

Research

OrthopEdics not OrthopAEdics: If it's all Greek to you, let a Greek Explain it!

Nikolaos Christodoulou*

*Athens Medical Group-Iatriko Psychikou Clinic, Andersen 1, Neo Psychiko, Athens 11525, Greece

Keywords: Orthopedics; Orthopaedics; Orthopedics Writing& Spelling; Orthopaedics Writing; Orthopedics Etymology; Orthopedics vs Orthopaedics; Orthopedics Ancient Greek Etymology; Orthopaedics from Paidion

There is a considerable difference between the spelling of the word «Orthopaedics» and «Orthopedics»; in fact, the first one, («Orthopaedics»), is incorrect and inaccurate; it has been widely used and copied as the correct spelling of the term to which one commonly recurs in order to refer to the profession or specialty of «Orthopedics»; the spelling with an *-ae* derives from the French term, «*orthopédie*» used in Andry's book (written in 1741) providing instructions for the prevention of deformities in children; «*orthopédie*» is formed by the Ancient Greek word «*orthós*» (straight and correct) and «*paidion*» or «*paedion*» (=child), while the correct Ancient Greek etymology of the term «Orthopedics» («Orthopediki» in Greek) derives from the Ancient Greek word «*orthós*» (=straight and standing up) and the Ancient Greek verb «*ped-ó*» (=to prevent a distortion, commit, hold strong and steady, engage with brakes, keep something motionless, bind) or, from its derivative word «*pedion*», with an «e»; Orthopedics comes thus, straight from the combination of two Ancient Greek terms which embody and literally express, the Specialty of prevention and correction of deformities, in all age groups and not only in children. The word «*orthopedic-ós*» (=orthopedic doctor) is the direct adjective of the Ancient Greek verb «*orthopod-éo/orthoped-ó*» (=make someone standing upright or raise him upright on the ground, «*ped-ion*» in Ancient Greek).

The Purpose of this Study is:

- To explain the error of continuing to use the actual, widely used term «Orthopaedics» with an «*ae*» versus the correct one «Orthopedics» with an «*e*»
- To present and make widely known and understood to their core, the so-far, unknown and somehow, neglected Ancient Greek roots of this term and in which manner they relate to it and,
- To suggest the unanimous usage of the sole correct, spelling of this important medical and scientific term, that is only with an «*e*», by the Academic and Scientific Communities, definitely resolving

thus, the continuing «joke», as I perceive it, and the inconvenience caused by its double and different writing, both and mainly, in English and Greek.



The Ancient Greek verb *πεδῶ* «*pedó*» is already found in Homer, the Ancient Greek poet and author of Iliad and Odyssey; for example in Iliad's N435, the poet writes: «*pedisse de, faidima gyia*» (=he bound the brilliant members/limbs), indicating thus, that the correct writing is actually, the initial one, the most ancient,

***Corresponding author:** Nikolaos Christodoulou, Athens Medical Group-Iatriko Psychikou Clinic, Andersen 1, Neo Psychiko, Athens 11525, Greece, Tel: +30-21069.74.000/+30-6932665965; E-mail: chnortho@yahoo.gr/n.christodoulou@iatriko.gr

Sub Date: June 14, 2017, **Acc Date:** July 26, 2017, **Pub Date:** July 27, 2017.

Citation: Nikolaos Christodoulou (2017) OrthopEdics not OrthopAEdics If it's all Greek to you, let a Greek Explain it!. BAOJ Ortho 2: 013.

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based on which, the modern term was created [1,2,3,4]. In fact, the initial and precursor words of the term «Orthopedics» has been widely used correctly, for many centuries before being arbitrarily changed by Nicolas Andry, a French physician (1658-1742), to the neologism “*Orthopédie*” [5] (“*Orthopaedia*” in English) in a children’s book.

Unless the object of Orthopedics, as this evolved into a separate and distinct specialization throughout the last hundred years, is only related to children and has any notional connection with the original meaning of the term “*Orthopédie*” [5] that the French physician created, we should all agree that Andry’s etymology is the only correct one and the writing and spelling of the term «Orthopedics» must be with an «ae» as in «Orthopaedics». Obviously, Andry composed the term, consciously or not, without taking into consideration or even, without possibly knowing the pre-existing Ancient Greek verb «ped-ó» [1,2,3,4] and its derivatives in the Greek language «ortho-ped (pod)-ó» [3,4,6,7,8] that means «to walk upright, be straight on the field or soil», «ped-ion» in Ancient Greek and the Greek word πέδη «péd-i» (= to bind, to bond, to cuff, the barrier, the fetter) found also in Iliad’s N36 of the Ancient Greek poet Homer [1,2,3,9,10], all written with an «ε/e», not an «αι/ae». Under this light, I confirm that the sole and unique correct medical and scientific term is «*Orthopedics*» with an «-e», in Greek with an «ε» (=«*epsilon*»), which is the direct and self-evident objective of the ancient Greek verb «*ortho-po(e)d-ó*») deriving from the ancient Greek words «*orthós*» [3,4] and «*pedó*» from the roots («-ped/-pod») [1,2,3,9,10]. The alternative use of “o” and “e” letters in the same word was very common in the Ancient Greek language e.g. «*Lógos/Légo*» etc. When Paul wrote to the Galatians he said that Peter did not walk uprightly, according to the truth of the Gospel. Galatians 2:14. The Greek word here translated “walk uprightly” is the Greek word “ορθοποδέω/orthopodeo”, “ortho”(right), “podeo”(walk) [8].

