



NORTH STAR PATHWAYS

Pursuing a Career in Medicine

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The MCAT: What You Need To Know



The Medical College Admissions Test (MCAT) is a standardized test that is taken by prospective medical students in the United States in order to gain admission into medical school. It can be a daunting first step to your career as a doctor but it does not have to be impossible. The higher your score, the more highly ranked schools you can be admitted to. Along with familiarizing you with the basics of the test, this article will help you maximize your study habits and thus your future score.

The Basics

The MCAT is offered 25 times a year at the Pearson VUE centers, though the exact amount of times it is offered can vary year by year. Most students will take the MCAT within 1-2 years of graduation. Since 1928, the MCAT has been updated several times with the most recent changes taking place in 2015. As of now the test is made up of four sections; Chemical and Physical Foundations of Biological Systems, Critical Analysis and Reasoning Skills, Biological and Biochemical Foundations of Living Systems, and Psychological, Social and Biological Foundations of Behavior.

The sections are all multiple choice. Each section is broken down into ten foundational concepts and four



additional subsections testing your scientific inquiry and reasoning skills. All sections are timed and the applicant is given roughly an hour and a half (90 to 95 minutes) to finish. Including the breaks, the test takes seven and a half hours in total. Your score is calculated for each section with a total possible range of 427 to 528.

How to Get the Best Score

Since thousands take the test every year, there is a wealth of information online on how to best maximize your performance on the MCAT.

1. Take the Practice Tests: The first common tip is to take

the practice tests. Not only will this help you establish a baseline score, allowing you to see which sections you naturally test well on. It is important to take several so you can check in on how your study process is progressing. When you take these practice tests, it is best to replicate as many real life test conditions as possible so you can be prepared. While taking several multiple hour tests can be grueling, it can give you the confidence to know that the MCAT is nothing you have not experienced before.

2. **Practice Over Content Review:** Many first time test takers will often presume they need to focus on reviewing the scientific content first and foremost, even over taking practice tests. However it is important to remember that while scientific knowledge is a huge part of the test, the MCAT focuses a lot on your ability to reason through problems. Practice will help you develop this skill, whereas simply memorizing information will not.
3. **Start the Process Early:** If you know you want to be a medical doctor in your undergraduate experience, emphasize classes that line up with the MCAT sections as early as possible. Additionally, once graduated, start your MCAT study process early so you have plenty of time to get ready. The Association of American Medical Colleges (AAMC) advises applicants to spend 300 to 350 hours studying before the test. Theo Bennett, who scored a perfect 528 on his MCAT, recommends:

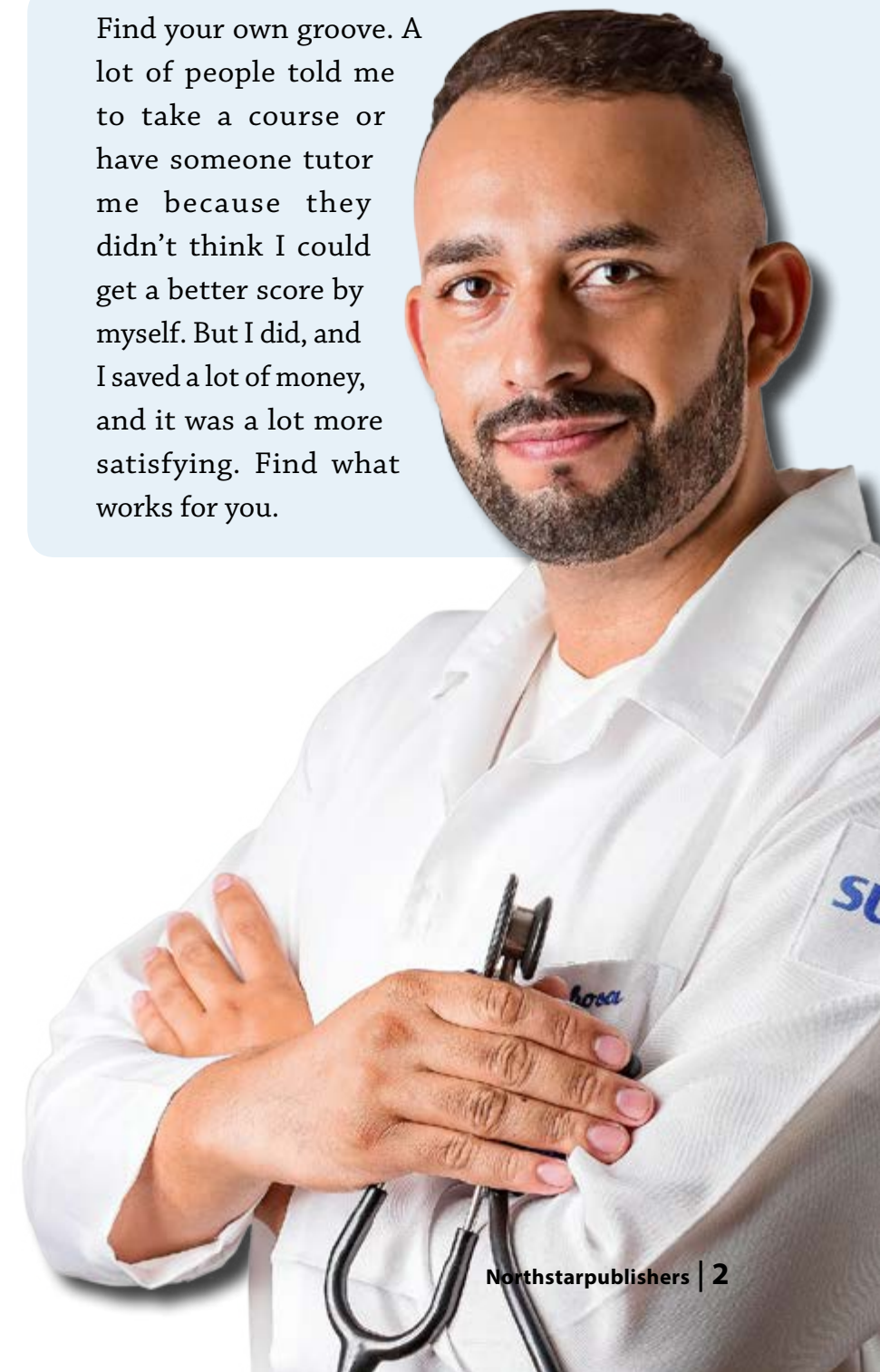
For most students, I recommend taking the MCAT during summer before or summer when you apply for medical school. Taking the test over the summer with minimal or no classes allows you to compress your study timeline. I wouldn't recommend anything longer than 6 months because (let's be real), you won't remember what you studied 8 months before. I can barely remember what I did last weekend, let alone my study sessions from last semester. Whenever you take the MCAT, make sure you give yourself enough time to study to get the score you want. After taking a free diagnostic test, decide on a goal score and calculate the number of hours that you need to study with the Create-your-own Study Plan Course. A good rule of thumb is that studying 10 hours a week for a month will average about a 1.5 point increase. So if you study 20hrs/week for 3 months you should expect to jump up by 9 points. If you are studying during the semester, plan it out in advance to deliberately make that semester as light as possible.

I personally took the MCAT on May 23rd and started studying during the previous winter break. I studied during the spring semester but only took 12 credits that were fairly easy and then studied full-time for 4 weeks before my MCAT.

It is important to take your time, study hard and prepare. But it is even more important to realize you can

definitely score well with the right amount of hard work. Lara Ambrosi, medical student, has this to encourage future applicants:

Find your own groove. A lot of people told me to take a course or have someone tutor me because they didn't think I could get a better score by myself. But I did, and I saved a lot of money, and it was a lot more satisfying. Find what works for you.





Should You Attend Columbia University?

