

# The Intricacies of Fourth Year Planning: A Guide

After a few months of experience as a fourth year medical student and speaking with my classmates, I came to the realization that there is a great deal of variability in fourth year schedules. Yes, everyone wants some down time, must do a Sub-I, complete their MSA, take Step 2, and interview for residency, but this can look very different for people going into different specialties. I wanted to explore these differences and determine if there was a “right way” to do fourth year for several of the most common specialties that CU medical students choose to pursue. The following is a compilation of my findings organized in (hopefully) a helpful format.

## Specialties

Anesthesiology

Emergency Medicine

Family Medicine

Internal Medicine

Obstetrics and Gynecology

Orthopedic Surgery

Pediatrics

Psychiatry

Surgery - General

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## Anesthesiology

### AAMC Basics

Competitiveness: Medium

Mean Step 1/ Step 2 CK: 227/ 238

AOA: 10.6%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.2

Mean # of Abstracts, Presentations, Publications: 2.9

Mean # of Programs Applied to per Applicant: 34.4

Total # of Programs: 132

Interview Timing: Nov-Jan

### Specialty-Specific Recommendations:

From the American Society of Anesthesiologists:

**Letters of Recommendation:** You should plan to get 3-4 letters - 1 department letter, 1 anesthesia letter, and 1-2 of your choice (medicine, peds, surgery, OB/GYN.) It's a good idea to get an internal medicine letter for prelim year.

**Personal Statement Tips:** Think about your own unique strengths, talents, interests, accomplishments, and experiences. Make a list of these. Compare this with your own idea of what might make an excellent resident in Anesthesiology. Select unique items from your personal list that resemble the characteristics of the "ideal" resident and incorporate these into your personal statement.

None of the specialty-specific websites address course-taking or other recommendations on fourth year planning.

### CU Specialty Advisor Recommendations:

From Dr. Alison Brainard and Dr. Joy Hawkins:

**Sub-I:** The only anesthesia-specific Sub-I is SICU. Many students like this, but it is not required. It can be beneficial to do a medicine Sub-I, especially if student is planning to do a medicine intern year.

**Electives in Anesthesia:** Students should pick 1 or 2. Many enjoy SICU or the sub-specialty elective in anesthesia (ANES 8002) where students get to pick a different sub-specialty per week, such as L&D, chronic pain, and cardiothoracic. Basic clinical anesthesiology elective (ANES 8000), where students do 2 weeks at Children's and 2 weeks at Denver Health is another option.

**Balance of in versus out of department electives:** Do just enough anesthesia to confirm this is your specialty of choice (1-2 months) and then take electives in other departments to round out education.

**Other Electives:** Recommend EKG course. Consider Applied Clinical Pharmacology, Cardiology, and other medicine sub-specialty electives such as Renal. Also, highly recommend Foundations of Doctoring, as students can switch to an anesthesia preceptor. Almost anything will be useful. Student should do whatever they're interested in or uncomfortable with. Use the time to fill in gaps in education.

**Away:** Only do one if there's a specific program or place you want to be and it doesn't need to be a Sub-I.

**Importance of Research:** Not important.

**Interviews:** November through January. Need to apply broadly. On average, students apply to 20-30, interview at 8-15, though it's all very individualized. Emphasize calling/emailing the program if a student is turned down by a program they're really interested in.

**For the Undecided:** ANES 8000, which is 2 weeks at Denver Health and 2 weeks at Children's. Talk to residents and attendings. Learn about what a career in anesthesia can look like.

Course Data from MS4s Matching in Anesthesia in 2014 (n = 12) and 2015 (n = 6):

**Sub-I:**

Average of 1.67 Sub-I's per student in 2015

50% (9 of 18) did a Medicine Sub-I

94% (17 of 18) did a Critical Care or SICU Sub-I

This includes 4 students who did Critical Care at St. Joseph's (MEDS 8034)

**Electives in Anesthesia:**

61% took ANES 8000 - Clinical Anesthesiology

66% took ANES 8002 - Anesthesia Subspecialties

**Out of Department Electives:**

On average, students took more electives in the medicine department than in anesthesiology.

89% took Cardiac Diagnostic Skill (MEDS 8005)

44% took Applied Clinical Pharmacology (MEDS 8029)

39% of students took a medicine sub-specialty elective:

17% - Pulmonary, 22% - Cardiology, 11% - Palliative Care, 6% - ID

28% took Foundations of Doctoring IV (IDPT 8000)

22% took Film and Mental Illness (MEDS 8040)

17% took Diagnostic Radiology (RADI 8000)

17% took Tutoring in Foundations (IDPT 8001)

17% took Corrections Healthcare (MEDS 8032)

**Away:**

28% (5 of 18 students) did an away in Anesthesia

## Emergency Medicine

### AAMC Basics

Competitiveness: Medium

Mean Step 1/ Step 2 CK: 228/ 242

AOA: 10.7%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.0

Mean # of Abstracts, Presentations, Publications: 2.5

Mean # of Programs Applied to per Applicant: 39.5

Total # of Programs: 167

Interview Timing: Nov-Feb

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**EM-Specific Competencies:** Complete ACLS, become proficient at performing common ED procedures, participate in “resident as teacher” course, participate in interdisciplinary team training course, demonstrate knowledge of patient advocacy skills.

