

Trends in Facial Nerve Dissection During Parotidectomy Over Four Periods



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Introduction

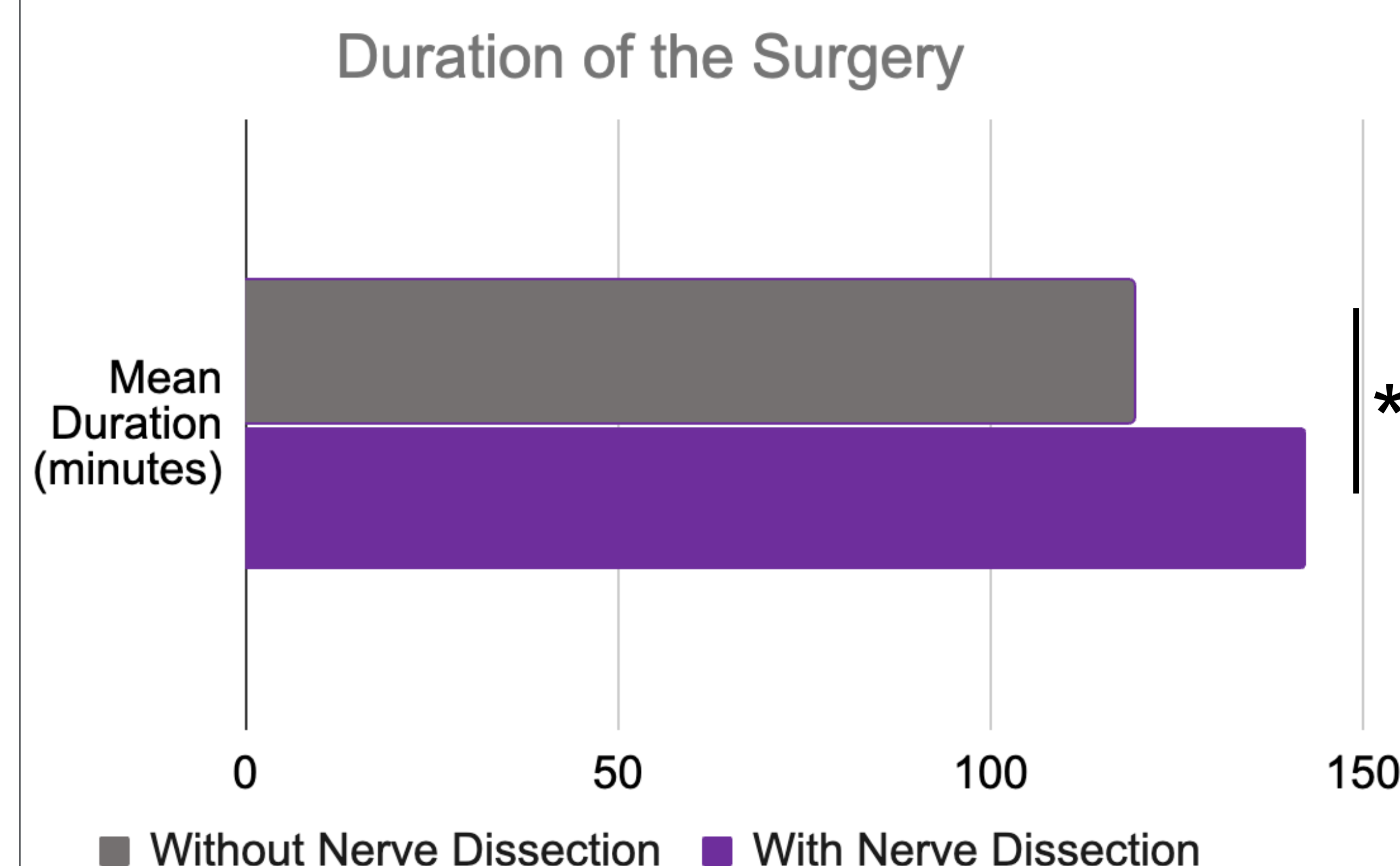
Surgery is the primary treatment modality for many parotid neoplasms, both benign and malignant. Multiple surgical techniques have been described. Surgery without nerve dissection, when appropriate, may decrease patterns of recurrence, nerve deficits, operative time, and incidence of Frey Syndrome. In this study, we investigate trends in parotidectomy techniques over four time periods in a national database and compare outcomes of surgeries with and without nerve dissection.

