

## Home & Satellite Haemodialysis Patients: A Comparison of Outcomes in a Matched Cohort

Emily K YEUNG, Kevan R POLKINGHORNE, Peter G KERR  
Corresponding Author: emily.yeung@monashhealth.org

### INTRODUCTION

- At the end of 2017, in Australia and New Zealand, 9.6% of dialysis patients were on home haemodialysis (HD) compared to 51.4% on satellite haemodialysis
  - In Australia, most home HD patients dialyse overnight (5-8 hours on alternate nights)
- Home HD has been associated with improvements in clinical and non-clinical outcomes
- Aim:** Are there significant differences in outcomes between home and satellite HD patients in a major Australian centre using a matched cohort?

Table 1: Demographics & Characteristics of Included Patients

	Satellite	Home	p-value
<b>n</b>	<b>382</b>	<b>173</b>	
Mean age +/- SD	57.9 +/- 0.68	55.6 +/- 1.00	0.421
Mean BMI +/- SD	27.3 +/- 6.77	30.2 +/- 0.74	<b>0.000</b>
<b>Gender n(%)</b>			0.304
<b>Race n(%)</b>			0.477
<b>Smoking n(%)</b>			0.114
<b>Cause of ESRD n(%)</b>			0.338
<b>Comorbidities n(%)</b>			
Chronic lung disease	33 (8.7)	19 (5.8)	0.304
Vascular disease	125 (32.9)	39 (22.8)	<b>0.020</b>
Diabetes	113 (29.7)	45 (30.2)	0.655

### METHODS

- Prevalent home HD patients from a tertiary centre were included as of January 1, 2008 with incident patients added until June 30, 2017
- Three satellite HD patients (controls) were matched to each home HD patient – criteria were age +/- 5 years, gender, and cause of end-stage kidney disease
- Primary outcomes:** all-cause mortality, transplantation
- Secondary outcomes:** average biochemical values (haemoglobin, corrected calcium, phosphate, PTH), graft survival 6 months post transplant

### RESULTS

- 173 home HD patients matched to 382 satellite HD patients with 2316 person-years of data
- Significant differences in mean BMI and vascular disease at baseline (Table 1)
- Overall mortality rate was 5.2 per 100 person-years (6.8 in satellite HD and 2.4 in home HD per 100 person-years)
- Risk of death was significantly lower in the home HD group (HR=0.42, 95% CI 0.25-0.72) (Figure 1)
- Transplant rates were comparable between groups (56.3% (home) vs 51.6% (satellite), p=0.325) with very high graft survival at 6 months (100% (home) vs. 99.5% (satellite), p=0.506)
- Biochemical outcomes were comparable possibly from a “treat to target” approach to treatment (Table 2)

Figure 1: Survival by Dialysis Modality

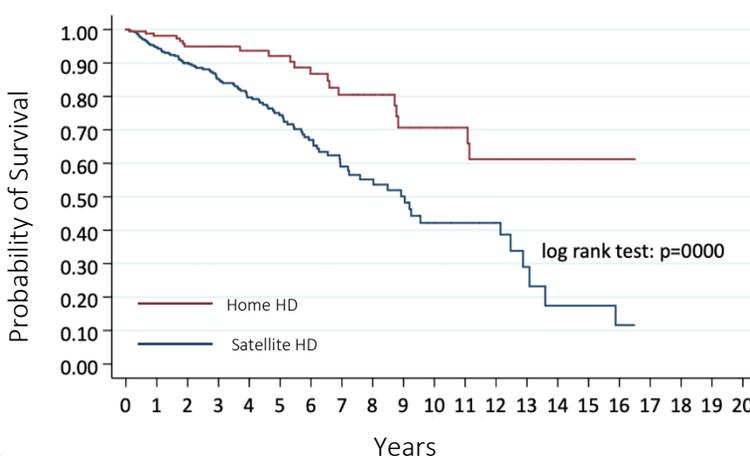


Table 2: Biochemical Parameters

	Satellite	Home	p-value
	Avg Value (95% CI)	Avg Value (95% CI)	
Hb (g/L)	114 (111 – 116)	115 (114 – 117)	0.713
Phosphate (mmol/L)	1.61 (1.50-1.71)	1.94 (1.63-2.26)	0.413
Calcium (corrected, mmol/L)	2.34 (2.30 – 2.37)	2.29 (2.26 – 2.32)	0.134
PTH (pmol/L)	42.24 (34.49-49.98)	40.42 (35.22 – 45.62)	

### CONCLUSION

- Home HD is associated with significantly reduced mortality while maintaining comparable biochemical parameters, transplant rates and graft survival in an Australian single-centre dialysis population