

## Research paper

# The use of abbreviations in ophthalmologic correspondence with general practitioners

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### ABSTRACT

**Background** Acronyms and abbreviations are playing an increasing role in the medical vernacular. Although many specialists frequently use shortened terms to accelerate communication in their letters, not all primary healthcare doctors fully comprehend such terms. Any misunderstanding in the interpretation of these abbreviations could have serious consequences upon patient care.

**Aim** The aim of this study was to look at the general practitioners' (GPs') understanding of terms commonly mentioned by ophthalmologists in their outpatient correspondence.

**Method** The study was based upon a healthcare survey model. A healthcare survey questionnaire detailing 12 acronyms in common usage by ophthalmologists was sent to 50 GPs in inner-city London with a view to the respondents explaining what they understood by the mentioned acronyms.

**Results** Thirty-two (64%) questionnaires were returned fully completed within two weeks; 63% of all the responses regarding the meaning of the acronyms were incorrect or left blank. Five (4.69%) of the responses were incorrectly explained, and only 37% of the total responses were correctly defined.

**Conclusions** The study suggested a degree of misunderstanding between the ophthalmologists and the GPs with reference to some of the acronyms used in their letters and discharge summaries. The study presented a number of approaches that may help avoid such confusion.

**Keywords:** acronyms, ophthalmology, primary care correspondence

### How this fits in with quality in primary care

#### What do we know?

Acronyms are playing an increasingly prominent role in the medical vernacular. General practitioner (GP) misunderstanding of acronyms can lead to patient miscommunication and potential harm.

#### What does this paper add?

Sixty-three percent of GPs' responses to 12 of the commonest ophthalmological acronyms used in communication letters were incorrect or left blank. GPs err on the side of caution when they are unable to understand the meanings of acronyms, with only 7.4% offering an incorrect explanation.

## Introduction

The use of specialist medical jargon including abbreviations and acronyms is increasingly becoming accepted as part and parcel of the medical vernacular.<sup>1</sup> In recent times one has seen an increase in the use of such shortened terms by medical professionals, with all specialities being similarly affected.<sup>2,3</sup>

Abbreviations are contractions of words or phrases that are used in place of their full versions, where their meaning is clear from the context in which they appear. Acronyms are a type of abbreviation made up of the initial letters or syllables of other words, e.g. RADAR, LASER.<sup>4</sup> The term may also be extended to include using the initial letters of a statement in place of the full term, even when these initials do not spell a word, e.g. MI for myocardial infarction or PE for pulmonary embolism. Such types of abbreviations are routinely used on a daily basis by hospital clinicians in their correspondence with primary healthcare clinicians.

Acronyms are useful because they simplify, facilitate and accelerate communication, and have now become the shorthand of medicine.<sup>5</sup> Specialists often take for granted that certain terms are evident or self-explanatory and so do not bother to define them. However, the level of understanding of some of the terms used is sometimes not always taken into account.<sup>2</sup> Confusion and ambiguity may result because familiar abbreviations may have significantly different meanings to readers from different backgrounds. For example, the abbreviation 'CP' may mean 'chest pain' to a cardiologist, but 'cerebral palsy' to a paediatrician, or the abbreviation 'MS' may mean 'mitral stenosis' to a cardiologist but 'multiple sclerosis' to a neurologist. A study of three-letter abbreviations used in Medline abstracts showed that 81% of the abbreviations used were highly ambiguous, with an average of 16.6 possible senses, reinforcing the lack of clarity caused by their usage.<sup>6</sup>

Such a problem has been highlighted in the UK by the Medical Insurance companies, with the Medical Protection Society stating in advice regarding the use of abbreviations:

Using abbreviations saves time, but can lead to problems, it is important that abbreviations are unambiguous and universally understandable – do not rely on the context to give the meaning. This is particularly true in general practice where a patient may have unrelated conditions with shared abbreviations. For example, PID can mean pelvic inflammatory disease or prolapsed intervertebral disc.<sup>7</sup>

General practitioners (GPs) are often consulted by patients after a specialist procedure or secondary-care consultation, for further elucidation and explanation of either what was said by the specialist or what

procedure was carried out. Incompletely understood jargon used in communication between the specialist and the GP can lead to confusion and miscommunication between the GPs and their patients, with the patient potentially suffering due to misdiagnosis, mal-treatment or wrongful advice.<sup>8</sup> The Medical Defence Union (MDU) advises its members against using abbreviations in patient records stating that, 'such abbreviations can lead to misunderstandings between health professionals treating the patient'.<sup>9</sup> Other authorities even consider the use of abbreviations as being, 'a breach of the required standard of care', and that they may even lead to legal litigation when things go wrong.<sup>10</sup>

Despite the above advice and the possibility of patient harm, abbreviations and acronyms are still being used in hospital–GP correspondence. This study aims to look at terms commonly mentioned by ophthalmologists in their outpatient correspondence with GPs and the GPs' understanding of them.

