

MEDICINE

Medicine is one of the most sought after and rewarding career for those interested in Science and dealing with sick people. Over the years, the field of medical studies have undergone various stages of development, it has become so vast that specializations within are increasing day by day.

A recent study by KPMG (a professional service company), shows that in India there are only 6 doctors for every 10,000 people. This is a remarkably low number and the country needs well educated and energetic healthcare professionals. If one has fondness for areas such as Medicine, Biology, Chemistry etc., the medical field is an ideal career. Not only is medicine and surgery a lucrative career choice, it also brings along a position of reverence in the society. To become a doctor, one needs to first graduate with an

M.B.B.S. (Bachelor of Medicine and Bachelor of Surgery) degree.

Bachelor of Medicine, Bachelor of Surgery are the two first professional degrees in Medicine and Surgery awarded upon graduation from medical school by universities in countries that follow the tradition of the United Kingdom. Going by the name these two are separate under-graduate degrees; however, in practice, they are usually treated as one and awarded together. In countries that follow the tradition of the United States, the equivalent medical degree is awarded as Doctor of Medicine (MD).

MBBS is one course which requires a lot of patience.

The MBBS course spans 9 semesters, i.e., four and a half year, followed by a mandatory internship of one year. The syllabus is divided as Pre-clinical, which covers mainly the first two semesters of the course focusing on the basic knowledge of various subjects such as anatomy, bio-chemistry, physiology, etc. The second phase is the Para-Clinical which spans for three semesters (one and a half years), focuses on the teaching of subjects like forensic medicine, community-medicine, pathology, etc. The third phase is the Clinical phase which focuses on practical knowledge and practice along with subjects like psychiatry, pediatrics, surgery and other allied subjects etc. At the end of each phase, a special exam is held. This phase is generally referred to as "professional" in MBBS jargon.

Another course that is very close to Medicine (MBBS) is Bachelor of Dental Surgery. It makes the student study Dentistry as a branch. We call it close to MBBS because almost all the entrance exams that make you eligible for admission to the MBBS course will also make you eligible for the BDS course. No doubt, which one do you get is going to be a matter of your score in the exam and your interest. Dentistry is a branch of medicine that is involved in the study, diagnosis, prevention, and treatment of diseases, disorders and conditions of the oral cavity. Although primarily associated with teeth among the general public, the field of dentistry or dental medicine is not limited to teeth but includes other supporting structures. Oral diseases are major public

health problems due to their high incidence and prevalence across the globe with the disadvantaged affected more than other socio-economic groups.

Dentistry usually encompasses very important practices related to the oral cavity.

Eligibility: In order to be eligible for the MBBS or BDS course, students should have passed their 10+2 exams with Physics, Chemistry, Biology/Biotechnology and English, individually with a minimum of around 50% marks in Physics, Chemistry and Biology/Biotechnology taken together. Later in the text we have mentioned the three entrance exams that take place for medicine admissions in India. The minimum eligibility score for each is different and ranges around 50%. It usually also changes every year. Hence looking at the eligibility before you suggest your student to apply is really important.

There is also the age factor to consider. Students who are aged 17 or who will be aged 17 on or before 31st of December of the year in which they are applying. It should also be known that candidates above 25 are not eligible to apply.

Admission process and entrance tests: The admission process for MBBS starts with the entrance exam. There are three premedical tests organized in India for admission in the MBBS course for various colleges across the country. The names of the tests are as follows:

- National Eligibility Entrance Test (NEET)
- All India Institute of Medical Sciences (AIIMS)

Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER)

Among these, NEET is the most popular. NEET or the National Eligibility cum Entrance Test is organized by the National Testing Agency (NTA) for admission in to MBBS and BDS. After taking the test, students are called for a counselling session where they are allotted colleges as per their rank.

Applications for NEET start in November and the deadline falls in November-end/December. The exam takes place in May. It is a pen and paper-based exam and is marked out of a total of 720. The exam will have questions based on Physics, Chemistry and Biology. It is important to remember that until 2019 exam, NEET has negative marking, that means, for every wrong answer that you mark, you lose one mark.

The All India Institute of Medical Sciences test is also a national level test but it's held by only one college which is AIIMS itself. Your score in the test will offer you admission to one of the campuses. A total of 15 AIIMS campuses across the country are offering MBBS program to the students. More AIIMS campuses are planned and will be seen getting added to this list of 15. The application forms are released by November last week and the deadline falls mid-way into January. The exam takes place in May. To be eligible the student must score minimum 60% aggregate marks in Physics, Chemistry, Biology & English subjects. It is an online test of about 3.5hrs. The questions are asked from Physics, Chemistry, Biology and General Knowledge/Aptitude.

Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry (JIPMER) is one of the leading Medical Institutions of India. It conducts its own Entrance Examination. Online applications start in Last week of February or First week of March and go on till April. The exam takes place in last week of May or first week of June. It is online exam of about 2hrs and 30mins and the question paper is out of a total of 200 marks. The syllabus is set from the subjects such as Physics, Chemistry, Biology and English Language and Comprehension and Logical & Quantitative Reasoning.

Top Colleges:

There are numerous colleges and universities in India which offer courses in medicine. However, here we present the top universities and colleges among them.

- **All India Institute of Medical Sciences:** All India Institute of Medical Sciences, in short AIIMS is the most well-known institute of medicine in India. You might have heard its name in news as it's preferred by people as high as the prime minister for medicinal procedures and operations. AIIMS conducts programs in medical and para-medical courses, both at the undergraduate and postgraduate levels, and awards its own degrees. At AIIMS, teaching and research are conducted in approximately 28 courses in Healthcare and Medicine, 5 of which are at the undergraduate level.
- **The Christian Medical College, Vellore:** The Christian Medical College and hospital is one of the largest medical centers in India and is situated in the city of Vellore, in the southern state of Tamil Nadu, India. There are approximately 20 courses offered at the undergraduate level.
- **Grant Medical College:** The Grant Medical College is a famous medical college in Mumbai, Maharashtra. The college is affiliated to the Maharashtra University of Health Sciences, Nashik. The college accepts 200 students per year for the undergraduate course. It offers 2 undergraduate courses in Healthcare and Medicine.

- **Armed Forces Medical College:** The Armed Forces Medical College, also known as AFMC, is a premier medical college in India. It is located in the Pune Cantonment in Pune, Maharashtra. The college is managed by the Indian Armed Forces and is affiliated to the Maharashtra University of Health Sciences (MUHS). The institution is responsible for providing the entire pool of specialists and super specialists to armed forces. The college is also involved in conducting research in various medical subjects as well as those aspects which affect the morale and performance of the armed forces, both in war and peace. Admission to MBBS courses is on the basis of NEET. This is followed by an interview and then, after the final selection.
- **King George's Medical University, Lucknow:** The King George's Medical University, Lucknow is known as one of the pioneers of medical education in India. Admission to the college is through the NEET, and it remains one of the most sought-after locations for budding doctors.
- **Manipal University:** Manipal University is another of the most popular deemed universities in India. Admission to the college is through NEET.

What after M.B.B.S?

The unfortunate upsurge of diseases and ailments has resulted in a rising demand for medical professionals. Every year, super specialty hospitals are mushrooming both within the country and abroad, offering employment opportunities. Therefore, after MBBS, students have a wide range of options to choose from. Following are choices that a student can make after MBBS: -
Further studies:

The first option is Post-graduation and further specializations. After MBBS, students can pursue post-graduation and higher education in a number of fields and specializations. Three major ways are:

PG- Specialty:

Medicine: Post graduation courses after MBBS in India are the most pronounced MD (Doctor of Medicine) and MS (Master of Surgery). These are some of the toughest PG exams in India. The simple reason behind this is very limited number of seats. Even after getting the college of choice, students may not get the course of choice or vice-versa. Although many private colleges provide PG seats, but the price of private institutions outweighs that of the merit quota. The duration of this course is 3 years.

There are various specializations available at the PG Level:

- **Orthopedics:** Orthopedic surgeons deal with illness of the skeletal structure. They diagnose and treat fractures and disorders of the skeletal

frame. An orthopedic suggests therapies and exercise for patients which are conducted by Physiotherapists.

- **Pediatrics:** A medical doctor who specializes in Pediatrics is called Pediatrician. A pediatrician deals with the children's health from newborn to adolescents. A pediatrician diagnoses and conducts treatment of the diseases peculiar to children.

Cardiology: Cardiology deals with disorders of the heart. A cardiologist is a doctor with special training and skill in finding, treating and preventing diseases of the heart and blood vessels.

- **Obstetrics and Gynecology:** Obstetricians and Gynecologists diagnose and treat the disorders in female reproductive organs. These specialists also deal with ovarian cancer and other illnesses related to reproductive systems.

- **Neurosurgery:** Neurosurgery is the surgical discipline focused on treating the central and peripheral nervous system. Neurosurgical conditions primarily include brain and spinal cord disorders. The medical doctors specialized in this field are called Neurosurgeons.

- **Ophthalmologists:** Ophthalmologists diagnose and conduct treatment for the diseased human eye. Ophthalmologists are trained to conduct surgeries of the eye, operations for the removal of cataract, treatment of glaucoma and other such diseases and infections of the eye.

