

Your Road to Medicine



**How to become
a physician in
Canada**



*Rural Ontario
Medical Program*

Printed in 2011



Table of Contents

Thinking About Medicine	2
Start Early: In High School	3
Financial Matters	6
Jump to University	9
MCAT	11
The Schools	14
Admission Statistics	17
The Application and Interviews	18
International Medical Schools	22
You are Accepted! Pre-clerkship	27
What to Expect: Clerkship	28
The ROMP Option	30
Specialties	32
Life as a Resident	37
Licensing and the End at Last!	39
Your Plan	40
Glossary of Common Medical Terms	47
Useful Links	52
References	55



Thinking About Medicine

If you have opened this book, you are probably thinking about a career in medicine. Medicine is not the typical Monday to Friday office job with steady 9:00am – 5:00pm hours. Your work will follow you home, to the grocery store, to the hockey rink, and will find you on your vacation! However, a career in medicine is science based, challenging, rewarding and constantly changing.

The educational journey to become a doctor is challenging, long and expensive. In order to succeed, you have to be certain that a future in medicine is right for you. If you are not interested in becoming a doctor, but still want to pursue a career in medicine, there are many different careers within the healthcare sector. These alternatives can be researched through your local guidance office, university websites, by volunteering and talking with members of your community.

If you are interested in becoming a physician and would like to know more about what lies ahead, your answers will be found in the following pages. Remember, despite the challenges and struggles ahead, the journey will have room for fun and the reward at the end will make everything worthwhile.



"Nothing in the world is worth having or worth doing unless it means effort, pain and difficulty..." - Theodore Roosevelt



Start Early

Once you are certain that you would like to become a physician, you can start to think about how to reach your goal. First, talk to your guidance counselor to make sure that you take the courses that you will need and develop a plan. While in high school you should take at least one grade twelve “U” math course (calculus is recommended), and a minimum of two science courses (biology, chemistry or physics). Although medical schools will not see your high school grades, these grades will affect your admission into university, as well as the opportunity to receive scholarships (see “Financial Matters”).

Some universities will consider grade eleven marks. *All* universities consider grade twelve marks when admitting students. You need to develop your study habits and discover techniques to help you retain the information during high school. Figuring this out early will help your transition to university, at which point your marks *will* become a factor for medical school admittance.

STUDY!!!
VOLUNTEER!!!



EXPERIENCE!!!
ACADEMICS!!!

“I can study, I get good grades, no sweat... so what’s next?” Start learning about medicine and what being a doctor entails. One of the best ways to experience first hand is through volunteering.



When deciding where you want to volunteer, keep in mind that possibilities are endless and where you volunteer might set you aside from other candidates, when it comes to medical school applications.

Possible places to volunteer include:

- Church
- Sports or youth organizations
- First aid groups
- Community outreach groups
- Schools
- International charitable organizations
- Healthcare setting



Volunteering at the local hospital or retirement home will provide great examples of what to expect. To begin volunteering, check the facility's website or call to inquire about volunteer opportunities. Most hospitals and retirement homes have a volunteer coordinator who will be able to answer your questions. Before you can volunteer, hospitals and



retirement homes will ask you to submit an application, have your health cleared by your doctor, sign a confidentiality agreement and attend an interview or orientation. Some places require a flu shot and a police background check, but the cost for both of these is usually waived if the motive is to volunteer.

Another way to gain exposure to the medical field is by shadowing doctors. Find out if any of your parents' friends or friends' parents are doctors. If not, approach your family doctor or childhood pediatrician and say that you are interested in becoming a physician. Ask for some insight into their career. If you can, ask a lot of questions! Another option is to inquire if your local hospital has an observership program. Although rare, this program is a formal way to shadow a physician and would be organized through the hospital.

Thinking about the long journey to a career as a physician can be quite overwhelming but remember to stay focused on the present and take it one step at a time. As one Chinese proverb says; *a journey of a thousand miles begins with one step.*



"Success is the sum of small efforts, repeated day in and day out"
- Robert Collier



Financial Matters

Training to become a doctor is a very costly process. After paying for MCATs, applications, travel, tuition and accommodations - not to mention the cost of receiving your undergraduate degree - pockets can become quite shallow. There are many systems in place to help students with the financial burden of post secondary education, such as scholarships, RESPs, loans and lines of credit. Once you enter medical school and residency, you can start to research the incentives offered to physicians from the Ministry of Health and Long-term Care.

It is a good idea to plan your finances before you leave high school. Your high school marks are very important for scholarships. Scholarships and other financial awards are an excellent source of revenue to help pay for your university education. Research the scholarships offered in your area, both from your school as well as those offered on a larger scale, to determine for which scholarships you would be a good candidate. Scholarships are awarded to students in their final year of high school. Therefore, you should start to research the opportunities, application criteria and processes as early as grade ten or grade eleven. Below are a few websites to help you get started with your search:

www.scholarshipscanada.com
www.millenniumscholarships.ca
www.studentawards.com



In addition to scholarships, there are many different awards and bursaries given each year by local schools and school boards. Guidance councilors are quite enthusiastic about scholarships, awards and bursaries and will provide you with excellent information about what is offered in your community. They will also be able to help you determine for which you meet the qualifications and might be able to help you with your applications. Do not hesitate to apply to all of the scholarships for which you are eligible; you cannot receive anything without trying!

A Registered Education Savings Plan (RESP) is a fund that some parents start for their children to help them with the financial burden of post-secondary education. RESPs are offered by most financial institutions and are a tax free way for parents and guardians to save money with the help of the government. Ask your parents if they have started an RESP for you and become involved with helping it grow.





