

Your Road To Medicine

How to become a physician
in Canada



2015



The information in this guide is accurate at the time of printing and is subject to change. Current information can be found on the ROMP website. If there is a discrepancy between the information provided in this book and the information published on the ROMP website, the website prevails. Before making decisions about rotations, either the website or ROMP staff should be consulted.



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Thinking About Medicine

If you are reading this book, you are probably considering a career in medicine. Medicine is not your typical Monday to Friday desk job. A career in medicine can be fun, challenging and rewarding! It's also a career that will find you at the grocery store, follow you home, and track you down when you go on vacation!

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 that, even though the road to medicine is a challenging one, there will be plenty of room to have fun and enjoy yourself along the way. Ultimately, the reward at the end will make everything worthwhile.

If you are interested in pursuing a career in medicine but not necessarily in becoming a doctor, there are many different careers within the healthcare sector to explore. These alternatives can be researched through your local guidance office, university websites, by volunteering and talking with members of your community.

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





Start Early

Once you've decided to pursue a future as a doctor, you can begin to think about how to make this a reality. Guidance counselors are incredibly valuable resources who can ensure that you take the courses that you will need and work with you to develop a plan. 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 impact your admission into university, as well as the opportunity to receive scholarships (see "Financial Matters").

Some universities will consider grade eleven marks, and all universities consider grade twelve marks when admitting undergraduate students. It is important to develop good study habits and discover the techniques that work for you to help you learn and retain what you learn in high school. Figuring this out early will help your transition to university, at which point your marks will be an important factor for medical school admissions.





Start Early

In addition to your studies at school, gaining experience and being involved in the community are important steps in your path to becoming a physician. These types of experiences can teach students on the path to studying medicine about how groups and individuals in the healthcare sector can contribute to their community's healthcare needs. Since this is one of the most fundamental and important roles of physicians – and of all healthcare workers, really – it is a good lesson to learn early on your path to medicine. Medical schools also look at extra-curricular activities to distinguish between applicants and figure out who they would like to have as medical students and, ultimately, who would be the best doctor.

When deciding where you want to volunteer or what you would like to do as a volunteer, consider what it is that you would like to get out of these activities. Will you be volunteering mainly to learn about healthcare and the healthcare system or to set yourself apart from other medical school applicants? Do you have a different motivation for volunteering? Thinking about this will help to narrow down the types of volunteer experiences to look into.

Possible places to volunteer include:

- Religious or spiritual groups and organizations
- Sports or youth organizations
- First aid groups
- Community outreach groups
- Schools
- Charitable organizations
- Healthcare settings



Start Early

Volunteering at hospitals, retirement homes, or other health care-focused places will give you a good idea of what to expect as a future doctor. It can be fun and rewarding experiences. It can also set you apart from other medical school applicants and give you something to talk about during interviews.

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 any questions you may have. 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 session. Some places require a flu shot and a police background check, but the cost for both of these is often covered for volunteers.

Another way to gain exposure to the medical field is by shadowing doctors. Do some investigating and find out if any of your parents' friends or any friends' parents are doctors. You could also talk to your family doctor or pediatrician about whether they, or any doctors they know, could provide mentorship. If you can, be sure to ask a lot of questions! Ask doctors about their training, their career, what they love about their job and what they wish they had done differently.



Start Early

Another option for getting involved in the community is to see whether your local hospital has an observership program. Although not all hospitals have them, these programs are a more formal way to shadow a physician and are organized through the hospital.

Thinking about the journey to a career as a physician can be overwhelming – after all, it’s still many years and several degrees away! Try not to get carried away by the process. Each step you take towards becoming a physician can be rewarding and exciting – whether it’s studying a subject you love in school, getting involved with an organization whose work inspires you, finding a mentor who’s been in your shoes and made the same journey which you’re embarking on, or any other step you end up taking on your path to medicine.

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





Financial Matters

Training to become a doctor is a costly process. After covering the costs of the MCAT, medical school applications, tuition, and accommodations – not to mention the cost of an undergraduate degree – pockets can become quite shallow. There are many resources available and systems in place to help students with the financial aspect of post-secondary education. These include scholarships, RESPs, loans and lines of credit, among others. Once you enter medical school and residency, you can start looking into 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. High school marks are important for many undergraduate scholarships which, along with other financial awards, are an excellent source of revenue to help pay for your education. Research the scholarships offered in your area – including from your school and province – to determine which scholarships you would be a good candidate for.