- **Dermatology:** Dermatology is the branch of medicine dealing with the skin, nails, hair and its diseases. It is a specialty with both medical and surgical aspects. A dermatologist treats diseases, in the widest sense, and some cosmetic problems of the skin, scalp, hair, and nails.

- **Anesthesiology:** Anesthesiology is a branch of medicine that focuses on pain relief during and after surgery. This treatment is called anesthesia. Practitioners of anesthesiology are called anesthesiologists.

Apart from the above specializations there are other specializations such as Immunology, Hematology, Nephrology, and Herpetology etc. Also, there are super specializations that require a further study of 3-5 years. Some of the super-specialties available are in Plastic Surgery, Pediatric Surgery,

Neurosurgery, Gastroenterology, Cardia-thoracic surgery, Endocrinology, Conito-urinary surgery, Clinical Hematology etc.

Emergency Medicine and Family Medicine are also emerging as courses with a huge scope. Family medicine trains students in understanding and curing diseases and ailments which may have come down through the genes among other things. Emergency Medicine is the combination of several specializations. Post-graduation in emergency medicine can be pursued in several colleges which are located in Chennai, Bangalore and Hyderabad.

The second option is Dentistry- MDS (Master of Dental Surgery):

After the completion of BDS, aspirants can either start working or prepare for the PG entrance exams. The duration of course is 3 years. Student can specialize in various fields at the PG Level. The specializations available are:

- Community Dentistry
- Operative Dentistry
- Oral Medicine
- Oral Pathology
- Orthodontics
- Periodontics
- Oral Surgery
- Prosthodontics

The third option is PG- Diploma:

A postgraduate diploma (PGDip, PG-Dip, PG Dip., PGD, PG-D, POE) is a postgraduate diploma qualification awarded typically after a bachelor's degree. A good example of PG-diploma courses is:

DNB: Diplomate of National Board (DNB) is the title awarded by the National Board of Examinations (NBE), an autonomous academic body under the Ministry of Health and Family Welfare, Government of India to candidates who successfully complete their postgraduate or postdoctoral medical education under it. This is a three-year postgraduate residency program is available in broad and super specialties.

Other options for students after completing MBBS include:

Research: Clinical research options for MBBS students rely on their will to

learn and to invent. The most renowned research institute in India is the ICMR (Indian Council for Medical Research). The duration of this course is 3 years.

Hospital Management: Hospital Management is another very fast developing sector which is one trending option available for MBBS students. IIM (Indian institute of Management) is one worthy but toughest choice. The duration of this course is 2years.

Clinical Practice: An MBBS graduate student may plan to study while going for job after MBBS, or start clinical practice immediately after completing MBBS. It can be done in Government hospitals, Private Hospitals or own clinics.

Occupational Fields:

Qualified doctors have the employment opportunities in various public or private health facilities, such as:

- National Health Service
- Municipal Offices
- Regional Hospitals
- University Hospitals
- Armed Forces Hospitals
- Clinics
- Teaching and research in universities and research centers
- Health Administration Management

Many students go abroad after completing their MBBS or PG. They have to appear for qualifying examinations which vary from country to country before they can start practicing as doctors.

Apart from the pure medical courses such as MBBS and BDS, student can also opt for other courses such as Ayurveda, Homeopathy, Unani. Ayurveda generally means science of life, the degree awarded for undergraduate study in Ayurveda is Bachelor of Ayurvedic Medicine and Surgery. Further, the Homeopathy is a system of alternative medicine, the degree awarded is Bachelor of Homeopathic Medicine and Surgery. Similarly, Unani System of Medicine is the natural way of treatment with the help Unani herbal medicines for almost every major disease, the degree awarded is known as Bachelor of Unani medicine and Surgery.

KEY TAKEAWAY

- A career in medicine is one of the most rewarding but also challenging careers. Medicine basically deals with the curing those who are suffering ailments and diseases and helping people in maintaining their health
- MBBS is the main course at the bachelor's level for those who want to pursue a career in medicine. Another option is BDS or Bachelor of Dental Surgery, which specifically deals with curing ailments related to the mouth and teeth
- In order to be eligible for the MBBS or a BDS course, students should have passed their 10+2 exams with Physics, Chemistry, Biology/Biotechnology and English, individually with a minimum of 50% marks in Physics, Chemistry and Biology/Biotechnology taken together. They should also be aged 17 or above but not more than 25 while applying
- Getting seats in a good medical college is very challenging. Seats are usually awarded based on academics and the scores students obtain in entrance tests
- The entrance tests for Medicine are NEET, AIIMS and JIPMER.
- After MBBS, students can either pursue post-graduation and specialize in any one medical field or start working as general practitioners