

# Efficacy of Albumin infusions versus other standard treatments for Intradialytic Hypotension (IDH)

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## Purpose/EBP Model

- IDH is a significant complication during hemodialysis, characterized by a reduction in circulating blood volume/pressure, reduction in mean arterial pressure and hypotensive symptoms.
- Historically, an infusion of Albumin 25% is used to treat IDH. However, the administration of a normal saline (NS) bolus, or supplemental oxygen is effective in resolving an episode<sup>1</sup>.
- The Iowa Model Revised<sup>®</sup> was used to explore if less expensive NS was as effective as Albumin to resolve episodes.

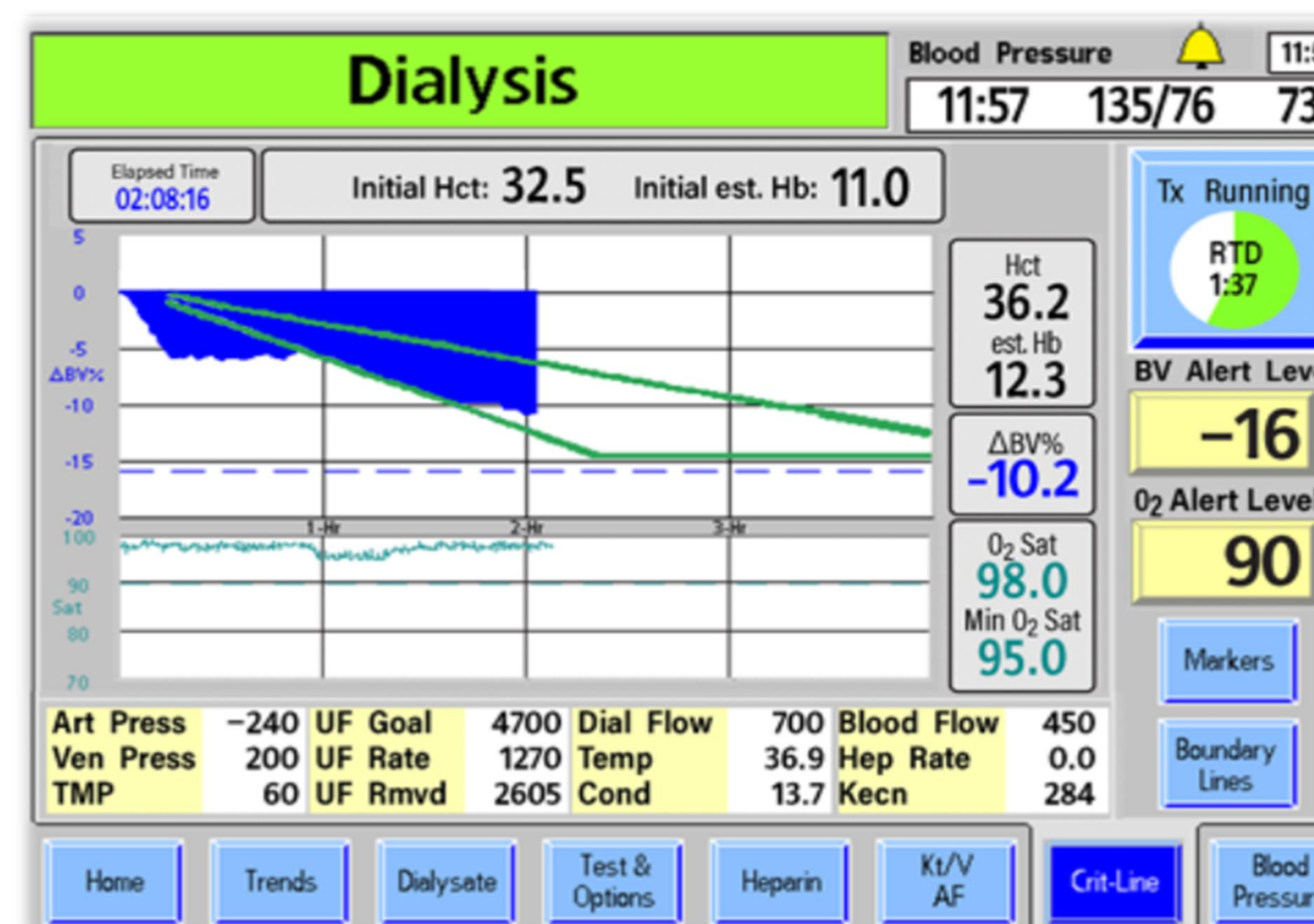
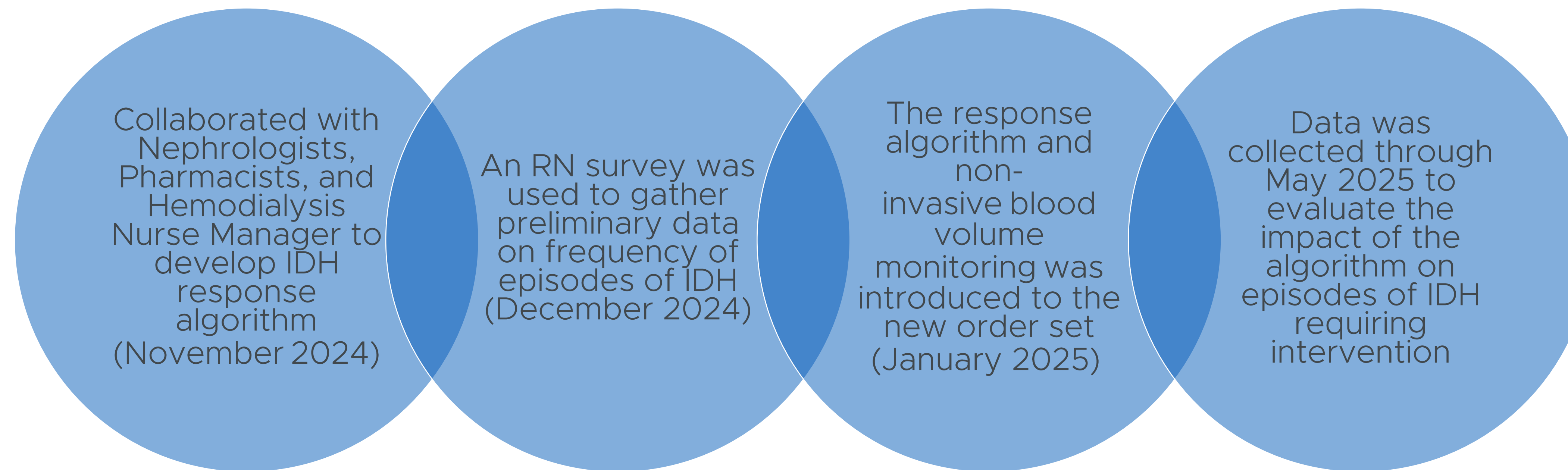
## Synthesis of Evidence

