

# The Effect of Participating in Continuing Optometric Education: A Pilot Study

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## Abstract

**Purpose:** To determine whether participation in two different post-graduate optometry workshops resulted in a change in practice for the participants.

**Methods:** Thirty-eight optometrists, who had attended a continuing professional development (CPD) workshop on punctal plugs and lacrimal syringing, were surveyed by e-mail and telephone between 4 and 13 months after the workshop to ascertain whether they had made a change in their subsequent practice. A second group of 32 optometrists, who had attended a continuing education and training (CET) workshop on binocular vision, were surveyed by e-mail, telephone and postal mail between 6 and 9 months after the workshop to ascertain whether their practice had changed.

**Results:** After the CPD workshop, 29% (11 of 38) of practitioners had inserted punctal plugs, and 11% (4 of 38) had syringed. After the CET workshop, 37.5% (12 of 32) had made a significant change to their practice.

**Conclusions:** In common with other healthcare professionals, attendance at post-graduate education events does not appear to effect a change in practice for most optometrists. The effectiveness of a workshop cannot, however, be judged entirely on whether or not those attending it subsequently make changes to their practice.

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## Introduction

In Ireland, the professional association for qualified optometrists, the Association of Optometrists Ireland (AOI), has required members to gain 30 continuing professional development (CPD) points across a 2-year period since 2009.<sup>1</sup> Similar requirements are common in almost all the healthcare professions in Europe and North America. While much research has been done on the effectiveness of, for example, continuing medical education (CME),<sup>2-4</sup> there appears to be significantly less research relating to continuing education training (CET) or CPD with respect to optometrists, presumably because this is a much more recent phenomenon.

Continuing education refers to education after qualification and registration and is designed to keep practitioners up to date in skills and practices. CPD is different. The Chartered Institute of Personnel and Development (CIPD) put forward one of the first definitions of CPD in 1997: "CPD is systematic, ongoing self-directed learning. It is an approach or process which should be a normal part of how you plan and manage your whole working life."<sup>5</sup> Therefore, CET can be thought of as maintenance of existing skills, whereas the emphasis of CPD is on developing new skills. A previous study on the effect of training on optometrists concluded that optometrists are likely to attend CET based on previous experience and interest, whereas the researchers felt optometrists should be encouraged to participate in CPD to gain confidence in new areas.<sup>6</sup> Although the AOI call their scheme a CPD scheme, it is in fact a mixture of CET and CPD. In analyzing post-graduate education in the medical and paramedical fields, most studies look for a change/improvement in practice and/or change/improvement in patient outcomes to determine the effectiveness of the education.<sup>2,4,7</sup> The purpose of this study was to examine two different workshops, one that would fall under the umbrella of CPD and one that could be classified as CET, to determine whether or not they changed the way the participants subsequently practiced.

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## Methods

### The workshops

Both workshops lasted 1 hour and were run several times over a 1-year period in the National Optometry Centre in the Dublin Institute of Technology. Several of the workshops were run as part of CPD days, which consisted of four workshops in total. One workshop was stand-alone, and three workshops were free of charge to practitioners who had agreed to take undergraduate optometry students on work placement. Apart from the latter three workshops, the other workshops were open to any qualified optometrist (whether a member of the AOI or not) for a payment of €50. Delegates were awarded two CPD points per workshop attended. All participants in the study signed a consent form, and the study complied with the Declaration of Helsinki and was approved by the Dublin Institute of Technology's research ethics committee.

The CPD workshop was on punctal plugs and lacrimal syringing. In this workshop, participants were taught how to insert punctal plugs into a patient's eyelid and how to syringe saline through a patient's tear drainage system. The "patients" used were fellow workshop participants. This workshop can be defined as CPD rather than CET, as these are skills not previously taught to optometry undergraduates. They are not examined in the optometry professional examinations and they are not listed as core competencies for optometrists in Ireland. It is likely that there were less than five qualified optometrists in Ireland carrying out these procedures at the time the workshop ran. In total, 38 delegates attended the workshop.

The CET workshop was on binocular vision. In the course of the workshop, participants were told about and given the opportunity to practice five different techniques for assessing the eyes' convergence and measuring heterophoria. Again, the "patients" used were fellow workshop participants. This workshop was defined as CET because all the techniques being taught are covered on a standard optometry undergraduate syllabus. A total of 35 practitioners completed the pre-workshop survey for

this workshop but only 32 completed the post-workshop survey.

### The surveys

Those who attended the CPD workshop were surveyed by telephone and e-mail between 4 and 13 months post-workshop. Those who attended the CET workshop were surveyed on the day of the workshop and again by e-mail, telephone or postal mail 6 to 9 months after the workshop.

The questions the CPD delegates were asked were as follows:

1. Before attending the punctal plugs and lacrimal syringing workshop in DIT had you ever been taught how to insert plugs or carry out lacrimal syringing?
- 2a. Since attending that workshop have you inserted punctal plugs?
- 2b. Since attending that workshop have you carried out lacrimal syringing?