**Audition Rotation:** One away is recommended.

**Sub-I and Electives:** Should do EM Sub-I if possible. Alternatives include IM or surgery. Recommended electives include critical care, ophthalmology, otolaryngology, anesthesia.

From the Society for Academic Emergency Medicine and Emergency Medicine Residents' Association:

**Rotations:** Most programs prefer to see two months of EM clerkship time. Students may benefit from a “warm-up rotation” in cardiology, gynecology clinic, or infectious disease prior to the EM rotation. Other recommended electives include trauma surgery, ICU, anesthesia and radiology. Others to consider include orthopedics, pediatric EM, ophthalmology, otolaryngology, dermatology, research, neurology, psychiatric emergency, EMS, and toxicology.

**Away:** Can be important for more competitive programs or for students interested in a distant location. Most programs will interview all visiting students, which can be especially helpful for “reach” programs. However, audition rotations can also worsen your chances for matching as easily as they can improve them.

In choosing a program for an away rotation, consider that certain experiences are unique to certain institutions, such as level one trauma, ambulance and/or helicopter transport, hyperbaric medicine, toxicology, pediatric EM, etc. Go to SAEM webpage for more info on away rotations.

**Letters of Recommendation:** Every EM applicant should have at least one letter from an Emergency Physician though it is highly advised to have all three letters from EM faculty. Important to pick someone who knows you well and can comment on your clinical performance, fund of medical knowledge, character, and teamwork skills. It is better to have a detailed letter from a rising professor than a form letter from a department chair.

**Interviews:** On the later side. In full swing after Thanksgiving, should plan for a month off for interviews in December/January.

## CU Specialty Advisor Recommendations:

From Dr. Jeff Druck:

**Sub-I:** There are no Sub-I's in EM. All are considered electives. It's always good to do critical care prior to residency.

**Emergency Electives:** Students should take EMED 8006, the emergency medicine career elective. Also recommend procedural electives.

**Balance of in versus out of department electives:** Upon completion of ED elective, student should fill the rest of the time with rotations they find interesting or feel that they're weak in.

**Out of Department Electives:** Specifically recommend the EKG elective and critical care.

**Away:** Critical to do an away rotation. There's a good chance the student will be working with the decision-maker for the rank list. Most important factor is how the student does clinically away from their home institution (over step 1 score and the rest of the application.) Important to do one in geographic area where interested in residency because other programs in that area will know that program and be able to interpret the student's evaluation. If not interested in staying in Denver, recommend 2 away rotations. If student does the Denver Health rotation, recommend one additional away.

**Importance of Research:** Minimal. Good to finish a project if one is started. Otherwise, it's not a reasonable investment of time just to improve application.

**Programs:** There are 3 general types of programs - community, county, and university. There are also 3 year and 4 year programs - will get adequate training in a 3 year program, but a 4th year is often valuable if considering fellowship because student could use the year for research. A lot of variability in what different programs value - it's a lot about the student's goals and fit.

**Interviews:** December is the most common month for interviews. For less competitive applicants, should have January open, as some programs could call applicants the day before the interview. Minimum number of applications would be 20, but very dependent on applicant and programs. On average, recommend 12 interviews.

**For the Undecided:** Do an ED elective, here or away.

## Course Data from MS4s Matching in Emergency Medicine in 2014 (n = 12) and 2015 (n = 14):

### **Sub-I:**

Average of 1.0 Sub-I's per student in 2015.

68% did an ICU/Critical Care Sub-I

50% did a Critical Care Sub-I at St. Joseph's (MEDS 8034)

18% did a SICU Sub-I (ANES 8001 or SURG 8021)

23% did a Medicine Sub-I (MEDS 8001)

Other Sub-I's: NICU, urology, Ortho, family medicine.

### **Electives in EM:**

89% took the Emergency Medicine Career Elective (EMED 8006) – 100% took either EMED 8006 or an away elective in EM

46% took Clinical Toxicology (EMED 8024)

36% took Wilderness Medicine (EMED 8031)

32% took Critical Care and Procedures (EMED 8007)

25% took Bedside Ultrasound (EMED 8025)

### **Out of Department Electives:**

79% took Cardiac Diagnostic Skill (MEDS 8005)  
32% took Foundations of Doctoring IV (IDPT 8000)  
25% took Global Health and Disaster (IDPT 8018)  
29% took an Anesthesiology rotation (including the Sub-I)  
21% took a Dermatology rotation  
18% took Physician as Educator (IDPT 8016)  
11% took an Orthopedics rotation  
11% took Diagnostic Radiology (RADI 8000)  
4% (1 student) each took an elective in ophthalmology, otolaryngology, and psychiatry

