The journey through medical school is no doubt a difficult process. However, even after developing the knowledge and skills necessary to be a physician, students must still match into a residency program for the next stage of training. The application process can be overwhelming and expensive if students are not prepared.

The Virginia Tech Carilion School of Medicine OSR representatives are proud to offer this guide for planning out your medical school experience and for preparing your residency applications. This comprehensive guide is written not only as a set of frequently asked questions on an assortment of topics that students may encounter during medical school, but also includes sample components of a residency application, and specialty-specific application information from recent VTC graduates. Information found in this guide is based on feedback from the first three classes of matched medical students from VTCSOM (n=50 alumni), in addition to resources provided by the University of Chicago Pritzker School of Medicine, the AAMC-OSR Communications Committee, the VTC Office of Student Affairs, USMLE.org, NRMP.org, and AAMC.org

A special thank you to the alumni of VTCSOM for your candid responses about the residency application process, and to Dr. Aubrey Knight, Ms. Emily Holt, Ms. Jellie Stovall and other VTC staff who assisted in the creation and review of this document.

Please note that this guide is not intended to be a stand-alone resource and that VTC students should seek guidance from the Office of Student Affairs and specialty-specific advisors throughout the process of applying to residency programs.

Your 2015-2016 OSR Representatives,

Ehsan P. Dowlati, M.D.       Class of 2016
Silpa S. Thaivalappil         Class of 2017
Alyssa C. Savelli            Class of 2018
Cody G. Roberts              Class of 2019
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## Advising and Application Timeline

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<thead>
<tr>
<th>M1</th>
<th>October</th>
<th>Introduction to AAMC Careers in Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>August-M4</td>
<td>SIG Activities and Shadowing Opportunities</td>
</tr>
<tr>
<td></td>
<td>January-May</td>
<td>Introduction to Clinical Departments Lunch Sessions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M2</th>
<th>Ongoing</th>
<th>SIG Activities and Shadowing Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-June</td>
<td>Step 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M3</th>
<th>November</th>
<th>Introduction to VSAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>Introduction to Specialty-Specific Advising System</td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>Choose Specialty-Specific Advisor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ɣ Helps determine 4th year schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ɣ Provides guidance for residency and career</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>May</th>
<th>Intro to ERAS, NRMP, Preparing for Match</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ɣ Program Directors Application, Interviewing Panel</td>
</tr>
<tr>
<td></td>
<td>Ɣ Discussion of various milestone dates, actions</td>
</tr>
<tr>
<td></td>
<td>Ɣ Overview of ERAS, with helpful hints</td>
</tr>
</tbody>
</table>

| February | Year 4 Lottery |
| VSAS Opens |

| May-June | 1st Meeting with Dean of Student Affairs |
| | Ɣ MSPE and Residency Application Process |

| Spring | Complete Letter Request Forms |
| Apply to Away Electives |

| Late June | Assessment Week |
| | Ɣ Mock Step 2 CK and Step 2 CS |
| | Ɣ Year 4 Orientation |
| | Ɣ Preparing for STEP 2 CS |
| | Ɣ Research Presentations |

<table>
<thead>
<tr>
<th>M4</th>
<th>Summer</th>
<th>Sign up for ERAS, NRMP, other applicable matches (e.g. military)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Prepare CV and Personal Statement</td>
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<tr>
<td></td>
<td></td>
<td>Prepare “Unique Characteristics” section of the MSPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meet with Specialty Advisor(s)</td>
</tr>
<tr>
<td>M4</td>
<td>Summer</td>
<td>2nd Meeting with Deans of Student Affairs</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Ask faculty to write letters of recommendation</td>
<td>● Discuss Unique Characteristics for MSPE</td>
</tr>
<tr>
<td></td>
<td>Meet with Department Chair for letter of recommendation, along with other writers</td>
<td>● Progress on ERAS</td>
</tr>
<tr>
<td></td>
<td>Work on List of Programs to apply to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Study for and take Step 2 CK and Step 2 CS</td>
<td></td>
</tr>
<tr>
<td>July M4</td>
<td>3rd Meeting with Dean of Student Affairs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Discuss Residency Programs Applied to</td>
<td></td>
</tr>
<tr>
<td>July-August</td>
<td>Check-in with Department Chair/Program Director of specialty to which you are applying</td>
<td></td>
</tr>
<tr>
<td>August</td>
<td>2nd Meeting with Deans of Student Affairs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Discuss Unique Characteristics for MSPE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Progress on ERAS</td>
<td></td>
</tr>
<tr>
<td>August-September</td>
<td>Mock Residency Interview</td>
<td></td>
</tr>
<tr>
<td>September 15th</td>
<td>Send Residency Applications via ERAS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Register with NRMP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accept and Create Calendar for Interviews</td>
<td></td>
</tr>
<tr>
<td>Late September</td>
<td>Review MSPE</td>
<td></td>
</tr>
<tr>
<td>September-November</td>
<td>Begin to Arrange Interviews</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Some programs won’t grant interview until all application materials have been received</td>
<td></td>
</tr>
<tr>
<td>October 1st</td>
<td>Office of Student Affairs sends out MSPE via ERAS</td>
<td></td>
</tr>
<tr>
<td>November-January</td>
<td>Interviews!</td>
<td></td>
</tr>
<tr>
<td>December-January</td>
<td>Results of Military Matches/Deferments Announced</td>
<td></td>
</tr>
<tr>
<td>January</td>
<td>Rank Order Lists due for Ophthalmology, Urology</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>Rank Order List due for all other Specialties</td>
<td></td>
</tr>
<tr>
<td>March 13</td>
<td>Successful match applicants notified, SOAP Begins</td>
<td></td>
</tr>
<tr>
<td>March 17</td>
<td>Match Day!</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Results of NRMP announced at noon EST</td>
<td></td>
</tr>
<tr>
<td>March-April</td>
<td>Hospitals/Programs send out letters of appointment or contracts to matched students</td>
<td></td>
</tr>
<tr>
<td>May 6, 2017</td>
<td>Graduation!</td>
<td></td>
</tr>
</tbody>
</table>
Glossary of Terms

**Advanced (PGY-2) Residency Positions** - Programs that begin in the PGY-2 year after a year or more of prerequisite preliminary training. The following specialties offer advanced positions (some which also offer categorical positions): Anesthesiology, Child Neurology, Dermatology, Neurology, Ophthalmology, PM&R, Plastic Surgery, Radiation-Oncology, and Radiology. If matching into or applying to Advanced positions, you must also apply to Preliminary/Transitional positions through the NRMP. Exceptions are Neurosurgery, Orthopedic Surgery, and Urology which bundle in a preliminary year of General Surgery, and generally don’t require a separate preliminary application process.

**AUA** - American Urology Association, which oversees the urology residency match program for PGY-2 positions. Hence, it’s urology’s version of the NRMP. You will still need an NRMP account since the preliminary position is filled through that. Rank lists are submitted in December, and match results are posted in January. [www.auanet.org](http://www.auanet.org)

**Categorical Residency Positions** - Programs entered in the PGY-1 year that provide the full training required for board certification in your specific medical specialty.

**Contiguous Ranks** - The number of consecutively ranked programs within the specialty in which you matched. For example, let’s say you applied into Pediatrics and Medicine. Your ranks 1-10 were in pediatrics, and 11-15 were Medicine. If you match into pediatrics, then your contiguous ranks is 10.

**Doximity** - Resource for looking up residency programs. Good information about fellowship placement, where graduates practice now, hospitals you would rotate at, etc. Creating an account is free. [www.doximity.org](http://www.doximity.org)

**Early Match** - Ophthalmology, Urology, and all residency programs operated by the military are programs that match earlier than Match Day. Ophthalmology applicants apply and match through the San Francisco Match, with applications being due in July. Applicants in Urology apply through ERAS and match via AUA, with applications due in September. Rank lists are submitted in December/January, and match results are posted in January.

**ERAS** - Electronic Residency Application Service. Your “common application” to all residency programs that you will be applying to. It transmits residency applications, letters of recommendation, MSPEs, transcripts, and other supporting credentials from applicants and medical schools to residency programs. ERAS opens up in early July, and begins transmitting applications on September 15.
Residency Application Guide

FREIDA - Fellowship and Residency Electronic Interactive Database. AMA’s comprehensive resource for residency information. Use this resource to figure out which states and cities offer residency programs in your specialty, and compare your STEP scores to previous students have matched in your residencies of interest. Must be AMA member to take advantage of FREIDA. www.ama-assn.org/ama/pub/education-careers/graduate-medical-education/freida-online

Match Day - Friday of the third week in March. All US seniors open their match envelopes from the NRMP at 12:00 pm EST to find out which residency program they have matched into.

MSPE - Medical Student Performance Evaluation. It’s also known as the “Dean’s Letter”, however, it is NOT a letter of recommendation. It is an assessment of both the student’s academic performance and professional attributes, which is written by the Dean or the Office of the Dean. It includes the student’s performance compared to his/her peers, through three full years of medical school and, as much as possible, the fourth year. Released on October 1.

NRMP - National Resident Matching Program. This is a residency match system designed to optimize rank-order lists of medical students and residency program directors. Can register on September 15, and the rank order list deadline is the end of February. NOTE: Your application is submitted through ERAS, and you use NRMP to submit your rank order list. www.nrmp.org

Parallel Plan - Residency application approach of applying to two different specialties either because you still haven’t decided or because one of them is more competitive than the other. Ex: applying to ENT and general surgery.

PGY - Postgraduate year. PGY-1 is the first year after graduating from medical school and is an intern position. PGY-2 and higher are considered residency positions.

Preliminary Residency Positions (PGY-1) - One-year programs beginning in the PGY-1 year that provide prerequisite training for advanced programs. Only available via the NRMP Match. This is why Early Match participants must also participate in the NRMP Match. There are two types of Preliminary Positions: Preliminary Surgery and Preliminary Medicine. Transitional programs are also considered preliminary programs.

Residency Advisor - Faculty that provides counseling and feedback in the career selection and implementation process, navigation of the match process, and review of application materials, including the ERAS application. This is the Dean of Student Affairs for VTCSOM.

ROL - Rank Order List. List of residency programs in order of preference that is submitted to the NRMP during the ranking portion of the match, and due by the last week of February. The ROL system is found on the NRMP web site. http://www.nrmp.org/
San Francisco Match - Ophthalmology matching organization (among other fellowship matches) for PGY-2 positions. You still need an NRMP account since the preliminary position is filled through that. www.sfmatch.org

SLOE - Standardized Letter of Recommendation. Special type of letter of recommendation submitted by the applicant’s home institution, which is required for some specialties such as Emergency Medicine and Plastic and Reconstructive Surgery. Check with your specialty advisor to see if this applies to you.

SOAP - Supplemental Offer and Acceptance Program. Unmatched and partially matched applicants may participate in the SOAP to try to obtain an unfilled residency position. SOAP is administered by the NRMP and additional applications are sent via ERAS during Monday through Wednesday of match week.

Specialty Advisor - A faculty member from the specialty to which you will apply. You choose this person based on the recommendations of the department and your own familiarity with the faculty member. This advisor provides “specialty care” in the match process, including constructing a list of programs, identifying letter of reference writers, and reviewing rank lists for breadth and depth.

Transitional Residency Position - One-year program beginning in the PGY-1 year that is an alternative to a preliminary year. It typically offers more elective time than Medicine and Surgery preliminaries and provides a variety of experiences. This is a good option if you’re seeking a specialty that supports other disciplines, such as Radiology or Anesthesia.

USMLE - United States Medical Licensing Exam. Organization that sponsors and owns Step 1, Step 2CS, Step 2CK, and Step 3. www.usmle.org

VSAS - Visiting Student Application Service. Application designed to streamline the application process for senior “away” electives. Think of it as the ERAS for away rotations. It is an AAMC service where students submit one application for an away rotation, and then manage offers and track decisions in one central location. www.services.aamc.org/20/vsas/
USMLE STEP Exams

You are well aware that the STEP exams are an important component of medical school and of the residency application process. You may not know that there are three “steps” to the USMLE exams, with 3 exams that have to be completed before you graduate, and 1 that you take after you graduate medical school. Scoring well on these exams are important in presenting a competitive application to residency programs. For more information, go to www.usmle.org.

STEP 1

What exactly is STEP 1?
- The first of three “steps” in the USMLE medical licensing pathway
- Purpose is to evaluate if medical students can understand and apply important basic science concepts vital to the practice of medicine
- Special Emphasis: principles and mechanisms underlying health, disease, and modes of therapy
- The exam is taken over the course of one-day
- Consists of seven 60-minute blocks that is administered in one 8-hour session
- Each block varies in the number of questions, but doesn’t exceed 40
- Total number of questions on exam doesn’t exceed 280.
- 2016 registration fee: $600
- VTCSOM: STEP 1 is required to be completed prior to beginning of MS3 (end of June)

How well do VTC students do on STEP 1?

<table>
<thead>
<tr>
<th>Graduating Class</th>
<th>VTC</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>241</td>
<td>227</td>
</tr>
<tr>
<td>2015</td>
<td>234</td>
<td>228</td>
</tr>
<tr>
<td>2016</td>
<td>237</td>
<td>229</td>
</tr>
<tr>
<td>2017</td>
<td>235</td>
<td>229</td>
</tr>
</tbody>
</table>
STEP 2 CK

What exactly is STEP 2 CK?

- One of two STEP 2 exams taken at the end of M3 year.
- STEP 2 evaluates how well you can apply medical knowledge, skills, and understanding of clinical science essential for patient care under supervision (STEP 3 is for without supervision).
- Step 2 CK (clinical knowledge) is a computer-based multiple choice exam
- Consists of integrated content within physician tasks and disease categories, with an emphasis on health promotion and disease prevention
- It lasts 9 hours, and is a single-day test
- 8 questions sets with no more than 45 questions per set (about 350 questions total)
- 2016 Registration fee: $600

What is the best time to take STEP 2 CK?

- There is no consensus, and the timing depends on many individual factors
- Many students recommend completing so that scores are available around the time of ERAS submission (September 15th)
- Some students determine when to take STEP 2 CK based on their performance on STEP 1
  - If your STEP 1 score is high, then you may delay taking STEP 2 CK, since scoring poorly on STEP 2 CK can make you less competitive as an applicant
  - If your STEP 1 score is lower, than you may choose to take STEP 2 CK soon after finishing required rotations with the goal of demonstrating an improved score on the STEP 2 CK prior to applying for residency
- STEP 2 CK covers a diverse range of subjects, and hence many students find that they are most prepared to take the exam immediately after completing third-year rotations
- Often times, away rotations and/or sub-internships are completed immediately after finishing the third year rotations, so that these experiences are reflected on residency applications. Hence, these students generally wait to take STEP 2 CK after completing those demanding rotations.
- VTCSOM: Mock STEP 2 CK is completed during the MS3 assessment week (end of June), and then it’s recommended you complete the test during the summer between 3rd and 4th year
- Some residency programs don’t require students to complete STEP 2 CK prior to applying for a residency position, so the exam doesn’t necessarily have to be completed before applying. Research your program and plan appropriately!
**STEP 2 CS**

What exactly is STEP 2 CS?

- Step 2 CS (clinical skills) is an interactive test with standardized patients, and is only offered in 5 sites across the country: Philadelphia (PA), Atlanta (GA), Houston (TX), Chicago (IL), and Los Angeles (CA).
- Purpose is to test medical students on their ability to gather information from patients, perform physical exams, and communicate their findings to patients and colleagues with twelve, 15-minute standardized patient encounters. Immediately after each encounter, you have 10 minutes to complete a patient note.
- This is a Pass/Fail exam.
- 2016 Registration fee: $1275

What is the best time to take STEP 2 CS?

- The timing of STEP 2 CS is generally perceived to be less significant than that of STEP 2 CK.
- Many students try to take it as early as possible, since scheduling can be difficult.
- The exam takes months to score, so it is generally recommended to be taken by November so scores are returned before January 1st.
- It’s often recommended to be taken following a primary care or family medicine rotation, or after completing a practice standardized patient examination offered by the school.
- VTCSOM: Mock STEP 2 CS is completed during the MS3 assessment week (end of June), and then it’s recommended you complete the test during the summer.

How well do VTC students do on the STEP 2 CK?

<table>
<thead>
<tr>
<th>Graduating Class</th>
<th>VTC</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>246</td>
<td>240</td>
</tr>
<tr>
<td>2015</td>
<td>242</td>
<td>240</td>
</tr>
<tr>
<td>2016</td>
<td>245</td>
<td>241</td>
</tr>
</tbody>
</table>
STEP 3

What exactly is STEP 3?

