Part I: Overview of Urology

Description of Specialty, Common condition, types of patients:
Welcome to Urology. We are delighted you are planning to pursue this specialty. Urology is very dynamic and competitive field with many subspecialties and career options. You may choose to work in academic medicine, private and community urology practice, or in Veterans health administration (VA) hospitals. You may want to work in research or join industry working on new innovations and technology. This specialty deals with conditions of the urinary tract and genitalia in both children and adult patients. We treat wide variety of conditions including but not limited to urologic oncology (cancers of the kidneys, bladder, ureters, and genitalia), kidney stones, male infertility, men's health, voiding dysfunction in men and women, prostate conditions, urinary incontinence, and erectile dysfunction. You have the option of practicing general urology or specializing in any of these fields.

Career trajectories: academics, clinical, research, teaching, etc. :
Urology offers multiple opportunities for academic practice, mostly after fellowship training. Urologists may join a large practice group with the option of focusing on any of the urology subspecialty, starting a solo private practice (though this is increasingly uncommon), or joining a hospital-employed practice in a large hospital or organization including VA hospitals. All these opportunities offer clinical practice or combination of practice, research and teaching urology residents, medical students and fellows.

Practice Models
Practice models for general urology include traditional private practice, group practice, employment through a Health Maintenance Organization (HMOs, for example, Kaiser Permanente), hospital or medical center employment, Veteran Administration hospital (VA), academic medicine, public health or community health centers, Indian Health service or the military.

Residency: Length, typical curriculum
Typically, urology residency is 5 or 6 years, including six months of general surgery and core surgical specialty training in the General Surgery department as intern. About 25% of residencies are 6 years in length and include a full year of funded research. Most programs include 4 or 4.5 years of full-time training in urology, beginning with training in endoscopic techniques and culminating with a broad
operative experience in open, laparoscopic, and robotic surgical training addressing a wide variety of conditions. Many urology residents choose the field because of the diversity of surgical indications and techniques practiced in the field. Over 4-4.5 years of training, urology residents rotate through various urological subspecialties like endourology, men’s health, Female pelvic medicine, pediatric urology, reconstruction and oncology. Some program offers ambulatory/community rotations to provide exposure to the private practice environment.

Fellowships offered after residency
A number of fellowships are offered after graduation, including urologic oncology, urogynecology, endourology, reconstructive urology, andrology and men’s health, pediatric urology, and minimally invasive and robotic surgery. Fellowship length varies from “mini” fellowships of 6 months to as long as 3 years for some urologic oncology fellowships.

Part II: Life as an Urologist

Demographics

In 2016, there were 12,186 practicing urologists identified in the United States. The overall urologist-to-population ratio increased slightly to 3.77 per 100,000 population in 2016 up from 3.70 in 2014 and 3.72 in 2015.

More than 87 percent of practicing urologists in the United States are certified by the ABU, the AOBS or both. The median age of practicing urologists in the United States is 55 years. Practicing urologists are predominantly male, non-Hispanic and white. Male and female practicing urologists represent 91.5 percent and 8.5 percent of the U.S. urologic workforce, respectively although these demographics are rapidly shifting. Approximately 40 percent of practicing urologists in 2016 were fellowship-trained. The three top areas for fellowship of practicing urologists in the United States are oncology, pediatrics, and endourology/stone disease. Practicing urologists in the United States have practiced urology for a median of 21 years, while nearly 30 percent of practicing urologists have practiced for more 30 years. Nearly 59 percent of practicing urologists in the United States are in private practice (including solo, single urology or multispecialty groups). Over 40 percent of practicing urologists in the United States have a primary subspecialty area, with oncology being the most common subspecialty area. The number of female applicants successfully matching in urology residency programs has continued to rise and is now at almost 26%, according to 2019 AUA match statistics.

