Example: Antiplatelet.

### 6. Drug-induced rhabdomyolysis

- The destruction of myocyte leading to the release of its intracellular content including myoglobin and creatine kinase into the plasma.
- Myoglobin induces renal injury secondary to direct toxicity, tubular obstruction, and alterations in GFR.
- Example: Statins.

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# VACCINATION IN KIDNEY TRANSPLANTATION

By Jacynta Jasmine

Kidney transplant recipients (KTRs) are immunocompromised and are at an increased risk of developing infection including vaccine-preventable infectious diseases. All potential KTRs should have their vaccination status reviewed at pre-transplant evaluation and receive age-appropriate vaccinations as for general population.



## Timing of Vaccinations

- ESKD patients have attenuated immune response than immunocompetent population
- **“Live”** or **attenuated vaccines** must be **completed prior to transplant**
- **“Non-live”** or **inactivated vaccines** can be administered **before and after transplant**

### Attenuated Vaccines

- contraindicated post transplant
- transplant surgery should be delayed by 4 weeks if patient received live vaccine

### Inactivated Vaccines

- can be administered pre transplant (minimum 2 weeks prior to transplantation) and post transplant

## Examples of Vaccines

### MMR (Measles, Mumps and Rubella)

- live-attenuated vaccine
- contraindicated post transplant
- administered at least 4 weeks prior to transplant

### VARICELLA ZOSTER (Shingles)

- recommended for KTRs who are 50 years old and above
- given **before transplant** for maximal immune response
- Shingrix** : recombinant glycoprotein E protein
- Zostavax** : Live vaccine

### HEPATITIS B

- all CKD and ESKD patients should be vaccinated against hepatitis B virus
- double dose of hepatitis B vaccines at 0, 1, 2 and 6 months
- aim to achieve HBsAb titre of 10 IU/ml and more by revaccination if titre not achieved

### MENINGOCOCCUS (Neisseria meningitides)

- should be administered in potential KTRs with asplenia, receiving Eculizumab or Rituximab
- for **Menactra**, **Menveo** and **Nimenrix**; given 2 doses, 8 weeks apart and at least 2 weeks prior to transplant.

### HAEMOPHILUS INFLUENZAE

- indicated in potential KTRs with asplenia or receiving Rituximab
- Hiberix**

### CORONAVIRUS (COVID-19)

- potential and post KTRs and their donors should receive the vaccine, irrespective of past COVID-19 infection or positive SARS-CoV-2 antibodies
- available in Malaysia: mRNA (**Comirnaty** by Pfizer) and inactivated (**Sinovac**)



# VACCINATION IN KIDNEY TRANSPLANTATION

By Jacynta Jasmine

## Travel Vaccines



VACCINE	TIMING	ENDEMIC AREAS
<b>Cholera</b>	Prior to travel	South and South-East Asia
<b>Hepatitis A</b>	Prior to travel	Sub-Saharan Africa, India, Philippines, Saudi Arabia
<b>Japanese encephalitis</b>	Day 0 and Day 28 prior to travel	South- East and East Asia, part of Western Pacific
<b>Meningococcal Pneumococcal</b>	Prior to travel	Saudi Arabia
<b>Rabies</b>	Only upon exposure	Africa, parts of Central and South America, and Asia
<b>Typhoid</b>	2 weeks prior to travel	South and South-East Asia, Africa, Caribbean, Central and South America
<b>Yellow fever</b>	Contraindicated	Sub-Saharan Africa, South America



KTRs are not encouraged to travel out of the country in the first year post-transplant due to high risk of infection in certain endemic area and uncertain accessibility to healthcare.

### References:

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# A GIFT OF LIFE - KIDNEY TRANSPLANTATION

By Merina Aw Kar Ling

Kidney transplantation (KT) offers a promising treatment alternative for patients with end-stage kidney disease. Compared to dialysis, KT not only enhances quality of life and survival rates but also proves to be more cost-effective in the long term.

## Who can be a living kidney donor?

- In Malaysia, the Ministry of Health (MoH) allows living organ donations only to first-, second-degree relative and legal spouse.

## The criteria stated by MoH includes:

- An adult who is legally able to provide consent (18 years and above).
- Fully informed of all risks that may occur.
- Physically and mentally fit.
- Fully aware of the decision making.
- Able to fully evaluate and understand all information given.
- Free from coercion, advice or opinions from sources apart from the institution which the transplantation will occur.

