

Alternatives to Medicine

This guide has been written to help you assess whether applying for Medicine is the right choice for you. It contains the following information relevant to what is needed to be accepted onto a medicine course and alternative routes in to medicine:

1. Requirements for Medicine
2. Applying for Medicine
3. Getting an Offer
4. Alternative Course Options
5. Apprenticeship Opportunities
6. Alternative Routes into Medicine
7. Additional Resources

1. Requirements for Medicine

Applicants to medicine face a greater degree of scrutiny and competitiveness than other courses. Medical Schools will be expecting applicants to have an incredibly strong academic record, some relevant work experience and a clear understanding and interest in the medical field.

GCSEs: Medical Schools typically won't pay close attention to what subjects you chose to take at GCSE, outside of the core subjects. However, they will be expecting you to have achieved well in all of your subjects. Although the expectation changes from university to university, most institutions will expect you to have achieved at least a 6 in your Maths, English and Science GCSEs. However, this is the absolute minimum, and top universities will tend to favour applicants with a significant number of grades 8 or 9, particularly with regards to Biology and Chemistry.

Universities will typically use your GCSE results to assess your suitability for interview. Although the exact process will differ depending on what university you apply for, at leading institutions, such as KCL, GCSEs make up 40% of the weighting in scoring for an interview. The majority of universities adopt a points system based on an applicant's GCSE grades. For example, the University of Leeds will allocate 3 points for an 8/9, 2 points for a 7 and 1 point for a 6/5, with a maximum of 27 points available. For this reason, **it is very unlikely that you will be invited to an interview for medicine if you have fewer than six grades 8/9 at GCSE.**

A-Levels: To make a successful application to medicine, you will be expected to be taking at least two science-related A-levels. All universities offering Medicine will expect you to be taking Chemistry A-level and the vast majority will also expect you to be studying Biology A-level. Some universities will also accept Maths or Physics as an alternative to Biology, although this may weaken your application.

University entry requirements are incredibly high for Medicine, with offers falling within the A*A*A-AAA range. As a result, good grades at the end of Year 12 are essential in order to show that you are capable of achieving highly.

2. Applying for Medicine

Applications for Medicine need to be submitted to UCAS earlier than applications for other courses. This means that you will need to have your university choices decided and your personal statement finished to the highest standard by the start of October.

Personal Statement

Your personal statement will need to show clear evidence of your interest in Medicine. There are three key characteristics that you will need to demonstrate:

- Motivation – why do you want to study Medicine?
- Exploration – what have you done to learn about Medicine?
- Suitability – why are you a great fit for Medicine?

Admissions tutors will be looking to see that you have taken the time to gain relevant experience and clear reflections on what you learnt from doing so. You will need to be very specific when discussing your work experience as it is not

enough to simply state that you saw a doctor caring for patients. Any evidence that you have an in-depth understanding of the realities of being a doctor will be particularly beneficial.

As tempting as it may be, try and avoid using family member's illnesses as a motivating factor behind your decision to study Medicine. This is not a particularly unique motivation and could harm your application.

Admissions Tests

As part of your application process you may be required to sit an admissions test. It is important to check what universities require admissions tests prior to applying.

Universities requiring the UCAT (less Science focused admissions test)

Most university medical schools require the UCAT to be sat. Your total UCAT score will be out of 3,600.

This is the accumulation of scores achieved in four sections:

1. Verbal Reasoning
2. Quantitative Reasoning
3. Abstract Reasoning
4. Decision Making

Your performance on each of these sections is scaled to a score between 300 and 900, a good score will vary from year to year. In most years, a score above 650 would represent a good outcome.

Above 680 would normally be considered a high score.

If you manage to get a high score, you might be wise to apply to universities that place a higher emphasis on the test, as this could boost your chances of getting an interview.

If you scored highly, it might be a good idea to apply to universities that place a lot of emphasis on the UCAT.

Many of these have a UCAT cut-off score and rank their applicants this way. This means your chance of securing an interview will be higher if you performed well in the test.

If you didn't get the score you were hoping for, it's a good idea to apply to universities that place more emphasis on other admissions criteria.

