Table 16.5. Turnover rates of nutrient transport proteins in humans.

		Plasma concentration, g l^{-1}	Fractional turnover, % of IV pool day^{-1}	Absolute turnover, mg kg d^{-1}
Transferrin				
Jarnum and Lassen, 1961	normal	2.50	18.4	19
	infected	1.90	23.0	25
Katz, 1961	normal	2.30	9.2	25
Awai and Brown,1963	normal	1.90	7.9, 8.7	–
Wochner *et al.*, 1968	normal	0.70	9.6	6
Freeman, 1968	normal	–	12–19	–
Morlese *et al.*, 1997, children,				
	malnourished	1.2	23	15
	recovered	2.7	15	20
Transthyretin				
Oppenheimer *et al.*, 1965		0.29	36	10
Jackson *et al.*, 2001	high protein diet	0.25	50	
	maintenance protein	0.23	54	
Morlese *et al.*, 1998a, children,				
	malnourished	0.05	65	2.2
	recovered	0.14	60	3.7
Afolabi *et al.*, 2004, high protein		0.22	77	7.5
Retinol binding protein				
Morlese *et al.*, 1998, children,				
	malnourished	0.02	210	1.8
	recovered	0.03	200	3
Afolabi *et al.*, 2004, high protein		0.22	80	0.9
Lactoferrin				
Bennett and Kokocinski, 1979		0.0009	570	0.24[b]
VLDL-apo B-100				
Eisenberg and Levi, 1975	normal	0.075	40–60	–
Cryer *et al.*, 1986	normal		920	
Lichtenstein *et al.*, 1990	normal	0.018	315	11
de Sain-van der Velden *et al.*, 1998a	normal	0.095	636	13
Demant *et al.*, 1998[a]	normal	–	1380	17
Zanetti *et al.*, 2001	normal	0.075	1400	50
Jackson *et al.*, 2001 high protein		0.175	550	40
maintenance		0.14	550	32
Cummings *et al.*, 1995	normal	–	1470	9
	obese		710	20
HDL-apo A-1				
Jackson *et al.*, 2001, high protein		1.70	48	40
maintenance		1.55	41	33
Morlese *et al.*, 1998a, children,				
	malnourished	0.90	105	37
	recovered	1.25	80	45

All studies on normal adults unless otherwise stated. Studies up to and including 1975 used ^{131}I-labelled proteins. That of Cryer *et al.* (1986) used ^{15}N-glycine-hippurate. Later studies were done by constant infusion or flooding dose of labelled amino acids.

[a]The value given for this study represents catabolism of apo B 100 and does not include its transfer from VLDL-1 to VLDL-2. [b]Assumes body weight 70 kg.