Columbia University, officially *Columbia University in the City of New York*, is a private, Ivy League, research university in New York City. Established in **1754** as King's College on the grounds of Trinity Church in Manhattan, it is the oldest institution of higher education in New York and the fifth-oldest in the United States and is considered one of the most prestigious universities in the world.

Columbia University, officially known as the Columbia University in the City of New York, is a private, Ivy League research university in New York City. Founded in 1754, it is one of the oldest colleges in the United States and one of the highest ranked universities in the world. But is it right for you?

Costs & Admissions:

The annual cost of tuition and fees at Columbia University is over \$65,000 a year. This makes it one of the most expensive colleges in the United States but the final price will vary dramatically between students. The net price for students who receive federal student loans is \$12,836 after student aid. Additionally, depending on your family's tax income bracket, you may pay anywhere from nothing at all in tuition or over \$40,000. Columbia offers a net price calculator.

Like other Ivies, Columbia University is highly selective, taking only 4% of applicants. Students that are accepted

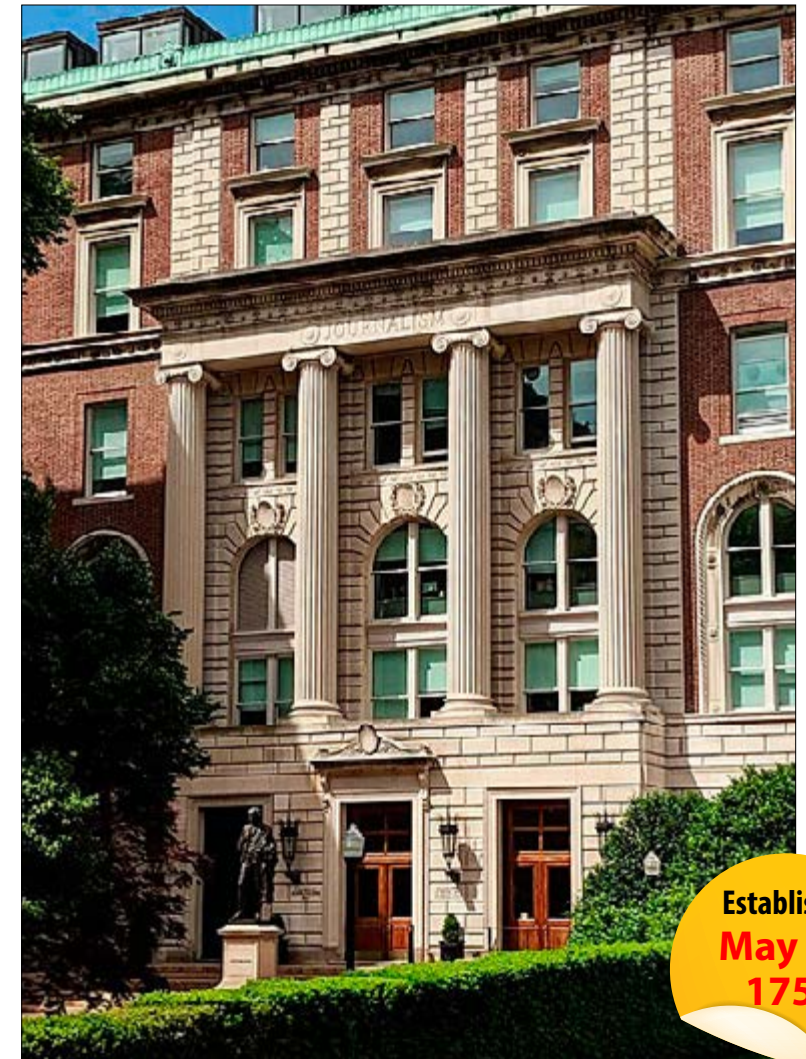
have a SAT score range of 1470-1570 and an ACT score range of 34-35.

Academics:

Columbia has an impressive academic reputation, being ranked by the *U.S. News & World Report* as 12th overall. Columbia offers over several different majors through over 116 different departments, ranging from Anesthesiology to Political Science to Radiology. Some of the most popular majors at Columbia University are Computer Science, Economics, Government, Experimental Psychology, among others.

Pursuing Medicine as a Career:

Columbia University is connected to the Columbia University College of Physicians and Surgeons. The school is ranked as 4th overall by the *U.S. News & World Report* in 2024. Columbia's school of medicine costs over \$66,000 a year. Saham David Ahmed Ali, an medical student and a 2024 Class Speaker explained how Columbia prepared her to make a difference:



Established
May 25,
1754

In the field of public health, hope is not merely a fleeting emotion—it's a steadfast commitment to building a brighter future for all, a cause to champion for. ... Allow your hopes to continue to lead you to achieve everlasting change in the name of public health, change that is grounded in the fight for a better world and nothing less.



Columbia University has over 30,000 students, nearly 9,000 of which are undergraduates. The undergraduates live in on-campus housing between several halls, most commonly Carman Hall, Furnald Hall, John Jay Hall, among others.

Columbia is located right by the Hudson River in New York City, specifically between Morningside Heights and Harlem. Students will often rank Columbia very highly for giving them the opportunity to live in a fast paced, exciting city like New York.

Not only does Columbia have an active Greek presence,

but also hosts a very active campus life. Students can join clubs like the Archery Club, the Badminton Club, the Charles Drew Premedical Society or the Dance Team, among others. There are multiple organizations for students of all faiths, heritage backgrounds and interests.

ROTC & Military Resources:

Columbia University offers ROTC programs for students looking to serve in the Army, the Navy and the Air Force. However it does so in conjunction with nearby colleges; Manhattan College for the Air Force and Fordham University for the Army.

Student Life:

In addition, for veteran and currently serving students, Columbia provides resources through the Yellow Ribbon Program as well as through its Student Services center.

Athletics:

Columbia University competes in intercollegiate athletics in the NCAA Division I. Their athletics program is the Columbia Lions, who compete in over 29 different sports including baseball, softball, men's and women's soccer, and fencing, among other sports. Columbia hosted one of the first intercollegiate football games in the United States. Its crew team is also noted for its success, winning the first ever Henley Royal Regatta championship by an American team. Like other Ivy League schools, Columbia does not offer athletics scholarships.

Return on Investment:

Columbia, while expensive, does offer an impressive return on investment. It is one of the top ranked schools in the United States overall and for providing their students the best value for their money. 88% of students graduate on time and the school has a very low student to faculty ratio (6:1).

Notable Alumni:

- ▶ Multiple former U.S. presidents including Theodore Roosevelt, Franklin Delano Roosevelt and Barack Obama.
- ▶ Multiple Nobel Prize winners, such as Hermann Joseph Muller who won the Nobel Prize in Medicine for his contribution to genetics.



- ▶ Francisco J. Ayala, a Templeton Prize winner for his work in evolutionary biology and genetics.
- ▶ Dorothy Klenke Nash, the first American woman neurosurgeon.
- ▶ Albert Starr, cardiovascular surgeon and inventor of the Starr heart valve.

- ▶ How much money should I spend on my college education?
- ▶ How far do I want to travel for a university education?
- ▶ Do I want to live in a major metropolitan area like New York City?

Is It Worth It?

If you can get in and afford it, Columbia University can be an amazing journey at one of the top schools in the United States, located in one of the great cities of the world. However it does require a significant academic and financial investment in order to attend. You and your class may want to ask:

- ▶ Do I have the grades to attend a highly selective university? What would I do differently to help build my academic resume?





Should You Attend Johns Hopkins University?



