

Секция «Иностранные языки в медицинском образовании: взгляд студентов, ординаторов, аспирантов, научных работников и практикующих врачей»

**A PRAGMATIC AND EMPIRICAL APPROACH
TO MEDICAL TERMINOLOGY INSTRUCTION:
FROM LATIN GRAMMAR TO PROFESSIONAL LANGUAGE LEARNING**

A. Beran, PhD, Associate Professor
Charles University
(Czech Republic, Prague)

DOI: 10.24411/2500-1000-2019-11284

Abstract. *The paper presents a fundamental qualitative shift in Latin medical terminology instruction at the First Faculty of Medicine, Charles University. The traditional Latin-grammar-oriented model has been replaced by the real-medical-terminology-oriented approach based on a radical redefinition of objectives. The two main principles of the new concept are selecting instructional content in (i) a pragmatic and (ii) an empirical or descriptive way. With respect to these principles, the instruction should reflect real medical professional language as a complex consisting of many languages (not only Latin or Greek) and language strata (especially Greek and Latin vocabulary in forms adapted to the national language). Students should only learn such language material that can be used in practice. The vocabulary should be learnt based on authentic medical texts in order to deeply understand the meaning of the medical terms and how to use them in proper collocations and contexts. This is why Latin grammar is perceived to be just a partial tool in building key terminological competencies.*

Keywords: *language for specific purposes, Latin medical terminology, innovations, instructional design.*

Introduction. The article presents a fundamental qualitative shift in Latin medical terminology instruction at the First Faculty of Medicine, Charles University in Prague. The shift is based on a radical redefinition of the instructional goals. Students are expected to acquire “basic terminological competencies” instead of command of classical Latin, which was required in the past. It means, in short, to master medical professional language in its complexity. With respect to this redefinition, medical professional language has begun to be taught as a Language for Specific Purposes and therefore the instructional content has been changed considerably. However, it must be stressed that to date the innovations we will describe below have only partially been implemented in the medical terminology courses, there are numerous others to be put into practice in the future.

Historical background. Between the late 1950's and early 1960's medical terminology became a fixed part of curricula at faculties of medicine in the former Czechoslovakia. Be-

fore the 1950's there was no need for such a type of instruction as students entering the faculties had sufficient language knowledge and skills in Latin and ancient Greek, acquired at secondary schools (gymnasiums), which were easily applicable in medical terminology. However, two school reforms in 1948 and 1953 interrupted the tradition of teaching classical languages at secondary schools. As a result, students with minimal language skills began to apply for medical study, which frustrated their teachers. Due to this, special courses of medical terminology were instituted [1; 2].

The grammatical model. The newly established medical terminology courses were perceived as a substitute to secondary-school Latin rather than as teaching Language for Specific Purposes. Therefore, the content of the course was designed according to the classical Latin grammar books. Students were expected to learn not only the complete nominal inflexion (including pronouns), but also the basic verbal system [2]. With respect

to the practical applicability, this approach seems to be very questionable, causing many of the following problems and issues:

(1) Students were trained to make all grammatical forms of words or phrases regardless of their usage in practice. For example, to make senseless plural forms of “*colon ascendens*”, “*penis*”, “*encephalitis*”, or to construct useless phrases as “*remedia contra tussim*”, although there is a term “*antitussica*” which is actually used. Thus, students were only expected to demonstrate their ability to use each individual grammatical paradigm. Being totally overwhelmed with the great bulk of grammatical forms and the exceptions, and confronted with inapplicable language material, they soon lost their motivation and were unable to master even the essentials.

(2) Focusing on Latin grammatical forms, the medical terminology instruction almost neglected the meaning of medical terms. Moreover, the vocabulary was grouped in accordance with the respective paradigms and thus prevented students from making logical associations between words and using them in proper collocations and contexts.