Student loans and lines of credit are common ways for university students to afford the cost of tuition and other expenses while obtaining their post-secondary education. Speak with your parents and set up an appointment with your bank to learn more about these options. A common type of student loan is obtained through the Ontario Student Assistance Program (OSAP). Visit <https://osap.gov.on.ca/> to learn more about the program.

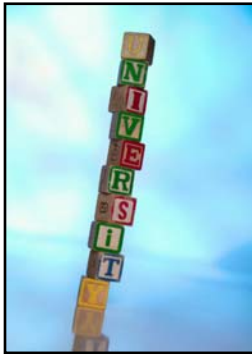
Finances will continue to influence your decisions as you progress through medical school, and once you are in your clerkship years things might become more expensive – especially if you plan on travelling during your rotations. In Ontario, the Ministry of Health and Long-term Care has established financial incentives for medical students through several programs within the Underserved Area Program (UAP). Contact the Ministry of Health’s UAP department for more information:

Ministry of Health and Long-Term Care
Primary Health Care Team
Underserved Area Program
159 Cedar Street, Suite 402
Sudbury ON P3E 6A5
Toll Free: 1-866-727-9959



Jump to University

For some high school students, the transition to university is a difficult step. It can be overwhelming to live away from home, balance the new course load and make new friends. If you feel that you are not ready to attend university after you have completed



high school, then take the necessary time to prepare yourself. Do not think that taking time off between high school and university will inhibit your chances of being accepted into a medical school. However, to maximize your time, try to find a job that will continue your learning process

or provide you with valuable experience for pursuing your quest. Also, continue to volunteer in a healthcare setting and with several different organizations. If you can afford it, consider volunteering internationally.

University is a time when students assume an increased amount of responsibility. It is important to establish your priorities and hone your time management skills. Reflecting back at their time at university, many remember it as a fun and exciting experience. Enjoy yourself while you are there, just know when the time is right and be aware of your limits and commitments.



Below are some tips for success at university:

- Learn to manage your time. Plan ahead and balance studying and personal time.
- Learn to take efficient notes. Listen and understand at least 50% of the time, put notes in your own words and use abbreviations.
- Keep in contact with family and friends to avoid becoming homesick. Use a web-camera and take advantage of visits home.
- Prepare for classes. When possible, preview lectures the night before. Review them after class to help you retain the information.
- Exercise and eat well.
- Network with professors, teaching assistants and classmates; they will all be able to help you. Professors may become a link to a summer job.
- Learn to read and write efficiently. There will be a heavy work load and you will need to maximize your time.
- Write practice tests and study with your classmates.

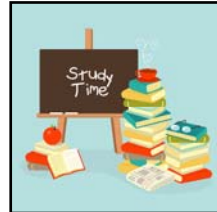
Like in high school, it is always a good idea to get involved while you are at university. Medical schools are particularly keen on applicants who are involved in a variety of extra curricular activities, the humanities, volunteering and student government throughout their education.



MCAT

Most people have heard about the Medical College Admission Test (MCAT), whether it is from television, your own research, or someone you know - who fainted halfway through it... The MCAT is a standardized exam comprised of multiple choice questions in four categories: Physical Sciences, Verbal Reasoning, Writing Sample, Biological Sciences. It is arguably the most dreaded aspect of the application process. However, not all medical schools in Canada require applicants to take the MCAT.

One option to prepare for the MCAT is to get an MCAT practice book. There are a variety of books available, ranging in cost from fifteen dollars to over one hundred dollars.



Another option to prepare for the test is to book an MCAT Preparation Course. Most students tend to either buy the book or take a course, though some do both.

Although the majority of the MCAT content is covered in undergraduate courses, there are preparation courses available to help cover the material. Depending on what type of student you are, this regimented routine may be useful. There are many companies in Canada who offer a preparation course, two of which are “Kaplan” and the “Princeton



Review". The Kaplan MCAT Course runs for over two months and offers either an in-class or an online version. The Princeton Review also offers both an in-class Hyperlearning Course and an online Hyperlearning Course for MCAT preparation.

By two months prior to writing the exam, you should have covered the majority of the material. How much time you spend studying and how early you start depends on you; factors such as whether you have a job or are in school, as well as how diligent you are, will play a role in your study regime. Remember, you are better off starting too early than discovering that you have left it too late!

There are many sources to find material that can help you to prepare for the MCAT. It is a good idea to practice taking the test using some of these tools. Some people find it useful to imitate the setting of the exam room, only allowing themselves a certain period of time to complete example questions. Some of the online sources at your disposal are:

- www.princetonreview.com/medical/testprep
- www.4tests.com/exams
- www.oxfordseminars.ca
- www.mcat-prep.com
- www.aamc.org
- www.freemcathelp.org
- www.mcatprepinfo.com



The MCAT is administered several times between January and September. Registration for the MCAT is done online and registration begins as early as twelve weeks prior to the test date; the cut-off date for registration is fourteen days prior to the test date. Registration fills up quickly, so apply early to ensure that you are able to write the test when you had planned.

The Canadian MCAT test locations are listed below:

- **ALBERTA:** Calgary, Edmonton, Nisku
- **BRITISH COLUMBIA:** Burnaby, Coquitlam, Richmond, Surrey, Vancouver, Victoria
- **MANITOBA:** Winnipeg
- **NEW BRUNSWICK:** Fredericton
- **NEWFOUNDLAND:** St. Johns
- **NOVA SCOTIA:** Enfield, Halifax
- **ONTARIO:** Hamilton, Kitchener, London, Markham, Mississauga, Ottawa, Scarborough, Toronto
- **QUEBEC:** Gatineau, Montreal
- **SASKATCHEWAN:** Saskatoon

You can learn more about the specific test locations from the official MCAT website: www.aamc.org/students/mcat. The test locations may change from year to year.



