

Dialysis Discontinuation, Prognosis, and Shared Decision-Making



Denisse Arellano-Mendez¹ and Keren Ladin²

¹Department of Nephrology, Hospital General Regional 46, Instituto Mexicano del Seguro Social, Guadalajara, Jalisco, Mexico; and ²Department of Community Health, Research on Ethics, Aging, and Community Health (REACH Lab), Tufts University, Medford, Massachusetts, USA

Kidney Int Rep (2024) **9**, 1963–1965; <https://doi.org/10.1016/j.ekir.2024.05.030>

© 2024 International Society of Nephrology. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

See Clinical Research on Page 2117

Dialysis discontinuation (withdrawal) generally refers to the intentional cessation of dialysis in patients with end-stage kidney disease; a decision often made collaboratively by the patient, their family, and the health care team, considering the patient's overall medical condition, quality of life, and personal preferences. Practices for dialysis discontinuation vary around the world and many factors such as social, economic, religion, cultural, and ethical are involved.^{1,2} Reasons for dialysis withdrawal include medical factors (comorbidities and dialysis access difficulties), psychosocial factors (mental health burden, financial limitations, and lack of social supports), and alternative dialysis approaches (palliative dialysis or time-limited dialysis trial).¹ For hemodialysis (HD), common reasons for withdrawal include multiple HD access

failure, acute medical complications (hypotension, cramps, and life threatening arrhythmias), chronic debilitating problems, chronic failure to thrive or frailty, as well as logistic and financial reasons.³

Data from Neu and Kjellstrand's seminal study which evaluated dialysis discontinuation in 155 of 1766 patients with end-stage kidney disease, found that dialysis withdrawal accounted for the 22% of deaths.⁴ Currently, annual mortality for patients receiving dialysis is approximately 20%, and dialysis withdrawal is a common cause of death for patients worldwide.² In the Netherlands, dialysis withdrawal increased as cause of the death, from 18.3% in 2004 to 26.6% in 2015 to 2019.⁵ Studies analyzing nephrologists' attitudes and approaches to dialysis withdrawal have found that, in the US, nearly 90% of nephrologists had withheld dialysis at least once, and over 30% had withheld dialysis 6 times or more.⁶ In Canada, withholding dialysis was reported in about 25% of referred patients.⁶

Dialysis withdrawal is more common among older compared to younger nondiabetic patients, and

twice as common in nondiabetic patients with other degenerative disorders, patients receiving intermittent peritoneal dialysis (PD), and in patients living in nursing homes.⁴ Additional risk factors include older age, female sex, increasing dialysis vintage, HD, and more recent year of death.⁵ Although risk patterns for dialysis discontinuation are well-described, gaps remain in understanding how and when to discontinue dialysis, and how to guide patients about their prognosis.

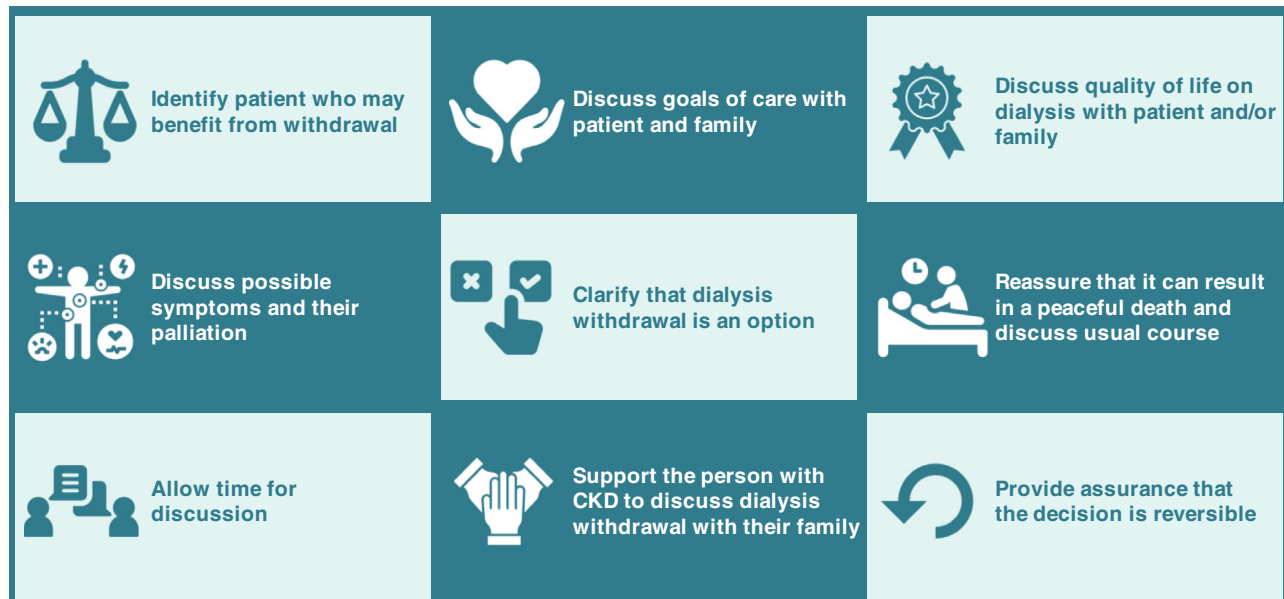
Implications of Stopping Dialysis: The Role of Understanding Prognosis

