

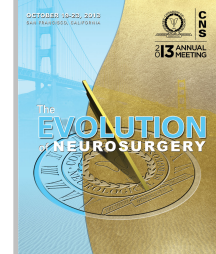
# Trends in Surgical Treatment of Trigeminal Neuralgia from 1988 to 2010

Benjamin P Rosenbaum MD; Michael L Kelly MD; Varun Ranjan Kshetty MD; Sumeet Vadera; Robert John Weil MD

Cleveland Clinic, Cleveland, OH

Department of Neurosurgery, Neurological Institute

Rose Ella Burkhardt Brain Tumor and Neuro-Oncology Center



## Introduction

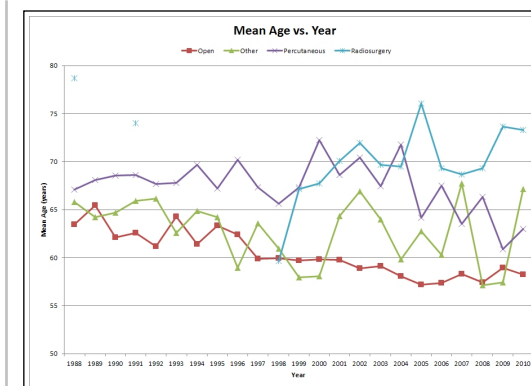
Trigeminal neuralgia (TN) is a debilitating condition that can be refractory to medical management. Neurosurgeons have a wide variety of procedures to offer patients when treating medically-intractable TN. We reviewed the national trends in overall procedural volume for the treatment of TN from 1988 to 2010.

## Methods

The Nationwide Inpatient Sample (NIS) data represent a twenty-percent stratified sample of U.S. community (non-federal) hospitals. The NIS (1988 to 2010) provided data on patients hospitalized with a principal diagnosis of TN and a related principal procedure. We categorized principal procedures as open, percutaneous, radiosurgery, or other. The “open” category represents MVD and presumed nerve root sectioning. The “other” category includes procedures appropriate for the treatment of TN but the identification of an “open” or “percutaneous” procedure is uncertain.

## Results

We identified 13,466 relevant hospital admissions. The volume for open procedures remained relatively constant (linear regression slope -18 discharges per year; p-value 0.377), whereas percutaneous procedures decreased (slope -63; p-value < 0.001) over time. Mean age of patients undergoing percutaneous and radiosurgery procedures (67.9 and 69.5 years) was higher than open and other procedures (60.4 and 63.4 years) (one-way ANOVA p-value < 0.001). The mean total in-hospital inflation-adjusted charges for all four categories increased over time (linear regression slope: open \$1,752 per year; other \$1,515; percutaneous \$795; radiosurgery \$2,324; all p-values < 0.001). The mean total in-hospital inflation-adjusted charge for radiosurgery (\$37,666) was higher than open (\$28,046) procedures (ANOVA p-value < 0.001).



## Conclusions

Patients who undergo an open procedure to treat TN are much younger than those who undergo a percutaneous or a radiosurgery procedure. The risk of MVD in the elderly population may be driving the selection of less invasive percutaneous and radiosurgical procedures. In addition, the in-hospital inflation-adjusted charges for all procedures increased over time, with radiosurgery higher than those of open procedures.

## References

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