Universities requiring the BMAT (more Science focused admissions test)

The BMAT is currently used by the following UK universities:

- University of Oxford
- University of Leeds
- University of Cambridge
- University College London
- Lancaster University
- Imperial College London
- Brighton and Sussex Medical School.

If you are applying to one of these universities, make sure you register for the test. Last year, Brighton and Sussex invited applicants who scored 15.1 or higher in the BMAT for interview. The cut-off score varies from year to year.

Some medical schools will advertise the deciles their successful candidates sit in online, or the banding for particular components of each test, but students may email admissions to obtain average scores for successful applicants in the previous admissions cycle

Interviews

If your personal statement, academic grades and admissions test results meet the standards of the university you apply for, you will be invited to an interview.

There are two types of interview that Medical Schools use to assess their applicants: Multiple Mini Interviews (or MMIs) and traditional, panel interviews. The main difference is that MMIs involve rotating through a series of stations, where you'll face a variety of challenges and types of questions or tasks, whereas the traditional interviews focus on you answering multiple questions over a longer period of time.

It is important that you are aware of what style of interview the university you're applying for uses when assessing applicants.

3. Getting an Offer

It is important to be aware that even if you are invited to interview, there is no guarantee that you will be offered a place to study Medicine at that university. Medicine is an incredibly competitive course and rejection is a natural part of the application process.

For example, Cambridge received 1,341 applications to study Medicine in 2017. Of these, 292 people were offered a place and 257 met the grades to take up this offer. This means that just 19.2% of applicants to study Medicine at Cambridge were successful.

The same is true for other applications to study Medicine. In 2020 there were 23,710 applications to study Medicine for just 7,500 places. You can see below the success rate for various universities:

University	Number of Applications	Number of places	Number invited to interview	Total offers made	Successful applications (%)
Aberdeen	2436	168	749	416	17.08
Birmingham	3017	334	1132	725	24.03
Brighton and Sussex	2514	138	647	260	10.34
Bristol	3389	222	867	321	9.47
Cardiff	2579	309	1106	513	19.89
Dundee	1839	147	565	281	15.28
Durham	641	99	248	185	28.86
Exeter	1273	130	410	219	17.2
Hull York	1093	140	485	316	28.91
Imperial	2267	277	614	423	18.66
KCL	3352	321	962	577	17.21
Lancaster	551	54	196	102	18.51
Leeds	1858	237	549	265	14.26
Leicester	2335	241	693	503	21.54
Liverpool	3091	267	1087	508	16.43
Manchester	2572	371	956	612	23.79
Newcastle	2151	219	844	342	15.9
Nottingham	2326	240	654	403	17.33
Oxford	1372	150	425	157	11.44
Plymouth	1006	86	314	173	17.2
Queen's Belfast	977	262	677	375	38.38
St Georges	1109	105	479	186	16.77
UCL	2413	322	706	481	19.93

It's important to note that universities will often give more offers than there are places available. This means that you will have to at least meet the entry requirements in order to accept your place there. If you achieve lower grades than you needed to you are incredibly unlikely to be offered a place on the course.

4. Alternative Course Options

If you are unlikely to be successful in your application to study Medicine, there are a lot of opportunities still available to you. Many of these opportunities will involve working within the medical community without having to train to become a doctor. It is worth researching these courses in detail, as they are less competitive and may be a better fit for you than a Medical degree.

When researching these courses, take the time to consider your motivations behind wanting to study Medicine. All of these courses will contain aspects of Medicine so really think about why you are interested in this route. It might be that you enjoy the scientific aspect of Medicine or that you're interested in helping people. It's important to be aware that Medicine is not the only course that will enable you to do these things and that there are many other courses available which will enable you to pursue your interests.

Biomedical Sciences

Biomedical science is one of the broadest areas of modern science and underpins much of modern medicine - from determining the blood requirements of critically ill patients to identifying outbreaks of infectious diseases to monitoring biomarkers in cancer

Biomedical science staff mostly work in healthcare laboratories diagnosing diseases and evaluating the effectiveness of treatment by analysing fluids and tissue samples from patients. They provide the 'engine room' of modern medicine - 70% of diagnoses in the NHS are based on pathology results provided by laboratory services.

