

Can CVC Boost Home HD Acceptance? - Pro

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Disclosures

- Member of the KDOQI Vascular Access Guidelines Workgroup (2020)
- Member of SONG-HD initiative expert panel workgroup

A well-informed patient is willing to consider HHD but only with a CVC

Will you deny him this choice?

Is there evidence that HHD is superior to ICHD?



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[Intervention Review]

Home versus in-centre haemodialysis for people with kidney failure

Editorial group: Cochrane Kidney and Transplant Group.

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Cochrane review results

1305 re

Key message

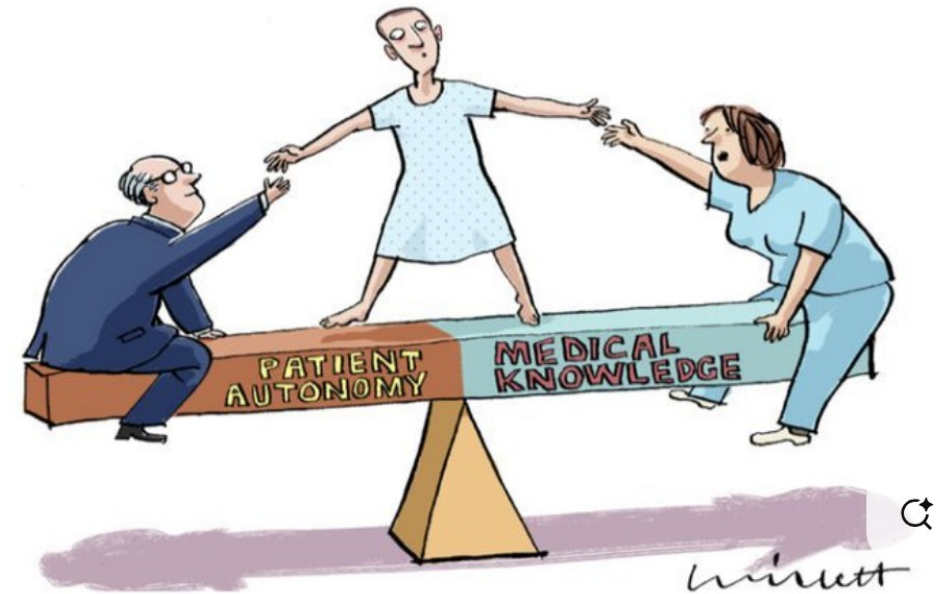
HHD may be preferred by some patients.
However, the research gives us very
uncertain answers.

-
- Decrease

There was insufficient evidence to show a positive association of HHD and ICHD with fatigue or vascular access outcomes.

So then why HHD?

- Provides patients with greater autonomy
- Possibly improves patient experience
- Lower healthcare cost burden
- Address nursing shortage