Back in 1741, in Andry’s time, there were only few Greek academics with an excellent command of the Greek language; even the ones studying or living in France, aimed and worked towards liberating their country from the Turkish Occupancy and most certainly, could not engage themselves into explaining to a French physician which should be the most suitable words to use for this term, or how to spell and write it correctly; these were the pre-existing Ancient Greek words ortho-po (e)d-o, orthos and pedo, ped-ion (soil, field) or orthos and their derivative ped-i (Bind, bond, cuff, barrier) all written with an ε/e, not αι/ae. The problem is that these words have the same spelling with «paedion», «pédion» in French.

In this way, many English or American Orthopedic/«Orthopaedic» surgeons e.g. the members of the American Academy of Orthopaedic Surgeons (AAOS) who are not aware of the already cited correct and appropriate ancient Greek words,

have been misled to believe that, the only correct word for their Specialization is, in fact, the wrong one; Andry’s used words for children, «orthós» and «paedion» (child), are not the most suitable to express the whole object of Orthopedics. Unfortunately, the term «Orthopaedics» with an «ae» has been established, based on the second wrong synthetic word «paedion» (child) indicating it has to do with children and assuming that, all adult orthopedic surgeons specialize in «children», in «childish» or «only for children»... as it was described in Andry’s book.

The Orthopedic medical specialty is not a “book for children” but a specialization mainly addressed to adult patients, which primarily assists them in standing up, walking upright and in an «orthós» (=straight position, standing on the field/soil) and «pedion» in Greek, and on a second basis, a specialization that aims at rectifying and preventing deformities, concepts related with the ancient Greek verb «ped-o» and its derivatives, and certainly not with the word «paid-ion/paedion» (=child) as in Andry’s book. Ortho-ped-ic surgeons or doctors, do not “play” with «paidia/paedia» (=children) or don’t try to “become” nor «behave» like children. All are adults who try to correct or avoid deformities in every patient, not only in children.

The correct words to express the object of the ortho-ped-ic speciality existed and were being used for more than twenty centuries before Andry’s book for children. The Ancient Greek word ορθόπους/*orthó-po-us*” (someone with straight feet), and not «ortho-pai-us/ortho-pae-us», has been used by the Ancient Greek tragic poet Sophocles (496-406 BC); the term is composite from «orthós» (straight) and the derivative of the verb «ped-o» «po-us» (leg/foot in English, *pes/pedis* in Latin) [3]. The Ancient Greek word «ortho-pod-óússin» (=walking upright) found in the Holy Bible, [8] was equally formed using the root of the same verb «ped-ó», something that expresses that «Ortho-ped-ics» refers to all age groups.

Why do we consider as correct the derivative “ortho-paed-ics” of Andry’s term “*orthopédie*” [5] based on «paidion/paedion» (=child) and as false the self-evident derivative «ortho-ped-ics», object of the verb «ortho-ped-ó» [3,4,6,7,8] related to the object of Orthopedics as a whole? The sole correct term must not depend upon partial data taken from a “book for children” nor upon the erroneously used words of a French physician but, should be reasonably based on the knowledge of all historical and etymological data, available on this subject. The meaning of a term must be in agreement with its composite words. Ortho-ped-ic surgeons are not “ortho-paed-ic” nor are they, if one can say it this way, “*straight childish*” (literal meaning in Greek of «orthopaedic»)....The term «ortho-ped-ic» with an «e», not an «ae», is written in French as «*orthopédique*», in Latin «*ortopedico*» and in Greek, for over a century as «ortho-pedi-kós» with an «e», only.