## Methods

An acronym questionnaire was compiled by analysing the most common abbreviations and acronyms found in 50 outpatient communication letters between ophthalmologists and GPs. The questionnaire initially comprised a selection of 10 of the most commonly used ophthalmological acronyms and was piloted on a sample of five GPs who were asked to rate each acronym for their relevance to primary care practice and the questionnaire for its suitability and ease of use. Feedback was generally encouraging from the pilot GPs, who felt that the survey was relevant to general practice and highlighted a common problem they would often face. Recommendations from the pilot included adding a further two acronyms, 'PRP' and 'pseudophakia' to the questionnaire as well as slightly altering the layout of the table by increasing the size of the font to make it easier to read and complete.

Following the changes, the final questionnaire was sent out to a cohort of 50 GPs in the immediate primary care trust (PCT) locality comprising inner-city practices in London. The names and addresses of local GP principals were obtained from the PCT and each questionnaire was sent out with a prepaid return addressed envelope. Recipients were given a deadline of two weeks to return the completed questionnaires. The questionnaires were designed to be simple and straightforward to complete to encourage response. All questionnaires were completed anonymously to encourage GPs to complete them without being identified, and to improve response rates. As the questionnaires were nameless, there was no way for non-responders to be

followed up to further improve response rates. Nor was it possible to statistically analyse and compare data between different practice demographics.

Responses for each abbreviation were classified as either 'correct' if they matched the accurate definition, or 'incorrect' if they did not. Answers that were left blank were scored as incorrect. Allowances were made for poor spelling. Results of the questionnaire were collated and tabulated into correct or incorrect responses. Incorrect responses were then further subdivided into answers that were left blank and those where an incorrect attempt was made.

## Results

A total of 32 of the 50 questionnaires sent out (64% response rate) were received and the results can be seen in Table 1.

The results showed a wide variation in the understanding by the GPs of the meanings of some of the abbreviations used by ophthalmologists in correspondence. As few as 9.3% of GPs responded correctly as to what the term 'ERM' represented, and as many as 84.4% of GPs were able to correctly define what 'left RD repair' meant. Exactly half of GPs were able to unravel 'RAPD' to its correct meaning of 'relative afferent pupillary defect'. Of the incorrect answers recorded, 92.6% were due to answers being left blank, and 7.4% to an incorrect attempt at unravelling the abbreviations.

For the abbreviation, 'PVD' a variety of incorrect responses was given, with the most favoured (80%) offering 'peripheral vascular disease' as an alternative for the correct representation of 'posterior vitreous detachment', the other offering being 'posterior visual disease'. For the abbreviation 'OHT', one respondent understood it to mean 'ocular hypertrophy' instead of 'ocular hypertension'.

One questionnaire was returned completely blank with a question mark placed in each response box. Not a single questionnaire was returned with all 12 acronyms correctly completed. Overall, the results showed a lack of understanding by the GPs of the medical acronyms used in ophthalmological correspondence, with 63% of all the responses received being incorrectly defined or left blank. Of the total responses, 4.69% were incorrectly explained, and only 37% of the total responses were correctly defined.

## Discussion

The medical defence unions in the UK advise their members to avoid using abbreviations and acronyms

that may cause miscommunication between health workers, potentially leading to patient harm. This survey was carried out to try and investigate GPs' understanding of commonly used acronyms in correspondence letters. The findings of this survey showed that GPs had a general lack of understanding of common ophthalmological acronyms used in outpatient letters, with 63% of the total responses to the questionnaire being incorrect. Our findings are consistent with the concept that abbreviations are open to interpretation and misunderstanding; and this subsequently may lead to patient harm. Most incorrect responses were due to an abbreviation having more than one interpretation, such as 'HT' for 'hypertrophy' or 'hypertension', or 'PV' for 'peripheral vascular' as opposed to 'posterior vitreous'.

The response rate of 64% was in keeping with other GP postal questionnaire studies.<sup>11</sup> Although it could be argued that a larger sample size may have borne out a more correct picture of GPs' understanding of ophthalmological acronyms, evidence in primary care literature indicates that a high response rate is not a prerequisite for a valid survey.<sup>12</sup>

An incorrect response to the questionnaire did not automatically imply patient misinformation or harm, as in a real-life situations GPs were likely to have a number of ways of seeking out the correct representation of the acronym. The results of the survey echoed this concept since we identified only 7.4% of the incorrect responses given by GPs to be due to wrong interpretation, whereas 92.6% were due to the answer being left blank. The survey indicated that the majority of GPs would err on the side of caution if they were unable to interpret a particular abbreviation, and only a small minority would take an educated guess.

