

THE UNIVERSITY OF ARIZONA College of Medicine Phoenix

# **SPECIALTY REPORT**

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College of Medicine Phoenix

### Chairman of Neurology and Executive Director of the Neuroscience Institute at Banner University Medical Center: Steve Chung, MD

Dr. Chung is Chairman of Neurology and Executive Director of Neuroscience Institute at Banner University Medical Center, and Professor of Neurology at University of Arizona. He is also Director of the Epilepsy Program at the same institute, and Neurology Residency Program Director at University of Arizona, Phoenix. Dr. Chung earned his medical degree at Northwestern University School of Medicine in Chicago, Illinois and completed his residency in neurology at University of California, San Francisco. His fellowships in clinical electrophysiology and epilepsy also were conducted at University of California, San Francisco. Dr. Chung is board certified in Neurology, Clinical Neurophysiology Specialty (ABPN), American Board of Clinical Neurophysiology (Epilepsy Monitoring Track), and Epilepsy Board.

# What was your path into medicine and neurology?

Medicine is a unique career where you can use your training to help people move on after experiencing medical problems with their lives, and is a way to give back to society. It seems like a long-term investment, but what you can accomplish and learn from your patients daily makes it much more than that. Many patients come back and you can see how grateful they are. Each visit is an opportunity to see how well they've done and how far they've come. I really enjoy the depth of information to the specific person and their specific disease. Your role as a physician allows you to provide more focused education than some website the patient visits. My model is one of empowering patients through education & sharing information. I find that the better educated patients are, the better their outcomes are as well. Similar concepts apply across all specialties, but especially for neurology, where patients cannot always see the injury.

#### Can you describe how neurology has changed within your time in clinical medicine?

Neuroscience is neurology and neurosurgery.





It was so true when I first started training that neurology is a specialty where you can make a diagnosis with history & tests and after that diagnosis is made, nothing else much could be done. What could you do besides diagnosing a stroke? Nothing: just referring to physical therapy, having some debates over the proper dosage of aspirin for anticoagulation and just hope they don't aspirate. There was no tPa or big blockbuster drugs to administer. Now, just in the epilepsy field we can count 32 seizure medications versus the 4 we had back in my training days. There has been this robust growth in therapeutic options & the next wave is coming again with gene therapy. My career started out as intellectually dynamic with very interesting diagnoses, and now it is evolving with more and more clinical therapies available to use. When training in SF, a mentor said he wished he had 10 more years because he wanted to see what happens to the growth of neurology. In many ways he was right.

#### What does your typical day look like?

Some days I spend 8am-12pm seeing patients (not everyday) and then meetings with faculty regardingtheresidencyprogram&neuroscience faculty meetings. Some of my time is also spent on clinical research and meetings for those, (such as with Dr. Gallitano for research).

#### Advice for students?

Neurology is a very broad field- I used to think neurology solely related to brain disorders, but that was truly just a very limited view. We are also responsible for expanded practices in spine care, muscles, peripheral nerves, brainstemsubspecialties which make this really a head to toe practice. Not only is this all intellectually very challenging, it's very difficult to grasp this broadness during one rotation. I suggest that students who are interested in neurology start with an aspect at the cutting edge of neuroscience and then go from there to find the subset of diseases you are the most interested in.

I realize that it can be very overwhelming to be a medical student and resident. Back during my training, a lot of my interactions, maybe 99%, were with academic physicians so the picture I got from medical school was very limited (U

of A is different because of the community physician in the through for residency

interviews are similar, and say that they want to teach medical students, do research, pursue academic medicine etc. What I have learned is that you cannot do everything immediately through residency alone. My PD at UCSF told me to do zero research for the entire 3 years. He said to our residency class that 3 years isn't enough to master clinical neurologythis is time for you to try to do that and the only time you will be trained in the clinical aspect of neurology, which you will live off of for the rest of your career. The other stuff can come later in fellowship and beyond. It is also important to say that research isn't for everybody and career tracts & promotions exist outside those research accomplishments. Don't forget about what your passion is. Medical

students are very good at doing what they're told. Initially I think you should focus on the clinical care aspect before research. Anybody can do research & probably get a grant (at least once)- doing it more than once is difficult. I tried it and did it through my residencyhated it through fellowship, even though I felt like it was the correct career move. I quit eventually and that was the last time I did any basic research, despite doing clinical research now. There's no such thing as "things you're supposed to do." The public needs clinicians, and I don't want the "dropouts" from academic medicine to be then trained as clinicians. That's why I tell my residents all of this.