The Schools

There are fourteen English-speaking Canadian medical schools. The following chart contains a snapshot of the admission requirements for each of these schools.

Medical University	No. Spots	Length (years)	Min. GPA (4.0)	Min. MCAT Score	Min. UG years for admission
Dalhousie University	109	4	3.3* 3.7*	24* 30**	4
McGill University	175	4	3.4- 3.2--	Optional^ Not req.^ Req.^^ Req.^^^	4
McMaster University	208	3	3.0	6 in verbal reasoning	3
Memorial University of Nfld.	3*	4	3.7	=Fluctuates	4
Northern Ontario School of Medicine	64	4	3.0	MCAT not required	4
Queen's University	100	4		=Fluctuates	3
University of Alberta	167	4	3.3* 3.5**	7 in each category	2
University of British Columbia	256	4	3.2* 3.7**	7 in each category; M	3
University of Calgary	170	3	3.2* 3.6**	No min. score	2
University of Manitoba	102	4	3.3	7 in each category	3
University of Ottawa	164	4	++	MCAT not required	3
University of Saskatchewan	8°	4	3.3* 3.7**	26 in total; N	2
University of Toronto	259	4	3.6	9 in each category; N	3
University of Western Ontario	171	4	3.7	30 in total; O	4 with honours

* This chart is current at the time of printing; information changes annually.



Some of the information in the chart on the previous page is not straightforward. Find the appropriate reference sign below for clarification.

- * In-province applicants
- ** Out of province applicants
- ~ Minimum Overall GPA required
- ~~ Minimum GPA required in science courses
- ^ Applicants in Quebec University, Quebec First Nations and Inuit or Out of Province Canadian University, who have a degree for the basis of admission from a Canadian University.
- ^^ Applicants who in the Quebec CEGEP category.
- ^^^ Applicants with a degree for basis of entry from a non-Canadian university.
- + Majority of the seats are reserved for residents of Newfoundland and Labrador. Other limits are for New Brunswick, PEI and the Yukon. Three spots are available for other provinces and non-Canadian applicants.
- = Minimum MCAT score required is based on the pool of applicants and changes each year.
- ++ Different minimum GPAs are distributed among the different categories *Applicants who apply to the Consortium National de formation en santé (CNFS), residents from outside Ontario and Québec applying to the French program, Applicants sponsored by the Canadian Forces (CF), Aboriginals, Residents from Ontario in Outaouais region applying to the French program, Residents from the LHIN Champlain district (as determined by the Ministry of Health), Residents from the region (Ottawa-Outaouais), Residents from the province of Ontario, Residents from other provinces*
- o 90% of the positions are for residents of Saskatchewan. 8 is the number of out of province positions.

Check the faculty of medicine's admission page on each university's website to gain more information and a better understanding of the admission process.



An important aspect of admission for most schools is the completion of certain prerequisite courses. These courses vary by school and many have minimum GPAs outlined for the prerequisites. Plan your courses early to ensure that you meet all of the requirements. The most common prerequisite courses for Canadian medical school admission are: Humanities, English, Biology, General Chemistry, Organic Chemistry, Biochemistry, Physics and Statistics.

The prerequisite courses for each medical school will also be listed on the admission page of the school's website:

- Dalhousie University: www.medicine.dal.ca
- McGill University: www.mcgill.ca/medicine
- McMaster University: fhs.mcmaster.ca/medicine
- Memorial University of Nfld: www.med.mun.ca
- Northern Ont. School of Medicine: www.nosm.ca
- Queen's University: www.meds.queensu.ca
- University of Alberta: www.med.ualberta.ca
- University of B.C: www.med.ubc.ca
- University of Calgary: www.medicine.ucalgary.ca
- University of Manitoba: www.umanitoba.ca/medicine
- University of Ottawa: www.medicine.uottawa.ca
- University of Saskatchewan: www.medicine.usask.ca
- University of Toronto: www.facmed.utoronto.ca
- University of Western Ontario: www.med.uwo.ca



Admission Statistics

Admission statistics for medical school can be intimidating. Stay positive; you have worked hard and there will be aspects of your journey that will give you an edge above other students.

CANADIAN FACULTIES OF MEDICINE

First Time Enrolment

Data from 2010 AFMC report. Includes French speaking faculties of medicine.

Total enrolment in Canada	2,742
Permanent Residence - Canada	2,713
Permanent Residence - USA	12
Permanent Residence - Other foreign	16
Percentage of women	57.33%
Percentage of men	42.67%

Canadian Citizen Applicants

Data from AFMC report. Most recent study is from 2006/2007.

Total Applicants	10,123
Total Successful Applicants	2,642.1

Ontario Medical School Applicants

Data from 2009 OMSAS System Data.

Total Applicants	5,815
Total Successful Applicants	877



"In the presence of adversity, there are those who use crutches and those who grow wings." - Unknown



Application and Interviews

Applying Within Ontario

Applying for medical school is a lengthy process and keeping all of the required documents for each school straight can be tough. The Ontario Medical Schools Application Service (OMSAS) is a centralized application service to help the students and the medical schools through the application process within Ontario. You need to register with OMSAS before you can start the application process. Through the OMSAS website the application start dates and deadlines are clearly established, application service fees are collected and other important, time sensitive information is displayed. Contact the Ontario Medical School Application Centre:

OMSAS
170 Research Lane
Guelph, ON
N1G 5E2
Phone: (519) 823-1940
E-mail: omsas@ouac.on.ca
Web site: www.ouac.on.ca/omsas

Applying Out of Province

Applications to medical schools outside of Ontario must be submitted directly to the medical school. The Admissions Department of the school should be contacted early to answer any questions about how or when to apply.



