



Dialysis Center-Specific Thrombosis Calculation Worksheet

Background:

The National Kidney Foundation Kidney Dialysis Outcomes Quality Initiatives (KDOQI) Vascular Access Practice Guideline 31 (kidney.org) recommends the following:

- *The rate of graft thrombosis should not exceed 0.5 thrombotic episodes per patient year at risk*
- *The rate of thrombosis of native AV fistulae should be less than 0.25 episodes per patient year at risk*
- *Dialysis centers should examine their thrombosis rates and the underlying causes as part of an ongoing QA/CQI program. (Now known as a QAPI program)*

The ESRD Network is providing this worksheet to offer a simplified method to assist facilities in calculating and comparing their vascular access thrombosis rate to the KDOQI recommended goal. If applicable, refer to your corporate or medical director's method. Each center should establish a database to track access type and complication rates.

<i>Example of Simplified Center-Specific Thrombosis Calculation Method</i>			
Step 1	Count the number of patients with a graft/fistula as primary access as the <i>last</i> day of the month. <i>(If patient has graft/fistula and catheter, count catheter as primary access).</i>	Grafts Fistulas # _____ # _____	Example of use: Grafts = #50
Step 2	Count the number of individual graft/fistula-clotting events that occurred during month. <i>(If a patient's graft/fistula clotted 2 times count it as 2 separate clotting events)</i>	Clotting Events # _____ # _____ Grafts Fistulas	Clotting events = # 5
Step 3	Divide number of clotting events by the number of grafts/fistulas → then multiply by 12 to get annualized episode rate. (Episodes per patient-per year)	Episode Rate # _____ # _____ Grafts Fistulas	→ $5/50 = 0.1$ → $0.1 \times 12 = 1.2$ Episode rate = 1.2
Step 4	Calculate Year to Date rate by adding each consecutive months # grafts/fistula and # clots. → then divide total number of clotting events by the number of grafts → then multiply by 12 to get annualized rate. (Episodes per patient-per year)	→ # Graft patients: $50 + 48 + 53 = \mathbf{151}$ → # Clotted grafts $5 + 2 + 3 = \mathbf{10}$ → $10/151 = .066$ → $.066 \times 12 = 0.79$ 0.79 episodes per patient-per year	

<i>Example Spreadsheet</i>				
Month	Jan	Feb	March	Year to Date
# Grafts/Fistulas	50	48	53	151
# Clotted grafts/fistulas	5	2	3	10
Graft/Fistula Thrombosis Rate in Episodes per patient - per year	1.2	0.5	0.68	0.79