

## How Do I Manage A Patient Who Is On Anticoagulants?

Posted by [JCDA Oasis](#) on Mar 12, 2013 in [Pharmacology](#) | [6 comments](#)

***We are very pleased to present this series of videos by Dr. Mark Donaldson, Director of Pharmacy Services at the Kalispell Regional Medical Center and faculty member at the University of Montana and the Oregon Health & Sciences University***

There is no such thing as medical clearance. In fact, the dentist retains the primary responsibility for the procedures carried out for the immediate management of many untoward complications. While it is always prudent to get a consult with a medical practitioner, such as the patient's primary prescriber or cardiologist, at the end of the day, the onus is on the dentist to keep up with the medical and dental literature and to make the appropriate decisions.

VIDEO: An Evidence-Based Challenge: Managing Dental Patients on Anticoagulants  
Part 1: Framing the Issue

In the second part, we look at the science of clotting. What is the clinician's view of haemostasis? As a quick review, if we go below the gum line and we do some type of dental surgery causing tissue injury, the body responds by activating platelets which travel to that area to cause healing or the platelet plug in that area.

VIDEO: An Evidence-Based Challenge: Managing Dental Patients on Anticoagulants  
Part 2: The Science of Clotting

In the third part, practical dental management of patients on anticoagulants is discussed. The challenge as practitioners we have is whether or not we want to stop the warfarin or not stop the warfarin preoperatively?

VIDEO: An Evidence-Based Challenge: Managing Dental Patients on Anticoagulants  
Part 3: Practical Dental Management

**Follow-up: What further information would you like on this topic? Email us at [jcdaoasis@cda-adc.ca](mailto:jcdaoasis@cda-adc.ca)**

### 6 Visitor Comments

Sarah Johnston March 12, 2013

You had mentioned that with the newer anticoagulants (Dabigatran for e.g) that you would stop 24 hours prior to a surgical dental procedure. However, this would not be the case for warfarin, due to the risk for cardiac events. Why is it OK to stop the newer meds for 24 hours prior and after and not OK for warfarin?

- o [Mark Donaldson](#) March 13, 2013

Thank you very much for your excellent question. The answer has to do with both mechanism of action and pharmacokinetics; in particular half-life.

Warfarin inhibits the vitamin K-dependent clotting factors II, VII, IX and X. Because of this non-specific interaction, it is difficult to assign a true half-life to warfarin and instead we use the half-life of the longest acting clotting factor as a surrogate. In this case, factor II has a half-life of about 40 hours, so the half-life of warfarin is probably close to this. When we are thinking about the potential side effects of warfarin therapy in our patients (i.e., bleeding) we are then equating this half-life to clinical response; in other words, the effects of warfarin if you were to give a single dose last for at least 40 hours in the body.

Why do we not stop warfarin prior to surgery? Because of this non-specific action, relatively long half-life, drug- and dietary-interactions and interpatient variability we cannot be sure that stopping the drug 24 hours ahead of surgery will be effective in mitigating bleeding risk in all patients. Maybe it should be 48 hours or 72 hours prior. **More importantly, what is the risk versus benefit? If we cannot definitively determine when to stop the drug (and consequently, when to restart the medication), are we safer to simply keep patients on the drug (in which case 1% of patients may not achieve good hemostasis postoperatively) or should we consider interrupting the therapy (in which case about 1% of patients could suffer a venous-thrombotic event (VTE) such as a stroke or heart attack). We have great strategies and medicines to manage the 1% of patients who do not get good hemostasis initially; we cannot reverse the 1% who may face mortality.**

In contrast to warfarin, the newer agents that are mentioned (dabigatran, rivaroxaban and apixaban) all have specific mechanisms of action (they target just one clotting factor), and they all have short half-lives (less than 12 hours). For these reasons we can safely stop and start the medications without putting our patients at risk of becoming too under-anticoagulated or too over-anticoagulated. These points are definitely easier to emphasize graphically, but I think my statements are clear.

Finally, you bring up an excellent idea for a fourth video in this section and that would be the concept of, “bridge therapy.” There are certainly some labile cardiac patients who need to be effectively anticoagulated at all times, but for whom their warfarin puts them into a high risk category for bleeding when they require some type of surgical intervention. In these patients we can transition them to a low molecular weight heparin (LMWH) such as enoxaparin around their surgical procedure and once their surgery is complete they can be transitioned back to their warfarin.

Thank you for the suggestion! I will work toward compiling this information too.  
Best regards,

Mark