When to Apply

The most common question about applying to medical school is *when* to start the process. The “easy” answer is: *once you have completed the minimum number of undergraduate years required by the school* (see chart on page 14). You also need to assess at what point during the year the application for each school is due. The OMSAS website will display all of the deadlines for registering with them and submitting applications. Since you have to apply to schools outside of Ontario individually, the deadlines might vary. Most of the medical schools’ deadlines for application are set for early fall prior to the admitting fall. Give yourself one calendar year to gather all of your documents and prepare yourself for the application process.

What does the Application Involve?

A complete application to medical school typically involves an on-line application, letters of recommendation, a personal statement, submission of MCAT scores and academic transcripts. Once you have submitted these documents, all you can do is wait for a response.

Applicants who are selected to continue to the next level are contacted by the medical school and invited to an interview. Those who are contacted by multiple schools will need to travel each school to complete their interview.



Multiple Mini Interviews

The Multiple Mini Interview (MMI) is a series of short, structured interviews that are used to assess personal traits. Each mini interview allows the candidate two minutes to read a question and prepare before entering the interview room. The candidate is then given eight minutes to complete dialogue with one interviewer or, in some cases, a third party with the interviewer observing the interaction. After eight minutes the interviewer takes two minutes to evaluate the communication and the candidate moves to another scenario.

There seems to be a consensus that MMI is the best way to assess non-cognitive abilities of medical school applicants. By 2009, the majority of Canadian medical schools, along with several international medical schools, were using the MMI format as part of their application process.

The types of questions in the MMI vary to include scenarios that provide insight to your ethics, decision making and communication skills, as well as standard interview questions about why you are choosing to become a physician and why you would like to attend a particular school. Preparing for these questions is very important, not only because of the content of your answers but also because of the time limits implemented within the structure of the



interview.

When you are practicing your interview answers with family and friends, keep in mind the time frame for which you have to answer the questions. Practice pacing your answers and speaking concisely. There are also many places where you can find sample interview questions and sample scenario questions to prepare you for the MMI. If you know people who have gone through the interview process for medical school, it would be wise to speak with them and ask about their experiences. They will be able to offer insight about questions asked and will give you an idea about the structure of the day to help you prepare mentally.

If you do not know anyone who has gone through this process, or if you would prefer to read some example questions, there are multiple websites that provide samples of question styles and examples of past interview questions. Aside from the medical school web-sites, some of these resources are:

- www.multipleminiinterview.com
- www.michener.ca
- www.studentdoctor.net/schools
- www.premed101.com
- www.interviewfeedback.com



International Medical Schools

Some students choose to apply to an international medical school, which means that they are applying to medical school outside of Canada. Reasons for applying outside of the country can include citizenship in another country, new experiences, the reputation of an international institution or not getting accepted into a Canadian medical school.

Attending an international medical school will affect your ability to return to Canada to practice as a physician if you also attend an international residency program. International Medical Graduates are fully



trained physicians who have completed their residency outside of Canada. Depending on the country from which the MD is obtained, most IMGs need to complete either part of or all of their residency training again in a Canadian residency program. Residency programs have limited number of spots for IMGs and it can take years to get accepted into a residency program.

If your goal is to return to Canada to practice, it is important to try to return to Canada for your residency, which is also no easy feat! The Canadian medical schools each have a limited number of spaces



to offer to Internationally-trained Medical Students (IMS) and competition for these spots is strong. For this reason, it is recommended to attend a medical school in your home country, should you wish to return home to practice medicine. Each year many International Medical Graduates and Canadians Studying Abroad (CSA) struggle to return home for their residency.

Should you wish to pursue an application to an international medical school, you must thoroughly research the school. Take into consideration the accreditation of the school and how it is ranked globally. Also consider the practice styles of physicians in the school's country compared to the practice styles of physicians in Canada. Look at the course outline and how learning is scheduled. Some international medical schools do not offer clinical rotations, but instead the students are expected to travel to other countries to complete these rotations. This will incur extra expenses and stress since Canadian medical schools also limit the number of International Medical Students (IMS) that they place per year, with heavy restrictions on the rotations.

Do not let the barriers to studying abroad get you down; there is still hope. More CSAs and IMGs were matched to residency training programs in Canada during 2010 than in any other year. As



George Smitherman, the Deputy Premier and Minister of Health and Long-Term Care from 2003 - 2010, claimed: "Ontario is a leader in Canada in providing opportunities for internationally trained doctors to practice medicine". When you successfully return to Canada as a CSA, you will bring your knowledge and experience with you to benefit Canada's patients and lessen the current shortage of physicians.

Provided below are websites to help with your decision:

- <http://img-canada.ca> (General information for IMGs entering Canada)
- <http://cfms.org> (Downloadable document: *Ethical Recruitment of IMGs by Canadian Provinces*)
- www.health.gov.on.ca (Downloadable documents: *Report on Removing Barriers for International Medical Doctors*; brochure for process of IMGs to become physicians in Canada *IMG Brochure*)
- www.cehpea.ca (Further education for IMGs)
- www.healthforceontario.ca (click *Access Centre* under *Jobs and Advice*)



"Man cannot discover new oceans unless he has the courage to lose sight of the shore" - Andre Gide



If you have determined that you are going to apply for medical school abroad, then there are a number of steps to take. Once you have decided where you would like to go, learn as much as you can about the medical school. Each medical school will have its own website, complete with admission requirements, tuition costs, course outlines, student testimonials and application processes. You will also need to find out where the interviews take place. Some schools will host interviews in a few major cities in Canada and so you may need to travel a great distance for your interview.

