



2019

21 - 23 JUNE

SAN FRANCISCO

SUPPORTIVE CARE
MAKES EXCELLENT
CANCER CARE POSSIBLE

SAVE THE DATE

MASCC/ISOO

Annual Meeting on Supportive Care in Cancer

www.mascc.org/meeting



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#MASCC19



Apps for Anticoagulation

Judy Phillips, DNP, FNP-BC, AOCN

Cancer Care of Western North Carolina

Lenoir Rhyne University



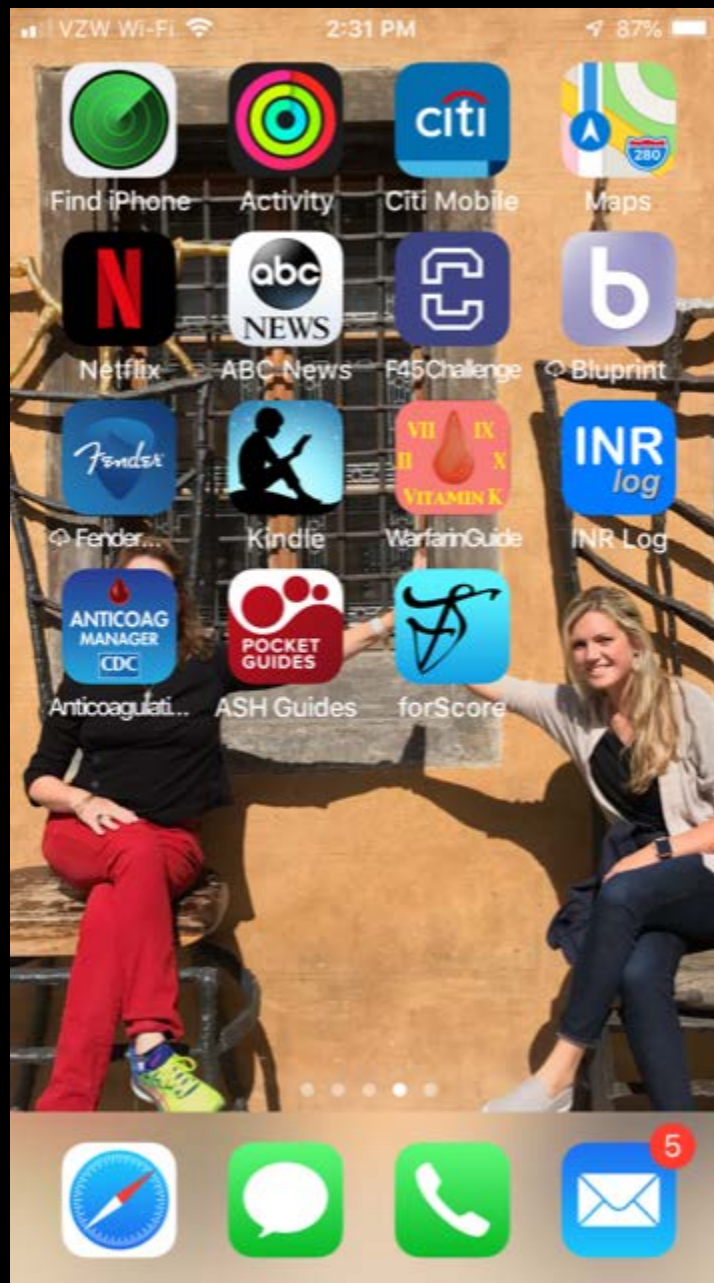
Each year, blood clots affect up to 900,000 Americans — and a third of people who have a blood clot will experience another in the next 10 years.

Anticoagulants are one of the 3 high-priority drug classes targeted in the National Action Plan for Adverse Drug Event Prevention (ADE Action Plan).

A large study based on national emergency department (ED) data found that anticoagulants contribute to 17.6 percent of ED visits.

Electronic Devices

- Smartphones and electronic tablets are now ubiquitous devices.
- They create unique opportunities to transform medicine and improve quality of care.
- They have: ease of use, smartness, accessibility, mobility and connectivity.



INR log
(for patient/family use)

Warfarin

Choose a Warfarin resource you
would like to review

Indications, Targets, Duration

Initiate Warfarin

Adjust Warfarin

Warfarin Perioperative Mgmt



Warfarin



Disclaimer



About App



References

My Treatment

MY DETAILS

My treatment range >

My tablets >

My reminders >

My treatment record >

RESOURCES

Add or delete results >

Print or email results >

TERMS & CONDITIONS



Home



Results



Resources

Select Therapeutic Range

Select the upper limit and lower limit
of the therapeutic range.

