



Vascular Specialists of Central Florida, Inc.

Evaluation of High-Risk Procedures

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Every patient about to undergo a high-risk hospital-based procedure faces the question of the quality of health care. Internet-based scoring systems have emerged that offer the patient an avenue for comparison of high-risk procedures based on the number of procedures performed and outcomes, defined by complications and mortality for hospitals. The intent is clearly to empower the patient and allow the patient to determine where procedures should be performed. Although the accuracy may be in dispute, the goal of quality improvement is admirable. The physician should be aware of these scoring methods, as well as their strengths and weaknesses, and his contribution to these systems.

How many times have you come across a patient in your clinic who arrives with an armful of data procured from the Internet? With respect to abdominal aortic aneurysm repair and carotid artery interventions, we know that large numbers of Internet sites offer a plethora of information on various procedures, some precise, others rather dubious in their claims. Consumerism abounds in some sites: they are little more than vehicles for advertisement rather than sources of information. Not everything found on the Internet is gospel. *Caveat emptor!*

Clearly, there must be ways of determining differences in outcomes for high-risk procedures and diagnoses, if at least to identify areas for improvement. Both Health Grades and Leapfrog are Internet sites which give scoring systems for hospitals for a variety of procedures. They collect data from Medicare patient records for a particular diagnosis and look at mortality and case volume. Expected complication rates are calculated based on regression analysis to take into account patients who pose a higher risk. For instance, carotid procedure complication rates may be compared between hospitals in order to draw some conclusions as to centers of quality. Higher volume hospitals may see more complex problems, and therefore see more complications. Risk adjustments are calculated to account for these differences. This is the method by which Health Grades scores hospitals.

Leapfrog similarly looks at volume of cases and outcomes, as well as benchmarks for quality care. For instance, the routine use of beta blockers for aortic resection and large aortic volumes with low mortality will give a superior rating in Leapfrog analysis. If a low-scoring facility were to integrate benchmarks into their clinical plans, they could possibly improve their scoring and outcomes.

The weakness in these systems is that they often try to reduce multiple factors into a single score. There is wide variability in risk and outcomes among patients without considering physician or hospital factors. No two patients are ever alike. Furthermore, they rely on data abstracted from charts, which poses its own distinct set of problems with collection and interpretation. For instance, we know that in our institutions, great strides were made with abdominal aortic surgery in the last three years. Although elective aortic mortality has decreased by 50 percent, overall elective and emergent aortic mortality has decreased only by about 20 percent. This is largely due to an increase in the number of aortic cases performed and in the number of emergent cases performed relative to elective procedures. Emergent ruptured aortic aneurysms are clearly a more difficult and deadly problem than elective repair.

The profound reduction in elective aortic surgery mortality is not always evident, but is perhaps more important than combined elective and emergent mortality.

For better or worse, the scoring systems are here and will continue to be in the stack of Internet information in the hands of our patients. They do offer some insight into the hospital's outcomes and may direct appropriate changes in care. We should address the systems carefully and work with our institutions to assure accurate reporting of data. Finally, no patient should be allowed to make decisions regarding health care in a vacuum. Familiarity of scoring systems by the physicians may help guide the patient to a more confident decision regarding their health.

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