

Paediatric Orthopaedics *A Chore or a Challenge?*

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Our specialty, Orthopaedics, as we all know, is the branch of medicine, of surgery in fact, which deals with the function of the musculoskeletal system and involves the prevention, treatment and restoration of congenital and acquired diseases and injuries.

For centuries, diseases of the musculoskeletal system, and especially injuries, were a “job” of the General Practitioner and the General Surgeon. Fractures, in particular, used to be the “territory of specialized Bone Setters”. Gradually, and particularly the last two or three centuries, physicians started to focus their scientific interest on musculoskeletal system, thus “sowing the seeds” of Orthopaedics.

However, particular emphasis was given to the musculoskeletal system and its ailments by the father of medicine, Hippocrates, who, in its everlasting work, makes extensive reference to injuries as well to congenital abnormalities and other Orthopaedic conditions.

The first use of the term “Orthopaedics” was made over two and a half centuries ago, by Nicolas Andry in his classic textbook “Orthopedie” which was published in Paris (1741) and in London (1743). Thus our specialty gained a name and nowadays it can celebrate 275 years of official existence. From then, much time was to pass before our specialty escaped completely from the “embrace” of General Surgery and with the help of the technological advancement, progressed by leaps and bounds to the point which we all recognize today.

But this same specialty of Orthopaedics, like every young sapling, developed, sprouted and acquired many branches and twigs which gradually began to separate into subspecialties. One of these is Paediatric

Orthopaedics, which has already passed from its empirical form into scientific theory. One might justifiably wonder whether this “fragmentation” of our specialty, or of any specialty, is scientifically correct. Will we eventually go to greater extremes? Will we have, say in a few years, one surgeon for the right hand and another for the left? Certainly not!

As regards the area of Orthopaedics which relates to children, I would like to be permitted to raise the following simple arguments:

1 The organism of the infant and child is not that of a small adult, but has numerous and central peculiarities that, in my opinion make it quite distinct. The potential of dynamic development and growth differentiates it from the anatomical and physiological point of view. The presence of growth plates creates conditions which pose problems in the treatment of certain diseases and so excludes methods applied in adults.

2 The capability of rapid response in healing and the union of fractures is taken for granted in children, while the process of remodeling physiological function often leads to surprises, positive or negative.

3 The tolerance and resistance of the child’s joints to immobilization is also taken for granted. Furthermore, the effect of heredity must be investigated by means of a discreet examination of the parents or, if this is difficult, through appropriate questions.

4 The manner and the behavior of the doctor towards the orthopaedically sick child, while obtaining the history, the in-hospital treatment, and the subsequent follow up, require special attention and ability, since we all know that parents and children often mislead us by focusing the symptoms on a point far away from the afflicted region.

EDITORIAL

5 “Informing the parents”: In my opinion, this is one of the most important, perhaps the MOST important, of the doctor’s duties and obligations. Without doubt, it demands time, patience and persistence.

Imagine a young couple who have just had their first child, who presents some skeletal deformity or congenital musculoskeletal malformation, or who after a difficult birth, has a brachial plexus injury.

6 One other particularly difficult mission for the Orthopaedic specialist involves the cases of musculoskeletal malignancies in children. In such cases, the doctor is expected to offer, above all, psychological support and encouragement to the anxious parents.

Of course, Paediatric Orthopaedics has not been formally recognized; however in the mind of the Orthopaedic Surgeon there is a tendency to refer paediatric orthopaedic cases to those more specialized.

The widening of the field of General Orthopaedics, in combination with technological progress and the scientific and civil responsibility of the Orthopaedic Surgeon, requires under present conditions that the trainee, in the course of his/her training should have at least some basic knowledge of the orthopaedic problems in children. And this is not so that he/she will be in a position to treat every paediatric orthopaedic condition, but so that he/she at least will be able to differentiate the pathological from the physiological in borderline cases. Thus he/she will be in a position to guide the parents appropriately, rather than leaving them in the distressing state of complete ignorance and under a psychological burden, especially in cases when they are unable to consult someone else or to refer the case to a specialist.

Let us imagine here a simple case of a pulled elbow, which might cause difficulties to someone who had no contact with Paediatric Orthopaedics in the course of his/her training. He/she perplexedly examines the small child, asks for X-rays of the elbow, shoulder, and so on, but is unable to relieve the child’s suffering or to reassure the parents. Of course, he/she may be lucky in that, during the manipulations or automatically during the positioning for the X-rays, the condition might be resolved. But if this does not occur, and the parents seek the assistance of another Orthopaedic

Surgeon who has served in a Paediatric Orthopaedics department, or who has at least seen such a case once before, then the well-known simple manipulation will free both, the child from the pain and the parents from their anxiety. And this will surely cause at least a “pang of conscience” to the first unfortunate physician.

Another factor which further reinforces the importance of this field is the publication of special medical journals on Paediatric Orthopaedics, the appearance of special chapters on the topic in older journals and, especially, the publication of textbooks devoted exclusively to Paediatric Orthopaedics.