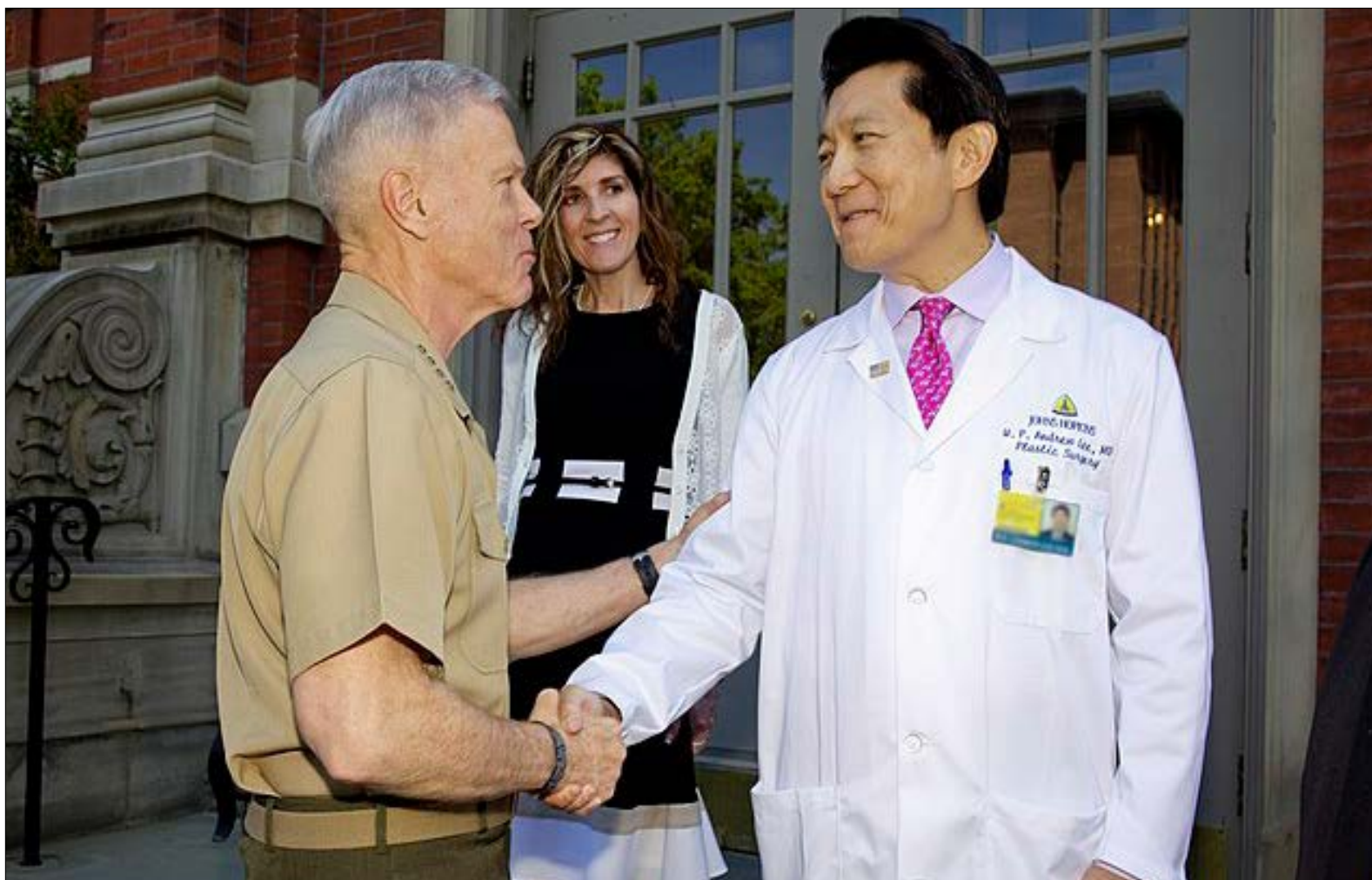
Established
**FEB 22,
1876**

On his death in **1873**, Johns Hopkins, a Quaker entrepreneur and childless bachelor, bequeathed \$7 million (approximately **\$175.7 million** today adjusted for consumer price inflation) to fund a hospital and university in Baltimore.

Johns Hopkins University (JHU) is a private, research university located primarily in Maryland. Founded in 1876, it is one of the oldest colleges in the United States and one of the highest ranked universities in the world. But is it right for you?

Costs & Admissions:

The annual cost of tuition and fees at Johns Hopkins University is over \$63,000 a year. Room and board also costs roughly \$19,000 a year. This makes it one of the most expensive colleges in the United States but the final price will vary dramatically between students. The net price for students who receive federal student loans is \$14,254 after student aid. Additionally, depending on your family's tax income bracket, you may pay anywhere from nothing at all in tuition or over \$19,000.



Johns Hopkins is highly selective, taking only 7% of applicants. Students that are accepted have a SAT score range of 1520-1570 and an ACT score range of 34-35, with an average student GPA of 3.9.

Academics:

Johns Hopkins has an impressive academic reputation, being ranked by the *U.S. News & World Report* as 9th overall. The university offers more than 400 programs across multiple different academic disciplines like

the humanities, engineering, education, and health. Students can major in Adult-Gerontological Acute Care, Cybersecurity, and Health Policy. The most common majors at Johns Hopkins are Cellular Biology, Public Health, Neuroscience, Computer Sciences and Engineering.

Pursuing Medicine as a Career:

Johns Hopkins University is connected to the Johns Hopkins School of Medicine (JHUSOM). The school is

ranked as 2nd overall by the *U.S. News & World Report* in 2024. JHUSOM costs over \$59,000 a year with a 6.3% acceptance rate.

Renee Liu, an NCAA All-American swimmer, Leong Research Fellow, and biomedical engineering design team leader, was selected by JHU to be a Schwarzman Scholar to study in China. She explains how JHU helped her gain international insight:

After my trip to India, I realized not only can we as Americans bring a lot to other countries, but we have a lot to learn from other countries, as well. I wanted to deeply explore the health care system of another large country and gain insights into the Chinese medical school reform led by world-renowned JHU alumni and physician-scientist, Professor Wong Tien Yin. I believe that relationships between countries lie in their people, so I hope to improve understanding between the U.S. and China. It's hard to trust and appreciate a culture when you don't understand its customs and people.

Student Life:

Johns Hopkins University has over 30,000 students, 5,000 or so are undergraduates, while most are postgraduates. These students are split between several campuses, located across Baltimore, Maryland, Laurel, Maryland and Washington, DC, as well as campuses in Nanjing, China and Singapore.

Not only does Johns Hopkins have an active Greek presence, but also hosts a very active campus life. Students can join clubs and organizations of different kinds, such as academic, advocacy, the arts, community service, culture, spiritual and sports, among others. Many students join organizations like Alpha Epsilon Delta (a pre-med honor society), the Johns Hopkins Student Government Association, or the Octopodes, an all gender a capella group. Johns Hopkins provides over 450 organizations as 83% of students belong to at least one student organization.

ROTC & Military Resources:

Johns Hopkins University offers ROTC programs for students looking to serve in the Army and the Air Force. The Army ROTC program is offered on campus through its Blue Jay Battalion, while the Air Force ROTC program is offered in conjunction with the University of Maryland.

In addition, for veteran and currently serving students, Johns Hopkins provides resources through its Student Services Center. For students who are looking to study military-adjacent subjects at Johns Hopkins, the school offers Military Science as a subject, taught through the Zanvyl Krieger School of Arts and Sciences.

Athletics:

Johns Hopkins University's athletics program are the Blue Jays, who represent the university in the NCAA. The men's and women's lacrosse teams compete in the NCAA Division I whereas its other teams compete in the

NCAA Division III. While they offer a number of different teams for student-athletes to compete in, their most prestigious team are their lacrosse teams.

Both the men's and women's teams compete in the Big Ten Conference, and have won multiple championships as one of the most successful collegiate lacrosse programs in the nation. Johns Hopkins' men's swimming, women's field hockey and women's soccer teams are also highly successful.

Return on Investment:

JHU, while expensive, does offer an impressive return on investment. It is one of the top ranked schools in the United States overall and for providing their students the best value for their money. 88% of students graduate on time and the school has a very low student to faculty ratio (6:1).

