



IRREGULAR PLURALS IN MEDICAL ENGLISH

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ABSTRACT

Competent professional communication and preparation of scientific documentation in English in the healthcare field requires not only acquisition of the specific medical terminology, but also certain rules for its correct use.

The current study concerns main patterns and their rules for irregular plural formation in English medical terminology, coming from Latin and Ancient Greek languages.

The aim of this report is to analyze and systematize the main models of irregular plural forms in medical English by examining their etymology and the potential challenges in mastering them in academic and practical environments. Especially in English medical terminology, these two ancient languages have a powerful influence, giving a significant impact on English vocabulary and grammar. The conclusions show tendencies to adapt Latin and ancient Greek medical plural forms to the English language, and at the same time confirm the use of the Latin plural as a distinctive feature of the scientific style.

Keywords: medical terminology, plural forms, Latin and ancient Greek terms, Anglicized forms.

INTRODUCTION

Medical English is a complex lexical system in which a significant portion of the terms originate from classical languages – Latin and Ancient Greek. As a result, many nouns in this field follow irregular patterns for plural formation that differ from the standard grammatical rules of modern English. This often leads to hesitations and mistakes when using medical English among students and educators, as well as among practicing professionals. Irregular plural forms in medical English are not merely linguistic exceptions; they carry important terminological and communicative significance. Their correct usage is essential for the accuracy of scientific expression, for the interpretation of clinical information, and for ensuring effective professional communication.

The aim of the current study is to analyze and systematize the main models of irregular plural

forms in medical English by examining their etymology and the potential challenges in mastering them in academic and practical environments. This report is intended and practically useful for medical students and healthcare professionals. It comprises main patterns and their rules for irregular plural formation in English medical terminology, coming from Latin and ancient Greek languages. It also tracks the trend of Anglicization of Latin and Greek medical plural terms as a natural process in the development of everyday English.

The main rule in the English language for plural word formation is by adding -S or -ES to the singular form. The English plural considered as one of the easiest grammar form has some surprising and unpredictable endings concerning the medical terminology of Latin and Greek origin.

This research summarizes the singular and plural forms of some of the most commonly used words in English medical terminology which are exceptions to the English rule, derived from Latin and ancient Greek.

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Specific medical terms from these ancient languages most often cannot be replaced by words in any modern language. They are irreplaceable and can only be explained, but not translated.

Example: Hepatitis – inflammation of the liver.

Especially in English medical terminology, Latin and Greek languages have a powerful influence, giving a significant impact on its vocabulary and grammar. English words of Latin and Greek origin have an unpredictable plural coming from the grammatical features of the two languages. English medical terminology has borrowed so much from these languages that some words have remained unchanged over the centuries. The general trend with borrowed words in recent decades has been towards Anglicization, which is taking on the normal English ending -s. In some cases, the two forms - the Latin/Greek term and the Anglicized term - are still competing according to (1).

METHODS AND MATERIALS

This study has been conducted using a combination of methods and focused on terminology and grammatical analysis. The main methodological approach is the **lexical analysis** of specialized medical terms with irregular plural forms, extracted from well-established online dictionaries such as: *Merriam Webster Dictionary* (2) – a subsidiary of Encyclopedia Britannica, and *Garner's Modern English Usage - GMEU* (3) – a usage dictionary and style guide, also called a "prescriptive dictionary", published by Oxford University Press, with numerous comparisons between ancient and Anglicized plural forms. Additional sources of information include the scientific article *Irregular Plurals in Biology/Zoology* (4), based on Henderson's Dictionary of Biology, the comprehensive medical textbooks *Medical English* (5) and *Medical Terminology for Health Professions*

(6) and other materials through which the actual usage of the terms in academic and clinical contexts has been traced.

The descriptive method has been applied in the description of the etymological patterns and grammatical models typical for the Latin and Greek borrowings in medical English.

The comparative method has been used in comparing the Latin and Anglicized terms. It provides clear examples measuring the frequency and defining the context of usage of both plural forms.

RESULTS

To illustrate the results, 2 systematic tables with 10 models (Table 1 and Table 2) as GUIDELINES TO IRREGULAR PLURALS IN MEDICAL ENGLISH have been compiled in which the terms are classified by origin (Latin or Greek), by type of grammatical ending, and by context of use in order to overcome typical difficulties for learners and professionals.

