

# What is the Best Way to Train a Resident?

Authors from across Europe describe residency program requirements.

BY DAMIEN GATINEL, MD, PhD; ROBERTO BELLUCCI, MD;  
EWA MRUKWA-KOMINEK, MD, PhD; AND FLORIAN SUTTER, MD

## France



BY DAMIEN GATINEL, MD, PhD

Acceptance to a French residency program in ophthalmology is a competitive process for potential candidates. It is expected that, once accepted, the resident will become a specialist in ophthalmology upon completing his residency and a fellowship.

Fellowships are optional, but most residents aim to complete one. The duration of the residency (*Internat*) program is 5 years and split into 10 semesters. A minimum of five semesters must be spent in validated ophthalmology departments. Unlike in other European countries, candidates in France remain anonymous when competing for admittance to programs. Those who are accepted can choose their preferred program based on their ranking and on a first-ranked, first-served basis.

Residents learn theory and gain practice in surgical ophthalmology through daily hospital practice. Trainees are required to attend lectures delivered as part of the teaching residency program that cover the entire ophthalmic pathology field. Interns learn how to perform cataract surgery and other anterior segment procedures. Also, depending on the orientation of services to which they are assigned, residents learn retinal, pediatric, and glaucoma diseases and surgery. Based on my experience with some foreign European residents, French residents have more access to hands-on surgical experience compared with their counterparts in other countries. However, some disciplines, such as refractive or orbital and palpebral surgery, are taught only in specific units and may not be available to some residents, even though these procedures represent a significant part of ophthalmologic activity. Additionally, it is strongly recommended (although not a legal obligation) that French residents pass the European Board of Ophthalmology certificate.

Residents are selected by heads of departments for fellowship positions based on their merit. In order to become a fellow (*Chef de Clinique*), candidates are often asked to complete 1 year of research in a foreign research laboratory.

During that year, residents can learn about research techniques and acquire specific skills in areas such as molecular biology and genetics. The hope is that these residents will publish and present their work at ophthalmic meetings such as the Association for Research in Vision and Ophthalmology (ARVO).

I am often surprised at how little emphasis is placed in residency programs in France on teaching the mechanisms of vision and the physiologic aspects of optics. Some of my students are excessively knowledgeable about a specific biochemical cascade or details of immunology reactions but struggle to simply describe how the eye sees. Similarly, they may be able to pinpoint a retinal condition on an optical coherence tomography display but have little idea about the number, size, and gross organization of the retinal photoreceptors. This reflects the resident's challenge; to remain versatile as the field of medical knowledge is widening, especially in ophthalmology. Ironically, many residents comply with research duties only to obtain a fellowship position that will provide them with abundant surgical practice before going into private practice. Residents who follow this path may quit the research that they had done previously.

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## Italy



BY ROBERTO BELLUCCI, MD

The residency program in Italy was recently extended from 4 to 5 years. Trainees, who must complete 6 years of medical school and obtain a medical degree prior to residency, are required to rotate through various surgical specialties for a limited num-

ber of weeks during their first year to avoid excessive specialization in one area. Once in the core ophthalmology school, residents remain in the university departments that are associated with an ophthalmic hospital section. The doctors of the department act as tutors and mentor one or two residents at a time. Residents are required to complete a program of podium lessons that include all areas of ophthalmology. Several professors of the local University Eye Clinic and of the local University of Medicine teach these courses.

Practical training takes place in the ambulatory facility for the first 2 years and in the inpatient department and surgical facility for the second 2 years. In the ambulatory facility, residents initially observe a number of visits and are then assisted by the tutor in their first experiences with patients. Residents also spend time in special services such as retina, cornea, and glaucoma to learn how to use the available equipment.

Residents undergo surgical training and assist surgeons with various procedures in the operating theater. National regulations require residents to complete a designated number of surgeries before they can finish the program. However, teaching surgery to residents remains difficult for a number of reasons. For instance, many patients do not like to have parts of their surgical procedure performed by a resident. Also, some residents are not interested in surgery, and most of the university departments are small, with low surgical volume each year. For these reasons, only a fraction of the residents obtain true surgical training during residency, and the majority learn surgery in hospitals following the program.

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## Poland

BY EWA MRUKWA-KOMINEK, MD, PhD

In Poland, residency training is 5 years. Each resident is guided by a specialist in ophthalmology. This specialist, commonly referred to as a *specialization supervisor*, oversees a maximum of three ophthalmology residents at a time.

Each year has a unique list of mandatory clinical training courses and practices. Clinical practices involve work in ophthalmic wards and outpatient clinics as well as in other departments, such as the Accident and Emergency Department and Microbiology Laboratory, to expand the resident's knowledge in branches of medicine outside of ophthalmology. The disadvantage of this format is that specific clinical courses and practices must be completed in a given year of the specialization training; space in these



courses is limited, which can cause problems. Residents believe it would be better if the mandatory courses were not assigned to a particular year so that they could devise their own individual schedules of courses and practices.