## The absolute contraindication to kidney donation?

- Proteinuria
- Impaired kidney function
- Hypertension with evidence of target organ damage
- Diabetes Mellitus with evidence of target organ damage
- Morbid obesity (BMI > 35kg/m<sup>2</sup>)
- Psychiatric illness
- Coagulopathy
- Systemic illness with potential to develop kidney disease
- Active drug abuse
- Severe cardiac disease
- Severe pulmonary disease
- Severe liver disease
- Infectious disease eg: HIV
- Pregnancy
- Active malignancy
- Nephrolithiasis:
  - bilateral kidney stone
  - significant and non-correctable metabolic abnormality
- Autosomal dominant polycystic kidney disease (ADPKD)

## The workup for a living donor?

- Psychosocial evaluation process to ensure donor fully understand the risk and benefits of donating one of the kidneys.
- Medical evaluation process
  - (a) Blood type
  - (b) Tissue typing
  - (c) Crossmatching & Panel Reactive Antibody (PRA) screening
  - (d) Screening for transmissible diseases
  - (e) Urine tests
  - (f) Chest X-Ray
  - (g) Electrocardiogram and echocardiogram
  - (h) Nuclear imaging
  - (i) Ultrasound of the kidneys
  - (j) Cancer screening
  - (k) Kidney CT angiogram

To determine if a kidney transplant is the best option for you, the evaluation process will be thorough and may take several months to complete. Your transplant team will need to gather detailed information to help decide if a transplant is the right choice!

## References:

1. Handbook of Kidney Replacement Therapy 5th edition 2023.
2. National Kidney Foundation of Malaysia. (n.d.). Organ donation & kidney transplantation. National Kidney Foundation of Malaysia. Retrieved from <https://nkf.org.my/prevention/early-detection-prevention-saves-lives-program/organ-donation-kidney-transplantation/>



# BREAKING BARRIERS IN KIDNEY TRANSPLANTATION

By Merina Aw Kar Ling

In Malaysia, where the rate of deceased-donor organ donation is low and paired kidney exchange programs have yet to be implemented, ABO-incompatible (ABOi) and HLA-incompatible transplants are crucial for maintaining the national KT program. The practice of ABOi living donor kidney transplantation was introduced in Malaysia in July 2011.



ABOi kidney transplantation (KT) involves transplanting a donor organ with a blood group that is incompatible with the recipient's, who has natural antibodies against non-self ABO antigens. A key challenge in living donor transplantation is that about 30% of potential donors are immunologically incompatible with recipients. This incompatibility often arises from antibodies directed against the donor's human leukocyte antigen (HLA) system or due to ABO blood group mismatches.

The ABO blood groups consist of four categories (A, B, AB and O). The formation of anti- blood group antibodies occurs against the antigens that are not native to the host. Group O individuals have higher antibody titers to both the A and B antigens.

Donor blood group	Recipient blood group	Relevant recipient antibody
A	O or B	Anti-A
B	O or A	Anti-B
AB	O or A or B	Anti-A and anti-B Anti-B Anti-A

Table 1: ABO incompatible kidney transplant

With a better understanding of the immune system and the introduction of new drugs, renal transplantation from living donors across ABO-i immunological barriers has become both safe and effective. These improvements have led to superior patient survival rates compared to dialysis. Additionally, patient and graft survival, along with rates of biopsy-proven acute rejection, are now comparable to those of ABO-compatible transplants. In Malaysia, a retrospective longitudinal cohort study involving all ABOi KT recipients between July 2008 and June 2018 showed that patient, graft, and death-censored graft survival rates were 96.2%, 92.3%, and 96.0%, respectively, one-year post-living donor kidney transplantation (LDKT), and 96.2%, 87.2%, and 90.7%, respectively, five years post-LDKT.

## References:

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3. *Handbook of Kidney Replacement Therapy 5th Edition* 2023.



# ABO INCOMPATIBILITY WITH CUTTING-EDGE DESENSITISATION STRATEGIES

By Merina Aw Kar Ling

Pre-transplant desensitisation strategies, including the removal of isoagglutinins through plasmapheresis or immunoadsorption and the depletion of antibody-producing cells with rituximab, have made ABOi KT possible.

