

## NIH MD/PhD Partnership Training Program FAQs

Below are answers to some of the most frequently asked questions about the NIH Intramural MD/PhD Partnership Program. Please [contact us](#) if your particular question is not answered here or on our website.

### A) General questions about combined MD/PhD Training

***Is MD/PhD training right for me?*** Obtaining combined MD/PHD degree training is a preferred training pathway for students who are committed to careers combining biomedical research with the practice of clinical medicine. Obtaining the intensive mentored training of a Ph.D. and seeing a scientific project from start to finish, while still at a student level, builds a good foundation for future independent research. Medical school training that usually ‘book-ends’ the Ph.D. training fosters thinking that combines the knowledge base of clinical medicine with the investigatory skills of a Ph.D. researcher. The Medical Scientist Training Program (MSTP), an NIH-sponsored training program administered by the National Institute of General Medical Sciences (NIGMS) at 42 U.S. medical schools, provides funding for MD/PhD training to 41 U.S. medical schools which allows these schools to offer students full tuition waivers and a Ph.D.-level stipend. Individual medical schools also offer equivalent MD/PhD training programs outside of the MSTP. In total about 500 new students begin MD/PhD training each year nationwide. MD/PhD-trained investigators have been extremely successful in biomedical research compared with M.D.-trained peers. Although they make up only 3% of medical school graduates, MD/PhD-trained investigators hold 30% of NIH grant funding given to physician-researchers. MD/PhD’s have a slight advantage in obtaining research grants over Ph.D.-trained peers.

MD/PhD training is definitely not for everyone. If you plan to be a lab-based researcher, even if you study mechanisms of human disease, obtaining a PhD in a field of biomedical research may be a better option, and there are increasing opportunities for students in PhD training to obtain special competency in translational research. If you plan to do primarily clinically-based research, a Master’s degree in public health or epidemiology may be a better option for you. This is a long (seven to eight year) training pathway, and the financial benefits of tuition and stipend support during medical school fall far short of what one can earn in three to four years of clinical practice that one would give up to do PhD training.

See our [resources and links pages](#) for more information about this topic.

***What do MD/PhD’s do after graduating?*** Most MD/PhD trainees enter clinical residency training after completing their degrees, and have gone into every field of medicine, with the largest proportion training in Medical and Pediatric subspecialties, Pathology, and Neurology. Training in procedure-oriented medical subspecialties and surgical subspecialties is possible, although this carries with it the extra challenge of maintaining competency in complex medical procedures while running a research lab. MD/PhD trained physicians are also in demand by the pharmaceutical industry as experts

in translating basic discoveries into new therapeutics. The next research experience after MD/PhD training usually occurs during subspecialty fellowship in the medical specialties or during the research years of longer surgical residency training programs. A number of academic institutions have ‘physician-scientist’ training tracks in their residency and fellowship training programs tailored for the interests of MD/PhD graduates.

Graduates of the NIH MD/PhD partnership program have followed these trends, obtaining residencies and fellowships at top academically oriented clinical training programs such as Memorial Sloan-Kettering Cancer Center, Boston Children’s Hospital, University of California San Francisco.

## **B) Questions about applying to the NIH MD/PhD partnership training program**

*Is the NIH MD/PhD partnership a ‘stand-alone’ MD/PhD training program?* No. The NIH Intramural MD/PHD partnership training program coordinates training, activities and funding for MD/PhD students who conduct research in the intramural research program of the NIH in partnership with U.S. medical schools. Students earn the Ph.D. degree through [Individual Partnerships](#) with their medical school or through one of the sixteen NIH [Institutional Partnerships](#). An NIH scientist serves as your mentor or co-mentor for the Ph.D. portion of your training. The MSTP program of your medical school and the admissions committee of the NIH intramural MD/PHD partnership must independently grant admission and the financial support to pursue this training pathway. Since the standards for admission are similar, concurrent admission is quite common. The NIH GPP will work with your medical school and its MSTP to make sure the details of this program are accurately communicated.