**Away:**

86% (24 of 28) did at least one away rotation  
42% (10 of 24) of these did 2 away rotations

## Family Medicine

### AAMC Basics

Competitiveness: Low

Mean Step 1/ Step 2 CK: 216/ 230

AOA: 5.2%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 1.5

Mean # of Abstracts, Presentations, Publications: 1.9

Mean # of Programs Applied to per Applicant: 20.5

Total # of Programs: 480

Interview Timing: Oct-Jan

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**Family Med Specific Competencies:** Complete ACLS class, be able to manage common pediatric illnesses and well child care, be able to perform a pelvic exam

**Audition Rotation:** Not recommended.

**Sub-I and Electives:** Family medicine Sub-I if available. Internal Medicine as alternative.

Electives: Emergency Medicine, dermatology, obstetrics, outpatient family medicine.

From the American Academy of Family Physicians and "A Suggested Fourth-year Curriculum for Medical Students Planning on Entering Family Medicine," published in 2004.

**Rotations:** Should plan a wide range of electives including ambulatory family medicine, an internal medicine sub-internship, and rotations in dermatology, emergency medicine, and obstetrics. Important skill sets to work on prior to residency include interviewing skills, management of undifferentiated problems, and interpretation of imaging. Consider planning rotations that are affiliated with community-based ancillary health agencies, such as local free health clinics, in order to work with underserved populations and learn from often excellent preceptors.

**Away:** Many choose to do one. September is a popular month. It's good to do another rotation prior to the away in order to be more confident in your skills and make a better impression, but should do it before interviews.

### CU Specialty Advisor Recommendations:

From Dr. Caroline LeClair:

**Sub-I:** Ideally in family medicine, but internal medicine is also fine. Should do it as early as possible (before August) for Dean's Letter.

**Family Medicine Electives:** The family medicine sub-I is the most important. Recommend the outpatient family med elective at AF Williams Clinic (FMMD 8007) because it is an advanced PCMH and many students enjoy that experience.

**Balance of in versus out of department electives:** Should do an elective in whatever makes them anxious or might be a challenge that they would like to improve upon. Plan to do a mix of clinical and research electives rather than a majority of research or language immersion courses. Programs will want to know students have had recent clinical exposure and are well prepared for clinical care in residency.

**Out of Department Electives:** Critical care and procedures is a good pre-residency course. If student is interested in urban underserved, a language immersion/course will be helpful. ICU experience can also be helpful.

**Away:** If interested in staying in Colorado, it's a good idea to do a Sub-I at one of the programs to see if it's a good fit. Always run the risk of hurting chances, too, but if it does worsen chance of matching, it probably wasn't the best fit. Also, students may rule out programs that were thought to be possibilities. For the Colorado programs, student does not have to apply through VSAS.

**Importance of Research:** Not a necessity or a requirement, but it does make the student more competitive. Quality improvement is becoming increasingly important in family med, so having the skill set is helpful.

**Programs:** There are lots of considerations including opposed v. unopposed programs, community v. academic, geographic location, whether or not they want to stay in Colorado. There are 9 programs in Colorado.

**Interviews:** On average, we advise students to apply to 12-15 programs and rank at least 10.

**For the Undecided:** Sub-I in family medicine (and whatever else they're deciding between.)

Course Data from MS4s Matching in Family Medicine in 2014 (n = 20) and 2015 (n = 12):

**Sub-I:**

Average of 1.42 Sub-I's per student in 2015.

59% did at least one Sub-I at one of the Colorado Family Medicine Residency Programs

16% did at least 2 of these Sub-I's

41% did an Internal Medicine Sub-I

9% did the University Hospital Family Medicine Sub-I

**Electives in Family Medicine:**

13% did the Foreign Language Immersion (FMMD 8411)

9% did Outpatient Family Medicine (FMMD 8007)

**Out of Department Electives:**

91% took Cardiac Diagnostic Skill (MEDS 8005)

69% took an EM elective, including Wilderness Medicine and Critical Care and Procedures.

59% took a Dermatology elective

34% took Wilderness Medicine (EMED 8031)

34% took Foundations of Doctoring IV (IDPT 8000)

31% took Applied Clinical Pharmacology (MEDS 8029)

25% took Critical Care and Procedures (EMED 8007)

22% took Physician as Educator (IDPT 8016)

13% took an ICU course

6% took an OB/GYN course

**Away:**

19% did an away rotation in family medicine

## Internal Medicine

### AAMC Basics

Competitiveness: Low

Mean Step 1/ Step 2 CK: 228/ 241

AOA: 15.1%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.4

Mean # of Abstracts, Presentations, Publications: 3.6

Mean # of Programs Applied to per Applicant: 29.8

Total # of Programs: 396

Interview Timing: Nov-Jan

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**Internal Med Specific Competencies:** Take courses that review and clinically correlate basic science to clinical medicine, continue to develop analytic and interpretive skills.