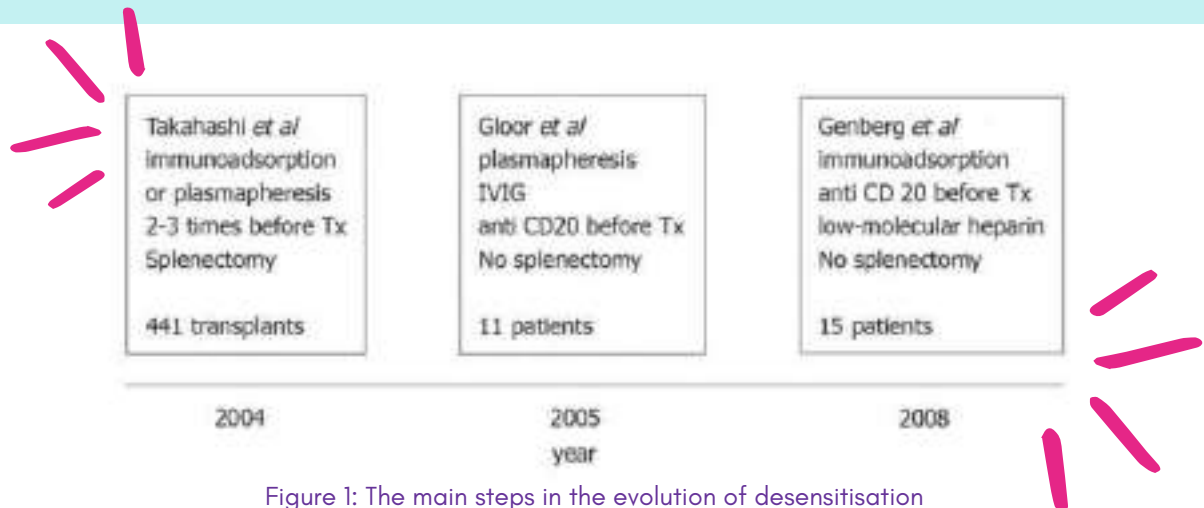


Figure 1: The main steps in the evolution of desensitisation

Desensitization strategies aim to modify the immune response in several ways:

- 1. Antibody Reduction:** Plasmapheresis or immunoadsorption (IA) are used to reduce levels of antibodies in the bloodstream.
- 2. Inhibition of Antibody Production:** Rituximab targets and depletes the cells responsible for producing antibodies.
- 3. Pleiotropic Action of IVIG:** IVIG works through multiple mechanisms to modulate the immune system.

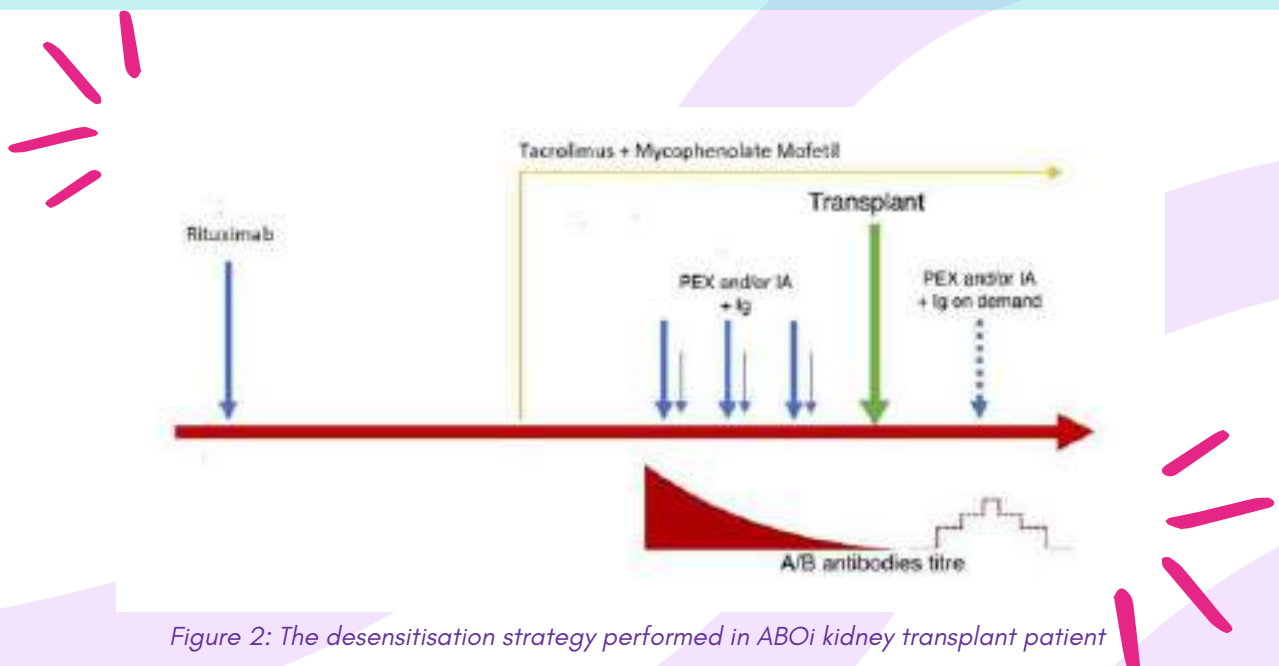


Figure 2: The desensitisation strategy performed in ABOi kidney transplant patient

## References:

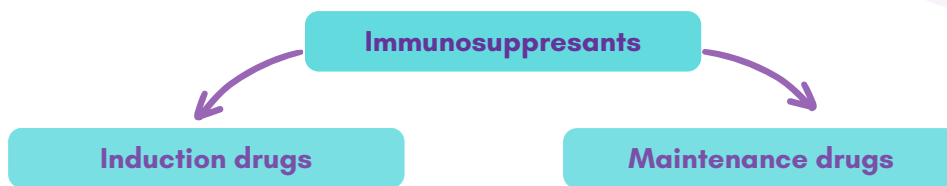
1. Maritati, Federica et al. "Current Perspectives in ABO-Incompatible Kidney Transplant." *Journal of inflammation research* vol. 15 3095-3103. 25 May. 2022, doi:10.2147/JIR.S360460
2. *Handbook of Kidney Replacement Therapy* 5th Edition 2023.