*How hard is it to get in?* Admission standards for the MSTP funding portion of the program are similar to those at MD/PHD programs nationwide, where accepted applicants have average MCAT scores of 35 and a college GPA of 3.7. Research experience is taken into account, and applicants with particularly strong lab research credentials whose test scores and GPA are below the averages above are often admitted. Each GPP program has its own admissions criteria, with varying levels of competitiveness. Our current admission goals are to admit four students per year in Track 1 of the MD/PhD program to the NIH Oxford-Cambridge Scholars Ph.D. program. Students applying from medical school for Track 2 of the MD/PhD program are admitted within the goals of each Ph.D. program. The NIH Oxford-Cambridge program is currently the largest GPP, admitting 12 new students per year in addition to the four students admitted through track 1 of the MD/PhD program, and has admissions standards similar to the MD/PhD partnership. Students holding Scholarships that pay tuition to UK Universities (e.g. Rhodes, Marshall, Churchill, NSF) are admitted to the Oxford-Cambridge program in addition to the students above, provided they fulfill the admissions criteria of the programs.

*Do I need to be a U.S. citizen to participate in this program?* Yes, you do need to be a U.S. citizen or permanent resident to participate in the MSTP-funded portion of the program with U.S. medical schools. Most institutional GPP Ph.D. partnerships do require

this as well, although there are some of which are open to international students, such as the [NIH-Wellcome Ph.D. studentships](#) for study in the UK. See the [list of NIH institutional partnerships](#) for more information.

***What are the benefits of participating in the NIH Intramural MD/PhD Partnership program?*** GPP Students enrolled in combined degree training will receive the enhanced curriculum offered to MD/PhD students at their medical school, which often include coursework and seminars designed for combined degree trainees, as well as modified clinical rotation requirements. At NIH a number of activities have been set up for combined-degree trainees. Students accepted to MSTP-funded MD/PhD programs and the NIH Intramural MD/PhD Partnership will receive tuition and stipend benefits in most cases equivalent to traditional MD/PhD students, which involves full tuition waiver and a stipend similar to that of Ph.D. trainees for the duration of MD/PhD training.

***Which MD/PHD partnership training track is right for me?*** Track 1 is the closest training track to the traditional MD/PhD training programs, where 1 ½ to 2 years of pre-clinical training is accomplished before starting in the lab full time. Because less than two years elapse between the completion of PhD research and clinical residency training, this training pathway has the advantage of minimizing the time away from research between the Ph.D. and post-doctoral training. Track 2 is for students currently enrolled in medical school or at NIH in ‘year-out’ programs from medical school. Once accepted, students’ training in this pathway would be similar to Track 1. Track 3 (Ph.D. first) is a special pathway for students currently in GPP training with at least one year of graduate training remaining. Track 3 is also appropriate for students who must start training with the Ph.D. phase due to a non-deferrable scholarship such as the Rhodes or Marshall programs. Students in post-baccalaureate training in NIH labs should select Track 3 only if they would like to stay in their current lab and they and their mentor feel that the research would suffer if interrupted for medical school training. Students in Track 3 generally finish the bulk of their Ph.D. research before medical school and are then required to have a research mentor and perform additional research during the medical school years.

***Which NIH Ph.D. partnerships are best for MD/PhD students?*** Students can combine MD training with any of the NIH institutional partnerships or individual partnerships. Typically students arrange an individual Ph.D. partnership with the Ph.D. granted by a department at the student’s medical school or enroll in an institutional partnership with fewer Ph.D. course requirements. The programs granting a European D.Phil. (Karolinska, University College London, Oxford, and Cambridge) are highly compatible with medical school due to their streamlined structure and minimal coursework requirements. Discipline-specific Institutional NIH Graduate Partnerships at medical schools such as University of Pennsylvania (Immunology), Epidemiology (Yale University) Neuroscience (Brown University), and Bioinformatics (Boston University), may also be appropriate, especially for students doing their M.D. training at these institutions. See the [list of partnerships](#) on the NIH Office of Intramural Training and Education ([OITE](#)) [web site](#) for more information about these partnerships.

***Are there any GPP programs that are not compatible with MD/PHD training?***

[The Johns Hopkins University - Cell, Molecular, Developmental Biology & Biophysics GPP](#) is a partnership with an Arts and Sciences Ph.D. program with a heavy emphasis on teaching and one year of required lab rotations. For this reason we do not feel this program is appropriate for MD/PhD students. The other partnerships with Johns Hopkins school of public health for biostatistics and epidemiology are compatible.