Earnings Potential

According to the 2018 survey, urologists reported average earnings of $395,000. Incomes tend to be slightly higher for those practicing in the Southern and Midwest U.S. regions than for those in the Eastern and Western U.S. regions. Additionally, compensation is higher for those in private vs. academic practice. Sub-specialists usually have higher compensation, but do spend longer in training.
Lifestyle
Most urologists enjoy a good lifestyle with adequate time for themselves and their family. Practicing urologists in the United States work a median number of 56 hours in a “typical” week. More than 34 percent of urologists work over 60 hours a week. General Urologists usually take overnight home call on average 1 week a month; however, there is a wide variation in practice size and style. Urologists often work closely with physician assistants, nurse practitioners, and certified medical assistants. Most urologists now work as employed physicians, but solo practitioners and small group practices are still common. Subspecialists in academic centers may have very different lifestyles with residents and fellows helping them in the hospital.

Academic Medicine
Academic medicine is a choice for some urologists; Sixty-four percent of practicing urologists in the U.S. work in private practice and one third (33.9 percent) practice in institutional settings such as hospitals or academic medical centers. Academic urology departments generally will have all specialty areas represented. Academic urologists may participate in research, teaching of medical students and residents, and provide clinical care to patients. These urologists are often affiliated with an Academic Medical Center or Medical School and have faculty academic appointments at the University or the medical school. Urologists not in academic medicine may continue to have a teaching role as clinical faculty with local or regional medical schools while practicing in private practice groups. Residents or fellows rotate in some of these large community practices for surgical experience.

Part III: Applying in Urology

How Competitive is Urology?
Urology is one of the most highly competitive surgical specialties. It is also an early match, conducted through the American Urological Association (AUA), which occurs in January each year. There are only 330 total residency positions in the United States as of the 2019 match. The size of programs varies from 1-5 positions per year. The average number of applications received by program is around 234 applications but varies based on the reputation and size of the program- some programs receive over 400 applications each year. The average number of interviews offered by urology programs is 36. The average applicant in 2019 applied to 71 programs and received 12 interviews.

Planning the post-clerkship and senior years
Once you have decided on a career in Urology, you should meet with your academic advisors to plan your post-clerkship clinical experiences and extracurricular activities. Be prepared to discuss your strengths as a future applicant, and be open to discussing research and other opportunities to improve your standing as an applicant. You should also make appointments to meet with the residency Program Directors at the affiliated hospitals to introduce yourself and discuss your candidacy; even if you are not planning to stay in Boston for training, it is a good exercise in meeting a Program Director and discussing your CV.
Clinical Rotations

Sub Internships
We recommend you complete at least 3 Urology sub-Is, at least one of which should be at an HMS affiliated hospital besides where you completed your PCE year. Sub-internships in Urology should be completed by July of your senior year in order for the department committee to have adequate time for course grades and summative comments to write Departmental Summary Assessment (DSA) in August for all students (see below).

You will want to ask the department chair for a letter of recommendation; don’t worry about this - chairs expect to be asked. It is best to make this request early in the rotation to give the department chair adequate time to write the letter.

Away electives
Away electives are often sought by students as “audition rotations.” While these rotations are critical to demonstrating your ability to perform at a high level outside of the HMS “bubble,” remember while a stellar performance may impress some faculty at the away institution, anything less may actually diminish you as a candidate.

If you have a particular reason for a specific program (partner or spouse in same institution, family or other ties to a region) or feel you will be able to impress a program with your clinical performance, choose a rotation which will allow you to come into contact with many faculty and residents. Remember, you cannot receive academic credit at HMS for more than 2 clinical electives in the same specialty. (HMS Student handbook Section 2.14)

The goal for an away elective should be to learn more about a program or hospital which you plan to consider high on your rank list and to obtain a high quality letter of recommendation from a prominent academic surgeon in the field.

Other Recommended Electives
It is not necessary to apply for other electives outside urology. Since urology is early match, there is not enough time left for non-urology electives as the ERAS for Urology opens in September and interview season typically runs from October through December.