Touch the INR value to change

Upper limit **3.0**

Lower limit **2.0**

Save

Your warfarin dose for today



Thursday

FAQ

5

mg

1 x



Due at 6.00pm

Click when dose taken

Your INR test is overdue

Enter new INR reading

INR *log*



Home



Results



Resources

Results

Latest result

Test date	INR	Next test	weekly dose
19 May 20...	2.5	19 May 20...	35mg

Edit latest result

Show graph

Previous results

Test date	INR	weekly dose
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Home



Results



Resources

Verizon

LTE 100%

19:15

Sunday, June 2

INR LOG

1h ago

It is time to take your warfarin

try again

INR *log*

INR log was developed by

Dr Paul Harper MD, FRCP, FRACP.

Consultant Haematologist
for HealthObs Ltd © 2014

HealthObs also provide INR Online:
Warfarin management software for
clinicians and pharmacists.

www.inronline.net

If you have any questions or
comments about this app please
contact us at

help@inronline.net

or visit us on Facebook



www.healthobs.com

Close

Download^{the} NEW CDC
ANTICOAGULATION
Manager app!



Anticoagulation Apps

- Recently, the Centers for Disease Control and Prevention (CDC), in partnership with the Georgia Institute of Technology, released the Anticoagulation Manager mobile app — and it's now free to download.

The Anticoagulation Manager application is a clinical decision support tool designed to guide clinicians as they make decisions about prescribing anticoagulants — and to decrease errors in administration and laboratory testing.

Prescribing the right anticoagulant for patients is key to preventing these adverse events.

MAQ12 Anticoagulation Toolkit App

Developed by the University of Michigan from the American Heart Association, the European Society of Cardiology and the CHEST guidelines.




Michigan Anticoagulation Quality Improvement Initiative

Anticoagulation Toolkit

A consortium-developed app
for anticoagulation management

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 **Periprocedural Guide**

INTERRUPT?

Likely interrupt

Use clinical judgement, insufficient data, consult proceduralist.

BRIDGE?

Do not bridge

--

Anticoagulant

Warfarin

DOAC

Indication

AF

VTE

MHV

Patient Clot Risk

Low

Mod

Hi

?≡

Patient Bleed Risk

No

Yes

?≡

Procedure Bleed Risk

Min


Low


Mod


Hi


Unc


?≡

 CHADS-VASc

 Peripro Mgt

 Warf Inter

 DOAC Inter

 More

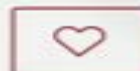


ASH Pocket Guide

Adapted from Antithrombotic Therapy and
Prevention of Thrombosis, American College of
Chest Physicians Evidence-Based Clinical Practice
Guidelines.



Antithrombotic Drug Dosing and Management of Antithrombotic Drug-Associated Bleeding Complications in Adults



Mary Cushman (University of Vermont), Wendy Lim (McMaster University), Neil A Zakai (University of Vermont)

Published February 2014

ANTICOAGULANT DOSING

Subcutaneous Heparin Dosing for Treatment of Acute Venous Thromboembolism





Initial Warfarin Dosing for Venous Thromboembolism or Atrial Fibrillation in Ambulatory Outpatients, Target INR 2.0-3.0



Chronic Warfarin Dose Adjustment in Non-Bleeding Patients



Anticoagulant Dosing	
Initial Warfarin Dosing for Venous Thromboembolism or Atrial Fibrillation in Ambulatory Outpatients, Target INR 2.0-3.0	>
Chronic Warfarin Dose Adjustment in Non-Bleeding Patients	
Chronic Warfarin Dose Adjustment in Non-Bleeding Patients	
Dabigatran Dosing to Prevent Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation	>
Rivaroxaban Dosing to Prevent Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation and to Treat Venous Thromboembolism	>
Apixaban Dosing to Prevent Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation	>



Anticoagulant Dosing



Rivaroxaban Dosing to Prevent Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation and to Treat Venous Thromboembolism



Apixaban Dosing to Prevent Stroke and Systemic Embolism in Nonvalvular Atrial Fibrillation



ANTICOAGULANT REVERSAL

General Principles of Management of Anticoagulant-Associated Bleeding



Agents to Stop Bleeding



Reversal of Warfarin (Coumadin®, Jantoven®)



Reversal of Low-Molecular-Weight Heparins [Dalteparin (Fragmin®), Enoxaparin (Lovenox®), Tinzaparin (Innohep®)] and Fondaparinux (Arixtra®)



< Anticoagulant Dosing >

Salmonella

Reversal of Low-Molecular-Weight Heparins [Dalteparin (Fragmin®), Enoxaparin (Lovenox®), Tinzaparin (Innohep®)] and Fondaparinux (Arixtra®)