At this point, we should note and reflect on the fact that the first textbook, by Tachdjian, which was written purely about Paediatric Orthopaedics was only published in 1971(!), while later, and in particular during the last ten years, there have been repeated editions of textbooks on General Paediatric Orthopaedics as well as monographs on special Paediatric Orthopaedic topics.

How, though, do we come to be talking about Paediatric Orthopaedics? The great revolution, the recognition of the right and the obligation of a group of colleagues to practice with special interest in the orthopaedic problems of childhood, came from America, led by William Green, who is considered to be the father of Paediatric Orthopaedics. So, in 1971, the Paediatric Orthopaedic Society of America was formed, consisting of 11 members. A little later, in 1974, another small group of American Orthopaedic Surgeons with common interests founded the P.O.S.G. (Paediatric Orthopaedic Study Group). These two groups united in 1983, to form the well-known P.O.S.N.A. (Paediatric Orthopaedic Society of North America), which gathered into its fold all the American Orthopaedic Surgeons who were involved with Paediatric Orthopaedics. Around the same time (1982) Europe too found its Paediatric Orthopaedic voice with the creation of the European Paediatric Orthopaedic Society, (E.P.O.S), of which I had the privilege to be among the first members.

In Greece, many years ago, those involved in Paediatric Orthopaedics formed a group and, in regular meetings in the Paediatric Hospitals, in Athens, in turn,

we had an exchange of views and discussions of cases, while at the same time we participated regularly in the official annual congresses of the E.P.O.S.

In 1989, the Section of Paediatric Orthopaedics was created within our big mother Society (E.E.X.O.T) and now has around 40 members from all over Greece. As I mentioned before, the Orthopaedic Surgeons who were involved in Paediatric Orthopaedics took these initiatives out of a need for scientific information and discussion. Events, however, have overtaken the status quo and have brought to light new difficulties and questions.

Should the aspiring Orthopaedic Surgeon come into contact with or practice in general or specialised Orthopaedics during his/her training and, if so, for how long? In such a case, would this be beneficial both for the doctor and patients? Is it a waste of time, or is it an opportunity for the trainee to get to know corners of his/her specialty which have both great scientific interest for him/her and essential significance for the orthopaedic well-being of children?

In practice, a universal system on the necessity and the length of time devoted in training in Paediatric Orthopaedics does not exist. In U.S.A the Fellowship in Paediatric Orthopaedics is obligatory for somebody wishing to practice Paediatric Orthopaedics. In Greece, training Paediatric Orthopaedics is not compulsory. Only ten to fifteen percent of the young trainees, of their own volition and on their own initiative, are formally trained for six to twelve months during their six years of specialization. Twenty years ago, a new law of the Ministry of health was voted requiring one year in Paediatric Orthopaedics ("cold" and trauma), but NEVER was applied in practice.

In March 2015 E.F.O.R.T, (European Federation of Orthopaedics and Trauma) in which E.E.X.O.T (Hellenic Association of Orthopaedics and Traumatology), is a founding member published the so called European Curriculum in Orthopaedics and Trauma, as European Education Platform. Hoping that this will be the starting point of an acceptance of guides, at least for Europe!

As we can see, things have been straightened out, and

currently it is an established necessity that the training in Paediatric Orthopaedics is compulsory for a period of six to twelve months.

Some years ago, I sent to all the Orthopaedic Clinics (University and State Clinics that are formally recognized for Orthopaedic training) throughout Greece, a questionnaire about their capabilities of dealing with Paediatric Orthopaedic cases and their thoughts on the necessity of formal Paediatric training during the specialization. Most replied, which showed the real anxiety and difficulties, and it was mainly those who do not have Paediatric Orthopaedic cover and are unable to cooperate with nearby special centers in their region (particular geography, with many islands and remote areas). They were unanimous in agreeing that trainees, in the course of their specialization, should receive formal training in Paediatric Orthopaedics too. Of course, nowadays the "new generation" of Doctors are more privileged, as they can easily access sources of Paediatric Orthopaedics, such as distance e-learning, special national or inter-national meetings, conferences etc. But allow me to say and remind what, our Professors and Mentors at the University used to say: "Medicine is learned at the side of the patient – child."

Finally, is Paediatric Orthopaedics a CHORE or a CHALLENGE?

I think we all agree that it is not a chore, but an essential component of the whole for every doctor who has chosen the Orthopaedic specialty. Is it though a challenge? I think that the answer to this question is positive and arises from, among others, the enthusiastic opinion of those who have approached it, have got to know it, as well as from the perplexity of those who have ignored it or, for reasons apart from their own choice, have not had the opportunity to encounter it.

However, it is never too late. Even now let there be a start, a leap forward, and from here on let us offer this challenge to the young future colleagues within our Specialty. The childhood population of Greece (0-14years) is estimated about 2.000.000. I think all these children deserve the best Orthopaedic health! 