- The final exam in the USMLE sequence that, after successful completion, leads to a license to practice medicine without supervision.
- It assesses whether you can apply medical and clinical science knowledge essential for practicing medicine unsupervised, emphasizing ambulatory patient management.
- The exam content reflects a data-based model of generalist medicine as practiced in the United States, with clinical cases that represent situations that an un-specialized physician (you) may encounter within various specific settings.
- The exam is taken over the course of 2 days (does not have to be back-to-back).
- The first day is referred to as "Foundations of Independent Practice (FIP)."
- The content areas covered include:
  - Application of foundational sciences
  - Understanding of biostatistics and epidemiology/population health
  - Interpretation of medical literature
  - Application of social sciences (E.g. medical ethics, patient safety, interpersonal skills)
  - Knowledge of diagnosis and management: use of history, physical exam, diagnostic studies

  **First Day:** 233 multiple choice questions, divided into six 60 minute blocks of 38-40 items
  - Approximately 7 hours of testing, with 45 minutes for break
  - Includes items associated with pharmaceutical advertisements or scientific abstracts within each of the multiple-choice blocks

- The second day is known as "Advanced Clinical Medicine (ACM)."
- Content areas covered include:
  - Knowledge of diagnosis and management
  - Prognosis and outcome
  - Health maintenance and screening
  - Therapeutics
  - Medical decision making

  **Second Day:** 9 hours of testing, consisting of (in order):
  - 5-minute optional tutorial
  - 180 multiple choice questions: six 45 minute blocks of 30 questions each
  - 7-minute CCS (computer-based case simulation) tutorial
  - Thirteen 10-20 minute case simulations
  - Minimum of 45 minutes allowed for break time throughout

- 2016 fees: $830.00
When is STEP 3 usually completed?

- STEP 3 is completed after you have graduated from VTCSOM
- Nearly all U.S. medical graduates take it during their first or second year of residency training, with goal of merely passing the exam (you’re already in residency!)
- If taken prior to residency, then the goal is to score well and demonstrate superior clinical acumen that makes you attractive candidates for residency programs
  - Don’t worry about this unless you think you underperformed on the previous STEP exams and/or have other red flags on your application
  - Talk to Dr. Knight if you are thinking about doing this

For more information about the STEP exams, go to www.usmle.org.
Research, Awards, and Activities

This section outlines some of the activities VTC students before you have pursued during their time in medical school, so that you have an idea of the sorts of activities and research experiences available to you.

What types of research experiences have VTCSOM alumni pursued during medical school?

The vast majority of VTC students have pursued research projects through Carilion Clinic or VTCRI. It’s feasible to do research through VT-Blacksburg, as there a number of faculty willing to work on projects, but you have to factor in an hour travel time to/from Blacksburg. Generally, working with someone unaffiliated with the three VTC sites mentioned is a continuation of a project started prior to medical school.

VTCRI (37 - 13/10/14)
Carilion Clinic (67 - 22/22/23)
VT-Blacksburg (12 - 3/6/3)
Other (7 - 3/2/2)
(Total - 2014/2015/2016)

The importance of research experience in terms of specialties

4 - Very important 2 - Somewhat Important
3 - Important 1 - Not Important
Anesthesia - 1
  • VTCRI
  • Carilion Clinic

Emergency Medicine - 2.3
  • Carilion Clinic (4)
  • VTCRI

Surgery (including NSG, ENT, Plastics) - 3.6
  • Carilion Clinic (5)
  • VT-Blacksburg
  • VTCRI

Internal Medicine/Dermatology/EM-IM - 3.2
  • VTCRI (3)
  • VT-Blacksburg (2)

Pediatrics/Med-Peds/Child Neurology - 2.5
  • Carilion Clinic
  • VTCRI (2)
  • VT-Blacksburg (2)

Psychiatry - 3
  • Carilion Clinic (2)
  • VTCRI

OBGYN - 2
  • Carilion Clinic

Orthopedics - 3.8
  • Carilion Clinic
  • VTCRI
  • VT-Blacksburg

Radiology - 3
  • VTCRI
  • Carilion Clinic

Pathology - 4
  • VTCRI

PM&R - 2
  • VTCRI

Family - 1.5
  • VTCRI
  • Carilion Clinic
Who can I work with on my research project at VTC?
Please refer to Appendix A for a list of research mentors of the first three classes at VTCSOM.

What are some honors and awards available to VTC students?

- **Alpha Omega Alpha Medical Honor Society**
  - 2 MS3s, 4 MS4s selected based on academic performance, letters of distinction, leadership activity, research achievements, community service, interprofessionalism, humanism, and clinical performance

- **Gold Humanism Honor Society**
  - 10 MS3 students nominated by peers for demonstrating excellence in humanistic clinical care, leadership, compassion and dedication to service.
  - 6 MS3 students ultimately selected by current GHHS for induction.

- **Omicron Delta Kappa Honor Society**
  - Is a National Leadership Honor Society
  - Students must be in high scholastic standing (upper 35% of their class year) and show exemplary leadership characteristics in at least one of the five areas:
    - Scholarship
    - Athletics
    - Campus or community service, social and religious activities
    - Campus government; journalism, speech, and the mass media
    - Creative and performing arts.
  - Apply during February of MS-2 to MS-4 year for spring

- **Financial Aid Scholarships**
  - Sam & Priscilla McCall Endowed Scholarship (2 x $2,500)
  - Morgan Dana Harrington Memorial Endowed Scholarship (2 x $2,500)
  - Daniel and Katina Carusillo Endowed Scholarship (2 x $500)
  - Caroline Osborne Memorial Scholarship (1 x $4,000)

- **Letters of Distinction**
  - Basic Science
    - Academic Performance (8 awarded, end of MS2)
    - PBL Team Members- Peer Selection (8 awarded, end of MS2)
Residency Application Guide

- Facilitator’s Picks for Overall Performance (8 awarded, end of MS2)
- Interprofessionalism
  - Leadership (8 awarded, end of MS2)
  - Humanism and Teamwork (8 awarded, end of MS3)
  - Service Learning and Community Service (8 awarded, end of MS4)
- Research
  - Best Research Project (8 awarded, end of MS4)
  - Scholarly/Research Productivity (8 awarded, end of MS4)
  - Academic Performance in Research Curriculum (8 awarded, end of MS2)
- Clinical Science
  - Overall Performance-Clinical Skills (8 awarded, end of MS2)
  - Clinical Science Integration-"Domain Days" (8 awarded, end of MS3)
- Clinical Clerkships
  - Psychiatry (8 awarded, during beginning of MS4)
  - Obstetrics (8 awarded, during beginning of MS4)
  - Family Medicine (8 awarded, during beginning of MS4)
  - Emergency Medicine (8 awarded, during end of MS4)
  - Surgery (8 awarded, during beginning of MS4)
  - Internal Medicine (8 awarded, during beginning of MS4)
  - Pediatrics (8 awarded, during beginning of MS4)
  - Radiology (8 awarded, during beginning of MS4)

For a more comprehensive list and for more information about how these honors are awarded, see the VTC Student Handbook.

What are some extracurricular/volunteer experiences I can pursue?

On the next page is a list of activities pursued by VTC students before you.
  - Activity (Number of alumni respondents, if >1)
• BFC (25)
• MSV/AMA (6)
• Internal Medicine Interest Group/ACP (6)
• Student Government (5)
• Surgery interest Group (5)
• Pediatrics IG (4)
• CMDA (4)
• Humanism in Medicine Club (3)
• Habitat for Humanity (3)
• Emergency Medicine IG (3)
• Global Health (3)
• Family Medicine IG (3)
• Academic Medicine Club 2)
• Neurology Student IG (2)
• Military Medicine Interest Group (2)
• Psych Interest Group
• Angels of Assisi foster parent
• Rescue Mission Food Service
• Accreditation Committee
• CHIP
• Med Students for Choice
• Journal club
• LEAC
• Boys and Girls Club
• Docs for Morgan
• Admissions committee
• Local rescue squad
• Radiology Interest Group
• Big brothers big sisters
• Medical Mission Trips
• VTC Student Wellness and Outdoors Life
• Nutrition Club
• Medical Spanish Society
• Med Students for Reproductive Justice
• Adult league sports
• Family time
• Fine Arts Integration Club
• Women in Medicine
• Radiology Interest Group
• Orthopedics and Sports Medicine Association
• VTCSOM Plastics and Reconstructive Surgery IG
Away Rotations

Away rotations are elective clinical rotations completed during the final year of medical school, taking place at hospitals and schools outside of VTCSOM. There are many reasons for completing away rotations, depending on what specialty you are pursuing and your own personal interests. However, they are not always required; many students don't complete any aways and still place into excellent residency programs.

Why pursue an away rotation?

- Network at an institution in which you're interested in applying for residency
- You can impress faculty and residents so that they may later advocate for you during the residency application process
  - In competitive specialties, this is often considered an "audition" for a residency position
- Try to work closely with one or two faculty members so that you can obtain a letter of recommendation from that institution to help with your residency application
  - Complete an away before September if you want a letter so that the letter writer has enough time
- Away rotations are generally “required” for some specialties, such as Anesthesia, Radiology, Neurosurgery, Emergency Medicine, and Orthopedics.
- Even if you're pursuing a specialty that doesn't require any away-rotations, it can still provide invaluable insight into another institution’s curriculum and culture, which can help you formulate what you're looking for in a residency program
- If you're pursuing a specialty such as Radiology or Anesthesia, in which Carilion Clinic currently has no residency program, rotating at an institution that has a residency program in your specialty can be advantageous for your application and for you to experience what residency would be like
- If you're interested in getting to know a new part of the country or to gain a better understanding of what it's like to work in an unfamiliar program that you're interested in, then an away rotation can be a great experience

How do students apply for away rotations?

- The vast majority of schools in the US that offer away rotations require a completed application through the Visiting Student Application Service (VSAS)
- For a list of schools using VSAS, go here: [https://services.aamc.org/20/vsas/public/schools/](https://services.aamc.org/20/vsas/public/schools/)
- If the institution does not accept VSAS applications, visit the program’s website
Residency Application Guide

- Application deadlines vary by medical school/center, but generally begin in February, end in April
- Make sure to research the program’s requirements beforehand, because some institutions require additional application materials, including:
  - Documentation of immunizations-get these lined up early, some programs require titers for things like Hep B and varicella
  - Two-step PPD (Skin TB test)
  - Additional essays
  - Letters of recommendation
  - Background checks
  - Insurance coverage

When is the best time to complete away-rotations?

Based on feedback from VTC alumni, the best time to complete away-rotations is during the summer months of your 4th year. The specialty you are pursuing doesn’t appear to have an influence. Doing an away rotation in the summer gives you enough time to collect letters of recommendation for your application. That being said, if you just want to see how another program looks and do not necessarily need a letter, you can do away rotations later in the year. It helps to avoid away-rotations during the prime interview season of late fall-early winter; it is awkward to ask a visiting program for time off during an already short experience!

![Figure A. Summer months are the most highly recommended months](image-url)
What’s the recommend number of away-rotations to complete?

The number of away-rotations recommended depends on the specialty you are pursuing, as well as the level of competitiveness of your desired program. Based on VTC alumni experiences up to this point, the recommend number of away-rotations by specialty is shown below.

<table>
<thead>
<tr>
<th>Specialty</th>
<th># Recommend (# replied)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiology</td>
<td>0-2 (3)</td>
</tr>
<tr>
<td>Child Neurology</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Dermatology</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>1-2 (7)</td>
</tr>
<tr>
<td>Family Medicine</td>
<td>0-1 (3)</td>
</tr>
<tr>
<td>General Surgery</td>
<td>0-2 (6)</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>0-2 (8)</td>
</tr>
<tr>
<td>Neurology</td>
<td>0-1 (1)</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>2-3 (1)</td>
</tr>
<tr>
<td>OB/GYN</td>
<td>0 (2)</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>2-3+ (4)</td>
</tr>
<tr>
<td>Pathology</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>0-1 (5)</td>
</tr>
<tr>
<td>Plastic and Reconstructive Surgery</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Physical Medicine and Rehabilitation</td>
<td>0 (1)</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>0-1 (2)</td>
</tr>
<tr>
<td>Radiology</td>
<td>1-2 (3)</td>
</tr>
<tr>
<td>Urology</td>
<td>2 (1)</td>
</tr>
</tbody>
</table>

For more specific information by specialty and for your individual situation, talk to other students who have placed into your desired specialty, and of course, it’s always a good idea to speak to Dr. Knight!
How much does it cost to do an away rotation?

- The VSAS application cost is based on the number of institutions applied to, not the number of electives applied to at each institution (you can apply to several electives at one institution)
- The fee for the first institution is $35, with $15 for each subsequent institution
- Some schools require additional application fees, up to $200
- Factoring in the cost of travel and living expenses, it can range from very little if staying with family, but can be several hundreds of dollars for living alone in an area with a high cost of living

What are some ways to cut down on costs during away-rotations?

- Drive to the program rather than flying if possible
- Choose programs in locations with a low cost of living
  - For some specialties (e.g. EM), residency programs only really consider you if you completed an away-rotation and completed it well, rather than the prestige of the program, per se.
- Live near the program to reduce travel costs
- Look for housing opportunities early - before cheaper options are taken
- Sublet from individuals living in the area (rotating room)
  - Rotatingroom.com
  - Airbnb.com
- Stay with friends (find friends of friends in the area) or family
- Reach out to VTC alumni for potential housing
- Look for programs that provide/subsidize housing and/or food
- Cook your own meals and even cook in batches (e.g. slow cooker)
- Get on good terms with your residents – if you're lucky, they may swipe cafeteria food and coffee for you
- Start saving for expenses as early as possible (conserve financial aid funds during first few years in medical school)

What are some general tips for away-rotations?

- These are month-long interviews for a residency spot
  - Don’t take days off, be early
  - Be motivated to learn and read cases to be prepared
  - Show initiative for your patients
  - Be social and respectful
When you’re visiting on someone else’s turf, you’re at a disadvantage to begin with, but when 4th year rolls around, many home students become complacent, which means that you can easily stand out with a proactive attitude. So dive in headfirst!

Remember, by showing up, you will expose your weaknesses as much as your strengths to any potential program - aways can be as negative as they can be positive

Avoid doing away-rotations during interview season, as it can be awkward to ask for time off to go for an interview somewhere else

Try doing one early away-rotation at a “big name” institution in order to gain a letter of recommendation from someone well-known in the field, and then do 1-2 other away-rotations at places you’d truly like to end up for residency

It’s a big advantage to do your MICU, PICU, or SICU rotation before pursuing an away-rotation, so that you’re familiar with the sickest of the sick patients

Do an away-rotation in a geographic region that you are interested in; especially if it is far from your hometown or far from the mid-Atlantic region

Even though you will be sleep-deprived and in the hospital most of the time, try to make an effort to explore the city where you are rotating (you may end up as a resident there).

Completing the rotation assessment form is your responsibility; make sure to remind the attending when you leave, rather than bugging them after you have already left.

Specialty-specific advice on aways

- **Internal Medicine**: try to do a subspecialty away-rotation that you like and can impress with, rather than doing an acting internship
- **Radiology**: do an away rotation at an academic center
- **Neurosurgery**: You definitely will need to complete an early away-rotation, since interviewers generally have asked about aways in the past
- **Emergency Medicine**: Do an early away-rotation so that you can get a letter of recommendation
- **Anesthesia**: Complete an away-rotation at an academic center with a residency program.
  - A letter of recommendation is not necessary from the away, but it’s helpful to have the experience to talk about during your interviews
- Away rotations are often not necessary for academic programs that are not hypercompetitive
- Busy, general services (e.g. internal medicine) have the advantage of getting to meet many faculty and residents, including some that are likely to be involved in administration and resident selection!
- Subspecialty services (e.g. cardiology) have the advantage of spending additional time with a specific faculty to form a relationship and gain a solid letter of recommendation
Applying for Residency Programs

The residency application process is long and involves quite a few components. We hope this section demystifies the process of filling out your ERAS, creating a CV, writing your personal statement, obtaining letters of recommendation, and traversing the MSPE.

ERAS

- **ERAS: Electronic Residency Application Service**
- Application through AAMC that students use to transmit applications to residency programs
- Distinct from National Resident Matching Program (NRMP)
  - Service to which you submit your rank order list after interviewing, and which then matches you to a residency program
- **Application Fees:**
  - 1 - 10 programs: $99 total
  - 11 - 20 programs: $12 each
  - 21 - 30 programs: $16 each
  - 31 or more programs: $26 each
  - Example: Say you apply to 33 IM programs, then the cost will be $99 + (10 x $12) + (10 x $16) + (3 x $26) = $457.00.
- **Key dates:**
  - June 6 - ERAS opens to students
  - September 6-15 - ERAS applications must be submitted to American Council of Graduate Medical Education (ACGME) accredited residency programs
    - Residency programs cannot review submitted applications until 9 p.m. EST on Sep. 15th, so there is no advantage to submit the application on Sep. 6th as compared to say Sep. 10th.
  - October 1 - MSPE released to ACGME accredited residency programs
- **Sections:** (see appendix C for a sample ERAS application)
  - General identification information (Name, Mailing Address, etc.)
  - Medical Licensure (ACLS, PALS, BLS training, etc.)
  - Medical Education (VTC information)
  - Medical School Honors/Awards
  - Membership in Honorary/Professional Societies
  - Education (undergraduate, graduate, etc.)
  - Experience (research, volunteer, work, etc.)
Residency Application Guide

- Publications
- Language Fluency
- Hobbies and Interests
- Other Awards/Accomplishments

For questions or more information about ERAS, contact Jellie.