Some scholarships are awarded to students in their final year of high school. Think about starting to research the opportunities, application criteria and processes as early as grade ten or grade eleven. Below are links which you may find helpful:

www.scholarshipscanada.com

www.canlearn.ca

www.studentawards.com



Financial Matters

In addition to scholarships, there are many different awards and bursaries given each year by local schools and school boards. Guidance counselors 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 can't receive the awards which you don't apply for!

A Registered Education Savings Plan (RESP) is a fund that some parents start for their children to help with the costs 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.





Financial Matters

Student loans and lines of credit are common ways for university students to meet the costs of tuition and other expenses while obtaining their post-secondary education. Speak with your parents and 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. Once you are in your clerkship years (the part of medical school when you do clinical rotations and gain hands-on experience) things might become more expensive, particularly if you plan to travel 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 Under serviced 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
Underserviced 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 can be difficult. Between living away from home, balancing the new course load, extra-curricular and social activities, and making new friends, you will have a lot on your plate! If you feel that you are not ready to attend university right after you have completed high school, a great alternative is to take the time necessary to prepare yourself for the transition. Do not think that taking time off between high school and university will hinder your chances of being accepted into medical school. However, make the most of your time – whether it is through a job, volunteer work, or other experiences, try to do things which will help you prepare for university and ultimately for your journey to medical school and becoming a doctor.

University is a time when students assume a greater 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, but be mindful of keeping your commitments in balance and making the most of your university experience.





Jump to University

Below are some tips for success at university:

- Manage your time effectively – plan ahead and balance studying and personal time.
- Take notes efficiently and in a way that works for you – whether in class or studying, your note-taking should help you retain the information and be useful to review and study from later.
- Write practice tests and study with your classmates.
- Be prepared for class – go over the material you will be covering before going to class, and review it after class to help you retain the information.
- Don't be a stranger – keep in touch with family and friends to avoid becoming homesick.
- Exercise and eat well.
- Network – professors, teaching assistants and classmates can all be helpful now and in the future, and professors may become a link to a summer job.

Like in high school, it is always a good idea to get involved while you are at university. Medical schools look for well-rounded applicants –people who are involved in a variety of extra-curricular activities, study a broad range of subjects, are involved with volunteer and social activities throughout their education, and are able to balance their studies with the social and extra-curricular lives.



MCAT

Most people have heard about the Medical College Admission Test (MCAT), whether it is from television, your own research, or someone you know. Hopefully it isn't from the person who fainted halfway through the test...

The MCAT is a standardized exam comprised of multiple choice questions in four categories: Biological and Biochemical Foundations of Living Systems; Chemical and Physical Foundations of Biological Systems; Psychological, Social, and Biological Foundations of Behaviour; and Critical Analysis and Reasoning Skills. The MCAT is a difficult test – it is long, covers a lot of material, and the format is different from most tests you will see in high school and university. If you decide to write the test, it is important to plan ahead and study effectively to make sure you're well prepared. Keep in mind, though, that not all medical schools in Canada require applicants to write the MCAT – check with the schools to find out whether it is an application requirement.

There are many ways to prepare for the MCAT. One option is to use an MCAT practice book or study guide. There are a variety of books and guides available, ranging in cost from fifteen dollars to over one hundred dollars. These will familiarize you with the MCAT content and format, and can be a helpful part of your preparation.

Another option is to take an MCAT Preparation Course. Many of the courses review the MCAT content, provide practice tests, and equip you with tips and techniques to tackle the test.



MCAT

Depending on what type of student you are, you may find the routine and structure of a Preparation Course to be helpful. There are many companies in Canada who offer a preparation course, including 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.

Practice MCAT tests are another useful tool to prepare for the test. They can help you gauge how your preparation is going – whether your studying has been as effective as you think, and highlighting areas which you know well and which you should focus on. Practice tests can also familiarize you with the MCAT format– how the questions are asked, what the layout of the test is like, and other details which will be helpful to know and be familiar with. Practice tests are available on the official MCAT website.