Our study had several limitations. The questionnaire was sent out to GP principals in inner-city London practices and responses may not be representative of other practices, particularly in rural, non-urban areas. In addition, by restricting ourselves to GP principals, respondents were more likely to be older, male doctors as opposed to non-principals who are largely female and younger.<sup>13</sup> This unintentional selection bias could have affected generalisability, since younger GPs may have had more exposure to newer ophthalmological terms and abbreviations. Although by anonymising the questionnaires we tried to limit responder bias, those who were not confident in their ability to answer the questionnaire were less likely to have responded.

GP feedback in relation to the survey was positive. Three questionnaires had written on them statements of praise, with one commenting, 'About time this real-life problem was studied!'. One questionnaire declared his disavowal for all types of abbreviations stating, 'I cannot ever get my head round these things. All gibberish if you ask me'. However, despite the negative

**Table 1** Results detailing the respondents' ability to decipher ophthalmological jargon

Term used	Meaning	Correct % (n)		Incorrect %	
		Left blank	Incorrect response	Left blank	Incorrect response
PVD	Posterior vitreous detachment	15.6 (5)	68.8 (22)	15.6 (5)	
PSEUDOPHAKIA	Lens implant after cataract surgery	25 (8)	75 (24)	0 (0)	
R PHACO + IOL	Right cataract extraction plus lens implant	31.2 (10)	62.5 (20)	6.3 (2)	
ERM	Epi-retinal membrane	9.3 (3)	84.4 (27)	6.3 (2)	
OHT	Ocular hypertension	37.5 (12)	56.2 (18)	6.3 (2)	
PRP	Pan-retinal photocoagulation	46.9 (15)	43.8 (14)	9.3 (3)	
IOP	Intra-ocular pressure	34.4 (11)	62.5 (20)	3.1 (1)	
ARMED	Age-related macular degeneration	43.8 (14)	53.1 (17)	3.1 (1)	
RIGHT TRAB	Trabeculectomy right eye	25 (8)	75 (24)	0 (0)	
LEFT RD REPAIR	Retinal detachment repair left eye	84.4 (27)	12.5 (4)	3.1 (1)	
NPDR	Non-proliferative diabetic retinopathy	40.6 (13)	59.4 (19)	0 (0)	
RAPD	Relative afferent pupillary defect	50 (16)	46.9 (15)	3.1 (1)	

tone of the last responder, they managed to successfully answer 7 out of 12 of the abbreviations!

## Conclusion

The results of this short survey suggest that many of the technical terms or acronyms used by ophthalmologists are poorly understood by GPs. Such misunderstanding may create confusion both for the GPs and for the patient who may be told conflicting diagnoses or procedures by the ophthalmologist and their GP.

Although ophthalmologists who use such jargon have a duty of care to ensure that GPs are aware of the meanings of any ambiguous terms used in their discharge summaries and outpatient letters, the responsibility does not solely lie there. Responsibility also lies with GPs who may not fully understand what the acronyms mean, to make efforts to seek further information from the ophthalmologist.

## Possible solutions

To ensure that GPs fully understand what such acronyms and abbreviations truly mean, thus averting any mishap or misinterpretation and eliminating any guesswork, we suggest the following:

- one should completely avoid the usage of any acronyms that denote common non-ophthalmic conditions such as PVD
- specialist operational terms such as 'pseudophakia' and 'right trab' should be replaced with the full procedural detail of the operation undertaken so that, if requested by the patient, the GP would be able to explain what procedure had been carried out
- when mentioning any acronym in such communications, the ophthalmologist must ensure that they are fully explained to avoid any confusion that may later be detrimental to patient health and care<sup>14</sup>
- a universally agreed upon 'medical abbreviations handbook' which contains the most commonly used medical abbreviations and synonyms may act as a reference for primary care workers to eliminate any room for confusion or misunderstanding
- for GPs to keep up to date and abreast with their understanding of ophthalmology through self-directed or continued medical education.

The above are a few examples of measures that may reduce miscommunication via the usage of abbreviations in correspondence letters. However, given the results of this survey, one may argue that we should

not use any such acronyms or abbreviations that may lead to confusion and the possibility of harm or misinformation to the patient. With the advent of computerised dictation packages and automated 'autotext' macros in word processing packages, which can automatically replace abbreviations and shortened acronyms to their full representations, excuses that abbreviations save time have become redundant.

The use of abbreviations in correspondence may in addition encroach upon the GP-patient relationship, since the perceived lack of understanding on the GP's part of what they mean may cause patients to lose trust or confidence in the GP's ability or their medical knowledge.

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## CONFLICTS OF INTEREST

None.

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