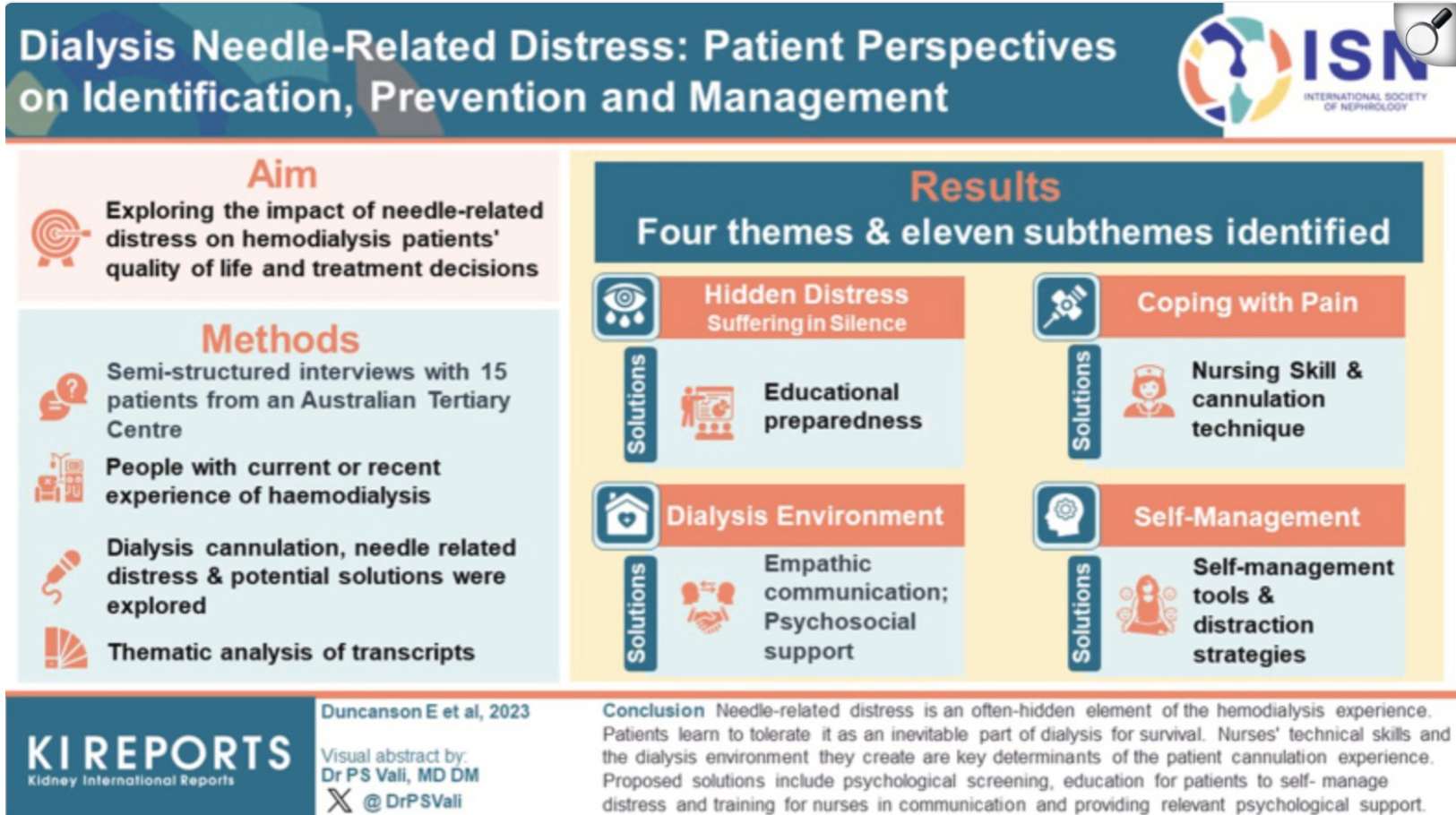
Patient perspective to choosing HHD

Anxiety of self care

Fear of needles, pain, cosmetic reasons

Psychological burden of learning to self-cannulate

Caregiver burden



Patient perspective on vascular access

Standardized Outcomes in Nephrology (SONG – HD initiative)
Nephrology Dialysis Transplantation, Volume 35, Issue 4, April 2020

Top 3 outcomes important to patient

- Vascular function – avoid multiple interventions
- Aneurysm/pseudoaneurysm (appearance)
- Infection

CVC use prevents delay in transition to HHD

AVF maturation failure in the US is between 20-40%

Multiple interventions prior to first use of AVF

- Average of 5 interventions as reported by DOPPS (Am J Kidney Dis. 2021)

Delay in transition from ICHD to HHD

Longer the patient dialyzes in ICHD – higher the inertia to transition to HHD

- <4% transition to HHD after receiving ICHD for > 90 days (USRDS 2022)

Failed PD transitioning to HD

Non-infectious complications

AVF/AVG

- Infiltrations, hematoma
- Aneurysm formation
- Needle dislodgement
 - exsanguination, death
 - 1:11,000 -20,000 – HHD
 - 1:60,000 -70,000 – ICHD
 - (Seminars in Dialysis. 2021;34:269–274)
- Incidence increases with number of HD sessions per week

CVC

- Thrombosis

Elephant in the room – Infection

What is the evidence?

Do we have a better
alternative?

CVC and Infection

Infection rate is higher with CVC compared to AVF /AVG

Is it higher in the HHD compared to ICHD population?

Multiple confounders

- Observational, retrospective analysis
- Patient phenotype is inconsistent
- Duration and frequency of HD session is unclear or not reported
- Change in vascular access type over time is often unknown

CVC infection in HHD - Are we interpreting the data correctly?

EDITORIALS

The Burden of Harm—What Is the Ideal Vascular Access for Home Hemodialysis?

CJASN
Clinical Journal of the American Society of Nephrology

Trinh, Emilie; Chan, Christopher T. *Clinical Journal of the American Society of Nephrology* 11(2):p 205-206, February 2016. |



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Home versus in-centre haemodialysis for people with kidney failure