**Audition Rotation:** Not recommended.

**Sub-I and Electives:** Internal Medicine Sub-I. Electives: Pathophysiology clinical correlative courses, quality and safety, evidence based medicine, procedural skills rotation.

From the American College of Physicians

**Rotations:** Consider taking courses outside of your desired specialty, including unique experiences such as working in another country, as these will be more difficult to pursue as a resident and residency itself will provide adequate experiences to learn to be a strong clinician.

**Away:** Not required. Students should think critically about whether or not to do one, especially if they do not have an outgoing personality and struggle with transitions. Benefit is that it allows you to learn more about a program and gives the program the opportunity to get to know you better.

### CU Specialty Advisor Recommendations:

From Dr. Adam Trosterman:

**Sub-I:** Most programs like to see one internal medicine Sub-I.

**Internal Medicine Electives:** Consider taking electives that look at a sub-specialty, but that will also be very practical in strengthening general medical management skills, such as infectious disease, nephrology, critical care. Important to continue to focus on foundation-building. Skill-based electives, like EKG elective may be helpful.

**Balance of in versus out of department electives:** No specific recommendation other than that should ideally do IM Sub-I by August. Very much based on student needs.

**Out of Department Electives:** Dermatology, radiology, anesthesiology may be helpful, but also student-specific and based on interests.

**Away:** Should not do an away rotation if can't quickly adjust and thrive in a new environment because it will likely hurt more than help. Whether or not to do one is very individualized, based on student's personality, strength of application, goals, desired location or particular residency program.

**Importance of Research:** Falls below the top 5 in importance generally, but depends on the program. Can't make up for low board scores.

**Interviews:** Students should apply to around 12-15 (50% at their level, 25% safety/solid, 25% semi-reach.) Programs that are high reach or super safe for that particular student shouldn't be counted in the 12-15. Student will likely get 8-12 interviews.

**For the Undecided:** Additional exposure with Sub-I's in specialties they're deciding between if possible.

Course Data from MS4s Matching in Internal Medicine in 2014 (n = 25) and 2015 (n = 26):

**Sub-I:**

Average of 1.25 Sub-I's per student in 2015

100% did a Sub-I in Internal Medicine, including MEDS 8002, the Hospital Medicine Sub-I

**Electives in Internal Medicine:**

84% took Cardiac Diagnostic Skill (MEDS 8005)

61% took a Critical Care/ICU rotation

27% took Applied Clinical Pharmacology (MEDS 8029)

24% took Infectious Disease (MEDS 8009)

20% took Cardiology (MEDS 8004)

18% took Renal (MEDS 8007)

18% took Film and Mental Illness (MEDS 8040)

**Out of Department Electives:**

28% took a dermatology elective

24% took Critical Care and Procedures (EMED 8007)

22% took Physician as Educator (IDPT 8016)

14% took a radiology elective

10% took an anesthesia elective

**Away:**

33% did an away rotation in Internal Medicine

## Obstetrics and Gynecology

### AAMC Basics

Competitiveness: Medium

Mean Step 1/ Step 2 CK: 222/ 239

AOA: 12.1%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.5

Mean # of Abstracts, Presentations, Publications: 3.0

Mean # of Programs Applied to per Applicant: 35.1

Total # of Programs: 242

Interview Timing: Nov-Jan

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**OB/GYN Specific Competencies:** Adequate knowledge in general medicine and ob/gyn, competency in ob/gyn procedures based on the Associate of Professors of OB/GYN objectives, balance education and USMLE requirements with ACGME regulations and residency needs, advanced specialty-specific training, flexible schedule.

**Audition Rotation:** Optional, but highly recommended.

**Sub-I and Electives:** OB/GYN rotation or sub-I, 4 week introduction to OB/GYN residency module, capstone course/ intern boot camp.

From CREOG (Committee for Residency Education in OB/GYN):

**Rotations:** Sub-internship in family medicine, internal medicine, pediatrics, surgery or critical care. One subspecialty elective in OBGYN within the first 3 months, such as gynecology, gynecologic oncology, MFM, reproductive endocrinology, family planning, female pelvic medicine or reconstructive surgery. Other helpful electives: Becoming an Effective Resident Teacher, Medical Spanish (depending on where you plan to practice), Dermatology, Endocrinology, Infectious Diseases, Obstetric Anesthesia, Radiology (Imaging of Abdomen and Pelvis), Surgical Intensive Care Unit.

**Away:** Only recommended if student has a particular reason to be at a specific institution.

**Residency Application/Interviews:** Top 1/3 of class: Apply to 20 (pick 10 highly competitive, 7 moderate, 3 less competitive) - interview at least 10, rank at least 10. Middle 1/3 of class: Apply to 20-25 (pick 7 highly competitive, 10-12 moderate, 5 less) - interview at minimum 12, rank minimum 12. Bottom 1/3 of class: Apply to 30 (5 highly comp, 15 moderate, 10 less) - interview at least 15, rank at least 12.

