



### ***Anticoagulation Therapy: A Point-of-Care Guide*** **By: Dager WE, Gulseth MP, Nutescu EA, editors**

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*Anticoagulation Therapy: A Point-of-Care Guide* is a pocket-sized reference that presents an evidenced-based yet pragmatic approach to the use of anticoagulants in clinical practice.

The book consists of 19 chapters divided into 3 sections. Part 1, entitled “Anticoagulant Medication Management”, begins with an introductory chapter summarizing useful resources on anticoagulation therapy, including interpretation of the grades of recommendations used in scientific statements and clinical practice guidelines. This chapter also offers thoughtful considerations for evaluating clinical trials that involve anticoagulants. Each of the next several chapters is dedicated to one class of anticoagulants. Part 1 concludes with a chapter on reversal of anticoagulation and another called “Transitions in Care”, which provides comprehensive guidelines on switching between agents and periprocedural anticoagulation. Part 2 includes individual chapters on common medical indications for anticoagulation therapy, along with specific chapters covering special populations, such as pediatric patients and pregnant women. Part 3, entitled “Practical Monitoring and Coagulation Laboratory Insights”, covers laboratory considerations and hypercoagulability testing. The text contains several useful appendices, such as recommendations for the timing of manipulation of epidural catheters relative to the use of anticoagulants, discussions of drug-related causes of thromboembolic disease and cancer-related thromboembolism, and a comparison of available definitions of bleeding that are employed in the primary literature.

The individual chapters contain less text than typical references, consisting primarily of tables and figures interspersed with bullet points. “Clinical pearls” at the end of each section summarize the evidenced-based recommendations and, where evidence is limited, reflect expert opinion on common clinical situations that arise with anticoagulation therapy in practice. A list of references is provided at the end of each chapter, and “key articles” are highlighted. These generally include clinical practice guidelines, review articles, and landmark clinical trials. Where possible, the authors have included summaries of the primary literature in tabular format.

The editors are pharmacists who are regarded as experts in anticoagulation therapy, and each chapter is written by one or more pharmacists with experience in the management of this type of therapy.

The strengths of this text include its layout and readability, which allow the reader to access information quickly. As a point-of-care guide, it is comprehensive and addresses a wide range of anticoagulation scenarios encountered in practice. Canadian practitioners should bear in mind that because it is a US resource, information related to individual anticoagulants reflects US Food and Drug Administration labelling. This issue is of particular relevance with regard to labelling pertaining to dosing and drug interactions for the new oral anticoagulants. Canadian practitioners will also need to be aware of the effect of differences in product availability on certain areas of practice, especially anticoagulation reversal: 4-factor prothrombin complex concentrate is readily available in Canada, and an oral formulation of vitamin K is not available in this country.

Overall, this is an excellent resource that offers practitioners a practical approach to addressing clinical situations involving anticoagulation. Of particular value is the enhancement of the evidence with the authors' expert clinical experience. This text will be relevant to pharmacists practising in both ambulatory care and the inpatient setting. It contains excellent summary tables of recommendations and monitoring parameters and effectively incorporates the use of figures such as those illustrating anatomy, the coagulation cascade, types of mechanical heart valves, and guidelines for fitting compression stockings. This text will also be a valuable resource for anyone who is teaching students, residents, and new practitioners.

Natalie Crown , PharmD

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# Reviews/Testimonials

## ***Anticoagulation Therapy***

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***Doody's Review Services June 3, 2011***

[REVIEWER'S EXPERT OPINION]

**Judith Klevan, BA biology, BS Pharmacy (Jeanes Hospital)**

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### **Description**

This comprehensive guide to anticoagulants describes how they work, how they are used, clinical issues, and monitoring parameters and reversal guidelines.

### **Purpose**

The purpose is to create a pocket guide that gives practitioners quick access to evidence-based and expert information on the use of anticoagulants in various types of patients.

### **Audience**

The audience of clinical practitioners would include physicians in various specialties, including orthopedists, cardiologists, internists, general practitioners, residents, and medical students, as well as nurse practitioners, physician assistants, and pharmacists.

### **Features**

The book discusses different anticoagulants, their mechanisms of action, dosing guidelines, monitoring parameters, and reversal guidelines. The clinical pearls are really helpful in addressing various situations such as dosing a morbidly obese patient. Many tables help make dosing comparisons, patient group comparisons, risk assessments, etc. Unfortunately, the font on some of the flow charts, diagrams, index, and back cover is very small and difficult to read.

### **Assessment**

This is a wonderful little pocket guide to anticoagulation therapy. It is comprehensive, yet simplified. Updates will be needed as newer drug therapies come to market.