# IMMUNOSUPPRESSANTS: A LIFELONG COMMITMENT FOR KIDNEY TRANSPLANT SUCCESS

Nor Izni Sajidah Abdul Hamid

Medications called immunosuppressants are given to kidney transplant patients to dampen their immune system's response. Following a kidney transplant, the immune system might identify the new kidney as foreign and try to reject it. The immune system's activity is suppressed by immunosuppressants to prevent rejection, enabling the transplanted kidney to function normally. These medications are crucial for the success of kidney transplants as they help to maintain the balance between protecting the body from infections and preventing rejection of the transplanted organ. These medicines must be taken for the rest of the recipient's life.



**INDUCTION DRUGS:** Powerful antirejection medicines used at the time of transplant

<p>Basiliximab 20mg Injection</p> 	<p>T-Monoclonal antibody that acts on interleukin -2 receptor preventing T- cell activity. Usually used in recipients with low risk for graft rejection.</p>
<p>Anti - Thymocyte Globulin (ATG)</p> 	<p>Polyclonal antibody. Potent immunosuppressant and immunomodulator. Depletes circulating T-cell through complement dependent cell lysis, suppresses B-cell proliferation and induce apoptosis. Usually given to recipients with high risk for graft rejection.</p>
<p>Rituximab 500mg/50ml Injection</p> 	<p>Monoclonal antibody that blocks the CD20 receptor. Used off label for desensitisation in ABO blood group incompatible or HLA antibody incompatible transplantation.</p>



**MAINTENANCE DRUGS:** Used for long term and can be divided into four classes

1) Calcineurin Inhibitors		
		This medicine has to be taken every 12 hours / 24 hours. Take it consistently BEFORE meals (1 hour before meal or 2 hours after meal) for best absorption. To ensure accuracy of Tacrolimus / Cyclosporin blood levels, take your Tacrolimus /Cyclosporin capsules after the blood is drawn.
1 a) Tacrolimus Capsule 0.5mg, 1mg, 5mg (Immediate Release (Prograf ®) / Prolonged Release (Advagraf ®)	1b) Cyclosporine 25mg & 100mg capsule (Neoral ®)	
2) Antiproliferative agents:		
		This medicine has to be taken every 12 hours. Take this medicine on empty stomach (1 hour before / 2 hours after meal) to get best absorption.
2a) Mycophenolate Mofetil 250mg, 500mg Capsule (Cellcept ®)	2b)Mycophenolate Sodium 180mg, 360mg tablet (Myfortic ®)	
		This medicine has to be taken every 24 hours. Take this medicine in the morning after food (to prevent stomach upset).
2c) Azathioprine 50mg (Imuran ®)		
3) Corticosteroid		
		This medicine has to be taken every 24 hours. Take this medicine in the morning after food (to prevent stomach upset).
Prednisolone 5mg Tablet		
4) Mammalian Target of Rapamycin Inhibitor (mTORi)		
		Everolimus: This medicine has to be taken every 12 hours. Take it consistently either before meals (1 hour before meals or 2 hours after meals).

**References:**

1. Pharmacy Department Hospital Kuala Lumpur. (2018, July). A practical guide for counselling.
2. Patient's Guide, Know Your Renal Transplantation Medication, Pharmacy Department, Kuala Lumpur General Hospital.

# MALIGNANCIES IN KIDNEY TRANSPLANT RECIPIENTS

By Len Yi Won

## Introduction

Malignancies in kidney transplant recipients (KTRs) raise significant concerns due to their higher cancer incidence compared to the general population. While infection and graft rejection are primary mortality causes in the early post-transplant period, cardiovascular diseases and cancers dominate late mortality. Managing solid tumors in KTRs is complicated by immunosuppression. Common malignancies include skin, lung, genitourinary, and anogenital cancers. Notably, cervical cancer accounts for 2-3% of cancers in transplant recipients, likely linked to HPV infections.

