NxSTAGE® Home Therapies

Clinical Evidence

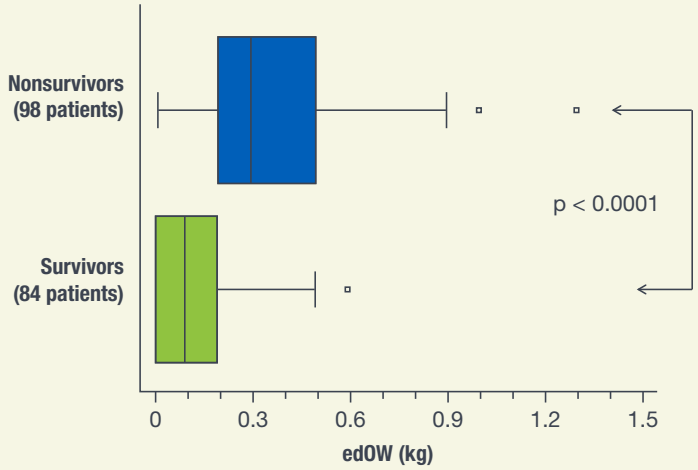
Not achieving dry weight is associated with a higher risk of all-cause and cardiovascular mortality when compared to ultrafiltration rates and interdialytic weight gain.[1]

Movilli E, Camerini C, Gaggia P, et al. Magnitude of end-dialysis overweight is associated with all-cause and cardiovascular mortality: a 3-year prospective study. *Am J Nephrol*. 2013;37:370-377.

Prospective, observational study evaluating the impact of the degree of end-dialysis overweight (edOW) on mortality in prevalent hemodialysis patients over the course of three years.

46% of patients were not able to achieve their prescribed dry body weight (dBW)

Comparison of values of edOW between patients who survived and those who did not during the follow-up.



Patients underwent 2,366 treatments within the study period and patients failed to achieve the prescribed dBW in 63% of those treatments.

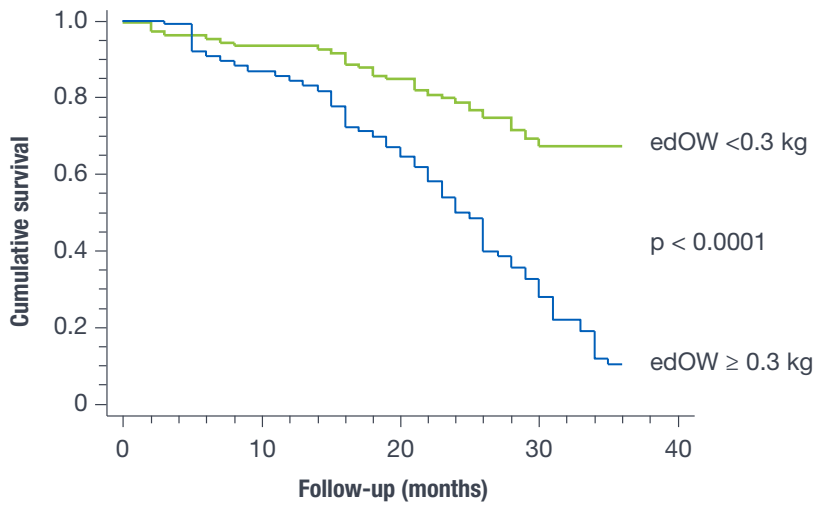
Median edOW was 0.4 kg, with a range of 0.1 - 1.4 kg per treatment, and edOW was significantly higher in nonsurvivors than survivors.

- 82% of survivors attained dry weight
- 30% of nonsurvivors attained dry weight

By using the edOW as a variable, with a threshold of 0.3 kg, a significantly greater all-cause mortality and cardiovascular mortality was observed.

Patient survival curves adjusted for significant predictors at Cox regression analysis by using edOW as a categorical variable defined according to the ROC-derived edOW threshold of 0.3 kg.

edOW and All-cause Mortality



edOW in patients on conventional therapy is independently associated with an increased risk of all-cause and cardiovascular related death

Higher ultrafiltration rates (UFR) have been independently studied and shown to increase mortality in hemodialysis patients.[2,3] These findings were confirmed in this study.

However, in reviewing the comparison of non-survivors and survivors there was a stronger association between edOW and intradialytic weight gain.

IDWG and edOW were independently associated with a 262% and 271% increased risk of all-cause mortality

	HR	CI 95%	p
UFR, ml/h/kg BW	1.13	1.09–1.16	< 0.01
Age, years	1.04	1.03–1.05	0.0001
IDWG, kg	2.62	2.06–3.34	< 0.01
edOW, kg	2.71	1.95–3.75	< 0.02
PCRn, g/kg/day	0.02	0.01–0.04	< 0.001

Model adjusted for age, sex, dialytic vintage, CVD, diabetes, antihypertensive treatment, dBW, duration of HD, BMI, MAP, UFR, edOW, IDWG, Kt/V, and PCRn.

This observation necessitates the need for more frequent therapy considerations to reduce the risk of death by reducing excess fluid intake and the number of patients not achieving dry weight after hemodialysis.

Study Design: This prospective observational study collected data from a total of 182 patients who had been on dialysis for a median of 48 months and analyzed a variety of variables including age, gender, dialytic vintage, presence or absence of cardiovascular disease, diabetes, antihypertensive treatments, dialysis modality, duration of dialysis, dry body weight, edOW, interdialytic weight gain, ultrafiltration rate, pre-hemodialysis SBP and DBP, mean arterial blood pressure, dialysis dose, and protein catabolic rate.

Important Information: The reported benefits of home hemodialysis (HHD) may not be experienced by all patients. The NxStage System is a prescription device. All forms of hemodialysis involve some risks.

References: 1. Movilli E, Camerini C, Gaggia P, et al. Magnitude of end-dialysis overweight is associated with all-cause and cardiovascular mortality: a 3-year prospective study. *Am J Nephrol*. 2013;37:370-377. **2.** Movilli E, Gaggia P, Zubani R, et al. Association between a high ultrafiltration rates and mortality in uremic patients on regular hemodialysis. A 5-year prospective observational multicenter study. *Nephrol Dial Transplant*. 2007;22: 3547–3552. **3.** Flythe JE, Kimmel SE, Brunelli SM: Rapid fluid removal during dialysis is associated with cardiovascular morbidity and mortality. *Kidney Int*. 2011; 79: 250–257.

NxSTAGE®

350 Merrimack St. • Lawrence, MA 01843 USA • **www.nxstage.com** • 1-866-NXSTAGE