Ideally, by two months prior to writing the exam you will have covered the most of the material and will be starting your final preparation for the MCAT. 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!



MCAT

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.aamc.org

www.princetonreview.com/medical/testprep

www.4tests.com/exams

www.oxfordseminars.ca

www.mcat-prep.com

www.mcatprepinfo.com

The MCAT is administered between April and September. Registration for the MCAT is done online and begins as early as the February prior to the test date; the cut-off date for registration is approximately one week 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.

You can learn more about the MCAT test, registration, and locations from the official MCAT website:

www.aamc.org/students/mcat.

The Schools

There are fourteen Canadian medical schools where the language of instruction is English. 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	9*	4	3.7*	30*	4
McGill University	11*	4		Not Required*	4
McMaster University	203	3	3.0	6 in verbal reasoning	3
Memorial University	5*	4			4
Northern Ontario School of Medicine	64	4	3.0	MCAT not required	4
Queen's University	100	4		*Varies	3
University of Alberta	15% of spots*	4	3.*	128(new MCAT)	2
University of British Columbia	288	4	85%*	7(old) or 124(new) in each category*	3
University of Calgary	170	3	3.8	11 verbal reasoning*	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	10*	4	83%*	30 (8 in each section)	2
University of Toronto	259	4	3.6	9 in each category	3
University of Western Ontario	171	4	3.7	32 (12 in biological sciences, 9 in physical sciences, 11 in verbal reasoning)	4

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

* Out of province applicants

+ 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



MCAT

With the new MCAT format being introduced for 2015 applicants, the admission criteria and requirements for Canadian medical schools is evolving. It is best to check with the schools for the most up-to-date information about the admissions requirements and 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 GPA cut-offs for the prerequisite courses. 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: <http://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: <http://www.schulich.uwo.ca/>



Medical School Admission Statistics

Admission statistics for medical school can be intimidating. Stay positive; you have worked hard and there will surely be aspects of your journey so far which will give you an edge over other applicants.

CANADIAN FACULTIES OF MEDICINE First Time Enrollment

Data from 2014 AFMC report. Includes French speaking faculties of medicine.

Total enrollment in Canada	2,874
Permanent Residence - Canada	2,856
Permanent Residence - USA	9
Permanent Residence - Other	9
Percentage women	55.9%
Percentage men	44.1%

Canadian Citizen Applicants

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

Total Applicants	10,123
Total Successful Applicants	2,642

Ontario Medical School Applicants

Data from 2014 OMSAS System Data.

Total Applicants	6,593
Total Successful Applicants	954

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





Application and Interviews

Applying Within Ontario

The Ontario Medical Schools Application Service (OMSAS) is the centralized application service for all of the Ontario medical schools. OMSAS is a valuable source for detailed outlines of the Ontario medical school application process and deadlines, information about the application requirements and factors considered in assessing applications to the various schools, and information about the medical schools themselves.

You need to register with OMSAS online before you can begin the application process. It is best to register early, familiarize yourself with the application, and make sure that you have all of the information and material ready when it comes time to submit your application.

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 the application process and deadlines.



Application and Interviews

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 15). 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 applications for schools outside of Ontario go to the schools directly, the deadlines might vary. Most of the medical schools’ deadlines for application are set for early in the fall prior to the admitting year. 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 online application, letters of recommendation, a personal statement, and the 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 of the application process are contacted by the medical school and invited for an interview. Those who are contacted by multiple schools will need to travel each school to complete their interview.



Application and Interviews

Multiple Mini Interviews

The Multiple Mini Interview (MMI) is a series of short, structured interviews that are used to assess applicants' personal traits. Candidates are presented with a question or scenario and given short period of time to prepare. The candidate then has a brief interview – generally with one interviewer, but in some cases with a third party while the interviewer observes the interaction. Once the interview has finished, the candidate moves on to the next station and the process is repeated.

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 MMI interviews are meant to address many dimensions of the applicant – for example, they can provide insight into your ethics, your decision-making and communication skills, and give an overall impression of you as a medical school candidate.

