



## In this issue

- We continue Michael Schneir's fascinating series on distractions in medical and scientific writing, this time concentrating on non-pronoun-induced backtracking with adverbs, verbs, and nouns. This sounds a little fearsome, but the concepts are straightforward and, as ever, Michael gives us elegant solutions.
- Sirisha Bulusu provides sound advice on the preparation of congress abstracts. This will be followed up by a second part in our next issue.

## Revising medical writing: Reasons not rules Backtracking, non-pronoun-induced Part 4 – Syntactic position revision, juxtaposition

### Introduction

Previous articles in this series have examined the causes of, and solutions to resolve, backtracking arising from ambiguous use of pronouns. Backtracking can also be induced by adverbs, verbs, and nouns. Just as for pronoun-induced backtracking, non-pronoun-induced backtracking impedes immediate comprehension.

### Part 1 – Adverbs

The adverb 'respectively' is widely used in research writing, probably for concision; however, 'respectively' induces backtracking. The reader has to match each member of one set of words (usually nouns) to each member of a prior set of words.

#### Example 1: 'Respectively'

This example is from a Results section, data verbalisation.

*The mean specific radioactivity in lungs and plasma of the rats was 16 and 18 DPM/ng, **respectively**.*

'Respectively' elicits an inter-set matching between the pair of coordinated DPM/ng values and the pair of coordinated tissues, necessitating extra cognitive effort to backtrack. Alerting the reader by using 'respectively' does not excuse the writer

from facilitating comprehension. The suggested revision involves juxtaposing the individual coordinated DPM/ng from the 2nd pair to the individual coordinated tissues in the 1st pair. The order of the words in the listed pair '16 DPM/ng (lung)' is in the same order as in the forecast: 'mean specific radioactivity ... in lungs and plasma'.

*The mean specific radioactivity of the rat tissues was 16 DPM/ng (**lung**) and 18 DPM/ng (**plasma**).*

#### Example 2: Misuse of 'respectively'

This example is from a Results section, data-based trend.

*The data showed that the plaque index and gingival bleeding index were significantly reduced, **respectively**, over the 6-week period in the test group.*

The presence of the set of indexes 'plaque index and gingival bleeding index' probably elicited the mistaken use of 'respectively'. However, there is no 2nd set for an inter-set match up, thereby negating the need for 'respectively'. The suggested revision is to use the determiner indefinite pronoun 'each' to refer to each index.

*The data showed that the plaque index and gingival bleeding index were **each** significantly reduced over the 6 week period in the test group.*

#### Example 3: 'Vice versa'

'Vice versa,' a Latin term meaning 'conversely' (i.e., 'with the order reversed'), necessitates backtracking into the sentence to ascertain what sequence of constituents is being interchanged.

Example 3 is from a Results section, data-based trend.

*Few women reported using a diet low in folic acid but high in vitamin A, or **vice versa**.*

How difficult is the cognitive effort to complete the induced interchange of the adjectives 'low' and 'high' between the vitamins 'folic acid' and 'vitamin A'? In the example, 'vice versa' initiates an interchange of the adjectives (i.e., 'low' to 'high' and 'high' to 'low'). Although there are no other logical possibilities for the converse meaning of 'vice versa' except 'high in folic acid and low in vitamin A', an explicit statement eliminates the extra conceptual effort involved to complete such an interchange.

The suggested revision is to replace 'vice versa' with the exact meaning.

*Few women reported using a diet low in folic acid but high in vitamin A or, **conversely, high in folic acid but low in vitamin A**.*

#### Notes

- (a) Because of its concision, the use of 'vice versa' is difficult to resist; however, without knowledge of the science, selection of the correct meaning of 'vice versa' may be difficult.
- (b) In addition to 'the converse', another marker equivalent to 'vice versa' is 'the reverse' as in 'Few women reported using a diet low in folic acid but high in vitamin A, or the reverse.'

## Part 2 – Verbs

#### Example 4: 'To do'

To avoid verb repetition in a comparison, 'do' is often used; however, the casualty as with other such concision techniques is that the exact meaning may be uncertain. As with 'vice versa', replacement with the intended meaning will avoid the uncertainty of backtracking.

This is an example from a Results section, data-based trend.

*The PAOLL vaccine induced a more increased FN-gamma and IL-2 secretion than **did** the SAOLL vaccine.*

Although the use of 'did' avoids the repetition of 'induced', it necessitates an inversion of the subject 'vaccine' with the verb and usage of the verb 'do' to facilitate this inversion. However, 'did' induces a backtracking. Three suitable revisions are suggested.

#### (i) Thematic-focussed subject

Revise the sentence so that 'IFN-gamma and IL-2 secretion' become the subject necessitating a shift in voice from the active to the passive ('was induced').

*A more increased IFN-gamma and IL-2 secretion was induced by the PAOLL than by the SAOLL vaccine.*

#### (ii) A variant of thematic-focused subject

The thematic focus is a combination of the subject in revision (i) and the verb 'induced'.

*The induced IFN-gamma and IL-2 secretion was more increased by the PAOLL than by the SAOLL vaccine.*

#### (iii) 'There' descriptive pattern

In an extension of revision (i), the sentence is changed from a narrative style 'was induced' to a descriptive format 'there was a more increased' involving the linking verb 'was' and the participle adjective 'increased'.