Research
Urology is a competitive surgical field and many programs will expect an applicant will have research experience. Research experience is definitely expected at the more competitive programs - it is not necessarily the topic of your research that matters, but the experience of participating in scientific scholarly activity. Successful applicants to top programs will have at least one publication in a high-quality journal and though first-authorship isn’t required, it certainly helps. Research activity also shows
your commitment to Urology. Research activity in your application is considered highly as it puts you apart from other equally qualified and competitive applicants. Research does not need to be lab experience or clinical trials; medical education research, global, community, or public health research all qualify. Most HMS students will have some experience from their Scholars in Medicine project. If you do not have any research experience by the time you decide on Urology, plan to meet with the Department chair from your PCE site, your clerkship director, or your Specialty Advisor. They can help direct you to an appropriate project. You should also make all efforts in picking up an ongoing research project during your sub-I rotations both local and away rotations. While it is less likely a research project in the senior year will result in a publication, you may have a poster presentation or other avenue for presenting your work.

National Meetings
If you have the opportunity to present at a national meeting in Urology, take advantage of this! These meetings are an excellent networking opportunity and a way to introduce yourself to program directors and others involved in residency selection committees. There are three meetings commonly attended by academic faculty and Program directors in Urology: the American Urology Association annual meeting in May, AUA section meetings in the fall and the Society of Academic Urologists (SAU) meeting in February. This meeting is mainly attended by program directors, chairs and other academic faculty. Students are encouraged to apply to present at national and regional meetings.

Other degrees
Some of the applicants have completed PhD and MPH, MBA degrees at the time of residency application but it is not a requirement for applying in urology.

Part IV: Assessing your Competitiveness

What Criteria do Programs Consider?
Assessing your competitiveness will determine how many and what types of programs you should apply to. Your application portfolio has many facets, many of which are immutable by the time you reach your senior year. You should realistically assess your competitiveness with your society advisor; for example, low USMLE Step scores may mean you need to apply to more programs, or different types of programs, to match successfully. There is no uniform number of programs recommended - rather, you need to determine a successful strategy for you as an individual, your personal preferences, whether you are couples matching and your unique strengths as an applicant.

If your self-assessment indicates you are a less competitive candidate, you might consider applying for an away elective at one or more of your desired programs and applying to more and less competitive programs. A stellar performance and a letter of recommendation from a faculty member will help your application.
1. Grades and your DSA
While grades are important, not all grades are equally important. HMS is now using the Department Summary Assessment for 2019 and beyond (a small set of seniors will still be in the New Pathways and will not have a DSA in 2019-2021). The DSA is intended to capture a student’s professional growth over time and includes all clinical coursework in the specialty from the clerkship through July of the application year. It is anticipated most, but not all, students applying in Urology will have an Honors with Distinction in all urology Sub-Is and electives. Besides the electives, DSA grades in core clinical surgical and medicine clerkships are valued by Urology residency programs and should be Honors with Distinction to apply successfully. Poor grades diminish your competitiveness, but many programs (even highly selective programs) use many criteria to evaluate candidates.

2. USMLE Step Scores
Most Urology residency programs use Step scores, especially Step 1, as an actual or virtual screening tool. The reasons for this are several, but in general standardized tests are viewed as an objective measure of academic achievement and potential, and programs want to ensure trainees have the academic strength to finish training and successfully pass Board exams. Many programs set a “cut off” value for step 1 score as a screening tool to select from a large pool of applications. Prominent, highly selective programs have many high-achieving applicants; it is not unusual to see a high cut off step 1 score. These programs can afford to screen out applicants who have not met a certain score. Less selective programs are more likely to consider applicants with lower scores. In general, most highly selective programs use either 230 or 240 as their Step 1 score cutoff.

Urology programs have no expectation applicants will have taken Step 2 before extending an interview invitation or ranking applicants. In fact, if an applicant has a high Step 1 score, he/she should STRONGLY consider omitting taking step 2 until late enough in the application cycle that scores will not be available. Programs are happy to interview and rank applicants without Step 2 scores available.

3. Research Experience
It is expected most applicants in Urology will have some research experience during medical school and/or during sub-I rotations. Some applicants who have decided to pursue Urology, take time off to do research to strengthen their application and become more competitive. Some programs may not offer an interview to a candidate with no research activity.