- Although there is limited evidence about the difference in outcomes between using Albumin versus normal saline infusions to treat IDH, the available studies show that both treatments support achieving the prescribed ultrafiltration goals.
- Literature supports promptly treating IDH even if the patient is asymptomatic, since IDH is a predictor of mortality and non-fatal cardiovascular disease<sup>2</sup>.
- The main evidence-based recommendation is to prevent IDH if possible, implement an algorithm, and use technology to guide treatment of IDH.

## Practice Changes

- Creation of response algorithm for initial management of IDH: pause ultrafiltration, administer oxygen, reduce dialysate temperature, use Trendelenburg position before using pharmacological interventions.
- Utilize normal saline as first line treatment (2 doses maximum).
- Consider changing dialysate composition and using hemodynamic monitoring if patient had prior IDH.

## Implementation

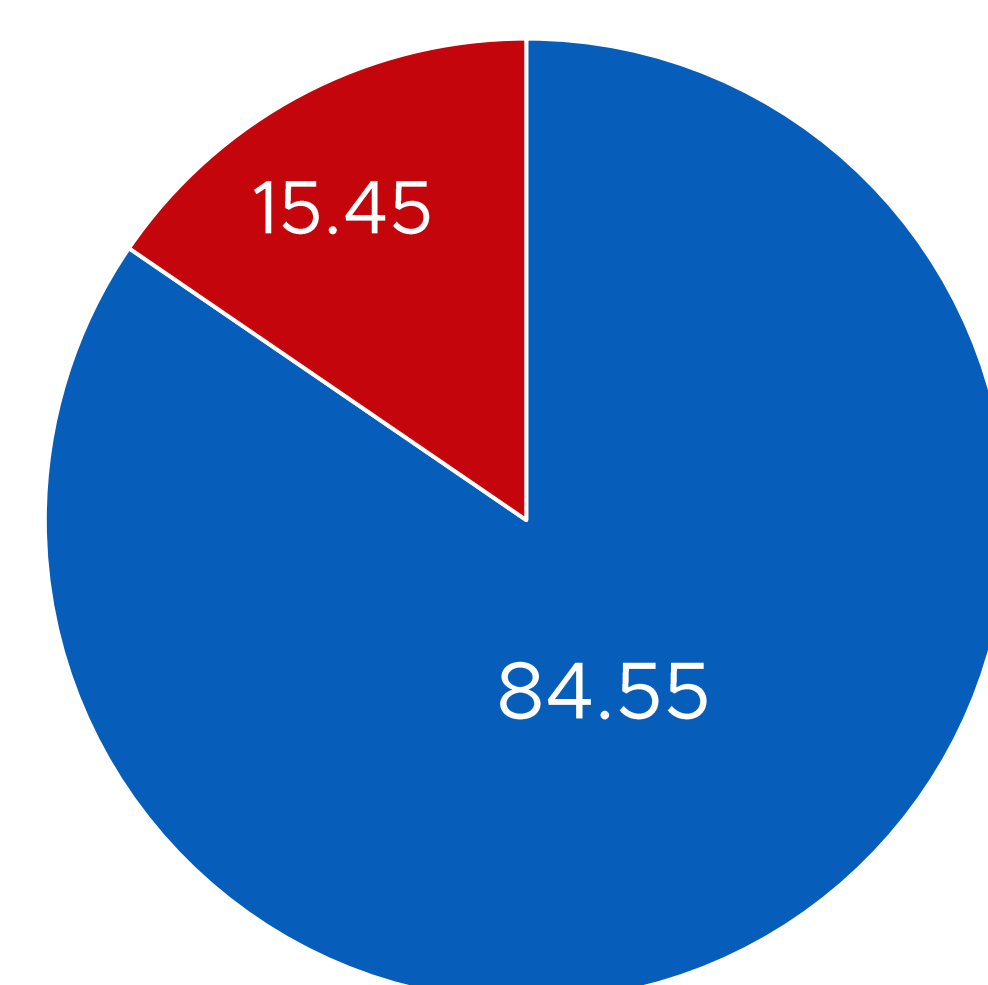


Use of Technology to Monitor Patients for IDH  
Fresenius Medical Care, Crit-Line. 2025. <https://freseniusmedicalcare.com/>

