



Routine Preoperative Testing Before Cataract Surgery



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Key Finding: Routine preoperative testing before cataract surgery does not improve patients' health or clinical outcomes, according to a study sponsored by the Agency for Healthcare Research and Quality (AHRQ).

The Study of Medical Testing for Cataract Surgery was conducted as part of the Cataract Patient Outcomes Research Team, led by Oliver D. Schein, M.D., M.P.H., of the Wilmer Eye Institute, Johns Hopkins University. AHRQ is the Federal Government's lead agency charged with supporting research to improve the quality of health care, reduce its cost, address patient safety and medical errors, and broaden access to essential services.

Introduction

Cataract surgery is the most common operation among the elderly in the United States. In 1996, Medicare beneficiaries had about 1.5 million cataract operations. Routine medical testing before cataract surgery is estimated to cost Medicare \$150 million each year.

Cataract surgery is almost always performed as an outpatient procedure. Patients undergo local anesthesia and usually intravenous sedation as well. Rates of associated morbidity and mortality are very low. However, cataract patients, because of their age, have a high prevalence of coexisting illness and associated abnormalities in laboratory tests. Therefore, preoperative testing has been used in hopes of detecting previously unknown conditions that may influence surgical outcomes. Individual physicians may think that the patient's medical history and physical examination provide enough information, but they still may order the tests because of guidelines, institutional requirements, or the belief that another provider wants the results.

This study examined whether such tests really provide a benefit to the patient.

Methods

In the Study of Medical Testing for Cataract Surgery, a large-scale randomized prospective study of outcomes, 19,557 elective cataract operations on 18,189 patients at 9 surgical centers were randomly assigned to a group undergoing a standard battery of medical tests and a no-testing group. In all cases, medical histories were taken and a physical examination performed. Adverse medical events and medical intervention on the day of surgery and during the next 7 days were recorded.

Findings

The authors of the study conclude that having routine medical tests done for cataract patients before they have surgery does not improve their health or their clinical outcomes. The standard battery of preoperative tests—12-lead electrocardiogram, complete blood count, and measurement of serum levels of electrolytes, urea nitrogen,





creatinine, and glucose—should be ordered only when they would have been indicated even if the patient were not planning surgery.

In this study, outcomes in both the testing and no-testing groups were assessed. The overall rate of complications (intraoperative and postoperative) was the same for both groups: 31.3 per 1,000 operations. The rates for intraoperative events and postoperative events, considered separately, did not differ significantly. The most frequent medical events in both groups were treatment for hypertension and arrhythmia (mostly bradycardia).

Stratified analyses were performed to determine whether preoperative testing, while not of benefit overall, might be of value to various subgroups of patients. One analysis was stratified according to which center the surgery was performed in and the age, sex, and race of the patient. Another was stratified according to coexisting illness, physical status (using the American Society of Anesthesiologists classification), and self-reported health status. Neither analysis showed that preoperative testing improved outcomes. Finally, the

researchers analyzed whether physicians might have canceled or postponed cataract surgery based on preoperative testing results. No support was found for this hypothesis.

Further Research

These findings indicate that routine preoperative testing confers no benefit on patients having cataract surgery. Increasingly, researchers are studying the need for routine preoperative testing before other types of elective surgery. The findings on cataract surgery may spur other studies of preoperative testing for elective procedures using local anesthesia and intravenous sedation.

For More Information

Findings from the Study of Medical Testing for Cataract Surgery are summarized in an article in the January 20, 2000, issue of the *New England Journal of Medicine* by Dr. Schein and colleagues: Schein OD, Katz J, Bass EB, et al. The value of routine preoperative medical testing before cataract surgery. *NEJM* 2000(Jan 20);342(3):168-75.



AHRQ Pub. No. 01-P005
November 2000