The study of irregular plural forms in medical English reveals significant lexical and morphological complexity, stemming from the classical (Latin and Greek) heritage of medical terminology. These forms, although grammatically "irregular" from the standpoint of contemporary English morphology, follow the logic of the two ancient languages and constitute an indispensable part of the scientific accuracy of the English medical communication. The observed patterns confirm the need for targeted language training in this area, especially in the preparation of students and professionals working in an international medical environment, and because of the insufficient information within English textbooks concerning plurals in medical terminology. Understanding the etymology and correct use of these forms not only enhances language culture but also helps avoid ambiguities and communication errors in clinical practice and scientific communication. The presented tables with systematized models can serve as a basis for the development of training materials that facilitate the acquisition of this specific branch of medical vocabulary.

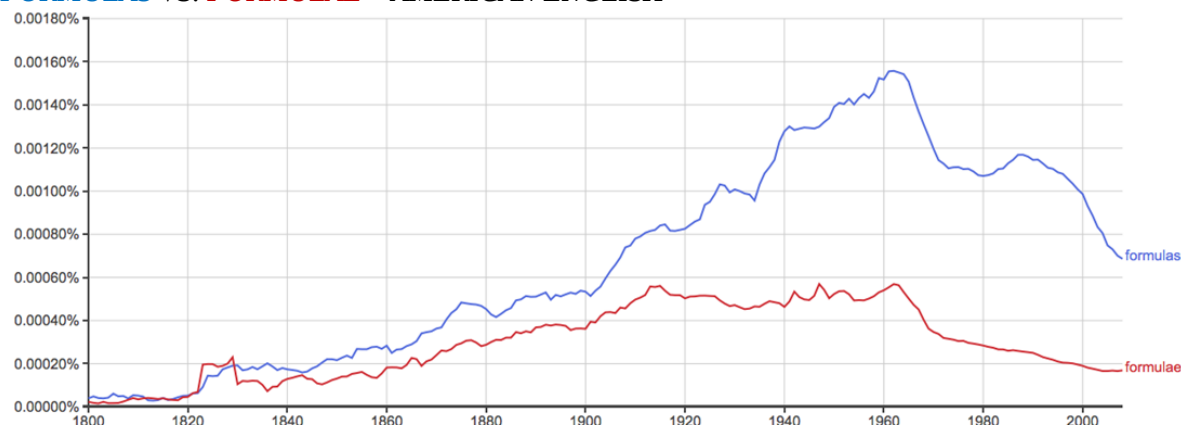
Table 1. LATIN MODELS

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Singular (Sg)	Correct Plural (Pl) used in academic/ scientific contexts	Acceptable Plural (Anglicized Plural Forms) used in everyday conversations	History according to (7)
1 st MODEL – LATIN LANGUAGE			
-US	-I	-ES	LATIN
Alveolus	Alveoli		Masculine nouns ending in - US are pluralized - I
Bacillus	Bacilli		
Bronchus	Bronchi		
Calculus	Calculi	Calculuses	
Fungus	Fungi	Funguses	
Glomerulus	Glomeruli		
Nucleus	Nuclei	Nucleuses	
Note to 1 st model: The introduction of the Anglicized plural form is noticeable, but the predominant cases are of retaining the Latin endings. The current ratio nuclei : nucleuses is 1223:1 according to GMEU (3) p. 637, with nucleuses being used mainly in sports when referring to team players.			
2 nd MODEL – LATIN LANGUAGE			
-A	-AE	-S	LATIN
Aorta	Aortae	Aortas	Feminine nouns ending in -A are pluralized - AE.
Formula	Formulae	Formulas	
Placenta	Placentae	Placentas	
Pleura	Pleurae	Pleuras	
Trachea	Tracheae	Tracheas	
Note to 2 nd model: There is a very strong entry of the Anglicized forms in the feminine medical terms in this model. The peculiarity is that this happens mainly in informal communication. There is another comparison, based on the use of terms by regions. An example of this can be given with the term FORMULA according to the online training platform “Writing Explained” (8). The American audience is accustomed to the term formulas , while the British one is more familiar with both words, as it can be seen from the two graphics enclosed, tracking the usage during the last two centuries. /Fig.1, Fig.2, according to (8) /.			
3 rd MODEL – LATIN LANGUAGE			
- IX or - EX	- ICES	- ES	LATIN
Appendix	Appendices	Appendixes	Masculine nouns ending in -EX and feminine nouns in - IX are pluralized -ICES.
Cervix	Cervices	Cervixes	
Index	Indices	Indexes	
Note to 3 rd model: Both plural forms are used.			
4 th MODEL – LATIN LANGUAGE			
-UM	-A	-S	LATIN
Bacterium	Bacteria		Neuter nouns ending in -UM are pluralized -A.
Datum	Data		
Myocardium	Myocardia		
Peritoneum	Peritonea	Peritoneums	
Rectum	Recta	Rectums	
Note to 4 th model: Peculiarities of using the term DATA : The term DATA is grammatically correct only for the plural, but is increasingly used by various authors for both singular and plural, which is quite confusing. It is simultaneously used as a plural count noun or as a singular mass noun (eg. water, time). The current ratio (The data are vs. The data is) is 2: 1 according to GMEU (3) p.245.			
5 th MODEL – LANGUAGE			
-US	-ERA/-ORA/-URA	-	LATIN
Corpus	Corpora		Neuter nouns ending in -US are pluralized -ERA/- ORA/-URA.
Crus	Crura		
Viscus	Viscera		
Note to 5 th model: No formation of an Anglicized form is observed.			