Notable Alumni:

- ▶ Woodrow Wilson, former U.S. president and Nobel Peace Prize winner.
- ▶ Multiple Nobel Prize winners in Medicine, such as Peter Agre, Paul Greengard, and Carol W. Greider.
- ▶ Dr. Hattie Alexander, pioneer in pediatric research and antibiotic resistance.
- ▶ Dr. Lin Ruey-shiung, Taiwanese physician and professor of public health.
- ▶ Dr. David S. Bredt, neuroscientist, professor and research leader in pharmaceutical companies.



Is It Worth It?

If you can get in and afford it, Johns Hopkins University can be an amazing journey at one of the top schools in the United States, with an extensive international campus network. However it does require a significant academic and financial investment in order to attend. You and your class may want to ask:

- ▶ Do I have the grades to attend a highly selective university? What would I do differently to help build my academic resume?
- ▶ How much money should I spend on my college education?
- ▶ How far do I want to travel for a university education?



Should You Attend University of Pennsylvania?

Established
NOV 14,
1740

This article is about the private Ivy League research university in Philadelphia. For the public research university with campuses across Pennsylvania, see Pennsylvania State University. For state owned public universities in Pennsylvania, see Pennsylvania State System of Higher Education. For the list of universities in Pennsylvania, see List of colleges and universities in Pennsylvania.

The University of Pennsylvania, commonly known as UPenn or simply Penn, is a private, Ivy League research university in Philadelphia, Pennsylvania. Founded in 1751, it is one of the few American colleges founded before the existence of the United States and one of the highest ranked universities in the world. But is it right for you?

Costs & Admissions:

The annual cost of tuition and fees at the University of Pennsylvania is over \$66,000 a year. Room and board costs an additional \$18,494 a year. This makes it one of the most expensive colleges in the United States but the final price will vary dramatically between students. The net price for students who receive federal student loans is \$14,851 after student aid. Additionally, depending on your family's tax income bracket, you may pay anywhere from nothing at all in tuition or over \$36,000.



UPenn is highly selective, taking only 7% of applicants. Students that are accepted have a SAT score range of 1500-1570 and an ACT score range of 34-35.

Academics:

The University of Pennsylvania has an impressive academic reputation, being ranked by the *U.S. News &*

World Report as 6th overall for national universities. A unique element to Penn's academic program is their One University policy. Penn students can enroll in any classes of their twelve different schools. With a strong focus on interdisciplinary study, students are encouraged to be academically flexible, pairing double majors and minors.

Penn offers over several different majors, ranging from American Public Policy to Health Communications to Gender Related Nurse Practitioner. Some of the most popular majors at the University of Pennsylvania are Business, Social Sciences, Economics, Biology and Biomedical Sciences, Health Professions and Engineering, among others.

Pursuing Medicine as a Career:

The University is connected to the Perelman School of Medicine at the University of Pennsylvania. The school is ranked as 3rd overall by the *U.S. News & World Report* in 2024. Penn's school of medicine costs over \$61,000 a year. UPenn offers medical doctorates, as well as medical master's degrees and PhDs. Several famous medical innovators and researchers have graduated from their school of medicine, such as Nobel Prize winners Michael Stuart and Stanley Prusiner.

Through its Abramson Family Cancer Center, UPenn has pioneered major innovations in our understanding of cancer, treatments and therapy. Through its groundbreaking research, the Food & Drug Administration has approved a new cellular therapy for children suffering from leukemia. Dr. Carl June, MD, the Richard W. Vague Professor in Immunotherapy in the department of Pathology and Laboratory Medicine explained the immense nature of the work UPenn does:

This is a turning point in the fight against B-cell ALL that opens up opportunities for patients across the world who desperately need new



options. We're excited and proud to have moved this CAR therapy, in collaboration with Novartis and CHOP, through all phases of development and clinical trials, established its efficacy, and now extended its reach to children across the country under this FDA approval. We hope the momentum behind the technology builds as we continue to investigate the abilities of personalized cellular therapeutics in blood cancers and solid tumors to help patients with many other types of cancer.

Student Life:

The University has over 23,000 students, nearly 10,000 of which are undergraduates. The undergraduates live in on-campus housing between several halls, most commonly Carman Hall, Furnald Hall, John Jay Hall, among others.

Not only does Penn have an active Greek presence, but also hosts a very active campus life. Students can join clubs like the Philomathean Society (the oldest collegiate literary society in the United States), Penn Electric Racing, the Mask and Wig Society or the A Cappella Council, among others. There are multiple organizations for students of all faiths, heritage backgrounds and interests.

ROTC & Military Resources:

The University of Pennsylvania offers ROTC programs for students looking to serve in the Navy and the Air Force. However it does so in conjunction with nearby colleges; St. Joseph's University for the Air Force and Drexel, Temple, and Villanova Universities for the Navy.

In addition, for veteran and currently serving students,

Penn provides resources through the Yellow Ribbon Program as well as through its Pennsylvania National Guard Educational Assistance Program (PHEAA).

Athletics:

Nicknamed the Quakers, UPenn's athletics program competes in both the Ivy League and NCAA Division I. They offer several different sports such as baseball, men's and women's basketball, cricket, rugby, rowing, among others. Their most well known team is their men's football team, which competes in the Football Champion Subdivision. Like other Ivy League schools, UPenn does not offer athletics scholarships.

Return on Investment:

UPenn, while expensive, does offer an impressive return on investment. It is consistently ranked as one of the top schools in the United States. 88%

of students graduate on time and the school has a very low student to faculty ratio (8:1). The starting median salary for Penn graduates out of college is over \$76,000 though part of this is influenced by the financial well being of those who apply, since most UPenn students do not take student loans.

Notable Alumni:

- ▶ Multiple former U.S. presidents including Benjamin Harrison and Donald Trump.
- ▶ Christian Anfinsen, Nobel laureate, chemist, and past Guggenheim fellow.
- ▶ James Mourilyan Tanner, child development expert.
- ▶ Sidney Pestka, biochemist and geneticist; the "father of interferon."
- ▶ Howard A. Rusk, founder of the Rusk Institute of Rehabilitation Medicine at NYU Langone Medical Center.

Is It Worth It?

If you can get in and afford it, the University of Pennsylvania can be an amazing journey at one of the top schools in the United States, providing you a world class Ivy League education. However it does require a significant academic and financial investment in order to attend. You and your class may want to ask:

- ▶ Do I have the grades to attend a highly selective university? What would I do differently to help build my academic resume?
- ▶ How much money should I spend on my college education?
- ▶ How far do I want to travel for a university education?
- ▶ Do I want to live in a major metropolitan area like Philadelphia?





Should You Attend The University of California, Davis?

The University of California, Davis (UC Davis, UCD, or Davis) is a public land-grant research university in Davis, California, United States. It is the northernmost of the ten campuses of the University of California system.

The University of California, Davis, commonly known as UC Davis, is a public land-grant research university in California. It was originally founded in 1905 as the agricultural institute of the University of California system. Located in northern California, it can be a great step in your academic journey, but is it right for you?

Costs & Admissions:

UC Davis costs over \$46,000 a year for out-of-state students and just over \$15,000 for in-state students. Room and board costs an additional \$18,562. The average student has an annual cost of just under \$15,000 after student aid and the average needs-based aid package is just over \$26,000.

For a regional school, UC Davis can be quite selective, taking 37% of students. It does not keep track of average SAT score or ACT score ranges or high school GPAs of admitted students.



Academics:

UC Davis offers to students over 100 different majors. Given its history as an agricultural school, its Department of Viticulture and Enology, Agricultural and Resource Economics programs, and Department of Animal Science programs are highly rated. UC Davis' academics are offered through four different schools; the College of

Agricultural and Environmental Sciences, the College of Biological Sciences, the College of Engineering and the College of Letters and Science.

