TRANSCRIPT OF
THE 2003 MEDICAL AND GRADUATE SCHOOLS
ADMISSION ADVISING SESSION

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ACKNOWLEDGMENTS

The Johns Hopkins University’s Student Chapter of BMES would like to thank Dr. Artin Shoukas and Dr. Lawrence Schramm for their undivided support and commitment to their students. This transcript was made possible by their commitment to your future.

We would also like to thank Darrell Cherry and Cathy Jancuk for their help in organizing the room reservations and their general support towards all of our events.

Last, but not least, we would like to thank Dr. Sachs, Dr. Popel, and Dr. Shoukas who have provided guidance and support for everything we have done as an organization.
GRADUATE SCHOOL ADMISSION – DR. SCHRAMM (lschramm@bme.jhu.edu)

1. Preparing for graduate school

a. How important is undergraduate research?

Very important. For applicants with GPA of approximately 3.2 or above, the decision depends on the applicant’s talent—research—for most graduate schools.

The idea for research is try to get into a lab as early as possible and stay in that lab for as long as possible. However, that’s not all. It isn’t really about how many papers you have published. It’s about the recommendation letter that says, “Joe came into my laboratory and picked up the techniques quickly, worked hard, bothered me all the time with really interesting, important questions, came up with his own ideas....”

So going into a laboratory passively isn’t going to get you anywhere. It’ll be fun, but for graduate school, you have to be scientifically aggressive. You have to find a thesis project, you have take courses blindingly difficult... you have to be really aggressive. Start now by being careful about what lab you get into, by pushing in that the laboratory as independently as you can. In any case, great research experience is key.

b. I want to do undergraduate research, and I have this list of research labs from my department’s website. Now how do I find out which lab to attend?

You want to start out by contacting the lab director. Because if you start out by emailing the people working in the lab, word may slowly trickle up, and the lab director may feel left out.

So email the lab director, and go visit the lab. There are actually a lot of students who call up faculty to visit them in the lab. That’s another way to find out about a lab.

Of course, never visit unannounced. So email someone to see if it’s okay. Also, it’s always nice to include a time limit in your inquiry email, “I would like to stop by for a few minutes or half an hour.”

c. How many published papers do you need to get into graduate school?

Rather than number, it is about your contribution to the research. If you have no published paper, but your research advisor writes in his or her letter of recommendation that you have performed innovative work, and he or she is sorry that you are leaving the lab... that is better than being the middle author of four papers.

For your information, the average MD/PhD applicant has his or her name on 1.5 papers
d. How do I get recommendations from professors?

Dr. Schramm: Try to get a course, or a couple of courses that you really like, and go at them aggressively (even if they are large courses) such that you get known by the faculty member. So the faculty can say this person has a different approach, an original approach. That’s one thing.

The other thing is very often there will be a person related to a laboratory, especially since different laboratories are often collaborating with each other, there isn’t just the lab director but people from other laboratories. This is very often where the recommendation letters come from.

I am afraid that, in general, engineers write lousy recommendations; they are getting better, but the idea of a recommendation letter for a graduate school for an engineer is a single paragraph.

The problem is that many of us in the BME department for a long time have also been reviewing MD/PhD or MD applications, where anything less than a page of glowing praise is considered a very bad sign.

So, a really good question to ask a faculty member is whether or not they feel they know you well enough to substantially state what they know about you. And you can even ask them if they feel they can write a good letter of recommendation. If they start wondering and pausing, you can always say, “Well, I’m talking to a lot of faculty members and I’ll get back to you.” On the other hand, this also gives the faculty member a way out of the letter, “What I know of you is very good, but I can’t write a page and a half on it... I don’t know you that well.” So the faculty member also has an out.

The last thing you want to do is call someone up and ask if they can do a recommendation letter for you and then have it followed by silence. You want to speak to the person face-to-face, and you want to ask them, “Do you feel like you know enough about me to write a letter of recommendation?” No one is going to object to that question. There’s no pressure with that question. People can then either ask for you to discuss your accomplishments with him/her or you can say, “Would you like to hear what I have been doing that’s not in your class or laboratory?”

Dr. Shoukas: there are two types of letters: original and cookie cutter. The cookie cutter letter is essentially changing the name, a he to a she, a his to a her... In fact, there has been the same letter written by the same person for 10 different students. You want to try to avoid that. It is pretty well known in the admission office who writes those kinds of letters.

Basically, don’t just go begging for recommendation letters. It is the worst thing you can do.

Make sure you have a good personal statement written before you even ask someone for a recommendation letter. Write a personal statement, have it looked over, and make sure it really states what you have done and what you want to do. Then you can email it, or much better, drop it by the office of a potential letter writer. This will remind them of your accomplishments and also make writing the letter a lot easier for them.
e. Is it better to take the GRE or the MCAT for graduate school? Students have heard that the MCAT is better for BME students.

You should take the MCAT instead of GRE for graduate school if you are applying for a MD/PhD program.

While graduate schools will accept the MCAT in lieu of the GRE, and it won’t necessarily hurt you, the admissions office may wonder, “What is this person trying to do? Does this person really know what they want to do?”
2. Applying to graduate school

a. Should I visit laboratories at the graduate school? Before the application process has even started?