4. Publications
This may include peer-reviewed articles, abstracts, poster sessions, and invited national or regional presentations. Some residency programs may verify and or review publications for applicants in whom they have an interest, but most probably do not. It is useful to include even case reports in their application.

5. Extracurricular Activities
The NRMP data shows successful applicants in many fields, had fewer volunteer experiences than unsuccessful applicants. Volunteer experiences are viewed most favorably when the student gains leadership experience—for example, serving as an officer in an organization or in student government, medical school committees or when the student has a role in development or innovation of a program.

Getting an Interview: Attributes Residency PD’s Consider in Granting Interviews:
Without question, USMLE Step 1 scores are important in determining which applicants are granted interviews; 97% of Urology residency program directors use Step 1 scores as a factor. There is no absolute “cutoff” or required Step 1 score for all programs (though many programs do have a cutoff of 230 or 240), however successful applicants to top programs usually have a 250+ step score.
Letters of recommendation are the second most commonly cited factor in choosing candidates for interviews, followed by Step 2 scores (if available), the personal statement, and the MSPE/Dean’s Letter. Measures of academic achievement, expressed as grades, honors, and other metrics are considered by most programs.

When programs are ranking applicants for the Match, the attributes most valued are interpersonal interactions and skills: interactions with faculty, staff and residents during the interview process, and feedback from current residents are most commonly listed as contributing to a candidate’s ranking. Step scores and performance in core clinical rotations remain important, as does the MSPE/Dean’s Letter, and letters of recommendation.

Letters of recommendation:
You will need at least 3 letters of recommendation (LoR); one from each department chair where you do a sub-I and potentially one from another source. Most HMS students will have 3 supporting letters. You want to choose faculty who will be strong advocates for you as an individual, who know your personal and your clinical strengths. A professor with whom you have done research, particularly if a paper has resulted, is also a good choice, as they can comment on your work ethic and research experience.
When choosing your writers, consider choosing:
● Faculty member who knows you well
● Research mentors
● Faculty with a national reputation- this may be in research, clinical medicine, or education
If you choose a writer from outside Urology, the writer should know you very well, be able to comment on your abilities to perform as an Urology resident, and ideally be someone well-known in academic urology.

Ask for your letters as soon as identify the faculty member you want as your letter-writer; this may be at the conclusion of a rotation or sub-internship, which may be months in advance of the deadline. Some faculty members write a LoR at the time they are asked, while others may put this off until the deadline. Once a faculty member agrees, remember to reach out to them again in May or June to give the writer adequate time to review your record. Give your letter writers your CV and personal statement to review as soon as you have them completed. Plan to meet with each writer in the summer to review your portfolio and give them time to write the letter. Ask the writers to submit their letters before August 31.
ERAS provides a letter request form you should provide to your LoR authors. This form assists your letter writer with submission of the LoR, and includes instructions on how to access and use the ERAS Letter of Recommendation Portal.

ERAS gives you the option to waive your right to review the LoR. There is no benefit to reviewing your letters, and program directors would be concerned if an applicant did not waive this. It is strongly recommended you waive the review.

**How many programs should you apply to?**
The number of programs you should apply to depends on your competitiveness as a candidate, your geographic restrictions (if any), whether you are couples-matching, and other factors. One of the main predictors of the number of programs needed for a successful match is your Step 1 USMLE score. Most applicants matching in their preferred urology program have high scores. A lower score does not make you unmatchable; however, lower scores indicate a need to apply more broadly. You can use your Step 1 score as a guide for how many programs to apply to. The AAMC calculates a “point of diminishing returns” based on step 1 scores in each specialty. In urology, successful applicants with a score over 242 needed to apply to 27 (confidence interval 18-36) programs to reach the highest likelihood of matching successfully. The likelihood of entering a residency program at this point is 75%; adding more applications did not increase the chances of a successful match. Keep in mind this is for all types of programs; if you desire a highly selective program, you may need to apply to more programs. Another strategy is to mix the types of programs you apply to, with some “reach” and some “safety” programs. Similarly, for scores lower than 242, you may have to apply to more than 29 programs (confidence interval 24-34). There is no magic number. There is now a trend to apply to more programs in general than seen in the past. According to AUA statistics average applications sent by applicants were 70 in 2018.