***Can I arrange an individual agreement between a Ph.D. program and the NIH MD/PhD Partnership?***

Yes that is possible, most often with a Ph.D. program from the students' medical school when a student comes to NIH after completing the pre-clinical years of training as a medical student (Track 2). It is very difficult to arrange an individual Ph.D. partnership when applying before starting medical school. Consequently, all applicants to Track 1 of the MD/PhD partnership are required to co-apply at least one institutional NIH Graduate Partnership Program.

***When and how do I apply for the NIH intramural MD/PHD partnership training?*** If you are not currently enrolled in medical school, you should apply for the MD/PhD partnership in the same admissions cycle as you are applying for traditional MD/PhD programs and GPP training for. The deadline for MD/PhD track 1 and 2 applications is in early January, with details available on our homepage. Deadlines for each NIH Ph.D. program are posted on their web sites, which can be accessed from the [list of partnerships](#). The MD/PhD program application does NOT count against the limit of three NIH graduate partnership programs to which you can apply. Oxford and Cambridge count as ONE partnership as the program is jointly run.

If you are a medical student you should apply for track 2 of the MD/PhD partnership in January of year you would like to start Ph.D. training. If you are a current GPP student you should apply for internal 'pre-review' in the spring BEFORE applying for track 3. This deadline is in late May or early June. Applications for track 3 training may be submitted to most schools for deferred enrollment in medical school after completion of the bulk of the Ph.D. research.

In all cases, to be eligible for funding through the partnership MSTP you must apply to medical schools participating in the [MSTP](#) and apply for MD/PHD training even if you are already enrolled or fully intending to do your Ph.D research at NIH. This is to give you maximum flexibility and also to allow the medical school MSTP program to independently consider your application. A significant portion of the costs of MD/PHD training even for NIH partnership students is borne by the Medical School MD/PHD training program. If you are accepted for M.D.-only training you can participate in the program but will not be eligible for tuition and stipend benefits during medical school.

***Which Medical Schools participate in the program?*** All medical schools receiving training funds from the [NIGMS MSTP](#) are eligible to participate to receive NIH partnership MSTP funding. However, financial and programmatic constraints have limited the participation of some schools. Please see the [list of participating institutions](#) on our website for more information.

***I am attending a Medical School that does not currently receive NIH MSTP funding. Can I still participate in this program?*** If accepted into a GPP program, you can participate in combined degree training activities and receive funding for Ph.D. Training. There is currently no mechanism for distributing MSTP funding for the medical school portion of the training to schools not receiving an MSTP grant. Loans and scholarships for this may be available through your medical school, and some non-MSTP funded MD/PhD programs have allowed students to do all or part of their Ph.D. research in the intramural program of NIH. However, there are individual NIH fellowships that fund both phases of MD/PhD training at any U.S. medical school. See our [funding opportunities page](#) for more details on alternatives to the MSTP for medical school funding of MD/PHD training.

***I am a post-baccalaureate student doing research at NIH in the post-bac IRTA or tech-IRTA program. How should I apply for NIH intramural MD/PHD partnership training?*** If you are not committed to the lab you are currently working in, then you should apply to the MD/PhD training programs of your choice across the country, and simultaneously apply to an NIH GPP for the Ph.D. training. You could return to your current lab after the pre-clinical years of medical school. If you are committed to finishing research training in the lab in which you are currently working before attending medical school, you can pursue by applying to a GPP PhD program and simultaneously or subsequently applying to track 3 of the MD/PhD partnership. See above for comparison of these training pathways.

***I am a medical student interested in switching to track 2 partnership MD/PhD training. What should I do?*** You should apply to one of the NIH [Institutional Partnerships](#) or arrange an [Individual Partnership](#) with a PhD program at your medical school and an NIH investigator. Additionally if you want to be considered for NIH partnership funding on your return to medical, you must apply to your MSTP program as an internal candidate. Currently, all medical schools funded by the MSTP allow this, other than U.C.S.F., the Cornell/Rockefeller/Sloan-Kettering tri-institutional program, and the University of Pennsylvania (with the exception of students in the NIH-U.Penn immunology GPP).