Biochemistry

Biochemistry is the branch of science that explores the chemical processes within and related to living organisms. It is a laboratory based science that brings together biology and chemistry. By using chemical knowledge and techniques, biochemists can understand and solve biological problems.

Biochemistry focuses on processes happening at a molecular level. It focuses on what's happening inside our cells, studying components like proteins, lipids and organelles. It also looks at how cells communicate with each other, for example during growth or fighting illness. Biochemists need to understand how the structure of a molecule relates to its function, allowing them to predict how molecules will interact.

Biochemistry covers a range of scientific disciplines, including genetics, microbiology, forensics, plant science and medicine. Because of its breadth, biochemistry is very important and advances in this field of science over the past 100 years have been staggering.

Radiotherapy and oncology

Oncology is the study and practice of preventing, diagnosing and treating cancer. One method of treating cancer is radiotherapy, which involves the use of high-level radiation to either cure a patient or to control their symptoms. A degree in radiotherapy and oncology will typically train students in the key skills of planning and preparing cancer care, including the use of advanced technology and specialist machines to deliver radiation treatment. Degrees normally involve a significant amount of time spent on placement in facilities such as NHS hospitals or specialised cancer clinics, as well as in simulated clinics.

Paramedic science

If you're looking for a fast-paced work environment, you could consider a degree in paramedic science (sometimes known as paramedic practice). Paramedics are trained to attend to patients at the scenes of accidents and emergency; they must be able to keep a level head in stressful situations, work well under pressure and provide excellent medical care and advice, even while in the back of a moving ambulance. On most paramedic degrees you will normally spend around half of your time on placement. This will be in clinical practice areas such as NHS facilities, where you will be working under the supervision of qualified paramedics – and bear in mind that you could find yourself working weekends and night shifts even as a university student.

Optometry

Optometrists are healthcare professionals who specialise in the examination, diagnosis and treatment of the human visual system. As an optometrist your duties will typically include prescribing and fitting glasses, contact lenses and other aids, as well as treating a range of common eye conditions such as glaucoma. Degrees normally combine academic studies with clinical and practical opportunities, with many courses offering the chance to work with real patients and in high-tech simulation facilities.

To work as an optometrist you'll need to register with the General Optical Council, which requires working for a year as a pre-registration optometrist after your BSc. Check course details carefully though, because some universities offer four-year masters degrees which incorporate this pre-registration year within the course.

Pharmacology

Pharmacology is the study of drugs and the effects they produce upon the human body. These drugs could be medicines, food additives, agricultural compounds such as insecticides, natural hormones, and even animal toxins and venoms. On your degree you will typically study the effects that these drugs have on tissues, cells and molecules within the body, including the potential toxic effects of medicines used in the treatment of disease. Courses will often examine both the actions of current drugs and the development of new drugs.

While there will be plenty of practical laboratory work on a pharmacology degree, there are fewer opportunities for clinical work experience than on the majority of healthcare degrees. However, many universities offer the option to take a

placement year, so if industry experience appeals to you, be on the look-out for sandwich courses.

Biotechnology

Biotechnology creates a vital link between biology and technology by using cellular and biomolecular processes to develop technologies and products that help improve our lives. It involves the controlled and deliberate manipulation of biological systems in order to make products such as antibiotics, industrial chemicals and genetically modified crops. If you're interested in helping to develop the life-changing drugs of the future this is the degree for you!

Depending on what university you apply for, you may be given the opportunity to combine your scientific knowledge with the applied biochemistry and biotechnology industries. This gives you the opportunity to move into the business world and work for companies such as GSK and Unilever after graduating.

Cancer Studies

This is a unique degree course that is currently only offered at the University of Nottingham but may be useful to anyone wanting to pursue a career in Medicine with a specific focus on cancer.

This degree encompasses aspects of the biomedical sciences but with a specific focus on cell and molecular biology, immunology, and human physiology. Throughout the course you will cover topics such as the causes and consequences of cancer, the epidemiology of cancer, and cancer immunology and novel therapies.

This course is particularly useful if you are interested in further scientific academic research through studying a masters or PhD. It also provides you with a broader knowledge of biochemistry, immunology, genetics, physiology, pharmacology, pathology, and more. These skills could lead you into jobs in biotechnology, pharmaceutical industries and other biomedical areas.