The Curriculum Vitae (CV)

Although a CV is technically not a required component of the residency application process, it truly is very important. The CV is used to complete the ERAS, filling in sections such as education, research, employment, awards, etc. You will also need to give a CV to your letter writers to assist them in writing great letters of recommendation for you. Bringing an up-to-date and professional CV to interviews can also be very helpful.

To make sure that there are no accidental omissions, it is a good idea to keep your CV updated throughout medical school so that is ready and complete when needed. Your CV should be as long as necessary to include all the important information about your academic, research, and work experiences for both undergraduate and medical school (and anything in between if applicable).

Below is information about the expected sections found in the CV, and an example CV is included in Appendix B for your reference. For more examples, visit the AAMC Careers in Medicine website: https://www.aamc.org/cim/residency/application/applying/337854/writingcv.html#. Note that these are simply suggestions for sections.

- Name, Address, and Telephone: Provide your full name, along with an address and phone number that you can be reached at.
- Education: For all undergraduate and graduate training, include the name of the institution, the degree sought or completed, and the date of completion (or anticipated completion).
- Honors and Awards: List any achievements that likely will be appreciated/impressive to people reading your CV, even though any academic, organizational, or community award is appropriate.
Professional Society Memberships: Provide a list of any professional organizations that you belong to and the years of the membership. Importantly, include any leadership positions.

Employment Experience: For each work experience, list the position, organization, and the dates of employment.

Publications: List papers and abstracts published and/or presented by title, place, and date of the publication and/or presentation.

Personal Data: Include personal information such as your date of birth, marital status, and family status if you think it is relevant to your application and/or if you want to elicit a specific discussion at your interviews, such as maternity/paternity leave policies and childcare responsibilities. Keep in mind that this information is not legally required. Also try to include a short list of your outside interests and extracurricular activities. This can help paint a broader picture of your personality and character, and can include additional qualifications such as fluency in another language.

General Tips and Formatting:

- The CV should be arranged in reverse chronological order in order to make it clear where you are currently
- Use abbreviated and succinct language, rather than using long explanatory sentences that will distract the reader
- Importantly, be honest and don’t exaggerate or mislead
  - Even if there is empty space, don’t create items to fill it in
  - If you haven’t accomplished anything in a specific section (e.g. publications), then simply leave it out
- The document should be easy to read, well-organized, and professional
- Use 1-1.5 margins, with 11-12 point font (conservative fonts only)
- Headings should be consistent in style and size throughout the CV
- It’s often helpful to use bold, italics, caps, and bullets to organize the document, but just don’t get carried away!
- Make sure that there are no misspellings or grammar mistakes
- Have the CV revised by several people to ensure a solid product
- Printed CVs should be on high quality bond paper, preferably with a laser printer
  - Recommended paper types: white, ivory, light gray
The Personal Statement

The personal statement is not only an integral piece of your residency application, but will be used by all of your letter writers to produce stellar letters of recommendation. Hence, it is important to spend sufficient time on it. The goal of the statement is to compliment and supplement your CV. Rather than simply highlighting or rehashing information provided in your curriculum vitae, the personal statement is intended to describe your strengths/weaknesses in a narrative, and to detail your interest in the specialty.

The importance of the personal statement will vary between residency programs. Some programs use the statement as background to the application itself, while others may use the document to evaluate your personality, character, aspirations, professionalism, and even your written communication skills. Regardless of the program’s interpretation, use the personal statement as an opportunity to describe yourself, your background, significant experiences in your life relevant to your application, and your expectations and hopes for the future. Simply the ability to write down clear and realistic goals will give programs the sense that you are highly mature, self-aware, and serious about pursuing your specialty.

Students applying to more than one specialty should have specific personal statements for each specialty. Students applying to a particular program outside of their geographic area are also recommended to have a program or region-specific personal statement so they can tailor their statement to fit the program/region. ERAS has the option of uploading multiple personal statements and the ability to select which statement you send to each program.

It is advisable to start writing the personal statement 3-4 months in advance. This will provide sufficient time to write more than one draft, utilizing multiple people for input. Fortunately for you, VTC hires someone to assist you in reviewing your personal statement. Generally, students should aim to have a semi-finalized version completed in June-July for use by your letter writers.

Determining what to write about can be a difficult process. A good place to start is to look at successful personal statements. One example is provided in Appendix D. but you can also talk to residents and to other students who have successfully matched. On the next page are some tips.
The personal statement functions to introduce yourself to your interviewer and help the interviewer determine what’s important to you.

Recommended Example Structure:
- First paragraph introduces the reader to you (who am I?)
- Second paragraph lets the reader know how you arrived at your choice of the specialty that you are interviewing for
- Third paragraph confirms why you think the specialty choice is right for you, including examples such as pertinent research and extracurricular experiences
- Fourth paragraph informs the reader about your long-term goals and/or how you see yourself within the scope of the specialty (or state that your goals are not clearly defined)

Your goal is to be original and well-crafted in terms of being grammatically correct.

Most important aspect is to write a concise, clear statement about yourself.

If you explain reasons for entering the field of medicine, do so to bring in points beyond just the career choice - it's unnecessary to say why you wanted to go into medicine with only 6 months or so until you receive your MD degree.

If you repeat accomplishments already listed on your CV, then they should pertain to your personal and/or professional growth.

If possible develop a theme that carries you through the document, and consider ending the essay with the theme you started with in the beginning.

Use your own words rather than relying on quotes - your thoughts are more powerful.

Make the statement easy to read, utilizing paragraph breaks.

Show your personal statement to many people to gain crucial feedback.

Be prepared to address topics mentioned in your statement during interviews.

Use plain yet descriptive language so that the reader is more engaged with the story rather than the wording.

The purpose of the personal statement is to convince the programs that they want you. Try to be convincing that you’re a superior candidate, without explicitly stating it.

Your CV provides your previous “actions”, whereas the personal statement is intended to provide your “contemplations or reflections”.

Avoid the phrase, “I am passionate about” . Let the story make that obvious.
- In other words, tell a story and let the reader draw the conclusions.

Avoid abbreviations and acronyms.

Mix up the sentence structure; just not too much!
Residency Application Guide

- Obviously write in full sentences, but lean towards writing shorter ones so that you have generally one thought per sentence.
  - Taking it further: one thought per paragraph
- Don’t use “I” too much
- Be honest and own up to potential flaws, and described how you’ve grown as a result (don’t make excuses!)
- The standard length is one side of one page, single spaced (about 4 paragraphs)

Talk to Dr. Knight if you have any questions or need advice. For a sample personal statements, see Appendices E through G.

What resources would you recommend for editing/revising personal statements?

![Bar chart showing resource preferences]

Every person is different with who they trust to help revise the personal statement. But historically, VTC students have relied on their peers and friends they trust in terms of their writing ability, in their specialty mentor(s) and the professional that VTC hires to help medical students.
When do you recommend starting to writing the personal statement?

The vast majority of VTC students have historically started writing the personal statement either late Spring or early Summer (May-July), as shown above. Starting this early will give you the opportunity to send a draft your personal statement along with your CV to letter writers during the summer time. Everyone has a different style in terms of how they write essays, and so it may be helpful to start even earlier during your third year.

Letters of Recommendation

Expectations

- The letters are uploaded to ERAS by LOR authors or specified designee
- You should provide an ERAS letter request form with your ID number to each letter writer
- When requesting a letter of recommendation, it is a good idea to provide the writer a copy of your CV and personal statement and then to schedule an appointment to review your CV personally and to provide additional personal information; specially to remind him or her of your performance during his or her rotation.
- Three letters of recommendation are required, with no more than 4 being allowed
- You can ask more than 4 individuals to write letters, but no more than 4 letters can be sent to any single program
For an advanced specialty, you will need a minimum of 3 letters for the advanced specialty, as well as for the preliminary year application (6-7 total letters)

- You must obtain a letter from the department chair of your respective specialty
- Some programs have specific requirements as to who should write each letter, and may even have a standardized letter of recommendation form, so check the website of each program and/or utilize FREIDA, which is found here: http://www.ama-assn.org/ama/pub/education-careers/graduate-medical-education/freida-online.page

- Note that the MSPE, even though commonly known as the Dean’s Letter, does not count as one of your letters of recommendation.

- The letters of recommendation are valuable aspects of your application, as they provide program directors with some distinguishing characteristics among applicants
  - They also not only reflect your academic performance, but also your non-cognitive qualities

- You must waive your right to review the letters! Otherwise, it’s a red flag

- Make sure to complete the FERPA form, which authorizes the faculty and staff to access your educational record, which results in a more comprehensive letter

- The medical school administration is not permitted to review letters of recommendation of quality assurance, however, to ensure that the letters contain correct information such as names, specialty, grammar/punctuation, letterhead, and signature, each of the Carilion Clinic department chairs have designated a specific person to review and upload each letter from the faculty in their department, as provided below:

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Medicine</td>
<td>Christine “Christie” Neal</td>
<td><a href="mailto:cdneal1@carilionclinic.org">cdneal1@carilionclinic.org</a></td>
</tr>
<tr>
<td>Family Medicine</td>
<td>Michelle Yopp, Karen “Evonne” Toliver</td>
<td><a href="mailto:msyopp@carilionclinic.org">msyopp@carilionclinic.org</a>, <a href="mailto:ketoliver@carilionclinic.org">ketoliver@carilionclinic.org</a></td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>Ginger Cook</td>
<td><a href="mailto:gdcook@carilionclinic.org">gdcook@carilionclinic.org</a></td>
</tr>
<tr>
<td>Obstetrics &amp; Gynecology</td>
<td>Lisa E. Smith</td>
<td><a href="mailto:lesmith1@carilionclinic.org">lesmith1@carilionclinic.org</a></td>
</tr>
<tr>
<td>Orthopedics</td>
<td>Jennifer “Jenny” Burton, Meredith McDowell</td>
<td><a href="mailto:jsburton2@carilionclinic.org">jsburton2@carilionclinic.org</a>, <a href="mailto:mlarritt@carilionclinic.org">mlarritt@carilionclinic.org</a></td>
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<tr>
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<td><a href="mailto:vdameron@carilionclinic.org">vdameron@carilionclinic.org</a></td>
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<td>Psychiatry</td>
<td>Melissa Kirby</td>
<td><a href="mailto:mlkirby1@carilionclinic.org">mlkirby1@carilionclinic.org</a></td>
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<tr>
<td>Radiology</td>
<td>Evelyn Garcia</td>
<td><a href="mailto:emgarcia@carilionclinic.org">emgarcia@carilionclinic.org</a></td>
</tr>
</tbody>
</table>
### Residency Application Guide

<table>
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<th>Department</th>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology</td>
<td>Daniel “Dan” Karolyi</td>
<td><a href="mailto:drkarolyi@carilionclinic.org">drkarolyi@carilionclinic.org</a></td>
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<tr>
<td></td>
<td>Sam Nakat</td>
<td><a href="mailto:osnakat@carilionclinic.org">osnakat@carilionclinic.org</a></td>
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<tr>
<td></td>
<td>Kelley Whitmer</td>
<td><a href="mailto:kkwhitmer@carilionclinic.org">kkwhitmer@carilionclinic.org</a></td>
</tr>
<tr>
<td>Surgery</td>
<td>Sandra “Sandy” Altizer</td>
<td><a href="mailto:sdaltizer@carilionclinic.org">sdaltizer@carilionclinic.org</a></td>
</tr>
</tbody>
</table>

- For letter writers that are not associated with a Carilion Clinic Department, the individual letter writer must review the letter to ensure accurate information prior to uploading.

### When to ask for letters of recommendation

- VTCSOM requires that you ask for letters of recommendation by the end of third year, during April, May, June, and July, since they must be uploaded by September 1st.
- Some students ask for a letter as soon as they complete a third year rotation
  - If the rotation is more than 6 months before letter is needed, then speak with the faculty member at the time of the rotation and then send a formal request for a letter at the end of third year
  - At a minimum, give the letter writer at least 3-4 weeks to write the letter

Historically, VTC students tend to ask for letters of recommendation primarily during Jan-June of the 3rd year, which can be immediately after some rotations and gives letter writers plenty of time to formulate the letter. You can still ask in July or even later during your 4th year, but it will likely be more stressful for you and the letter writer, since they may be writing for others also.
Who writes the letters of recommendation?

- They should be written by someone who knows you well
- At least one letter writer should be able to evaluate your skills well
  - For surgical specialties, the letters must address your skills
- Clinical letters are preferred, whereas research letters can be used as supplemental letters, but are not recommended to be used as primary letters
- Personal letters have more impact than generic letters
- Weak or poorly written letters can be worse than no letter at all, so when approaching a potential letter write, ask if they are able to write you a strong, positive letter of recommendation
- Ideal letter of recommendation: written by senior faculty member who knows you well, whose field is within the specialty that you are applying to, and is known by the program that you are applying to.
- Do not ask a resident to write your letter of recommendation
- Writers can usually be from a variety of specialties, not just the specialty to which you are applying
  - Check with each program for specific requirements!
  - Most letters should, however, refer to your specific specialty choice
- One letter should come from the Chair of your prospective department at Carilion
- If you are applying to multiple specialties, then ask for different versions of the letter

For questions or more information about letters of recommendation, contact Jellie.
Medical Student Performance Evaluation

What is it?

- Also known as the “Dean’s Letter”, it is a standardized letter of evaluation (NOT recommendation) describing medical school performance
- Contains summary of student’s academic activities, clerkship narratives, and awards
- It tends to be supportive, but also provides residency selection committee with accurate picture of the student’s ability
- The MSPE doesn’t discuss specialty choice - intended to be more generic
- The specific content is as follows (See Appendix H for a sample VTC MSPE):
  - Identifying Information
  - Unique characteristics
    - Any special considerations
    - Distinguishing characteristics exhibited (e.g. demonstrated leadership and research abilities, participation in community service activities)
    - Significant challenges or hardships encountered during medical school
  - Academic History
    - Month, Year of student’s matriculation and expected graduation
    - Explanation of any extensions, leave(s) of absence, gap(s), or break(s) in the student’s educational program
    - Information about enrollment in dual, joint, or combined degree programs
    - Explanation about coursework that student was required to repeat or remediate during the student’s medical education
    - Any adverse action(s) imposed on student by the medical school
    - Narrative regarding student’s overall performance in preclinical/basic science curriculum
    - Chronological narrative regarding the student’s overall performance on each core clinical clerkship and elective rotation completed (including away rotations), with a focus on summative information by the clerkship/elective directors
    - Narrative regarding student’s level of initiative, enthusiasm, and ability to self-start in all curricular components
    - Assessment of student’s compatibility with faculty members, peers, other members of the healthcare team, and patients during all curricular components of the medical education
Residency Application Guide

- **Summary**
  - Summative assessment of student's performance compared to his/her peers, including school-specific categories used in differentiating performances of the students

- **Appendices**
  - VTC Cover Letter
  - Appendix A: Description of Letters of Distinction, with distribution table
  - Appendix B: VTCSOM Information Page

What’s the process behind how the MSPE is written at VTC?

Emily Holt and Dr. Knight are the primary letter writers behind the MSPE. In the fall of your M2 year, Emily, creates a draft MSPE letter based on basic academic history details, which will constitute the beginning section of your letter.

Once your 3rd year rotations begin in early July, the faculty who work with you over the course of each clerkship evaluate your performance and submit this feedback to the department's specific clerkship director. The director then consolidates and organizes all the written feedback to create one evaluation for your clerkship (every department has its own clerkship director and hence for each rotation, there will be an evaluation by a different director). Each director’s evaluation is entered into One45. Each time new feedback is available, Emily extracts it from One45, edits it, and then places it into the growing draft letter throughout the academic year. The clerkships appear in the letter in the order in which you individually complete them. And as letters of distinction are received, details about these awards are added to the letters as well.

In the spring of your 3rd year, you will meet with Dr. Knight to review your medical school career up to that point and discuss your residency application. This is when you will work with him to create the “Unique Characteristics” section of the letter. You won’t be involved in actually writing this section, but you will help provide the direction that you want it to take. Dr. Knight will also write the class cover letter (See Appendix I for a Sample), compose the appendix (See Appendix H), and finalize the concluding paragraph of the MSPE.

Once the letter is finalized, members of the MSPE faculty committee are assigned your letter (the class is divided among faculty alphabetically) to review the letter and provide any edits to Dr. Knight and Emily. With those changes made, you will meet with Emily in late September,
either in person or over the phone if you're on an away rotation, to review the letter for any
grammatical or wording concerns. After that final editing process, Emily finalizes the letters and
then lets Jellie know that the MSPE is ready to be uploaded to ERAS. Jellie then uploads
everything in early October.