Standard interview questions, such as why you would like to study medicine or attend a particular school, may be asked during the interview. It is important to prepare for these questions and have a good, genuine answer. Not only will the content of your answer be important, but your ability to express yourself clearly and convincingly, and to do so within the time limits of the interview will be important as well. These questions are a great opportunity to bring up your volunteer experiences, extra-curricular activities, discussions you've had with healthcare professionals about their careers and journeys to becoming practitioners, and any other experiences which could showcase what you have to offer as an



Application and Interviews

applicant and future doctor.

Doing practice interviews is a great way to prepare for the medical school interviews. Practicing gives you the opportunity to reflect on some of the questions and topics which are likely to come up in the interviews – why you want to practice medicine, what your biggest strengths and weaknesses are, and how you would handle difficult ethical situations, for example. Practicing also helps to get comfortable answering interview-style questions – you can get a sense of how best to structure your answers, the kind of language which you would like to use, the timing of your answers, and how to communicate clearly and concisely during the interview.

There are many places that you can find sample interview questions, and many ways to practice and prepare for the MMI. Many medical schools make available to applicants sample interview questions and scenarios, or interview questions from previous years. If you know people who have gone through the interview process, it would be good to speak with them and get their advice. Find out how they prepared for the interviews, what they found worked well and, just as importantly, what they would do differently if they were to go through the interview process again.

Family and friends can also make good mock interviewers. These are the people who know you best and can help identify how best to present yourself in an interview, and how to get across to the interviewer why you are a good medical school candidate and why the school should accept you over the other applicants.



Application and Interviews

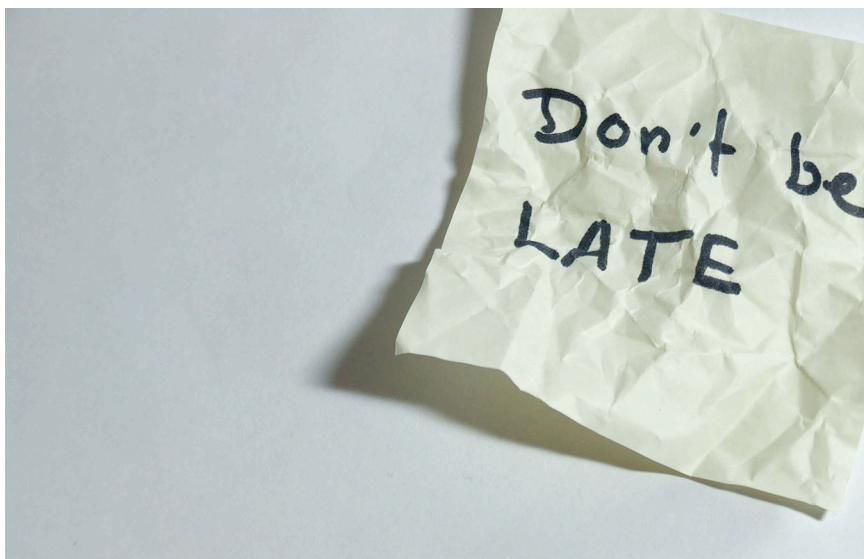
Finally, practice interview groups – whether they are organized groups or just a bunch of applicants who are all trying to prepare for the interviews – can be helpful when getting ready for the MMI. Practicing being interviewed is great, but hearing other applicants' answers and seeing how they conduct themselves during interviews can be helpful as well.

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

<http://multipleminiinterview.com/>

www.studentdoctor.net/schools

www.premed101.com





International Medical Schools

Some applicants choose to apply to medical schools outside of Canada. Some of the reasons to apply internationally are: citizenship in another country, the desire to study abroad, the reputation or medical program of an international institution, and difficulty getting accepted to a Canadian school.

Students who study medicine abroad are able to return to Canada for residency programs following medical school, and as fully trained physicians after completing medical school and postgraduate training abroad. Canadian residency programs have a limited number of spots available for international medical graduates (IMGs), and physicians who complete their medical degrees and postgraduate training internationally may have to complete part or all of their residency training again in Canada. The requirements for IMGs to be able to complete a residency program or practice medicine in Canada vary between residency programs and provinces.

If your goal is ultimately to return to Canada to practice, it is important to try to return to Canada for your residency training. It is vital to be familiar with the most current policies and requirements for returning to Canada for a residency program, so that you can take the necessary steps to meet these during medical school. It is also important to make an effort to make yourself appealing as a candidate. Just like getting into medical school, you have to show the residency programs what distinguishes you from other applicants and demonstrate why you are the candidate that they are looking for.



