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## PHRASAL VERBS IN MEDICAL DISCOURSE

**Adrian Năznea, Assist. Prof., PhD, University of Medicine and Pharmacy, Tîrgu Mureş**

*Abstract: Phrasal verbs are pervasive not only in colloquial language but also in medical discourse. This paper is a study into a corpus of medical articles in order to identify the most commonly used phrasal verbs in medical articles belonging to the field of orthopaedics. The aim of the study is to categorise, describe, and explain the recorded phrasal verbs.*

**Keywords:** *corpus-based research, biomedical articles, phrasal verbs, medical discourse*

### Introduction

The premise which lies at the basis of this study is that medical articles frequently resort to the use of phrasal verbs. One aim that derived from studying the corpus of medical articles included in this research was to compare the phrasal verbs found in orthopaedics articles with those found in histopathology ones. Another aim was to investigate the frequency of phrasal verbs in medical articles in order to compare the discourse of textbooks with that of articles.

### Design of the study

The corpus on which this study is based comprises 50 articles, a subcorpus of 25 in the field of orthopaedics, and one of 25 in the field of histopathology. All the 25 orthopaedics articles were chosen from the same issue of *International Orthopaedics* volume 38, number 1, 2014, the Official Journal of the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT), whereas those in the field of histology were randomly selected from a personal collection, all of them having been published in several issues (2013-2014) of the same journal, *Virchows Archiv*, the Official Journal of the European Society of Pathology (volumes 462-464). Both journals are published by Springer, a leading publisher in many fields of science, with over 400 journals in medical fields.

## Results and discussions

According to the online Merriam Webster dictionary, a phrasal verb is *a phrase (as take off or look down on) that combines a verb with a preposition or adverb or both and that functions as a verb whose meaning is different from the combined meanings of the individual words*<sup>1</sup>. Another notable definition was proposed by Richard A. Spears (1993) as *a verb + particle collocation in which a verb governs a particle that looks like a preposition but functions as an adverb*.

In Alexander's view (1988: 152), the characteristic of the English verb to combine with prepositions and adverb particles is one of the most common ones. Alexander distinguishes four types of phrasal verbs:

1. verb + preposition (transitive), e.g. *get over*;
2. verb + particle (transitive), e.g. *bring up*;
3. verb + particle (intransitive), e.g. *come about*;
4. verb + particle + preposition (transitive), e.g. *run out of*.

The constituents of phrasal verbs types 1, 3, and 4 are inseparable, while those of type 2 are separable. Inseparable means that the object cannot come between the verb and the particle, while a separable phrasal verb allows positioning the object between the verb and its particle. As such, we cannot use the above-mentioned phrasal verbs type 1 as *\*get something over*, type 3 as *\*come something about*, or type 4 as *\*run something out of*, while phrasal verbs type 2 can have an object between the components, that is, *bring [children] up*. In case the object is a noun, it can come either before or after the particle, however, whenever the object is a pronoun, it will always come before the particle as in the following example: *My aunt brought us up*.

Phrasal verbs are frequently encountered in medical discourse, textbooks habitually relying on these linguistic devices. In order to prove this hypothesis, I turned to two textbooks, one of orthopaedic surgery and one of histopathology. While randomly reading passages from these two books, I recorded some of the phrasal verbs that I encountered. Thus, some of those found in *Essentials of Orthopedic Surgery* are: *rule out*, *look for*, *set in*, *rely on*, *account for*, *resort to*, *provide for*, etc., while in *Histology. A Text and Atlas* I came across the following ones:

<sup>1</sup> <http://www.merriam-webster.com/dictionary/phrasal%20verb>

*break down, drop out of, pull away from, set up, keep up with, allow for*, etc. In order to see whether the discourse of other medical sciences uses phrasal verbs, I turned to a book on neurology, namely *Practical Neurology*, where I noted the use of the following phrasal verbs: *carry out, look for, grow out of, rule out, rely on, allow for, keep up, stick to, care for*, etc. All these findings prove that medical language does rely on the use of these linguistic devices.

All the 50 articles were processed manually. Initially, the subcorpus of 25 orthopaedics articles was studied, the recorded phrasal verbs are listed alphabetically below:

- a. account for
- b. allow for
- c. carry out
- d. follow up
- e. look for
- f. pull out
- g. rely on
- h. set up
- i. trace back

In order of frequency, *follow up* and *carry out* were the most recurrent ones. The first one, however, was repeatedly encountered in its nominal form, *follow-up*. The contexts in which these verbal constructions were found, as well as the explanations of their meanings are listed below:

- a. “Proximal humeral fractures in children include both physeal and metaphyseal fractures, which account for less than 5% of all paediatric fractures”. According to the Macmillan Phrasal Verbs Dictionary, *account for* has several meanings, the first one being *be the reason for something*, which is the same as the one that it carries in the article.
- b. “As opposed to this, national arthroplasty registers record all operations performed in a country and therefore allow for better representation of the incidence of such events”. According to the same phrasal verbs dictionary, the meaning of *allow for* is *to consider something when making a plan or calculation*, which is in line with the use in the article.
- c. “A standing AP [anteroposterior] radiograph was carried out with the patient facing the radiographic tube and the patellae pointing anteriorly”; or “Fatigue testing was carried out by first determining the mean yield load from the plates from the HIC [high income

countries] group”. The above-mentioned dictionary explains the phrasal verb *carry out* as *to do a particular piece of work, research, etc.*, which fits the meaning included in the examples.

- d. “Mono-centric clinical studies show a cumulative number of 72,387 cases followed up” or “Twenty-eight patients were followed up for an average of 25 months (range 18-50 months after the injury”. *Follow up* has three different meanings according to the same dictionary, the third one being the one that can be found in the examples, namely, *to check the health of someone who has received medical treatment, in order to be certain that it has been effective*.
- e. One of the contexts in which the phrasal verb *look for* was recorded is the following: “Unacceptable rates of aseptic loosening seen with cemented prostheses have pushed many surgeons to look for uncemented prostheses that offer biological fixation and the possibility of better long-term results”. *Look for*, one of the commonest phrasal verbs in English, has several meanings, however, the one found in the example is *to try to find someone or something*.
- f. The only instances of the phrasal verb *pull out* were encountered in only one article in the following context: “We were able to pull out the suboptimally sized stem using significantly less force than was required to pull out the optimally sized stem”. The meaning here is rather non-idiomatic, that is, remove by pulling.
- g. “Press-fit cementless radial head implant longevity relies on adequate bone ingrowth” is the context in which *rely on* was found, the phrasal verb carrying the meaning: *to need something in order to continue living, existing, or operating*, the second meaning that the Macmillan dictionary gives for this phrasal verb.
- h. The phrasal verb *set up* was identified in the following context: “However, this study was not set up as a cost-effectiveness analysis”. Several meanings are associated with *set up*, the one that the fragment carries being *to organize or plan something such as an event or system*, definition from the Macmillan dictionary.
- i. Only one occurrence of the phrasal verb *trace back* was recorded, namely “A large proportion of idiopathic hip osteoarthritis can be traced back to FAI [femoroacetabular impingement]; thus early diagnosis is very important”. In the Cambridge dictionaries

online *trace back* is defined as *to discover the cause or origin of something by examining the way in which it has developed*<sup>2</sup>.

However, not all articles contained phrasal verbs, that is, none was recorded in 7 of the 25 orthopaedics articles. After the identification of the above described phrasal verbs, my aim was to identify exactly the same ones in the subcorpus of histopathology articles. In this subcorpus, the chosen phrasal verbs were found in 11 articles, in order of their frequency these are: *carry out* (in 7 articles), *account for* (in 4 articles), and *rely on* (in 2 articles). The following ones were not encountered at all: *allow for*, *follow up*, *look for*, *pull out*, *set up*, and *traceback*. However, the corresponding noun phrases *follow-up* and *set-up* were identified in some of the articles.

The meanings of the recorded phrasal verbs were the same as those found in the orthopaedics subcorpus. Some examples follow: “Negative controls were carried out by omitting the primary antibody”, “Immunoprecipitations were carried out using the Miltenyi magnetic column system”, “A diagnosis of invasive carcinoma NST [invasive carcinoma of no special type] was rendered when the nonspecialized component accounted for more than 50 % of all the invasive carcinoma present”, “Colorectal cancer (CRC) accounted for 9.7 % of all new cancers in the world in 2008 and was the second most common cause of death from cancer”, “Both criteria would rely on immunohistochemistry”.

Of the nine phrasal verbs identified in the orthopaedics articles, *account for*, *allow for*, *look for*, *rely on* are transitive ones with an inseparable particle, while *carry out*, *follow up*, *pull out*, *set up*, and *trace back* are transitive ones with a separable particle. No three-word phrasal verb was found in the subcorpus of orthopaedics articles.

## Conclusion

The aim of this study was to identify phrasal verbs used in medical articles in the field of orthopaedics. Starting from the premise that phrasal verbs are pervasive not only in colloquial language but also in medical discourse, the research identified nine phrasal verbs in a subcorpus of 25 articles. Another subcorpus of histopathology articles was investigated in order to find the same phrasal verbs. However, while textbooks heavily rely on the use of phrasal verbs to

<sup>2</sup> <http://dictionary.cambridge.org/dictionary/british/trace>

describe processes, manoeuvres, methods, research medical articles use them rather sparingly, authors preferring to use non-phrasal synonyms.

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