Due to its emphasis on the hard sciences and in particular agricultural sciences, UC Davis is one of the top ranked schools for biological and agricultural science as well as

one of the best undergraduate engineering programs.



Pursuing Medicine as a Career:

UC Davis is connected to the UC Davis School of Medicine. The school is ranked as 50th overall and 6th for primary care by the *U.S. News & World Report* in 2024. The school of medicine costs between \$40,000 to \$53,000 a year, depending on your status as an in-state or out-of-state student.

One of the highlights of their medical school is the Center for Neuroscience. Dr. Xiaomo Chen, Ph.D. is Assistant Professor in the Department of Neurobiology, Physiology and Behavior in the College of Biological Sciences, a member of the Center for Neuroscience, and faculty at the Center for Neuroengineering and Medicine. She gives this advice to UC Davis students pursuing neuroscience:

My favorite piece of advice would be to stay curious and keep learning. Neuroengineering is an incredibly exciting field with endless opportunities for innovation and discovery. As with any journey, there will be ups and downs along the way, but don't let that discourage you. Follow your heart and enjoy the journey of pursuing your dreams in neuroengineering!

Student Life:

The University of California, Davis has just over 40,000 students, most of which (31,000) are undergraduates. The undergraduates live in on-campus housing between 23 different halls, located on the Davis campus, which is near Sacramento, California.

UC Davis has an active Greek presence with 8% of its student population being involved in a sorority or fraternity., but also hosts a very active campus life. Through its Student for Center Involvement, students have a number of different volunteering opportunities such as Californians for the Blind and Drug Free Youth.

ROTC & Military Resources:

UC Davis offers an ROTC program for students looking to serve in the U.S. Army. Additionally it offers studies in Military Science through its College of Letters & Science. UC Davis also offers many resources to its veteran and currently serving students through its Veterans Success Center (VSC), providing peer advising and engagement opportunities.

Athletics:

UC Davis' athletics program is the Davis Aggies, which are in NCAA Division I in the Big West Conference. The school offers 25 different intercollegiate sports teams such as baseball, men's and women's basketball, softball, men's and women's cross country, and men's and women's volleyball, among others. Its football team competes in the Football Championship Subdivision in the NCAA.

Return on Investment:

UC Davis is a cheaper alternative especially for students who are residents of California. For its value, it can be one of the better schools to attend. It is ranked as 6th as one of the top public schools and 205th for best value in all colleges in the nation. Most students (66%) graduate on time and the average student will graduate with a little over \$17,000 in student debt, which is under the average. That being said, the student-faculty ratio is quite high (21:1) and the starting average salary for a graduate is \$39,000 which is below average.

Notable Alumni:

- ▶ Charles M. Rice, 2020 Nobel Prize in Physiology or Medicine laureate.
- ▶ Anna Escobedo Cabral, US Treasurer.
- ▶ Tani Cantil-Sakauye, Chief Justice of California.
- ▶ John S. Watson, CEO of Chevron.
- ▶ Lee Burnett, osteopathic physician, U.S. Army Colonel and founder of Student Doctor Network.



UC DAVIS
HEALTH

MEDICAL
CENTER

Is It Worth It?

Depending on how you utilize your time, the University of California, Davis can be a great first step to your future. If you want to live in a college town and focus on a scientific or agricultural career, it can be an affordable and rigorous education, while getting the full big school experience. Some questions you may want to ask are:

- ▶ Does this school have a highly ranked program for what I want to study?
- ▶ Do I want to live in northern California?
- ▶ How far do I want to travel for a university education?

Career: Family Medicine

What is a Family Physician?

Family medicine is a specialty medical career that focuses on individuals and their families. Family physicians used to be a general role practiced by any doctor in the community but has grown into its own specialty with specifically designed training and education. The World Organization of Family Doctors (WONCA), explains that family medicine focuses on “personal, comprehensive and continuing care for the individual in the context of the family.” As family physicians, doctors will focus on preventative care, incentivizing patients to attend regular check ups, health assessments, and provide health counseling for their patients.

The American University of the Caribbean, School of Medicine notes that:

Family medicine is a medical specialty that centers on all-around medical care for every member of a given family. Versatile family medicine physicians treat ailments and provide comprehensive health care for people of all genders and all ages. Family physicians need a broad range of medical skills to diagnose and treat a wide variety of illnesses and conditions. They may help an infant with plagiocephaly, the infant’s father with conjunctivitis, and the infant’s grandmother with osteoporosis—all in consecutive examinations. A doctor of family medicine also needs excellent relational skills as they may care for members of a family for many years, modifying care and the approach to care as patients grow and age. If you are considering a career in family medicine, ask yourself these questions:

How to Become a Family Physician:

Like all medical doctors, family physicians first get a bachelor’s degree and complete

all the medical school prerequisites. After taking the MCAT, they will need to graduate from medical school.

Many family physicians attend allopathic and osteopathic medical schools specifically. Medical school typically takes four years. During their time in medical school, students who are interested in family medicine should choose sub-internships or audition rotations that focus on family medicine. Lastly, after graduating, they will have to complete a family medicine residency which takes three years. Once completed, they will take their specialty board examination which is a day length test. Some family physicians do continue their training in subspecialties as they progress in their career.

Family Physician: Career Trends & Salary

According to the Bureau of Labor Statistics, family physicians earn over \$213,000 a year with an hourly rate of \$102.53 an hour. Naturally your salary and hourly rate will differ depending on your location and your experience. The BLS notes that family physicians who work for colleges tend to have the lowest average salaries (\$116,000) while those who work outpatient care centers (\$222,000) have the highest. Additionally



the field is set to grow by 7% over the next decade or by over 55,000 jobs

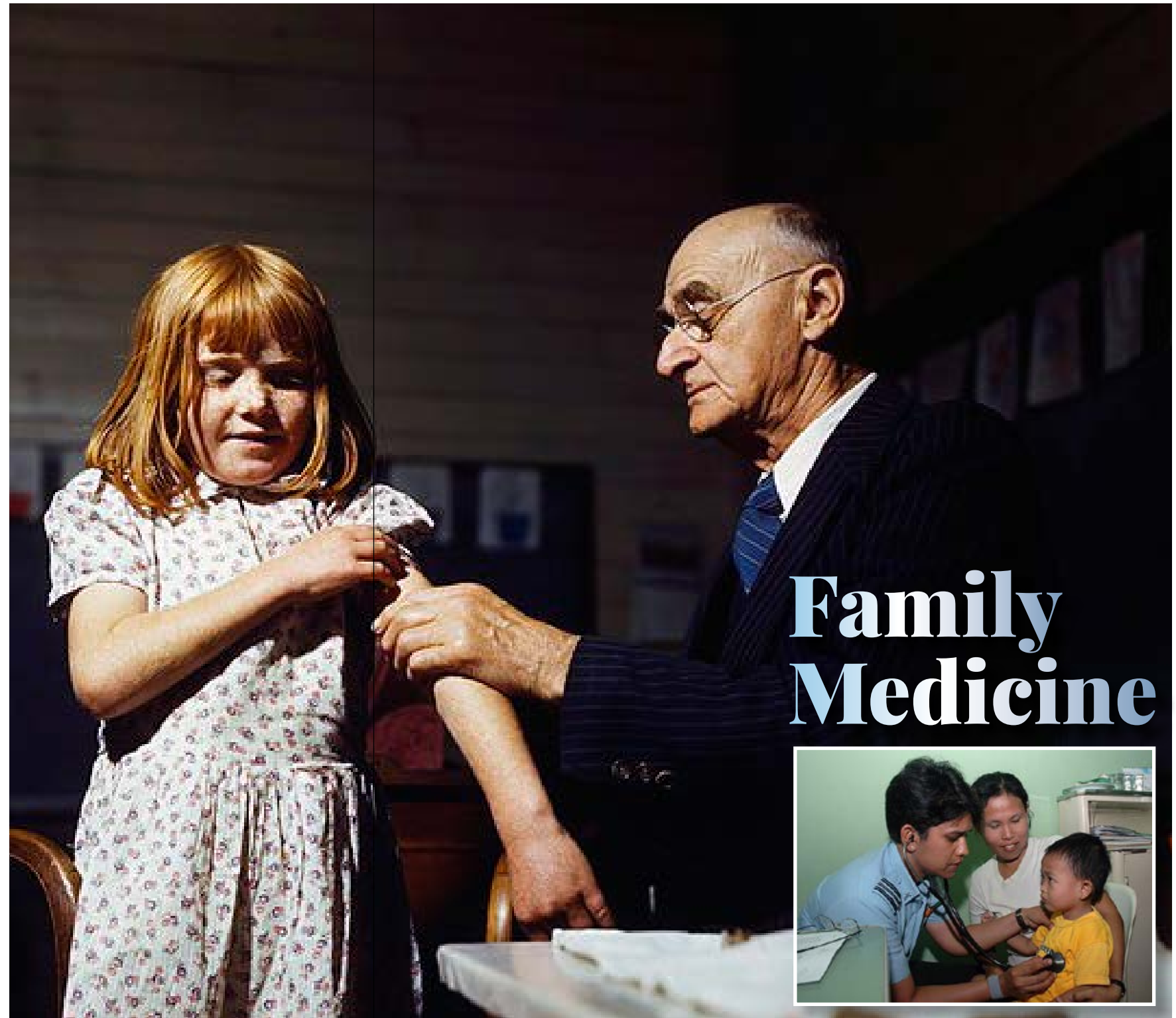
Being a family physician can be both rewarding and extremely rewarding. Dr. Carl Lambert, MD explains:

Family Medicine

The best thing is journeying and seeing patients and my students through challenging situations. You really get to see the ups and celebrate with them, but also feel the lows.

When a patient passes away or if someone in their family passes away, as their family doctor, I get to know everyone in the context of the family unit. So you feel very deeply for what's going on with your patients, which is kind of like a double-edged sword. Being a family physician can be awesome, but it can also be very painful. It's very exciting because no day is the same. As a family doctor, I like that you can see a 90-year-old patient in one room and then the newborn in the next room.

It's just a very cool experience that you have to constantly pivot and be comprehensive in your approach to seeing patients.



Family Medicine



Career:

Respiratory Therapist

Gwynedd Mercy University's explainer notes:

A day in the life of a respiratory therapist can involve meeting and assessing new patients, as well as administering treatment to and following up with existing patients. RTs work in a variety of healthcare settings, including hospitals, clinics, physicians' offices, critical care units, neonatal intensive care units, ERs, and even in patients' homes. RTs should be detail-oriented, patient, compassionate, and possess stellar interpersonal skills as they interact with vulnerable patients who often need as much genuine comfort as they do medical treatment.

How to Become a Respiratory Therapist:

Unlike being a medical doctor, becoming a respiratory therapist does not require you to attend medical school and get a medical doctorate. However aspiring respiratory therapists must complete an education program that is accredited by the Commission on Accreditation of Allied Health Programs (CAAHEP). Each state's Respiratory Care Board will list the approved programs on their website. Some states do waive this requirement if you have previous work experience in a similar field like a military medical background.

After gaining at least an associates degree at an approved institution, you need to gain your Registered Respiratory Therapist credential through the National Board for Respiratory Care. This requires you to pass the Therapist Multiple Choice Examination and Clinical Simulation Examinations. Lastly, after completing a three hour, board approved Law and Professional Ethics Course, you apply for a respiratory therapist license.

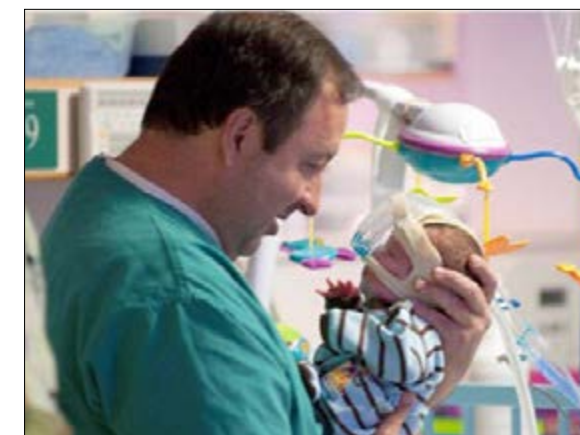
Respiratory Therapist: Career Trends & Salary

Due to the COVID-19 pandemic and other respiratory diseases, being a respiratory therapist can be a promising career. According to the Bureau of Labor Statistics, respiratory therapists make over \$77,000 a year with an hourly rate of \$37.48 an hour. Naturally your salary and hourly rate will differ depending on your location and your experience. Additionally the field is set to grow by 13% over the next decade or by over 131,000 jobs. The BLS notes that this is "much faster" than the average sector's growth rate. This can also vary depending whether you work in the private or public sector.

Carly Maciel Martinez is a career respiratory therapist who has worked at Santa Barbara Cottage Hospital and the Community Memorial Hospital, Ventura. She attended San Joaquin Valley College's Respiratory Therapy program.

What is a Respiratory Therapist?

A respiratory therapist is a specialized medical professional who focuses on lung diseases and disorders. Most commonly they will assist patients overcome the symptoms of various breathing difficulties caused by asthma, COVID-19, injury trauma, lung cancer, pneumonia, among others. Respiratory therapists work to diagnose and treat individuals suffering from these issues.



Pathways: What motivated you to work in medicine and as a respiratory therapist specifically?

Carly Maciel Martinez: The medical field, I always wanted to help people, I had a passion for it and also have family in the medical field. I got my start shadowing at Cottage Field in Santa Barbara and learned it can be a great career.

Pathways: What would you say were the biggest benefits to your time working in medicine?

Carly Maciel Martinez: Decent money, the scheduling is really nice so I have the opportunity to be home with my kids. As

respiratory therapists we do see hard stuff but we also do really good work helping patients going home, saving lives.”

Pathways: How can a high schooler prepare for a similar career?

Carly Maciel Martinez: Go in right away, if you know you want to do it. I went through San Joaquin. Get your prerequisites done in community college. Don’t waste your time because you can have a career at 20. I would not change anything the way I did it, but I would recommend going right into it after high school.