#### What makes a successful resident?

What makes a good clinician? Is it the knowledge, your experience, the program you graduated from? Increasingly so, the networking & collaboration skills are the key these days. You cannot accomplish much

"You cannot accomplish much involvement unless you work well with others curriculum). in research and everyday clinical Most people who come care- this defines your success."

unless you work well with others in research and everyday clinical carethis defines your success. Before it was all grades (tests, boards etc). In real

life, you don't get your As/Bs/Cs anymore, and patients do not care or know about your MCAT or board grades. They care about how much you care about them. Your colleagues don't talk about where you came from. They ask themselves if they can work with this person and trust them to provide the same level of care that they would give to a patient. How easy is it to work with this person? How dedicated are they to their patients? These are the vital skills that will contribute to your success.

#### - Hong Chen, MS1



## Neurology Program Director at Barrow Neurological Institute at St. Joseph's Hospital and Medical Center: Courtney Schusse, MD

Courtney Schusse, MD, is a Neurologist and the Neurology Residency Program Director at Barrow Neurological Institute at St. Joseph's Hospital and Medical Center in Phoenix. She is board certified in neurology with subspecialty certifications in epilepsy,clinical neurophysiology by the American Board of Psychiatry and Neurology and headache medicine by the United Council for Neurologic Subspecialities. Dr. Schusse completed her undergraduate degree from UCLA in 2000 and her medical degree from Michigan State University College of Human Medicine in East Lansing in 2008. She completed her Neurology residency and clinical neurophysiology and epilepsy fellowship training at Barrow Neurological Institute.

#### Can you tell us about your background? How did you get interested Neurology?

I knew I was interested in neurology before I started medical school. My older brother was born with cerebral palsy and intellectual impairment, so early on I had a significant interest in the brain. After I graduated from college, I worked as a clinical research coordinator at a neurologist's office. I wasn't sure at the time if I wanted to pursue medicine, so I enrolled in a Masters of Public Health program at UCLA, studying Community Health Sciences. It was interesting, but I also realized my passion truly was medicine. So after taking about four gap years, I started medical school at Michigan State University in East Lansing, Michigan. This was a great fit for me because the program supported nontraditional students, such as myself. I started medical school thinking I might have an interest in internal medicine, and I juggled that with my neurology interest for a few years. Ultimately, I circled back to neurology because the neurological cases were the ones that interested me.

# What advice do you have for 1st and 2nd years?

Students interested in neurology should focus So we receive and review many applications,





they encounter. You want to take advantage of your medical education and become a very well-rounded student through these different experiences—medical school and residency are the time where learning is your job expectation. In addition, students should try to seek out research opportunities. Starting a research project early on is a great way to gain exposure to neurology and help you decide if you are truly interested in this field. The University of Arizona, College of Medicine Phoenix is a fantastic program because the students get the opportunity to have a neurology rotation here at BNI, and gain exposure to a variety of patients and pathology.

I am also the Neurology Officer of Diversity and Inclusion, so I am working on establishing a program to engage in community outreach, resident education and other things of that nature. It's early on in the process, but if any students are interested please feel free to reach out to me.

#### What qualities are you looking for in applicants when you are interviewing for a spot in your program?

and of course we do take into consideration tests scores and academic achievements. My one piece of advice would be to showcase every experience that you have even if it is not healthcare-related. I truly believe that our work outside of medicine can often be applied to medicine and make us better physicians. When I interview an applicant, I am looking at the realm outside of academics. I like to talk to the student and look at their teaching record, for example,

because as a resident and as an attending, you will have to teach students constantly. When I talk to an applicant, I also **potential resident here has to work** want to know about **well with our culture.**" well with our culture." well with our culture." well with our culture. well with our culture activities that I really enjoy. Outside of being active, I also have a standing brunch with here, so the personality type of a potential my group of friends once a month. We are

# What do you think makes a good neurologist?

resident here has to work well with our culture.

Being inquisitive is very important. Neurology is an exciting field that, in my opinion, makes sense and is logical in a lot of ways. For example, if you know where a brain lesion is you correlate that to the physical exam findings-- the clinical picture often fits very well and makes sense. At the same time, there are so many interesting facets to each patient that being inquisitive by nature is key to being a successful neurologist.

#### What does your day look like?

My day is very clinically based. I see many patients in addition to my role as the Residency Director and Officer for Diversity and Inclusion. My area of expertise is in headaches and in epilepsy, so I often perform procedures, such as Botox injections for headaches and nerve blocks. Outside of medicine, I like to stay active by going to the gym, spending time outdoors with my son, and watching movies on Netflix. I also like to do yoga, and often participate in a monthly yoga class here at Barrow for our patients who have headaches. The instructor does modified yoga to help with patients with headaches but also to address perhaps some patient physical limitations.