(3) The medical terminology courses did not reflect the real medical professional language as a complex consisting of many languages and language strata and instead focused on Latin grammatical forms. Basic Greek vocabulary was only accepted in order to analyse the meaning of clinical and pathological compounds. The other levels of medical terminology were entirely omitted, namely Latin and Greek terms adapted to a national language (For instance, alongside the original form “*encephalopathia*”, in medical reports we meet the form “*encefalopatie*” regularly, used and inflected as a Czech word [3; 583-584]), vernacular terms, English terminology (There are many special English terms which remain in the original form, either because of the fixed usage or because of translation difficulties, e.g. “*Huntington disease-like syndrome*” or “*non-pore-loop kanalopatie*”), eponyms, acronyms and abbreviations. As a result, the reality of medical terminology was dramatically distorted.

The innovations. In order to minimize the aforementioned issues, two main princi-

ples for redesigning a medical terminology curriculum have been set in selecting an instructional content: (i) a *pragmatic* and (ii) an *empirical* or *descriptive way*. In accordance with these principles, the following innovations have been implemented:

(1) A large amount of the grammatical forms has been pragmatically reduced. With respect to the anatomical nomenclature using Latin consistently, special attention has been paid to the anatomically relevant nominal grammatical forms (i.e. the nominative and genitive case of nouns and adjectives). Much less emphasis is placed upon the accusative and ablative cases, whose occurrence is limited to some prepositional phrases within clinical diagnoses. Some inapplicable passages of Latin grammar are completely omitted, such as three terminations 3rd declension adjectives, pronouns, how to make regular comparatives and superlatives. Students are only supposed to learn the important ones as separate words (like *major*, *minor*, *superior*, *inferior*, *latissimus*, *maximus*), and many others. In regards to the verb system, students learn only several selected imperative forms which can be used in prescriptions.

(2) The instruction focuses on the meaning of medical terms and their application in practice. The process of mastering the medical vocabulary, which should be considered to be more than the mechanical memorizing of a list of individual words, can be called *seman-tization*. Although there is still a grammatical principle in the division of vocabulary, as described above, at the same time there are several means facilitating students to deeply interiorize the medical terms learnt. First, while learning vocabulary students are given not only pure literal translations into their mother tongue but in many cases also descriptive explications as well as brief medical definitions or photographs and illustrations. This, of course, imposes a significant burden on teachers, who usually have a language-oriented education, requiring them to pursue permanent self-education in the natural sciences. Next, the vocabulary is contextualized by giving many authentic clinical diagnoses (For this purpose, the corpus of authentic medical diagnoses comprising several thousand units is used. This corpus was collected

at the Medical Faculty of Masaryk University [4]) through which students learn how to use medical terms in proper contexts and collocations. For instance, by comparing these four diagnoses: (i) *St.p. excisionem melanomatis reg. pector. l. sin.*, (ii) *St.p. extirpationem tumoris cerebri*, (iii) *St.p. resectionem sigmoidei propter ca*, (iiii) *St.p. ablationem mammae l. dx. propter Ca*, students are able to learn the factual difference between *excisio*, *extirpatio*, *resectio* and *ablatio* (The term *excisio* (excision) refers to a surgical (usually superficial) removal of a portion of a structure or organ, especially for the sake of histological examination. It can be connected, for example, with *melanoma*. The *extirpatio* (extirpation) is usually used for denoting a deep surgical removal of an entire tumor or diseased organ, e.g. in relation to lymph nodes or cysts. The *resectio* (resection) refers to the partial removal of an organ affected by a disease. It is often used with respect to organs of the digestive system or teeth. The usage of *ablatio* (ablation) is generally limited to the surgical removal of a breast or nails, or it is also used in the term “*atrial fibrillation ablation*” for the cauterizing cardiac tissue to disrupt the faulty electric circuits which causes arrhythmia).

(3) Clinical and pathological terms are presented not only in their original Latin forms and orthography, but also formally and orthographically adapted to the Czech language. In order to follow the principle of the descriptive way, medical terms should be given as they are used, not as they prescriptively should be used. This means that the main accuracy criterion is usage and convention and as such many terms which are incorrect in the view of grammar are even accepted, e.g. “*kolonoskopie*” instead of the prescriptively correct form “*koloskopie*”.