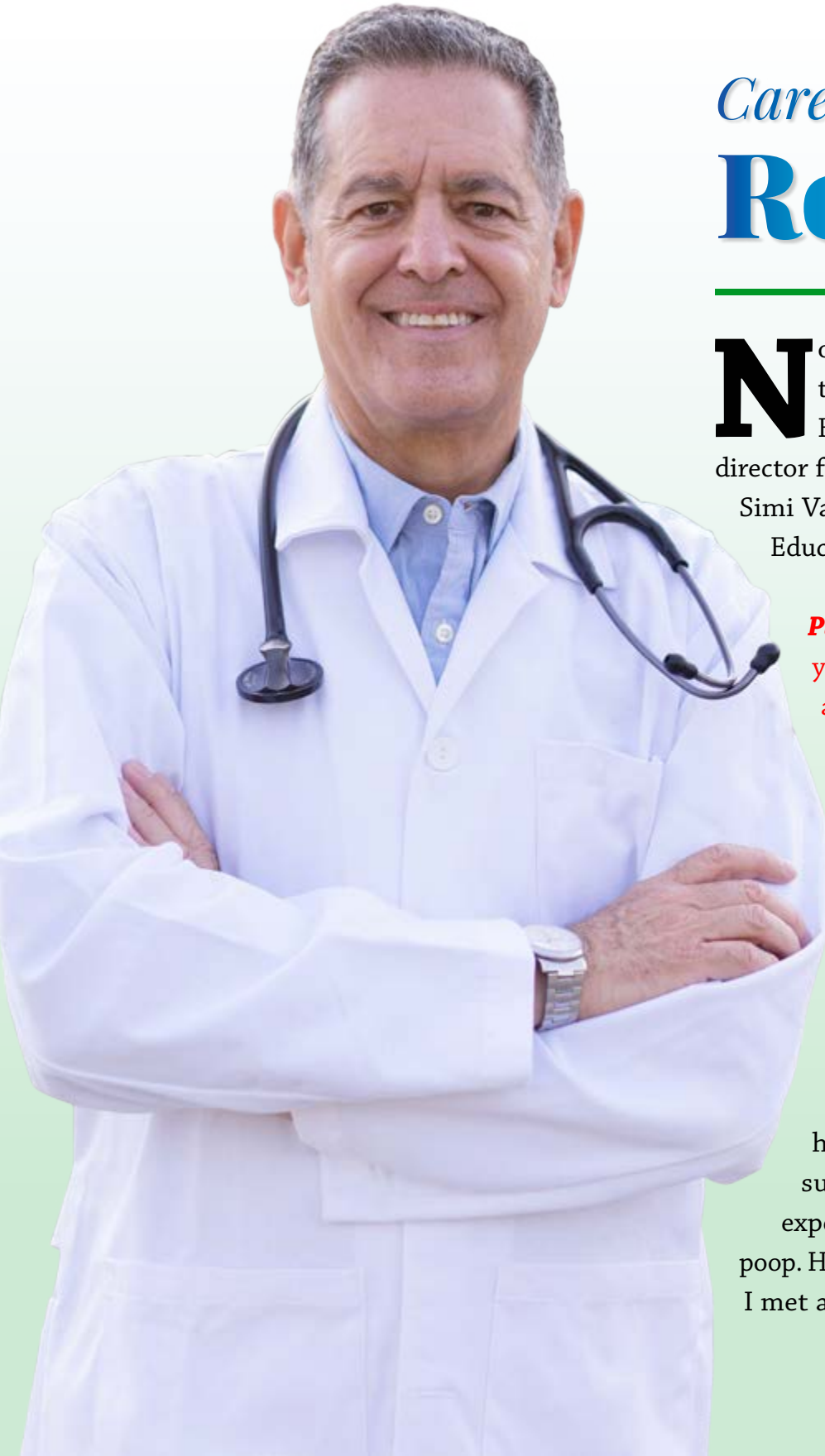
Pathways: Are there any mistakes you can think of that a new person working in medicine can avoid?

Carly Maciel Martinez: Definitely giving the wrong medication for starters! But seriously. Also not taking advice from senior respiratory therapists, don’t be a know-it-all. Don’t be afraid to ask questions, you should be leaning on the senior staff. Also it can be a hard job, you are going to see stuff, so have the mentality of knowing that ahead of time. As tough as it sounds, even if you have a patient pass away, you have to be able to move on to the next patient. You have to

have thick skin for it, but it’s also very rewarding.

Pathways: What was your average day like as a respiratory therapist?

Carly Maciel Martinez: It is very cool, you are not stuck in one unit like some nurse jobs. Our scope is everywhere. We work with children, adults. You can work as a general therapist or as specialized. You see everything, trauma, gunshot wounds, regular breathing treatments. You deal with everything lung related, CF [cystic fibrosis] patients, asthma patients. Some are a lot sicker than others...Sometimes you are just keeping someone alive and breathing. You are seeing something new every day. I can have one assignment in one day (ER Trauma), next day in the ICU with an intubated patient who is not awake. Respiratory therapy is really cool because you get to see everything.



Career Insights: Respiratory Therapy

North Star's Pathways had the privilege of interviewing Becky Jeffrey, RRT, M.Ed, the director for respiratory therapy at the Simi Valley Institute for Careers & Education.

Pathways: What motivated you to work in medicine and as a respiratory therapist specifically?

Becky Jeffrey: It's kind of a long story. Initially when I was young, I wanted to be a nurse. I had no idea what respiratory therapy was. When my kids were young, I got into nursing school to become a nurse practitioner afterwards. To do this, you had to work on a medical surgical floor. But after that experience, I realized, I don't like poop. Having been in it for a semester, I met a couple who were a nurse &

respiratory therapist respectively. I researched RT. Living in Orange County, I attended an informational meeting about RT at Orange Coast College. I loved how RT was in the medical field, included patient care, and incorporated autonomy and independent decision making. It fit my personality better than nursing. I think those interested in the medical field who want to help people and make a difference in people's lives can pursue respiratory therapy.

Pathways: What does an RT do?

Becky Jeffrey: RTs are the 911 of the hospital. Our main job is to make sure all patients are breathing. This includes simple breathing treatments, running ventilators, making decisions for patients along with the doctor, and assessing patients continually by looking at vital signs to make sure hemodynamics are stable. For example, those with an intracranial machine must have the proper pressure. We do a lot of

assessments. Assessments allow RTs to make recommendations for treatment. For example, a patient will decline. Their nurse calls the RT to assess the patient in terms of respiratory needs, medicine intakes such as overmedication requiring Narcan, or fluid in the lungs resulting from heart or kidney failure. This incorporates the interrelatedness of all organs. When there is a need for CPR, we are right there.

Pathways: Do you feel like there was an opportunity cost to working as a respiratory therapist as opposed to another path?

Becky Jeffrey: I compare RT to nursing. RT is like nursing but more specialized. Compared to nursing, nursing is a much more established profession with a strong union, so there can be more opportunities in nursing. As RT grows, more opportunities are available for example, those working in hospitals as an administrator, those



educating patients to use equipment and medications, an asthma educator, or program director. Outside of the hospital, RTs can become clinical or program directors overseeing clinical sites for interns. Perfusionists have specialized training to work in the operating room with the anesthesiologist in open heart surgeries to see blood still circulates when the heart is stopped. It's a distinct and rewarding career choice.

Pathways: What would you say are the biggest benefits working in medicine?

Beckey Jeffery: The deep satisfaction of positively impacting people's lives and the direct connection to patient care allows me to witness people's resilience to challenges and contribute to their recovery and comfort.

Pathways: What would you recommend to others who are interested in this work?

Beckey Jeffery: It's not enough to want to help people. This is a wonderful starting basis but you have to have an interest in the medical field. Take science classes. Conduct research on the pros and cons of the various jobs in the medical field. Volunteer at a hospital. Shadow a medical professional.

Pathways: How can a high schooler prepare for a similar career?

Beckey Jeffery: Develop an interest in the health and life sciences. Visit schools that offer programs in the medical field. Ask a lot of questions. Tour facilities. Learn how to study. Succeeding in the medical field requires

hard work, dedication, studying, and learning. It's not an easy path but the end result is extremely rewarding. Understanding what the process entails will help high schoolers prepare.

Pathways: What was the work life balance like in RT?

Beckey Jeffery: The great part about this work is most RT work in hospitals. It's a three day work week. Even though the days are 12 hours long, having 4 days off provides flexibility for a second job or personal time. This provides a good work life balance.

Pathways: Are there any mistakes you can think of that a new person working in medicine can avoid?

Beckey Jeffery: Thinking you know everything or that you should know more than you do just because you graduated can be a mistake. Finding a mentor is important. Don't assume learning is over once you get out of school. Thinking that you know everything can be dangerous for your patient. Learning is important and never stops.

Pathways: What was your average day like as a respiratory therapist?