Table 2. ANCIENT GREEK MODELS

Singular (Sg)	Correct Plural (Pl) used in academic/ scientific contexts	Acceptable Plural (Anglicized Plural Forms) used in everyday conversations	History according to (7)
1 st MODEL – ANCIENT GREEK LANGUAGE			
-NX	- NGES	-ES	GREEK
Larynx	Larynges	Larynxes	Masculine and feminine nouns ending in -NX are pluralized -NGES
Phalanx	Phalanges	Phalanxes	
Pharynx	Pharynges	Pharynxes	
Note to 1 st model: The current ratio larynges : larynxes is 1:1 according to GMEU (3) p.550. Both plural forms are acceptable.			
2 nd MODEL – ANCIENT GREEK LANGUAGE			
-IS	-ES	-	GREEK
Crisis	Crises		Feminine nouns ending in -IS are pluralized -ES
Diagnosis	Diagnoses		
Metastasis	Metastases		
Mycosis	Mycoses		
Necrosis	Necroses		
Neurosis	Neuroses		
Prognosis	Prognoses		
Psychosis	Psychoses		
Urinalysis	Urinalyses		
Note to 2 nd model: No formation of an Anglicized form is observed.			
3 rd MODEL – ANCIENT GREEK LANGUAGE			
- ITIS	- ITIDES	- ES	GREEK
Arthritis	Arthritides		Feminine nouns ending in -ITIS are pluralized - ITIDES.
Encephalitis	Encephalitides		
Hepatitis	Hepatitides	Hepatitises	
Meningitis	Meningitidis		
Nephritis	Nephritides		
Note to 3 rd model: In this model comprising inflammatory diseases, the ancient Greek plural is more often used than the Anglicized form.			
4 th MODEL – ANCIENT GREEK LANGUAGE			
-ON	-A	-S	GREEK
Criterion	Criteria	Criteria	Neuter nouns ending in -ON are pluralized -A.
Phenomenon	Phenomena	Phenomenons	
Skeleton	Skeleta	Skeletons	
Note to 4 th model: Both plural forms are used.			
5 th MODEL – ANCIENT GREEK LANGUAGE			
-OMA	-OMATA	-S	GREEK
Carcinoma	Carcinomata	Carcinomas	Neuter nouns ending in -OMA are pluralized - OMATA.
Lymphoma	Lymphomata	Lymphomas	
Myoma	Myomata	Myomas	
Note to 5 th model: This model indicating tumor formations uses both plural forms.			

FORMULAS VS. FORMULAE – AMERICAN ENGLISH**Figure 1.** According to (8)**FORMULAS VS. FORMULAE – BRITISH ENGLISH****Figure 2.** According to (8)**CONCLUSIONS**

- In modern medical English, there is a tendency to adapt Latin medical plural terms to the English forms as a natural process in the development of everyday language. The Latin ending, which in modern language sounds strange and sometimes incomprehensible, is very often replaced by an English ending.
- The Anglicized form of the plural is more accessible for perception and use, eliminating the possibility of misunderstanding the word.
- There is a tendency for parallel usage of both plural forms.
- The use of the Latin plural is preserved as a distinctive feature of the scientific style.

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