Advances in post-residency programs: development of a shared basic reference framework

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INTRODUCTION

Increasingly, specialist education and post-residency training continue within hospitals and clinics to focus on more specific specialties of the Orthopedics and Traumatology field. This is also true for other specialties, such as general surgery, urology, neurosurgery, among others. Although Orthopedics and Traumatology is not considered as a core subject by health regulatory agencies, it is so from a functional point of view. After graduation, in Argentina, some physicians choose to continue with postgraduate training, specializing in some medical field. In the case of Orthopedics and Traumatology, four years of training are dedicated as specialists in accredited centers. At the end, and especially in urban areas of great complexity and development, physicians need to do more training in subspecialties. Permanent CPD courses, increasing know-how, professional and legal responsibility, and the demand for healthcare providers and of the population itself require it. The growth of subspecialties and their development have led to the creation of units and even dedicated services for different aspects of Orthopedics. They have even been enriched by the incorporation of other medical disciplines; examples are the spine, or spinal specialty, that has incorporated neurosurgeons; and the hand, that has been flourishing with plastic surgeons.

Currently, many Orthopedics and Traumatology Services, accompanied by the development of subspecialty training, have formed specific sectors and teams: Hip and Knee, Spine, Hand and Upper Limb, Foot and Ankle, Pediatric Orthopedics, Oncology, Neuro-Orthopedics, Trauma, Sports, Arthroscopy, and the list is likely to grow. In some institutions, certain Orthopedics subspecialties have already been constituted as Services. In these settings, units or teams allow graduated physicians from the Traumatology and Orthopedics Residency Program to continue focusing their knowledge and skills on a specific subject. This is nothing new but has been very useful for gaining knowledge and increasing quality standards, both medical and educational. Over time, the need to agree on some common aspects, such as name of the program, time required and syllabus, has been observed. There are some similarities, as well as great differences, among different post-residency training programs. It is clear that each one of them can have different time requirements within the syllabus, but in this and other matters, they should adopt a shared framework of basic aspects on which they agree.

In 2014, the Committee of Residents and Equivalent Systems of the Asociación Argentina de Ortopedia y Traumatología (Argentine Association of Orthopedics and Traumatology) led the statutory modification of the Association regarding specialization programs in Orthopedics and Traumatology, and those involved in the program. The role of the Committee is aimed at the control, evaluation, accreditation and support of educational systems for physicians seeking their main and subspecialization by means of Residency and Internship Programs, Fellowships or any other kind of specialist training in a subspecialty.

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Since then, one of the lines of work has been to devote to the study of what the situation is and develop a strategy to determine, in consensus with the different Associations and Societies, minimum criteria and recommendations for post-residency programs. The objective of this work is to propose a reference framework for such training.

METHOD

In the last four years, group meetings were initially held with the Chairmen of the Associations and Societies of our specialty. Then, we met individually with the representatives of said entities. During 2018, we reached out to Education specialists who contributed their perspectives and designed a meeting methodology to discuss and define a basic preliminary document that would serve as a reference framework for post-residency training. All the Associations' and Societies' representatives were asked to attend. Four meetings were held, lasting two hours each, in which the main focus was participation of the experts in the different subspecialties, as well as team work. The work methodology, during the first three meetings and after a conceptual introduction, was as follows: the representatives, together with members of the Committee of Residents, were divided into groups and discussed the proposed agenda for each meeting. At the end of each session, conclusions were presented. At the last meeting, the final document was formatted and drafted (**Annex**).

DISCUSSION

Since 2007, the American Academy of Orthopedic Surgeons (AAOS) and the American Orthopedic Association (AOA) have tried to promote a coordinated process for post-residency training or fellowship.[1] Ninety percent of Orthopedic residents continue their training as fellows, according to what several authors report in the US.[2] Medical education is increasingly longer. Residency is structured and accepted with matching definitions, teaching and evaluation methods that have already been assessed. With more or less differences, programs are developed according to the complexity and need of the different healthcare/teaching centers. In fact, post-residency training that has long been implemented in our country has a high degree of focus on some disciplines, such as the specialization course of the Hand Association. There are also many training programs offered by Societies or different centers specialized in spinal surgery and adult reconstruction procedures (hip and knee). Pediatric Orthopedics also has a basic training program in some pediatric centers. However, in certain situations, uncertainties have been observed regarding program names, duration, syllabus and recognition.

The name of said training is still uncertain in our country. The word *fellow* is an anglicism in Spanish, but it has been accepted in practice. The other option is *grant recipient*, although it has, by definition, a different connotation. In any case, it is important to determine a definitive name in order to classify and distinguish between internships, grants and fellowships, because all of them will have different training and recognition, especially for potential certification purposes.