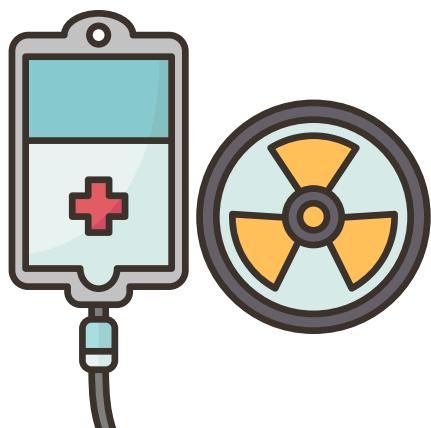
## Risk factors

Several risk factors for solid tumors in renal transplant recipients can be categorized as transplant-related, patient-related, or external factors. Understanding these risks is essential for early detection, prevention, and management of tumors in this population.

Transplant-related	Patient-related	External Factors
Type of immunosuppressive drugs	Genetic predisposition	Sun exposure
Previous malignancy	Pre-existing conditions (Hep B, Hep C, EBV)	Lifestyle factors (smoking, alcohol consumption, obesity)
Duration of immunosuppressive drugs	Age at the time of transplantation	Infections (oncogenic viruses)
		Environmental exposures (radiation or chemical)

## Mechanism

The mechanisms behind malignancy development in renal transplant recipients are unclear, but immunosuppression is believed to be the main factor increasing post-transplant cancer risk. Below are common immunosuppressive agents and their roles in cancer initiation and promotion:



### Cyclosporin

- Inhibits the repair of DNA damage caused by radiation, which lead to accumulation of mutations and causes cancer.
- Increases the production of transforming growth factor-beta (TGF-β) and vascular endothelial growth factor (VEGF). Thus promoting tumour growth by angiogenesis and supporting tumour microenvironment.

### Tacrolimus

- Induces the expression of TGF-β, which contribute to cancer progression by promoting cellular proliferation, immune invasion and metastasis.

### Azathioprine

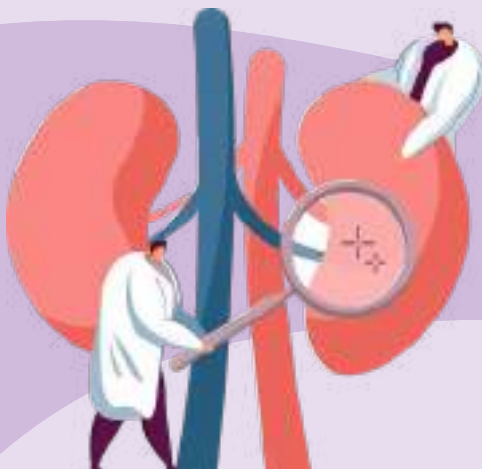
- Disrupt the normal process of DNA by integrating at DNA level, leading to incorrect reading of genetic code and potential mutations that drive carcinogenesis.



# SOLID TUMOR IN RENAL TRANSPLANT: TREATMENT OPTIONS

WHAT ARE THE AREAS OF CONCERN?

By Len Yi Won



Treating solid tumors in organ transplant recipients requires balancing cancer eradication with graft preservation. The approach depends on cancer type and stage, guiding treatment goals toward curative or palliative outcomes. In early-stage cancer, the aim is to remove the tumor while minimizing graft loss risk. In advanced stages, the focus shifts to symptom control and quality of life, necessitating careful consideration of treatment options against potential harm to the graft and overall disease prognosis. The treatment of solid tumors includes surgery, radiotherapy, chemotherapy, and immunotherapy.

## Surgery

Surgery is often the mainstay of treatment in feasible and operable cancers, especially in early cancer stage as it directly removes the tumour without compromising the transplanted organ. However, the feasibility of surgical removal of tumour is highly dependent on patient's condition and comorbidities, bearing in mind that immunosuppressed KTR may require longer recovery time and are more prone to infections.



## Radiotherapy



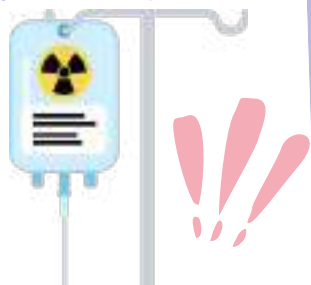
Radiotherapy is another preferred option in cancer treatment, playing a key role in HPV-related anogenital cancers; however, it must also be used with caution due to the risk of damaging the graft, especially if the organ is in close proximity to the radiation field such as in anogenital cancer. Precise planning of radiation field and doses are essential to minimize harm. The primary concerns of radiotherapy in immunosuppressed patients are bone marrow, skin and gastrointestinal toxicity which may be exacerbated in potential concurrent infections.

# SOLID TUMOR IN RENAL TRANSPLANT

WHAT ARE THE AREAS OF CONCERN?

By Len Yi Won

## Chemotherapy



Chemotherapy is a common cancer treatment, but in kidney transplant recipients, its use must be carefully balanced with potential risks. Concerns include increased graft loss from cytotoxic effects and interactions with immunosuppressants, as well as a higher risk of sepsis due to the combined effects of chemotherapy and immunosuppressants. These medications can also enhance chemotherapy-induced myelosuppression by 3-10%, warranting consideration of GCSF for primary prophylaxis in neutropenia-risk regimens.

