

Preface

Research is vital to the advancement of medicine. Although evidence-based medicine has promoted better research practices and improved translation of evidence to clinical practice, the same has not been true of research in surgery. Several challenges have led to highly variable quality in surgical research and thus limited application to daily surgical practice. Lack of trained surgeon scientists has been one key barrier. Surgical research in most academic settings is commonly conducted in an extremely difficult environment of competing priorities: a busy surgical practice versus pressures by university departments to increase academic output. The consequence of limited study designs, incomplete resources to complete studies, and inability to dedicate time to publish research findings is therefore not entirely unexpected.

In an era of evidence-based medicine (EBM), the most sophisticated practice of EBM requires, in turn, a clear delineation of relevant clinical questions, a thorough search of the literature relating to the questions, a critical appraisal of available evidence and its applicability to the clinical situation, and a balanced application of the conclusions to the clinical problem. The balanced application of the evidence (i.e., the clinical decision making) is the central point of practicing evidence-based medicine and involves, ac-

ording to EBM principles, integration of our clinical expertise with patient preferences and values, and with the best available research evidence.

To optimize the translation of evidence into practice, we require high-quality research. This textbook is the culmination of years of experience conducting research and promoting evidence-based practice. We provide rationale for why we need clinical research, provide principles for clinical research, and guide readers to practical aspects in the practice of research. Throughout the text, we have maintained a standardized approach that includes a number of innovative strategies to make the book readable. Jargon Simplified sections provide quick, on-the-spot definitions of terminology that may not be familiar to most readers. Key Concepts sections highlight the most important issues covered within the chapter and within the field of clinical research. Examples from the Literature provide real examples of research to provide practical context to chapters. Our text provides the key principles of research design and execution and is unique in its approach of "practical advice for working clinical researchers."

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