

Surgical Training in Chile

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Chile has 16 million inhabitants. There are currently 24 medical schools throughout the country. Eight are located in Santiago, the capital, and only 12 have been accredited by ASOFAMECH (Asociación de Facultades de Medicina de Chile). Among them, the associated postgraduate schools offer different specialization programs, including training in general surgery once a medical student obtains an MD degree. The duration, objectives, and contents of these different programs are quite similar, but only the programs of the postgraduate schools that are members of ASOFAMECH are accredited or recognized by CONACEM (Comisión Nacional de Certificación de Especialidades Médicas). However, general surgeons who have graduated from non-ASOFAMECH medical faculties' programs must take a theoretical exam and a practical exam from CONACEM. Once a fellow of these programs finishes the training program and passes his/her final exam, he/she obtains the degree of Specialist in General Surgery recognized by the Chilean Ministry of Health.

The Universidad de Chile (State Public University) and the Pontificia Universidad Católica de Santiago have their own hospitals and only part of the rotations and program contents are carried out in the Ministry of Health hospitals. On the other hand, with regard to private universities' specialization programs, some non-ASOFAMECH members prefer to carry out their clinical programs in their private clinics, Armed Forces hospitals, and some regional hospitals, which could mean an enormous difference in clinical practice opportunities, management of different pathologies, and quality of the formation of the student as a

general surgeon. Furthermore, private universities do not have the same level of development in terms of surgical investigation as do ASOFAMECH university members. In other regional state universities, state hospitals located in the corresponding region are used.

The General Surgery specialization program offered by the postgraduate schools generally lasts 3 years. The basic requirement for entry into the program is a surgeon's degree comparable to one obtained at a domestic or foreign university, which must be duly accredited, and passing an exam. These programs include basic formation activities, investigation, and clinical practice. A summary of the main characteristics of the General Surgery training program in Chile is presented. The majority of the training programs in Chile have very similar objectives and contents.

General objective

The general objective of a General Surgery training program is to form and train specialists in the diagnosis and integral treatment of patients with illnesses who require a surgical treatment. At the end of the program the student should be able to:

- describe the biological and morphofunctional bases of the pathology and surgical therapeutics
- properly define the diagnostic analysis of the surgical pathology to be treated as well as the concomitant diseases, and acquire in-depth knowledge of the different diagnoses corresponding to each surgical syndrome
- define and properly direct the therapeutic plan and need (if necessary) for consultation from other specialists for treatment of surgical diseases

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- know and be able to perform in a quick, efficient, effective, and skillful way the most adequate techniques and surgical procedures included in this General Surgeon Program that are required for treating the surgical pathology
- design clinical investigation studies in accordance with the scientific method.

Study program

The program includes the following courses discussed below.

Theoretical course on surgery

This course seeks to provide the student with a solid background of knowledge of anatomy, physiology, physiopathology, biology, and pharmacology in order to form a homogeneous group of students that is able to handle conceptual problems on the most demanding level and any problems that derive from different medical and surgical pathologies. By passing this course, the student will be able to accurately describe, diagnose, and manage surgical pathologies and their complications as well as integral perioperative management. Furthermore, students will acquire the bases needed to conduct clinical investigations. They must carry out and write a research paper during his/her scholarship which is evaluated by the department committee. This investigation must be presented at a scientific event and/or published in a biomedical journal that has an editorial committee.

General surgery scientific bases

This course includes the following activities which are carried out over the 3 years of the program:

- Theoretical course: “Biomedical Bases of Surgery”
- Theoretical course: “Basic Oncology” (elective)
- Theoretical–Practical course: “Investigation Methodology” (elective)
- Course: “Basic Controversies in Surgery”
- Course: “Basic Surgical Techniques”

Practical training in surgery

The development of this program is carried out by professors through rotations supervised by tutors. Some courses require several rotations while others require a rotation that is carried out when a course is extended. The tutor supervising each rotation programs the student’s participation in different activities, both theoretical and

practical, carried out by the work group. The tutor also requires the student to perform bibliographic reviews in addition to presentations to his/her work group or at meetings held by the department or staff professors. The student must also present clinical cases and reviews and attend diagnostic and treatment procedures.