### CU Specialty Advisor Recommendations:

From Dr. Kristina Tocce:

**Sub-I:** In OB/GYN, usually fine to do it early, right after third year. If student took time off, may want to do lower stakes rotation first, like a different sub-I or OB/GYN elective. A medicine sub-I is also a good idea.

**OB/GYN Electives:** No specific recommendations, all based on student interest.

**Balance of in versus out of department electives:** Students often feel they need to take every OB/GYN rotation we offer, but we recommend students do things of interest outside of the specialty since this is the last chance they'll get.

**Out of Department Electives:** EKG elective, anesthesia elective (ANES 8002, so they can get exposure to anesthesia in labor and delivery), radiology (with more focus on ultrasound), breastfeeding elective. Wilderness medicine is also very educational and well-liked. ICU experience as medical student is also valuable.

**Away:** If there's a highly desired specification location or program, can be good to do an away there, but just randomly choosing one place to do an away won't be high yield, especially for any program besides the particular one the student rotated at.

**Importance of Research:** Having some research is extremely necessary. Better for students to get involved in research early on in medical school so that they can submit it for publication/presentation at a conference than taking on a new OB/GYN project which would still be in the early stages when applying for residency. It is recognized that not every student will have research that results in a publication. One in-depth project where student has a large role is more impressive than many projects where student has a peripheral role.

**Interviews:** On average, student should apply to around 25, interview at 10-15, and probably rank 12 or so. For weaker applicants and those couples matching, may need to apply 40+ programs. Interviews can begin in late October and go through early January, so scheduling 2 week rotations for the beginning of October and end of January tends to work well.

**For the Undecided:** Meet with Dr. Tocce even if just considering OB/GYN - can be helpful to talk about the decision with each of the specialty advisors. Students don't have to be totally decided on the specialty to meet with specialty advisor.

Course Data from MS4s Matching in OB/GYN in 2014 (n = 8) and 2015 (n = 15):

**Sub-I:**

Average of 1.53 Sub-I's per student in 2015

100% did an OB/GYN Sub-I, including Maternal Fetal Medicine (34.8%) and Gynecologic Oncology (26.1%)

43.5% took the General OB Sub-I and 17.4% took the General GYN Sub-I

26% did an additional internal medicine sub-I

13% did an additional surgery sub-I

4% did an additional NICU sub-I

**Electives in OB/GYN:**

44% took Family Planning (OBGY 8011)

9% took Gyn Subspecialties (OBGY 8009)

9% took Reproductive/Infertility (OBGY 8010)

**Out of Department Electives:**

61% took Cardiac Diagnostic Skill (MEDS 8005)

48% took Breastfeeding Management (PEDS 8029)

30% took a teaching elective (Physician as Educator or Tutoring in Foundations)

22% took Wilderness Medicine (EMED 8031)

17% took Clinical Nutrition (IDPT 8011)

17% took a radiology elective, including Bedside Ultrasound

13% took an anesthesia elective

9% took a dermatology elective

9% took Infectious Disease (MEDS 8009)

0% took a Critical Care/ICU rotation

**Away:**

52% did an away rotation in OB/GYN

## Orthopedic Surgery

### AAMC Basics

Competitiveness: High

Mean Step 1/ Step 2 CK: 241/ 248

AOA: 29.5%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 3.1

Mean # of Abstracts, Presentations, Publications: 5.4

Mean # of Programs Applied to per Applicant: 69.9

Total # of Programs: 156

Interview Timing: Dec-Feb

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**Orthopedic Surgery Specific Competencies:** Not specified

**Audition Rotation:** 2-3 away rotations recommended.

**Sub-I and Electives:** Not specified.

From the AAOS (American Academy of Orthopedic Surgeons) Diversity Advisory Board:

**Rotations:** Important to have orthopedic surgery experience.

**Away:** Consider an away rotation at a program of interest. Treat the entire rotation as an interview. Pre-read about the following day's cases. Read about the surgical approach and know the relevant anatomy. Feedback from residents at that institution will be important.

**Research:** Not mandatory, but strongly recommended to complete a project in orthopedic surgery in order to demonstrate dedication to the field and make application more competitive. Consider opportunities for grant-writing, as helping a faculty member with a grant may result in you being named a research assistant.

**Letters of Recommendation:** An additional way to distinguish your application is to acquire a glowing letter of recommendation from an orthopedic surgeon who knows you well. If you think you've done well, a letter of recommendation from an away rotation can show that you adapt well to working with new people and can further improve your application. Submitting a letter from a well-know orthopedist or one connected to the specific program can help you get an interview offer.