Duration, closely linked to the program's name, is important for the development of a teaching framework. A type of internship with weeks of inactivity, called *concurrencia* in Argentina, is not the same as a conventional internship that has physicians working for months or years. Although these are extreme cases that cannot be confused, there are several grey situations that may be unclear. The Spinal Conditions Unit of the Hospital Garrahan in Argentina has grant recipients chosen by contest who remain on the program for one or two years working full-time in meaningful tasks and within a teaching framework. The same can be observed in other public or private healthcare settings. In the US, most orthopedic fellowships last for one year.[3]

Syllabuses differ in their content and perhaps in their duration, but not in the objectives and the dynamics of education, as well as in the responsibilities and the specificity of the work carried out during the program. We found a need to reach consensus on the common aspects of various specialties.[4] In the US, subspecialties use one of the following three systems that also incorporate residencies: San Francisco Matching Program, National Resident Matching Program, and American Shoulder and Elbow Surgeons Fellowship Matching Program.[2,5] A significant number of physicians complete two usually related programs: spinal deformities and minimally invasive surgery, and sports and shoulder/elbow. In 2017, positions offered in the US were as follows: Spine 123, Adult Reconstruction Procedures 156, Foot and Ankle 74, Sports 226, Trauma 84, Pediatrics 75, Hand 176, Shoulder and Elbow 44.

The fundamental mission of post-graduate medical education is to train these young people to become future professionals and members of the academia. Training in orthopedic surgery is primarily and initially directed towards the resident's global education. Subspecialty training during a fellowship is also important and necessary, although more specific.[6] It is true that teaching limitations could arise between one and the other. It could happen that the activities necessary for practical training have to be shared. However, Allen states that the educational process that occurs during a fellowship can have a beneficial effect on the residents' learning process, and vice versa.[7]

In summary, the objective of our work is to coordinate training programs in different specialties of basic Orthopedics. The Asociación Argentina de Ortopedia y Traumatología, as the parent entity of all orthopedic specialties, has deemed it necessary to promote and develop this important task. Our work can help both program directors and professionals in training. We understand that we have a long road ahead of us regarding implementation and objectives, which entails, among other things, the analysis and definition of student openings offered and covered, which will result in the definition of healthcare trends in our field of work.

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ANNEX

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Minimum criteria and recommendations for post-residency training in Orthopedics and Traumatology

General considerations

It is increasingly common for physicians who have completed residency to choose to continue their training in specific fields of Orthopedics and Traumatology. This training also requires an in-service educational experience, developed in Orthopedics and Traumatology care units. Currently, there is little agreement regarding the minimum conditions of this educational phase and a great difference in terms of training offers.

The joint Working Group of the Steering Committee and the Committee of Residents and Equivalent Systems of the Asociación Argentina de Ortopedia y Traumatología (Argentine Association of Orthopedics and Traumatology) invited the representatives of member Associations and Societies to exchange different perspectives. It was proposed to create a work space that would allow consensus on the minimum training conditions in order to promote the quality of post-residency training offers and thus ensure an equivalent educational experience regardless of the care units where they are developed.

This document aims to provide minimum criteria and make recommendations with respect to the following subjects:

A. Name
B. Duration
C. Admission
D. Syllabus
E. Conditions of the training venue
F. Training activities - Medical, non-medical and research
G. Faculty
H. Evaluation and supervision
I. Minimum contracting conditions

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A. Name

The name of the training program is key to develop the training proposal, analyze equivalences and provide certifications and/or degrees. It is recommended to standardize different programs towards a post-residency training name. At the moment, this type of training is frequently named Post-graduate Specialty Grant or Fellowship.

B. Duration

The duration will be expressed in months, and the workload in number of hours of weekly dedication.

A part-time dedication of a minimum of 12 months and a minimum workload estimated at 30 hours per week is recommended. During this time, physicians should carry out educational medical and non-medical activities. Shorter or longer training can be acceptable if an educational program is developed to support it.

C. Admission

The training center must clearly establish admission criteria and mechanisms. The following will be a requirement to access post-residency training:

- Full residency held at a training center accredited by the AAOT in adult or pediatric orthopedics and traumatology, or a specialist certificate awarded by the AAOT.
- Completion of the bi-annual course of the AAOT.

Member Societies may determine additional requirements.

Our recommendation is that post-residency training be adapted to the residency training calendar (June to May).

D. Syllabus

The syllabus is a key tool for educational management, and it is the document by which applicants gain more information regarding the program.

