



SULA MARIE, MSN, RN, CNN, LNC

# SLOG™ NEWS

(Sharing Learning Objectives Globally)

## 1ST EDITION Jn this edition: Simulation in Dialysis

## SHARING

Dialysis care is essential in today's healthcare landscape, yet simulation programs often lack the necessary resources to effectively teach this critical skill.

## **OBJECTIVES**

3

To close the gap in dialysis by providing realistic, hands-on training. To offers an immersive learning where medical professionals bridge gap between theory and practice

.....Read more

## SHOW ME THE DATA



## **VOICE OF CUSTOMER**

This is a wonderful training! The 3 in1 dialysis simulator helps you to practice patient safety without the risk of patient harm. It provides a great opportunity to familiarize with different types of access and knowing how they work.... Read more

## LEARNING

Dialysis practitioners have fewer opportunities to refine their skills in a controlled setting because many programs concentrate on more general disciplines. The availability of high-fidelity simulators designed specifically for dialysis training is severely lacking. Errors during practical procedures are more likely due to this gap.....Read more

## **GLOBALLY**

The significance of simulation-based training is emphasized by the World Health Organization (WHO) as a vital instrument to raise the standard of healthcare. Simulation is essential to enhance healthcare workers ability to respond efficiently, and lower errors.....Read more

## **SOLUTIONS**



https://youtu.be/pucTKChUlsw?feature=shared

### 1. Sharing

## Dialysis Simulation: A Growing Need

Dialysis care is essential in today's healthcare landscape, yet simulation programs often lack the necessary resources to effectively teach this critical skill.

Simulation is a method of augmenting and substituting actual experiences with supervised ones that resemble or imitate significant elements of reality in a fully interactive way [1][2].

Relying on outdated training methods can compromise patient care.

Simulation offers a way to enhance real experiences through supervised, interactive scenarios that closely mimic reality.

However, simulation-based training in dialysis is not keeping pace with the increasing demand for treatments.

The complexity of dialysis can be overwhelming for healthcare providers who lack sufficient hands-on experience.

Often, training for dialysis providers is overlooked in favor of more urgent areas like emergency rooms and surgical suites, leading to gaps in knowledge and confidence among those responsible for patient care.

To address this issue, educators must advocate for realistic training tools specifically designed to meet the evolving needs of nephrology professionals. By providing immersive training experiences, we can better prepare healthcare providers to deliver high-quality dialysis care.

## 2. Learning

### Identified Gaps in Dialysis Simulation Training

Recent surveys show that the percentage of healthcare simulation training devoted to dialysis is less than 5%, while the percentage for ER and Med-Surg disciplines is 35% and 25%, respectively. Despite its crucial role in managing end stage renal disease, the lack of attention paid to dialysis simulation has resulted in substantial training gaps for the dialysis educator and dialysis provider. Workplace learning in a controlled environment such as a simulaiton lab, maximizes applicability to clinical practice and makes the multiprofessional team's education easier [3].

### Key Gaps in Dialysis Simulation

### 1. Insufficient Focus on Dialysis Procedures

Dialysis procedures, such as maintaining catheters, fistulas and grafts are often neglected in simulation centers, despite their importance to Dialysis Nurses and Technicians. This gap could be filled by training and validation in a simulation lab using a realistic manikin simulator.

#### 2. Limited Hands-On Experience

Dialysis Nurse educators frequently prioritize theory. But practical experience is essential, particularly when handling critical complications such as hypotension during therapy.

#### 3. Gaps in Emergency Preparedness

Nurses and dialysis technicians are unprepared for situations such as catheter failures and infection hazards. Healthcare simulation may help students make better decisions under pressure.

## 4. Under-representation in Healthcare Simulation Programs

Just 5% of resources are allotted to dialysis simulations. To better train healthcare providers, hospitals and dialysis clinics should incorporate high fidelity dialysis simulation technologies into their education platforms.

### Consequences of Gaps in Dialysis Training

- Higher Error Rates

Dialysis nurses and technicians are more likely to struggle with tasks like cannulating and managing PD catheters, which could result in preventable mistakes [4].

#### - Patient Safety Risks

Patients health is compromised, which increases the risk of infections, mismanagement of equipment, and inappropriate handling of dialysis problems [5].

#### - Reduced Workforce Confidence

Dialysis nurses and technicians may lack the confidence to manage challenging situations, potentially diminishing the overall standard of care.

### 3. Objectives

1. Enhance Technical Proficiency

Approach: Equip medical professionals with the skills necessary to effectively set up, prepare dialysate, and monitor patients using



dialysis equipment.

 Improve Clinical Decision-Making by strengthening decision-making abilities in evaluating and managing dialysis complications.

Approach: Engage participants in complex simulation scenarios based on USRENAL case studies to enhance clinical judgment and responsiveness in patient care.

Foster Team Communication: Enhance collaboration among Dialysis Nurse Educators and the Dialysis Care Team.

Approach: Conduct interprofessional Healthcare Simulation sessions focused on improving communication, clarifying roles, and coordinating responses during patient care. 4. Global Expansion of Simulation Training: Address global disparities in dialysis training by promoting the use of simulation-based education.

Approach: Align with WHO recommendations to integrate simulation into healthcare workforce education programs, ensuring that healthcare professionals meet international standards for patient care.

5. Enhance Patient Outcomes: Improve overall patient outcomes in dialysis care through advanced training methods.

Approach: Implement a Dialysis Simulator as a practical teaching tool to enhance proficiency and safety among healthcare providers, ultimately reducing complications in dialysis treatment.

