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RACHEL STEIN, D.O.

EDUCATION

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|-----------|---|-----------------|
| 2015-2019 | Edward Via College of Osteopathic Medicine | Spartanburg, SC |
| ▪ | Degree of Osteopathic Medicine, graduated with honors | |
| 2011-2015 | Virginia Polytechnic Institute and State University | Blacksburg, VA |
| ▪ | Bachelor of Science – Biochemistry, graduated with honors | |

HONORS AND AWARDS

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| 2018 | VCOM Distinguished Scholar Award – Surgery Discipline |
| 2017 | 2 nd Place in Biomedical Oral Presentation - VCOM Research Recognition Day |
| 2016 | Student of the Block for Neurosciences Systems |
| 2016 | Sigma Sigma Phi Member |
| 2015 | Dean's List, Virginia Tech |
| 2015 | Summa Cum Laude, Virginia Tech |

PUBLICATIONS

Bradley JH, **Stein R**, Randolph B, Molina E, Arnold JP, Gregg RK. T cell resistance to activation by dendritic cells requires long-term culture in simulated microgravity. *Life Sciences in Space Research*. August 2017. 15(1): 55-61.

Busch CM, Prickett JT, **Stein R**, Cuoco JA, Marvin EA, Witcher MR. Meckel's Cave Epidermoid Cyst Presenting as Multiple Cranial Nerve Deficits Due to Indirect Tumoral Compression of the Cavernous Sinus: A Case Report and Literature Review. *World Neurosurgery*. October 2018.

Cuoco JA, Busch CM, Klein BJ, Benko MJ, **Stein R**, Nicholson AD, Marvin EA. ACTA2 cerebral arteriopathy: Not just a puff of smoke. *Cerebrovascular Diseases*. October 2018. 46(3-4):159-169.

DiGiorgio AM, **Stein R**, Morrow KD, Robichaux JM, Crutcher CL, Tender GC. The Increasing Frequency of Intravenous Drug Abuse Associated Spinal Epidural Abscesses: A Case Series. *Neurosurgical Focus*. October 2018.

Damon A, Clifton W, Dove C, **Stein R**, Simon LV. Investigation of a Cost-effective and Durable Material for Containing Ballistic Gel in the Construction of Ultrasound Phantoms. *Cureus*. July 2019.

ReFaey K, **Stein R**, Forte AJ, Quinones-Hinojosa A. (2019). Supraorbital Approach Variants for Intracranial Tumors. In A. Quinones-Hinojosa, *Schmidek & Sweet Operative Neurosurgical Techniques*. Philadelphia, PA. Elsevier.

Clifton W, **Stein R**, ReFaey K, Nottmeier E, Deen HG. Iatrogenic Lumbar Arachnoid Cyst Fenestration for Tethered Cord: 2-Dimensional Operative Video. *World Neurosurgery*. December 2019.

Clifton W, Damon A, **Stein R**, Nottmeier E, Pichelmann M. Biomimetic 3D-Printed Posterior Cervical Laminectomy and Fusion Simulation: Advancements in Education Tools for Trainee Instruction. *World Neurosurgery*. December 2019.

Adip B, **Stein R**, ReFaey K, Grewal S, Quinones-Hinojosa A. (2019). Orbitozygomatic Approach. In A. Quinones-Hinojosa, *Schmidek & Sweet Operative Neurosurgical Techniques*. Philadelphia, PA. Elsevier.

Bohnen A, Louie C, **Stein R**, Quinones-Hinojosa A. (2019). Management of Cerebrospinal Fluid Leaks. In A. Quinones-Hinojosa, *Schmidek & Sweet Operative Neurosurgical Techniques*. Philadelphia, PA. Elsevier.

Tripathi S, ReFaey K, **Stein R**, Calhoun BJ, Despart AN, Brantley MC, Grewal SS, Quinones-Hinojosa A, Wharen R. The Reliability of Deep Brain Stimulation YouTube Videos. *Journal of Clinical Neuroscience*. February 2020.

ONGOING RESEARCH

ReFaey K, Grewal S, Garcia D, Tripathi S, **Stein R**, Suárez-Meade P, Brantley M, Herrera Berrios JP, Wharen R. (2020). Parkinson's Disease: A Systematic Review and Meta-Analysis of UPDRS Motor Scores. *Ongoing research being written*.

Stein R, Clifton W, Jentoft M, Quinones-Hinojosa, A. (2020). Operative Video: Intramedullary Cervical Cord Biopsy using Dorsal Column Mapping for Neurosarcoidosis. *Ongoing research being written*.

Multi-Center Study: Surgical Protocol for Moyamoya Syndrome and Vasculopathy in Sickle Cell Disease (2020)
PI: Philipp R. Aldana, MD

Stein R, Beier A, Ranalli N. (2020). Case Report: Combined Hemispherotomy and Barrel-stave Osteotomies in Hemi-megaloencephaly for Intractable Seizures and Sagittal Craniosynostosis. *Ongoing research being written*.