**What Residency Programs are Looking for:** People with good communication skills, who have interests outside of medicine, learn quickly, and are a good fit for the program. Those who have been elected to AOA, done research with resulting publication relevant to orthopaedics, excelled in clerkships and away rotations, and received strong letters of recommendation, are highly qualified for an orthopaedic residency.

**Applications/Interviews:** Most will apply to between 20 and 40 programs. Each program has only two interview dates, on average, so must respond quickly in order to secure the desired date. It's a good idea to interview at programs you're less interested in first as practice.

## CU Specialty Advisor Recommendations:

From Dr. Frank Scott:

**Sub-I:** Do home orthopedic surgery Sub-I first and then at least 2 additional orthopedics away sub-I's. Sub-I's at CU begin in June (not May.) The number one factor for a successful match in orthopedics is performance on sub-I, which is why these are stressed so much. Rare to do sub-I's in other specialties.

**Ortho Electives:** Sports medicine and orthopedics research are the most common. There will be a new elective in Alpine Orthopedics at Crested Butte, beginning in 2016.

**Balance of in versus out of department electives:** Most students will largely focus on orthopedics during fourth year.

**Out of Department Electives:** Nothing specifically recommended. Some students will take radiology, but much of it is not orthopedics-focused, so less useful in preparing for residency. Other students will do a critical care elective or pharmacology.

**Away:** Advise students to do at least 2 away Sub-I's and some students do 3. Choice of where depends largely on how competitive student is and then location - where they want to spend 5 years.

**Importance of Research:** Extremely important. Otherwise awesome candidates with minimal research or publication will still be considered, but having a significant research experience will really help the application. We try to get students involved in a longitudinal experience that would span 1-2 years (summer between first and second year works particularly well for concentrated research time.)

**Interviews:** Strong applicants should apply to 50-60 programs and weaker ones should apply to 80-100, aiming for 10-12 interviews. Many students are told they're on the waitlist for an interview and need a great deal of flexibility in December/January to accommodate possible interviews.

**For the Undecided:** Encourage students to take call with orthopedics residents as much as possible during third year (or sooner.) Students can also find a preceptor in orthopedics and any other specialty they're considering to learn more about what a career in each would look like. If undecided at the beginning of fourth year, can do a sub-I early in each specialty.

## Course Data from MS4s Matching in Orthopedics in 2014 (n = 6) and 2015 (n = 6):

### **Sub-I:**

Average of 1.0 Sub-I's per student in 2015 (at our institution.)

100% did an Orthopedic Surgery Sub-I

### **Electives in Orthopedics:**

83% took Sports Medicine (ORTH 8005)

50% took Research in Orthopedics

100% took a research elective, including MSA Phase IV Prep

### **Out of Department Electives:**

25% took Applied Clinical Pharmacology (MEDS 8029)

17% took a teaching elective (Physician as Educator, Tutoring in Foundations)

### **Away:**

100% did at least 2 away rotations in orthopedic surgery.

42% did 3 or more, including 2 students who each did 5.

## Pediatrics

### AAMC Basics

Competitiveness: Low

Mean Step 1/ Step 2 CK: 223/ 238

AOA: 11.4%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.2

Mean # of Abstracts, Presentations, Publications: 3.0

Mean # of Programs Applied to per Applicant: 25.4

Total # of Programs: 199

Interview Timing: Nov-Jan

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**Pediatrics Specific Competencies:** Demonstrate the ability to interact with children and families, meet the objectives outlined in the COMSEP/APPD pediatric sub-internship curriculum.

**Audition Rotation:** Not recommended

**Sub-I and Electives:** Pediatric Sub-internship (preferred) or internal medicine. Electives: Critical care (adult or pediatric), dermatology (general), emergency medicine (adult or pediatric), evidence based medicine, radiology (general)

From the American Academy of Pediatrics:

**Away:** Possibly valuable, but optional.

**Letters of Recommendation:** At least one from a pediatrician and at least two who can discuss clinical skills.

**Importance for Residency Application as Rated by Pediatric Program Directors (on a 5 point scale, with 1 being “not at all relevant” and 5 being “very highly relevant”):**

Interview 4.63; Clinical Performance 4.62; USMLE Step 2 score 3.75; Class rank 3.75; Dean’s letter 3.75; Letters of Recommendation 3.62; USMLE Step 1 score 3.59; Leadership activities 3.37; Preclinical performance 3.32; Applicant’s medical school 3.32; Volunteer activities 2.91; Research experience 2.57

### CU Specialty Advisor Recommendations:

From Dr. Jenny Soep:

**Sub-I/Pediatric Electives:** Recommend one pediatrics sub-I between May and August, though some students choose to do more. There are 3 (wards, NICU, and PICU.) PICU tends to be the most difficult, especially if the student hasn’t spent much time on the peds wards, so often recommend another Sub-I or high level course before PICU. In terms of timing, if the student has already received comments that they are functioning like an intern and feel ready to jump into the intern role, then they need not do any other course before a sub-I. If they took time off before fourth year or don’t have much experience at Children’s or need more practice with owning and presenting patients, they may want to do an inpatient elective prior to their sub-I. The most useful ones are those that are not purely observational or all outpatient, which include the busy consult services: Pulm, Neuro, GI, ID, and Hem/Onc. It is best if student does not take all pass/fail observational electives in the first

four months so that they have the opportunity to high pass and honor, which is included in their dean's letter.