# Parting tips for current medical students:

You have to find a balance between medicine

Earlier in my career, I was very work oriented, but over time, I have myself and engage in activities that I really enjoy. Outside of being active, I also have a standing brunch with my group of friends once a month. We are all physicians with children, but we always put this brunch on our calendar and make that a priority for us. In the beginning of your training, it's easy to say "yes" to many different projects and proposals because everything is new and exciting. That excitement is common, but over time you begin to prioritize your interests career wise and strike a balance with other activities that you really enjoy.

#### -Sokena Zaidi, MS2



## Neurology Clerkship Director & Assistant Professor of Neurology at Barrow Neurological Institute at St. Joseph's Hospital and Medical Center: Kamala Saha, MD

Kamala Saha, MD, is an Assistant Professor of Neurology at Barrow Neurological Institute in Phoenix, Arizona. She is board certified in Neurology. Dr. Saha specializes in disorders of balance and equilibrium and sees patients with various headache conditions. After completing medical school in St. Louis, Dr. Saha completed an internship in internal medicine and then completed neurology training at Barrow Neurological Institute. She then completed fellowship training in neuro-otology and balance disorders at Barrow. She is a member of the American Academy of Neurology and a diplomate of the American Board of Psychiatry and Neurology.



Early on I always knew that I wanted to be a doctor, but I never knew what type. When I was in medical school I couldn't get my neurology exposure until the very end of third year. Luckily, we had the rotation during our third year but it was probably my last one. I think I wasn't expecting that it was something I was going to go into, and looking back I've always felt grateful that I had it during my third year because otherwise it may have been a little bit too late.

I think it just ended up fitting well with my personality. I always thought that brain function was fascinating - I loved it, and neuroanatomy, and learning about the pathways. And I always liked math and I thought it was very systematic and mathematical. So that was nice, but the thing that really stood out to me was all of the details that you need to gather, which was different from some of the other specialty rotations. I realized that when you see neuro patients, it's a lot of detective work, and you're sort of solving a mystery where things aren't always too obvious. The more details you gather early on, before you've looked at the patient, often gives you a sense of what could be going on. And I liked doing that.



I was always a very detail oriented person, so it matched my personality really well. So when I started doing it on the rotation, I found that I liked kind of grilling people, or asking them all kinds of little things that were key to figuring out what was going on. And once we figured out what was going on, it kind of gives you a rush! It was always so rewarding, and kind of like cracking a case. I still feel that way when I see really complex patients here at Barrow, which we see all the time. It's like solving a big mystery and it's exciting. I didn't feel that way about other specialties, so those are the main reasons I went into neurology, and is still what I love about it today.

# What do you see as the future of Neurology? How is it going to change?

It's changing right now. I remember when I told people I was going into neurology, they said you can't really do a lot, you'll just be able to give people horrible diagnoses and that's it. Sometimes that's true, but even when I was training there were all kinds of things that you could do for people. Since then, there has been an explosion of new medications in all of medicine, but especially in neurology. I think the treatment of MS is probably one of the most dramatic and biggest recent medical advances, and people don't even realize it.



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teaching or having students rotating.

chronic diseases. They need close follow up and

monitoring, so that's where I spend most of my

time. And then I'm the Clerkship Director for

UA-COMP, so there's a lot of education and

spending time with the students, but luckily

I can do a lot of my clinical work while I'm

In terms of research, it's mostly clinical trials, which can be easily incorporated into your outpatient clinical practice. You can have

research study visits where you see research

When I was growing up, I had friends who had parents with MS, and they were losing their parents. And nowadays, you don't see those kinds of things happening; there are all kinds of treatments and people are living these long, high quality lives. So things have changed already, and it's become a field where there's actually a lot to do, and people then need a lot of long term chronic care.

Sometimes I think about how I'm only a few years out of my training, and the things that I do

now for people, I didn't learn in training. Much of the diagnoses I'm making, or treatments I'm ordering, I had never heard of when I was a

"I think it's really important if you patients mixed in with like something to not give it up, even if you feel like you're being pulled in other directions or you have a lot of other things to do."

your regular clinic So that's patients. really nice, and it's a way to be involved with testing new drugs.

resident and that was just a handful of years ago.

