performed by the 10th and 90th percentile of residents were compared in each category and fold differences calculated.

**RESULTS:** Of 818 residents, a minority were integrated (35.7%) relative to independent (64.3%). During several years, integrated residents performed more procedures in hand reconstruction, congenital deformity, tendon repair, nerve repair, nerve decompression, amputation, arterial repair, and Dupuytren’s release categories (p < 0.05). There were no significant changes in fold differences between 10th and 90th percentiles over time (p > 0.05). Analysis of percentile data revealed that approximately 10% of independent residents did not meet case minimums for arterial repair and congenital deformity in 2015.

**CONCLUSIONS:** The wide variability in operative experience is an important issue facing trainees and the general public for creating competent hand surgeons. Ultimately, fellowship training may be a necessary option to provide adequate exposure on the full gamut of hand surgery for plastic surgery residency graduates.

**DISCLOSURES:** None

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**Extensor Pollicis Brevis Subcompartment Characteristics in the 1st Dorsal Extensor Compartment: An Anatomic Study**

*Brittany J. Behar, MD; Emma Dahmus, BS; Logan Carr, MD; John M. Ingraham, MD*

**INTRODUCTION:** DeQuervain’s tenosynovitis is a common condition often satisfactorily treated with steroid injections alone. Certain patients, however, ultimately require surgical release of the 1st dorsal extensor compartment. We hypothesize that patients with an EPB subcompartment are more likely to require surgery. The purpose of this study was to better characterize the 1st dorsal compartment anatomy, determine the incidence of EPB subcompartments, and explore potential radiographic correlations related to these findings.

**METHODS:** The 1st dorsal extensor compartment was dissected in ten (10) freshly preserved cadaveric arms. Data including the presence of an EPB subcompartment were collected. Standard posterior/anterior (PA), lateral and oblique x-rays of each wrist were obtained using a portable x-ray machine (Carestream DRX-Revolution, Rochester NY).

**RESULTS:** Nine of the 10 cadaver arms (90%) were male patients and 6 (60%) were left upper extremities. The average age of the donors was 73.7 ± 16.1 years. The average diameter of the 1st dorsal compartment was 13.3 ± 1.3 mm. The mean first dorsal compartment length was 29.7 ± 10.2 mm. The abductor pollicis longus tendon was composed of a mean of 3.3 ± 1.3 slips. The extensor pollicis brevis tendon had a single slip in all ten specimens. Seven of ten 1st compartments (70%) had an identifiable EPB subcompartment with an average length of 80.0 ± 10.3% of the 1st dorsal compartment length. Four (57%) subcompartment sheaths were characterized as thick and three (43%) as thin. All 4 thick subsheaths continued well-beyond the edge of the distal radius (min 35%, max 74%) whereas only 1 of 3 thin subsheaths continued beyond the distal radius. An osseous ridge within the compartment was identified in 2 specimens, both of which were associated with a thick EPB subcompartment.

**CONCLUSION:** Seventy percent of the specimens studied had an EPB subcompartment within the 1st dorsal extensor compartment and the majority of these were thick and well-defined, spanning from a portion of the bony tunnel to beyond the distal radius edge; bony ridges within the 1st compartment were only seen in the presence of these well-developed subsheaths. Such characteristics may contribute to the failure of non-operative interventions. The intracompartmental bony ridge may be detectable on preoperative radiographs and, thus, may be a predictor of the presence of thick EPB subcompartment. This could help guide clinical decision-making.

**DISCLOSURE/FINANCIAL SUPPORT:** None of the authors has a financial interest to disclose.

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**Side Sleeping Position is Associated with Less Frequent Nighttime Numbness and Tingling**

*Carrie Roth Bettlach, MSN, RN, FNP-C; Jenny Yu, BA; Jessica Hasak, MPH, RN; Greta Bodway, BSN, RN; Susan Mackinnon, MD*

**INTRODUCTION:** Carpal tunnel syndrome (CTS) is the most common peripheral nerve compression. Annually, approximately one million adults in the United States are affected by CTS leading to an estimated 400,000 surgeries performed each year. Patients suffering from CTS have worse health-related quality of life compared to the general.
population. Several risk factors have been associated with the development of CTS including, age, body mass index (BMI), pregnancy, and wrist morphology. A single study has identified sleep position as a causative factor in the development of CTS. Our study evaluates the influence of age on the report of nighttime paresthesias and further examines the relationship between sleep position and reports of hand paresthesias.

**METHODS:** A cross-sectional study of 420 participants was performed. Participants were sent an anonymous online questionnaire regarding their preferred sleeping position, frequency of nighttime paresthesias, and risk factors for CTS including, age, gender, BMI, sleep position, elbow position, wrist position, CTS diagnosis, previous carpal tunnel surgery, smoking, diabetes, and thyroid disease. Incomplete questionnaires were excluded. Data analysis was performed using ordinal and logistic regressions. P < 0.05 was considered significant.

**RESULTS:** 420 participants responded to the survey and 396 were included in the analysis (128 males and 268 females with a mean age of 38.8 ± 20.5 years). Nighttime paresthesias were present among all age groups. Nineteen percent of those under 20 years of age, 26 percent of respondents between 20 and 30 years of age, and 46 percent of respondents between 30 and 40 years of age experienced at least 1 to 2 episodes of nighttime paresthesias per week. Side sleeping (p=0.003), side sleeping with other sleep positions (p=0.001), and sleeping with the wrist straight (p=0.031) were significantly associated with fewer episodes of nighttime paresthesias. As age increased, the likelihood of side sleeping increased, with participants less than 20 years of age being the most likely to choose sleeping in a non-side lying position.

**CONCLUSIONS:** Populations much younger than typically thought of as being at risk for CTS experience nighttime paresthesias and may benefit from earlier intervention to prevent the future development of CTS. A lateral sleep position is associated with a decrease in nighttime numbness and tingling and is the preferred sleep position as age increases.

**DISCLOSURE/FINANCIAL SUPPORT:** None

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**RESEARCH & TECHNOLOGY SESSION 2**

**Matching into Plastic Surgery: The Value of Research Fellowships**

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**PURPOSE:** Although a growing number of plastic surgery applicants are interested in research fellowships, no resources exist to guide their decision making. Therefore, this study was performed to serve as a reference for individuals seeking a residency in plastic surgery.

**METHODS:** Surveys were sent to integrated plastic surgery residency applicants from the past two years as well as program directors regarding prevalence, productivity and utility of research fellowships. A comparative analysis was then performed.

**RESULTS:** 129 individuals participated in the study representing a 31% response rate. Approximately 27% of applicants participated in a research fellowship with 44% performing both basic science and clinical projects. Most applicants (55%) underwent a research fellowship to strengthen their applications. An average of 8 publications and 5 presentations were obtained during the research fellowship. Approximately 95% of research fellows matched into plastic surgery however, only 18% of applicants matched at the institution at which the fellowship was performed. Most research fellows believe that research is very important when applying for plastic surgery and would recommend a fellowship to interested medical students.

Program directors rated research experience as the 3rd most important factor behind letters of recommendation and academic performance. Approximately 1–4 publications and 1–2 presentations were viewed as a productive fellowship. Quality of publications was more important than quantity.

**CONCLUSION:** Research fellowships are a great way to strengthen one’s involvement in plastic surgery. Applicants with strong research backgrounds are highly sought after and significantly increase their chances of landing a coveted plastic surgery residency position.