**Balance of in versus out of department electives:** There are different philosophies in pediatrics. Some students feel this is their last opportunity to do adult medicine and wish to take advantage of it. Others never want to see an adult patient again and will take many pediatric electives to prepare them for intern year. Either is just fine.

**Out of Department Electives:** None specifically recommended.

**Away:** Not required. Can be useful if student feels they HAVE to be somewhere, as the program can get to know them and it can increase their chances of matching there. For any student with a "red flag," such as failing Step 1, poor grades, or extended time off, doing an away rotation at a solid program (not a reach), can allow the student to shine and help them get an interview when they otherwise might not have been offered one based on their paper application.

**Importance of Research:** Not very important. Don't need publications or presentations. However, it also won't hurt application.

**Interviews:** On average, most people apply to 15-20 programs and interview at 8-12. Numbers will be higher for those who are couples matching and/or if they have a "red flag." Interviews tend to be November through January, but may not need all three months.

**For the Undecided:** Do a pediatric sub-I if possible, though this could be difficult since there's a lot that needs to be accomplished by the end of August for submitting the application in September.

Course Data from MS4s Matching in Pediatrics in 2014 (n = 15 ) and 2015 (n = 11):

**Sub-I:**

Average of 1.36 Sub-I's per student.

100% did a sub-I in pediatrics

65% - Pediatric Sub-I (PEDS 8000)

58% - Pediatric Neonatology Sub-I (PEDS 8015)

8% - Pediatric ICU Sub-I (PEDS 8027)

11.5% did an additional Internal Medicine sub-I

**Electives in Pediatrics:**

38% took Pediatric Infectious Disease (PEDS 8009)

31% took Pediatric Cardiology (PEDS 8004)

31% took Breastfeeding Management (PEDS 8029)

23% took General Academic Pediatrics (PEDS 8018)

**Out of Department Electives:**

50% took Foundations of Doctoring 4 (IDPT 8000)

42% took Physician as Advisor (IDPT 8020)

38% took Cardiac Diagnostic Skill (MEDS 8005)

38% took a teaching elective (Physician as Educator or Tutoring in Foundations)

23% took an emergency medicine rotation

19% took a radiology elective

8% took a dermatology rotation

**Away:**

46% did at least one away rotation in pediatrics

15% did two or more away rotations

## Psychiatry

### AAMC Basics

Competitiveness: Low

Mean Step 1/ Step 2 CK: 216/ 230

AOA: 5%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.3

Mean # of Abstracts, Presentations, Publications: 3.2

Mean # of Programs Applied to per Applicant: 23.6

Total # of Programs: 193

Interview Timing: Oct-Feb

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**Psychiatry Specific Competencies:** Perform in-depth mental status exam, demonstrate strong interviewing skills (including taking a thorough psychosocial history), participate in courses that examine human behavior and/or psychiatric illnesses, demonstrate passion for helping others through volunteering or service learning

**Audition Rotation:** Not recommended

**Sub-I and Electives:** If psychiatry clerkship < 4 weeks, psychiatry sub-internship; otherwise sub-internship in medicine or pediatrics (if interested in child psychiatry) Electives:

Neurology, emergency medicine, cardiology, dermatology, endocrinology.

From the American Psychiatric Association:

**Electives:** At least one in elective in psychiatry during fourth year, in order to show your interest in the field. Ones that allow an exposure to a variety of settings, such as outpatient, inpatient, and emergency, are especially good.

**Away:** Not necessary to match into psychiatry, but does allow student to audition for a program (most helpful for reach programs) and gives the student a better sense of the program.

**Research:** Probably not crucial to match at desired program, but exposure to research is helpful if considering an academic career.

**Letters of Recommendation:** Most programs require 3-4 letters. Should have at least one from a psychiatrist and one from medicine (or pediatrics.)

### CU Specialty Advisor Recommendations:

From Dr. Joe Sakai:

**Sub-I:** Should do one in pediatrics or internal medicine early on in order to be on transcript.

**Psychiatry Electives:** Advanced psych rotation early in fourth year, such as advanced adult inpatient psychiatry or advanced child and adolescent psychiatry, are essential. These allow students to get a strong experience treating acute and chronically mentally ill in a higher acuity setting since many rotate in lower acuity setting during third year. Many students will take additional subspecialty psych rotations, but there's no specific favorite or recommendation.

**Balance of in versus out of department electives:** Depends on the student. This is their last chance to explore many areas of interest in order to be a solid physician coming into intern year.