Chemotherapeutic Agent	Interaction with Immunosuppressants	Monitoring and considerations
<b>Cisplatin</b>	Nephrotoxicity with Cyclosporin, Tacrolimus	Avoid concurrent use with Cyclosporin Careful monitoring of nephrotoxicity when use with Tacrolimus
<b>Etoposide</b>	Decrease excretion with Cyclosporin, increasing toxic effects	Careful monitoring and dose modification
<b>Cyclophosphamide</b>	Decrease excretion with Cyclosporin, increasing toxic effects	Careful monitoring and dose modification
<b>Bleomycin</b>	Increase pulmonary toxic effects in the presence of renal impairment	Careful monitoring and dose modification
<b>Daunorubicin</b>	Decrease excretion with Cyclosporin, increasing toxic effects	Careful monitoring and dose modification

Table 2: Interactions of commonly used anti-cancer drugs with immunosuppressants in KTRs. [1, 3]

Apart from considering the above treatment modalities of solid tumour, modifying immunosuppression in KTRs who develop de novo cancer after transplantation plays a pivotal role in the overall management strategy. A careful reduction in the dose of calcineurin inhibitors (CNI), combined with the introduction of an mTOR inhibitor, can be an effective strategy for treating solid tumors in KTRs while still maintaining graft survival.

## Conclusion

In conclusion, managing solid tumors KTRs requires a delicate balance between effectively treating cancer and preserving graft function, within the complex framework of immunosuppression. While KTRs face a heightened risk of malignancies, treatment strategies involves selecting less carcinogenic immunosuppressants and adjusting treatment modalities like surgery, radiotherapy, and chemotherapy to minimize harm to the graft.

### References:

1. Ajithkumar TV, Parkinson CA, Butler A, Hatcher HM. Management of solid tumours in organ-transplant recipients. <http://oncology.thelancet.com> Vol 8: October 2007: doi:10.1016/S1470-2045(07)70315-7
2. Venugopal et al. Cancer treatment in solid organ transplant recipients. ESMO: Cancer Treatment in Special Clinical Situations; S30-40.
3. Brennan DC et al. Malignancy after solid organ transplantation. UPTODATE: Jul 2024.



# NEW KID ON THE BLOCK

## LOKELMA®

### REVOLUTIONISING HYPERKALEMIA TREATMENT WITH RAPID RESULTS

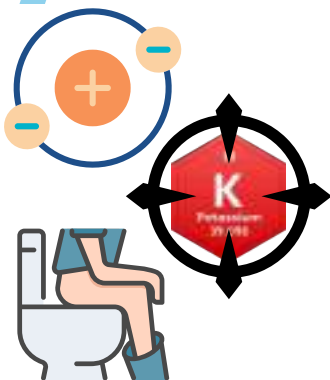
By Farah Nadirah Abd Rahman

#### Introduction

Lokelma® (sodium zirconium cyclosilicate) is a groundbreaking medication designed to address the challenges of hyperkalaemia, a condition characterised by elevated potassium levels in the blood. Lokelma offers a fast-acting and effective treatment option for patients struggling to maintain healthy potassium levels, particularly those with chronic kidney disease or heart failure. By selectively binding potassium in the gastrointestinal tract, Lokelma® helps to restore balance and improve overall health, making it an essential advancement in the management of hyperkalaemia.



#### Mechanism of Action



- **Ion exchange:**
  - Sodium zirconium cyclosilicate is a non-absorbed, non-polymer inorganic powder with a uniform micropore structure that preferentially captures potassium in exchange for hydrogen and sodium cations.
- **Selectivity:**
  - It is highly selective for potassium ions. Sodium zirconium cyclosilicate captures potassium throughout the entire gastrointestinal (GI) tract and reduces the concentration of free potassium in the GI lumen.
- **Excretion:**
  - The bound potassium is then excreted from the body through faeces.

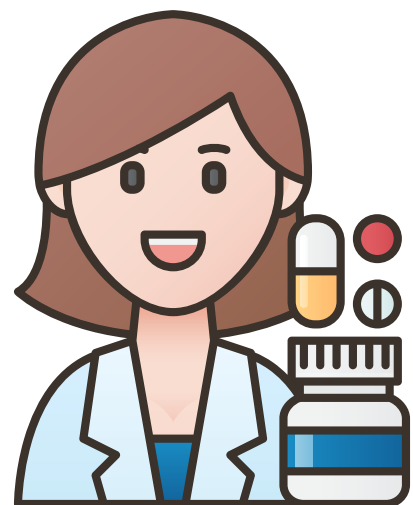
#### Recommended dose

##### Correction phase:

The recommended starting dose of Lokelma® is 10 g, administered three times a day. When normokalaemia is achieved, the maintenance regimen should be followed. Typically, normokalaemia is achieved within 24 to 48 hours. If patients are still hyperkalaemic after 48 hours of treatment, the same regimen can be continued for an additional 24 hours. If normokalaemia is not achieved after 72 hours of treatment, other treatment approaches should be considered.

