

## From the Liberal Arts to an MD/PhD

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Dedication to academic research and clinical work is a difficult task to accomplish within an individual profession. Each component requires its own way of thinking and the mastery of both can create great potential for the individual. Achieving an MD/PhD degree, or becoming a physician-scientist, can provide the necessary experience to become a liaison between the research-intensive domain of scientists and the patient-interactive career of a clinician. An MD/PhD is a prestigious degree that many students aspire to as it represents the perseverance required to devote years of training to accomplishing the task of conquering very different methods of thinking and application. Though it is a demanding career, it is not impossible to attain. Many Lake Forest College (LFC) alumni, such as Sydni Cole '12, Dr. Arun Paul '05, and Dr. Nijee Luthra '04, have applied their unique educational opportunities and experiences at a liberal arts institution to successfully transition into the life of an MD/PhD.

For many undergraduates, the career towards becoming a physician alone is daunting. The application to medical school requires mandatory courses in Biology, Chemistry, and Physics as well as an excellent GPA, a competitive MCAT score, clinical exposure, volunteering, extracurricular experience, and many other defining activities that demonstrate an applicant's ability to contribute to the medical field. To add the role of a scientist to this requires rigorous research to express the ability to think independently, analytically, and collaboratively. These are values emphasized at LFC's liberal arts focus that helped prepare their physician-scientist alumni towards their rewarding careers.

Sydni Cole '12, a Neuroscience major and Chemistry minor, worked on part-set cuing research in cognitive psychology with Dr. Matthew Kelley as an undergraduate. She attributes her decision towards an MD/PhD career to her Molecular Neuroscience course that provided an arsenal of skills that help prepare for success in graduate school. The exposure to analyzing tens of primary articles, working on semester-long group projects, mentoring first-year students, and presenting her work to science-oriented audiences, along with the inquisitive nature of research helped her realize that this was a path she wanted to embark on. However, Ms. Cole notes that this love for science is not enough to pursue a career as a MD/PhD. She shadowed multiple physicians in various disciplines to confirm that she would enjoy the clinical aspect as well. Ms. Cole is currently planning to pursue a career in cognitive neuroscience at Northwestern's MD/PhD program and is currently working at Jay Gottfried Laboratory at Northwestern University until she begins her program. Realizing the long path ahead of her, she cautions any prospective MD/PhD candidates, "If you are not passionate about it, don't pursue it!"

In the United States, the plan to pursue an MD/PhD can provide additional challenges to international students. Dr. Arun Paul '05 from the city of Kochi, Republic of India, at the time of his application to Lake Forest College was unaware of the unique education he would receive at a liberal-arts institution.



Sydni Cole '12

His interest in medicine was due to his many years of experience at a remote clinic where his father worked. He actively sought out opportunities to research with faculty, and decided to work with Dr. Karen Kirk in the Biology Department on telomerase research. Realizing the diversity emphasized by a liberal arts education, Dr. Paul took this advantage to pursue his deep-set interest in Vedic sciences and medicine through independent studies and a Religion major. He admits that this career path is one that requires dedication demonstrated early in one's career. He says, "You are pursuing something that is existentially pushing you." When it came time to apply, he faced innumerable challenges with his international status, but still placed into a competitive program at Rosalind Franklin University of Medicine and Science. After completing his doctorate in viral oncology research, he moved into a residency program in radiation oncology at Wayne State University. Dr. Paul confesses that the MD/PhD he has earned places him at an advantage over sole MDs and PhDs, but he warns "You shouldn't pursue graduate school just for the excitement". It is something that requires dedication, years of commitment, and a true passion that develops through the process.



Dr. Nijee Luthra '04

Dr. Nijee Luthra '04, a Biology major and Chemistry minor, admits that her diverse range of experiences fostered by a liberal arts focus helped her decide on pursuing an MD/PhD. Similarly to Ms. Cole, she cited the Molecular Neuroscience class and the wide range of skills she gained from the rigor of the course as her preparation for the realities of the career. She complimented the diverse range of courses she took with a unique research project that fostered creative independent thinking in Dr. DebBurman's lab doing Parkinson's disease research. For clinical exposure she completed a pediatric and neurology internship where she realized an intrinsic motivation to provide care at a personal level. Realizing both her love for research and patient care, she applied to local MD/PhD programs and entered Loyola University's Stritch School of

Medicine. Her experience through medical school stands proof to the variant ways of thinking required by a MD/PhD. To be a clinician, she had to build knowledge by memorizing a corpus of information. On the other hand, the role of a researcher required her to think out of the box and develop an original project to procure. Dr. Luthra admits that an MD/PhD “gives you a unique role in society” since you can bring forth the emotional motivation garnered from patient interaction to continue your research towards a cure. She is currently completing her residency at University of California Davis Department of Neurology, and hopes to apply her experiences and methods of thinking to provide significant contributions to the field of Neuromedicine.

It is difficult to imagine how a small liberal arts school can prepare students who can compete with medical school candidates from major research universities. However, as the experience of the alumni from Lake Forest College suggests, it is the very core of the liberal arts education that fosters the creative and independent level of thinking that makes a successful MD/PhD. This alone does not suffice. The individual student has to exploit the opportunity provided by such an intimate experience to demonstrate through their actions that they are truly passionate and fit for such a lengthy and rigorous career. If this is accomplished, then the MD/PhD program will be rewarding since they can successfully play the core role in connecting the fields of medical research and clinical practice.

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