**Out of Department Electives:** A few internal medicine rotations may be helpful for internship.

**Away:** It's a double-edged sword. If they choose to go to learn more about a program, they need to shine and do a good job. It could hurt them if they do a mediocre job.

**Importance of Research:** Generally not essential, though it depends on the program. Most students have a nonexistent or limited research background.

**Interviews:** In previous years, students have applied to 10-20 programs and interviewed at 4-8.

**For the Undecided:** Change preceptors to psychiatrist during third year in order to get more exposure.

Course Data from MS4s Matching in Psychiatry in 2014 (n = 7) and 2015 (n = 14):

**Sub-I:**

86% did a sub-I in either pediatrics (14%) or internal medicine (72%), including MICU

**Electives in Psychiatry:**

81% took Advanced Adult Inpatient Psychiatry (PSYM 8000)

19% took Advanced Child and Adolescent Psychiatry (PSYM 8004)

**Out of Department Electives:**

62% took Cardiac Diagnostic Skill (MEDS 8005)

52% took Film and Mental Illness (MEDS 8040)

33% took a teaching elective (Physician as Educator or Tutoring in Foundations)

29% took an emergency medicine rotation

24% took Applied Clinical Pharmacology (MEDS 8029)

24% took Clinical Toxicology (EMED 8024)

14% took Child Development and Behavior (PEDS 8024)

5% took a neurology elective

0% took a clinical cardiology or endocrinology elective

**Away:**

10% did an away rotation in psychiatry

## Surgery - General

### AAMC Basics

Competitiveness: High

Mean Step 1/ Step 2 CK: 229/242

AOA: 13.6%

Importance of Doing an Away Elective: Low

Importance of Research: Medium

Mean # of Research Experiences per Applicant: 2.7

Mean # of Abstracts, Presentations, Publications: 4.2

Mean # of Programs Applied to per Applicant: 42.9

Total # of Programs: 253

Interview Timing: Nov-Jan

### Specialty-Specific Recommendations:

From the Alliance for Clinical Education:

**Surgery Specific Competencies:** Prerequisites detailed in the following guide:

Successfully navigating the first year of surgical residency: Essentials for Medical Students and PGY-1 Residents (<https://www.facs.org/~media/files/education/essentials.ashx>)

**Audition Rotation:** Not necessary for general surgery

**Sub-I and Electives:** Surgery Sub-I. Electives: Critical care, anesthesia, radiology, internal medicine, intensive care, pulmonary, cardiology, boot camp (anatomical dissections, lab simulations, technical experiences)

From the American College of Surgeons:

**Away:** Not required at most general surgery programs.

**Important Factors for the Match:** Most of the competitive, academic, university programs look for those elected to AOA, ranked in the top 10% of their class, and with research publications. Other programs place less value on AOA election, research, class rank, and step 1 score. Those who are elected to AOA, have USMLE board scores in the top 10%, are ranked in the top 10% of their class, have research publications, and have strong letters of recommendation from surgeons will be qualified for any program in the country. USMLE scores are important for being considered for an interview.

### CU Specialty Advisor Recommendations:

From Dr. Paul Montero:

**Sub-I/Electives:** Should do one sub-I in surgery and one rotation in the surgical ICU.

**Balance of in versus out of department electives:** Student should do what interests them and do the more intensive work (Sub-I's) early in the year.

**Out of Department Electives:** No recommendation.

**Away:** Students may consider one away rotation as a month-long interview to learn about a new system and to get another letter of recommendation. This recommendation is not a strong recommendation as it is impacted greatly by individual student characteristics (i.e. married, kids, financial stress, uncertainty about surgery, desire for a specific residency).

**Importance of Research:** Increasingly important. Being a first author in a reputable journal makes a big difference, but even a poster presentation or being able to talk about participation in research is helpful.

**Interviews:** Significant variability in the number of programs students apply to. Weaker applicants should apply to 40-50 and take any interviews they're offered. Most students interview at 10-20 programs.

**For the Undecided:** Do a sub-I or surgical elective based on interest.

Course Data from MS4s Matching in General Surgery in 2014 (n = 6) and 2015 (n = 5):

**Sub-I:**

100% did a general surgery sub-I

82% - University Hospital

18% - Denver Health

36% did an additional general surgery sub-I at St. Joseph's Hospital

18% did an additional cardiothoracic surgery sub-I

64% did a SICU sub-I in addition to a general surgery sub-I

**Electives:**

55% took Cardiac Diagnostic Skill (MEDS 8005)

45% took Physician as Advisor (IDPT 8020)

27% took Diagnostic Radiology (RADI 8000)

27% took Film and Mental Illness (MEDS 8040)

27% took Wilderness Medicine (EMED 8031)

27% took Critical Care and Procedures (EMED 8007)

27% took Pathology (PATH 8000)

18% took an internal medicine consult elective

9% took an anesthesia elective

**Away:**

55% went on at least one away rotation

27% went on two away rotations