Instrument knowledge acquired through simulation training results in improved identification and retained recognition of real instruments.

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Studying behaviors among neurosurgery residents using web 2.0 analytic tools

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Background: Web 2.0 technologies (e.g. blogs, social networks, and wikis) are increasingly being utilized by medical schools and postgraduate training programs as tools for information dissemination. These technologies offer the unique opportunity to track metrics of user engagement and interaction. Here, we employ Web 2.0 technologies to assess academic behaviors among neurosurgery residents. *Methods:* We performed a retrospective review of all educational lectures, part of the core Neurosurgery Residency curriculum at the University of Toronto, posted on our teaching blog (www.TheBrainSchool.net) from Sept 2013 - Nov 2016. We looked for associations with lecturer's academic position, timing of examinations, and lecture/subspecialty topic. *Results:* The overall number of clicks on 123 lectures was 1079. Most of these clicks were occurring during the in-training exam month (43%). Click numbers were significantly higher on lectures presented by faculty (mean 18.6, SD ± 4.1) compared to residents-delivered lectures (mean 8.4, SD ± 2.1) (P= 0.031). Functional neurosurgery lectures were the most downloaded (47%), followed by pediatric neurosurgery (22%). *Conclusions:* The current study demonstrates the value of Web 2.0 analytic tools in examining residents study behavior. Residents tend to 'cram' downloading lectures in the same month of training exams and display a preference for faculty-delivered lectures.

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Factors influencing resident engagement in research during post-graduate training

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Background: Residency training programs aspire to develop residents' research skills, but engaging trainees in research often proves challenging. Addressing this requires a better understanding of factors influencing residents' engagement in scholarship. We sought to identify such factors through an interview-based study that explored residents' interest and involvement in research during training. *Methods:* We conducted 15 semi-structured interviews with neurology (n=8) and neurosurgery (n=7) residents at our institution based on an interview guide developed through a literature review and pilot interviews (n=3). Using template analysis, we examined transcripts to identify facilitators and barriers to resident research. *Results:* Motivation, mentorship, and resource availability were noted to significantly impact resident research. Trainees indicated motivation is influenced by personal desire to develop research skills, interest in available projects, and pressure to engage in scholarship from peers, mentors, and future employers. While strong men-

torship and departmental resources for data collection and analysis facilitate resident research, funding and time constraints are barriers to success. *Conclusions:* We have identified multiple factors influencing residents' engagement in research, which may be targeted by program directors to optimize the post-graduate training environment for resident scholarship. In the next phase of our project, we will corroborate and expand on these findings through a national survey of residents across all specialties.

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Smartphone and mobile app use among Canadian Neurosurgery residents and fellows

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Background: Communicating with senior neurosurgical colleagues during residency necessitates a reliable and versatile smartphone. Smartphones and their apps are commonplace. They enhance communication with colleagues, provide the ability to access patient information and results, and allow access to medical reference applications. Patient data safety and compliance with the Personal Health Information Protection Act (PHIPA, 2004) in Canada remain a public concern that can significantly impact the way in which mobile smartphones are utilized by resident physicians *Methods:* Through the Canadian Neurosurgery Research Collaborative (CNRC), an online survey characterizing smartphone ownership and utilization of apps among Canadian neurosurgery residents and fellows was completed in April 2016. *Results:* Our study had a 47% response rate (80 surveys completed out of 171 eligible residents and fellows). Smartphone ownership was almost universal with a high rate of app utilization for learning and facilitating the care of patients. Utilization of smartphones to communicate and transfer urgent imaging with senior colleagues was common. *Conclusions:* Smartphone and app utilization is an essential part of neurosurgery resident workflow. In this study we characterize the smartphone and app usage within a specialized cohort of residents and suggest potential solutions to facilitate greater PHIPA adherence

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Ethics education in neurosurgical training- a survey of North American program directors

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Background: Despite being mandatory for accreditation by the RCPSC and ACGME, little is known about how ethics education is undertaken during neurosurgery training. This study assessed the current state of ethics education in North American neurosurgery training programs. *Methods:* A web-based survey was developed based on ethics competencies outlined by the RCPSC and the ACGME and emailed to North American neurosurgery residency program directors(PD's). Responses were analyzed using descrip-