##### Maintenance phase:

A starting dose of 5 g once daily is recommended, with possible titration up to 10 g once daily, or down to 5 g once every other day, as needed, to maintain a normal potassium level. No more than 10 g once daily should be used for maintenance therapy.



##### References:

1. LOKELMA® (sodium zirconium cyclosilicate) [prescribing information]. Wilmington, DE: AstraZeneca Pharmaceuticals LP; 2024.

# NEW KID ON THE BLOCK

## LOKELMA®

REVOLUTIONISING HYPERKALAEMIA TREATMENT WITH RAPID RESULTS

By Farah Nadirah Abd Rahman

### Advantages

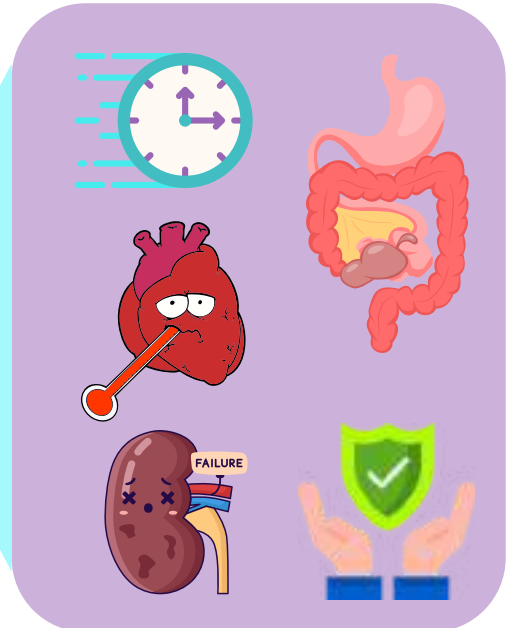
- Rapid action (Onset: 1 hour)
- Targets potassium ion in GI tract.
- Reduced likelihood of recurrent hyperkalemia
- Suitable for Chronic conditions (Eg, CKD, Heart Failure)
- Available in a powder form that can be mixed with water
- Offers favorable safety profile for long-term use

### Safety and Side Effects

- Common side effects may include edema and gastrointestinal disturbances such as nausea, vomiting, and constipation.
- Changes in electrolyte levels, especially sodium.

### How to use?

- Administer LOKELMA orally as a suspension in water.
- Empty the entire contents of the packet(s) into a drinking glass containing approximately 3 tablespoons of water (45ml) or more, if desired.
- Stir well and drink immediately.
- If powder remains in the glass, add water, stir, and drink immediately. Repeat until no powder remains.
- The suspension can be taken with or without food.
- In general, other oral medications should be administered at least 2 hours before or 2 hours after taking LOKELMA.



#### References:

1. LOKELMA® (sodium zirconium cyclosilicate) [prescribing information]. Wilmington, DE: AstraZeneca Pharmaceuticals LP; 2024.



# NEW KID ON THE BLOCK: HIF-PHI

## A NEW FRONTIER IN TREATMENT OF ANAEMIA

By Merina Aw Kar Ling

### What are HIF-PHIs?

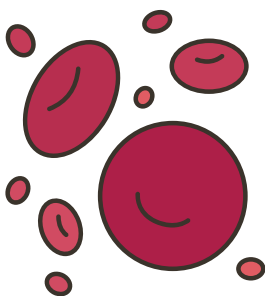
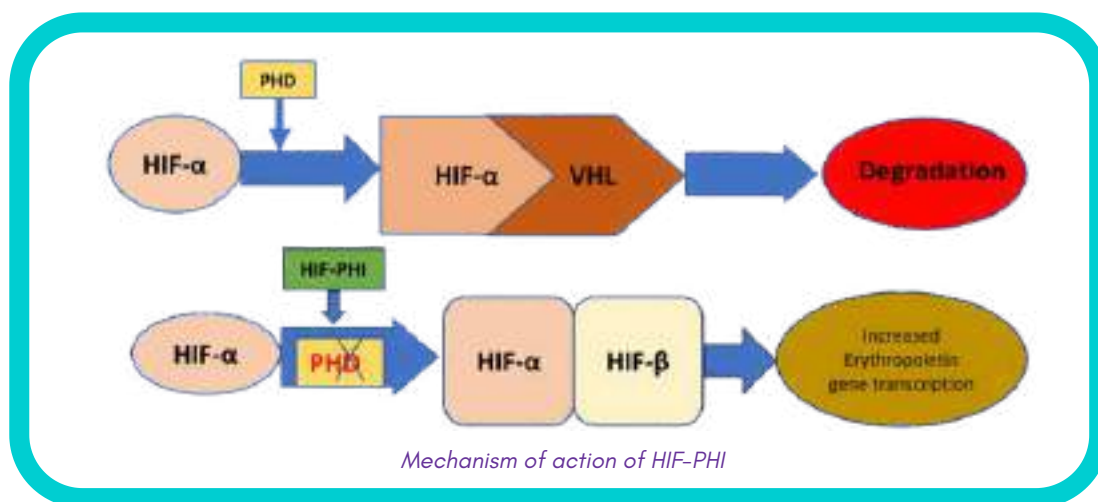
Hypoxia-inducible factor (HIF) prolyl hydroxylase (PH) enzyme inhibitors are a new class of orally administered drugs for the treatment of anaemia of chronic kidney disease (CKD). These agents work by stabilising the HIF complex and stimulating endogenous erythropoietin production even in patients with end-stage kidney disease.