Sometimes I laugh about how unbelievably fascinating it is that something could change that quickly. It's scary, but it's also wonderful and amazing. It just goes to show how fast things will change, and how it's so important to keep up with your specialty because it'll make you such a better equipped clinician. I think there are going to be so many more treatments for things, and so many more diagnoses. We see that in things like paraneoplastic conditions and certain autoimmune conditions, where we used to just send people to facilities, and we didn't know what really happened to them after that. You don't see that as much anymore, because now there are names, treatments, and a better understanding for a lot of these conditions.

#### How do you balance all of the different components of clinical, education, and research work? How much time and energy do you devote to each?

The most important thing to me is my outpatient clinical practice, just because of the long term relationships I have with patients where I see a lot of the same people year after year for their

For example, we're testing a new drug right now for cerebellar ataxia, which is super exciting because there currently are no medications to treat it. We're the only site in Arizona right now that's running that study. So, it's super exciting and easy to do things like that in a large center like this where we have a lot of those patients already.

It's really important if you like something to not give it up, even if you feel like you're being pulled in other directions. You don't ever have to feel like you have to pick one thing over another. You can always do a little of something, and sometimes that's enough to at least satisfy that desire without giving it up.

Clerkship Director, considering As not everybody is going into neurology, what do you like for students who are doing the rotation to get out of it? How do people get the most value out of the experience?

Probably the most important thing is at least to learn the basic neuro exam and how to do it right. A lot of specialties don't do as much examination anymore, but we still do,



and it can really help with localization, and avoiding a whole bunch of unnecessary tests, especially imaging. Learning the skills, for example checking reflexes, can be very helpful no matter what you go into. If you know how to do it right, you can actually figure out a lot of things on your own, and there are always times where you may not have all the specialists you need right then and there, no matter where you end up working. So learning a good neuro exam is really important.

The other thing is being able to gather a really detailed history, and being able to write it up. A lot of times I see people coming into their neurology rotation and they're used to doing a different type of H & P, or it's really basic and they don't necessarily think to ask all the details that we really need to know. And that can be helpful for whatever you end up going into since there are always so many subtleties or things that a patient may have forgotten to mention. So I think learning to ask extra questions is not a bad thing. Those are the most important things for students to take away from their neurology rotation, and they'll serve you well for the rest of your career and make you a better clinician.

#### -Jessica Callan, MS2

#### Educational Pathway for Neurology Residency

Most Neurology residencies are **3-year** programs and offer positions starting at the PGY2 level, which means that the medical student must seek a transitional/preliminary year in addition to an advanced residency spot. Some residencies offer a 4-year program, which integrates the first year of basic clinical training into their curriculum.

#### PATH 1: Advanced – PGY-2-4

Years 2-4 of Neurology at the advanced match site, and Year 1 done either as a preliminary or transitional year. The majority of programs offer this path.

#### PATH 2: Categorical – PGY-1-4

Programs begin in the PGY-1 year and provide the full training required for specialty board certification.

#### Preliminary Year – PGY-1

Specialty one-year programs in the PGY-1 year that provide prerequisite training for an advanced program such as Neurology

#### Transitional Year – PGY-1

A flexible internship in which an intern in the PGY-1 year is exposed to many fields. These individuals rotate through different hospital departments every few months. Historically, these programs are more competitive than preliminary programs to get into.

PGY stands for postgraduate year (after medical school).



## Alumnus: Jay Patel, MD

Dr. Jay Patel is a current resident at Barrow Neurological Institute. He graduated from Arizona State University in 2013, where he completed his B.S. degree in Biochemistry with a minor in Religion. He graduated from The University of Arizona College of Medicine-Phoenix in 2019. In his spare time, he enjoys photography, travelling, and reading historical fiction.



## How and when did you become interested in Neurology?

My interest in neurology bloomed actually in the fourth year, after having completed a neurology rotation at Barrow Neurological Institute. I found myself captivated by the complexities of problems patients faced and it was heart-warming to witness their improvements, whether in the hospital or in the out-patient setting.

#### What did you do in the first three years of medical school to prepare you for now?

My road to choosing neurology was quite unique in that my interest blossomed late in my medical training. Nonetheless, being involved in various clubs and programs on campus will help you get exposed to new specialties, so that is a good starting point. The capstones course also allows students to experience different fields of medicine firsthand and thus capitalizing on those opportunities is another way to be exposed to different fields. In addition, ensuring you do well in your coursework will also open many doors in the future when the time comes to decide to pursue a certain field in medicine.

#### Did you have any experiences during your path that helped solidify your interest in neurology?

For me in particular, I think it was the patient experiences that intrigued me the most – I



enjoyed participating in the care of patients and learning about their stories. I also found the correlation between the findings on imaging scans of brains and patient's symptoms very interesting. Lastly, I felt very thankful that this discipline honored the history and physical more than most, and that was neat to see in light of today's technological advancements.

