

Correspondance

Evaluating elective surgery

Charles Wright and colleagues¹ are to be commended for the model of health outcome measures that they have developed for examining the appropriateness of elective surgical procedures. However, we have some concerns about the tool used to assess cataract surgery. The VF-14 index is very sensitive when used appropriately, but it was not designed to determine who needs surgery. Previous studies of preoperative visual function have obtained findings similar to those of the Wright study, that is, that about 20% to 30% of people have a high score on the visual function test.² However, such results do not necessarily mean that these patients do not need surgery. The VF-14 index is a composite measure for reading, driving, playing sports, watching television and other activities, and as such it does not clearly identify people with a significant deficit in just one of these domains who would benefit from surgery.

Ocular comorbidity, which was present in up to 50% of all cataract patients in the cohort studied (Ken Bassett, Associate Professor, Department of Ophthalmology, University of British Columbia: personal communication, 2003), predicts poor outcomes. So does old age. Such comorbidity does not mean that surgery is inappropriate, but the VF-14 index does not capture patient satisfaction after surgery in such cases.

Finally, the authors did not emphasize that ophthalmologists have reported visual improvement in 92.4% (786/851) of patients at the University of British Columbia Eye Care Centre (essentially the same patients as were included in the Regional Evaluation of Surgical Indications and Outcomes study), whereas in 4.9% they reported no change in visual acuity (Ken Bassett: personal communication, 2003). Similarly, Wright and colleagues were not able to report the level of satisfaction that could have been determined by asking "Do you think this surgery was helpful and has it added to the quality of your life?" We are disappointed that these issues were not fully addressed in the Interpretation section of this paper,

nor, apparently, was such a discussion requested by the peer reviewers.

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References

1. Wright CJ, Chambers GK, Robens-Paradis Y. Evaluation of indications for and outcomes of elective surgery. *CMAJ* 2002;167(5):461-6.
2. Steinberg EP, Tielsch JM, Schein OD, Javitt JC, Sharkey P, Cassard SD, et al. The VF-14. An index of functional impairment in patients with cataract. *Arch Ophthalmol* 1994;112:630-8.

Charles Wright and colleagues¹ concluded that indications for and outcomes of elective surgery can be evaluated systematically at reasonable cost. Their analysis focused on 6 procedures, including cataract surgery. For patients who had undergone this procedure, the authors highlighted the finding that "32%, 15% and 4% [of patients] had a preoperative visual function score of greater than 90, greater than 95 and 100 respectively (on a scale of 100)." They concluded that "the threshold indications for cataract surgery are now very low." On the surface, this seems a reasonable claim if the measurement tool accurately quantifies visual impairment. However, the measurement tool used by Wright and colleagues,¹ the VF-14 (which was originally described in a report of the Patient Outcomes Research Trial [PORT]), only partly reflects visual impairment.² This tool is widely used because it correlates "more strongly with [patients'] overall self-rating of the amount of trouble they have with vision and of their satisfaction with vision than do any of several measures of their visual acuity."² However, the correlation value (Spearman correlation coefficient) was only -0.45, which indicates that more than half of patients' trouble with vision was not accounted for by this measure. This led the PORT authors to conclude that "vision-related functional status measures, in conjunction with the global ratings by patients of their vision and visual acuity, will likely prove to be better indicators of the need for and outcome of cataract surgery than will visual acuity or a

general measurement of functional status alone."² By basing their assessment of visual difficulty on the Visual Function Assessment alone, Wright and colleagues¹ underestimated the magnitude of patients' vision problems.

The article also highlighted that 27% of patients had worse Visual Function Assessment scores after surgery than before. This result might lead one to wonder how much inappropriate surgery is being undertaken. Not surprisingly, the press has picked up on these concerns.^{3,4} The explanation for this worrisome finding can be found in the more detailed report of this study (the Regional Evaluation of Surgical Indications and Outcomes [RESIO] project),⁵ which stated that "these data are for operations on the first eye even if both were eventually done." The results of the original PORT study, which defined the VF-14 index, also indicate that the VF-14 score may progressively decline after cataract surgery if it is performed on only one eye.⁶ However, dramatic gains in functional status were seen for patients who were rechecked after the second eye was treated. The PORT authors stated that "patients who underwent surgery in both eyes demonstrated a 1.6-fold greater improvement in VF-14, were 2.1 times as likely to report no trouble with their vision, and 2.7 times more likely to be satisfied with their vision than patients who underwent surgery in only one eye. The magnitude of the difference in improvement in VF-14 between one- and two-eye surgery appears to be attributable to both the direct effect of second-eye surgery and to a decline in VF-14 between 4 and 12 months in the one-eye surgery group."⁶

In summary, Wright and colleagues have used a tool not designed or appropriate for determining surgical thresholds to argue that thresholds for surgery are inappropriate. They have also suggested that inappropriate surgery is being done, while omitting the obvious explanation for the results, which was hinted at in the initial study report.⁵ The authors may be correct that these kinds of evaluations can be done at a reasonable cost, but given the interpretation offered,