

emergence of competency-based training has put pressure on training programs to provide high-fidelity simulation sessions that complement residents' training in the operating room. Here we present a novel combination of perfused cadaveric avian wing model in conjunction with live rats for neurosurgical resident training. *Methods:* The brachial artery of cadaveric duck wing was cannulated and connected to a roller pump. The duck wings remain perfused while residents performed microvascular anastomoses of the brachial and ulnar arteries. This took place prior to live rat modules. *Results:* The duck wing brachial artery diameter measured 1.5-2.0mm, similar to the proximal middle cerebral artery in humans. The ulnar artery diameter measured 1.0-1.5mm, similar to the cortical vessels. 8 interrupted stitches were placed during anastomosis using a 10-0 Nylon suture. Residents who performed the duck wing module felt more comfortable when they moved onto the live rat model with a shallower learning curve. *Conclusions:* The perfused cadaveric avian wing model provides intermediate to high fidelity simulation that complements the live rat model well. The number of rats needed for neurosurgical simulation training could be reduced via the use of avian wings.

## P.015

### Demographics of Canadian neurosurgery residents – a national cross-sectional study from the Canadian Neurosurgery Research Collaborative

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*Background:* The Canadian Neurosurgery Research Collaborative (CNRC) is a new consortium of neurosurgery residency programs set-up to facilitate the planning and implementation of multi-center studies. As a trainee-led organization, it will focus on resident-initiated, resident-driven projects. The goal of this study is to assess the demographics of Canadian neurosurgery residents, with particular focus on their academic and subspecialty interests. *Methods:* After approval by the CNRC, an online survey will be sent to all Canadian neurosurgery residents and fellows with reminders at 2, 4 and 6 weeks. Anonymous, basic demographic data will be collected. Specific interest towards the various subspecialties, research and academic vs community practice will be measured. The data will be crossed with the ongoing *Canadian Neurosurgery Operative Landscape* study to assess the impact of case volume on academic and subspecialty interests. *Results:* This is the first study providing a snapshot of Canadian neurosurgery residents at all levels of training. The study is ongoing and the official results will be presented at the meeting. As one of the first CNRC studies, it will also demonstrate the effectiveness of the collaborative. *Conclusions:* Understanding the demographics and interests of Canadian neurosurgery residents will allow the CNRC to better fulfill its mission.

## P.016

### Bimanual psychomotor performance in neurosurgical resident applicants assessed using NeuroVR (formerly NeuroTouch), a virtual reality simulator

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*Background:* Current selection methods for neurosurgical residents lack objective measurements of psychomotor performance. This pilot study was designed to answer three questions: 1) What are the differences in bimanual psychomotor performance among neurosurgical residency applicants using the NeuroVR (formerly NeuroTouch) neurosurgical simulator? 2) Are there exceptionally skilled medical student applicants? 3) Does previous surgical exposure influence surgical performance? *Methods:* Medical students attending neurosurgery residency interviews at McGill University were asked to participate. Participants were instructed to remove 3 simulated brain tumors. Validated tier 1, tier 2, and advanced tier 2 metrics were utilized to assess bimanual psychomotor performance. Demographic data included weeks of neurosurgical elective and prior operative exposure. *Results:* Sixteen of 17 neurosurgical applicants (94%) participated. Performances clustered in definable top, middle, and bottom groups with significant differences for all metrics. Increased time spent playing music, increase applicant self-evaluated technical skills, high self-ratings of confidence and increased skin closures statistically influenced performance on univariate analysis. A trend for both self-rated increased operating room confidence and increased weeks of neurosurgical exposure to increase blood loss was seen in multivariate analysis. *Conclusions:* Simulation technology identifies neurosurgical residency applicants at the extremes of technical ability and extrinsic and intrinsic applicant factors appear to influence performance.

## NEUROLOGY

### DEMENTIA, AGING, AND COGNITIVE

## P.019

### Trends in medication use over eleven years in patients presenting to a rural and remote memory clinic

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*Background:* Anticholinergic and sedating medications are generally contraindicated in those with cognitive decline. We examined trends in medication use by patients presenting to a rural and remote memory clinic (RRMC) between March 2004 and June 2015 to determine whether patterns of medication use have changed. *Methods:* The first 445 patients seen at the RRMC between 2004 and 2015 were included in this analysis. Medication lists were collected at the patient's initial visit, and