



SDI Review Form 1.6

PART 1:

Journal Name:	<u>Ophthalmology Research: An international Journal</u>
Manuscript Number:	2013_OR_4790
Title of the Manuscript:	Prospective pilot study looking at the size and variation of the blind spot scotoma in adults measured on the Octopus 900 field analyser
Type of the Article	Research paper

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	<i>Reviewer's comment</i>	<i>Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Compulsory REVISION comments	2.0 Methods Line 100-102: Normative sample, Inclusion criteria: Did the researcher perform a comprehensive ophthalmic examination on the participants to rule out any pre-existing ocular pathology such as cataract, corneal opacities or retinal pathologies? <i>This is important as any temporal media opacity may affect the size of the blind spot.</i> Did the researcher take into account of any refractive error and the size of the optic disc of the participants? <i>This is important as participants with larger optic disc will have a larger blind spot.</i> Did the researcher take into account the presence of ptosis or dermatochalasis which may affect the visual field? Did the researcher include those with high refractive errors?	Clarified further in the methodology line: 55 Any ocular anomalies were identified during screening these were to be investigate by the on-call Ophthalmologist. Stated refractive error corrected in methods – line: 70 This has been addressed for further research see line: 367 Yes, now addressed line: 55 Range given - line: 99 One excluded due to high myopia and retinal detachment – line: 102



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	Line 104-106: This project was registered at Sheffield University and approved by the Research Ethics Committee of the School of Health and Related Research (ScHARR). The researcher should provide the project ID / reference number. Line 106: The researcher should state that “this study was conducted in accordance with the Declaration of Helsinki” . Did the researcher obtain written informed consent from the participants prior to the study? Line 112, 128 : The researcher should define the inner and outer visual field. Line 112: The researcher need to specify the instrument used in the study. Line 113: The peripheral visual field should always be tested with the brightest target, 4e. Why did the researcher use both targets (I2e and I4e) for the outer visual field? Which target did the researcher use first, I2e or I4e? Did the participants get to rest in between testing to avoid fatigue?	Added to ethical approval section – line: 397 Added to ethical approval section – line: 398 Added to consent section – line: 399 Yes – addressed on line: 393 Wording changed to peripheral field as to avoid confusion: line 79 Octopus 900 defined in the introduction line: 28 This is common practice in the UK, I have addressed this line: 65 I4e then I2e, I have addressed this on line: 64 Resting was given between trials, addressed on line: 69
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	Line 115-117: <i>"The blind spot scotoma was similarly measured in degrees² for the right and left eye but using three target stimuli; I1e, I2e and I4e moving at the slower speed of 2°/s."</i> <i>This is methodologically INCORRECT. The blind spot is by definition an ABSOLUTE scotoma.</i> <i>The researcher should use stimuli of various sizes as well.</i> <i>The presence of absolute scotoma can only be determined if</i>	<i>The reasons these targets were chosen was because these are the targets used as common practice in the UK, and I believe it is vitally important to find normative data for our current practice.</i> <i>The blindspot is an absolute scotoma however it also has an amblyopic zone 3.2.1 "The blind spot has an area of absolute blindness, and around this area is an amblyopic zone that is seen to increase when plotted with smaller targets."</i> <i>Traquair (1948) described this blind spot amblyopic zone as...</i> <i>"The area of absolute blindness corresponds not to the head of the nerve (optic), but to the area in which no retinal receptive elements are present, an area usually slightly larger than the nerve itself. The presence of the amblyopic zone is at least partly anatomically explained by the gradual rather than abrupt termination of the retinal outer layers towards the nerve. At the upper and lower ends of the blind spot, narrow curve prolongations of the amblyopic zone are found which represent the projections of the large retinal vessels near the optic disc, and which with care may be traced some little way over the field even as far as 30°..."</i> <i>The 'V' target has an area of 64mm², this</i>
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	<i>there is no "can see" using the V4e.</i> Line 117: "Two trials were conducted to assess variability across the targets." Were they performed in the same day? Line 124-126: "the second recordings of the blind spot scotoma are of a smaller area due to a learning experience and familiarity with the field analyser." How did the researcher overcome the above problem?	<i>unfortunately cannot be used to measure the blind spot scotoma in 'normals' as it is too large and falls on the surrounding retina as well as within the blind spot. It is for this reason that the 'I' target is used in common practice, as it is small enough to fit within the blind spot and is also discernable.</i> Yes – now addressed line: 69 This has now been addressed in the results section 3.1.3 line: 241
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Minor REVISION comments	<i>Line 88: "11e, 12e and 14e" should be written as "I1e, I2e and I4e". The same goes for the rest of the manuscript.</i> <i>Line 102: the acronym IIH needs to be defined.</i>	<i>Addressed – line: 83</i> <i>Defined – line: 54</i> <i>Included in Glossary – line: 429</i>
Optional/General comments	<i>This study looked at the size and variation of the blind spot scotoma in adults.</i> <i>The major flaw in this study is the method used to determine the size of the blind spot.</i> <i>The researcher used sized I stimuli (I1e, I2e, I4e) only.</i> <i>This is methodologically INCORRECT. The blind spot is by definition an ABSOLUTE scotoma.</i> <i>The researcher should use stimuli of various sizes as well. The presence of absolute scotoma can only be determined if there is no "can see" using the V4e.</i> <i>The measured size of the blind spot increased as a function of decreasing stimulus value, by reducing either the relative brightness or the size of stimuli.</i> <i>[Dolderer J et al. Scotoma mapping by semiautomated kinetic perimetry: the effects of stimulus properties and the speed of subjects' responses. Acta Ophthalmol. Scand.2006;84:338-344.]</i>	<i>The reasons these targets were chosen was because these are the targets used as common practice in the UK, and I believe it is vitally important to find normative data for our current practice.</i> <i>*See above comments*</i> <i>The 'V' target has an area of 64mm², this unfortunately cannot be used to measure the blind spot scotoma in 'normals' as it is too large and falls on the surrounding retina as well as within the blind spot. It is for this reason that the 'I' target is used in common practice, as it is small enough to fit within the blind spot and is also discernable.</i>



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	<i>Therefore, the size of the blind spot obtained in this study is invariably larger than previously reported due to this technical flaw.</i>	
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