## Evaluation

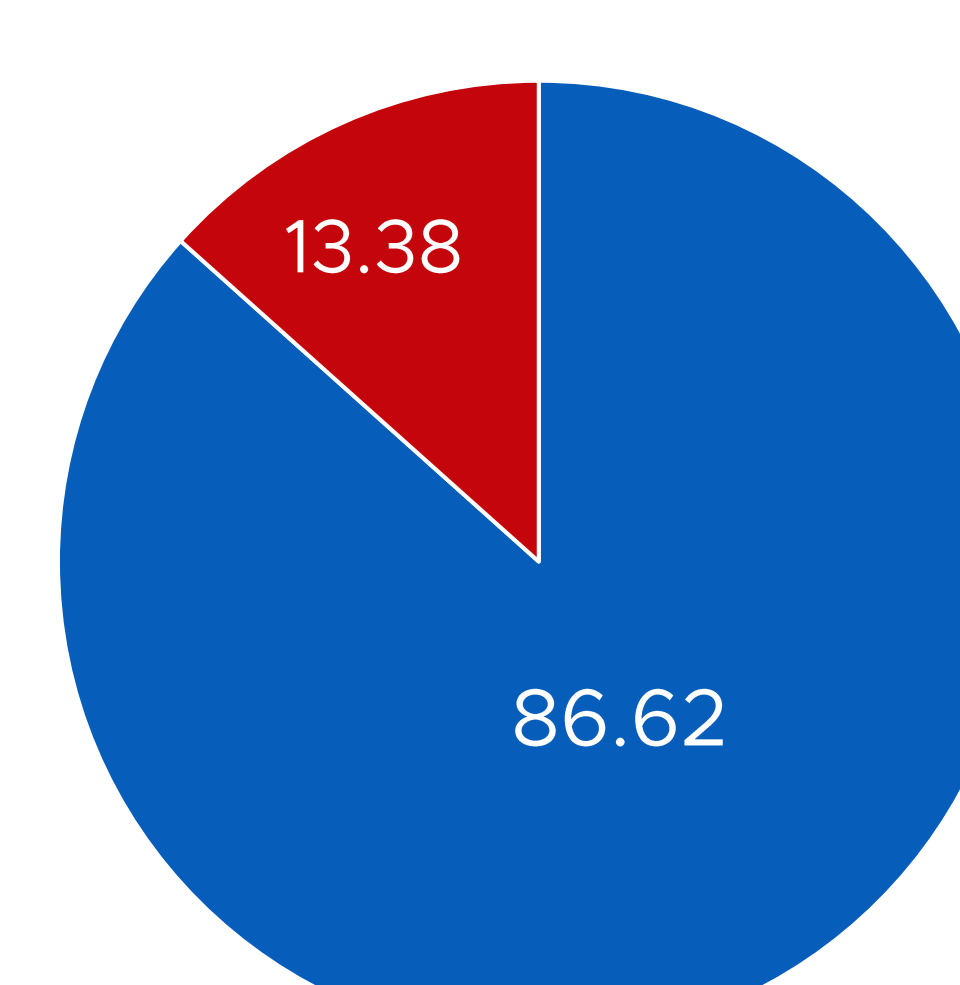
Initial data found that IDH was identified in 15.45% of treatments and the patient was unable to achieve the prescribed ultrafiltration goal. After 5 months of utilizing the new algorithm, the number of treatments unable to achieve the prescribed ultrafiltration goal had been reduced to 13.38%.

December 2024 Pre Data



■ No IDH ■ Yes IDH

May 2025 Post Data



■ No IDH ■ Yes IDH

## Conclusions

- Since implementing the algorithm, NS has been utilized as the first line treatment, along with other non-pharmacologic interventions. Patients still met their ultrafiltration goals.
- Utilizing NS over Albumin, resulted in cost savings, fewer extended hospital stays, and patients are not being delayed from moving treatments to the outpatient setting.
- NS is a cost-effective alternative to Albumin for treating IDH without compromising patient outcomes hereby promoting safer and more effective dialysis care.

## Next Steps

- Add non-invasive hemodynamic monitoring to dialysis order set for patients at risk for IDH.
- Track IDH rates, treatment interventions utilized, including usage of Albumin bolus, and the ability to reach prescribed ultrafiltration goals.
- Collaborate with interdisciplinary teams to improve intervention algorithm.
- Evaluate patient comfort and symptom reduction.

## References

<sup>1</sup>Kanbay, M., Ertuglu, L. A., Afsar, B., Ozdogan, E., Siroopol, D., Covic, A., Basile, C., & Ortiz, A. (2020). An update review of intradialytic hypotension: concept, risk factors, clinical implications and management. *Clinical kidney journal*, 13(6), 981–993. <https://doi.org/10.1093/ckj/sfaa078>

<sup>2</sup>Cedeño, S., Vega, A., Macías, N., Sánchez, L., Abad, S., López-Gómez, J. M., & Luño, J. (2020). Intradialytic hypotension definitions with mortality prediction capacity in a cohort of haemodialysis patients. Definiciones de hipotensión intradiálisis con poder predictivo de mortalidad en una cohorte de hemodiálisis. *Nefrología*, 40(4), 403–413. <https://doi.org/10.1016/j.nefro.2020.01.003>

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