ANALYSIS OF AVERAGE X-RAY DURATION REQUIRED TO PERFORM HEMODIALYSIS VASCULAR ACCESS PROCEDURES

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Purpose:

To determine the amount of radiation used for common vascular access procedures.

Background:

This study was performed at a dialysis access interventional lab using data from one out of three interventional nephrologists. The involved interventionist was curious about the amount of radiation used for different procedures he performed. The analysis was done over the first 9 months of 2019. The amount of radiation released by the C-arm for five different categories of procedures was compiled using Braintree software. These procedures included: fistula angioplasty, graft angioplasty, tunnelled catheter insertion and exchange, as well as graft thrombectomy. The maximum frame rate setting for the C-arm used during all the procedures was 4 fps. The average X-ray time in minutes was utilized for the analysis.

Results:

Procedure Type:	Number Performed:	Average X-ray Time (min):
Fistula angioplasty	401	0.39
Graft angioplasty	107	0.34
Tunnelled catheter insertion	4	0.20
Tunnelled catheter exchange	17	0.16
Graft thrombectomy	60	1.02

Conclusion:

As expected, the radiation amount released coincides with the complexity of the procedure type. Other interventionists may find it useful to perform a similar analysis on their own radiation exposure, to find areas where they can reduce it.