During a three month period the clearance of oxalate was studied with the following dialysis modalities and schedules:

1. High flux hemodialysis (HD), 2 hours 6x week
2. HD 4 hours 3x week
3. HD 8 hours 3x week
4. Hemodiafiltration (HDF), 4 hours 3x week
5. High cut-off hemodialysis (HCO), 4 hours 3x week.

A two compartment mathematical model was used to simulate oxalate clearance.

The purpose of this study was to evaluate the removal of oxalate by different dialysis schedules in a patient recently returned to dialysis following a failed kidney transplant.

The absolute clearance rate of oxalate with HDF was higher compared with HD alone, with a mean decrease per 4 hour session of
- HD - 66.45%
- HDF - 72.19%

However the simulations of the different modalities determined that the greatest reduction in area under the curve (oxalate exposure per week) was achieved with 8 hrs of HD three times per week (Figure 1).

This highlights the importance of time in clearing oxalate from the extra-vascular compartment.

There was a 43% reduction from the exposure (area under the curve) with 8hours HD compared to 4hours HD three times per week.
Comparitively there was only a 10% reduction in the area under curve for HDF (4hrs, 3x week).
HCO membranes provide clearance rates which were equivalent but not superior to standard HD.

To provide optimal removal of oxalate in a chronic dialysis patient the duration of dialysis was the most significant factor.