It is necessary to define a basic common structure for all the programs and ensure the periodic updating of them from a disciplinary and educational point of view.

Syllabuses will include information regarding:

- Background of the program.
- Graduate profile.
- Learning objectives.
- Faculty.
- Minimum contents.

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- Learning activities (both medical and non-medical).
- Evaluation and supervision methodology.

Note: In order to assist in the preparation of the syllabuses, we propose a future development of an Instruction Manual for the faculty.

E. Conditions of the training venue

It is recommended that the post-residency training program be developed in medical units accredited by the AAOT and the member Societies. In the case of lack of accreditation, and in order to ensure the quality of the training offered, the following conditions of the medical unit should be considered:

- Existence of other residency, internship (*concurrencia* in Argentina) or post-residency programs.
- Graduate students or professionals from other medical units are welcome as *concurrentes*.
- Professionals in training are integrated into the health team formed by professionals and/or specialties that demand training in the corresponding field of work.
- There is a sufficient number and variety of reasons for consultation and/or patients to train professionals in the corresponding field of work.
- There is access to diagnostic services (imaging, pathology, clinical analysis) and referrals.
- It has a physical or electronic library and access to databases free of charge for professionals in training.
- There are adequate physical settings to develop non-medical training activities (see point F).

F. Training activities - Medical, non-medical and research

In relation to the activities developed during the training, the following must be assured:

F.1. Medical training activities: activities that are the core of the field of work. For example: patient care in the office; hospitalization and emergencies; participation in surgical and/or postsurgical diagnostic procedures, referrals or others. Each training program may also define specific and relevant practices for its field of work, as well as the minimum number of essential practices for training, if considered of interest.

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F.2. Non-medical training activities: it is essential that the program offers professionals in training the possibility of participating in informal exchange and discussion settings on daily practice, since it is an important component to achieve professional expertise. Programs will guarantee a minimum syllabus that includes activities such as: athenaeums; hall passes; lessons; case discussion; simulation practices; systematic review of medical records; guided literature searches; participation in relevant conferences or seminars in the field of work, or others.

F.3. Research activities: it is recommended that the program offers the opportunity to participate in research activities with increasing levels of responsibility towards a research project throughout the training program. Physicians are expected to have the opportunity to participate in different times, phases, and research tasks, e.g. literature search; data collection, processing and analysis; communication of results.

As a guideline, the following estimated weekly time distribution is recommended by activity type:

70% of medical training activities

25% of non-medical training activities

5% of research activities

G. Faculty

In-service training is key, so the faculty must be trained to leverage the educational potential of daily practice for the training of new professionals. Thus, it is necessary to train the faculty so that they are able to plan that teaching-learning process in practice, depending on the particulars of each medical unit.

As mentioned in point D, the syllabus will specify the faculty responsible for the training and supervision of the professionals in training.

In relation to the highest responsible person for the program, it is expected that:

- They have certification and/or an equivalent recognition in the field of work.
- They are a member of the AAOT and/or its member Associations/Societies.
- They ensure the coordination and supervision of compliance with the syllabus.

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The accrediting entities of the health sciences training estimate that the director / head teacher (or who he delegates) must complete a minimum of 50 hours teacher training clock in teaching.

H. Evaluation and supervision

The evaluation of professional performance requires continuous monitoring of learning, both in relation to theoretical knowledge and surgical skills.

In order to properly monitor the training process and its results, the following must be assured:

H.1- The syllabus for the faculty should include the evaluation and supervision methodology defining those in charge, evaluation times and methods to be used for that purpose.

H.2- Have at least one standardized instrument for the global evaluation of professional performance. The evaluation of surgical skills can be carried out by surgical competency assessment rubrics.

H.3- Have a formal evaluation feedback session, jointly defining progress, difficulties and guidance on possible make-up activities, if necessary.

H.4- At least one exam will be included at the end of the training, as well as and a final global exam.

It is important that the evaluators create a learning setting that stimulates exchange, reflection and active participation of professionals in training.

I. Minimum contracting conditions

Given that the training requires a broad workload and that trainees have a specialist certificate—or is in the process of obtaining one—and is going through the second stage of training, it is recommended that they receive a monthly compensation that is defined and communicated clearly and precisely prior to the start of the training, as this contributes to the quality of the contracting process.

In turn, professionals in training must have health insurance, malpractice insurance and occupational risk insurance (ART in Argentina) when beginning their training.