***I am in a traditional funded MD/PhD program at my medical school. Can I participate in the NIH MSTP?*** Yes, if allowed by your Ph.D. program, you may be able to do all or part of your Ph.D. research in an NIH lab and obtain your Ph.D. from the University affiliated with your medical school as an individual partnership student. You can also apply for one of the institutional NIH GPP programs with the Ph.D. obtained from elsewhere. *However, both these options must be discussed with your MD/PhD program advisors ahead of time and written permission to apply for either of these options must be obtained from the director of your MD/PhD program.*

***I am a current NIH GPP Ph.D. student and want to go to medical school. What should I do?*** If you intend to primarily practice medicine after graduating from medical school, you should apply for M.D. training and not participate in the NIH intramural MD/PhD partnership program. If you intend to spend at least 50% of your time in a research setting (basic or translational) you should apply for pre-review by the NIH intramural MD/PhD partnership in the spring before applying to MD/PhD programs under *track 3* of the MD/PhD partnership. Information about this application cycle is sent to all NIH graduate students through the OITE Grad-L listserv each year. You must have at least one year of Ph.D. training remaining and be in good academic standing in your GPP. During interviews with representatives of the NIH intramural MD/PhD partnership you will receive individual counseling about which schools would be most appropriate to apply to. If you are declined support for MSTP funding by the NIH intramural partnership you are free to re-apply to the MSTP partnership in a future year or apply to medical school for MD training following your PhD without NIH financial support.

### **C) NIH Intramural MD/PhD Partnership Program features and policies**

***How many students are in the NIH Intramural MD/PhD Partnership?*** The first students entered the program in 2001, and the MSTP funding portion of the partnership was launched in 2006. As of 2010, there are 54 students in the NIH MD/PhD Partnership attending 28 different medical schools. 38 students are funded for medical school through the MSTP, and five have been awarded individual NIH training awards that fund their training. Most students are in the NIH-Oxford-Cambridge Ph.D. program, with 10 students in individual Ph.D. partnerships with their medical schools, and one in the NIH-Karolinska Ph.D. training program. We accept about four new students a year in Track 1 prior to beginning medical school, 2-4 students a year in track 2 from medical school, and 2-4 students currently in the GPP for track 3 where medical school training follows the Ph.D.

***What can I do to maintain ties to clinical medicine while I am in the research phase of NIH Intramural MD/PhD Partnership training?*** GPP Students enrolled in combined degree training will receive the enhanced curriculum offered to MD/PhD students at their medical school, which include program retreats, coursework and seminars designed for combined degree trainees, as well as modified clinical rotation requirements. The program aims to provide bridges to clinical medicine and clinical investigation while students are in the research phase of training at the NIH. See our web page [on program activities](#) for more information on these opportunities. In addition we sponsor students each year to travel to meetings such as the National MD/PHD student meeting in Colorado and every other year we host a student symposium at NIH. See our [web page on student meetings and symposia](#) for more information on these opportunities.

***Do I have to finish my Ph.D. before returning to or beginning medical school?***

Like most MD/PhD programs we have found that it is very important to finish the dissertation research before entering or returning to the busy environment of medical school. Therefore we do require that our students submit their Ph.D. to their thesis committee or readers before returning to medical school. With permission of the program director, the oral defense can take place after returning to medical school. Research and work on publications often continue after the Ph.D. defense.

***What can I do to maintain ties to research during the medical school phase of my training?*** In track 3 of the NIH intramural partnership program, at least four years may pass after your PhD training where you would not be engaged in research full time. This is not an optimal situation because your research skills may deteriorate due to lack of use. To prevent this from occurring, we expect students in this training pathway to plan an extension of their PhD research or a related project with a mentor at the medical school; this arrangement would ideally involve participation on the part of your current PhD mentors. When you are researching MSTP programs to which you are considering applying, we strongly recommend you focus on those with suitable mentors and research time built into the medical school curriculum.

***What advising and career counseling will I receive in the NIH intramural MD/PhD partnership program?*** In addition to the GPP and Medical School MD/PhD program advisors, NIH MD/PhD partnership students will be assigned to a designated NIH faculty member MD/PhD advisor for the length of their training. These advisors are all experienced physician-scientists who serve on the steering committee of NIH intramural MD/PhD partnership program. Students submit an individualized training plan in the first year of their training and annual progress reports which are shared with their medical school, graduate school and MD/PhD advisors.