Dialysis discontinuation should follow a shared decision-making model, a process whereby patients, clinicians, and often, care partners consider the benefits and burdens of treatment, treatment goals, quality of life, patient preferences, and prognosis to achieve goal-concordant care. Prognosis is a key factor in shared decision-making, and in the context of dialysis withdrawal, previous studies have estimated that the average time to death following dialysis withdrawal is approximately 3 to 10 days.¹

In this issue of *Kidney International Reports*, So and Li's study, "Prognostication After Dialysis Withdrawal" describes the median survival time after withdrawal of dialysis and identifies patient and dialysis-related factors significantly associated with prognosis.⁷ This retrospective cohort study of 239 patients from Australia (186 on HD and 53 on PD), found similar prognosis overall, and no significant differences in survival time from last dialysis to death by dialysis modality (4 days for the PD group, 6 days for the HD

Correspondence: Denisse Arellano-Mendez, Department of Nephrology, Hospital General Regional 46, Instituto Mexicano del Seguro Social, 2063 Lazaro Cardenas, 44910, Guadalajara, Jalisco, Mexico. E-mail: denisse.amendez@gmail.com

Considerations for Dialysis Withdrawal



Data from: Cohen LM, Germain MJ, Poppel DM. **Practical considerations in dialysis withdrawal: "to have that option is a blessing"**. JAMA. 2003 Apr 23-30;289(16):2113-9. doi: 10.1001/jama.289.16.2113.

VA by Denisse Arellano
X @denisse_am

Figure 1. Considerations for dialysis withdrawal.

group; $P = 0.72$). However, among patients on PD, withdrawal for psychosocial reasons was associated with a longer median survival time ($P = 0.002$). For patients on HD, variables associated with longer survival time included the reason for withdrawal ($P = 0.001$), urine production ($P = 0.005$), serum sodium levels ($P = 0.005$), and smoking status ($P = 0.009$). This study presents an important contribution in clarifying the prognosis for patients on PD following dialysis withdrawal, and clarifying the differing reasons for patients withdrawing from HD and PD.

Shared Decision-Making for Dialysis Discontinuation and End-of-Life Care

In 2000, the Renal Physicians Association and the American Society of Nephrology comprised a working group and published the "Clinical Practice Guideline on Shared Decision-Making in the Appropriate Initiation of and Withdrawal from Dialysis." These guidelines included considerations

for dialysis withdrawal, emphasizing a shared decision-making framework and best practices for end-of-life care (Figure 1).^{6,8} This process includes preparatory psychological counseling and support, a clear decision to stop dialysis, and palliative care, hospice, and spiritual supports aimed at helping patients achieve their goals of care and maintain dignity at the end of life.⁶

The "Executive summary of the Kidney Disease: Improving Global Outcomes Controversies Conference on Supportive Care in Chronic Kidney Disease" provides further endorsement of shared decision-making and offers guidance for dialysis withdrawal following ethical considerations which aim to balance principles of beneficence, nonmaleficence, and justice.² The Kidney Disease: Improving Global Outcomes guidance notes that clinicians must first attend to treatable factors, such as depression or pain, and reversible social issues that might influence the patient's decision to stop dialysis. They also note the importance of patient

autonomy in deciding when and how to discontinue dialysis, and reliance on surrogate decision-makers in cases where patients lack capacity for medical decision-making. Access to suitable supportive or hospice care is essential following the decision to withdraw dialysis.

