

HOME HEMODIALYSIS AND SEPTIC SYSTEMS

INFORMATION FOR BC RENAL PROGRAMS

Septic systems are required when a household is not serviced by a sewer system. A septic system (Onsite Wastewater Treatment System) is an in-ground treatment and disposal system. In BC, septic systems must be designed and installed by an approved person (engineer with experience and/or training in soils and sewage systems or a Registered Onsite Wastewater Practitioner). After installation, the homeowner is responsible for keeping a record of maintenance for the sewage system¹.

If a patient is interested in home hemodialysis, they should be aware that it is their responsibility to ensure their septic system is well functioning, maintained and is able to manage the water demands of home hemodialysis.

Water demands for home hemodialysis using the Baxter/Gambro AK 95/96 machine are estimated at approximately 90 L/hour². The following table provides an estimate of the water demands of home hemodialysis per day, depending on treatment times.

Number of treatment hours/day	Flow to drain (effluent & dialysate) per treatment
3	270 L
4	360 L
5	450 L
6	540L
7	630 L
8	720 L

The average modern (post 2005) 3 bedroom home septic system has a maximum capacity of 1365 L/ day but only 682 L per day on average functional capacity³. Depending on the age of the system and the daily demands (number of people living in the home, daily household needs), the water demands of home hemodialysis using a conventional machine could cause septic system failure³. The renal team will need to consider the frequency of treatments and the length of treatments to best support the patient within their home environment.

It is advisable that patients limit the use of antibacterial soap, bleach and other cleaners⁴. For the AK 96 home hemodialysis machine, a Dialox disinfectant⁵ of 115 mL per disinfect cycle is completed once a month. This is diluted to approximately 2%, circulated for 30 minutes and rinsed to drain. This concentration and amount of Dialox will not harm a septic system⁴.

It is advisable for the patient to determine the capacity of their septic system and determine if their system can manage the water demands of home hemodialysis. The patient should contact a Registered Onsite Wastewater Practitioner if they require assistance with assessment of their septic system capacity⁶.

Please ensure the patient confirms with the renal team that their septic system is safe to use for home hemodialysis treatments prior to the initiation of training.

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This information does not apply to the NxStage Home hemodialysis system due to low drainage volumes- the equivalent of one load of laundry for one week of treatments.⁷

References

¹The Sewerage System Regulation system regulation (BC Reg 326/2004)

²Rob O 'Leary, Baxter National Technical Specialist. Rob_Oleary@baxter.com

³Canadian Onsite Wastewater Institute - Western Canada Contact- John Rowse 250 590 2514

⁴Sara Heger, University of Minnesota, Water Resource Center, Onsite Sewage Treatment Program, 612-625-7243 sheger@umn.edu

⁵Dialox MSDS 07-03-2012

⁶WCOWMA- Onsite Wastewater Management Association of BC. <http://www.wcowma-bc.com/>

Find an Onsite Wastewater management practitioner- <http://www.wcowma-bc.com/locate-a-pro/permitting-agencies/>

⁷NxStage Home Therapies, Customer Communication, PureFlow SL Water Use and Septic Systems, 2015