

The codes 61312, 61510, 61512, 61520 represent the most billed cranial procedures, and codes 22558, 22612, 22630, 63030, and 63047 represent the most billed spinal procedures. Data was collected for every year from 2000 to 2020.

RESULTS: Cranial codes on average had higher RVUs, and larger increases than spinal codes. Cranial code 61312 (evacuation of hematoma) displayed the largest increase of 5.6 RVU, from 24.57 RVUs in 2000 to 30.17 RVUs in 2020. Cranial code 61512 (craniectomy) displayed the smallest increase of 2.05, from 35.09 to 37.14 RVUs. Spinal code 22612 (posterior arthrodesis) displayed the largest increase of the spinal codes with 2.53, from 21 to 23.53 RVUs. Spinal code 63047 (single level laminectomy), displayed the smallest increase of 0.76, from 14.61 to 15.37 RVUs. Of note, both cranial and spinal RVUs were largely stagnant and saw their largest increase from 2006 to 2007.

CONCLUSION: Overall, cranial codes have higher RVUs than spinal codes and see a larger increase over time. Interestingly, both cranial and spinal codes follow similar trends of periods of stagnation followed by a large increase in 2007. For most codes, this was the only year there was any change. This could perhaps reflect the appointment of an outspoken neurosurgical representative to the RVUC, or broader changes in how RVUs were calculated. Future studies are warranted into the factors leading to these trends, and how it affects the practice of neurosurgery.

145

Telemedicine in the Evaluation and Management of Neurosurgical Spine Patients

Alex C.M. Greven; Beau McGinley; James G. Malcolm, MD, PhD; Scott D. Boden, MD; Gerald E. Rodts, MD; Daniel Refai, MD; Matthew F. Gary, MD

INTRODUCTION: The outbreak of the coronavirus disease 2019 (COVID-19) has led to widespread implementation of telemedicine services across all medical and surgical specialties, including neurological spine surgery. The pandemic provides a unique opportunity to investigate the utility of telemedicine in the evaluation and management of spinal pathology.

METHODS: An 11-part telemedicine questionnaire was developed to assess the above parameters for all patients seen via telemedicine by three neurosurgeons within a 3-week period. Patients were called by phone to participate in the survey. Chi square and ANOVA were performed to determine significance.

RESULTS: 200 patients were called for the survey. 153 patients responded. 95% of patients were "satisfied" or "very satisfied" with their telemedicine visit, with 58% of patients stating their visit was "the same" or "better" than previous in-person appointments. On average, patients saved 154 minutes by using telemedicine compared to patient reported in-person visit times. 71% of employed patients have to take off work for in-person visits, compared to just 3% of employed patients who take off work for telemedicine. 42% of patients would feel comfortable proceeding with surgery and 81% of patients would feel comfortable proceeding with a minor procedure (i.e. injection) based off of a telemedicine visit alone. 39% of patients preferred telemedicine to an in-person visit. Patients were separated into three cohorts: those who

preferred telemedicine, those who would have preferred an in-clinic visit, and those with no preference. There were no statistically significant differences between these groups in sex, age, or new vs. established patients. After excluding one outlier, patients who preferred telemedicine had significantly longer patient reported in-person visit times (212min) compared to patients who preferred in-person visits (169min) and those who had no preference (119min), $P = .008$.

CONCLUSION: Our results show that patients are not only satisfied with telemedicine visits, but some patients may prefer them to traditional in-person visits. Further studies are indicated to determine which patients may be appropriate candidates for telemedicine evaluation and management.

146

Feasibility and Value of Telemedicine Neurosurgical Consultations in a Rural Health System

Redi Rahmani, MD; Tarun Bhalla; Stephen Susa; Diana Proper; Alan S. Boulos, MD; Larry R. Shannon, MD; David C. Adamson, MD, PhD, MPH, MHS; Dani S. Bidros, MD; Henry Knoop; Mark Winther; Peter D. LeRoux, MD

INTRODUCTION: Telemedicine has been available for more than 20 years and is playing an increasing role in clinical care. However, few studies have evaluated the value of telemedicine in neurosurgical consultations and in guiding neurosurgical care.

METHODS: In this prospective observational study, we examined our experience with emergency video telemedicine consultations for neurosurgical patients at a rural hospital system. Our system uses secure and HIPAA-compliant video conferencing to connect providers and patients to a remote neurosurgery consultant, and operates one out of two days.

RESULTS: During a ten-month period, 229 neurosurgical telemedicine consultations were performed. Two-thirds of the patients had intracranial pathology, 28% had spinal pathology and 3% of the consults were for patients who returned after care at our institution or required clearance for another procedure. Five patients required transfer within the hospital system and 12 out of the hospital system for a higher level of care (total 7.4%). Patients that required transfer most frequently had intracranial pathology (70%). The number of patients transferred out was less than in the year before telemedicine was available.

CONCLUSION: Telemedicine consultation for neurosurgery is feasible for a variety of neurosurgical pathologies, improves patient access to neurosurgery expertise, and facilitates appropriate transfers to a higher level of care when required. Our findings are especially relevant in light of the COVID-19 pandemic, which has highlighted the importance of delivering quality medical care when physical patient contact is not possible.

147

Predictors of Extended Length of Stay following Treatment of Unruptured Adult Cerebral Aneurysms: A Study of the National Inpatient Sample