Richard A. Sherman, MD

Synopsis from the article: Sherman RA, Cody RP, Rogers ME, Solanchick JC. The effect of dialyzer reuse on dialysis delivery. *American Journal of Kidney Diseases* 1994;24:924-6.

Reuse may reduce a dialyzer's urea clearance. The extent of this reduction has not been assessed in a clinical, non-investigational setting. In the present study, formal urea kinetic modeling was done monthly, usually for three sequential months, in 436 patients in 34 dialysis centers. In each patient, the Kt/V urea value for the treatment using the dialyzer with the most prior uses (mean, 13.8) was compared with that for the treatment using the dialyzer with the lowest number of reuses (mean, 3.8). While the prescribed Kt/V in high and low reuse treatments was identical, the delivered Kt/V was reduced in the high reuse treatments (1.05 v 1.10, $p = 0.002$). The impact of reuse on dialysis delivery appeared to be center-dependent, with 10 centers having an average difference of at least 0.12 (mean, 0.17) in Kt/V value. Dialyzer reuse reduces dialysis delivery. The effect appears to be related to the specific methods and procedures of individual dialysis centers.

Commentary by Todd S. Ing, MD

Dr. Sherman and his team showed that reuse of dialyzers can reduce dialyzer efficiency. Measurement of fiber bundle volume (or ionic clearance) of the dialyzer prior to reuse is mandatory to ensure that dialyzer efficiency has not been compromised.