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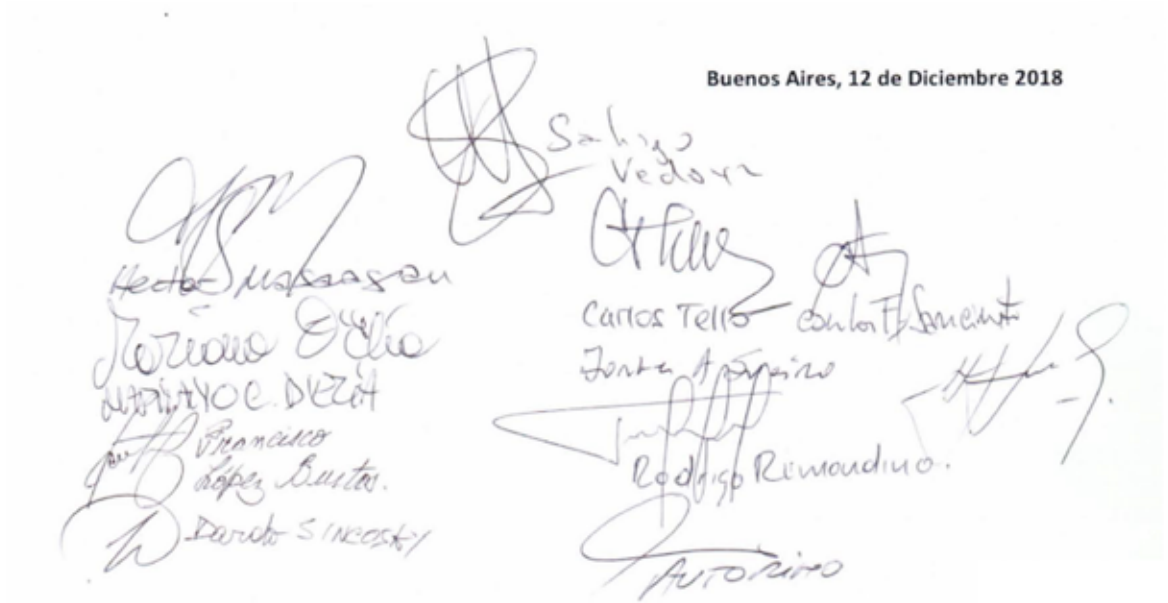

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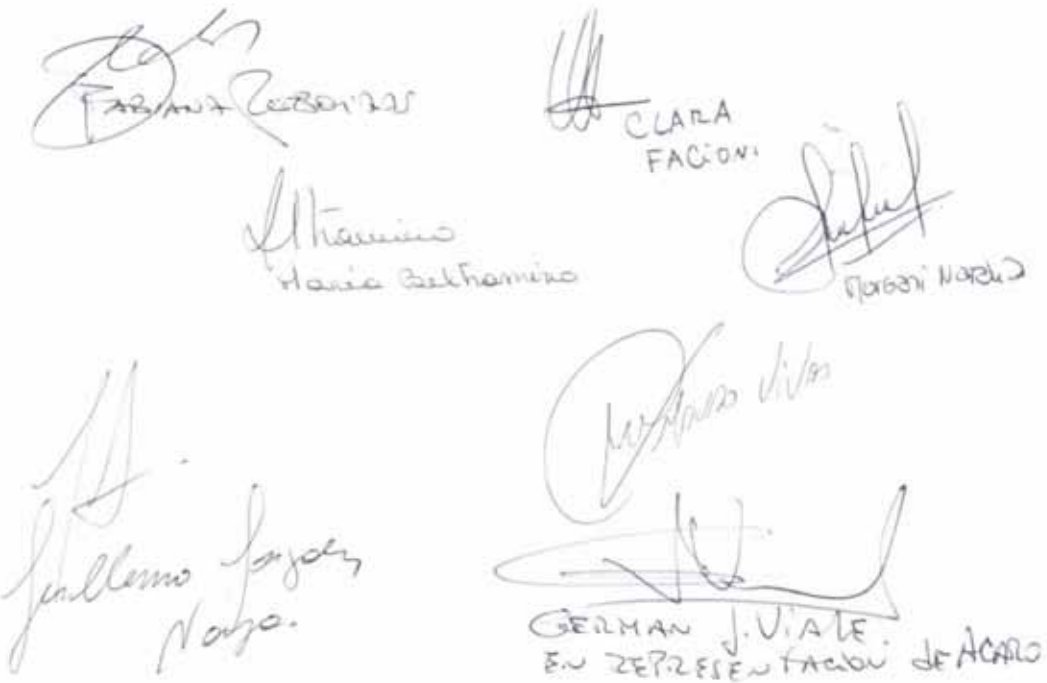

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