



# Pediatric Endocrinology Fellowship

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## Overview

A fellowship in Pediatric Endocrinology is 3 years in length, and applicants must complete a residency in Pediatrics or Medicine/Pediatrics prior to starting fellowship. The majority of Pediatric Endocrinology fellowship programs accept applications through Electronic Residency Application Service (ERAS) and participate in a match conducted through the National Resident Matching Program (NRMP). For information on participating programs and timelines, applicants should visit the Association of American Medical Colleges (AAMC) and NRMP websites. Applicants should contact nonparticipating fellowship programs directly to inquire about their application process.

A fellowship in Pediatric Endocrinology will provide training in the management of general endocrine disorders (growth, thyroid, puberty, pituitary gland, adrenal glands, parathyroid glands) and diabetes. Additionally, some pediatric endocrine programs may be referral centers for more rare endocrine conditions (e.g., hyperinsulinism, ambiguous genitalia) due to the presence of expertise in multiple pediatric specialties at the institution. Fellowship programs vary in size from one to four fellows per year and are affiliated with either a freestanding academic chil-

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dren's hospital or as part of a pediatric department in a university hospital or medical center. Typically, the first year is dedicated to clinical training, while the second and third years are focused on research training in either patient-oriented or basic laboratory research. However, program curricula may vary allowing for greater focus on clinical training in the second and third years. This may be an important difference when considering programs, depending on whether you want a more clinically or research-focused fellowship experience. Keep in mind that all programs consist of a research training component and an ACGME-required scholarly project in order to graduate from the program. Trainees in most programs will also have a weekly endocrine continuity clinic throughout their 3 years of training.

Some programs will expect their trainees to participate in a small research project during their first year of training and even submit an abstract for a poster presentation at a national meeting during their first year of fellowship. Most programs will expect their trainees to present their research at a national meeting, either as a poster or as an oral presentation, sometime during their second or third year of fellowship.

Some fellowship programs require trainees to apply for grant funding to support their salary during the third year of fellowship. If one is unable to secure their own funding, programs will usually find a way to fund the fellow, but it is important to ask a program how their second and third year trainees are funded, if you need to secure your own funding, and what happens if you don't successfully do so.

In addition to what is mentioned above, when considering the type of program you are looking for, it is important to consider whether you want a busy, subspecialized endocrine division with a large research focus (e.g., a division with a diabetes center, a thyroid center, a bone center, etc.) versus a smaller clinically focused program. It is essential to understand the impact that the size of the institution will have and what the mix of inpatient and outpatient care will be. Programs in larger tertiary and quaternary care centers will provide more exposure to complex endocrine patients with comorbid conditions and higher acuity, but it will also mean more time receiving inpatient training (>50% of your

first year will be spent on inpatient and consult services) compared to smaller programs where more of the focus may be in outpatient care. The difference in these settings may also impact the quantity and quality of in-house and telephone calls you will take as a fellow.

All clinics and hospitals will provide interesting patients and the necessary training as described, but the volume, acuity, and complexity will likely vary between the smaller and larger programs. The other major difference lies in the research opportunities that are available at different programs. One of the most important things you can do when researching fellowship programs is to find out what past fellows have gone on to do after fellowship. A program may boast about their research program, but if none of the fellows in the past 5 years have gone into research, that is a red flag if a research career is your goal. If you are looking for a clinical program but the majority of former fellows continue doing predominantly research after training, that may not be the program for you. If you are unsure whether or not you want to do research after fellowship, it is probably in your best interest to find a program that offers strong research training but has a good balance of graduates that have gone on to do both clinical work and research. Obviously, if you already have an idea of what area you would like to do research in, you should focus on programs and investigators or universities that would meet your needs.

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## Applying

A strong applicant for a Pediatric Endocrinology fellowship is someone who has shown a continued interest in Pediatric Endocrinology. One way to do this is by completing an elective rotation in endocrine at your home institution. Other ways are by being involved in the writing of a paper related to pediatric endocrinology or by being part of a research project related to pediatric endocrinology. If these opportunities are not available in endocrinology, they should be sought out in other areas in order to demonstrate your willingness to collaborate and your desire to learn beyond what the basic rotations of residency offer.

