procedures per 100,000 enrollees decreased by −0.38 cases/year (R² = 0.86, P < .001). By 2018, there were 20.5 more radiosurgery procedures performed per 100,000 Medicare enrollees than open procedures, compared to a narrower gap of 9.8 cases in 2009. Meanwhile, payment per procedure fluctuated irregularly from 2009–2018 (radiosurgery: R² = 0.09, P = .385 open: R² = 0.36, P = .067), averaging $550.50 [$525.85 - $575.16] per radiosurgery and a higher $1,598.65 [$1567.00 - $1627.30] per craniotomy (t18 = 62.7, P < .001).

CONCLUSION: From 2009–2018, the growth in stereotactic radiosurgery procedures outpaced the baseline expansion of Medicare enrollees, while the relative number of comparable craniotomies declined. We found that Medicare reimbursed 2.9 times as much for an open surgical procedure than a radiosurgical procedure during this period.

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Future of Cervical Spinal Fusions in the United States: What does ARIMA Forecasting Indicate about Utilization and Economics by 2040?

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INTRODUCTION: The increment in spinal fusions witnessed in the past two decades associated with rising costs has questioned the future economic viability of these procedures. As healthcare reforms in spine surgery advocate transition to bundled payments, it is pertinent to forecast procedural rates to understand utilization and economics for future planning.

METHODS: In a time series modeling, ARIMA algorithms forecasted annual rates of CSFs from 2015–2040. For forecasting, HCUP datasets 2001–2014 are used. The primary endpoints are percentage change in the yearly forecast estimates of CSFs up to 2040 based upon surgery type (primary vs. revisions) and approach [C1-C2 fusions, anterior cervical fusion (ACF), and posterior cervical fusion (PCF)]. Additionally, hospital stay (LOS) and economics (costs) are forecast until 2040. All forecasting is compared to the baseline 2014 estimates.

RESULTS: Primary CSFs utilization will increase by approximately 34% by 2030 and 54% by 2040 from baseline 2014. The revision surgery will outpace primary CSF surgery with an increase of +106% (in 2030) and +172% (in 2040). For primary CSFs, utilization rates of PCFs (2030: +83%; 2040: +136%) will exceed ACFs (2030: +24%; 2040: +39%) or C1-C2 fusions (2030: +60%; 2040: +99%) from their respective baseline rates. [The LOS will decrease by 10% (2030) and 17% (2040) from 3.93 days in 2014. Despite decrease in LOS, hospital costs will increase by 37% (+$11,939 in 2030) and 62% (+$19,650 in 2040).

CONCLUSION: The study forecasts increased utilization rates of C1-C2 fusions, ACFs, and PCFs in the US by 2040 for both primary and revision CSF surgeries. From a policymaking perspective, the data underscores the need for appropriate resource allocation including the establishment of ACGME-accredited spine fellowships to train the adequate number of future neurosurgery/orthopedic residents to optimize future spine care/access. Ameliorative measures by federal/national organizations in this direction may preclude overwhelming of the healthcare system from increasing demand and ensure the economic viability of spine healthcare delivery.

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Current Practices Surrounding Endonasal Skull Base and Pituitary Surgery during COVID-19 Pandemic: A Global Survey

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INTRODUCTION: During the Sars-CoV-2 pandemic, Endoscopic Endonasal Skull Base Surgery (EES) is feared to be a high-risk procedure for transmission of the COVID-19 virus. Nonetheless, data are lacking regarding the management of EES during this pandemic.

METHODS: A web-based survey of skull base surgeons worldwide was conducted. Different practices by geographical regions and COVID-19 prevalence were analyzed.

RESULTS: 135 unique responses were collected. Regarding the use of personal protection equipment (PPE), North America reported using more powered air-purifying respirators (PAPR) and Asia/Europe using more standard precautions. North America and Europe resorted more to reverse transcriptase polymerase chain reaction (RT-PCR) for screening asymptomatic patients. High prevalence countries showed a higher use of PAPR. The medium prevalence group reported lower RT-PCR testing for symptomatic cases and the high prevalence group used it significantly more in asymptomatic cases. 19 respondents reported healthcare personnel transmission of COVID-19 from EES, with a higher rate of transmission among countries classified as having a medium prevalence of COVID-19. These specific respondents (medium prevalence) also reported a lower use of airborne PPE. In the cases of healthcare transmission, the patient was reportedly asymptomatic 32% of the time.

CONCLUSION: This survey gives an overview of EES practices during the Sars-CoV-2 pandemic. Intensified preoperative screening, even in asymptomatic patients, RT-PCR for all symptomatic cases, and an increased use of airborne PPE is associated with decreased reports of COVID-19 transmission during EES.

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Changes in RVU for the Most Common Cranial and Spinal CPT Codes 2000–2020

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INTRODUCTION: Medicare reimburses physicians on a resource-based relative value scale. In this system, payment is based on the perceived costs of resources needed to deliver the service. A volunteer group of 31 physicians comprise the Relative Value Update Committee (RVUC) which determines changes to procedural Relative Value Units (RVU) every year. Changes to RVUs can have significant impacts on physicians compensation and practice, and is therefore imperative to understand the trends in these assigned values.

METHODS: Data was obtained through the Center for Medicare Services Website through the Physician Fee Schedule Search tool.