It came natural to French and English orthopedic surgeons to connect the term Orthopedics/Orthopaedics with the words «paidion/paedion» (=child) of Andry's book because they assumed it's the same and because they did not seek advice from any reknown Greek linguist nor any educated orthopedic surgeon, who would have explained to them the long Greek history of the term *Orthopedics*. To top this confusion and make it even more complicated, an additional problem has emerged concerning this matter, this time, in Greece :in an attempt to match and to conform with the guidelines and terms used by the American AAOS Society, the Greek Orthopedic Society (EEXOT) -which up to the year 2000, was bearing its well known title, written only with an «e» and maintained that form for more than 50 years-decided, without obtaining the absolute majority of its members, to replace the term in question, with an«ae», thus, with the term «*Ortho-paed-ics*»! A new mistake copied by another one! In the majority of the Greek or related to Greek language dictionaries [3,4,9,11,10,12,13,14,15,16, 17,18,19,20]. it's written «Orthopedics», philologists and linguists know it as «Orthopedics» as well; they all wrote it with an «ε» («e»); this new modification directly ignores the root of the ancient Greek verb «ped-ό», most probably, in an attempt for homogeneity, which, as explained, is based on false data.

The term Ortho-ped-ics is also used in the Veterinary medicine; they use the correct term to express the correction of deformities in animals; the veterinary medicine e.g. uses ortho-ped-ic splints for dogs or for cats' fractures. Is it normal to commonly accept the use of the term «*paedic*» (= «children's and childish»)for both, children and animals? Is it normal that the term which always refers to our children, is being used to indicate corrections of deformities, in animals? The ancient Greek verb «*ped-ό*» and its derivatives contain and express the practice of correcting all kinds of deformities in human beings of all ages, not justin children. We do not use children «paid-ia/paed-ia», instead of ortho-ped-ic splints or methods, to correct deformities.

This is really a strange linguistic and cultural phenomenon, widely discussed in the circles of intellectuals, cultivated Greeks and the medical Community; to seek authenticity and accuracy for our Science and profession constitutes an intent to avoid cultural and linguistic discrepancies and distortions.

Unfortunately, because of this mix-up and the everlasting and continuous use of a false term, there are currently and over these last years, two different terms used in Greece: one is the term *Ορθοπεδική/Ortho-ped-ics* with an «e», used by nearly all educated Greek people who are aware of the Ancient Greek etymology of the word or prefer to write it similarly to the term "*orthopédie*" of Andry's book, and the other one is the «ridiculous» term, when it comes to adult surgeons, «*Ορθοπαιδική/«Ortho-paed-ics*» (with

an «ae») used by some of the members of new Greek "Ortho-paed-ic"...with "ae" Society and by near only one Greek linguist and his dictionary [21].

Another argument that questions the correctness of this spelling and writing is the fact that if, in every country,one had to literally translate the "etymology" of the already mentioned Ancient Greek terms, borrowed from Andry's book, then, for example, the Italian orthopedic surgeons should also be called with the ridiculous terms "*Orto-bambini*", "*Corretto-bambini*" or "*Dritto-bambini*"... the English or American ortho-ped-ic surgeons should also be called with the funny terms "*Ortho-childish*","*Ortho-infantile*", "*Straight-childish*" or "*Straight-infantile*"...and the French orthopedic surgeons "*Ortho-enfantains*" or "*Enfant-droitique*"... in their respective languages based on the incorrect second derivate παιδιον/paidion (=child).

In my opinion, the continuing perseverance to mistakenly use the wrong root of the wrong word in order to express our association with this particular science and profession, does not do count nor justiceto serious and educated scientists. The correct and appropriate term is only *Orthopedics*, written with an «e-ε» (epsilon) ; it's the sole correct term that should be unanimously, commonly, world widely used to refer to our specialty and to that effect, its spelling and writing should be reviewed by experts, adopted and adapted with an «e» in all languages; it should become the only term in all electronic or paper dictionaries referring to our profession and finally, all related terms, composite words or deriving from this, must be written following the same linguistic principles, based on the same non-distorted etymology of the word.

As additional supportive reference there is related vocabulary to the correct etymology of the term Orthopedics from the word «*orthós*» and the root «*ped/pod*» written with e/«e» (=epsilon in Greek) abounds in Greek literature; In the Greek and English Lexicon of HG Liddell & R. Scott, 1940, "*Ορθοποδέω/Orthopodéo*" (= to walk upright), "*όρθο-ποδ-ούσι/ortho-pod-oussi*" Επιστ, πρ. Γαλάτ, β', 14., "*Όρθό-πους/ortho-pous*"(= with straight feet) Νικ. Άλεξίφ, 419, "*Όρθο-ποδ-ητώ/ortho-pod-ito*", "*Όρθο-ποδ-ώ/ortho-pod-o*"(= I follow the straight path, I walk along a straight road) Ίσαάκ, Μεσοπ, 2, ίδε Αθηνάς τ. ΙΑ, σ. 494, "*Όρθο-ποδ-ίζω/ortho-po(e)dizo*"(= I follow the straight path, I walk along a straight road) Κέρδ, Ι. 80-18 [3,20].