PRESENTATIONS

Oral Presentation: **Stein R**, Randolph B, Bradley JH, Molina E, Arnold JP, Gregg RK. Inhibitory impact of simulated microgravity upon antigen-specific T-cell activation requires long-term exposure. Research Recognition Day. April 2017. Spartanburg, SC.

Poster Presentation: **Stein R**, Benko MJ, Klein BJ, Marvin EA, Apfel L. Workout Supplements May Need a Spotter – The Case Report of a Ruptured Cerebral Aneurysm in an Otherwise Healthy

Young Male Taking Workout Supplements. WAMC Research Symposium. May 2018. Fayetteville, NC.

Poster Presentation: Stein R, Benko MJ, Klein BJ, Marvin EA, Apfel L. (May 2018) Workout Supplements May Need a Spotter – The Case Report of a Ruptured Cerebral Aneurysm in an Otherwise Healthy Young Male Taking Workout Supplements. ACOS Annual Clinical Assembly. October 2018. Atlanta, GA.

Poster Presentation: Busch CM, Prickett JT, **Stein R**, Cuoco JA, Marvin EA, Witcher MR. Meckel's Cave Epidermoid Cyst Presenting as Multiple Cranial Nerve Deficits Due to Indirect Tumoral Compression of the Cavernous Sinus: A Case Report and Literature Review. ACOS Annual Clinical Assembly. October 2018. Atlanta, GA.

LEADERSHIP EXPERIENCES

2018-present National Student Osteopathic Surgical Association (SOSA) Executive Board
National Chair

- In charge of national SOSA executive board and oversee all local chapters of SOSA as well as national SOSA members

2017-2018 National Student Osteopathic Surgical Association (SOSA) Executive Board
Convention Coordinator

- Organized the Fall National SOSA Convention alongside the ACOS Annual Clinical Assembly with over 100 students in attendance, helped organize spring conference with hosting school

2017-present VCOM Department of Clinical Affairs
Site Champion

- Liaison for students at 3rd year clinical site and clinical advisory faculty

2016-2017 Student Osteopathic Surgical Association, VCOM Chapter
Vice President

- Organized first ever VCOM SOSA mini conference that has now become an annual tradition, organized anatomy tutoring events, skills workshops and talks such as a Women in Surgery Panel

2015-2017 VCOM Library Committee
Student Representative

- Acted as the student voice to meet biannually with Director of Library Services and the Director of Medical Education from all three VCOM campuses to discuss matters involving campus libraries

2015-2016 VCOM Department of Academic Affairs
Neuroscience Liaison

- Liaison between the students and the professors teaching the neuroscience class

WORK EXPERIENCES

2015-2016 Anatomy Tutor for VCOM

- Tutored blocks of anatomy including musculoskeletal, neuroscience, cardiopulmonary, gastrointestinal, and genitourinary

2014-2017 BodyPump Instructor

- Taught weekly weight-lifting classes through undergraduate school and the first two years of medical school

2012-2014 Resident Advisor at Virginia Tech

- Responsible for the well-being, safety and community of freshman living in a residency hall

TEACHING EXPERIENCES

2018 National Student Surgical Osteopathic Association (SOSA)

- Editor of 3rd edition for the Neurosurgery, Ophthalmology, and Surgical Basics sections of the SOSA Guide to the OR.

2018 USMLE/COMLEX Step 1 Mentor

- Wrote and distributed guide for how to study for the USMLE Step 1 and COMLEX level 1, mentored students in developing their board study plans

2017-2018 National SOSA Fall/Spring Conventions

- Conducted several skills workshop teaching students how to perform knot tying and gowning and gloving techniques

2016 VCOM Leadership Symposium

- Sat on student panel for Q&A for first year medical students on how to succeed in medical school

2016 VCOM Big Sibling

- Mentored two first-year medical students and helped them acclimate to medical school

VOLUNTEER ACTIVITIES

2016-2017 VCOM Pediatric Fair

- Ran the SOSA table, taught children about safety and how to splint a cast, taught free fitness class to raise money for fair

2016 VCOM DO Day of Wellness

- Taught free fitness classes for classmates

2016 St. Luke's Free Clinic

- Gathered vitals and patient history for underserved patients

2016 Gaffney Free Clinic

- Helped administer health care to local underserved patients

2016 Middle Tyger Community Free Clinic

- Gathered vitals and administered immunizations to local underserved patients

2015 Wesleyan Methodist Free Clinic

- Administered lipid screening

2015 La Iglesia de la Roca Free Clinic

- Gathered patient history and performed OMM on underserved patients

2016 YMCA Health Expo

- Administered a standard exercise baseline assessment

2013-2014 Good Samaritan Hospice

- Visited a hospice patient weekly and offered companionship

2013 Community Service Alliance

- Built softball field in the Dominican Republic and taught students about sanitation and healthy eating