How is the MSPE going to change after the class of 2017 graduates?
The AAMC has decided that over the past decade there has been vast changes in the academic
medicine environment, and that the MSPE should hence be reviewed and potentially revised to
be composed of different requirements. A taskforce was created in January 2015 to complete
such a review process, and the members include our very own Dean Johnson, along with
representatives of residency program directors around the country, and the AAMC-affiliated
groups on student affairs, education affairs, and resident affairs.

The taskforce has several main objectives when reviewing the current format of the MSPE.
Primarily, the MSPE will be designed to have a higher level of standardization to ensure a fair
process of not only evaluating residency applicants individually, but also so that residency
directors can better compare applicants graduating from different medical school curriculums.
For VTCSOM specifically, this could mean the inclusion of grades during exam weeks and on
clinical rotations, rather than relying on a pass/fail system that distinguishes students via letters
of distinction. Another important goal for the MSPE is to provide information about the
applicant’s standing on competencies necessary for the successful completion of subsequent
resident training, both quantitatively and qualitatively to complement the information provided by
the transcript and letter of recommendation.

More information about how the MSPE will change will be communicated with the VTC student
body once that taskforce’s findings and actions have been made public. And the MSPE section
in this guide and the sample MSPE and associated appendices will be updated in the next
version of this guide for the class of 2018 and beyond.

For questions or more information about the MSPE, contact Emily Holt.
Choosing Where to Apply and Interview

The application is only one step in the process of pursuing residency spots. You must decide where to send that application you spent so much time completing, and then work with programs to schedule interviews. Here is a compilation of feedback from VTC graduates about deciding where to apply and how to rank programs, and about general interviewing strategies.

What factors were influential to VTC students in deciding what specialty to pursue?

Most medical students truly don’t formulate their decision on what specialty to pursue until spending time with in different fields during the 3rd year. It’s a good idea to keep an open mind going into each clerkship. Even if you think you’ve made up your mind on what specialty you’ll apply for, there’s no experience quite like spending several weeks in each of the specialties and working with physicians in each specialty to see who is most similar to you and what sort of lifestyle best fits with your personal aspirations. An influential mentor has also been important to previous VTC students, and so try speaking with as many different physicians as possible.
What resources have previous VTC students used for learning about the residency application process and different programs?

![Bar Chart]

The most accurate and comprehensive information can be found on each program's website itself. But rather than scouring the internet for residency programs, VTC alumni recommend talking to mentors, clerkship directors, program directors, and even residents in your specialty of interest to learn about the application process and to discover programs that align well with your life and career goals.

Available resources range from First Aid for the Match to the Student Doctor Network, and even Reddit. It's also vital to speak with individuals who have gone through the residency application process, especially newly minted interns since the Match is still fresh in their minds.
Be careful using resources such as Doximity, which offers a residency programs ranking system. Based on previous interviewing experiences, individual programs provide data that differs from information posted on Doximity and other similar websites, and so it is vital to search through the program website and ask for information about fellowship placement, board pass rate, what hospitals you’ll be at and for how long, etc. at the interview itself to make sure you compose your rank list based on the most accurate information.

What are important factors in helping to decide which programs to send an application to?

- Location (33)
- Training quality (31)
- Quality of Life (26)
- Prestige (20)
- Program size (16)
- Research opportunity (16)
- Fellowship opportunity (14)
- Program faculty (13)

Deciding where to apply is a very personal decision. Make sure you spend a sufficient amount of time learning about the variety of programs out there for your specialty of interest by speaking to residents and physicians in that field, and to your specialty advisor. The most common factor VTC alumni have considered is the location of the program. However, the quality of the training and your prospective quality of life are also important aspects you needed to take into account when deciding where to apply.
What are the most important factors that residency programs consider when selecting interns?

Interviewing is no doubt an important factor when determining your place on the rank list of programs, as the graphic on the next page shows. In fact, the first four most commons factors are all associated with the interview and your interactions with residents and the house staff during your visit. Hence, make sure you are aware of your behavior with all interactions at the interview site, as even stellar interviews cannot replace a resident's comments about you not treating a staff member appropriately. Beyond just the interview, your STEP 1 and STEP 2CK scores, along with the MSPE and your letters of recommendation in the specialty, are also very important.
How many interviews should I expect to complete based on the number of applications sent to residency programs?

Based on VTC alumni experience, the historical spread is shown above. The exact ratio depends on your specialty of interest, as well as your relative competitiveness for the specialty. Overall, you can expect to have anywhere from 7 to 20 interviews or so.

What are some tips for residency interviews?

Before the Interview

- Many programs hold a dinner for applicants on the day before/of the interview; use this opportunity to talk with residents (not just other applicants!) since the residents are often asked to give feedback about the students who attend the dinner
- If possible, schedule several interviews for programs lower on your list first in order to familiarize yourself with the interviewing process
● There is no evidence that when you interview with a program (first, middle, or last) affects the outcome in matching to that program, so feel free to schedule interviews with your most desirable programs after a few other interviews.

● Sit down and plan an “angle of attack” for each of the common questions listed on pg. 46.

● Consider practicing a mock interview with someone.

● Research the specific program as much as possible.

● Be very familiar with your specialty: typical procedures, types of sub-specialties, outlook for the future, etc.

● Confirm the interview date and time in advance, about a week or so, and try to get the name of the individual who you will meet first, and other details such as parking.

● Plan for enough time to arrive to the interview on time.
  ● Fly/drive in the night before if necessary.
  ● Leave extra time to navigate unfamiliar streets, buildings, etc.
  ● Beware of inclement weather.
  ● Check out facilities on your own and get a feel for the city if you have time.

● If flying, carry your interviewing business attire on the plane with you.

● Review your application, personal statement, and CV.

● Prepare a list of questions that you want to have answered.
  ● Don’t be surprised if the interview begins with questions, so this is important!

● Spend time on personal reflection: who you are, both as a doctor and as a person; what you like and dislike; why you chose to pursue a career in medicine; what you want out of your residency experience.

● Get the names (spellings and pronunciation) of the interviewer(s) from the departmental secretary so you know who to expect.

● Be careful with what you say to all staff, as even speaking informally is part of the record.
  ● Hence, be polite to everyone!

● If you want to cancel an interview, then cancel it early.
  ● If you cancel last minute, other residency programs might hear about it.

During the Interview

● Be on time.

● Begin by smiling. Looking the interviewer in the eye, greet them by name, and offer your hand for a firm handshake.

● Express enthusiasm for the specific residency program.

● Look and act confident.
Residency Application Guide

- Be an active listener.
- Present yourself as a great team-player.
- It’s okay not to respond to every question that is asked (e.g. plans to marry, have children). Simply say that you had not thought of that question before, and that it is not an issue you for you right now, or that it is a topic that you need more time to consider with your spouse/family/etc.
  - Visit http://www.nrmp.org/code-of-conduct/ for examples of illegal and/or coercive questions, and for more information
- Use as many examples as possible to backup any of your statements. Descriptive stories give the committee a better feel for your personality.
- Don’t ramble: be brief and concise.
- Don’t take notes during the interview, but it’s recommended that you take notes during the rest of the day, so that you can evaluate the program on your own later
- Ask your own questions! - the interviewer gets as much information from the questions you ask as the answers you give.
- Don’t ask questions that put the interviewer on defensive; save them for residents.
  - E.g. salary/benefits, vacationing, the competition
- Most importantly, just be yourself! In a way, you’re interviewing the program to see if it fits what you see yourself doing for the next several years.

After the Interview
- Write down impressions of the interview, including topics covered and names of the interviewer(s)
- It may be a good idea to prepare a checklist in advance that you can use for all interviews - so that you have a consistent and objective personal ranking system
- If you are interviewing as a couple, remind the program of your couple status
- Soon afterwards, thank the program for meeting with you
- Send thank you notes via email, hand-written, or even over the phone, within 48 hours
  - Send to interviewers, program directors, and/or program directors
  - (Ask interviewers for their business card so you have their contact information)
- As your year progresses, keep in touch with programs in which you are interested
- Email programs with questions you have, making sure that those questions aren’t answerable by simply browsing the program’s website
What are some important questions to ask during residency interviews?

- What are the strengths/weaknesses of the program?
- What makes the program unique and sets it apart from competitors?
- What would you change about the program?
- Are there any anticipated changes to the program within the next 5 years (e.g. new training sites, program chair changes, fellowships added/deleted)?
- Aside from test scores, what are you looking for in an applicant?
- What are the success rates: fellowship match rate (what fellowships did the residents move on into), Boards passing rate?
- What is the program’s educational curriculum/didactics preparation for in-service exams?
- How many graduates go into academic medicine vs. community/private practice?
  - Generally, what do graduates end up doing?
- Do you think this program gives residents the skills and opportunities to go into your specific fellowship/career of interest?
- What is the program’s attrition rate, and reasons for it?
- What role do residents play in program feedback?
  - What are some recent changes to the program brought on by resident feedback?
- What is the role of residents and fellows, and how do they change each year?
  - Do fellows run the service?
  - How is call? How much call? Any call free months?
- What role do private MD’s play in the residency training program?
- How are the case logs of the graduating residents?
  - How is the mix between open/laparoscopic/robotic cases?
- How is the residency lifestyle in terms of happiness, work-life balance, and support from faculty?
  - What do residents like to do when off-work (how many work hours)?
  - Do residents have to follow all post-op patients, attendings during night shifts?
  - What is call schedule like?
  - What are some things to do in town?
  - What locations do residents do work at?
  - How is parking?
  - What is the expected/required attire?
What is the quality of the cafeteria food?
Access to fitness center(s)?
Will there be funds for books and/or a laptop?
How do you like living in _____?
What is the patient demographic like - variety/acuity of patients? What do you refer out for?
Any opportunity for electives, or away electives?
What are the opportunities for research?
  Is there protected research time?
  Is there institutional support for attending conferences?
  What are some major research interests within the department?
What are the fellowship opportunities at the institution?
What are the opportunities for medical education, advocacy, or global health (or whatever other specific interest you have)?

For more ideas for questions, go here:

What are some questions that I should be prepared to answer during an interview?

- Tell me about yourself.
- What are your strengths?
- What are your weaknesses?
- How would your friends describe you?
- Tell me more about __________ (something interesting from your personal statement).
- What motivates you?
- What is your favorite book?
- What leadership roles have you held?
- How do you manage conflict?
- If one of your fellow residents spoke disrespectfully to a nurse or fellow resident, what would you do?
- With which patients do you have trouble dealing?
With which people do you have trouble working?
How do you see your role on a medical team?
Tell about a time when ______.
What one event are you proudest in your life?
What qualities do you respect in a mentor?
Who is your hero?
What do you do with your spare time?
Do you foresee any problems managing your personal and professional life?
Tell me about your research.
Current events questions (especially about medical reform).
What do you think the future hold for medicine/this specialty?
I’m not familiar with your medical school; tell me about it.
How has being a student at a new school been for you? (Strongly suggested that you spin in a
similar way to: “gave me an opportunity for growth”, or “it forced me to take the reins of
how my education would proceed”)
What are the major deficiencies in your medical training?
What is the worst thing that happened to you in medical school?
With what subject or rotation did you have the most difficulty?
What error have you made in patient care?
Tell me about your most interesting case.
Why did you choose medicine as a career?
What will you do with your training?
What will you do if you don’t match?
Why are you interviewing here/How did you become interested in our program?
Why do you want to go into _____?
What do you think is the most/least enjoyable aspect of this specialty?
What are you looking for in a program?
Where else have you applied?
How will you choose a program?
Why should we take you over other candidates?
What are your personal goals? Professional goals?
Where do you see yourself in 5-10 years? Future plans?
What should I do if a program I’m interested in hasn’t contacted me?

- If you are highly interested in a program, and they haven’t reached out to you for an interview, then don’t hesitate to contact them!
- Many students contact programs to request interviews when they know that they will already be in the area interviewing for a different program.
- It’s not uncommon to reach out to programs with the desire of updating your application; so use this idea to start a conversation about a potential interview.
- Call or email the program coordinator, send a brief email to the program director, or ask a faculty member at VTC to reach out to the program on your behalf
- If you’re pursuing a couples match, and one partner gets an interview, then contact the program director to inform them that you are a couple and that your partner is interviewing.

How should I assess residency programs after interviews?

- It’s recommended that you develop a residency checklist before your interviews so that you can assess each program objectively
- Immediately after the interview, record your impressions and update the checklist
- When recording your thoughts, it’s not uncommon to develop questions; call back for this information
  - This not only shows interest, but maintains contact, especially if an interviewer or resident invited you to contact them for more information
- After all interviews are complete and your checklist is filled out, take some time to digest it all, and give yourself plenty of time to develop a rank list
  - Ultimately, it’s your final decision, but it may help to talk through your reasoning with advisors, friends, and family
- When developing a checklist, here’s some factors to keep in mind:
  - Department Chair
    - What are the philosophy/interests of the department chair?
    - How stable is the chair (are they planning to leave soon)?
- How much contact does the chair have with the staff?
- How well does staff relate to the chair?
- Is the chair interested in and helpful with developing your career plans after residency?

**Program**
- How much responsibility do first year trainees take on in caring for patients?
- What is the diversity of clinical problems encountered?
- How much responsibility is accorded to the staff?
- Surgery: how many procedures are residents performing?
- What sort of arrangements are there for trainees to attend teaching conferences?

**Fellow Residents**
- What is the quality of the resident staff?
- What is the variety of backgrounds of the other residents?
- How committed are the residents, and what is their relative level of competence (reflects quality of program)?

**Residents and Fellows**
- What is the quality of the overall residency program?
- Do first year trainees generally stay there (is there quite a bit of turnover)?
- Are there clinical and research fellowships available (and what is the quality of them)?
- What is the residents’ opinion of the residency program?

**Students**
- Are there students included on the ward team?
- How involved are the residents in teaching these students?
- What is the quality of the students?

**Attending Staff**
- What is the quality of the attending staff?
- What is the attending level of interest, productivity, and commitment to teaching?

**Graduates**
- How successful are the program’s graduates?
- What are graduates doing 5-10 years after the program?
What are the potential career opportunities in teaching, research, and/or clinical practice?

Research
- What is the quantity and quality of research?
- Is the research basic, clinical, or translational?
- How much resident teaching is done by investigators?
- Are there research opportunities available to clinical house staff?

Educational Environment
- What does a weekly schedule typically consist of (rounds, conferences, teaching sessions, etc.)?
- What is the variety and quality of the weekly schedules?
- What is the quality of the radiology and pathology departments, and of the clinical laboratories?
- What is the quality of the specialty consultative services?

Hospital Administration
- What’s the quality of the hospital administration?
- What is the quality of the patient facilities available (e.g. clinics, emergency room, waiting rooms)?
- How progressive are the medical approaches to drug addicts, alcoholics, and the mentally ill (indication of social involvement)?
- What is the quality of the food, facilities, salary, etc. that are indicative of the quality of the administrative staff?

Nurses and other Professionals
- What is the quantity, quality, and morale of nurses and other professionals on the healthcare staff?

City
- What are the living conditions (e.g. cost of living)?
- What is the availability of cultural and recreational facilities?

Personal
- Does the program meet everything you want to get out of the training?
- How important is it to have an academic setting, research oriented teaching, private practice orientated teaching, independent responsibility, a nice physical environment, etc.?
What are some tips for saving money while on the residency interview trail?

- Limit the total number of interviews you go to
  - Depending on the specialty, you may not really need more than around 10 interviews to ensure a spot, and so prioritizing your interviews that you'll likely rank higher will not only save you time, but also money.
  - Only travel to interviews for programs you actually see yourself wanting to be at
- Cluster your interview schedule by location
  - For programs within close vicinity, you can often coordinate between them (e.g. Duke, UNC, NC State, and Wake Forest)
- Try to get an interview at the away-rotation you're currently at or nearby
- Drive/carpool to the interview rather than fly, if possible
- Flying out of Greensboro, Durham, or Charlotte is usually cheaper, even after factoring in travel costs to reach those airports, compared to using the Roanoke airport
- Use the hotel shuttle service or Uber rather than renting a car or paying for a taxi
- Reach out to VTC alumni for a place to say – we are a small community!
- Stay with friends or family if possible
- Use discount hotel websites (e.g. hotwire.com) for lower rates
- Coordinate with classmates and/or other applicants interviewing the same day as you to share and minimize costs (e.g. hotel room, Uber ride)
- Stay in a hotel not recommended by the program; it's often cheaper
- Reach out to the program coordinator about opportunities to stay with a resident
  - Remember that this is an interview in itself!
- Airbnb is always a good option
- Use a rewards credit card to earn cash, flights, or hotel stays
  - e.g. Chase Sapphire Card
- Winter travel can always be risky, so budget extra time and travel expenses for potential delays and cancellations
Residency Programs

There are many different specialties that you can pursue after graduating from medical school, and each field tends to have a unique application process in terms of program expectations for the personal statement, letters of recommendations, how the interviews are conducted, and the overall application timeline.