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**Weighted Numerical Score: 84 - 3 Stars**



# Reviews/Testimonials

## ***Anticoagulation Therapy: A Point-of-Care Guide***

***By William E Dager PharmD BCPS (AQ Cardiology) FCSHP FCCP FCCM FASHP, Michael P Gulseth PharmD BCPS, and Edith A Nutescu PharmD FCCP.***

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### **The Annals of Pharmacotherapy: July/August 2011 vol. 45 no. 7-8 page 1034-1035**

**Therapeutic Area:** The book has a focus to describe aspects of the use and monitoring of anticoagulation therapy, including specific issues for patients in the areas of adult internal medicine, cardiology, pediatrics, and obstetrics.

**Format:** Soft-cover book that is handbook size, thus, small enough for easy portability and for possible use as a laboratory coat pocket reference.

**Audience:** The intended audience primarily is practitioners in all disciplines who are involved in the provision of anticoagulation therapy. The general nature of the handbook would make it a useful resource for students in pharmacy, medicine, nurse practitioner, and physician assistance programs. The extensive coverage of the field of anticoagulation also makes the handbook a good general reference for hospital and clinic pharmacies.

**Purpose:** This is the second point-of-care book by the American Society of Health-System Pharmacists. The book presents information in a succinct fashion and is designed to provide rapid retrieval of information regarding issues surrounding anticoagulation therapy.

**Content:** The book is divided into 3 major sections, including 1 focused on drug therapies in anticoagulation, 1 on diseases and conditions requiring anticoagulation, and 1 focused on coagulation laboratory testing. Nineteen chapters covering virtually all topics surrounding anticoagulation in an evidence-based approach compose the book. Extensive use of tables, figures of good quality, and bulleted listing of information enhances the usability as a reference. Clinical pearls are used to emphasize points, and a current reference list is provided at the end of each chapter, with key references typically highlighted. Current treatment guidelines and helpful algorithms are included when appropriate. Appendices include additional information on issues common in anticoagulation patients, although it is unclear why certain topics were not presented within chapters on the given topics.

**Usability:** The editors have achieved the goal of creating an easy-to-use reference. Topics in chapters are comprehensively addressed and information is current according to guidelines. The tables are well constructed, although some contain overly extensive wording and odd spacing that makes them difficult to read. Figures greatly enhance the understanding of presented concepts. Clinical pearls emphasize topic issues, but there is variation in what constitutes a clinical pearl. For example, Chapter 8 on bridging anticoagulation contains no highlighted pearls, while Chapter 10, on venous thromboembolism prevention, has virtually all text labeled as pearls. The same is true regarding the references, with some variation in how and whether key articles are identified.

**Highlights:** The primary feature of this book is the comprehensive inclusion of all medication management aspects related to anticoagulation therapy. Content is presented in an outline format that provides quick and easy access. Effort is clearly made to provide the reader with practical information through the use of tables and algorithms to manage common patient situations. The information is evidence-based and current, including

available data on new anticoagulants. The authors are experienced clinicians regarded as anticoagulation pharmacy experts. Overall, the book is an excellent resource for anticoagulation therapy.

**Limitations:** The primary limitation of this book is the variability in which the authors use the intended structural approaches to presenting information. Clinical pearls cease to be pearls if they include rare occurrences or all aspects of a given topic. Some tables contain excessive text which lessens their usability. In addition, some algorithms are so extensive that they are presented in very small print size that is difficult to read.

**Comparison with Other Related Books:** A comparative anticoagulation therapy resource, *Antithrombotic Therapy*, by Becker, Fintel, and Green, is a handbook that was recently released in its 5th edition. That book, which is less than half the cost of the book reviewed here, also contains many useful tables and figures and current guidelines, but provides most chapter content in a formal text format. As such, the concise approach of this book makes it unique and easier to use as a true point-of-care resource. There are several textbooks on the topic of anticoagulation therapy, some focused in specific areas like cardiology, but few are current in the past 3 years since the comprehensive antithrombotic practice guidelines were released.

**Reviewer's Summary:** Both practitioners who are focused in the area of anticoagulation and those who provide general pharmacotherapy services will find this to be a useful reference text. The specific focus of the text and the purchase price likely will limit its feasibility for students. While there is variation in how chapter authors have applied structure concepts, each has provided succinct and comprehensive information. The strength of the book is that it achieves the goal of being a good point-of-care resource for day-to-day patient care.

**Reviewer:** Michael P Rivey MS BCPS FASHP, Professor and Chair of Pharmacy Practice, Skaggs School of Pharmacy, The University of Montana, Missoula, MT

### ***Anticoagulation Therapy: A Point-of-Care Guide***

By William E. Dager, Michael P. Gulseth, Edith A. Nutescu.

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**The Pharmaceutical Journal 17th September 2011 Vol 287/7671 page 325**

The editors of this book have set out to create a unique, pocket-sized point-of-care practice guide that would give clinicians quick access to evidence-based information or expert opinion for challenging clinical situations. The book is designed to be light on text, heavy on tables and figures, easy to digest, comprehensive, expertly written, applicable to patients across the continuum of care and useful to all healthcare workers involved with these medicines. This is quite a challenge.

