

Appendix

Home Hemodialysis: Infrastructure, Water, and Machines in the Home



Implementing
Hemodialysis in the Home
A Global Perspective

iSHD

International Society for Hemodialysis

Home Infrastructure Checklist

Considerations

Machine Considerations

Width, depth, and height

- Does the installation area (eg, bedside to wall space) fit the chosen machine?

Servicing and cleaning

- How accessible is the machine to servicing and cleaning?
- How available is the water treatment plant to servicing and cleaning access?
- Does the weight of machine hinder easy movement?
 - Do local occupational health and safety (OH&S) standards allow for 1 or require 2 servicing personnel to service the chosen system?

Machine ergonomics

- Patient needs and ability will determine machine interface
 - Are the controls built into the machine and “machine-determined”?
 - Are the controls separate (ie, tablet device) and “patient-determined”?
- If “machine-determined”, are controls, screens, alarms, etc, all within reach of patient’s chosen dialysis position (eg, recumbent, sitting) and do they allow access at a full range of patient positions (eg, lying or seated patient height)?
 - OH&S issues
 - Clinical safety issues

Need or desire for variability and operating characteristics

- Dialyzer variability
 - Some current systems provide a cassette-based, drop-in consumable pack with no choice of dialyzer
- Blood flow variability
- Dialysis fluid flow variability
- Single vs double needle options

Home Infrastructure Checklist (cont'd)

User friendliness

- Console design and complexity
- Console height and/or variability
- Console dimmer switch

Patient lifestyle

- Is there a requirement or preference for travel and/or machine portability?

Dwelling and Room Considerations

Chair-situated dialysis vs bed-situated home HD

- Is there sufficient space?
- Comfortable?
- Adequate lighting?
- Ability to recline?
- Is the set up care partner friendly?

Storage

- Is there sufficient storage for dialysis consumables?
- Does the machine need to be out of the way or out of sight when not in use?
 - Is it easy to relocate the machine after it has been moved out of sight?
 - Is there a secure (and, if needed, refrigerated) storage area for medications?
- Aesthetics

Communication options

- Is there access to a land line or cellular telephone network?

Home Infrastructure Checklist (cont'd)

Hygiene and cleanliness considerations

- Can the room be regularly and completely cleaned?
- Is there easy access to solid waste disposal (eg, medical waste, recycle)?
- Is there easy washbasin access, which ideally should have hands-free elbow taps or an automatic on-off sensor system?

Utilities

- Can the room be appropriately equipped with electricity and plumbing?
- Are backup systems available in the event of an outage?

Plumbing Considerations

- Wet-resistant flooring
- Installation of back-flow preventer
- Consideration of water pressure issues and the requirement for a feed water pump or header tank
- Installation of reverse osmosis (RO) system with or without housing
- Determine if there is a potential for the reuse of RO reject water; drain if no reuse planned
- Installation of drainage points for reject water and effluent
 - Is disposal into a septic tank?
 - Will installation require a tundish?

Home Infrastructure Checklist (cont'd)

Other Considerations

- A reliable and accurate set of scales for pre- and postdialysis weight recording
- Optional access to a centrifuge for laboratory work
 - Home patients are capable of—and can be taught to—collect and spin down their own pre- and postdialysis blood samples. To facilitate this, access to a light-weight, easy-to-operate blood sample centrifuge can be offered
- Social requirements
 - Are the needs of family and care partners met?
 - Are there appropriate provisions for home entertainment and Wi-Fi/Internet?

Maintenance Considerations

- In-house maintenance programs
 - On-site or off-site?
 - By whom?
 - How often?
- Dialysis company maintenance
 - On-site or off-site?
 - By whom?
 - How often?