



# AIIMS Jodhpur Develops Low-Cost Portable Dialysis Machine



## Key Development

Researchers at AIIMS Jodhpur have developed a low-cost, portable dialysis machine aimed at improving access to kidney care in rural and resource-limited regions of India.

---



## Technical Features

- Compact & lightweight design, making it transportable to peripheral healthcare centers.
  - Operates on solar power with battery backup, ensuring function during power outages.
  - Uses a water-efficient purification system, reducing the need for large volumes of ultrapure water.
  - Designed to work with locally available consumables, lowering operational costs.
- 



## Cost Advantage

- Estimated cost: ₹2.5–3 lakh per unit, nearly one-third of current commercial dialysis machines.
  - Reduced per-session cost of dialysis, making treatment more affordable for patients.
  - Lower maintenance requirements compared to existing machines.
-

## Testing & Validation

- Prototype successfully tested in simulated lab conditions.
  - Pilot clinical use conducted on a small group of chronic kidney disease patients at AIIMS Jodhpur.
  - Results showed comparable clearance rates of toxins to standard machines, with no major complications.
- 

## Public Health Relevance

- India has over 2 lakh new cases of end-stage kidney disease annually, but only 5,000 dialysis centers.
  - Rural patients often travel hundreds of kilometers for dialysis, leading to poor compliance.
  - This innovation could help set up satellite dialysis units at district hospitals and primary health centers.
- 

## Next Steps

- Regulatory approval process with CDSCO expected in 2026.
- Plans to scale up production with support from public-private partnerships.
- Future versions may integrate telemedicine support for remote monitoring.