

**THE EFFECT OF SELF-ADMINISTRATION ON HAEMOGLOBIN AND DOSE  
WHEN CONVERTING FROM SUBCUTANEOUS TO INTRAVENOUS  
ADMINISTRATION OF EPOETIN ALFA.**

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**PROBLEM** European practice has favoured the subcutaneous (SC) administration of EPO because of historical data on decreased efficacy intravenously (IV) by 20-50%. However, this data pre-dates the widespread use of intravenous iron, and anecdotally others have reported smaller differences in required dose. Increased reports of pure red cell aplasia have meant a change to the licence of epoetin alfa stipulating IV administration.

**PURPOSE** To investigate the effect of conversion from SC to IV administration of epoetin alfa. In particular the difference between patient and nurse administration (compliance) was considered.

**DESIGN** All 302 haemodialysis patients in whom the means of administration of EPO was recorded were converted from SC to IV administration of epoetin alfa. Monthly haemoglobin, haematinics (ferritin and TSAT) and epoetin alfa dose (iu/Kg) were monitored over a period of eight months. Intravenous iron was administered, according to local protocol, to maintain ferritin levels between 150-500mg/dl. Prior to IV administration, patients either self-administered epoetin alfa at home (HOME), brought the syringe to the Unit for nurse dispensing (BROUGHT) or received the drug from unit stock (UNIT). Method of administration was recorded in all patients attending two satellite units or the mother unit (n=156). Results from baseline were compared with those at eight months in all patients and then between the groups.

**FINDINGS** Eight month data was available in 156 patients. Demographics were similar in all groups. There was no significant change in Hb in any group. Overall, there was a 9.24% (p=0.012) dose increase after 8 months of IV administration. HOME patients had a smaller dose increase (7.2%) than UNIT patients (27.7%). Uncertainty regarding the storage and transport of epoetin alfa in the BROUGHT group (n=47) meant they were excluded from the analysis.

**CONCLUSIONS** UNIT patients continued to keep and receive their epoetin alfa at the haemodialysis unit. The only alteration made to administration was route in these patients. This suggests that the true dose increase resulting from IV administration is 27.7%, in this population. The difference between dose increases in the unit and home administered epoetin alfa suggests that, in this population, 'compliance' affected dose efficacy by 20.5%.

**RELEVANCE** Unit based administration is recommended to maximise the benefit of epoetin. Despite this, the 27.7% dose increase when converted from sc to iv administration is significant and has great cost implications for haemodialysis units.

	Race	Age (mean, range)	Mths on HD (median, range)	Pre Hb (mean)	Post Hb (mean)	Pre dose/kg (mean)	Post dose/kg (mean)
All n = 156	Cauc = 100	61, 22-86	30, 0-365	11.1 ± 1.51	11.0 ± 1.38	131.2 ± 96.6	143.3 ± 100
	Asian = 47						
	WI = 8						
	Chinese = 1						
				p = 0.56		p = 0.012	
Unit n = 43	Cauc = 19	60, 22-83	56, 2-241	11.1 ± 1.72	10.7 ± 1.04	119.9 ± 92.6	152.7 ± 104.19
	Asian = 21						
	WI = 3						
				p = 0.25		p = 0.0022	
Home n = 66	Cauc = 48	62, 29-83	25.5 1-365	10.9 ± 1.47	11.0 ± 1.51	131.2 ± 93.38	140.6 ± 90.25
	Asian = 15						
	WI = 3						
				p = 0.84		p = 0.089	