*There was a more increased IFN-gamma and IL-2 secretion induced by the PAOLL than by the SAOLL vaccine.*

#### Notes

- (a) In all three revisions, subject-to-verb inversion and backtracking are avoided. In addition, comparison of the constituents 'by the PAOLL' and 'by the SAOLL' occurs at the sentence-end position, simplifying and emphasising their comparison.
- (b) Another way to look at the revisions is the underlying principle of juxtaposition. That is, juxtaposing the compared constituents at the end of a sentence elicits the 3 revision transformations (i to iii) shown above.

## Part 3 – Nouns

### Example 5: 'Former and latter'

The backtracking and the revision induced by 'former and latter' are similar to the backtracking and revision induced by 'respectively'.

This example is from an abstract: experimental approach plus results.

*For the two categories of dietary usage included in this study, namely, multi-vitamins without folic acid and multi-vitamins with folic acid, the incidence of neural tube defects for the **former** was 4% and 1% for the **latter**.*

Revision involves juxtaposing each member of one pair (the diets) with their appropriate constituent in the other pair (% neural tube defects), thereby precluding backtracking.

*For the two categories of dietary usage included in this study, the incidence of neural tube defects was multi-vitamins without folic acid (4%) and multi-vitamins with folic acid (1%).*

## Summary

Backtracking induced by adverbs, verbs, and nouns can be eliminated by juxtaposition of a pertinent member of one set with a pertinent member of another set. To avoid backtracking by 'vice versa', an exact statement of the reverse meaning is recommended.

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## Writing abstracts for congresses (1)

Publishing data in congress abstracts often provides the first opportunity for physicians and pharmaceutical companies to present data from clinical trials. However, congress guidelines usually stipulate strict word count or character limits for these abstracts. Although a simple solution would be to publish two (or more) abstracts, many congresses discourage this practice, or actively forbid submitting multiple abstracts from one study. Consequently, medical writers may find themselves under pressure from authors and study sponsors to include as much data as possible in a single abstract, whilst keeping within the congress restrictions. Unless great care is taken, the resulting abstract can be very data-heavy, making it difficult for the reader to understand the key data and messages presented.

Writing abstracts for congresses therefore presents a unique challenge for medical writers, who must strike the right balance between adhering to congress guidelines and meeting requests from authors. An excellent two-part article discussing techniques to shorten abstracts was previously published in *Medical Writing*, focusing on abstracts for manuscripts.<sup>1,2</sup> In this two-part series, we discuss good writing practice for congress abstracts, to clearly convey results whilst respecting congress limitations.

## Abbreviations

The use of abbreviations should be considered carefully when writing congress abstracts.

On the one hand, abbreviations are a simple way of significantly reducing the number of words or

characters. Some abbreviations that are not acceptable in manuscript abstracts are frequently used in congress abstracts: for example, abbreviating 'patients' to 'pts' and 'weeks' to 'wks'. Depending on the audience, consider whether it is strictly necessary to define commonly used abbreviations in abstracts. Constantly defining abbreviations can detract from the overall flow and may not be helpful when the reader is likely to be familiar with the abbreviation. Some congresses publish a list of acceptable abbreviations which may be used without definition.

On the other hand, overuse of abbreviations (especially uncommon ones) can make the abstract difficult for the reader to follow. For congresses with word count limits, abbreviating words may not always help to shorten the abstract. Abbreviating 'methotrexate' to 'MTX', for example, does not save any words (in fact, one extra word is used to introduce the abbreviation!). However, this abbreviation does significantly reduce the character count. Always try to bear the reader in mind and use abbreviations when appropriate, rather than just as an abstract-shortening device.

## Punctuation

Considered use of punctuation such as brackets, colons and semicolons can be a useful tool for presenting data in abstracts concisely. Consider the following example:

[1] At Week 24, remission rates in treatment arms A and B were 55% and 45%, respectively.

Rephrasing this as follows conveys the same information in a much more digestible (and shorter) form:

[2] Week 24 remission rates: Arm A = 55%, Arm B = 45%.

Example 2 saves characters and also helps to avoid use of the dreaded 'respectively' as in Example 1, which forces the reader to backtrack to understand what is being referred to<sup>2</sup> (see also the article on *Revising Medical Writing*, above, by Michael Schneir). For congress abstracts with word limits, strategic use of a slash without subsequent spacing may also be used to conserve words (within reason), eg. presenting results as 'responders/non-responders' and the corresponding values as '-2.8/-0.5' may count as one word. However, it is easy to overuse this approach, and it might not be appropriate to present all data in this format. Too much punctuation in an abstract also runs the risk of not appealing to the reader's eye. Avoid placing brackets within brackets, eg. instead of (56.6 vs 78.2 [ $p < 0.001$ ]) use (56.6 vs 78.2,  $p < 0.001$ ).

## Referencing

Unlike manuscript abstracts, where references are usually not permitted, many congress abstracts include references to other publications. References can be very costly in terms of word and character counts, therefore only key references should be included. If references are necessary, consider how much information the reader really needs to understand which publication is being referred to. Using abbreviated journal titles and including only the final page number of the reference (eg. 1234-5 instead of 1234-1235) cuts characters, while still allowing the reader to identify the publication being referenced. It may also be appropriate to remove 'et al.' from the reference, which saves two words (or five characters) per reference.

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## References

1. Leventhal P, Reeves A. Help, I can't shorten my abstract! Oh yes you can (Part 1 of 2). *Medical Writing* 2012;21(3): 239-242.
2. Leventhal P, Reeves A. Help, I can't shorten my abstract! Oh yes you can (Part 2 of 2). *Medical Writing* 2012;21(4): 314-316.