For masters programs, it is common to go visit a laboratory. Look up the people in the schools you are interested in... you can have your research advisor or even you yourself can contact the people and say, "I have read your last four papers and I find such and such very interesting. I don’t understand this aspect of this, can you please explain it. I am interested in working in your laboratory as a graduate student."

Do your homework! If you are going to a place to visit or for an interview, you are very likely going to know ahead of time whom you are going to see. You should go and find out what they do! At the minimum, look at Pubmed and look at their abstracts, but much better than that, look at their papers.

Even more aggressively, actually send an email to the administrator and ask to be interviewed by specific faculty members. Then you can select people whose work you are really interested in and do homework on these people. It is so much nicer for someone interviewing for the interviewee to come in and have read what the interviewer has done and ask questions about it. This is something most people do not do, so if you do this, you will be noticed.

Even sophomore undergraduates have visited Dr. Schramm. Visit; get a feel for the department, a feel for the school... so when you apply, you know what you are applying to. You will then know the right words to say in your application.

Most faculty members welcome visitors... There are some ins and outs on timing, however (see below). Consider applying to graduate school a part of your education. Find out what this person you are visiting does and really make it part of your education.

There’s a dead time between the late application period and accepting and interview period... everybody is reading applications during this time, and they don’t really want anyone to visit at this time.

The best time to visit is the summer before you apply up until maybe October and not much later than that.

The thing is, if you apply and then call up for a visit... the chances of them looking up your application is zilch. So there’s no real advantage to visiting later. If you visit and they then see your application, they will remember you (especially if you write a nice note or email of appreciation for their time).
b. Do you need to know which laboratory you would like to work in before you apply to graduate school?

**It depends to some extent on the school.** There are a lot of schools (an increasing number of them) where you don’t apply to a specific lab, but you apply to the program. Then you have some time for free rotations through laboratories.

In some programs, you apply to the program, but you are actually applying to a specific lab that you have contacted ahead of time. So programs mix these options, having some positions that are directly lab-related and others that permit rotations.

As for rotating though labs, you can typically get out of a lab after a semester gracefully. However, after a year, after taking classes and spending 10 hours a week in the lab... the lab is paying you to do this... it’s kind of hard then to transfer to another lab the second year. While there often are no specific constraints, it’s still tough.

If graduate programs offer rotations, they are typically open about it. If they are silent, you have to ask, but then three quarters of them probably don’t have this option.

c. Do graduate schools communicate with each other to find out what schools you have applied to?

The schools you designate on your GRE registration form for receiving your scores will typically show up on your scorecard.

However, if you ask for specific score requests after you have taken the test already, the list of those schools is not included.

d. Are Hopkins undergraduates favored by Hopkins graduate school?

There was a time when Hopkins wouldn’t allow its own undergraduates to apply to its graduate program. It’s an old fashioned idea that “you have been here for four years, you should apply somewhere else.” That is no longer the case!

If you are an undergraduate here, we know a lot about you. **If you are really good, we will go after you.** But there is definitely no negative to being an undergraduate here if you are applying to Hopkins graduate programs.

e. After I have been accepted, can I defer entrance to graduate schools?

Most graduate schools have enough of a waiting list or are flexible enough that they can let you defer. It’s not like a neurosurgery residence program where someone would have to cover all your duties. Just don’t count on it without asking!
3. Questions regarding different programs

a. What is the difference between the 5-year B.S./M.S.E. program and the regular M.S.E. program?

- Combined B.S./M.S.E. program takes only 5 years to complete
- Regular M.S.E. program takes 6 years (including the 4 undergraduate years)

The B.S./M.S.E. program is a good fit for you...
- If you have money and time constraints
- If you are making a lot of progress in your undergraduate research; you know exactly what you want to do for your master's thesis.

On the other hand, with the B.S./M.S.E. program...
- It cuts short your education; everything is crammed in, and you will have little time for addition work.
- How well you progress depends strongly on the laboratory you are in and the support you are getting.

b. For BME M.S.E., would having a degree from another department help you?

It doesn't really make that much of a difference in graduate school. **It would make a bigger difference in industry.**

Some companies are still not quite sure what biomedical engineering is. Also, there was a time when there were a lot of weak undergraduate BME programs, and they gave undergraduate biomedical engineering a bad name. This is going away now, so there is less reason for dual-degrees and double majors, especially coming out of the Hopkins’s BME program.

c. Is the M.D./M.A. program suitable for a research career?

In order to compete in the research world today, **you really need all the background a PhD gives you** and more... almost certainly some postdoctoral work. So for a research career, MD/MA is not a great idea.

For a **career in medical management** however, if the MA is in business management, then the MD/MA makes a lot of sense.

With the way things are now, with grant applications being so competitive, only top researches get funded. So you really have to be prepared, and unless you are a genius, it takes a PhD degree to be prepared.