It is also important to ensure that the school is reputable within Canada. This is especially important if you are planning on returning to Canada as a physician or as a resident. You can check its global recognition through the Foundation for Advancement of International Medical Education and Research (FAIMER).

FAIMER is a not-for-profit organization that strives to promote international medical education through research and programming. The organization produces an International Medical Education Directory (IMED), which is created by studying the experiences of internationally trained medical professionals and contacting the various ministries of health, education as well as medical councils. Use the



IMED to research all of the international schools in which you are interested. Access the IMED through the following website: <http://imed.faimer.org>.

You will have to research the application process for each school individually because there is no single application program for schools outside of Ontario. You will be responsible for learning the deadlines, gathering the required documents, sending them to the appropriate contacts and arranging payment for application costs.

The rest of this book explains what to expect in medical school and residency is all pertaining to Canadian medical schools and does not necessarily reflect the expectations or structure of international medical schools.





You are Accepted! Pre-clerkship

Once you have been accepted to medical school, you should be proud! You have battled the odds and been accepted into a highly competitive program. Although you have already come so far, you still have a long way to go. If possible, take a well earned vacation!



The pre-clerkship years of medical school will be predominately lecture based, but will also involve both “hands-on” and group work. The course outline is structured into units, each running anywhere from one week to several months. An interesting aspect to the medical school curriculum is problem-based learning, which means studying actual medical cases to learn methods of treatment. Although the overall course material is essentially the same at every Canadian medical school, the division of units fluctuates. If you are curious about the material studied, visit the medical school’s website; many schools will post their curriculum and calendar online.



What to expect: Clerkship

The clerkship years of medical school are very important and they are not nearly as structured as pre-clerkship. The invigorating aspect of being a clerk is the freedom and responsibility given. Instead of attending lectures and performing labs on cadavers, you will be dealing with real patients.

You will be exposed to many cases in the different specialties of medicine during “clinical rotations”.



Clinical rotations are blocks of time spent in the hospital, clinic or other practice setting, whereby you will be taught by a physician. You will

be given a chance to apply the knowledge gained in your pre-clerkship years to practical situations and your performance will be evaluated by the physician. Physicians who teach clinical rotations are called “Preceptors”. There are two types of clinical rotation: core and elective.

Core rotations are established by the medical school’s curriculum and occur at a set time during the school year. There are very specific guidelines and learning objectives to be reached during each core rotation. The most common core rotations in Canada



are; Anesthesiology, Emergency Medicine, Family Medicine, Internal Medicine, Obstetrics and Gynecology, Pediatrics, Psychiatry, and Surgery. After each rotation there is usually a multiple choice exam as well as an oral exam, during which you would discuss the management of a particular case from the rotation.

Elective rotations are more flexible and are often driven by your interests. Electives can be taken to explore other specialties not offered as core rotations. They can also be used to gain further experience in a particular specialty of interest. Locations for completing elective rotations are often more flexible, allowing you to travel to different communities, provinces or even countries to gain a variety of experiences.



“When encountering an opportunity, remember that 10% of life is what happens to you and 90% is how you react.” - Jack Armstrong



The ROMP Option

The Rural Ontario Medical Program (ROMP) is a great option for clerks and residents to train outside of the academic centre. ROMP connects learners with preceptors in many communities throughout south central Ontario. Funded by the Ontario Ministry of Health and Long-term Care, ROMP passes funding down to eligible clerks and residents who participate in rural rotations through the program. These medical trainees are exposed to a variety of experiences and, through one-on-one learning, become familiar with the perks and practice of working in a rural community.

Many of the rural communities in the ROMP region have a number of talented and eager physicians acting as preceptors. ROMP is unable to place rotations in either the Greater Toronto Area or the Greater Hamilton Area.



The ROMP region, highlighted in maroon, is shown in proximity to the rest of Ontario.



The Rural Ontario Medical Program also offers training opportunities to pre-clerkship students through a Summer Electives program and Rural Medicine Week. Summer Electives are opportunities for pre-clerkship students to gain valuable experience throughout the summer. Most summer electives offered are in Family Medicine and the students are able to apply to spend a month with a physician in their chosen community. Rural Medicine Week is offered in certain communities and a small group of pre-clerks are shown the amenities of the community through extra-curricular events, barbeques and tours, while also gaining experience through a number of clinics and shadowing opportunities.

Applying for rotations through ROMP is easy! There are two steps to the application process:

1. Fill out an on-line application.
2. Request a Dean's Letter of Good Standing from your program coordinator and have it sent to ROMP.

**For Summer Electives and Rural Medicine Week, you will also need to submit a letter of intent.*

For more information about the Rural Ontario Medical Program, visit the website or contact them directly.



Toll Free: 1-877-445-ROMP
Website: www.romponline.com
E-mail: romp@romponline.com



Specialties

As you near the end of your clerkship, you will have a better understanding of the type of physician you would like to become. Since residency is the final training step to becoming a physician, those years are focused on the specific requirements for each specialty. There are many fields of medicine, each with its advantages and disadvantages. You will have a chance to experience most of the specialties during medical school but there are also many “sub-specialties” within a specialty that allow for becoming an “expert” in a more focused subject within a particular specialty. Below are outlines of the more general specialties and the length of the residency program.