Perspectives. Despite the aforementioned improvements, terminology instruction is still focused on Latin grammar and formal language aspects. Therefore, in order to comply with the main instructional goal, which is to acquire “basic terminological competencies”, there are many other innovations to be made in the future, in particular with respect to the reflection of real-life medical terminology. We suggest the following:

(1) Students should gain a general theoretical knowledge of Language for Specific Purposes (LSP) as a branch of applied linguistics. It implies to learn medical professional language in the broadest sense, which means to be concerned not only in medical anatomical nomenclature and clinical and pathological terminology, but also in the language of medical reports as well as the nature of communication between healthcare professionals and between medical staff and patients. Having been instructed in this manner, students are supposed to be able to consciously adjust their language production in different settings. In this regard, there is a significant intersection with Medical Ethics, giving us an opportunity for fostering the desirable interdisciplinarity within medical curriculum.

(2) The processes and tools of medical language standardization and codification should also be outlined. Therefore, students should at least become familiar with important authoritative nomenclatures (e.g. *Terminologia Anatomica*, 1998), terminologies (e.g. *SNOMED CT*), classifications (e.g. *ICD = International Classification of Diseases*) and ontologies (e.g. *MeSH = Medical Subject Headings*). This field also gives opportunity for interdisciplinary relationships, namely with Medical Informatics.

(3) With respect to the interdisciplinarity, a closer cooperation with Medical Professional English teaching should be established for two reasons: Firstly, English professional terms are almost completely based on Greek or Latin vocabulary either in the adapted (e.g. *temporal process*, *hepatosplenomegaly*) or in the original form (e.g. *vertebra prominens*, *myasthenia gravis*) [6; 582]. Thus, while learning medical terms as they are used in the Czech Republic, students can easily master their English equivalents. As such, there is a suggestion to present the English terminological vocabulary alongside the Czech terms (not only as list of words, but also in connected texts) (This approach is adopted by some German medical terminology textbooks. For instance, [5]).

Secondly, there are many anglicisms in medical professional language in the Czech Republic, which is due to the dominant role

of English in scientific literature (To give an example of the predominance of English within Czech medicine let us state the fact that authoritative medical manuals such as ICD are, at the current time, usually translations from English).

Therefore, the knowledge of English medical terminology seems to be inevitable for Czech students and so there is no reason to teach it separately.

(4) In order to support proper semantization of the terminological vocabulary by means of contextualization, another distribution of the instructional content has been designed. Specifically, we suggest the division according to body systems instead of the Latin grammar paradigms (The division according to body systems is typical mainly for English textbooks, see e.g. [6]. However, we have also noticed this tendency in other languages, like German or Bulgarian. See e.g. [5; 7]).

(5) The two-semester medical terminology course currently taught in the first year of study would be expected to be more effective if it were divided into two distinct parts in two different years. The first part of the course, which deals exclusively with anatomical terminology, should remain in the first year. There is no need to change anything in this regard because anatomy and its terminology, as an essential part of the medical curriculum, should be taught as early as

possible. Additionally, it is necessary to keep a natural interdisciplinary relationship between medical terminology and the anatomy courses, which have been taught in parallel since the beginning of the medical terminology instruction. The second part of the course which focuses on clinical terminology and, in general, clinical professional language is intended to be moved to higher years, ideally the 4th year of study. By doing this, the interdisciplinary relationships with clinical subjects are supposed to have been set, which should improve the proper semantization of clinical and pathological terms. Having already been trained in the clinical subjects and having had experience of patient-physician and physician-physician communication, the students are expected to more easily master the medical professional language in both formal language and the factual professional aspect.

Conclusion. In conclusion, let us stress that this paper has only outlined an innovative instructional concept of medical terminology and presented general approaches, strategies and steps with which to improve this subject and adapt it to practical needs. We could continue to describe many concrete details which follow the aforementioned principles and goals, such as the design of a new textbook [1] and forms of innovative exercises or innovations in testing [8]. However, these are topics for another paper.