3. If you have not carried out either of these procedures, what has prevented you from doing so and/or why did you chose not to attempt either of these procedures?

4. What do you find most useful about CET and CPD workshops in general?

The CET delegates were asked to complete the same five-level Likert item<sup>8</sup> pre- and post-workshop. (Table 1)

## Results

### CPD

All 38 practitioners who attended the CPD workshop completed the survey. Seven respondents (18%) had previous training in the two procedures. Only one of these seven carried out the procedures on patients post-workshop, although two of them attempted the techniques on friends and colleagues. Twenty-nine percent (11 of 38) of the total number of participants have

**Table 1**  
**Five-Level Likert Item Practitioners Attending the CET Workshop Were Asked to Complete**

	Always	Fairly often	Sometimes	Infrequently	Never
I measure near point of convergence on patients					
I measure near point of convergence with red filter on patients					
I measure jump convergence					
I ask patients to fill out the convergence insufficiency survey					
I measure fusional reserves					
I measure heterophoria using Von Graefe's technique					

inserted punctal plugs since the workshop. Eleven percent (4 of 38) have carried out lacrimal syringing. **Figure 1** illustrates the number of practitioners who inserted punctal plugs or syringed after attending the CPD workshop. Discounting those who were not in a position to attempt either procedure, these figures change to 34% (11 of 32) and 13% (4 of 32) for plugs and syringing respectively. Of the practitioners who did not attempt one or both of the procedures, 35% (12 of 34) said that they felt they had not had enough practice. **Table 2** shows all the reasons given. **Table 3** indicates what practitioners reported finding most useful about CET and CPD workshops.

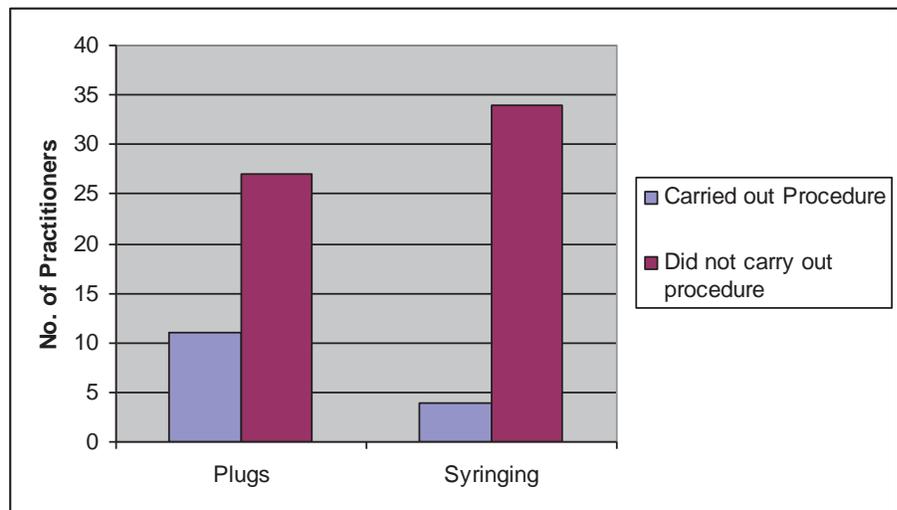
### CET

Thirty-five practitioners who attended the binocular vision workshop completed questionnaires at the time of the workshop. Thirty-two of those completed the same questionnaires 6 to 9 months after the workshop. A change (forward or backward) of one category on the Likert item may be spurious. Therefore, in this study a change in a minimum of two categories is considered significant. Using this criterion, 12 of 32 (37.5%) practitioners showed a significant change in practice after the workshop.

### Discussion

There was some difficulty deciding exactly how long after the workshops the practitioners should be surveyed. If they are surveyed too soon, they may not have the opportunity to change their practice (particularly if this change in practice requires the purchase of new equipment). Also it is likely that many practitioners would show an initial change in practice that was subsequently short-lived. Conversely, if the surveys are carried out too late after the workshops, then it would be difficult to claim that the workshops alone had influenced the change in practice, as the practitioners may have attended other education events in the meantime. Initially the intention was to survey all the practitioners between 4 and 6 months post-workshop. However, when the CPD group was surveyed first, it became obvious this was too soon. Eventually the entire CPD group (bar one who was on sick leave for an extended

**Figure 1**  
Number of Practitioners Who Inserted Punctal Plugs or Syringed After Attending the CPD Workshop (n = 38)



**Table 2**  
Practitioners' Reasons for Not Attempting Punctal Plugs or Lacrimal Syringing After the Workshop (n = 38)  
(Practitioners could give more than one reason)

Reason	No. of Practitioners	%
Need more practice/insufficient understanding of when the procedure is required	12	35%
Procedures are unnecessary/not in demand/not economically viable	8	21%
Nervous that it is a legal grey area and possible opposition from local ophthalmologists†	5	13%
Not in a position to carry out the procedures	6	18%
Peers are not doing it and so would be concerned that he could not access peer support/outside of the optometrist's normal remit	3	9%
Never got around to purchasing the equipment	2	6%
Other	2	6%

† Optometrists in Ireland are not supposed to treat medical conditions

**Table 3**  
What Practitioners Find Most Useful About CET and CPD Workshops (n = 38)  
(Practitioners could make more than one comment)

Comment	No. of Practitioners	%
Hands on/practical	20	54%
Useful for learning a new skill	13	35%
Useful for refreshing existing skills	7	19%
Peer contact	6	16%
Small numbers/participation/opportunity to ask questions	3	8%
Challenging	2	5%
Keeping up to date	2	5%
Availability of equipment	2	5%
Other	2	5%

period) was surveyed by 9 months. The intention for future studies is for all practitioners to be surveyed between 6 and 9 months post-workshop.

