

*Prognosis of
Surgical Disease*

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Preface

Surgeons seldom deny that they are logical. But with equal vehemence they usually protest that they are not statisticians. In fact, logical clinical decisions necessarily involve weighing the probability for good or evil of available options. Good can be measured by the probability of such things as cure of pain, improved physical activity, length of life, and increased earning power. Harm, on the contrary, can be measured by the probability of death, pain, hospitalization, and physical or mental incapacitation. In a world in which expensive medical technology has outpaced our knowledge of how most efficiently to use it, the cost in dollars to the individual or to society also must be considered in the numerator of a cost/benefit analysis.

A surgeon who denies an interest in or reliance on statistics and probabilities merely takes refuge behind his or her own exquisite computer—the brain—which regardless of conscious effort in the scientifically trained person subconsciously compares probabilities of good and bad outcome for the reasonable options. Surgeons are therefore intuitive if not overt statisticians. The best ones, who ultimately become known as wise, consciously record probabilities.

A surgeon gains knowledge of probabilities in several ways. Most important is his or her own experience. Unfortunately, it takes a lifetime to gather a statistically significant number of cases in order to use this source—by which time it is often too late to use these data. In addition, one usually inappropriately overweighs one's own experience—particularly one's recent experience. Another source of data is what one hears or reads. This

is clearly the best way to analyze carefully the experience of others.

In a previous book (*Surgical Decision Making*, Saunders, 1978) we defined in diagramatic form using decision trees how pertinent data could develop a series of logical clinical options. This book is designed to present the statistical data base upon which choice can be made with the greatest probability of doing the maximum good and the least probability of doing harm. For each quoted number the reference source is cited.

Given the need for precise data concerning the probability of a good or bad outcome following surgical decisions, it is astounding how difficult it is to find such statistics for many common surgical diseases. For example, we had to omit the chapter on general anesthesia for lack of data using modern techniques!

Throughout the preparation of this book, the authors who had so gallantly volunteered to prepare the chapters came to the editor white-faced and shaken with variations of the complaint, "But in this particular field you would be amazed how little hard data is available." What was first thought to be a simple job for quick literature review inevitably turned out to be much more difficult. For their long hours of library searching, I am sincerely grateful.

Having made obeisance to numbers, let a caveat be added: Numbers are not everything. Data from two papers concerning the same disease are seldom totally comparable. Case selection and subjectivity in recording beneficial results, for example, are notoriously dependent on the bias of the author. Even length of life

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is not invariably a good way to judge the benefit of operation. Life has depth as well as length. When the book was started, we tried to quantitate depth of life following certain operative procedures but gave up largely because we could find no good way to quantitate benefit with hard data. However, the principle is important, even though it is not faced in this book except indirectly by recording when possible good/excellent results or the incidence and severity of complications. Four pain-free months with good physical activity terminating in sudden death seems superior to six months of misery—but how do you quantitate it?

Finally, I thank the contributors for their tolerance during the necessary débridement and plastic reconstructive operations performed on their chapters as originally submitted. Being surgeons, they are individualists and are unaccustomed to being forced into even an editorial conformity. I hope the value of the book will compensate for bruised egos. Fortunately, all are colleagues and friends.

B. EISEMAN

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