International Medical Schools

Should you wish to pursue a medical education abroad, it is important to thoroughly research the schools you will be applying to. Consider the accreditation of the school and its global standing – factors like its global ranking and reputation. Also consider the practice styles of physicians in the school's country compared to the practice styles of physicians in Canada. Do they, like Canada, have a model of patient-centered medicine? 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 be an additional source of costs and stress since Canadian medical schools limit the number of International Medical Students that they place, resulting in tough competition for clinical placements.

Do not be discouraged by the barriers to studying abroad – there is still hope! More students who attend international medical schools were matched to residency training programs in Canada during 2010 than in any previous year. As George Smitherman, the Deputy Premier and Minister of Health and Long-Term Care from 2003 - 2010, said: "Ontario is a leader in Canada in providing opportunities for internationally trained doctors to practice medicine". When you successfully return to Canada, you will bring your knowledge and experience with you to benefit Canada's patients and lessen the current shortage of physicians.



International Medical Schools

Provided below are websites to help with your decision:

<http://img-canada.ca>

(General information for IMGs entering Canada)

<https://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





International Medical Schools

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 some schools offer interviews via Skype.

It is also important to ensure that the school has a good reputation within Canada. This is especially important if you are planning on returning to Canada for residency or as a physician. 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. The IMED through the following website: <https://imed.faimer.org>.



International Medical Schools

You will have to research the application process for each school individually because there is no single application service for schools outside of Ontario. Like with the Ontario and Canadian medical school applications, you will need to be aware of the application deadlines, gather and submit the required documents, and fulfil any other application requirements which the international school has.

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





Pre-Clerkship

Congratulations! You've been accepted to medical school and are well on your way to practicing medicine!

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. Medical school is traditionally split between pre-clerkship and clerkship. The pre-clerkship years are predominately lecture based, but will also involve both “hands-on” learning and group work. Courses are generally structured in units, with 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 varies. If you are curious about the material studied, visit the medical school's website; many schools will post their curriculum and calendar online. The clerkship years of medical school are very important and they are structured very differently than the pre-clerkship years. During clerkship, students complete hands-on clinical training with preceptor physicians, who provide training and mentorship for medical students. An invigorating feature of clerkship is the freedom and responsibility that the learner has. Instead of attending lectures and performing labs on cadavers and mock patients, you will be dealing with real patients under the guidance experienced preceptors.



Clerkship

Clerkship is structured in a way which exposes students to many different specialties. During clinical rotations, you spend blocks of time in the hospital, clinic or other practice setting, where you will be taught by a physician. You will be given a chance to apply the knowledge acquired during pre-clerkship in practical situations, with real patients. The physician, as well as acting as a teacher and mentor, evaluates your performance during a clinical rotation and ensures that your learning objectives have been met. There are two types of clinical rotations: core and elective.

Core rotations are established by the medical school's curriculum and occur at a set time during the academic 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 students' interests. Electives can be taken to explore other specialties not offered as core rotations. They can also be used to gain further experience and insight in a particular specialty of interest to the learner. 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 is a great opportunity for clerks and residents to gain clinical experiences outside of the traditional academic centres. ROMP connects learners with clinics and preceptors in 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. Through ROMP, trainees are exposed to a variety of experiences and, through one-on-one learning with their preceptors, they are exposed to the perks and realities of living and practicing medicine in a rural community.

ROMP Week is slightly different. It is offered in various rural communities, where a small group of pre-clerks are hosted by the community. In addition to the clinical training which learners do during ROMP Week, the host communities put on tours, meals, and other extra-curricular events to showcase what rural communities – particularly their own – have to offer.

ROMP Week and Summer Electives are a great way to get early clinical experience as a medical student, to get to see rural Ontario communities, and to be gain insight into what rural medicine is all about.



The ROMP Option

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

Fill out an online application at romponline.com.

Request a Dean's Letter of Good Standing from your program coordinator and have it sent to ROMP.