If you can, it's best to do an elective rotation as a resident at one of the programs that you are interested in. This is a great way to see what it would be like to be a fellow at that program as well as get to know the current fellows and gauge their attitudes about the program. This is also a good opportunity for the program to get to know you and your chance to make a great impression. You will want to do everything you can to function at the level of a fellow so that they can picture you in that role. Make sure to get all of your questions answered while you are there and to get a feel not just for the endocrine division but the rest of the hospital and other subspecialties, as you will be working with other divisions and departments within the hospital.

In preparing your application for fellowship, you should get letters of recommendation from attending physicians that can speak to your character, patient care abilities, and medical knowledge. You should ask any attendings that you have worked with on research projects or papers to write you a letter of recommendation. If possible, you should get a letter of recommendation from one of the endocrine attendings from your home hospital or away elective endocrine rotation.

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## **Interviews**

Once you've selected the programs you're going to apply to, it's time to prepare for the interviews. The faculty and fellows that will interview you want to get a sense of whether or not you will "fit in" at their program, just as you should be using the interview day to see if you think the program is a good fit for you. No one is going to quiz you on your endocrine knowledge. They are only going to ask you what you already know, so relax. You should be prepared for questions about your reason for choosing a career in Pediatric Endocrinology and about any research you have done or any papers/presentations you have on your CV. You should prepare ahead of time and know who the faculty members are at the program where you are interviewing and where their clinical or research interests lie. Be prepared to have questions for the interviewers; they are going to want to know what questions you have

about the program. Most programs will host a dinner the night before the interview that is just for the applicants and fellows. You should definitely attend this dinner to get to know the other fellows. It is also an opportunity for the fellows to get to know you, which they can't really do on the interview day, and many programs solicit feedback from their fellows regarding the applicants. Once you have completed your interviews, you will have to create your rank list based upon which programs you're most interested and which fit best with your life circumstances. You will find out where you have matched about 6 months prior to starting fellowship.

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## **During and After Fellowship**

At some point during your fellowship training, you will make a decision as to whether you want to primarily see patients after fellowship or if you want to pursue a research career. This is an important decision because after fellowship your salary needs to come from somewhere, and it will either be generated from seeing patients or from research grant funding.

Fellows that go on to clinical practice may stay on at the same institution, depending on the availability of clinical positions, or may move on to another institution. It will depend on a number of factors such as where the fellow wants to live, job availability in the area, and salary. A clinical position typically involves 3.5 to 4.5 days of clinic per week, with the remaining time protected as administrative (nonclinical) time. Most often, fellows that do research after training stay on at the institution at which they trained because their mentor and research project are there. They may get small grants, plus some funding from their mentor, and work 1 to 2 days in the clinic to fund their time, while they continue to work on their research in preparation to eventually get a large enough grant to fund all of their time. It often takes several years after training to secure significant grant funding and not everyone is able to do this.

After training, in addition to being a Pediatric Endocrinologist who sees patients or does research or both, there are opportunities

to be involved in medical student, resident, and fellow education. You may also have the chance to be involved in quality improvement work or for leadership positions at the divisional and departmental levels within the hospital or institution. Additionally, there is also the option to enter the pharmaceutical industry following the completion of your fellowship or anytime thereafter, though having a few years of clinical experience can be quite beneficial. There are a number of pharmaceutical companies involved in the development and marketing of endocrine and diabetes therapeutics who are recruiting pediatric endocrinologists with clinical research experience.

After 3 years you will complete your endocrine fellowship, and you will get out of it what you have put into it, regardless of where you have trained. After fellowship you need to do what will make you happy, not what will make you money. Pediatric endocrinologists aren't in it for the money, we enjoy the diseases, the treatments, the research, and our patients.