

REDUCTION OF ERYTHROPOETIN (EPO) USAGE AFTER INSTALLATION OF NEPHROS DSU (ULTRAFILTERS)

Background: Inflammation, and response to Erythropoietin

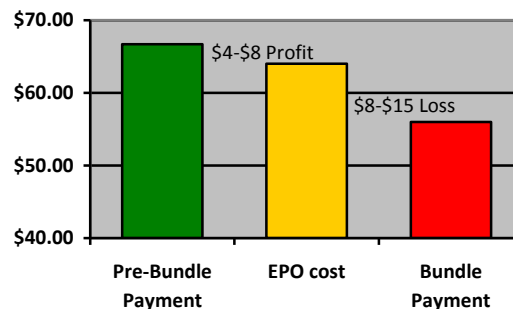
- Cytokine inducing substances (CIS) from dialysate can cross dialyzer membranes, especially High-Flux membranes; resulting in raised patient cytokine levels (e.g. TNF- α and IL-6).
- Hemodialysis patients are generally in a chronically inflamed state causing a hypo-responsiveness to erythropoietin (EPO) therapy.
- EPO usage in the past 10 years has doubled, but produced no change in patient outcomes.

Reimbursement Change: 2011 Starts Transition to Single Payment “Bundling” System

- Average EPO usage in the U. S. is over 7000 units/tmt, costing the clinic \$60 - \$66.
- Under MIPPA (bundling) clinics are reimbursed via a single payment, which includes EPO. The allocated amount for EPO has been estimated at \$56/tmt.
- This results in a net loss, unless the EPO usage can be reduced.

EPO Cost and Reimbursement

(Average EPO = 7000 U/Tx)



Proposed EPO Reduction Strategies:

- Lower Hemoglobin Target Range
- Switch EPO administration from intravenous (IV) to the subcutaneous (SC) route.
- Optimize effectiveness of ESA therapy with IV iron
- Reduce chronic inflammation by improving the purity of dialysate
 - Rigorously maintain and disinfect water distribution systems
 - Use “dry” bicarbonate cartridges
 - Install dialysate ultrafilters

What's Different with the Nephros DSU vs Conventional Dialysate Ultrafilters?

- Conventional dialysate ultrafilters use the same membranes as High-Flux dialyzers (MW cut-off 40-50 kD). Since CIS pass through the high-flux dialyzers, they will also pass through conventional ultrafilters.
- The Nephros DSU is a Dual-Stage Ultrafilter using a hydrophobic polysulfone membrane with a MW cut-off of 10-15 kD. The smaller pore size combined with the more absorptive hydrophobic membrane and dual-stage architecture simply removes more substances than conventional dialysate ultrafilters. This leads to purer water feeding into the dialysis machine.

NEPHROS DSU – A TRUE “WATER POLISHING” ULTRAFILTER



Nephros DSU
Dual-Stage Architecture



Simple installation; attaches to threaded (NPS) or quick connect fittings (CPC)