

# Disposable versus Reusable Medical Supplies: Balancing Safety, Sustainability, and Economics in Healthcare

Neha Rai <sup>1\*</sup> 

<sup>1</sup> Nursing officer, Continuous Nursing Education & Transplant Coordinator, AIIMS Jodhpur, India

**\*Corresponding Author:** Neha Rai, Ph.D. Scholar, Nursing officer, Continuous Nursing Education & Transplant Coordinator, AIIMS Jodhpur, India. Tel: 8824608514, Email: neharai2429@gmail.com

Received May 17, 2025; Accepted July 19, 2025; Online Published September 20, 2025

## Dear Editor,

In many Indian hospitals, the choice between disposable and reusable medical supplies is not always straightforward. As healthcare workers, we know that disposables are safer, but limited budgets and shortages often push us to reuse items meant for single use. This everyday dilemma raises important questions about safety, sustainability, and cost.

Disposables are generally preferred because they reduce the immediate risk of infection. For example, in intensive care units and operating theatres, single-use catheters and lines are now almost routine in high-income countries. A large European study reported that using disposable intravascular catheters reduced the risk of central line-associated bloodstream infections by nearly 25% compared to reused ones.<sup>1</sup> However, in our context, the story is different.

There are encouraging examples as well. In one tertiary center in Gujarat, scaling up audits and providing regular feedback on sterilization practices made a visible difference. Nurses and technicians became more accountable, and surgical infection rates declined after these audits were introduced.<sup>2</sup> This shows that even in resource-constrained settings, a system-level change like audits can strengthen safe reuse practices.

On the other hand, the reuse of single-use devices without regulation continues in many parts of India. Literature highlights that the practice, though often driven by cost and supply issues, poses a real risk to patient safety.<sup>3</sup> I have seen cases where reused catheters contributed to outbreaks of preventable infections, which then burdened the same fragile system with longer hospital stays and added expenses.

Another dimension is environmental. The WHO estimated that the COVID-19 pandemic alone generated more than 87,000 tons of PPE waste globally.<sup>4</sup> In India, waste disposal systems were already under strain before the pandemic, and I remember how many hospitals

struggled to handle the sudden surge in discarded masks and gloves.

At the same time in Eastern India, reprocessing SUMDs exposed challenges related to sterilization validation, logistical coordination, and reuse policies, emphasizing the need for structured protocols, fully equipped central sterile units, and adherence to safety standards.<sup>5</sup>

In conclusion, a balanced, context-specific approach is essential. In high-risk areas, disposables are non-negotiable; however, with proper sterilization, monitoring, and accountability, reusable instruments remain a practical option in many Indian hospitals. What we need are national guidelines that encourage risk-based use, invest in sterilization infrastructure, and also support frontline staff through training. National guidelines should advocate for risk-based usage strategies and invest in training, infrastructure, and innovation to support safe reuse practices where appropriate. Without this, the gap between policy and practice will continue to put both patients and healthcare workers at risk.

## Acknowledgments

The author acknowledges the institutional support of AIIMS Jodhpur and insights shared by the infection control team at AIIMS Jodhpur.

## Conflict of Interest Disclosures

The author declares no conflict of interest.

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