Lockridge et al – Hemodialysis Int 2015

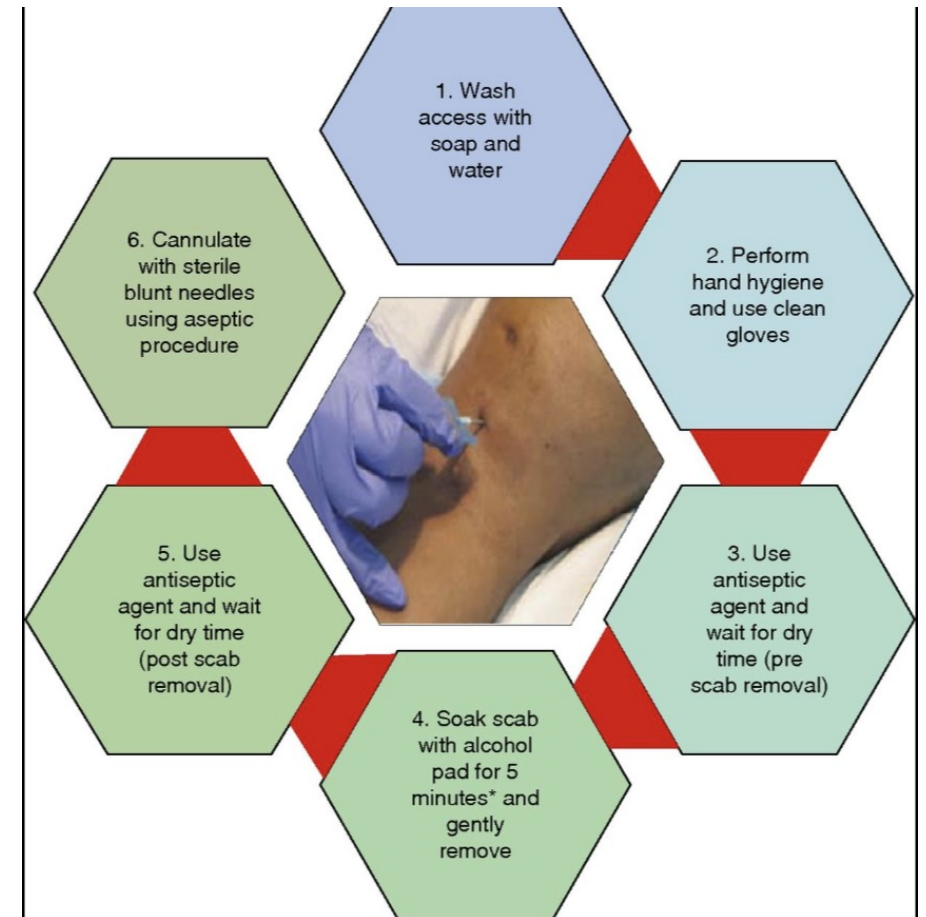
- Single center nocturnal HHD vs ICHD
- 63 patients on nocturnal HHD
- No difference in the rate of catheter-related sepsis
 - NHHD (1.77 per 100 patient months) vs IHD (2.03 per 100 patient months; $P = 0.21$).

Canadian data on CVC use for HHD

- 30% of Canadian HHD population use CVC
 - Perl, Lok, Chan - Kidney Int. 2006;70(7):1348-1354
- Low adverse event rates irrespective of vascular access type
 - 0.049 per AVF year (Tennankore et al. Am J Kidney Dis 2015)
 - 0.015 per AVG year
 - 0.022 per CVC year

AVF Cannulation nightmare BH vs RL

- Button hole cannulation is generally preferred by patients and caregivers
- AVF infection can be prevented with education and training
- Real life data –
 - 3-fold higher risk of AVF infection when compared to rope-ladder
 - Muir et. al Clin J Am Soc Nephrol 2014




Consensus recommendations from Experts

Vascular Access for Home Hemodialysis: A Perspective on Tunneled Central Venous Catheters at Home

Kidney Med Vol 7 | Iss 1 | January 2025 |

Michael Alexander Aragon, Osama El Shamy, Sijie Zheng, Glenn M. Chertow, Joel Glickman, Eric Weinhandl, Paul Komenda, Stephan Dunning, Frank Liu, and Charmaine Lok

Table 1. Key Take-Away Points

1. Tunneled CVC will continue to play a vital role in the care of patients with ESKD.
2. Home hemodialysis provides an avenue to improve outcomes and reduce the cost of ESKD care.
3. The ESKD Life-Plan and vascular access recommendations consider tunneled hemodialysis catheters a reasonable approach at times during the patient ESKD journey.
-  4. Outcomes in patients using CVCs, in-center and at home, are similar.
5. We recommend that the decision to dialyze at home should be independent of the patient's current or long-term vascular access plan.

If 80% of patients can receive ICHD with a CVC why are we so reluctant and resistant when it comes to HHD?

AVF

CVC

Training needs

Lack of evidence

Patient experience

Prevent delays in transition

Patient autonomy



Time to rethink and reevaluate our practice

- Patient centric approach
- Aligns with the federal initiatives
- Prevent delays in transition of care
 - New start to HHD
 - Failed PD to HHD
 - Failed transplant to HHD
 - Prevalent ICHD to HHD
- Aligns with KDOQI Vascular Access Guidelines – ESKD Life Plan
- Supported by a panel of experts



OK to use
CVC for
HHD