## 4. Globally

## Expanding Simulation in Dialysis Worldwide

The significance of simulation-based training is emphasized by the World Health Organization (WHO) as a vital instrument to raise the standard of healthcare provided everywhere. Especially in complicated medical procedures like dialysis, simulation is essential to enhancing healthcare personnel' capacity to respond to clinical scenarios efficiently, lower errors, and enhance patient outcomes. In order to guarantee that healthcare workers fulfill international standards for patient care, the World Health Organization (WHO) encourages simulation as part of larger healthcare workforce education programs [10].

By providing a strong, practical teaching tool that improves proficiency and safety in dialysis care, the 3-in-1 Dialysis Simulator is in line with the WHO's mission. By addressing the unique educational need in the field of dialysis, it closes the global disparity in simulation training and makes sure that medical professionals are better equipped to manage chronic kidney disease and ensure the safety of dialysis patients. Healthcare systems may ensure that practitioners are better prepared to provide high-quality care in accordance with global health standards, enhance patient care outcomes, and lower problems by including dialysis simulation into training [11].

### Voice of the Customer: A Success Story

"This is a wonderful training! The **3 in1 dialysis simulator** helps you to practice patient safety without the risk of patient harm. It provides a great opportunity to familiarize with different types of access and knowing how they work, and also learn how to cannulate access before you go at a patient bedside it's ability to mimic patient fluids and blood flow is very educational and creates a great technical visual to learn proper procedure and practice to best prepare those who want to work in the dialysis field."

Doreen Lamery, RN. [7]

2024 SLOG News.

## 5. Data Chart

## Dialysis Simulation in Comparison with Other Disciplines

A graphical representation comparing the percentage of healthcare simulation resources allocated to different specialties:

- Emergency Room: 35%
- Med-Surg: 25%
- Obstetrics: 20%
- Dialysis: 5%



This chart highlights the clear underrepresentation of dialysis in simulationbased training programs, reinforcing the need for more focused tools like our **3-in-1 Dialysis Simulator** [12].

### ROI (Return on Investment): Enhancing Dialysis Care

Funding simulation-based dialysis training has been shown to improve clinical outcomes, reduce errors, and increase patient safety. The **3-in-1 Dialysis Simulator** allows medical facilities to:

 Reduce training costs by combining several training options into a single, all-inclusive product, you may lower training expenses. 2024 SLOG News.

- Increase proficiency resulting fewer complications in the care of dialysis patients.
- **Boost team confidence** and readiness, particularly while managing crises.

### Zero Harm to Patients: A Commitment to Safety

In alignment with the Zero Harm initiative, which seeks to protect patients from preventable injuries, our **3-in-1 dialysis simulator** empowers medical professionals with the essential tools and skills needed to provide safer dialysis treatments and enhance patient outcomes.

### **Call to Action**

Are you ready to take your dialysis training program to new heights?

Contact us today to learn more about the transformative potential of the 3-in-1 Dialysis Simulator.

Discover how this innovative solution can drive remarkable improvements in patient care outcomes and staff performance.

The 3-in-1 Dialysis Simulator is designed to elevate patient care by empowering staff with unparalleled proficiency in operating dialysis machines, managing vascular access, and responding to emergencies with precision.

Through immersive, true-to-life practice, it minimizes errors, reduces complications, and instills unwavering confidence in handling even the most critical situations. This translates into safer, more effective patient care that sets new standards in the field of dialysis.

Don't settle for anything less than excellence.

Embrace the future of dialysis training with the 3-in-1 Dialysis Simulator and witness the remarkable transformation in your staff's capabilities and your patients' well-being.

Take the first step towards a new era of dialysis care by reaching out to us today.

- Email: sula@sworld.me
- Phone: 832-508-9574
- Website: www.sworld.me

### References

- Maisons, V., Lanot, A., Luque, Y., Sautenet, B., Esteve, E., Guillouet, E., ... & Bobot, M. (2024). Simulation-based learning in nephrology. *Clinical Kidney Journal*, *17*(4), sfae059.
- Jridi, I., Jerbi, B., & Kamoun, H. (2021). Modeling and Simulation in Dialysis Center of Hedi Chaker Hospital. *Operations Research and Simulation in Healthcare*, 103-121.
- Watson, K., Gosling, N., Broom, C., Snelgrove, H., & Popoola, J. (2020). Simulation of realistic nephrology case scenarios to facilitate intra-professional team learning. *British Journal of Hospital Medicine*, *81*(7), 1-7.
- Singapogu, R., Chowdhury, A., Roy-Chaudhury, P., & Brouwer-Maier, D. (2021). Simulator-based hemodialysis cannulation skills training: a new horizon? *Clinical Kidney Journal*, 14(2), 465-470.
- Zgoura, P., Hettich, D., Natzel, J., Özcan, F., & Kantzow, B. (2019). Virtual reality simulation in peritoneal dialysis training: the beginning of a new era. *Blood Purification*, 47(1-3), 265-269.

- Sqalli Houssaini T, Alaoui Belghiti K, Boukatta B, Houari N, Kabbali N, Arrayhani M, Kanjaa N. Simulation médicale en hémodialyse [Medical simulation in hemodialysis]. Nephrol Ther. 2016 Apr;12 Suppl 1:S83-8. French. doi: 10.1016/j.nephro.2016.02.001. Epub 2016 Mar 10. PMID: 26972099.
- 7. https://www.sworld.me/zero-harmlearning-testimonials/
- https://en.wikipedia.org/wiki/Simulation #Clinical\_healthcare\_simulators
- 9. https://www.usrenalcare.com/fornephrologists/kidney-research/
- https://www.theisn.org/inaction/advocacy/advocacyactivities/world-health-organisation/
- https://www.who.int/docs/defaultsource/documents/emergencies/supplie s/2020-kis-gkhs-eskd-wg2framework.pdf
- 12. https://evtoday.com/articles/2019june/training-in-dialysis-access-whereto-get-it-and-why-we-need-it