What specialties require a preliminary or transitional position?

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<th>Specialty</th>
<th>PGY-1 Needed?</th>
<th>Total Years in Residency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesiology</td>
<td>Some programs require it.</td>
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</tr>
<tr>
<td>Child Neurology</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>Some programs require it.</td>
<td>3-4</td>
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<tr>
<td>Family Medicine</td>
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<tr>
<td>General Surgery</td>
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<td>5</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Internal Medicine &amp; Pediatrics</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>No</td>
<td>7</td>
</tr>
<tr>
<td>Neurology</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>Obstetrics &amp; Gynecology</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Yes</td>
<td>4</td>
</tr>
<tr>
<td>Orthopedic Surgery</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>Otolaryngology</td>
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<td>5</td>
</tr>
<tr>
<td>Pathology</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>Physical Medicine &amp; Rehabilitation</td>
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</tr>
<tr>
<td>Specialty</td>
<td>Status</td>
<td>Year</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Plastic &amp; Reconstructive Surgery</td>
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<td>Psychiatry</td>
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<tr>
<td>Urology</td>
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<td>5</td>
</tr>
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Anesthesiology

(n=3 respondents)

VTC Matched Residency Programs

- UT Southwestern, Dallas
- Duke University Medical Center
- George Washington University
- Emory University School of Medicine
- University of Maryland Medical Center

Recommended Specialty Advisors

- VTC Primary Advisor: Alexander F. Cardenas, M.D.
- Neil A. Macdonald, M.D., M.P.H.
- Maxine M. Lee, M.D., M.B.A
- Timothy J. Fortuna, D.O.

| Mean STEP 1 Score of US Matched Applicants* | 230 |
| Does STEP 2 CK influence rank?* | Yes |
| Mean STEP 2 CK of US Matched Applicants* | 241 |
| Mean Number of Programs VTC Students Applied to | 41.6 |
| Mean Number of Interviews VTC Applicants Received | 14 |
| Mean Number of Contiguous Ranks of US Matched Applicants* | 14.4 |

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice
- Away rotations are highly recommended
- Places where aways were done: UNC, USC
- Timing for aways: July-October
- Make sure you complete an away at an academic center with a residency program (since Carilion does not have one)
  - Don’t necessarily need a letter of recommendation from it, but the experience is something good to talk about during interviews

Application Tips
- Don’t take people’s word on you getting a spot at a place because you did an away there or got an interview.
- There are over 1,000 positions in anesthesia every year, so keep in mind that there is quite a bit of variety in program types.
Child Neurology

(n=1 respondent)

VTC Matched Residency Programs

- University of Tennessee-Memphis
- Walter Reed National Military Center

Recommended Specialty Advisors

- VTC Primary Advisor: Joseph Ferrara. M.D.

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<table>
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<tr>
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<tbody>
<tr>
<td>Mean STEP 1 Score of US Matched Applicants*</td>
<td>229</td>
</tr>
<tr>
<td>Does STEP 2 CK influence rank?*</td>
<td>Yes</td>
</tr>
<tr>
<td>Mean STEP 2 CK of US Matched Applicants*</td>
<td>240</td>
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<tr>
<td>Mean Number of Programs VTC Students Applied to</td>
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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice

- Away rotations are highly recommended
- Try to complete at least one, since Carilion Clinic doesn’t have a residency program
- Do the away at a place you really want to go to
- Timing for Aways: July-September

Application Tips

- Second looks are recommended
- Only apply to programs you can imagine yourself going to!
Cardiothoracic Surgery
(n=0 respondents)

VTC Matched Residency Programs

- None yet
- You’ll be a VTC trailblazer!

Recommended Specialty Advisors

VTC Primary Advisor: Joseph Baker, M.D.

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</table>

** Not reported. Talk to your specialty advisor.

Away Rotation and Acting Internship Advice

- Away rotations are highly recommended

Application Tips

- There are 3 approved training pathways in Cardiothoracic Surgery, including:
  - (1) Independent Programs: 5 years of general surgery + 2-3 years cardiothoracic fellowship
  - (2) Joint Thoracic/General Surgery Track: 4 years of general surgery + 3 years cardiothoracic surgery residency
  - (3) Integrated Pathway: -6 years cardiothoracic surgery residency
  - The application process, curriculum, and board certifications involved in each of these pathways vary dramatically.
- Research and publications are very important, try to get a first author publication if possible
Dermatology

(n=1 respondent)

VTC Matched Residency Programs

- Carilion Clinic - VTCSOM

Recommended Specialty Advisors

VTC Primary Advisor: Mariana A. Phillips, M.D.
Philip E. Wakefield, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice

- Away rotations are highly recommended
- Try to complete at least 2 Aways
- Timing of aways: August-September

Application Tips

- Research is VERY important - but the research doesn’t have to be in dermatology.
- Having a first-authored publication is ideal.
- Among matched US medical students, the average number of research experiences is 4.0, and the mean number of abstracts, publications, etc. is 13.0.
Emergency Medicine
(n=7 respondents)

VTC Matched Residency Programs

- Vanderbilt University
- Baylor College of Medicine
- Maricopa Medical Center, Phoenix
- Medical College of Georgia
- Georgetown/Washington Hospital Center
- Akron General Medical Center
- Emory School of Medicine
- University of Texas-Austin
- Northwestern McGaw
- Carilion Clinic-VTCSOM
- San Antonio Military Medical Center
- Carolinas Medical Center
- Eastern Virginia Medical School

Recommended Specialty Advisors

- VTC Primary Advisor: Corey Heitz, M.D.
- John C. Perkins, M.D.
- Karen Kuehl, M.D.
- Damon Kuehl, M.D.
- John H. Burton, M.D.
- Melanie K. Prusakowski, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice

- Away rotations are recommended
- Complete at least 1, ideally 2 aways
- In EM, all residency programs care about is that you did an away and that you did well, rather than the location/prestige of your away rotations
- Complete an early away-rotation so that you can gain a letter of recommendation writer from this experience
- Timing: August-October

Application Tips

- 2 out of 7 alumni respondents recommend completing a second look
Emergency Medicine and Internal Medicine

(n=1 respondent)

VTC Matched Residency Programs

- University of Maryland, Baltimore

Recommended Specialty Advisors

- John C. Perkins, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

** Not reported. See EM and IM individual sections and/or talk to your specialty advisor.

Away Rotation and Acting Internship Advice

- See EM and IM sections

Application Tips

- See EM and IM sections
Family Medicine

(n=2 respondents)

VTC Matched Residency Programs

- Tacoma Family Medical Center
- Memorial Hermann Hospital
- University of South Florida
- Michigan State - Sparrow Hospital
- Carolinas Medical Center
- Moses Cone Memorial Hospital
- East Jefferson General Hospital

Recommended Specialty Advisors

- VTC Primary Advisor: Mark H. Greenawald, M.D.
- Michael P. Jeremiah, M.D.
- Aubrey L. Knight, M.D.
- Elizabeth L. Polk, M.D.
- Karen E. Perkins, M.D.
- W. Kent Harris, M.D.

| Mean STEP 1 Score of US Matched Applicants* | 218 |
| Does STEP 2 CK influence rank?* | ** |
| Mean STEP 2 CK of US Matched Applicants* | 234 |
| Mean Number of Programs VTC Students Applied to | 26 |
| Mean Number of Interviews VTC Applicants Received | 13.5 |
| Mean Number of Contiguous Ranks of US Matched Applicants* | 10.0 |

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
**) Not reported. Talk to your specialty advisor.

Away Rotation and Acting Internship Advice

- The choice to complete away rotations is applicant-dependent
- Aways are definitely not needed, but can be recommended because they give you a better sense of what inpatient family medicine looks like/what residency will consist of.
- Recommended time: September

Application Tips

- Definitely go to the interview dinners
- Be nice to your fellow applicants- you'll likely run into them again!
General Surgery

(n= 6 respondents)

VTC Matched Residency Programs

- Duke University Medical Center
- University of Kentucky Medical Center
- University of Alabama-Birmingham
- Oregon Health and Science University
- Eastern Virginia Medical Center
- Allegheny General Hospital
- Virginia Commonwealth University
- Carilion Clinic-VTCSOM
- Swedish Medical Center

Recommended Specialty Advisors

- VTC Primary Advisor: Tananchai A. Lucktong, M.D.
- Shawn D. Safford, M.D.
- Mark E. Hamill, M.D.
- Mark O. Smith, M.D.
- Bryan R. Collier, D.O.
- Sandy L. Fogel, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice

- Away rotations are highly recommended (at least 2!)
- Take the Acting Internship in your specialty before ERAS recommendations go in so you can get a recommendation from your preceptor!
- Timing: August-September

Application Tips

- Research is ranked as very important to very-important
- It's a big advantage to do your MICU, PICU, or SICU rotation before aways so that you're familiar with the sickest of the sick patients.
- Apply broadly and to some mid and lower tier programs
- Have a case presentation ready for your interview, you might be asked to present a case
Residency Application Guide

Internal Medicine

(n= 4 respondents)

VTC Matched Residency Programs

| University of North Carolina Hospitals |
| George Washington University |
| Thomas Jefferson University Hospital |
| Wake Forest Baptist Medical Center |
| University of Iowa Hospitals and Clinics |
| Virginia Commonwealth University |
| Rutgers New Jersey Medical School |
| Baylor College of Medicine |
| Georgetown University |
| Carilion Clinic-VTCSOM |
| Eastern Virginia Medical School |
| Eastern Tennessee State University |

Recommended Specialty Advisors

| VTC Primary Advisor: Paul Dallas, M.D. |
| R. Allen Blackwood, Jr., M.D. |
| Chad DeMott, M.D. |
| Bruce Johnson, M.D. |
| Donald L. Steinweg, M.D. |
| Jon M. Sweet, M.D. |
| Michael Wiid, M.D. |
| Thomas M. Kerkering, M.D. |
| C. A. Kroker-Bode, M.D. Ph.D. |

| Mean STEP 1 Score of US Matched Applicants* | 231 |
| Does STEP 2 CK influence rank?* | No |
| Mean STEP 2 CK of US Matched Applicants* | 243 |
| Mean Number of Programs VTC Students Applied to | 40 |
| Mean Number of Interviews VTC Applicants Received | 12.5 |
| Mean Number of Contiguous Ranks of US Matched Applicants* | 11.2 |

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice

- Away rotations are often not recommended
- If you do an away, try to do a sub-specialty elective that you like and can impress on versus an AI.

Application Tips

- Fellowship match rates play more into distinguishing IM programs as many residents are interested in fellowships.
Internal Medicine and Pediatrics

(n=2 respondents)

VTC Matched Residency Programs

- University of Pittsburgh Medical Center
- University of Cincinnati - Cincinnati Children’s Hospital

Recommended Specialty Advisors

VTC Primary Advisor: Jeri L. Lantz, M.D.
R. Allen Blackwood, Jr., M.D.
Joelle D. Miller, M.D.
Alice D. Ackerman, M.D.
Jon M. Sweet, M.D.
Paul Whalen, M.D.
Thomas M. Kerkering, M.D.

| Mean STEP 1 Score of US Matched Applicants* | 233 |
| Does STEP 2 CK influence rank?* | Yes |
| Mean STEP 2 CK of US Matched Applicants* | 245 |
| Mean Number of Programs VTC Students Applied to | 25 |
| Mean Number of Interviews VTC Applicants Received | 13 |
| Mean Number of Contiguous Ranks of US Matched Applicants* | 9.6 |

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice

- Away rotations are student-dependent
  - Complete one if you wish to match to a specific program, you tend to make a great first impression, and you adapt well to new situations
  - Otherwise, aways can hurt as much as help your chances

Application Tips

- Get letters of recommendation from faculty members who know you well.
Internal Medicine and Psychiatry

(n=1 respondent)

VTC Matched Residency Programs

- Medical University of South Carolina

Recommended Specialty Advisors

- Thomas R. Milam, M.D.
- Justin B. White, M.D.
- Suzanna Jamison, M.D.
- Daniel P. Harrington, M.D.

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<thead>
<tr>
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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
** Not reported. See IM and Psychiatry sections and/or talk to your specialty advisor.

Away Rotation and Acting Internship Advice

- See IM and Psychiatry sections.

Application Tips

- During interview season your interactions with residents are VERY important - especially for smaller programs the rank list is decided primarily by residents.
- See IM and Psychiatry sections.
Neurological Surgery
(n=1 respondent)

VTC Matched Residency Programs
- Georgetown University Hospital
- George Washington University

Recommended Specialty Advisors
VTC Primary Advisor: Gary R. Simonds, M.D.
Zev Elias, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice
- Away rotations are highly recommended (at least 2!)
- Timing: August-September

Application Tips
- Research is very important: average number of abstracts, publications, etc. is 7.4
- Neurosurgery residents at Carilion are very helpful
- Apply to nearly all, if not all, the residency programs
- Interviewers ask about away rotations, so make sure to complete one early!
Neurology

(n=1 respondent)

VTC Matched Residency Programs

- Baylor College of Medicine, Houston

Recommended Specialty Advisors

VTC Primary Advisor: Joseph M. Ferrara, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice

- The choice to complete away rotations is applicant-dependent
- Aways are definitely not needed, but can be recommended to become familiar with a specific program, etc.
- Timing for aways: July-September

Application Tips

- Seconds looks at desirable programs are recommended.
- Only apply to programs you can imagine yourself going to!
Obstetrics and Gynecology
(n= 2 respondents)

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<tr>
<th>VTC Matched Residency Programs</th>
<th>Recommended Specialty Advisors</th>
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<tr>
<td>Emory University School of Medicine</td>
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<td>University of Florida Shands Hospital</td>
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<td>University of Utah Affiliated Hospitals</td>
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<td>Emily A. Evans-Hoeker, M.D.</td>
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<td>Vanderbilt University Medical Center</td>
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<td>Baylor College of Medicine</td>
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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice

- Do them if you have a personal reason (i.e. I did mine to get to know a city better to decide if I wanted to live there). Most programs don't charge for away rotations. Some do (like Harvard) but probably aren't worth the cost. In the end 4th year is expensive (interviews and aways) but it's a minimal investment that will have a big payoff.
- It shouldn't be considered as much as an “audition” for a residency spot, but more of an opportunity to gain information about a specific program of interest to you.

Application Tips

- Research experience is helpful for application, with the average number of publications, presentations, and abstracts being 2.4
- It's helpful to have a letter of recommendation from a preceptor of an acting internship
Ophthalmology

(n=0 respondents)

VTC Matched Residency Programs

- None yet
- You’ll be a VTC trailblazer!

Recommended Specialty Advisors

VTC Primary Advisor: John Facciani, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
** Not reported. Talk to your specialty advisor.
*** Nobody from VTC has matched into this specialty.

Away Rotation and Acting Internship Advice

- Away rotations are recommended (aim to complete 1-2)
- Since ophthalmology is an early match, away rotations fill up quickly - make sure you plan accordingly!

Application Tips

- The San Francisco Match is used for PGY-2 positions, with first year preliminary spots being decided by the NRMP. The application procedures are generally the same, except that the SF Match precede the NRMP calendar by 1-2 months.
- Research experience is very important - it can be in any specialty
- You should rank at least 11 residency programs
Residency Application Guide

Orthopedic Surgery
(n=4 respondents)

VTC Matched Residency Programs

- University of North Carolina Hospitals
- University of Maryland Medical Center
- Carolinas Medical Center
- University of Toledo Medical Center
- Henry Ford Health System, Detroit
- Louisville University Medical Center
- Louisiana State University-New Orleans

Recommended Specialty Advisors

- VTC Primary Advisor: Thomas K. Miller, M.D.
- Jonathan J. Carmouche, M.D.
- Cassandra M. Mierisch, M.D.
- Joseph T. Moskal, M.D.
- Trevor M. Owen, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice

- Away rotations are highly recommended (complete at least 2!). Apply for aways early to avoid being shut out!
- The rotations should be completed at institutions where you want to match.
- Read for cases, be social and respectful, show interest, don't forget that these are month long interviews - don't take days off because unfortunately all it takes is one person in the rank list room to recall a negative experience to drop you down the list. Even though you will be sleep deprived and in the hospital most of the time, try to explore the city where you are rotating.

Application Tips

- Carilion faculty are generally willing to make phone calls on your behalf
- Apply to quite a few residency programs (potentially as many as 80)
- The average publications, presentations, and abstracts for matched applicants is 2.7
Otolaryngology
(n=0 respondents)

VTC Matched Residency Programs

- Henry Ford Health Sciences Center

Recommended Specialty Advisors

VTC Primary Advisor: William Magdycz, M.D.

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<td></td>
</tr>
</tbody>
</table>

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
** Not enough alumni survey respondents to report.