Anesthesiology: This field of medicine deals with the administration of medications to control the pain or level of consciousness of a patient. Anesthetists are always present in the operating room to administer anesthetic and monitor the patient’s vital signs. They are also a part of any childbirth that involves an epidural. *Residency is 5 years.*

Dermatology: This field of medicine focuses on the diagnosis and treatment of skin diseases and abnormalities. Most of the work of a Dermatologist is done in an office or at the hospital. On-call work duties are minimal because dermatology emergencies are rare. *Residency is 5 years.*



Emergency Medicine: This field of medicine deals with the diagnosis, management and treatment of all acute injuries and diseases. Emergency Rooms are often fast paced and busy so Emergency Physicians are constantly on their feet and active during their shifts. Emergency physicians typically work shifts throughout the day and night and are frequently on-call. *Residency is 5 years.*

Family Medicine: This field of medicine involves the diagnosis and treatment of broad medical concerns. In Canada, the Family Physician is the primary contact for people who have non-emergency health concerns. Family Physicians will refer patients to specialists if more specified care is required. Family Physicians are able to complete additional training to enhance their skills in anesthesiology, emergency medicine, geriatrics, obstetrics and gynecology, or sports medicine. *Residency is 2 years with optional additional 1 year of Enhanced Skills.*

Internal Medicine: This field of medicine involves the diagnosis and treatment of medical problems in adults. Internists are frequently called upon for consultations and their patients tend to have undifferentiated or multi-system diseases. There are General Internists, who maintain a generalized practice and there are Internists who choose to further narrow their field to one of the following “sub



specialties”: Allergy and Immunology; Cardiology; Endocrinology; Hematology; Infectious Disease; Gastroenterology; Nephrology; Oncology; Pulmonology; Rheumatology. Internists will work either in a clinic or in a hospital. *Residency is 3 years to become a General Internist and an additional 1 - 3 years for each subspecialty.*

Neurology: This field of medicine deals with the diagnosis and medical treatment of diseases affecting the nervous system and brain. Neurologists typically work in larger hospitals and experience on-call duties. *Residency is 5 years.*

Obstetrics and Gynecology: This field of medicine is specific to the care of women. The reproduction system, pregnancy, birth and the treatment of women’s health issues are all the focus Obstetrics and Gynecology. Obstetricians and Gynecologists work out of offices, clinics and in the hospital; they perform surgeries and have on-call duties. *Residency is 5 years.*

Ophthalmology: This field of medicine deals with the diagnosis and treatment of eye disorders and diseases. Patients are referred to Ophthalmologists, who often have their own clinics and spend some time in the hospital. There are a very limited number of residency positions for Ophthalmology. *Residency is 5 years.*



Pediatrics: This field of medicine deals with the care of children from birth through adolescence, including standard immunizations and checkups. Pediatricians also diagnose and treat diseases and disorders affecting children. Pediatricians typically work in larger centers. *Residency is 5 years with an additional 1 year for pediatric specialties.*

Psychiatry: This field of medicine deals with the diagnosis and treatment of mental illness through counseling and the prescription of medication. Psychiatrists work in clinics, hospitals, mental health treatment centers (both residential and out patient) and may be required to be on-call. *Residency is 5 years.*

Radiology: This field of medicine involves diagnosing medical and surgical conditions. Radiologists analyze images created by x-rays, CT scans, MRI's, PET scans and ultrasounds. Radiologists work in a hospital setting and are on-call if a physician requires a consultation. *Residency is 5 years.*

Surgery: In this broad field of medicine, surgeons treat diseases and injuries through surgery. There are General Surgeons, who maintain a broad scope of practice and there are physicians who choose to focus their expertise on a particular subspecialty. Some of the subspecialties within Surgery are: cardiac, neurological, orthopedic, pediatric, plastic, thoracic,



urological and vascular. Surgeons work in hospitals and are frequently on-call. The work of the surgeon encompasses pre and post operative care, consulting for other physicians and performing surgeries. The more specialized surgeons work at larger hospitals. *Residency is from 5-7 years depending on the specific type of surgery (general: 5 years, plastic: 5 years, neurological: 7 years, vascular: 6 years, and cardiac: 7 years).*





Life as a Resident

The application process to a residency program occurs during the fall of your final year in medical school. As a medical student, you would register with the Canadian Residency Matching Service (CaRMS) and receive a personal identification number (called a token). By November, candidates must submit their application, an autobiographical statement, their curriculum vitae, a photograph, any publication abstracts (if applicable), reference letters and their undergraduate and medical school transcripts.

There are many factors to consider when applying for residency positions. The most important is for what program you will be applying, meaning, what kind of physician do you want to be? There are a limited number of positions for each specialty spread among the medical schools. Instead of applying for a school, you apply for both the specialty and the school. Once again, an interview is the second step of the process. Interviews are held at each school early in the calendar year and potential residents travel to the schools to which they have applied.

The CaRMS match is the process of matching applicants with their selected programs and schools, and matching the programs and schools with their preferred applicants. These matches are based on the applications submitted, the interviews conducted and a ranking system. Applicants rank the schools and



programs based on their preference after attending the interview. The schools and programs also rank the students based on their preference after the interview. The CaRMS match is designed to ensure an optimal fit between program and resident.

Residency will be challenging. You will work long hours and have additional studying to maintain, while also working shifts in hospitals, clinics and being on-call. Often, it will feel like you live at the hospital. After all, the term “resident” originated from the days when post graduate medical students were required to live on the hospital premises to be readily available.

As a resident you will earn a salary, which will help with living costs and might even allow you to start paying back some of your loans. After each year of residency, your salary will increase. As a resident, your primary education will be from clinical rotations, spending only a few days each month in a classroom setting. Often, if you are at a satellite campus or doing a rural program, you will attend these sessions via video conference, further reducing your presence at the academic centre. There is a lot of educational freedom as a resident and you must be able to self-direct your learning and apply great discipline.



Licensing and the End at Last!