### Mechanism of action

HIF transcription factors are proteins that help the body respond to environmental stresses. They consist of two subunits: an oxygen-sensitive  $\alpha$ -subunit, HIF- $\alpha$  and a constitutively expressed  $\beta$ -subunit, HIF- $\beta$ . HIF- $\alpha$  heterodimerise with HIF- $\beta$  to form HIF-1 and HIF-2 transcription factors.

Under normal conditions, HIF- $\alpha$  is continuously expressed, but hydroxylated by Prolyl-hydroxylase Domain (PHD) enzyme and then degraded by proteasome ubiquitination after binding to von Hippel-Lindau (VHL) protein. During hypoxia, PHD enzyme is inhibited, which allows HIF- $\alpha$  to form a complex with HIF- $\beta$ , thus increasing the expression of the erythropoietin transcription gene and endogenous erythropoietin production. By inhibiting PHD enzyme and stabilizing HIF, HIF-PHI increases endogenous erythropoietin production within the physiological range.



HIF-PHIs stabilize HIF activity, which helps regulate endogenous erythropoietin production and iron metabolism. They also lower hepatic hepcidin levels, reducing the need for intravenous iron and decreasing cardiovascular risks compared to erythropoiesis-stimulating agents (ESAs). Additionally, HIF-PHIs enhance iron metabolism by increasing intestinal iron absorption, reducing hepcidin levels, and promoting the mobilization of iron from stores.

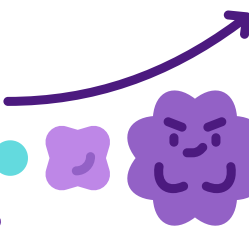
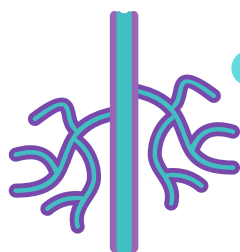
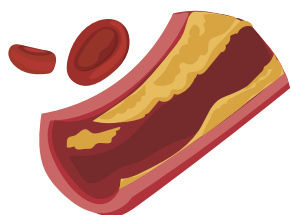
# NEW KID ON THE BLOCK- HIF-PHI

## UNDERSTANDING HFI-PHI: A NEW FRONTIER IN TREATMENT OF ANAEMIA

By Merina Aw Kar Ling

### Advantages of HIF-PHIs?

- Oral route.
- Suppressed hepcidin production, which improves iron metabolism and acts as an effective therapy irrespective of inflammatory status.
- Effective in CKD non-dialysis iron depleted patient.
- May improve chronic inflammation by lowering hepcidin and decreasing serum cholesterol levels.
- Haemoglobin targets achieved with lower serum erythropoietin levels.



### Disadvantages of HIF-PHIs?

- Increase the risk of vascular calcification, angiogenesis, and tumorigenesis.
- Major trials vs ESA = non-inferiority.

### Conclusion

HIF-PHIs are the newest oral treatment for anemia in CKD. They appear as effective as ESA for maintaining hemoglobin levels and have a similar adverse event profile. However, due to small sample sizes and short study durations, their long-term safety and efficacy compared to ESAs are still unclear. Further research is needed to fully assess the long-term safety and effectiveness.



#### References:

1. Haase, Volker H. "Hypoxia-inducible factor-prolyl hydroxylase inhibitors in the treatment of anemia of chronic kidney disease." *Kidney international supplements* vol. 11,1 (2021): 8-25. doi:10.1016/j.kisu.2020.12.002
2. Sonia, Shamsun Nahar et al. "An Overview of Safety and Efficacy Between Hypoxia-Inducible Factor-Prolyl-Hydroxylase Inhibitors and Erythropoietin-Stimulating Agents in Treating Anemia in Chronic Kidney Disease Patients." *Cureus* 15 (2023): n. pag.





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