*For Summer Electives and ROMP 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



Medical Specialties

As you near the end of your clerkship, you will start to have an idea of the type of medicine which you are interested in practicing and the type of physician which 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 and preparing residents to practice their specialty following their training. There are many fields of medicine, each with its advantages and intricacies. You will have a chance to experience most of the specialties during medical school but there are also many “sub-specialties” – areas of specialization within a specialty – which allow for a more focused scope of practice and expertise. Below are outlines of the more general specialties and the length of the residency programs.

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.



Medical Specialties

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 an option of 1 additional year of Enhanced Skills.

Internal Medicine: This field of medicine involves the diagnosis and treatment of medical problems. 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 "sub specialties": Allergy and Immunology; Cardiology; Endocrinology; Hematology; Infectious Disease; Gastroenterology; Nephrology; Oncology; Pulmonology; Rheumatology. Internists will work either in a clinic or a hospital. Residency is 3 years to become a General Internist and an additional 1 - 3 years for each subspecialty.



Medical Specialties

Neurology: This field deals with the diagnosis and 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 of 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.

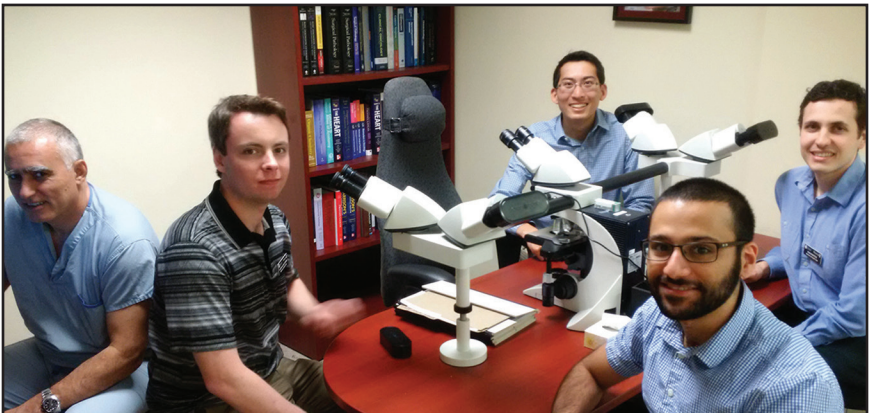
Psychiatry: This field of medicine deals with the diagnosis and treatment of mental illness through counseling and the prescription of medication. Psychiatrists work in clinics, hospitals, mental health treatment centers (both residential and outpatient) and may be required to be on-call. Residency is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



Medical Specialties

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 takes place 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 academic 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 train 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. Interviews are the second step of the admission process, and are held at each school early in the calendar year.

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 try to ensure an optimal fit between program and resident, providing the best training environment for the learner and, ultimately, the best outcome for the program and for the learner. Residency will be challenging. You will work long hours and have additional studying to keep up with, while also working shifts in



Life as a Resident

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 based in 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. At the end of your residency, there is one final examination to pass before you become a fully licensed physician. The testing is conducted not by the residency 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.



Your Plan: High School

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!**

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

~Chosen University ~

FIRST YEAR

List all of the prerequisite courses for the medical schools you are considering. Know which courses have prerequisites and cross them off as you complete them.

Prerequisite for medical school	Prerequisite Needed	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses

Semester 2 Courses

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Extra-curricular/Volunteering/Research: _____

Things to think about:

Get a good start, medical school admission Requirements, prerequisites for upper year courses, university resources...



Your Plan: University

Second Year

Prerequisite for medical school	Prerequisite Needed	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses

Semester 2 Courses

Extra-curricular/Volunteering/Research: _____

Things to think about:

Get a good start, medical school admission
Requirements, prerequisites for upper year courses,
university resources...



Your Plan: University

Third Year

Prerequisite for
medical school

Prerequisite
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

Prerequisite for
medical school

Prerequisite
Needed

Year

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Semester 1 Courses

Semester 2 Courses

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Extra-curricular/Volunteering/Research: _____

Things to think about: _____



Your Plan: Medical School Applications

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 University | <input type="checkbox"/> University of Manitoba |
| <input type="checkbox"/> McGill University | <input type="checkbox"/> University of Ottawa |
| <input type="checkbox"/> McMaster University | <input type="checkbox"/> University of Saskatchewan |
| <input type="checkbox"/> Memorial University of Newfoundland | <input type="checkbox"/> University of Toronto |
| <input type="checkbox"/> NOSM | <input type="checkbox"/> University of Western Ontario |
| <input type="checkbox"/> Queen's University | <input type="checkbox"/> Other |
| <input type="checkbox"/> University of Alberta | <input type="checkbox"/> Other |
| <input type="checkbox"/> University of British Columbia | <input type="checkbox"/> Other |
| <input type="checkbox"/> University 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 Applications						
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 Accepted to ~

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.