The focus of the book is on the clinical use of anticoagulants. The information is organised according to the way that clinicians think through clinical problems.

The book is divided into three parts: anticoagulant medicines management, conditions requiring anticoagulant therapy and practical monitoring, and coagulation laboratory insights.

In the first part, several chapters are devoted to specific drug groups, including warfarin, unfractionated heparin, low molecular weight heparin, parenteral direct thrombin inhibitors and the newer oral anticoagulants. Although the chapter on the newer oral anticoagulants describes these agents as still being in development, the three drugs dabigatran, rivaroxaban and apixaban are compared and contrasted in great detail, with tables showing the results from the main published phase III clinical trials.

In the second part, chapters deal with conditions requiring anticoagulant therapy, including atrial fibrillation, acute coronary syndromes and prosthetic heart valves. Other chapters cover pregnancy and paediatrics.

A number of short miscellaneous appendices in diagrammatic or tabular format make up the final pages. Diverse subjects such as the coagulation cascade, cancer-related thromboembolism, drug related thrombocytopenia and disseminated intravascular coagulation are covered.

This excellent book has been written by authors who are experts in their fields of practice. It has met its objective in producing a useful guide for clinicians in any discipline caring for patients on anticoagulation therapy.

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**Reviewer:** Laurence A. Goldberg is a pharmaceutical consultant in Bury, Lancashire

## ***Anticoagulation Therapy: A Point-of-Care Guide***

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### **Critical Care Medication February Issue**

There are numerous data available to guide clinicians with difficult anticoagulation-related decisions but therapeutic dilemmas still remain abundant. While several resources and references exist, few are able to provide “quick-and-dirty” answers from the perspective of the bedside clinician. Drs. Dager, Gulseth, and Nutescu attempt to bridge this gap in their book *Anticoagulation Therapy: A Point-of-Care Guide*. This book consists of 19 chapters and is divided into three sections: the first describing anticoagulant medications, the second describing conditions requiring anticoagulation, and the third describing monitoring and laboratory insights. The book is compact in size, comprehensive in content, easy to read, light on text, and heavy on tables and figures. As such, readers do not need to search through multitudes of prose-filled pages to find the answers to their clinical questions. The references used to support the information contained within the individual chapters is provided at each chapter's end with key articles denoted by an asterisk. The book also contains an intuitive index that specifically identifies information covered in text, tables, or figures that allows for quick access of information by the busy clinician.

The authors make good use of bullets to summarize major points and provide valuable clinical pearls for both common and not-so-common scenarios. For example, this book provides practical and clear strategies for transitioning between anticoagulants that go beyond everyday scenarios, like heparin to warfarin (e.g., argatroban to dabigatran, rivaroxaban to low-molecular-weight heparin, etc). Other notable examples include recommendations for intraoperative use of direct thrombin inhibitors, identification and treatment of heparin-induced thrombocytopenia, and adjustment of low-molecular-weight heparin doses based on anti-Xa levels. The clinical pearls are insightful and have the potential to mentor clinicians on the nuances of providing anticoagulation therapy safely and effectively.

While each chapter is carefully crafted to provide practical information regarding common, everyday questions, there are several chapters we found to be unique and original. One such chapter relates to anticoagulation reversal. Recognizing the urgency that exists when a reversal agent is needed, this book allows for a rapid response in numerous situations. One notable figure is found in this chapter where the duration of effect for various agents used in reversing vitamin K antagonists is graphically depicted. A second chapter pertains to laboratory monitoring. Interpretations and clinical pearls

are provided for assessment tools, like thromboelastography, and clinical scenarios, like anticoagulant resistance. Difficult to find information regarding laboratory tests can be found within this chapter, including variables that can affect reported results (e.g., factors related to the acquisition and processing of samples, patient-specific variables that can interfere with tests). This chapter is packed with clinical pearls to guide both the utilization of various laboratory tests and the clinical assessment of reported results.

Anticoagulation Therapy: A Point-of-Care Guide is a book that could benefit intensive care unit practitioners across multiple disciplines at all levels of experience. In addition, this book provides several useful tables that could be used by intensive care unit directors or clinical pharmacy specialists looking to develop standardized protocols for anticoagulation therapy (e.g., citrate for continuous renal replacement therapy, direct thrombin inhibitors in coronary artery bypass graft surgery, and titration of direct thrombin inhibitor therapy). That being said, this book is designed more so for the bedside clinician who may be looking for that specific piece of information (to assist with patient care) rather than the academician searching for a lengthy description of a therapeutic topic. Overall, we feel the authors have accomplished their goal of developing a text that will give the clinician quick and easy access to both evidence-based information and expert opinion on how to handle challenging anticoagulation scenarios.

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