Away Rotation and Acting Internship Advice

- Away rotations are highly recommended (complete at least 2!)
- Do aways-they are essentially extended interviews for otolaryngology
- Timeline: June - September

Application Tips

- Your performance in your surgery rotation and acting internship are major factors
- Research is important: mean of 5.1 abstracts, presentations, and publications for matched otolaryngology applicants
Pathology
(n=1 respondent)

VTC Matched Residency Programs
• Northwestern McGaw, Chicago

Recommended Specialty Advisors
VTC Primary Advisor: Douglas J. Grider, M.D.
Brian W. Watson, M.D. Ph.D.

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<th>Metric</th>
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<td>Mean STEP 2 CK of US Matched Applicants*</td>
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<td>Mean Number of Contiguous Ranks of US Matched Applicants*</td>
<td>9.7</td>
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</tbody>
</table>

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice
• Completing away rotations is a student-dependent decision
• They are useful if you’re interested in going to a specific institution

Application Tips
• At least two letters of recommendation should be from pathologists
• Make sure you have had some experience in pathology: complete an elective or two, work on a related research project, etc.
• Some specific things to look for in pathology residencies: number of pathology assistants, autopsy numbers, specimen numbers
Pediatrics
(n=5 respondents)

VTC Matched Residency Programs
- San Antonio Military Medical Center
- Geisinger Health Systems
- Children’s National Medical Center
- St. Christopher’s Hospital, Philadelphia
- University of North Carolina Hospitals
- Oregon Health Sciences University
- Wake Forest Baptist Medical Center
- Madigan Army Medical Center
- Nationwide Children’s Hospital

Recommended Specialty Advisors
- VTC Primary Advisor: Joelle D. Miller, M.D.
- Pradeep Siwach, M.D.
- Donald W. Kees, M.D.
- Andre A. Muelenaer, M.D.
- Alice D. Ackerman, M.D.
- Paul Whalen, M.D.
- Erica Reynolds, M.D.
- Michael Burbridge, D.O.

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<td>Mean Number of Contiguous Ranks of US Matched Applicants*</td>
<td>11.0</td>
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</table>

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Residency Application Guide

Away Rotation and Acting Internship Advice

- Away rotations are not necessary
  - Complete if you’re strongly interested in a specific program, want to experience an independent children’s hospital, etc.

Application Tips

- Outside activities reflective of your commitment to community health issues is an important factor for pediatric residency consideration
- Research experience is helpful and not as emphasized as other specialties
Physical Medicine and Rehabilitation

(n=1 respondent)

VTC Matched Residency Programs

- Walter Reed National Military Center
- University of North Carolina Hospitals
- State University of New York-Brooklyn

Recommended Specialty Advisors

VTC Primary Advisor: Richard Weiss, M.D.
Gabriel S. Gorin, M.D.
L. Lennox McNeary-Keyes, M.D.
Angel A. Medina-Bravo, M.D.

| Mean STEP 1 Score of US Matched Applicants* | 220 |
| Does STEP 2 CK influence rank?*              | No  |
| Mean STEP 2 CK of US Matched Applicants*    | 234 |
| Mean Number of Programs VTC Students Applied to | 29  |
| Mean Number of Interviews VTC Applicants Received | 11  |
| Mean Number of Contiguous Ranks of US Matched Applicants* | 12.7 |

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice

- Away rotations are recommended
- Expect to complete at least 1, especially if you wish to be considered for a competitive out-of-state program

Application Tips

- Research is helpful, but not emphasized as much as other specialties
Plastic and Reconstructive Surgery

(n=1 respondent)

VTC Matched Residency Programs

- Carilion Clinic VTCSOM

Recommended Specialty Advisors

VTC Primary Advisor: Kurtis E. Moyer, M.D.
Mark E. Feldmann, M.D.
Anthony E. Capito, M.D.
James T. Thompson, II, M.D.
Joshua D. Farrar, M.D.

<p>| | |</p>
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<td>8.6</td>
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</tbody>
</table>

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice
- Away rotations are a good chance to see other programs/hospitals and expand your letters of recommendation. Keep in mind that by showing up, you will expose your weaknesses as much as your strengths to any potential programs.
- Timing: August-September

Application Tips
- Research is very important, with US students matching into Plastic Surgery have a mean number of 8.1 abstracts, presentations, and publications
- Dr. Moyer is very helpful throughout the entire research process
- During an interview, be prepared to draw an anatomical picture
- There is a standard letter of recommendation format used
- At least for Surgery and Plastic Surgery, you do not need to submit your ERAS application on the first day in order for programs to see it. Get your application done as early as you can but DO NOT sacrifice quality or give up letters of recommendation so that you can submit early.
Psychiatry
(n=2 respondents)

VTC Matched Residency Programs
- Georgetown University Hospital
- Vanderbilt University Medical Center
- Sheppard Pratt/University of Maryland
- University of Massachusetts
- University of North Carolina Hospitals
- Virginia Commonwealth University Health

Recommended Specialty Advisors
VTC Primary Advisor: Thomas R. Milam, M.D.

<table>
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<td>Mean Number of Contiguous Ranks of US Matched Applicants*</td>
<td>9.6</td>
</tr>
</tbody>
</table>

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
Away Rotation and Acting Internship Advice
- Away rotations are recommended
- If you really want to be accepted into a specific institution, complete an away rotation at that school

Application Tips
- During interviews, expect to answer behavioral questions.
- Carilion residents are helpful in preparing you for interviews
- Take as much medicine and pediatrics as possible during your 4th year: don’t overload on psychiatry electives
- The personal statement is particularly important for psychiatry
- Dinners are very important, and residents are "judging" you and your behavior at all times, even when they say it's "casual".
Radiation Oncology

(n=0 respondents)

VTC Matched Residency Programs
- University of Washington Medical Center

Recommended Specialty Advisors
- VTC Primary Advisor: Robert Health, M.D.

USMLE Data

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<td>Mean STEP 1 Score of US Matched Applicants*</td>
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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
** Not enough alumni survey respondents to report.

Away Rotation and Acting Internship Advice
- Away rotations are highly recommended (complete at least 2!)
- Make sure you complete an away rotation at an academic center

Application Tips
- Matched applications have an average of 8.3 publications, abstracts, and presentations
- It’s recommended that at least one of your research projects should relate specifically to radiation oncology
- This is a highly competitive specialty, so consider applying for preliminary medicine internships rather than transitional years; this will give you more flexibility.
Radiology

(n=3 respondents)

VTC Matched Residency Programs

- University of Massachusetts
- University of Wisconsin
- University of Chicago Medical Center
- John Hopkins University
- University of Illinois-Chicago
- Allegheny General Hospital
- George Washington University

Recommended Specialty Advisors

- VTC Primary Advisor: Daniel R. Karolyi, M.D. Ph.D.
- David C.V. Keyes, M.D.
- Vishal M. Patel, M.D.
- Thomas H. Bishop, M.D.
- Sarah L. Thomas, M.D.

| Mean STEP 1 Score of US Matched Applicants* | 241 |
| Does STEP 2 CK influence rank?* | Yes |
| Mean STEP 2 CK of US Matched Applicants* | 249 |
| Mean Number of Programs VTC Students Applied to | 51.7 |
| Mean Number of Interviews VTC Applicants Received | 18 |
| Mean Number of Contiguous Ranks of US Matched Applicants* | 13.9 |

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)

Away Rotation and Acting Internship Advice

- Away rotations are recommended because Carilion Clinic doesn’t offer a residency program
- Make sure you complete an away rotation at an academic center

Application Tips

- At least one letter of recommendation should come from a core specialty such as IM, surgery, OB/GYN, or pediatrics
- Match students have an average number of 3.9 research publications
Urology

(n=1 respondent)

VTC Matched Residency Programs
- University of Toledo Medical Center

Recommended Specialty Advisors
- VTC Primary Advisor: Christopher A. Rippel, MD.
- David A. Kagey, M.D.
- Charles Daniel, M.D.
- Robert A. Whisnant, M.D.

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*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
** Not reported. Talk to your specialty advisor.

Away Rotation and Acting Internship Advice
- Away rotations are highly recommended (at least 2!)
- Timing: August-September

Application Tips
- Research experience is desirable, but doesn’t have to be completed in urology
- Urology has its own specific match conducted through AUA for PGY-2 residency positions, and the NRMP is still used for the PGY-1 preliminaries
Vascular Surgery
(n=0 respondents)

VTC Matched Residency Programs

- None yet
- You’ll be a VTC trailblazer!

Recommended Specialty Advisors

- VTC Primary Advisor: James Drougas, M.D.

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</table>

*Source: 2014 Charting Outcomes in the Match (NRMP Publication)
** Not reported. Talk to your specialty advisor.
*** Nobody from VTC has matched into this specialty.

Away Rotation and Acting Internship Advice

- Talk to your specialty advisor.

Application Tips

- Keep separate general surgery and vascular surgery applications, frontload vascular interviews, backload general surgery interviews.
The Match

VTC M4 Successful Matching in Their First Choice Specialty

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<tr>
<th>Specialty</th>
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<th>Successful match</th>
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VTC has had a very successful match in the last three years (2014-2016), with 91.7% of graduates matching into their specialty of first choice and 94.2% of graduates matching Pre-SOAP.
Appendix A. List of VTCSOM Research Mentors

Below is a list of research mentors of the first three classes at VTCSOM.

- Aaron Goldstein, PhD (2)
- Ahmet Burakgazi, MD
- Andre Muelenaer, MD (4)
- Anita Kablinger, MD (3)
- Anne Heerens, MD
- Aubrey Knight, MD
- Brenda Davy, PhD
- Bryan Collier, DO
- Brooks King-Casas, PhD (2)
- Carla Finkelstein, PhD
- Carol Gilbert, MD
- Cay Mierisch, MD
- Christopher Baker, MD
- Colleen Kraft, MD (4)
- Craig Ramey, PhD (2)
- Damon Kuehl, MD (4)
- David Sane, MD
- Deborah Kelley, PhD (2)
- Edmundo Rubio, MD (2)
- Emily Doherty, MD
- Erik Storm, DO
- Gary Simonds, MD
- Gregory Valdez, PhD
- Harry Dorn, PhD (2)
- Henry Ivey, MD
- Iuliana Lazar, PhD
- Jack Perkins, MD
- Jae Rao, PhD
- James Sherman, MD
- Joelle Miller, MD
- John Ferrara, MD
- Konark Mukherjee, PhD (2)
- Kye Kim, MD
- Liwu Li, PhD
- Mark E. Hamill, MD
- Mark Greenawald, MD
- Mark Kilgus, MD, PhD
- Melanie Prusakowski, MD (2)
- Michael Fox, PhD
- Michael Friedlander, PhD (3)
- Michael Wolfe, MD
- Paul Dallas, MD (5)
- Paul Estabrooks, PhD (2)
- Pearl Chiu, PhD
- Peter Hotez, MD, PhD
- Phyllis Whitehead, PhD (3)
- Puneet Puri, MD
- Randolph Clements, DPM
- Roger Glick (4)
- Rosalyn Moran, PhD (2)
- Sandy Fogel, MD (4)
- Sarah McDonald, PhD (4)
- Sharon Ramey, PhD
- Skip Garner, PhD
- T.A. Lucktong, MD
- Thomas Miller, MD
- Timothy Beirne, MD
- Timothy Fortuna, DO (2)
- Trevor Owen, MD
- Ursula Gullen, MD
- Warren Bickel, PhD (2)
- William Huckle, PhD
- William Rea, MD
- William Tyler, PhD
- Xiang-Jin Meng, MD, PhD
- Zhi Sheng, PhD (4)
Appendix B.  

Pritzker Sample CV

Jack R. Doe

HOME ADDRESS                      SCHOOL ADDRESS
Street address                     Pritzker School of Medicine
Chicago, IL ZIP                    924 E. 57th St., Room 104
Phone #                           Chicago, IL 60637-5415
Email                              (773) 702-1939

EDUCATION
2013-present The University of Chicago Pritzker School of Medicine. MD, June 2017 (anticipated)
2010-2011 Johns Hopkins University Bloomberg School of Public Health. MPH
2006-2010 University of Michigan. BS, Biology, graduated summa cum laude

HONORS AND AWARDS
2016 Selected for membership in the Alpha Omega Alpha Honor Medical Society
2016 Selected for membership to Gold Humanism Honor Society
2016 Selected to teach Clinical Pathophysiology and Therapeutics (top 25 students)
2014 Joseph P. Kirschner Research Award for Excellence
2010 Departmental Honors for Senior Thesis

WORK EXPERIENCE (Only include if you took years off between college and medical school)
2011-2013 Project Assistant, Aon Corporation, Chicago, IL
- Organized and facilitated transition of files for new clients
- Assisted Project Managers with day-to-day account management

RESEARCH EXPERIENCE
Start-end date Institution, Department of XX, Name and degree of mentor; “Title of project.”
- Brief description of project
- Use action verbs to start each bullet point when possible

2013 University of Chicago, Department of Medicine, Section of General Internal Medicine, Julie Oyler, MD; “Quality of Care for Hospitalized Vulnerable Elders and Post-Discharge Mortality.”
- Researched post-discharge mortality amongst elderly patients
- Selected to participate in the NIH-funded Pritzker Summer Research Program
- Received the Joseph P. Kirschner Research Award for Excellence at the 2014 Pritzker Summer Research Forum
- Expanded project to investigate geriatrics patients through longitudinal Scholarship and Discovery experience (Quality and Safety Scholarship track)

2009-2010 University of Michigan, Department of Neuroscience, Melissa S. Times, PhD; Honors research thesis: “Sensory and motor cortical interactions in complex voluntary movements.”
- Recruited volunteers for research
- Collected and analyzed data
PUBLICATIONS/ABSTRACTS

Last first middle initials of authors as listed in the paper. Your name underlined. Title of article. Journal. Publication date; vol (issue): pages. PMID: ID number

Peer-Reviewed Journal Articles


Oral Presentations

Poster Presentations


TEACHING EXPERIENCE

Year                  Title, Course

2016 (anticipated)   Teaching Assistant, Clinical Pathophysiology and Therapeutics
                     University of Chicago Pritzker School of Medicine
                     Course Directors: Scott Stern, MD, and Aliya Husain, MD
                     • Selected to teach review sessions for required second-year medical course
                     • Positions only offered to the top 25 students in the class

2009                 Teaching Assistant, Introductory Biology – Genetics
                     University of Michigan
                     Course Organizer: Charles Darwin, MD
                     • Conducted student review sessions for the genetics portion of the undergraduate biology course
                     • Graded tests, prepared lecture presentations, and conducted literature reviews for course director

INSTITUTIONAL SERVICE

2013-2014            Emergency Medicine Student Interest Group, Pritzker School of Medicine
                     • Coordinated school-wide events to promote the field of Emergency Medicine
2008-2009  President, University of Michigan School Government, Ann Arbor, MI
   • Led the executive branch of the student government
   • Reported on student affairs to the University Chancellor’s office
   • Oversaw budget, programming, and programming initiatives

COMMUNITY SERVICE
2013-2015  Board Member, New Life Volunteering Society Free Health Clinic, Chicago, IL
   • Medical volunteer for student-run health clinic
   • Served as treasurer of the student board
   • Coordinated grant submissions and fundraising events
   • Provided essential administrative help around the clinic

2012-2013  Field Organizer, Habitat for Humanity, Chicago, IL
   • Participated in weekly planning meetings and quarterly trips to build housing for low-income populations in rural areas of the Midwest

HOBBIES & INTERESTS
Fluent in Spanish; completed the 2013 Chicago Marathon and the 2011 New York Marathon; play guitar.

CV Tips
• List everything in reverse chronological order
• Use action verbs to start each bullet point
• Be consistent with punctuation
• Be detailed: use numerical data whenever possible (ie. “interviewed 40 volunteers” or “taught 35 students”)
• Use the word “anticipated” if something has not happened yet and definitely will happen (do not use it if you are hopeful that something will happen, but do not know for sure)
• Do not list publications that have been submitted; only list them if they have been accepted, are in print, or have been published
• Only list hobbies that show initiative, perseverance, or skill (ie. sports, cooking, language fluency)
• Do not list hobbies that would show a Program Director that you may be distracted (ie. social media, fantasy football, trying out different bars, playing video games)
Appendix C.