It used to be that you could go to medical school, do a residency with a 2-year fellowship, and then you could easily move out into a research career. You’re going to have to be really competitive to do that today. There are two reasons. One, medical school used to be graduate school. The courses in medical school used to be graduate level courses. Today, the medical school courses are called basic medical science courses, and they are taught at the upper undergraduate level. There is simply too much material nowadays for it all to be taught at the graduate level. So today’s courses don’t really prepare you well for a career in basic biomedical science.
d. Do you get less research time in a M.D./PhD program vs. a PhD program?

MD/PhD program solves this problem in a way by only accepting applicants that can really accelerate and become stars in their fields of research in less time than permitted in PhD programs. **You have to be really focused in MD/PhD programs**, and make compromises in course selections.

This is a complicated business... with most medical schools, you finish your required courses in the first three years, and the fourth year can be used to take electives such as research. Everyone has to do some sort of post-doc research anyway.
**MEDICAL SCHOOL ADMISSION – DR. SHOUKAS** (ashoukas@bme.jhu.edu)

**Introduction**

- What does it take to get into med school? **Don’t go into medicine for any other reason than wanting to heal sick people.** If you just want to make money, do business. You will not survive in med school if you entered for superficial reasons. The pressure is on!

- You have to go in for the right reason. **If you just want to do research, go get a PhD.**

- Don’t say you are going to med school because you love kids. You will have to be able to examine a sick child and be able to walk out to tell his or her parents that the child has one year to live. Ever been to the pediatric oncology department at the hospital?

- **You have to want to heal or try to heal the sick.**

- **You have to be willing to sacrifice many things** such as your life and your family to enter the medical profession.

- If you intend to apply to medical school, **visit the premed office!** “You need to visit the premed office.”

**What's needed to get in?**

Analogy: Think about the application to medical school as a car. A car has four tires and requires four inflated tires to drive. It does, however, have one spare so if you puncture one, you can use the spare. However, if you have two flats, the car won’t go.

So let’s apply this to the application, you have 4 tires:

1. GPA
2. MCAT
3. Letters of recommendation
4. Extracurricular

1. **GPA:** there is no GPA that will get you into medical school. It is used for screening process by the admission office to separate applicants into initial groups.

   You may wish to explain any grades that are inconsistent through letters of recommendations and also through your personal statement. More specifically, if you did well throughout your undergraduate career except a sudden dip in grades one semester, explain what happened.
2. **MCAT**: there is a linear correlation between your SAT score and your MCAT score. The only thing the Kaplan course teaches you is how to take the exam.

Verbal, Biology, Physical Sciences, and the Writing. Most of the BME has a Biology score of 11, Physical Sciences of 12-15. You’ve got to be above a 7 in each category.

*If you break a 30 composite score on the MCAT, do not retake it.* Students always say, “Damn it! I can do much better.”

The MCAT is not “the” thing that is going to get you into medical school

3. **Letters of recommendation**: Engineers are the worst letter writers in the country. John did well in my class... John got an A... BME is a hard program. Doesn’t really tell much. It is important that the letter writer understand you as a person and is well prepared to write pages about interactions you have had with he/she.

Get letters from people who know you... people want to know who you really are...

1) Research: you do not need research to get into medical school. One reason to do research is to have fun doing something you’re interested in. The other reason is to get to know people, who helps you get letters

2) Extracurricular: same thing, sources of letters of recommendation. Extracurricular don’t need quantity, but quality and what you have contributed. It doesn’t matter how many honor or engineering societies you are in... it’s what you did in those organizations. “You don’t need numbers, you need actual quality from those organizations.”

Also, extracurricular is a look at what you do outside of your studies. What you have done is important as medical schools look for consistency and quality in all that you do.

Do I have to do all these? Yes, medical schools are looking for unicorns... people who are above the average.

The admissions office wants to see that you are a dedicated person... they don’t want people who quit after three years. It costs too much for the medical school.

You want unbiased letters: family, friends of the family are biased and are not admissible.
The Interview

- **Look at your interviewer!** No eye contact = what’s going on?

- **The first five minutes of the interview are really important.** The interviewer’s impression of you is made during the first five minutes since you walked into the office.

- **The interview starts when you walk out of your house and ends only when you walk back into your house.** As you walk around the university, travel on the plane, you are being interviewed. Why? Because everybody is interviewing you.

  **Example 1:** Someone before Jane is late for his or her interview, Jane is upset and complains to the secretary, “Where the hell is this guy? I’m late for my next interview.” Guess what, the secretary wrote her up.

  **Example 2:** The medical student you go to lunch with... you know what he’s doing? He’s not having lunch with you!

- **Do not** take your parents on your interview trips...

  Dr. Shoukas’ own example: Dr. Shoukas and his wife were celebrating their anniversary, and they went to a downtown hotel’s restaurant. Next table over is a young lady talking to her parents, and she was very obnoxious. Guess what? That young lady came in the next day to Hopkins for an interview.

- **Always be prepared with business attire, and you should have questions to ask your interviewer.**

A Reminder for when you are applying

Make sure your school transcript matches what you put down on your application. Get mistakes straighten out before hand... and what you put down on the MCAT matches the transcript that you send out. If it doesn’t, you get rejected... doesn’t matter if the grade is actually higher or lower. Either you can't transcribe or you’re playing a game.