Under the guidance of the specialization supervisor, residents are obliged to independently perform operations such as phacoemulsification, glaucoma, strabismus, and eyelid and conjunctival surgery. They also assist during retinal detachment surgery, vitrectomy, and corneal transplantation. In this way, the supervisor can select those residents who have special surgery skills and those who are better fit for the diagnostic and nonsurgical dimensions of ophthalmology.

In addition to fulfilling surgical and clinical course requirements, residents in Poland must also present two review articles or original papers and take part in the meetings of the Polish Ophthalmological Society. Also, mandatory 6-month clinical practice allows trainees to get acquainted with the nature of practice at a university hospital and the range of highly specialized procedures performed there. Once all obligatory clinical training courses and practices are completed and all formal requirements are fulfilled, residents are eligible to take the specialization exam, which consists of three parts: a written test, a practical exam in ocular surgery, and an oral exam.

In my opinion, the applied residency program provides a doctor with up-to-date knowledge and skills in the diagnosis and treatment of eye disease. Moreover, the structure of the program guarantees that the scope of acquired knowledge and skills increases significantly with each residency year.

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## Switzerland

BY FLORIAN SUTTER, MD

Postgraduate medical training in Switzerland is structured in an unusual way. The government monitors residents' medical education through the completion of their medical diplomas. Postgraduate speciality teaching is organized and monitored by a private organization, the Swiss Medical Board (Foederatio Medicorum Helvetiorum). This organization enacts and publishes regulations regarding speciality training and licensing.

Like most medical speciality training in Switzerland, oph-(Continued on page 31)

tinuity of teaching so that a relationship based on trust can develop between the resident and his supervisor. Without continuity there is no trust, and the resident ends up with limited hands-on experience. Next, and equally important, residents must be taught by a surgeon who has a special interest in teaching, as this is not a job for everyone. Last but not least, it is up to the resident to make every precious second count. My advice to fellow residents is this: Be early, be prepared, and be enthusiastic.

A perfect residency program does not exist; therefore, it is up to the resident to make the most of what his program has to offer. South African residency programs offer quality hands-on experience but lack manpower and resources due to that country's service-delivery–driven health care system. This often leads to overbooked clinics and inadequate patient consultation time, which can have a negative impact on training and the quality of patient care. Also, due to resource shortages, there are occasional shortcomings in quality surgical supervision in South African residency programs. In spite of these shortcomings, I would not hesitate to choose Pretoria Academic Hospital again for my residency. Quality and quantity of hands-on surgical experience in all subspecialties are priorities in my opinion.

I have been fortunate to perform a fellowship in refractive surgery in Dublin with Dr. Cummings, who is a consultant at the Wellington Eye Clinic and an investigator and member of the beta-site group for WaveLight AG (Erlangen, Germany). He has a special interest in custom laser ablations. The focus of my fellowship was refractive laser surgery and collagen crosslinking (CXL). Research projects included a study of the safety and efficacy of simultaneous laser correction and CXL for progressive keratoconus patients (simLC) and an ongoing study using the Wavelight BioGraph to acquire IOL power *in vivo*. Apart from the close friendships that I made in Ireland, my fellowship complemented my residency in many ways. In particular, it improved my research skills, familiarized me with the high visual demands of private patients, and gave me ample experience in performing refractive surgery.

Upon completion of my residency, I plan to join a private practice in my hometown of Pretoria, doing general ophthalmology with a special interest in refractive surgery. ■

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thalmology training is poorly structured. There are no formal training programs. Several teaching clinics offer training positions. After graduating from medical school, it is up to the trainees to make sure that they find appropriate teaching positions to fulfill the requirements for board certification. Requirements include the following:

- 1 year of clinical training in a nonophthalmic discipline;
- 4 years of ophthalmology training, which includes a minimum of 1 year of training at an A-level teaching hospital, such as a university hospital or a large regional training center, and 1 year of training at another teaching hospital;
- 6 months in a private practice (optional); and
- a theoretical exam that is usually combined with the European Board of Ophthalmology exams.

One year of research can be counted as one of the 4 years of ophthalmology training. Also, residents are permitted to train abroad for 1 year.

Not all ophthalmologists in Switzerland receive intraocular surgical training. After completing their training requirements, residents must complete an additional 2 years of surgical training at a certified teaching institution. There is also an additional theoretical examination for the surgical career.

This unusual system offers both advantages and disadvantages. The major downside is that the quality of training depends to a certain degree on the trainee's motivation and activities. On the other hand, this structure allows outstanding trainees to pursue attractive training opportunities in Switzerland or abroad.

In my opinion, ophthalmology training is poorly structured in Switzerland, and there is much room for improvement. Under the current structure, nonsurgical training must be completed first, and only a minority of ophthalmologists in the country are surgically trained. ■

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#### TAKE-HOME MESSAGE

- French residents have greater access to hands-on surgical experience compared with trainees in other countries.
- Doctors tutor and mentor one or two residents at a time in Italy.
- The applied residency program in Poland provides skills in the diagnosis and treatment of eye disease.
- After graduating from medical school in Switzerland, it is up to the trainees to fulfill the requirements for board certification.