

## ULTRAFILTRATION REVISITED

This paper establishes an algebraic method for ultrafiltration that determines projected fluid volume removal accurately. Three interrelated formulas devised; the first assessing fluid weight removal, the second accounts for fluid intake during dialysis, the third and final formula determines negative pressure:

formula (1)  $FL = 454.6 W$ , formula (2)  $fl = FL + IF$ , formula (3) for negative pressure  $NP = \left( \frac{fl/dt}{UF} \right) - V_R$ .

Centralized delivery monitoring systems are used with hollow fiber kidneys establishing B.F. at 200cc/min., dialysate flows at 500cc/min. Note is taken of U.F. characters mls./mmhg/hr., as well as the recommended T.M.P. limit of the particular H.F.K. type in use.

### DATA: weight in pounds

pre weight	post weight	weight loss	Projected weight	%
110.5	106.75	5.75	5.5	7.1%
110.5	109.25	1.25	1.5	17.0%
114	107.75	6.25	6.6	5.0%
111.75	107	4.75	4.77	0.4%
110.5	105	5.5	5.9	7.0%
110.75	105.75	5.0	5.6	11.0%
109	106.25	2.75	2.67	3.0%
109.5	105	4.5	4.57	1.5%
110.75	105	5.75	5.6	2.7%
109.25	103.75	5.5	6.0	8.3%

The closest projected fluid volume removal was 0.4% of the actual weight removed. The greatest discrepancy was 17% of the actual weight removal. The average projected fluid volume removed came within 7.9% of actual weights removed.