# What advice would you give students considering a future in neurology?

I would say get involved and try shadowing early on in years 1 and 2 to develop exposure to the field. Furthermore, I'd recommend becoming a student member of the American Academy of Neurology if truly interested to stay abreast on current topics, conferences, and other information that may be fascinating to students interested in neurology. Try to see if there are any ongoing clinical projects or research to be further involved in to gain exposure. The key early on, in my opinion, is to develop exposure. Also, as aforementioned, continue to do well in your coursework as it will help open doors for interviews, letters of recommendation, etc.

#### -Sokena Zaidi, MS2

## Fourth Year Perspective: Shivani Misra, MS4

Shivani Misra is a current MS4, MD/MPH candidate who is applying to residency programs in the field of Child Neurology. She's from Phoenix, Arizona and completed her undergraduate studies at the University of Arizona with a major in Neuroscience and Cognitive Science, with an emphasis on Aging and Development. She minored in Biochemistry and Public Health and obtained a Certificate in Developmental Disabilities.



# When and how did you become interested in Neurology?

I think I've always had an affinity for the brain and how humans think and interact, but I didn't come across the field of neuroscience until my sophomore year of college. One of my good friends was studying for a class she was taking and I thought her work was a million times more fascinating than what I was doing, so I switched majors. As for children, I've been passionate about working with kids for as long as I can remember. I was very seriously considering becoming an elementary school teacher before I decided medical school was more for me. Thus, Child Neurology seemed like the perfect fit for me.

#### Did you have any mentors or experiences during your path that helped solidify your interest in Neurology?

I've been lucky enough to have quite a few mentors. Our Neuroscience and Cognitive Science program at the U of A is filled with extremely passionate, intelligent, and incredible role models. I worked closely with two professors in particular--Dr. Lynne Oland and Dr. Leslie Tolbert and was fortunate to get the chance to engage in incredible conversations with both of them. I also worked with my research mentor Dr. Jamie Edgin in the Down Syndrome Research Group lab and she revealed the incredible plasticity that a child's brain encompasses.

# What advice would you give students considering a future in Neurology?

This field gets a lot of pushback because people tend to confuse helping and fixing. Don't be deterred by the fact that you can't "fix" any of your patients. The amount of support you can give patients and families is unparalleled in this field. In my experience, it has been incredibly humbling and I am so honored to get the opportunity to provide care and support for children and families.

#### Anything else that you want to share?

Never stop questioning. Honestly, that's just my advice for life too. The brain has so many unanswered questions, it's an incredible field to be involved with.

#### -Shivani Misra, MS4



## **STATS TO KNOW**

Neurology Match Summary, 2019										
No. of Programs	Positi Offer	ons Unfi ed g	lled Pro- rams	No. of Appli- cants	No. of N US Senio	Matches ors : Total	% Filled US Seniors : Total	Ranke tio US Se To	Ranked Posi- tions US Seniors : Total	
114		617	13	484		284 : 594		48 370	69 : 6879	
Positions Offered in the Matching Program, 2015-2019										
2019		2018		2017		2016		2015		
No.	%	No.	%	No.	%	No.	%	No.	%	
617	1.9	552	1.8	492	1.7	443	1.6	404	1.5	

Summary Statistics on US Allopathic Seniors, 2018							
Measure	Matched (n=437)	Unmatched (n=16)					
Mean number contiguous ranks	11.7	4.0					
Mean number distinct specialties ranked	1.2	1.7					
Mean USMLE Step 1 score	231	213					
Mean USMLE Step 2 score	242	229					
Mean number of research experiences	3.6	3.4					
Mean number of abstracts, presentations, and publications	6.3	7.3					
Mean number of work experiences	2.9	3.1					
Mean number of volunteer experiences	6.5	6.8					
Percentage who are AOA members	11.9	0					
Percentage who graduated from one of the 40 US medical schools with the highest NIH funding	33.9	25.0					
Percentage who have a Ph.D degree	12.1	13.3					
Percentage who have another graduate degree	16.7	37.5					

**Specialty Report Newsletter Editors:** Jessica Pirkle Callan, Hong Chen, Conner Clay, Monica Sadhu, Casey Sedillo, Corinne Maryssa Spires, Sokena Zaidi

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If you have any suggestions for articles of interest, corrections, or comments for how we could enhance the newsletter, please do not hesitate to contact us at *lshahpatel@email.arizona.edu* and *comphx-specialtyinfo.email.arizona.edu* 