General Information

Name: Doe, John
Previous Last Name: N/A
Preferred Name: John
Most Recent Medical School: Virginia Tech Carilion School of Medicine

Email: awstovall@carilionclinic.org
Gender: Male
Birth Date: 06/04/1986
Birth Place: Roanoke, VA
Citizenship: U.S. Citizen

Self Identification:
American Indian or Alaskan Native
Tribal affiliation: Blackfoot
Black or African American
African American

Present Mailing Address:
2 Riverside Circle
Roanoke, VA 24016
Preferred Phone #: (540) 526-2500
Alternate Phone #: (540) 526-2555
Mobile #: (540) 632-3856
Pager #:
Fax #: (540) 581-0741

Permanent Mailing Address:
1906 Belleview Ave SE
Roanoke, VA 24014
Phone: (540) 981-7000

Military Service Obligation/Deferment? No
Other Service Obligation? No

Misdemeanor Conviction in the United States? No
Felony Conviction in the United States? No
Limitations? No

Medical Licensure

ACLS:
PALS:
BLS: Yes
DEA Reg. #: None
Board Certification: No
Medical Licensure Suspended/Revoked/Voluntarily Terminated? No
Ever Named in a Malpractice Suit? No
Past History? No

BLS Expiration Date: 04/30/2017
### State Medical Licenses

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### Medical Education

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Medical Education/Training Extended or Interrupted? No

### Medical School Honors/Awards

- Letter of Distinction - Pediatrics
- Letter of Distinction - Emergency Medicine

### Membership in Honorary/Professional Societies

- Alpha Omega Alpha (Member of AOA)
- GHHS (Member of GHHS)
- American Medical Association (AMA)
- Medical Society of Virginia (MSV)

### Education

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<th>Institution &amp; Location</th>
<th>Dates Attended</th>
<th>Degree</th>
<th>Degree Date</th>
<th>Field of Study</th>
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<td>Graduate</td>
<td>Virginia Polytechnic Institute and State University Blacksburg, Virginia</td>
<td>08/2013 - 05/2015</td>
<td>Yes, Unk Degree</td>
<td>05/2015</td>
<td>Research in Transational Medicine</td>
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<td>Graduate</td>
<td>Averett University Roanoke, Virginia</td>
<td>08/2011 - 08/2013</td>
<td>Yes, M.B.A.</td>
<td>12/2013</td>
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<td>Undergraduate</td>
<td>University of Virginia Charlottesville, Virginia</td>
<td>06/2004 - 05/2009</td>
<td>Yes, B.S. Nurs.</td>
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<td>Nursing</td>
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<td>Institution, Location, &amp; Training Type</td>
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<td>Program Supervisor</td>
<td>Dates Attended</td>
<td>Month(s)</td>
<td>Discipline</td>
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<th>Average Hours/Week</th>
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<td><strong>Work Experience</strong></td>
<td>Rescare, Inc - Braley &amp; Thompson Inc., Roanoke, VA</td>
<td>Qualified Mental Health Provider/Community Specialist</td>
<td>02/2010 - 07/2016</td>
<td>Amy Lawson</td>
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<td><strong>Volunteer Experience</strong></td>
<td>Roanoke Valley Tigers Track &amp; Field Club, Roanoke, VA</td>
<td>Sprint Coach</td>
<td>03/2015 - 07/2016</td>
<td>Tra Wilson</td>
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<td><strong>Research Experience</strong></td>
<td>University of Virginia, Thohoyandou, South Africa</td>
<td>Student Researcher</td>
<td>07/2006 - 08/2006</td>
<td>Carolynn Maxwell-Thompson</td>
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**Description:**

*Supervise clients while progressing toward completion of goals in treatment plan. Advocate and communicate needs of client to case manager. Assist in maintaining client files in preparation for internal and external reviews. Complete billing reports. Counsel and teach activities relevant to client’s goals of treatment plan by collaborating with supervisor and team to provide direct services to consumers and/or families.*

**Reason for Leaving:**

*Currently still employed*

*Coach athletes ages 4-18.*

**Reason for Leaving:**

*Currently still coaching*

*Completed nursing research in the Limpopo Providence regarding HIV/AIDS as well as providing care to those in the rural areas of the villages.*

**Reason for Leaving:**

*Research completed after 1 month in South Africa*
Publications

**Poster Presentation**


Language Fluency

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<td>American Sign Language</td>
<td>Basic</td>
<td>I speak the language imperfectly and only to a limited degree and in limited situations. I have difficulty in or understanding extended conversations.</td>
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<tr>
<td>English</td>
<td>Native/functionally native</td>
<td>I converse easily and accurately in all types of situations. Native speakers, including the highly educated, may think that I am a native speaker, too.</td>
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<td>French</td>
<td>Fair</td>
<td>I speak and understand well enough to have extended conversations about current events, work, family, or personal life. Native speakers notice many errors in my speech or my understanding.</td>
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Hobbies & Interests

Coaching Track & Field, Watching Movies, Singing, Swimming, Traveling, Neonatology

Other Awards/Accomplishments

N/A

Certification

I certify that the information contained within the MyERAS application is complete and accurate to the best of my knowledge. I understand that any false or missing information may disqualify me from consideration for a position; may result in an investigation by the AAMC per the attached policy (PDF); may also result in expulsion from ERAS; or if employed, may constitute cause for termination from the program. I also understand and agree to the AAMC Web Site Terms and Conditions and to the AAMC Privacy Statement and the AAMC Policies Regarding the Collection, Use and Dissemination of Resident, Intern, Fellow, and Residency, Internship, and Fellowship Application Data (attached policy, PDF) and to these AAMC's collection and other processing of my personal data according to these privacy policies. In addition, I consent to the transfer of my personal data to AAMC in the United States, to those residency programs in the United States and Canada that I select through my application, and to other third parties as stated in these Privacy Policies.

Certified by: Doe, John

Date:
Appendix D. Sample Personal Statement #1

Years ago, I was involved in a junior version of the Rube Goldberg Competition. Participants in this annual national engineering contest work within a set of parameters to design the most creative device possible that accomplishes a basic task such as placing a ball into a cup. My team always did well. However, it is the countless hours spent brainstorming exciting energy exchanges and creative engineering solutions that I am most fond of. The exhilarating rush of working with a team to generate a detailed plan for a problem and adapting it as new challenges arose was indescribable. Even then, I knew that I wanted a career that recreated that “rush.” I found what I was looking for in Internal Medicine.

My fascination with Medicine began with my father. Over a decade ago, he suffered a “widow maker” heart attack. Thanks to the prompt medical care he received at the hands of skilled physicians, he survived. Since that day, I have curiously observed as my father’s physicians have worked to scientifically and strategically optimize his health. My father’s ongoing journey has been an inspiration for my career as well as my research interests. It has been a privilege applying the lessons I have learned from him about patient care to the care of my own patients. For instance, as a student, it is a powerful feeling to know that the trust you have forged with a shy twenty-two year old has freed him to speak candidly with you about his sexual history—particularly when the subsequent testing is diagnostically revealing. The full story of this young man’s HIV diagnosis highlights the dedication, teamwork, and professionalism necessary to effectively address the complexities in Medicine. Wielding a knowledge base of great breadth and depth, my residents and attendings in Medicine effortlessly addressed a multitude of medical and social issues with confidence and compassion. These are the physicians I want caring for my own father and the kind I aspire to become.

Communicating with my patients the fine points of their hospital course has been one of the most gratifying aspects of working clinically. In the research realm, I cherish opportunities to discuss with colleagues the details of my findings. Exchanging ideas on the unsolved mysteries underlying ischemia-reperfusion injury and therapeutic hypothermia evokes a visceral sensation that is identical to the thrill I discovered years earlier as a tennis instructor; dissecting and developing the techniques of novices over months and years as they evolve into budding tennis players has been incredibly rewarding. In the hospital, I have been able to achieve this same sense of satisfaction by working to enhance my patients’ awareness of their health problems. Coming from a family of teachers, it is the abundance of opportunities to teach, educate, and thereby impact the lives of others that draws me to the field of Internal Medicine.

It has been over ten years, but I still feel a surge of adrenaline when I reflect upon my Rube Goldberg days. The patience, dedication, optimism, and leadership that this humbling experience demanded are the same qualities that are exercised daily by my mentors in Medicine. After residency, I hope to pursue an academic career in which I can coach the next generation of physicians while continuing to research my interest in improving outcomes following cardiac arrest and resuscitation. It is invigorating to know that I am on the cusp of a career that will routinely recreate that Rube-Goldberg-“rush.” Thus, it is with great enthusiasm that I look ahead to my next chapter in training as a resident in Internal Medicine.
Appendix E. Sample Personal Statement #2

I spent my holiday visits home from college watching my mother care for her dying father. My grandfather suffered from Parkinson’s. While his mental faculties remained intact, the rigidity with which he moved during the simplest task left a lasting impression on me. These visits were admittedly marked with a sense of dread as I was forced to confront the struggles of aging and dying. The frailty of the human body so starkly apparent in my grandfather, I repeatedly questioned how there was not more we could do to preserve or restore neurological function as our bodies grow old. None of these things seemed to unnerve my mother. I watched her care for my grandfather with ease, showing no expression other than one of confidence, or perhaps, acceptance.

Inspired by grandfather’s struggle against neurodegenerative disease, neuroscience is what ultimately brought me to medicine. My academic studies, however, did not immediately direct me to become a physician. After graduating with degrees in math and economics, I worked as a researcher and programmer at a public policy research firm. I managed and analyzed data for health and education organizations such as Centers for Medicare & Medicaid Services. While I knew I contributed to important work, I wanted to do more to tangibly help people and impact health. I wanted to do something that I truly loved. I resolved to pursue medicine, enrolling in a post-baccalaureate pre-med program at American University while continuing to work full-time. Resuming school while working full-time was daunting, but I was motivated by the prospect of applying my training and experience in public policy to advance patient care.

As a medical student, my work quickly started to revolve around neuroscience and neurosurgery. I spent the summer after my first year working in an epilepsy lab, where I wrote code for computational models of neural networks in order to understand how seizures propagate. This was an opportunity to apply the quantitative and analytic skills that I had developed in my previous work experience. Following the completion of my third year, I took a year off from medical school to expand my investigative career in neurosurgery. During this time, I initiated and contributed to several projects with my mentor, Dr. Sandi Lam. We used large administrative databases to investigate clinical neurosurgery questions that were otherwise difficult and expensive to study in individual, smaller institutions. For example, we analyzed national data from an insurance claims database to study predictors of success for endoscopic third ventriculostomy in children with hydrocephalus. Using another database, we published a study examining risk factors for venous thromboembolism in children with traumatic brain injury.

These experiences have culminated in a love for neurosurgery. The direct application of technical skills to alleviate neurological impairment has great personal and academic appeal for me. As my grandfather so clearly embodied, the nervous system enables the body’s most basic functions as well as the complex behavior that define us as individuals. I was struck by the impact I could have as a neurosurgeon in helping patients retain their identity and independence. I am also aware that operations of this order have extremely high stakes and require a lifelong commitment to training and honing one’s craft. I cannot imagine spending my life doing anything else. I offer a deep analytical foundation and intend to build on this throughout my career, in the operating room and through healthcare outcomes research.
Appendix F. Sample Personal Statement #3

I continue to find myself amazed by the dramatic recoveries made by patients after reconstructive surgeries. Seeing my patients walking pain-free the day of their arthroplasty surgeries convinced me to pursue a career in orthopaedic surgery. Even though I decided to become an orthopedic surgeon during my third year of medical school, my decision was grounded in experiences prior to medical school. My cousin was born with cerebral palsy, and I have seen him go through multiple botox injections, tendon release and lengthening surgeries, and the subsequent spica casts. I remember the painful rehabilitation he went through, but at the same time, I saw the progress he made following these procedures. These experiences had introduced me to orthopedic surgery and its potential for healing patients, but participating firsthand in the treatment and care of patients affirmed that orthopedic surgery is the right career for me.

Research has been a significant part of my life thus far. I have participated in several research internships, from working on oncoproteins to investigating the potential side effects of the drug sibutramine. I took away important lessons from all of these research experiences and applied to and participated in the Howard Hughes Medical Institute - National Institutes of Health Research Scholars Program. This program gave me a year-long opportunity to conduct research at the NIH. Working with Dr. Bradford Wood, I investigated the use of liposomes to improve the delivery of thrombolytic drugs. I started my project from the ground up, made a significant amount of progress, and gained experience presenting at a national conference. Most importantly, I found that I have the patience, persistence, creativity, and curiosity that a career in academic medicine will satisfy.

During my year away from medical school, I also shadowed Dr. Benjamin Potter, an orthopaedic surgeon, at the Walter Reed Army Medical Center (WRAMC). Once a week, I assisted on oncology or trauma surgeries and saw patients in the clinic. Over six months, I saw complex trauma that very few hospitals see. What impressed me most was that despite the gruesome injuries sustained by soldiers deployed to Afghanistan and Iraq, nothing fazed the orthopedic surgeons. In every case, they went to work meticulously repairing and reconstructing shattered bones, charred flesh, and severed nerves. My time at WRAMC reinforced the unique capability that orthopedic surgeons have not only to heal patients but to mend them.

Throughout my life, I have tried to broaden my understanding by taking part in a variety of activities. Each of these experiences has not only enhanced my knowledge, but all together they have guided me in choosing my career path. I see myself becoming an academic orthopaedic surgeon who balances clinical practice with research. I realize that achieving such a balance is difficult, but I have been fortunate in working with physicians and research mentors who effectively balance these two aspects of modern medicine. I aim to one day join these physicians at the cutting-edge, helping to improve clinical medicine and patient care.
Appendix G.

Medical Student Performance Evaluation
For: Peyton Williams Manning
Date: October 1, 2016

IDENTIFYING INFORMATION

Mr. Peyton Manning (AAMC I.D. #18181818) is a fourth year medical student at the Virginia Tech Carilion School of Medicine in Roanoke, Virginia.

UNIQUE CHARACTERISTICS

Mr. Peyton Manning is a member of the Class of 2020 at the Virginia Tech Carilion School of Medicine (VTCSOM). Mr. Manning can be described with these three words: genuine, inspirational, and hardworking. He has a desire for learning and is always interested in acquiring more knowledge. During medical school, he was committed to his research pursuits. His research activity has led to an oral presentation at a national conference, a poster presentation, and two scientific publications. He was also heavily involved in professional organizations and interest groups during medical school, including sitting on multiple committees of the American Medical Association student section, being a student representative to the American Association of Medical Colleges, serving as class president for two years. He also engaged in tutoring his peers in areas of basic science and clinical science. Thus illuminating that Mr. Manning is dedicated not only to his own success, but the success of those around him. Lastly, he is reliably engaged in the community where he has volunteered at the Bradley Free Clinic, Peyback Foundation, and The Red Cross. In his free time, Peyton enjoys playing football at the local rec center, travelling within the states or abroad, or writing to friends and family. Some of his recent letters were featured on a sports drink commercial. Mr. Manning was one of three students in his class to have been inducted into the Alpha Omega Alpha Medical Honor Society. In conclusion, Mr. Manning has all the makings for being the physician thought leader that VTCSOM strives to produce.

ACADEMIC HISTORY

Undergraduate Institution: University of Tennessee
Degree: Bachelor of Arts
Major: Speech Communications
Graduation date: May 20, 1998
Date of initial matriculation at medical school: July 25, 2016
Date of expected graduation from medical school: May 9, 2020

USMLE Step 1 - 250
USMLE Step 2 CK- pending
USMLE Step 2 CS- pending
RESEARCH

Project Title: Probability of Returning to Football and Winning a Super Bowl After Multiple Neck and Spine Surgeries.
Mentor: Hope Andetermination

ACADEMIC PROGRESS

VTCSOM grades on a satisfactory/unsatisfactory (pass/fail) basis for the entire curriculum. Mr. Manning has received a satisfactory grade on all components of the curriculum.

Preclinical/Basic Science Curriculum:

Mr. Manning did very well during the preclinical/basic science curriculum. His work in the Problem Based Learning small groups was exemplary. Mr. Manning was consistently focused and fully engaged in the learning process. He was a very bright student who approached clinical cases from an analytical perspective and appropriately integrated basic science and clinical information within the patient-centered model. He clearly appeared to be acquiring and integrating medical knowledge at a very high level. Mr. Manning was described as a very skilled and polished teacher and a truly outstanding student. One facilitator noted, “His professional and respectful approach to others will serve him, his colleagues, and future patients well.” He was calm, friendly, and easy to work with. Mr. Manning is clearly striving for excellence in medicine.

He received three Letters of Distinction for the preclinical curriculum in:
  Basic Sciences – Patient Centered Learning (Peer Selection)
  Clinical Sciences and Skills
  Research
Core Clinical Clerkships and Elective Rotations:

The following are representative comments from each of the required third year clerkships summarized in chronological order. The clerkship comments are largely taken from faculty and resident evaluations.

**Psychiatry:** During the six-week Psychiatry Clerkship, students spend four weeks on Carilion Roanoke Memorial Hospital’s 32-bed adult inpatient unit, followed by two one-week electives chosen from among child and adolescent psychiatry, consult-liaison psychiatry, geriatric psychiatry, community psychiatry, and addiction/outpatient psychiatry.

Mr. Manning had an excellent psychiatry rotation. The attending said, “Mr. Manning was the first student I have ever had who requested to do a week of overnight call to learn more about the admissions process and to develop his history and physical writing skills—and he did it well, without complaint, and with gratitude, all of which were refreshing and unexpected.” Mr. Manning was further commended for his excellent commitment to his patients. He proved to reliably know their labs, their medications, their allergies and actively engaged with the rest of the treatment team to explore treatment options. Mr. Manning proved to possess an excellent clinical knowledge and he worked diligently to grow in his knowledge of clinical psychopharmacology, side effect management and medication dosing. The attending concluded, “Accompanying all of Mr. Manning’s other lauded attributes were his excellent sense of humor, his high degree of professionalism and his commitment to his patients.”

