

## LETTERS TO THE EDITOR

### Digital Angiography Task Analysis

**A** task analysis is a useful tool for identifying the current standard of practice within a profession. It can also help define the role of new technology within that standard. Various task analysis strategies are often used to establish validity or job relevance in a certification program. The article, "A Task Analysis of Digital Angiography of the Ocular Fundus"<sup>1</sup> represents the second formal task analysis conducted in retinal angiography. It is the first task analysis to date which was designed specifically to help determine the current role of digital angiography in our profession.

This analysis was well organized and properly conducted. The author's conclusions, implications and recommendations are presented in an insightful and objective manner. I agree with many of Mr. McGregor's recommendations, but would also like to clarify some points relevant to certification. Although this article identifies the tasks necessary for ICG angiography, it seems to fall a bit short in identifying the specific skills necessary for digital fluorescein angiography.

The data presented in this article demonstrates some of the difficulty in identifying skills specific to digital angiography. Looking at the list of skill and knowledge items accepted by the expert panel, only two of the thirty items seem to relate directly to digital imaging: #7 – Employ basic digital angiographic camera operation skills, and #26 – Type at a basic level. A close look at the more detailed list of 121 accepted tasks also reveals a small number of tasks that are directly related to digital angiography, however these tasks are all specific to ICG angiography and not required for fluorescein angiography.

With the exception of the few specific ICG tasks, it could be argued that the remaining tasks are universal to competent practice by either traditional or digital means. For this reason, I agree with the author's suggestion that it may be advisable to separate various photographic procedures in any future task analysis. By separating ICG from fluorescein angiography, we can then objectively compare the two methods and determine each method's place in our certification program.

If the CRA program were to accept this data as it stands, digital fluorescein angiography would require fewer skills than are necessary when performing fluorescein angiography by traditional means. While most digital users would argue that some additional skills are required, they have not been identified here. Additional surveys should be undertaken to identify what these skills are. For example, do these specific skill and knowledge items include things like keyboard skills, under-

standing computer operating systems, and learning the mechanics of a particular software program? Or is it really more of an overall comfort level with computers that is being confused with specific skills? We need the consensus of the profession to find the answers to these questions.

It is clear that further task analysis is necessary before digital angiography can be included in the CRA program or any other certification level. Some members of the profession have been calling for the inclusion of digital angiography in the CRA program for a number of years now. Unfortunately, job relevance in a certification program must be established in a reactive, rather than proactive manner. This necessitates periodic task analysis to keep pace with changes in technology. Specific skills or tasks must achieve a defined level of statistical significance before their inclusion is warranted. It is expected that the next formal task analysis conducted by the OPS Board of Certification will demonstrate an increase in the use of digital equipment for retinal angiography. During the previous BOC survey, conducted in 1995, less than thirty percent of the respondents reported doing any angiography by digital means.<sup>2</sup> It is unknown what percentage of those were performing ICG angiography.

As it is currently structured, the CRA program represents a somewhat basic level of competence in ophthalmic photography. Digital fluorescein angiography will most likely find its way into the CRA program in the near future. The profession should be surveyed to determine the current prevalence and frequency of use of ICG angiography and Scanning Laser Ophthalmoscopes, as neither of these two newer technologies are included in the current CRA program. The high cost of these technologies may limit their widespread use, and could prevent their inclusion in the CRA program. These technologies may have a place in a separate certification level as suggested by Mr. McGregor.

ICG angiography, much like various other ophthalmic photographic techniques such as slit-lamp photography, gonio photography, specular microscopy, etc. may be more appropriately covered by an additional

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level of certification — somewhat like the discontinued COPRA program. By surveying a subset of professionals that routinely perform them, these tasks may achieve the necessary level of statistical significance to warrant their inclusion at that certification level.

The OPS Board of Certification is currently in the early planning stages for its next scheduled task analysis survey. A new certification level is also being planned for the near future. The OPS Board of Certification would benefit by reviewing the data presented by Mr. McGregor, and incorporating some of his recommendations in their next survey. Although his article does not completely identify the skills necessary for digital angiography, it does identify some areas where further investigation is needed. I would like to take this opportunity to commend Mr. McGregor for his efforts. Our profession should benefit from the foundation he has provided for future task analysis.

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#### REFERENCES:

1. McGregor G. A Task Analysis of Digital Angiography of the Ocular Fundus. *Journal of Ophthalmic Photography* 20:2, October, 1998.

2. Windom K, Houghton P, Bennett T. Job Analysis Survey of Retinal Angiographers. *Journal of Ophthalmic Photography*, 19:1, April, 1997.

#### AUTHOR RESPONSE:

Mr. Bennett's letter to the editor provides an apt and welcome critique to my task analysis. As he has observed, in research, the road from point A to point B often leads to point C. While I set out to ascertain what the skill and knowledge requirements are for the performance of digital angiography, I discovered several methods issues that deserve further scrutiny — including those that Mr. Bennett identifies.

The number of participants on the panel of experts was limited to ten. Even with this limitation, the research took two and one-half years to complete. One hopes that the Ophthalmic Photographers' Society, with its superior resources, will be able to design and execute (or hire someone or entity to execute) an improved and timely survey of the entire membership. I would be proud and pleased if my task analysis were used, as Mr. Bennett puts it, as a "foundation" for further study.

Finally, I would be remiss if I did not take this opportunity to again thank the panel members for their participation in the study. Without their hard work, there simply would not have been any conclusions, implications, or recommendations to discuss.

Sincerely,  
Gordon McGregor  
Morgantown, West Virginia