CFPC: 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.



Glossary

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.



Glossary

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.



Glossary

Osteo-: Refers to bones.

PAIRO: Professional Association of Interns and Residents of Ontario.

Peripheral nervous system (PNS): The 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 medical 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.



Glossary

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>

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/>



Useful Websites

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

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.nmhm.washingtondc.museum/>

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://studentdoctor.net/reference-materials/free-downloads/>



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>

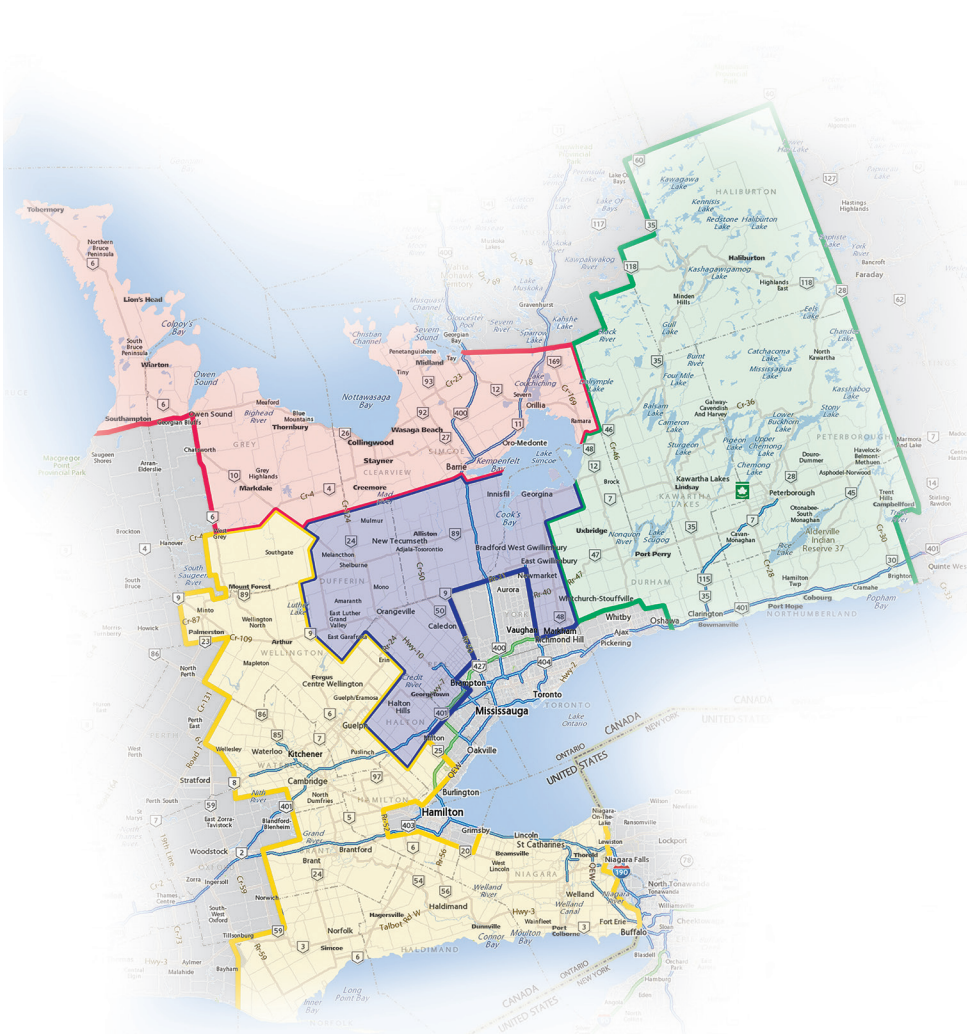
Health Canada:

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





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