At the end of your residency, there is one final examination to pass before you become a fully licensed physician with no restrictions. The testing is conducted not by the school, but by the Canadian College of your specialty. For example, if you specialize in Family Medicine, then it is the College of Family Physicians of Canada that administers the final exam. Most of the specialty examinations are administered through the Royal College of Physicians and Surgeons of Canada.

The examination styles vary between the specialties, but typically involve a combination of multiple choice and case studies. For case studies you could be asked anything from “how to deal with patient complaints” to the diagnosis and course of treatment of a particular set of symptoms. There is a cost to write the exam and there is also a membership fee associated with each college that is paid at the time of testing and then on a regular basis to continue membership with that college.

Once you have passed the exams you are finally there; you are able to practice medicine as a licensed physician. Whether you choose to work in a hospital, a clinic or open your own practice, you have finally achieved your dream. *Congratulations!*





Your Plan: High School

Photocopy this plan and fill it out. Having a plan will help you to stay focused on your goals.

Why do you want to become a doctor? _____

List your top 3 back-up careers (just in case....)

Extra-curricular interests: _____

Volunteer work: _____

Top 5 universities and their programs that interest you:

University	Program
1 _____	_____
2 _____	_____
3 _____	_____
4 _____	_____
5 _____	_____

Scholarships & Awards: _____



Your Plan: University

~University Chosen~

FIRST YEAR

List all of the perquisite courses for the medical schools you are considering. Know which courses have prerequisites for them, too. Cross them off as you complete them.

Prereq. for med school	Prereq. Needed	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses

Semester 2 Courses

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Extra-curricular/Volunteering/Research _____

Things to think about: Get a good start, med. school admission requirements, prerequisites for upper year courses, university resources ...



Your Plan: University

SECOND YEAR

Prereq. for med school	Prereq. Needed	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses	Semester 2 Courses
_____	_____
_____	_____
_____	_____
_____	_____

Extra-curricular/Volunteering/Research _____

Things to think about: Keep up the good work, consider professors
who will write med school reference letters for you, medical experiences ...



Your Plan: University

THIRD YEAR

Prereq. for med school	Prereq. Needed	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses	Semester 2 Courses
_____	_____
_____	_____
_____	_____
_____	_____

Extra-curricular/Volunteering/Research _____

Things to think about: _____
*Ask professors to write letters of reference,
write your personal statement, attend medical school tours ...*



Your Plan: University

FOURTH YEAR

Prereq. for med school	Prereq. Needed	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses	Semester 2 Courses
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Extra-curricular/Volunteering/Research _____

Things to think about: _____



Your Plan: Medical School

Check the boxes of the medical schools for which you will be applying. As acceptances come in, highlight those to which you have been accepted and cross out those to which you have been rejected.

- | | |
|---|---|
| <input type="checkbox"/> Dalhousie U. | <input type="checkbox"/> U. of Manitoba |
| <input type="checkbox"/> McGill University | <input type="checkbox"/> University of Ottawa |
| <input type="checkbox"/> McMaster University | <input type="checkbox"/> U. of Saskatchewan |
| <input type="checkbox"/> Memorial U. of Nfld. | <input type="checkbox"/> U. of Toronto |
| <input type="checkbox"/> NOSM | <input type="checkbox"/> U of Western Ontario |
| <input type="checkbox"/> Queen's University | <input type="checkbox"/> Other: |
| <input type="checkbox"/> U. of Alberta | <input type="checkbox"/> Other: |
| <input type="checkbox"/> U.B.C | <input type="checkbox"/> Other: |
| <input type="checkbox"/> U of Calgary | <input type="checkbox"/> Other: |

As you Complete the following components of the application process for each school, check it off. You may need to make a longer list.

Medical Schools:

	/	/	/	/	/	/	/
Online Application							
Supplemental Application							
Transcripts							
MCAT Score							
Application Payment							
Letters of Reference							
Visit the school							
Interview							
Medical School Response							
Your Decision							



Your Plan: Medical School

You are finally here!

~Medical School Chose~

Fields of Medicine that interest you:

Why:

Elective Rotation interests:

Location

Residency Program Options:

Details



Glossary

AAMC: Association of American Medical Colleges

Acute: Quick onset.

AFMC: Association of the Canadian Faculties of Medicine.

Anesthesiology: The branch of medicine specializing in the use of drugs or other agents that cause insensibility to or ease pain.

ARMC: Association of Faculties of Medicine in Canada

Arthro: Refers to joints.

Attending Physician: Licensed doctor who oversees the work of their residents.

BP: Blood Pressure

Cardio: Refers to heart.

Central nervous system (CNS): The central nervous system is that part of the nervous system that consists of the brain and spinal cord.

CFCP: College of Family Physicians of Canada

Chief Resident: Resident physician in their last year of post graduate training who is elected and represents other residents.

Clerk: Medical student in the last 2 years of med school (last 1 ½ years for McMaster).

CMA: Canadian Medical Association.



Code blue (Code): Typically refers to a patient in cardiopulmonary arrest.

CT scan (Computerized Tomography scan): Pictures of structures within the body created by a computer that takes the data from multiple X-ray images and turns them into pictures on a screen.

DOA: Dead on arrival.

Dx: Diagnosis.

EM: Emergency Medicine.

ENT: Ear Nose Throat (doctor).

FM: Family Medicine.

Gerontology (Geriatrics): The branch of medicine concerned with the diagnosis, treatment of disease in older people and the problems specific to aging.

GP: General Practitioner.

Grand rounds: A formal meeting at which physicians discuss the clinical case of one or more patients.

GS: General Surgery.

