NIPRO
Live Longer. Live Better.

SINGLE-USE OR REUSE?

PRIORITIZING PATIENT SAFETY AND COMFORT

A Tale of Evidence: Why Single-Use Dialyzers are the Safer Choice

The debate around single-use versus reuse dialyzers often boils down to one question: what's safest for patients? A revealing study from the late 1980s sheds light on the risks of reuse and why it may not be the right choice.

For Nipro, the answer is clear—single-use dialyzers are all about putting patients first and helping them **Live Longer. Live Better.** By championing single-use solutions, we aim to provide not just better healthcare outcomes but also a higher **quality of life** for patients worldwide. Here's why this choice matters.

Evidence at a Glance

The study[1] followed 1,491 chronic hemodialysis patients in the U.S. between 1986 and 1987. It revealed troubling statistics.

Death Rate:

- Reuse: 1,241 deaths **(25% higher risk).**
- Single-Use: 250 deaths.

Hospitalization Risk:

- Reuse: **37% higher risk.**
- Abandoning reuse methods, such as those involving peracetic acid, was directly associated with improved survival rates.

[1]Patients were followed up from the onset of ESRD until death or June 30, 1991.

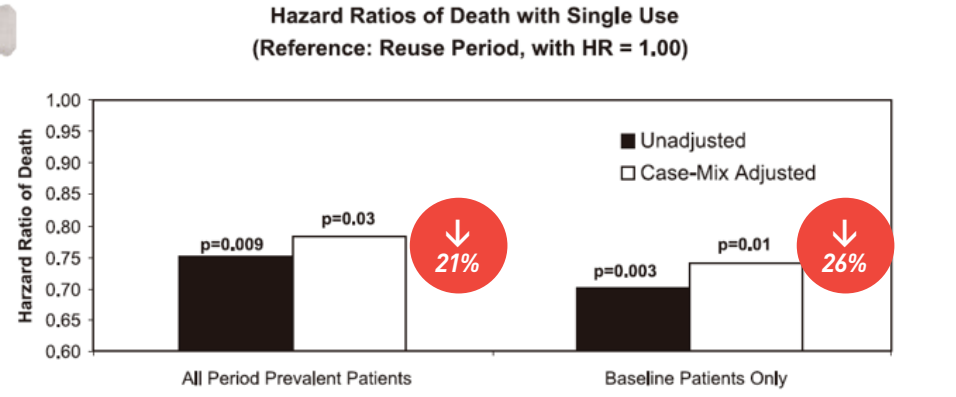


Figure 3. | Hazard risk for mortality comparing the 6-month periods of reuse (reference) with single use of dialyzers with and without adjustment for case mix (*i.e.*, age, gender, race, diabetes, dialysis vintage, and vascular access type).

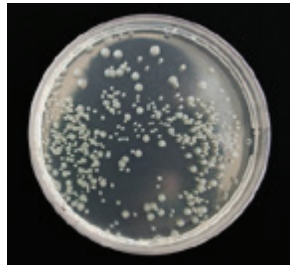
[4]Abandoning Peracetic Acid-Based Dialyzer Reuse Is Associated with Improved Survival

But what's behind these numbers? Let's delve deeper into the challenges of reusing dialyzers.

The Hidden Dangers of Reuse

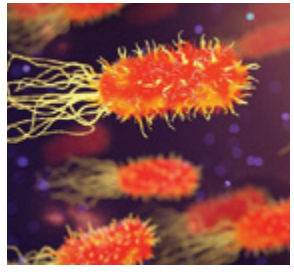
While reusing dialyzers might seem cost-effective, the risks tell a different story:

Bacteria Contamination:



- During reprocessing, harmful bacteria and endotoxins can infiltrate the dialyzer and remain trapped [2].
- Bacteria from reprocessing water can multiply and cause life-threatening bloodstream infections like sepsis[2].

Chemical Risks:



- Residual cleaning agents, even in tiny amounts, can have severe effects, including burning sensations, blurred vision, or worse—death[2].
- Endotoxins, which cleaning agents cannot kill, cling stubbornly to dialyzer components[2].

O-ring Flaw:

- Multiuse dialyzers with O-rings can harbor contaminants, leading to infections such as S. maltophilia and C. parapsilosis [3].

The Case for Single-Use Dialyzers

The study[1] followed 1,491 chronic hemodialysis patients in the U.S. between 1986 and 1987. It revealed troubling statistics.

No Reprocessing Risks:

- Each dialyzer is new and free from residual bacteria, chemicals, or endotoxins.

Better Patient Outcomes:

- Studies consistently show lower mortality and hospitalization rates for patients using single-use dialyzers.

Comfort and Safety:

- Synthetic membranes in single-use dialyzers reduce the risk of first-use syndrome, ensuring a smoother dialysis experience.

References:
1. J Clin Epidemiol Vol. 52, No. 3, pp. 209-217, 1999
2. John Dahlin, et al. Second Edition Core Curriculum for the Dialysis TechnicanP.14
3. Infection Control & Hospital Epidemiology , Volume 35 , Issue 1 , January 2014 , pp. 89 - 91
4. Clin J Am Soc Nephrol. 2011 Feb;6(2):297–302

Our Commitment

At Nipro, patient safety is not just a priority—it's our purpose. By advocating for single-use dialyzers, we reaffirm our commitment to advancing healthcare with solutions that empower people to truly Live Longer. Live Better. Together, we can make dialysis safer, more effective, and more comforting for everyone who depends on it.

NIPRO
Live Longer. Live Better.

Nipro Medical (India) Private Limited: 2nd Floor, Rajiv Gandhi International Airport, GMR Aero Towers, Shamshabad, Hyderabad 500108, Telangana, India | T: +91 1800 209 5200 | www.nipro-group.com