

## The effect of centre practice in initiating haemodialysis by an incremental approach compared to standard practice and short term patient survival

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### Introduction

Conventional clinical practice is to start haemodialysis (HD) for patients with end-stage kidney disease haemodialysis (HD) taking no account of their residual kidney function (RKF). Thus, most UK HD patients start thrice weekly dialysis with session treatment times of around 4 hours. An alternative approach is to start with incremental HD, whereby the frequency and duration of dialysis sessions are individualised according to RKF. There are no studies comparing these approaches. We utilised data from a recent multicentre study to compare patient characteristics and outcomes between a centre practising incremental HD and those using a conventional approach.

### Methods

We studied 709 patients attending for routine outpatient HD in five centres. One practiced incremental dialysis (n = 254) and four conventional HD (n = 455). Data collected included demographics, comorbidity, dialysis parameters, routine biochemistry and haematology, recovery time post-dialysis, and Beck depression inventory-II score (BDI-II). Patients were followed for  $\geq 12$  months.

### Findings

Pre- and post-dialysis BP, serum calcium and phosphate were higher in the Incremental centre, whilst Kt/V was lower (all  $p < 0.001$ ), as was the proportion of patients with a post-dialysis BP  $< 100$  mmHg ( $p = 0.011$ ). Patients recovered from HD sessions more quickly in the Incremental centre, with incremental HD a significant independent predictor of post-dialysis recovery time  $< 4$  hours on multivariable analysis. Short-term survival was significantly better in the Incremental centre both unadjusted and adjusted for age, gender, ethnicity, dialysis vintage, anuria, history of cancer, heart disease, diabetes mellitus, body mass index, serum albumin, BDI-II score, and sessional Kt/V.

### Discussion

The association of incremental dialysis, shorter recovery times and improved short-term survival may be related to reduced haemodynamic stress as a consequence of less intensive ultrafiltration and reduced length of dialysis sessions. Prospective studies are required to test this hypothesis.