In the intermediate Greek - English Lexicon, HG Liddell & R. Scott, Oxford, 1975 it is also mentioned that "aeolic type *πεδ-ά/ped-a* is coming from the roots -*πεδ/- ped* (πρβλ. *πε-ζός* in Greek, *pe-zos*, *ped-isequos* in Latin)", "*ορθόν/orthon πόδ-α/pod-a τίθημι*" (=stretch the leg straight ahead in English), "*πεδ-αίρω/ped-airo* εμαυτόν" (=I get up and go to another place in English), "*πεδ-άορος/ped-aoros*" (=the elevated above the ground in English),

“πέδ-η/ped-i” (=Bind, bond, cuff, barrier, fetter), “πέδ-ικλον/ped-iclōn” (=bond, cuff for feet), in Latin etymology ped-ica, ex-ped-io, im-ped-io (=fetter in English), and “εμ-πόδ-ιον/em-po(e)d-ion” (=obstacle, prevent) [4].

In the Thesaurus Linguae Graecae (T.L.G.) 1972, there are also the words: «Πέδ-η (ped-i), πεδ-ῶ (ped-o), πεδ-ῆσω (ped-isso), πούς (pous), ποδ-ός (pod-os), ποδ-ῶ (pod-o) and πεδ-ῶ (ped-o), («ο» transformed to «ε»), πεδ-ῆσαι (ped-issae), πόδ-ας (pod-as) and the phrases «παρὰ τὸ πῆξιον τοὺς πόδ-ας (pod-as), Ἰλιάδος ν'», «Ἄμφι δὲ ποσσὶ πέδ-ας (ped-as) ἔβαλεν» in ancient Greek) [11].

Almost all Greek dictionaries, except very few e.g. of Bambiniotis, [21] have the term «*Ορθοπεδική*» («Orthopedics») with an ε/e, as a first choice and not the incorrect for the orthopedic specialization term «*Ορθο-παιδ-ική*» («Ortho-paed-ics») with an αι/ae.

The somehow amusing, but still, unacceptable phenomenon of two different types of writing for a term, meant to identify one of the most important medical Specialties, as «Orthopedics» in Greek and Orthopaedics in English, cannot and should not go on indefinitely. The issue must be resolved and permanently corrected by a unanimously adopted decision by all orthopedic surgeons, globally, to use the only appropriate title for their profession, «Orthopedic doctor or surgeon». This spelling and writing with an “ε” is similar to the French “etymology” and term “orthopédie” established by Andry [5]. The term “orthopédie” was correct for his book and the correction of deformities in children but not to express the prevention and correction of deformities in all age groups and the whole content of the modern orthopedic specialty, mainly the correction of the deformities of the adults from adult and not child-ish or “paed-ic”...surgeons.

This major linguistic modification, implies the orthopedic surgeons’ global understanding on the matter, their unconditional cooperation into establishing one unique form of writing this word; in particular the members of all Orthopedic Societies in Greece, England and the U.S., mainly that of the American AAOS, who use and insist upon using only the words «*orthon*» and «*paedion*», should carry out a thorough study and research of all historical and etymological data, before Andry’s issuance of the book that caused all that stir and confusion, as well as, to understand the core of the problem and respect thus, the real correct quintessential ancient of Modern Medicine. If «*prognosis*» and «*diagnosis*», «*anatomy*» and «*gynecology*» are the only words that immediately and automatically come to mind when needing to perform or refer to what the words indicate (try to say «*anatomy*» otherwise) and have survived throughout the age of times, linking us directly to Hippocrates’ Ask le pion, why shouldn’t this apply to our word and «our world»? Why shouldn’t we restore the real ancient Greek word for the Orthopedics’ profession? We would

correct a really significant linguistic mistake, we would define the object of our specialty and would certainly restore Hippocrates’ intended original ancient medical vocabulary. I suggest we move along with the values that praise the authentic and the correct.

In conclusion, the only permanent solution in the future is the unanimous acceptance and adoption, on behalf of all orthopedic surgeons of the term *ORTHO-PED-ICS* including the correct root *-PED*, in all scientific magazines, Congresses, seminars and meetings and the rejection and definitive replacement of the incorrect title «*ORTHO-PAED-ICS*», mistakenly adopted and introduced by Andry’s usage of «*PAED-ION*» (=child)... We are not children nor childlike or childish to declare that we belong to a “*PAED-IC*” Community... or that we are members of “*PAED-IC*”... Societies.

Let’s just take things seriously for once!

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