

INTRODUCTION TO ANTICOAGULATION MANAGEMENT

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INTRODUCTION

In the anticoagulation therapy setting, clinicians are faced with the challenge of utilizing agents that inherently have a small therapeutic window and the potential for medication mishaps when not used appropriately. However, this risk is balanced against the need to prevent against or treat thrombosis, which can also have life-altering consequences. Therefore, clinicians utilizing anticoagulants must not only have a firm grasp of the pharmacology and pharmacokinetics of those agents, but they must also be current with the evidence regarding their use and understand how an individual patient's characteristics can influence management decisions.

This practice guide, first published in 2011, was developed with these challenges in mind and with the goal to seed thoughts and provide information that assists clinicians in ensuring the safe and optimal use of anticoagulants. The advent of new agents and advances in anticoagulation therapy management led to the development of this second edition. Each chapter provides key concepts based on the literature and on the authors' clinical experiences when evidence is more limited. New chapters include considerations in special populations with a focus on renal failure, obesity, and cancer, and on mechanical devices. A new section focuses on the essentials for practice success that includes models and standards in anticoagulation care delivery as well as regulatory and practice resources. Expert panels' evidence-based recommendations are included when available. This practice guide is intended as a supplement to the clinician's judgment by providing quick insights and clinical pearls that can assist in the decision-making process.

JOINT COMMISSION'S NATIONAL PATIENT SAFETY GOALS FOR ANTICOAGULATION, 2017 VERSION (NPSG 03.05.01)¹

- Because of the high incidence of reported adverse event rates associated with anticoagulation therapy or suboptimal approaches to prevention of venous thromboembolism (VTE), several regulatory agencies have initiated processes to address their concerns. One example is the Joint Commission's National Patient Safety Goals

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(NPSGs). The primary goal of the anticoagulation NPSGs is to reduce the likelihood of patient harm associated with anticoagulant therapy.

- The full text and requirements of the NPSGs can be found at https://www.jointcommission.org/hap_2017_npsgs/.
- The NPSGs are driven by the frequency of reported adverse events associated with anticoagulation therapy. Thus, newer agents, or infrequently used agents, may not as of yet received as much attention or regulatory oversight. This does not necessarily make their use any less challenging, and they could be included in the future if safety reports warrant it.

TABLE OF USEFUL RESOURCES

See **Table 1-1** for useful resources involving anticoagulation therapy.

TOOLS FOR SUCCESS

Considerations in Applying Professional Organizations' Expert Evidence-Based Guidelines to Patient Care

- Expert panels representing the American College of Chest Physicians (ACCP) and the American Heart Association (AHA) [published in conjunction with the American College of Cardiology (ACC)] have provided evidence-based recommendations to aid clinicians in selecting appropriate patient care. In specific situations, other agencies may independently publish guidelines that include antithrombotic therapy. Often, these guidelines are considered the final word; however, multiple guidelines on the same topic (especially when there may be disagreements) can create some controversy and confusion. Adherence to these guidelines ignores how an individual patient situation may cause variance from the guidelines. It should be kept in mind that such guidelines are established based on the strength of available evidence. In many cases, evidence or trials may not have included certain situations or populations or perhaps published negative experiences. Clinicians need to view and use these guidelines as they are intended—evidence-based tools designed (or developed) to aid in patient care and not to replace clinical judgment.
- The following tables explain the evidence ranking system of both the ACCP and AHA guidelines. These evidence grades are mentioned extensively in subsequent chapters. See **Tables 1-2** and **1-3**.

Considerations When Evaluating Clinical Trials Involving Anticoagulants

- Clinical trials have frequently preselected inclusion and exclusion criteria that create a focus for the concept being studied. In many cases with anticoagulation therapy, patient groups (advanced age, bleeding history, organ dysfunction, critically ill, hypercoagulable condition) initially excluded from the clinical trials may receive the therapy. Clinicians should consider that trials serve as a foundation to managing thrombosis, but that excluded populations may respond differently to a given therapy.