To the Editor,

We read with interest the American Academy of Ophthalmology's report on IoL implantation in childhood 2 years of age or younger which is based on a systematic literature, without a meta-analysis, by Lambert et al[1]. Based on this review, the AAO states that whilst IoL implantation in children aged under 6 months is *not* recommended, the "best available evidence suggests that IOL implantation can be done safely with acceptable side effects in children older than 6 months of age".[1]

We disagree with this statement because the best available evidence does not support the absence of important adverse outcomes in children older than 6 months of age.

The review adopts the internationally accepted framework for evidence appraisal developed by the Oxford Centre for Evidence-based Medicine (CEBM). However the review authors have applied the 2009[2] version of this guidance rather than the version updated in 2011. The authors do not justify this. Furthermore they have misinterpreted the 2009 guidance from CEBM which stated that an inception cohort study with more than 80% follow up sits at an equivalent level to individual (ie single) randomised controlled trials.[2] IoLunder2, the national study of primary IoL implantation in children aged 2 years and under, is an inception cohort study with 96% follow up.[3] Findings from IoLunder2 and the Infant Aphakia Treatment Study randomised controlled trial (RCT) on outcomes for children undergoing surgery for unilateral cataract under 7 months of age are strikingly similar.[3,4] The updated 2011 guidance CEBM restates the equivalence between single trials and inception cohort studies with good follow up, and also states that individual inception cohort studies and RCTs provide level 2 evidence on treatment harms or benefits.[5] Thus, the

review by Lambert et al has not appropriately weighted the literature, undermining the accuracy of the AAO report.[1]

Lambert et al also suggest that findings from IoLunder2 are limited by differences within the cohort of age at surgery, operative techniques, perioperative medications or level of surgeon experience.[1] These and other possible confounders were considered in the gold standard approach of using multivariable analysis to adjust for confounding. The increased risk of visual axis opacity with IoL implantation in children aged under 2 is independent of these factors.[3] Thus, taken together, the evidence from the work cited within the review,[1] specifically IoLunder2, Li et al and Vasavada et al, suggests that for children aged between 6 months and 2 years old, primary pseudophakic carries an increased risk of VAO over aphakia. Whilst Vasavada et al reported similar rates of VAO in the pseudophakia and aphakia group, there was a significantly higher rate of structural inflammatory sequelae following IoL implantation.

We think that it is important that recommendations about clinical practice accurately assess and draw together the best available evidence. We hope that drawing attention to the flaws in the review underlying the AAO recommendations will enable clinicians to counsel families of affected children appropriately, before surgery, on the increased risk of re-operation with primary IoL implantation, independent of age, for all children aged under 2 years old at cataract surgery.

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