Future Steps

With the aging of the population, and the increasing number of people reaching end-stage kidney disease, dialysis withdrawal is likely to become increasingly prevalent. Dialysis withdrawal is of particular concern and poses unique challenges for patients with dementia because they are unable to make their own medical decisions. In the US, patients with end-stage kidney disease have a 2- to 7-fold higher prevalence of cognitive impairment and dementia compared with the general population. Moreover, patients with dementia face adverse risks and poorer outcomes. A study using data from the US, Japan, France, Italy, Germany, Spain, and

the UK, found that dementia has been associated with an increased risk of death (risk ratio: 1.48, 95% confidence interval: 1.32–1.66) and dialysis withdrawal (risk ratio: 2.01, 95% confidence interval: 1.57–2.57). This underscores the importance of kidney clinicians engaging patients in early advance care planning discussions, including about dialysis initiation, and potentially routine screening for cognitive impairment as well.⁹

The decision to discontinue dialysis involves complex ethical considerations to ensure that patient wishes are honored. Cultural and religious beliefs may also influence the decision-making process and should be thoughtfully considered by the health care team. Kidney clinicians should engage patients early in discussions about the option to discontinue dialysis, the circumstances and factors that would influence their preference to continue, and the implications for their quality of life and prognosis. The initiation of dialysis presents a critical opportunity to discuss the possibility of withdrawal and document advance

care plans, though unfortunately, this issue is rarely addressed.¹ Where possible, care partners, social work, and palliative care teams should be involved in these early discussions. Guidelines should be adapted for political, religious, or cultural issues in every country.

DISCLOSURE

All the authors declared no competing interests.

REFERENCES

1. Chen JHC, Lim WH, Howson P. Changing landscape of dialysis withdrawal in patients with kidney failure: implications for clinical practice. *Nephrology (Carlton)*. 2022;27:551–555. <https://doi.org/10.1111/nep.14032>
2. Davison SN, Levin A, Moss AH, et al. Executive summary of the KDIGO Controversies Conference on Supportive Care in Chronic Kidney Disease: developing a roadmap to improving quality care. *Kidney Int*. 2015;88:447–459. <https://doi.org/10.1038/ki.2015.110>
3. Bhojaraja M, Singhai P, Sunil Kumar M, Sreelatha M. Withdrawal from dialysis: why and when? *Indian J Palliat Care*. 2021;27:S30–S32. https://doi.org/10.4103/ijpc.ijpc_66_21
4. Neu S, Kjellstrand CM. Stopping long-term dialysis. An empirical study of withdrawal of life-supporting treatment. *N Engl J Med*. 1986;314:14–20. <https://doi.org/10.1056/NEJM198601023140103>
5. van Oveln M, Abrahams AC, Bos WJW, et al. Dialysis withdrawal in the Netherlands between 2000 and 2019: time trends, risk factors and centre variation. *Nephrol Dial Transplant*. 2021;36:2112–2119. <https://doi.org/10.1093/ndt/gfab244>
6. Cohen LM, Germain MJ, Poppel DM. Practical considerations in dialysis withdrawal “to have that option is a blessing”. *JAMA*. 2003;289:2113–2119. <https://doi.org/10.1001/jama.289.16.2113>
7. So S, Li KC. Prognostication after dialysis withdrawal. *Kidney Int Rep*. 2024;9:2117–2124. <https://doi.org/10.1016/j.ekir.2024.04.045>
8. Galla JH. Clinical practice guideline on shared decision-making in the appropriate initiation of and withdrawal from dialysis. The Renal Physicians Association and the American Society of Nephrology. *J Am Soc Nephrol*. 2000;11:1340–1342. <https://doi.org/10.1681/ASN.V1171340>
9. Kurella M, Mapes DL, Port FK, Chertow GM. Correlates and outcomes of dementia among dialysis patients: the Dialysis Outcomes and Practice Patterns Study. *Nephrol Dial Transplant*. 2006;21:2543–2548. <https://doi.org/10.1093/ndt/gfl275>