“Emergency Surgery” (3 years training in emergency unit)

“Surgery of Head, Neck, Breast, including Plastic and Reconstructive” (6 months)

“Thoracic Surgery” (3 months)

“Digestive System and Abdominal Surgery” (14 months)

“Vascular Surgery” (4 months)

“Management of Critical Patients” (3 months)

“Elective” (2 months) 1-month rotation through hospital units in order to acquire further knowledge in an area of the student’s choice

Evaluation

At the end of each rotation, the student is evaluated on the following: (1) knowledge (theoretical exam), (2) attitude and habits (daily evaluation), and (3) skills and abilities (daily observation and practical exam). Every 6 months, at the end of each postgraduate academic semester, the department director or head professor must send the Semester Evaluation Act to the Postgraduate School Board, in which each student’s performance is specified in addition to the passing or failing grade of the student in the courses and rotations.

At the end of the program, the department director must send to the Postgraduate School Board a final report on the student’s fulfillment of the program, specify the main achievements of the student with regard to the main programmatic and extraprogrammatic activities, and his/her judgment of whether the student should have access to the final exam. A complete list of the surgical procedures performed by the student either as the surgeon or assistant must be attached to the report and duly accredited with an authorized signature. Failure to pass a practical surgical course because of habits, attitude, abilities, or skills will result in the immediate expulsion of the student from the program.

Final exams

Once the study program’s courses have been passed with a favorable report by the tutor, the student may request a date for the final exam. The final exam is a practical exam taken over 5 working days at an accredited specialty service.

Minimum passing grade is 5.0 on a grade scale from 1 to 7. Once the student has passed the practical exam, he/she takes the final theoretical exam conducted by five professors and headed by dean of the School of Medicine or a representative, the Postgraduate School director, and three professors of the specialty. The final exams are the last step of the program and they are mandatory in order to obtain the specialist degree. If a student does not pass the final exams, he/she does not receive the specialist degree.

Recently, a permanent teaching commission was created by the Society of General Surgery of Chile which issued general guidelines for the training of surgeons in our country. This commission created a document published in the *Chilean Journal of Surgery* that established the definition of a general surgeon and defined surgical specialties, minimum requirements that must be met in a surgical training program, and the contents and duration of the program, with the goal of maintaining a high standard of surgical training in the country. Most surgical programs in Chile comply with these requirements.

There are programs in different postgraduate schools that offer specialist training in other subspecialties.

Derived subspecialty programs

Some ASOFAMECH Faculty of Medicine postgraduate schools offer additional degrees as specialists in different areas derived from general surgery which require 2 more years of training. These subspecialty areas are Digestive Surgery, Coloproctology, Vascular Surgery, Cardiac Surgery, Thoracic Surgery, Oncological Surgery, and Endocrine Surgery.

The general surgery programs are published each year on the respective web sites of each postgraduate school and an interested party must send his/her application and curricular background information, which is analyzed by and subjected to a verdict of each program's acceptance committee.

Some private or state-run universities' surgery departments offer other programs on specific topics or areas as postgraduate courses (e.g., advanced laparoscopic surgery or obesity surgery). The following courses are other modalities that do not lead to a degree as a specialist:

- A. One-year surgical training course that offers basic skills and knowledge that are prerequisites for a specialist program.
- B. Other skill training courses: 6-month courses that provide knowledge and skills for a highly specific technique or area for practicing surgeons who wish to gain further knowledge in said area, or for training surgeons in a specific surgical technique.
- C. Ongoing study programs: intense short-term courses based on specific topics organized by the postgraduate schools through their respective departments of surgery or through national surgical societies which form a part of the accreditation and reaccreditation requirements that surgeons must comply with in Chile.

These surgical training programs, skill training, postgraduate courses, and ongoing studies that continue through different models can increase the surgical standards in our country. In fact, the Chilean Ministry of Health has made this mandatory, thus guaranteeing quality care for the people.

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