References

1. Beran A. Project for an Innovative Textbook of Greek and Latin Medical Terminology in Programmes of General Medicine. CASALC Review, [online]. – 2016. – No. 5 (2) – pp. 97-104. Available at: <https://www.cjv.muni.cz/cs/wp-content/uploads/sites/2/2016/04/cr-2-15-16-beran.pdf> [Accessed 14 March 2019].
2. Artimová J., Švanda L. Latin as a Language for Specific Purposes: Its Development and Current Trends. Humanising Language Teaching, Pilgrims Language Courses, [online]. – 2016. – No. 18 (2) – pp. 1-11. Available at: https://is.muni.cz/repo/1341797/Artimova_Svanda_Latin_as_LSP.pdf [Accessed 14 March 2019].
3. Marečková E., Šimon F., Červený L. Latin as the language of medical terminology: some remarks on its role and prospects. Swiss Medical Weekly, [online]. – 2002. – No. 132 – pp. 581-587. Available at: https://www.researchgate.net/publication/10913254_Latin_as_the_language_of_medical_terminology_Some_remarks_on_its_role_and_prospects [Accessed 14 March 2019].
4. Pořízková K., Blahuš M. Korpus autentických klinických diagnóz v prostředí softwaru Sketch Engine. [Corpus of Authentic Clinical Diagnoses: Sketch Engine as a Tool for Innovative Approach to Teaching Latin Medical Terminology.] In: Pořízková, K. and Švanda, L. (eds.) *Latinitas Medica*. [online] – Brno: Masarykova univerzita. - 2015. – pp. 31-42. (in Czech) Avail-

able from: <https://munispace.muni.cz/library/catalog/view/536/1668/277-1> [Accessed 14 March 2019].

5. Karnberg A. Fachsprache Medizin im Schnellkurs. 3rd ed. – Stuttgart: Schattauer. - 2011.
6. Hutton A. R. An Introduction to Medical Terminology for Health Care. 4th ed. – Edinburgh: Elsevier. - 2006.
7. Nikolova V., Koleva, I. Lingua Latina medicinalis. – Sofia: Gera art. - 2004.
8. Beran A. Inovace v testování řecko-latinské lékařské terminologie na 1. LF UK. [Innovations in Testing of Greek and Latin Medical Terminology at the First Faculty of Medicine, Charles University in Prague.] In: Balegová, J., Brodňanská, E. and Šimon, F. (eds.) Hortus Graeco-Latinus Cassoviensis II. Zborník príspevkov z klasickej filológie, latinskej medievalistiky a neolatinistiky. [online]. – Košice: Univerzita Pavla Jozefa Šafárika v Košiciach. - 2018. – pp. 26-38. (in Czech) Available at: https://www.upjs.sk/public/media/17269/HORTUS%20II_2018.pdf [Accessed 14 March 2019].

ПРАГМАТИКО-ЭМПИРИЧЕСКИЙ ПОДХОД К ПРЕПОДАВАНИЮ МЕДИЦИНСКОЙ ТЕРМИНОЛОГИИ: ОТ ЛАТИНСКОЙ ГРАММАТИКИ ДО ПРОФЕССИОНАЛЬНОГО ЯЗЫКОВОГО ОБУЧЕНИЯ

**А. Беран, PhD, доцент
Карлов университет
(Чешская Республика, г. Прага)**

***Аннотация.** В статье представлены фундаментальные качественные изменения в преподавании латинской медицинской терминологии на Первом медицинском факультете Карлова университета. Традиционная модель на основе латинской грамматики была заменена подходом, ориентированным на реальную медицинскую терминологию и основанным на радикальном пересмотре целей. Двумя основными принципами новой концепции являются выбор учебного содержания (i) прагматическим и (ii) эмпирическим или описательным образом. Что касается этих принципов, обучение должна отражать реальный медицинский профессиональный язык как комплекс, состоящий из многих языков (не только латинского или греческого) и языковых слоев (особенно греческого и латинского словаря в формах, адаптированных к национальному языку). Студенты должны изучать только такой языковой материал, который можно использовать на практике. Вокабуляр должен изучаться на основе аутентичных медицинских текстов, чтобы студенты могли глубоко понять значение медицинских терминов и то, как правильно их использовать в выражениях и контекстах. Вот почему латинская грамматика считается лишь частичным инструментом формирования ключевых терминологических компетенций.*

***Ключевые слова:** язык для специальных целей, латинская медицинская терминология, инновации, учебный дизайн.*