5. Alternative Routes into Medicine

Studying these courses at university doesn't necessarily mean that you have ruled out a degree in Medicine further down the line.

Some universities will allow you to transfer on to a Medicine course after a year of study. This was traditionally offered to Biomedical Science students but it has opened up to other degree courses in recent years. This is incredibly competitive but it is possible!

Ten universities currently offer a formal medicine transfer scheme:

Anglia Ruskin University

Anglia Ruskin University offers a transfer scheme for students who complete the first year of the BSc Medical Science or BSc Biomedical Science course to an exceptionally high standard. This is a highly competitive route and there is no guarantee of a place on the Medicine course.

If you choose to apply for a medicine course this way, you will be required to have:

- A minimum average mark of 75% across the first year of your degree course
- No less than 65% for any individual module
- Evidence of a current UCAT score

University of Bradford

The University of Bradford has a widening participation scheme that helps students transfer to Medicine at the School of Medicine at the University of Leeds. There are 20 places for widening participation students that have completed the Foundation Year or Year 1 of the Clinical Sciences course at the University of Bradford.

In order to be transferred, you will have to meet strict academic criteria – but the academic section is based on performance in the Foundation year, not on A-levels and GCSEs. Students are then ranked and shortlisted for an MMI interview.

Most University of Bradford Foundation students continue into Year 1 of Clinical Sciences BSc (Hons), which is accredited by the General Medical Council as the equivalent of studying Year 1 Medicine. Because of this, Leeds Medical School offers another 20 places in Year 2 Medicine for first-year students to transfer into, but the selection is still based on academic criteria.

Widening participation students from the University of Bradford can also apply to study Medicine at the University of Sheffield once they've completed the Foundation Year. Some students have also successfully transferred to Hull York Medical School and Brighton and Sussex Medical School after the Foundation Year.

University of Brighton

It's possible to apply to transfer to Medicine from the University of Brighton after your first year on the following courses:

- Biological Sciences
- Biomedical Science
- Pharmacy

In order to transfer after the first year of study, students must exhibit an excellent term 1 class attendance record and a 70% average for term 1 modules.

You can also apply after you graduate from these courses – but you must attain at least a 2:1 overall and a 70% average for year 2 modules.

Cardiff University

Cardiff University has a number of places reserved for students completing a three-year course from a recognised feeder stream. If successful, students transfer to the second year of the five-year undergraduate Medicine course after completing the three year BSc.

The Medicine transfer scheme at Cardiff University is open to students graduating with the following degrees:

- BMedSci Degree from the University of Bangor
- BSc (Hons) Medical Science Degree from the University of South Wales
- BSc (Hons) Medical Pharmacology Degree from the School of Medicine at Cardiff University
- BSc (Hons) Biomedical Sciences from the School of Biosciences at Cardiff University

Students choosing this option are required to complete the GAMSAT admissions exam before applying via UCAS

University of Edinburgh

While you can transfer from Medical Sciences to first year Medicine, the University of Edinburgh stresses that it's highly, highly competitive – only three students have transferred in the last eight years, so it's not a recommended route.

University of Leicester

The transfer scheme is a relatively new initiative at Leicester – but transfers are not guaranteed and places are highly competitive.

The scheme is available to students who have completed their first year of:

- Biological Sciences
- Medical Biochemistry
- Medical Genetics
- Medical Physiology
- Medical Microbiology

In order to transfer from these courses into the first year of the Medicine programme, you will need to meet the following requirements:

- You must have achieved strong A-level grades (including Chemistry) and excellent grades in the first year of your Biomedical Sciences degree
- You must demonstrate a strong commitment to Medicine (in the form of work experience and a strong personal statement) and must have sat the UCAT

University of Manchester

The University of Manchester accepts a small number of transfer students (approximately 10) who have performed exceptionally well in the first year of their degree programmes in the School of Biological Sciences at the University of Manchester. Details of this scheme are published internally to eligible students.

Newcastle University

Newcastle University has a formal Biomedical Science to Medicine transfer scheme. The university considers applications from students who have completed Stage 1 of Biomedical Sciences to transfer to Stage 1 of the Medicine or Dentistry courses.