Regardless of how many programs you apply to, you want to interview at as many programs as you need to match. In recent years, HMS students applying in Urology matched into their top 5 ranked programs, with most students matching at their top 1-2 programs. When ranking programs, be realistic. Remember, by ranking a program, you are agreeing to employment at that program. **Do not rank a program you do not wish to attend.** Rank the programs in your preferred order, and (this is the hardest part!) trust the AUA will give you your best match.

**Common questions you may be asked – specialty specific:**
Be prepared to discuss everything listed in your ERAS portfolio, especially anything you discuss in your personal statement. Since this is the area of your application where you have the most “voice”, it is natural for interviewers to use it as a launching pad for getting to know you. Be prepared to talk about your accomplishments and any current projects, publications, or activities outside of medicine. During an individual interview, expect you will be speaking 80% of the time.

Interview questions fall into several categories:

- Career plans:
- Why are you choosing urology?

- Where do you see yourself in 5,10,15 years?
- Do you plan to sub-specialize? If so, why and what? If not, why not?

- Motivation for applying to this program, and what you will add:
  - What makes you stand out among your peers?
  - Why do you want to come to our program?

- Behavioral
  These questions use a business interview format called STAR (Situation, Task, Action, Result). The interviewer will want to know the situation or task in detail, what the desired outcome of the situation or task was, what action you did or did not do, and what the results were. This type of question is intended to discern a candidate’s compatibility/personality:
  - Tell me about a time you received constructive criticism?
  - Tell me about a time you had a challenging patient- why was this challenging, and how did you handle it?
  - Give me an example of your initiative and/or leadership.
  - How do you handle conflict? Give an example.
  - Tell me about a time when you had to make a split-second decision- either in or outside of medicine.

- Unique characteristics
  - What are you most proud of (academic or in general)?
  - What do I need to know about you that aren’t in your application?

- Unusual Interview Techniques
  - Some programs are using skills assessment, such as suturing or laparoscopy tool manipulation.

For all these question types, have answers prepared and be well-versed. Writing the answers to interview questions out and rehearsing the answers **out loud** (even if it’s just to the mirror or a houseplant!) are good techniques to prepare.

Common interview **errors** include:
  - Poor preparation, not being familiar with the program
  - Inconsistent or inappropriate answers to questions
  - Abrasive, condescending, evasive or arrogant behavior
  - Disinterest or flat affect
  - Inappropriate humor
  - Negative comments on other programs, candidates, or the program itself
• Negative interactions with residents. (most programs arrange social gathering in evening before the interview where you can interact with current residents to get a feel for the program and resident life). This can be the biggest red flag about an applicant.

Communication with Programs: AUA Code of Conduct for Applicants and Programs
Both candidates and programs are governed in their behavior and communication by the AUA Code of Conduct (see AUAnet.org). This is a binding contract you agree to by your participation in the Match. The intent of this Code is to protect applicants’ privacy and confidentiality, to prevent programs from asking illegal or coercive questions, and prevent onerous displays of intent (second interviews or visits, rotations at the program institution, demanding to know how the candidate will rank a program).

If you have one clear first choice program, discuss with your specialty advisor whether you should inform the program director. While some programs want to know this information, others may not use it in their rankings. In most cases it will not help you to inform the program. **Do not** tell a program you are ranking them first if in fact you are not planning to do so- program directors do talk to one another and to clerkship directors to gather information about candidates, and you do not want a reputation for dishonesty.

Advocating for Interviews
If you do not get an interview offer with a desired program, but you are placed on a waiting list, you have several options- acceptance, advocating for yourself, or asking your clerkship director or SA to advocate for you. We recommend discussing this with your SA, including a frank discussion of your reasons for wanting a particular program and your competitiveness at that program. If after discussion you want to approach the program, you may communicate with the residency program director yourself or ask your advisor to contact the program director. It is unusual to get an interview if you are not on the program’s waiting list.