Beckey Jeffery: RT can be very different from one day to the next. The typical day starts at 6AM or 6:30AM. You go into the department to get your list of patients you will care for the day. The list can grow as the day proceeds. You read the report from the night shift that includes details of each patient. You can work in the hospital in different areas from the regular floors, to intensive

care, to labor and delivery, and the emergency room. You may have to stay in a particular area depending on the number of ventilators. Depending on the acuity (level of sickness of the patient) and your assessments, your work can vary greatly. You can be working and called for an emergency code blue which means you run to take care of the imminent emergency such as compressions, bagging (using a bag valve mask to assist breathing) a patient, and monitoring their heart and respiratory rate, and assisting in intubation. Most days you are running and it's always something different.

Pathways: What is one piece of advice you would give to your younger self, while examining your future?

Beckey Jeffery: Take school more seriously. As a younger person, I remember thinking, "I can't wait to be done with high school because I'm never going to use this." But as an adult, I wish I had taken things more seriously. In high school, I took advantage of a regional occupational center (ROP) where you go to school in the morning and learn about a career in the afternoon. I focused on medical assisting and completed the program.

Pathways: Can you share a critical moment?

Beckey Jeffery: The job can be heavy. You can be the only one present supporting a patient at their critical moments. It's exciting when you have a critical patient who received CPR, were ICU, or were on a ventilator, and they walk away and thank you.





Career: Physical Therapist

What is a Physical Therapist?

A physical therapist is a healthcare practitioner who helps their patients regain physical function and improves how their patient's body moves. They help diagnose the source of physical pain or limited mobility, can help patients cope with a physical disability or injury, as well as manage physical discomfort. Physical therapists will often treat a specific part of the body, like helping a patient heal an injured hamstring or rotator cuff.

The American Physical Therapy Association (APTA) notes:

Physical therapists examine, diagnose, and treat individuals of all ages, from newborns to people at the end of life. Physical therapists work with patients who have injuries, disabilities, or other health conditions that need treatment. They help patients avoid surgery and prescription drugs, maximize mobility, manage pain and chronic conditions, prevent future problems, and improve physical function and fitness.

How to Become a Physical Therapist:

Unlike being a medical doctor, becoming a physical therapist does not require you to attend medical school and get a medical doctorate. However aspiring physical therapists must

complete an accredited education program to gain a bachelor's in physical therapy or a related field such as kinesiology, biology or exercise science. Once graduating, they will then complete a doctorate in Physical Therapy which usually takes three years. You should check to make sure your institution is accredited by the Commission on Accreditation in Physical Therapy Education.

Once completing your DPT, you will then need to pass the National Physical Therapy Exam which will allow you to be a licensed physical therapist. Each state may also have additional licensing requirements in order to work as a PT in that state. Many PTs will go on to gain additional education and certification specialties such as sports medicine, geriatrics or clinical electrophysiology.

Physical Therapist: Career Trends & Salary

According to the Bureau of Labor Statistics in 2023, physical therapists make over \$99,000 a year with an hourly rate of \$47.97 an hour. Naturally your salary and hourly rate will differ depending on your location and your experience. Additionally the field is set to grow by 15% over the next decade or by over 131,000 jobs. The BLS notes that this is "much faster" than the average sector's growth rate. This can also vary depending whether you work in the private or public sector.

Career: Registered Nurse



What is a Registered Nurse?

A registered nurse (RN) assists physicians throughout the patient experience. After helping the doctor assess their condition, RNs will monitor the patient's condition, provide updates to the patient's medical team and prepare the patient for any follow up care. Due to the usefulness of their role, RNs work across the healthcare industry. Registered nurses can work in hospitals, in ambulances and in residential care facilities.

The American Nurses Association (ANA) explains:

Nursing can be described as both an art and a science; a heart and a mind. At its heart, lies a fundamental respect for human dignity and an intuition for a patient's needs. This is supported by the mind, in the form of rigorous core learning. Due to the vast range of specialisms and complex skills in the nursing profession, each nurse will have specific strengths, passions, and expertise.

How to Become a Registered Nurse:

Being a registered nurse is a highly regulated position since it is so crucial to the healthcare system. After graduating highschool with a diploma or a GED, you will either need to gain an associate's degree in nursing or even a bachelor's degree in order to fulfill the prerequisites.

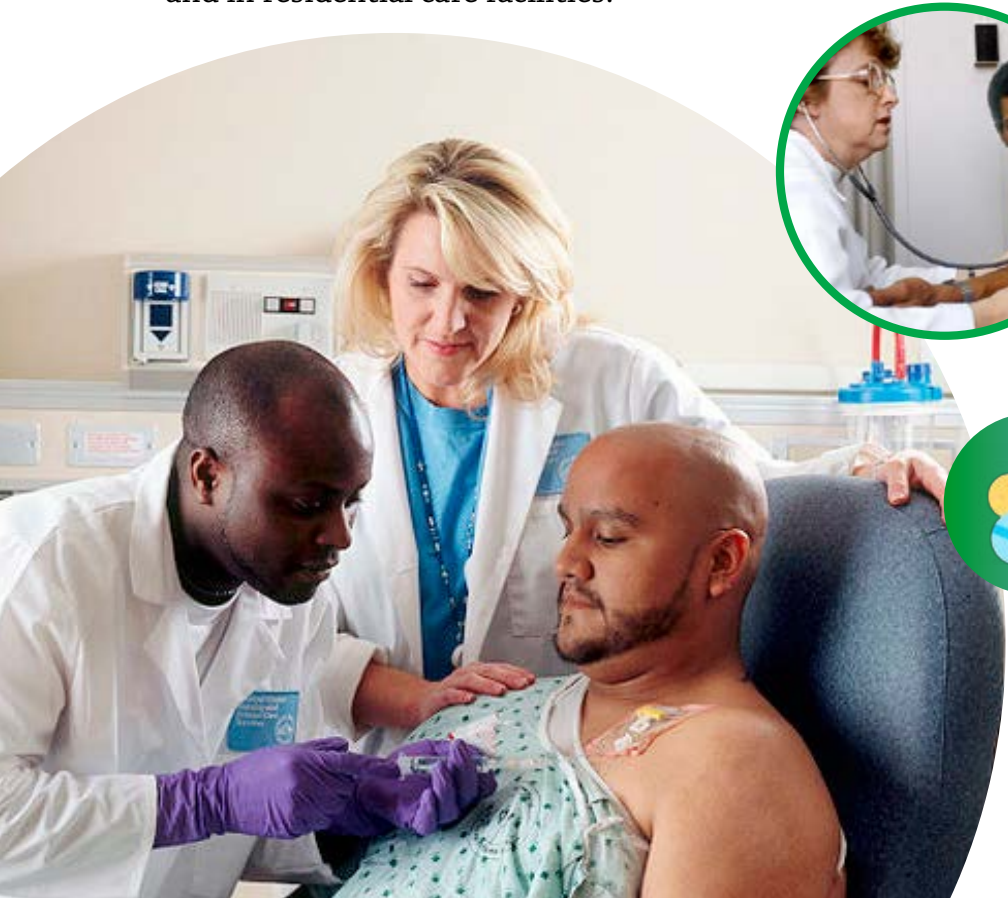
However each state is different in the training and education they require in order to become an RN. Some states allow those with military medical experience to apply directly to a nurse licensing program. Each state has a board of registration that will guide you through the processes of the required education and training.

After gaining at least an associates degree at an approved institution, you will need to apply for your license with your state board which will verify

you as a registered nurse, allowing you to work in the field in that state. After becoming an RN, many nurses will go on to specialize in a particular field of work, like an ICU nurse or neonatal nurse, which will require additional training and certification.

Registered Nurse: Career Trends & Salary

Due to the recent pandemic and the aging U.S. population, being a registered nurse can be a promising career. According to the Bureau of Labor Statistics, RNs earn over \$94,000 a year with an hourly rate of \$45.42 an hour. Naturally your salary and hourly rate will differ depending on your location and your experience. Additionally the field is set to grow by 15% over the next decade or by over 433,000 jobs. The BLS notes that this is "much faster" than the average sector's growth rate. This can also vary depending whether you work in the private or public sector.





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