This scheme is open to students studying:

- Biomedical Sciences
- Biochemistry
- Biomedical Genetics
- Pharmacology
- Physiological Sciences

The scheme is highly competitive – they offer up to eight places and you'll need to fulfil the same criteria as the other applicants to Medicine. If successful, you would start the first year of the course.

University of Plymouth

The University of Plymouth states that there is a chance of transferring from Biomedical Science to Medicine and Dentistry after completion of year one. However, they stress that this is highly competitive and there are only five places available each year.

St George's, University of London

If you're studying BSc Biomedical Sciences at St George's, you can apply in your second year to transfer to Medicine – but you won't actually transfer until you've finished the degree. UK and international students are eligible to apply for this route, however, students are required to submit their second-year results for consideration and then they may be invited for an MMI in July.

Some universities don't offer internal transfers but do provide other pathways to study Medicine as a graduate. These Medical Schools will look favourably on applicants who've studied Biomedical Science at their institution:

- University of Exeter
- Queen Mary
- University of Sheffield
- University of Sussex.

Please note that you are not guaranteed a place to study Medicine and that universities will be looking for academic success in order to be accepted onto the course.

6. Apprenticeship Opportunities

Roles in the healthcare and pharmacy sector typically require a degree due to the nature of the role. However, there are a few apprenticeship opportunities also available in this sector if you choose not to pursue a career in Medicine.

Recent years have seen the introduction of degree-level nursing apprenticeships. Completing one of these apprenticeships typically takes four years and will see you obtain a Bachelor's degree and full Registered Nurse status upon completion.

However, this is currently only offered to existing healthcare support workers and assistant practitioners. If you are wanting to complete a nursing degree apprenticeship after Sixth Form, you will first need to complete a Level 3 nursing associate apprenticeship, which will take approximately a year.

With regards to careers in pharmacy, the majority of apprenticeships offered are Level 2 or Level 3 apprenticeships which will enable you to work as a pharmacy assistant or technician. It's important to note that you will not be able to be a registered pharmacist with these qualifications, as a Master's degree in pharmacy (MPharm) is required for this.

If you are interested in this sector but don't want to work as a pharmacist, there are a few more options available to you which will enable you to develop your skills in this sector.

[GSK](#) offers a range of advanced, higher and degree apprenticeships, including their pharmaceutical technical programme, laboratory science programme and research and development manufacturing science scheme.

At [AstraZeneca](#) you can take part in the laboratory scientist pathway, which is a higher apprenticeship and takes three years to complete. Alternatively, you could choose a research and development degree apprenticeship at [Unilever](#)

Although these apprenticeships will not see you working in a hospital or caring for patients, they will enable you to develop your scientific research skills and change lives through your discoveries.

7. Additional Resources

Please find below a list of resources that may be beneficial to you in helping you decide what route is the most suitable for you.

[Careers in healthcare](#) - list of pages about careers in Healthcare, including Nursing apprenticeships, Pharmacy courses, Public health careers, Midwifery courses, and more

[How to become a Paramedic](#) - article about becoming a paramedic, what the role involves and the career path you can expect

[Is Medicine for Me?](#) - article about the types of career in medicine, and the training, commitment, and lifestyle flexibility needed to succeed in them

[Step Into The NHS](#) – a series of videos, stories and guides from people who work for the NHS, about their roles, the impacts they're having and what you can expect if you pursue a similar career

[Public Health Careers](#) – article explaining some of the different careers available in public health, and the steps involved in starting those careers

[Biochemistry: The Molecules of Life](#) – online course exploring the impact of biochemistry on bioenergy and health

[Observe GP](#) – free interactive video platform providing insights into the role of a GP and the wider primary care team

[Future Goals - Health and Social Care Careers](#) – information about careers in health and social care: career options, key skills and subjects, which jobs are in demand, and more!

[Small and Mighty: Introduction to Microbiology](#) – online course examining the basics of microbiology and exploring the diversity of microbial life in our world

[Discovering Science: Medicinal Chemistry](#) – what role does chemistry play in healthcare and our ability to diagnose and treat patients?