Methods

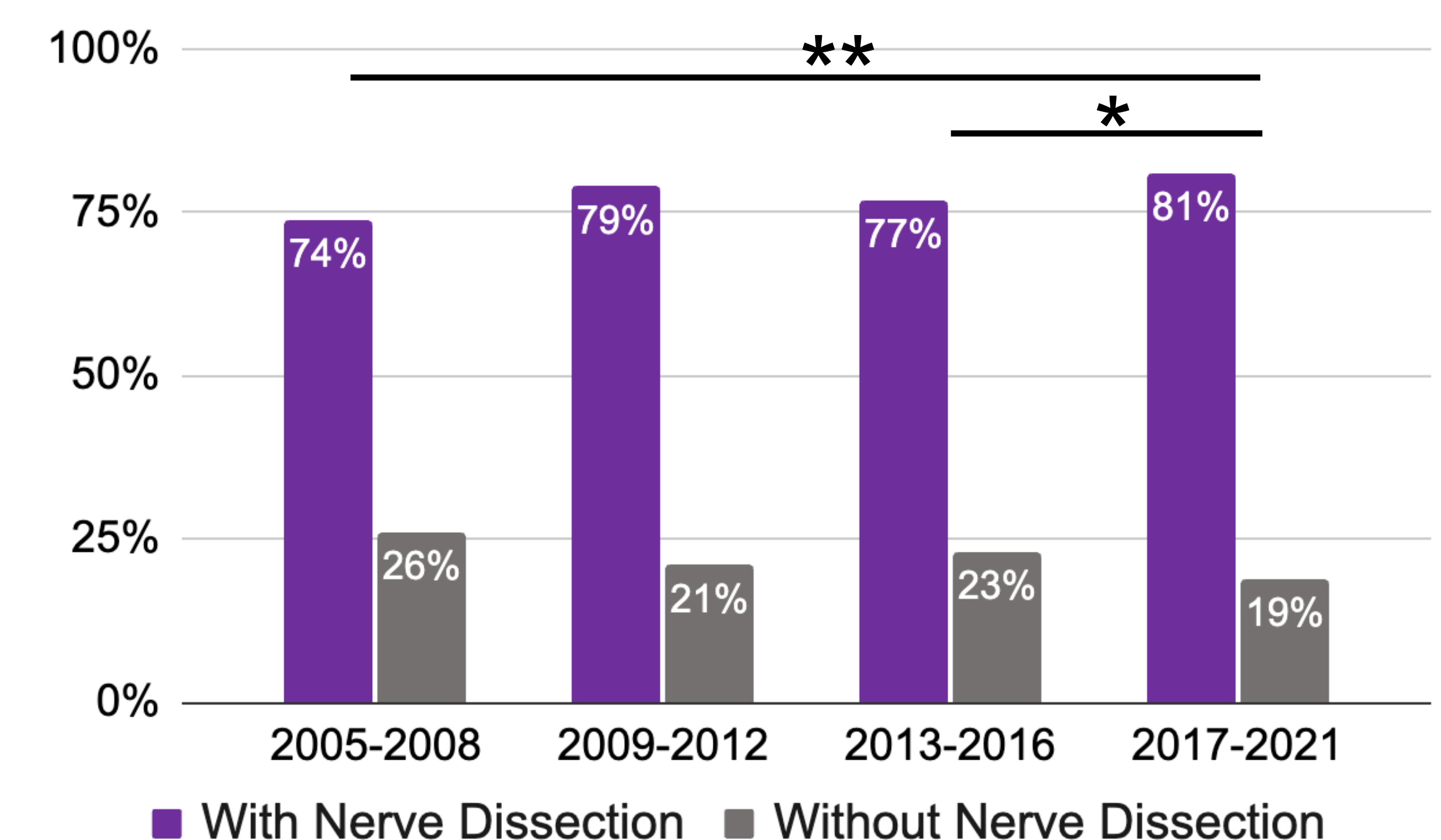
We queried the National Surgical Quality Improvement Program (NSQIP) by Current Procedure Terminology (CPT) codes for adults who had superficial parotidectomy (SP) with or without facial nerve dissection for parotid lesions between 2005 and 2021. χ^2 and logistic regression were used to analyze demographics, comorbidities, and 30-day complication trends over four time periods (2005-2008, 2009-2012, 2013-2016, and 2017-2021).

Results

A total of 7771 patients were included. The mean age was 56.9 ± 15.2 years old. Most patients were male (53.0%), Caucasian (67.3%), and treated by otolaryngologists (92.8%). Compared to the most recent time period 2017-2021, surgeries with nerve dissection occurred less frequently in the time periods 2005-2008 (74%, $p=0.006$) and 2013-2016 (77%, $p<0.001$) after controlling for covariates. Surgeries without nerve dissection had a mean duration of 119.1 ± 69.47 compared to 142.3 ± 71.9 minutes with nerve dissection ($p<0.001$). Readmission was associated with smoking ($p=0.001$), malignant tumor ($p<0.001$), dialysis requirement ($p=0.008$), and older age ($p=0.029$). Reoperation was associated with inpatient status ($p=0.001$), malignant tumor ($p=0.048$), CHF ($p=0.004$), and male sex ($p=0.038$) but not procedure.



Proportion of Surgeries With and Without Nerve Dissection Over Time



Conclusions

Surgeries with nerve dissection occurred less frequently from 2005-2008 and 2013-2016 compared to 2017-2021. Without a specific ECD CPT code, it is hard to deduce its true frequency. Ultimately, no significant differences were found in 30-day outcomes between surgery with or without nerve dissection in all periods. Nerve dissection predicted longer operative time overall. Hence, given shorter operative time and no difference in readmission or reoperation rates, surgery without nerve dissection should be preferred in appropriate patients, i.e., tumor size and location amenable to surgical resection without nerve dissection.

Acknowledgments

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