

Reducing Length of Stay Following Carotid Interventions



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BACKGROUND

- Carotid endarterectomy (CEA), transfemoral stenting (TF-CAS) and transcatheter artery revascularization (TCAR) are standard interventions for reducing stroke risk in patients with carotid artery disease
- The national benchmark length of stay (LOS) for carotid intervention is one day
- The median LOS for elective carotid intervention at WVU Medicine exceeds the national average

SMARTER OBJECTIVE

Decrease our length of stay (LOS) for carotid intervention by 50% to reach the regional and national median LOS over the next 12 months.

IMPROVEMENT ACTION PLAN WITH ACTIONS TAKEN

- A chart review of all patients who underwent carotid interventions was performed using the Vascular Quality Initiatives database
- A multidisciplinary team was assembled comprising quality data managers and professionals, vascular surgery nursing leadership, surgery trainees, and vascular surgery staff
- Blood pressure parameters were liberalized to goal SBP from 110-140 to 100-160 mmHg and changed our order sets to accommodate these changes and these effect October 2024

	Median Length of Stay			
	WVU 2023	Region	VQI overall	Q4 2024
CEA Sx	2	1	1	1
CEA Asx	2	1	1	1
TCAR Sx	2	1	1	1
TCAR Asx	1	1	1	1
TF-CAS Sx	2	1	2	2
TF-CAS Asx	2	1	1	2

RESULTS

- Preliminary data from Q4 of 2024 showed median length of stay was reduced from 2 days to 1 day for CEA (n = 7, 42.8% >1day) and from 2 days to 1 day for TCAR (n = 10, 20% >1 day)
- Median length of stay for TF-CAS remained unchanged at 2 days (n=19, 52.6% >1 day).

SCALE UP PLAN

- Continue the current peri-operative blood pressure parameters and develop the peri-operative optimization pathway for carotid interventions
- The aim is to include pre-operative cardiac anesthesia evaluation for further optimal peri-operative blood pressure management, pulmonary consultation and evaluation in patients with COPD and patient education and self-monitoring of pre-operative blood pressure
- Collect 1-year outcome data.

SUSTAINABILITY PLAN

- The order sets are used for every patient undergoing carotid intervention
- Surgical trainees, advanced practice providers and nursing teams have been educated on use of the order sets

LESSONS LEARNED

We can reduce the LOS for carotid interventions to the national average with improved preoperative optimization. Small data supported changes, such as liberalized blood pressure management, can lead to significant changes in LOS.

Percentage of Cases Requiring Postop IV Meds for BP