Gynecology: The branch of medicine particularly concerned with the health of the female organs of reproduction and diseases thereof.

Hypertension: High blood pressure.



Internal medicine (IM): A medical specialty dedicated to the diagnosis and medical treatment of adults. It also involves many subspecialties.

Junior Resident: Physician in lower years of medical residency.

MRI (Magnetic Resonance Imaging): A special radiology technique designed to image internal structures of the body using magnetism, radio waves, and a computer to produce the images of body structures.

NOSM: Northern Ontario School of Medicine (formerly known as NORMED).

NP: Nurse Practitioner.

Nuclear Medicine: The administration and observation of radioisotopes ingested by a patient as a means for diagnosis.

Obs/Gyn: The combination of two branches of medicine, being Obstetrics and Gynecology.

Obstetrics: The branch of medicine that deals with all stages of pregnancy, delivery and post delivery.

Osteo-: Refers to bones.

PAIRO: Professional Association of Interns and Residents of Ontario.

Peripheral nervous system (PNS): That portion of the nervous system that is outside the brain and spinal cord.



PET Scans (Positron Emission Tomography): A highly specialized imaging technique that uses short-lived radioactive substances to produce three-dimensional colored images of those substances functioning within the body.

Preceptor: An attending physician who teaches medical students, clerks and residents.

Pre-clerk: Medical student in the first 2 years of med school (first 1 ½ years for McMaster).

Pulmonary: Refers to lungs.

RCPSC: Royal College of Physicians and Surgeons of Canada.

Resident: Medical school graduate in the post graduate years of medical study.

RESP: Registered Education Savings Plan.

ROMP: Rural Ontario Medical Program.

Rounds: The act of seeing patients in the hospital or another in-patient setting.

Rx: Treatment.

-scopy: Implies the viewing or observation.

Senior Resident: Physician in upper years of medical residency.

SOB: Shortness of breath.

SRPC: Society of Rural Physicians of Canada.



Sx: Symptoms.

Syringe (Needle): A device used in medicine to inject fluid into or withdraw fluid from the body.

Thoracic: Refers to chest.

Ultrasound: A radiology technique using high- frequency sound waves to produce images of the organs and structures of the body.

Urinalysis: The analysis of urine for evidence of disease.

VSA: Vital signs absent.

VSS: Vital signs stable.

WHO: World Health Organization.



Useful Websites

Each link is current at the time of printing.

Gastroenterology Endoscopy:

<http://www.endoatlas.com/>

Ophthalmology:

<http://www.eyeatlas.com/Eyeatlas/Home.html>

The Basics of MRI:

<http://www.cis.rit.edu/htbooks/mri/>

Examination of the Abdomen:

<http://medinfo.ufl.edu/year1/bcs/clist/abdomen.html>

Neuroscience Tutorial:

<http://medi-smart.com/tut-29.htm>

Spinal Cord Anatomy and Surgeries :

http://www.ilspine.com/ilspine/Patient_Education.html

Selection of Tutorials:

<http://medi-smart.com/tutorials.htm>

Gray's Anatomy Online:

<http://www.bartleby.com/107/>

McGill's Virtual Stethoscope:

<http://sprojects.mmi.mcgill.ca/mvs/MVSTETH.HTM>

Orthopedics:

<http://www.wheelessonline.com/>



Anatomy Atlases:

<http://www.anatomyatlases.org/>

Medical Ethics:

<http://virtualmentor.ama-assn.org/>

Radiology Websites:

<http://www.radiologyeducation.com/>

<http://www.learningradiology.com/>

Live Surgeries:

<http://www.or-live.com/>

Medical Encyclopedia's:

http://www.medcyclopaedia.com/?tt_topic=

<http://www.emedicine.com/>

<http://www.doctorslounge.com/>

Trauma Cases:

<http://www.trauma.org/index.php/>

Multiple Links Sites :

<http://www.medicalstudent.com/>

http://enter.md/med_student_resident_sites.htm

Gross Anatomy:

http://anatomy.med.umich.edu/atlas/atlas_index.html

Biological Warfare:

http://www.bordeninstitute.army.mil/published_volumes/biological_warfare/biological.html

Military Medicine:



<http://www.bordeninstitute.army.mil/published.html>

US National Museum of Health and Medicine:

<http://www.nlm.nih.gov/>

Bone Anatomy:

<http://www.anatomyatlases.org/bonebox/index.shtml>

U of Iowa Virtual Hospital:

<http://www.uihealthcare.com/vh/>

Merck Manual:

<http://www.merck.com/mmpe/index.html>

Neurological Examinations:

<http://www.neuroexam.com/>

MCAT Flash Cards:

<http://www.studystack.com/category-63>

The Not So Short Introduction to Getting Into Medical School:

<http://img.studentdoctor.net/medshort/medshort.pdf>



References

Books

Health Force Ontario. Health Human Resources Toolkit. Toronto: Queen's Printer for Ontario, 2007.

Lawrence, Carmela. Unit Five Clerkship. Hamilton: McMaster University, 2005.

Malladi, Nirikisha. So you want to become a doctor? Fell's KIA. Florida: Frederick Fell Publishers, Inc., 2005.

Websites

MCAT Practice Questions:

http://www.testprepreview.com/mcat_practice.htm

Medterms:

<http://ww.medterms.com/script/main/hp.asp>

American Association of Medical Colleges:

http://www.aamc.org/_students/

Association of the Faculties of Medicine of Canada:

<http://www.afmc.ca/index.php>

Health Canada:

http://www.hc-sc.gc.ca/index_e.html

Ontario Medical School Application Service:

http://www.ouac.on.ca/omsas/pdf/rc_omsas_e.pdf