The CPD workshop taught practitioners new skills, while the CET workshop was designed to reinforce existing skills. For this reason, the change in practice had to be measured using different metrics, which makes direct comparison of the two workshops more problematic. The two groups also differed significantly in that practitioners who wished to start inserting plugs and syringing had to make some financial outlay for equipment, whereas those who wished to change their binocular vision practice did not have to make the same commitment. Future studies should try to examine groups where little or no financial outlay is required in order to keep the groups as similar as possible.

There is limited scope for generalization about the effectiveness of optometric CPD and CET workshops from this study alone, as the sample size was small and the workshops were focused on very specific skills. There was no control group; therefore, it cannot be definitively stated that practitioners would not have changed the way in which they practice without having attended a workshop. As the practitioners in the study either had to pay for the workshop or were entitled to it (if they were taking an undergraduate student), they may have been a particularly highly motivated group. As such, it is unknown how representative they are of optometrists in Ireland in general. However, it can be said for both workshops that less than half of attendees changed the way in which they practice as a direct result of attendance at the workshop. These results are similar to findings from other systematic reviews, which looked at changes in practice after medical staff attended post-graduate workshops.<sup>9</sup> In a Cochrane review of continuing education meetings for a variety of healthcare professionals, Forsetlund<sup>4</sup> et. al. also found only a small change.

Although this study is essentially taking a change in practice as evidence that a workshop has been effective, this may not be entirely accurate. Some practitioners could not have carried out the

insertion of punctal plugs or lacrimal syringing even if they had wanted to because either they were a locum or were working for someone else. In both these instances, they would not be in a position to buy the equipment required. Even if they were, the practice owners may not want these procedures carried out in their practice. Some practitioners in this position said they came to the CPD day specifically to find out about plugs and syringing. Arguably, they still believed the workshop had educational merit, presumably because they now know what the procedures involve and when they are required and they can advise and refer patients accordingly.

Those who attended the CET workshop and made no change to their practice may have felt that the workshop confirmed that they were already carrying out the tests on an appropriate number of patients. It could easily be argued that it is not necessary to perform every binocular vision test on every patient and practitioners working in a busy practice simply would not have time to do a detailed binocular vision assessment on every patient, particularly in the absence of specific symptoms. However, these are only assumptions and future studies should survey practitioners as to exactly why their practice did not change.

In studies examined by Grant<sup>7</sup> et. al. it was found that doctors will frequently make an informed decision not to make any change to their practice following CME and that this is a perfectly acceptable outcome. Therefore, the absence of a change in practice does not necessarily imply that a workshop has been ineffective.

The value of peer contact or support in educational interventions should not be underestimated. A large study<sup>10</sup> in the U.K. on the effectiveness of education to reduce antibiotic dispensing found that in practices where more than two-thirds of practitioners participated in the study the reduction in antibiotic dispensing was greater. Most medical practice involves regular contact with colleagues and training of juniors. This rarely happens in optometric practice, where (apart from in the larger multiples) most practitioners usually work either alone or with one or two fellow

professionals. An example of the value of peer support is the fact that the four practitioners who carried out syringing post-workshop work together (two pairs) and one of the pairs only schedules patients for this procedure when they are both present. This means they are in a position to assist one another should the need arise.

## Conclusions

This is the first study that the authors are aware of that has measured the effectiveness of optometric post-graduate education by looking for a subsequent change in practice. In common with other studies and reviews,<sup>4,9</sup> the study has found that a single intervention is not sufficient to result in a change in practice for the majority of optometrists. Therefore, the authors recommend that, wherever possible, workshops should offer attendees the opportunity to carry out techniques on real patients or each other, as this should increase practitioner confidence. Workshops that are really just presentations with props (i.e., the participants are not offered the possibility of attempting any procedure) are unlikely to give practitioners the confidence to attempt a new skill once back in practice. Some form of follow-up support should be made available after the workshop. This could be a second workshop or a peer-review meeting with practitioners who are now carrying out the procedures. It could also be as simple as providing contact details for the workshop facilitator, which would allow attendees to ask questions subsequent to the workshop.

If a change in practice is really desirable, then practitioners need to be convinced primarily that the change would be beneficial to them and secondly that it would be beneficial to their patients. Therefore, educators need to expound the benefits of change. Further research examining other methods of optometric post-graduate education for effectiveness would also be desirable.

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