**Pediatrics:** The six-week Pediatric Clerkship gives students broad exposure to the field of pediatrics. Each student spends one week in the well-baby nursery and two weeks on the inpatient ward at Carilion Children’s Hospital. The three-week outpatient experience is divided into two weeks spent in general pediatrics and one week in pediatric subspecialty care.

Mr. Manning had a superior Pediatric Clerkship. One attending stated, “Mr. Manning was certainly one of the best students we have had on this rotation since I began teaching VTC students several years ago.” The attending further commended Mr. Manning for his excellent fund of knowledge and superb patient care. Able to apply his knowledge base in the clinical setting, Mr. Manning was noted to be professional and hard working. During his pediatric cardiology rotation, the attending stated Mr. Manning was “one of the best prepared and enthusiastic students that I have encountered.” Demonstrating a clear joy for working with children, the patients responded very well to him. Additionally, Mr. Manning chose to spend extra time with his patients and their families and thus proved to developed great relationships. He worked hard to develop his auscultation skills, and seemed to relish the opportunity to encounter murmurs and cardiac pathology. Mr. Manning proved to be helpful in an outlying clinic and developed concise and complete patient histories. Furthermore, his patient assessments were insightful and he formulated management plans after discussing the clinical data. During his inpatient pediatrics rotation, Mr. Manning was observed to be a “very hard-working and dedicated professional.” The attending concluded, “The most impressive thing I observed was Mr. Manning’s excellent synthesis of clinical information and the management plans he developed based on his own synthesis.”
Neurology: The Neurology Clerkship is a two-week clerkship. Students spend a week on the inpatient consult/stroke service at Carilion Roanoke Memorial Hospital, which is designated as a Primary Stroke Center and a week in the neurology outpatient clinic of the Salem Veterans Affairs Medical Center.

According to the attending, Mr. Manning performed above average and seemed to have enjoyed his learning experience during the neurology rotation. It was obvious that he studied in a consistent fashion during the rotation and brought to the rotation a baseline understanding of many neurology principles. Enthusiastic and knowledgeable, Mr. Manning also displayed a good basic knowledge of neuroanatomy and was engaged and interested in all of the patients he encountered. He also gave an excellent presentation discussing various stroke prognosis scales. “Overall, he was a pleasure to work with and will be an asset in whatever specialty he chooses to pursue after graduation,” stated the attending.

Family Medicine: The Family Medicine Clerkship is a six-week ambulatory clerkship completed entirely within the Roanoke Valley at one of seven different Carilion Clinic Department of Family and Community Medicine practice locations, all of which are certified as patient-centered medical homes. The clerkship also incorporates a full day of geriatrics each week and expects students to visit nursing homes, make home visits with hospice and participate in a geriatric assessment clinic.

According to the attending, Mr. Manning is “bright, informed, and has a solid knowledge base for adult medicine. He did an outstanding job on this rotation.” He not only demonstrated an excellent fund of knowledge but, when needed, he was proactive in looking up more information about patient issues. Mr. Manning’s written and oral presentations were well organized and he demonstrated ability to obtain a focused but thorough history. He took the initiative to offer assessments and treatment plans, and his recommendations were valuable to the team. Mr. Manning was described as having, “a true gift for patient interaction” due to his demonstrated ability to put patients at ease and communicate well with them. Actively engaged in patient care, he also worked well with the entire team, and evaluators received many unsolicited positive comments from the staff. The attending concluded, “He is going to make an excellent clinician and he was a joy to have on the rotation.”

Surgery: The Surgery Clerkship is a six-week clerkship done entirely at Carilion Roanoke Memorial Hospital, a Level I Trauma Center. Students spend three weeks on an elective general surgery service and three weeks on an acute care surgery service.

Mr. Manning had an excellent surgery rotation. Described as eager and involved, Mr. Manning demonstrated his outstanding knowledge base during consults. One attending said, “He is one of the best students I have worked with this year.” Enthusiastic on the service, Mr. Manning took solid histories and demonstrated accomplished reporting skills. When asked questions regarding pathophysiology of specific conditions, Mr. Manning impressed attendings with his confidence in responding as well as ability to reason through possibilities. Reliable, hardworking, and insightful, Mr. Manning proved to be a valuable member of the team. The attending concluded, “Mr. Manning demonstrated an eagerness and ability beyond the standard for his class.” Mr. Manning was awarded a Letter of Distinction in Surgery.
**Obstetrics and Gynecology:** The Obstetrics and Gynecology Clerkship is a six-week rotation done entirely at Carilion Roanoke Memorial Hospital. Students spend two weeks on labor and delivery, one week in the obstetrics clinic providing low and high-risk prenatal care, two weeks on the benign gynecology service providing inpatient and outpatient gynecological care, and one week on a subspecialty service (gynecologic oncology, urogynecology).

Mr. Manning had an excellent obstetrics and gynecology rotation. Characterized as a “bright” student, Mr. Manning proved to be enthusiastic as well as possess a wonderful attitude toward learning. While working in labor and delivery, he was able to perform a vaginal delivery with minimal assistance. Moreover, he routinely sought out patient care opportunities, and his presentations were well-organized and included all pertinent information. Mr. Manning was quickly able to build an “impressive rapport” with residents, staff, and patients. In the outpatient setting, he was professional and according to the attending “clearly very interested in the subject material.” Mr. Manning was able to independently and efficiently evaluate patients, and his physical examination skills were noted to be very good, including being able to perform a “thorough, gentle pelvic examination.” In the operating room, Mr. Manning was well-prepared, eager to learn, and a “very pleasant” member of the team. It was evident to the attending that Mr. Manning read about topics before arriving to work and also researched new topics at the end of each work day. Mr. Manning performed admirably on his oral examination and was able to discuss general topics and his specific patients in an organized fashion. The attending concluded, “He will make an excellent physician in the specialty of his choice. We sincerely hope he considers Ob/Gyn.”

**Internal Medicine:** The Internal Medicine Clerkship is a six-week clerkship done entirely at Carilion Roanoke Memorial Hospital, a 703-bed tertiary referral center for Southwest Virginia. The students spend all six weeks working with the inpatient teaching teams caring for a wide range of hospitalized adult patients.

Mr. Manning had an excellent Internal Medicine Clerkship. He was a consistent and thorough reporter of information, including history, physical, daily progress notes, and updates to patient care. He demonstrated his interpretation skills on daily attending rounds and in his thorough discussion section in his daily progress notes. Mr. Manning developed an excellent rapport with patients and his teammates. One attending noted, “He would walk into a patient's room and they would smile and point to him and say, ‘he can tell you everything you need to know.’” He proved to possess an excellent work ethic. Furthermore, Mr. Manning followed a large number of patients and attended multiple procedures to gain exposure. Described as “very personable, possessing a great sense of humor, and a never ending smile”, Mr. Manning was further commended for his enthusiastic approach to his assigned work. He “delivered more than was expected” with a thorough ARDS presentation including pathophysiology, diagnosis, and treatment. The attending further noted, “I challenged him with progressively more difficult questions during our rounds and daily sessions and he always surprised me with logically derived answers revealing that he excels at critical problem solving. Mr. Manning was able to recite knowledge of recently published medical literature that I have not witnessed from other students.” The attending concluded, “Mr. Manning has a clinical maturity that exceeds his peers.”
Radiology: The Radiology Clerkship is a two-week clerkship performed at Carilion Roanoke Memorial Hospital and its associated imaging centers in Roanoke, VA. Students rotate through all major subspecialties of radiology. Students also research, prepare, and present a talk on a radiology-related topic.

Mr. Manning performed extremely well during the required two-week Radiology Clerkship. Faculty evaluations were positive and reflective of his interest in diagnostic and interventional imaging. Demonstrating a good fund of knowledge, Mr. Manning was noted to be an affable student with strong metacognition skills in regard to his ability to interpret diagnostic imaging procedures and thus he steadily progressed through the rotation. He was commended for his astute observations on imaging studies and his good working knowledge of the conditions discussed. Furthermore, Mr. Manning developed a positive rapport with the radiology technologists. As a requirement of the rotation, Mr. Manning presented an excellent talk on “Bone Graphing & Disc Herniation.” The attending noted, “He obviously spent a great deal of time preparing this presentation and outperformed his peers in this endeavor.” By the end of the rotation, Mr. Manning was able to identify pertinent findings on plain radiographs and generate an appropriate differential list for his level of training. Mr. Manning was awarded a Letter of Distinction in Radiology.

Emergency Medicine: The Emergency Medicine Clerkship is a four-week clerkship in the Carilion Roanoke Memorial Hospital Department of Emergency Medicine, which sees more than 70,000 patients per year at a Level 1 Trauma center. Students also experience a rural emergency department at Franklin Memorial Hospital for one shift.

Mr. Manning performed extremely well on the emergency medicine rotation. Mr. Manning was commended for possessing an excellent work ethic, producing good presentations, developing focused histories and physicals, and being able to differentiate “sick from not sick patients.” While working to improve the broadening of his differentials and reassessing patients more frequently, Mr. Manning proved to be a hard worker, professional, and knowledgeable. The clerkship director concluded, “He will perform well in residency. Mr. Manning is already on the path towards functioning at an intern level.”

Electives: To date, Mr. Manning has completed electives in surgery and radiology at the University of Colorado – Boulder and the University of Colorado - Denver.

Comments from his surgery elective at the University of Colorado - Denver include: “Peyton did a terrific job during his demanding month in the surgery service. He has an excellent fund of knowledge, beyond the med student level. He is hard-working, mature, and very well-liked by all faculty, residents, nurses and staff. He as an active member of his team and was a pleasure to have. He will make an excellent surgeon!”
SUMMARY

On behalf of the Virginia Tech Carilion School of Medicine, we are pleased to recommend Mr. Manning to you. While we neither rank nor calculate a grade point average for our students, we believe the transcript, the above narrative description of performance, and other letters of recommendation provide you with an accurate assessment of Mr. Manning. The clinical, research, and interprofessional experiences that Mr. Manning gained in medical school have prepared him well for his residency. Mr. Manning aspires to a career in academic medicine as can be surmised from the many activities which he been involved in while a medical student. He has a leader the medical student Journal Club and the Academic Medicine club. He was active in the student section of the AMA and was a director on the Medical Society of Virginia board. He was one of VTCSOM’s representatives to the AAMC Organization of Student Representatives, and was an officer for the Surgery Student Interest group. Mr. Manning is an extremely bright individual who has a calm demeanor. He has demonstrated an ability to both lead and function independently. Mr. Manning was one of three students from his class to be inducted into the Alpha Omega Alpha (AΩA) Medical Honor Society. To date, Mr. Manning has been awarded a total of five Letters of Distinction; appendix A describes VTCSOM Letters of Distinction. We recommend him as an exceptional candidate.

Sincerely,

Aubrey L. Knight, M.D.
Associate Dean for Student Affairs
Professor of Medicine and Family & Community Medicine
Virginia Tech Carilion School of Medicine
Appendix A: Letters of Distinction

The entire curriculum of the VTCSOM is graded on a satisfactory/unsatisfactory (pass/fail) basis. Students who excel in the various aspects of the curriculum may receive Letters of Distinction. Letters of Distinction are based on outstanding performance in a particular portion of one of the four Value Domains, utilizing specific criteria for each letter. Receipt of letters of distinction is recorded on a student’s transcript. In many ways, Letters of Distinction are akin to the student receiving a grade of “Honors” for the particular component of the curriculum.

Up to eight Letters of Distinction are awarded on completion of the 2nd year for each of the following components of the pre-clinical curriculum: Basic Sciences, Academic Performance; Basic Sciences, Patient Centered Learning Facilitators Selection; Basic Sciences, Patient Centered Learning Peer Selection; Clinical Sciences and Skills; Interprofessionalism; and Research.

Up to eight Letters of Distinction are awarded on completion of the 3rd year for each of the following components in the clinical curriculum: Emergency Medicine, Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, Radiology, Surgery, Research, and Interprofessionalism. Some of the Research, Interprofessionalism, and Emergency Medicine Clerkship Letters of Distinction will not be awarded until the spring of the 4th year.

To date, there have been 130 Letters of Distinction awarded to members of the Class of 2016. The attached graph depicts the number distribution of the Letters of Distinction for the individual members of the Class of 2016.
Appendix B: Medical School Information Page

Average length of enrollment (initial matriculation to graduation) at the medical school: 4 years

Description of the evaluation system used at the medical school: Satisfactory/Unsatisfactory (Pass/Fail) grades are assigned throughout the four year curriculum. Up to eight letters of distinction are awarded for each of the preclinical domains and for each of the clerkships. Neither grade point average nor class rank is calculated for our students.

Medical school requirements for successful completion of USMLE Step 1, 2:
USMLE Step 1                      USMLE Step 2:
☒ Required for promotion
☒ Required for graduation
☒ Required, but not for promotion/graduation
☐ Not required

Medical school requirements for successful completion of Objective/Observed Structured Clinical Evaluation (OSCE) at medical school. OSCEs are used for:
☒ Completion of the Clinical Science Domain in the preclinical years
☒ Completion of some clerkships
☒ Completion of third year
☐ Graduation
☐ Other:

Utilization of the course, clerkship, or elective director's narrative comments in composition of the MSPE. The narrative comments contained in the attached MSPE can best be described as:
☐ Reported exactly as written
☒ Edited for length or grammar, but not for content
☐ Edited for content or included selectively

Utilization by the medical school of the AAMC “Guidelines for Medical Schools Regarding Academic Transcripts.” This medical school is:
☒ Completely in compliance with Guidelines’ recommendations
☐ Partially in compliance with Guidelines’ recommendations. Exceptions:
☐ Not in compliance with Guidelines’ recommendations

Description of the process by which the MSPE is composed at the medical school: The Associate Dean for Student Affairs meets with each student. The letter is based on summaries of the narratives from the Patient Centered Learning facilitators and summaries from clerkship and elective directors.

Students are permitted to review the MSPE prior to its transmission:
☒ Yes
☐ No
Appendix H.

October 1, 2016

Dear Residency Director:

On behalf of the Virginia Tech Carilion School of Medicine (VTCSOM), I have written the attached Dean’s Letter of Medical Student Performance Evaluation (MSPE) for a member of our Class of 2017 who is applying to your residency program. This cover letter describes the school and its curriculum, the sections of the Dean’s Letter itself, and the final recommendation statement.

The mission of VTCSOM is to develop physician thought leaders through inquiry, research and discovery, using an innovative curriculum based upon adult learning methods in a patient centered context. VTCSOM intends to graduate physicians with outstanding clinical skills and significantly enhanced research capabilities who will remain life-long learners. They will have an understanding of the importance of interprofessionalism, enabling them to more effectively function as part of a healthcare team and to recognize the role of communication, negotiation, team work, and leadership as relates to improving patient safety and quality. Our grades throughout the four years are pass/fail, though we do offer Letters of Distinction in various domains and courses. These Letters of Distinction have specific criteria upon which they are selected and can be looked upon as an equivalent to honors. The attached definition and graph illustrate the distribution of the Letters of Distinction for the Class of 2017.

The preclinical curriculum is a Problem-Based Learning (PBL) hybrid model of medical education combining both the best practices of small group independent learning and more traditional lecture and laboratory sessions. Students at VTCSOM receive a Graduate Certificate in Research in Translational Medicine from Virginia Tech as a part of the research domain.

The clinical years consist of six week core clerkships which include Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and Surgery. These are taken during the third year. Other third year requirements include two weeks of Neurology and Radiology, four weeks of Research, and four weeks for Electives. There is a required four week Emergency Medicine clerkship that can be taken in the third or fourth year. During the fourth year, students have a two week Research rotation and 22 weeks of electives from which they must select an ICU elective, a medicine subspecialty elective, and a surgery subspecialty elective.

The MSPE reports on the student’s knowledge base, clinical skills, work ethic, and professional demeanor. The letter begins with identifying information and paragraph detailing unique characteristics of the student. The narrative on the preclinical performance consists of excerpts from small group facilitators and a brief statement of the overall performance. This is followed by edited narratives from the third and fourth year clerkships and electives. Virginia Tech Carilion School of Medicine does not rank its students. We do, however, give an overall statement of recommendation for each student in the final paragraph. The Class of 2017 has been extraordinary with a Step 1 class mean of 237. We believe that each of our candidates for graduation have prepared themselves to be excellent physicians and will thrive in their residency programs. The statement of recommendation reflects this belief, but also calls to attention those students who have distinguished themselves. The statement of recommendation includes Exceptional, Outstanding, and Very Good with a variable number of students in each category.

Sincerely,

[Signature]

Aubrey L. Knight, MD
Associate Dean for Student Affairs
Professor of Medicine and Family & Community Medicine
Virginia Tech Carilion School of Medicine