Protamine Dose for Reversal of Heparin and LMWH

Reversal of Dabigatran, Rivaroxaban or Apixaban

Converting Between Anticoagulants

ANTIPLATELET AGENT REVERSAL

General Considerations

Reversal of Antiplatelet Agents

ABOUT

About this Clinical Quick Reference Guide

Converting Between Anticoagulants

Warfarin (INR 2-3) → Dabigatran or Apixaban —

PROCEDURE

Discontinue warfarin and start dabigatran or apixaban when INR <2.0

Warfarin (INR 2-3) → Rivaroxaban +


LMWH or Heparin → Dabigatran —


PROCEDURE

Start dabigatran 0-2 hours before administration of last LMWH/Heparin dose, or at same time as discontinuation of infusional heparin.

LMWH or Heparin → Rivaroxaban or Apixaban +

American College of Cardiology: Manage Anticoag



AMERICAN
COLLEGE of
CARDIOLOGY

ManageAnticoag

**Plan Periprocedural Interruption
and Bridging**

[View Details](#)

Address an Acute Bleed

[View Details](#)

Determine Anticoag Restart

[View Details](#)

Reference key concepts from the tools above

Quick Reference

The information in this app is based on content in the ACC's Expert Consensus Decision Pathways. Refer to the Resources section for full references.

Determine Anticoag Restart

Evaluate / Advice

Restarting Anticoagulation Suggested

- Choose OAC agent

Consider switching agent if a reversible cause related to the OAC agent contributed to the bleed. For instance, a patient on warfarin with a history of labile INR values who had a hemorrhagic complication with an elevated INR may benefit from a DOAC, or a patient with a decrement in renal function who had a bleeding complication on a DOAC may benefit from a change to warfarin. However, it is beyond the scope of this app to recommend specific agents for individual patients.

- Note: In most cases of GI bleeding, the writing committee favors reinitiation of anticoagulation in patients with an indication for OAC once bleeding has been controlled (including patients in whom no discrete source of bleeding was identified) and adequate time has elapsed to allow for healing. This will depend on the nature and type of the bleeding lesion. See full source document for more details.

• Determining the appropriateness of the drug

Determine Anticoag Restart

Evaluate / Advice

Restarting Anticoagulation Suggested

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- Determining the appropriateness of the drug



Address an Acute Bleed

Evaluate

Reset All

Which anticoagulant is your patient taking?



Apixaban



Dabigatran



Edoxaban



Rivaroxaban



VKA

What is the bleed severity?



Major

[Back to Quick Reference](#)

Guidance for Administering Reversal Agents

[Collapse All](#)

In a life-threatening or critical site bleed, or in situations in which bleeding cannot be controlled with other measures, reversal of OACs may be required. This section provides guidance for administering reversal agents.

➤ **VKA (warfarin)**

➤ **DTI (dabigatran)**

✓ **FXa Inhibitor (apixaban, edoxaban, rivaroxaban)**

Note: While andexanet alfa is FDA approved in the U.S., it may not be available at every institution. Please refer to the product locator on the manufacturer's website to determine availability: <https://www.andexxa.com/>

APIXABAN

Thrombosis Canada

On up-to-date, this app is thought of as one of the best.



Acetylsalicylic Acid (ASA)



Anticoagulant & Antiplatelet Drugs, Heart & Arterial Diseases

To provide information on the use of acetylsalicylic acid in the prevention of vascular thromboembolic events.

Air Travel-related Thrombosis



Venous Thromboembolism

To summarize the available literature on the risk of venous thromboembolism (VTE) during air travel, and provide recommendations for preventative measures while traveling long distances.

Apixaban (Eliquis®)



Anticoagulant & Antiplatelet Drugs, Atrial Fibrillation, NOACs/DOACs, Venous Thromboembolism

To provide an overview of the mechanism of action, licensed indications, dosing regimens, and side-effect profile of apixaban.

Cancer and Thrombosis



Venous Thromboembolism

To assist health care professionals in the management of cancer-associated thrombosis (CAT).

Central Venous Catheter-Related Deep Vein Thrombosis



Venous Thromboembolism

To provide guidance on the diagnosis, treatment and prevention of central venous catheter-related deep vein thrombosis (DVT).

Cerebral Venous Thrombosis



Venous Thromboembolism

To assist health care professionals in the management of cerebral venous thrombosis (CVT).

Clopidogrel (Plavix®)



Heart & Arterial Diseases

To describe the clinical pharmacology and therapeutic application of clopidogrel, and to discuss drug dosing, duration of therapy, genetic polymorphisms affecting drug metabolism, and potential drug interactions with proton pump inhibitors.

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Thrombosis Canada, Version 2, (2019) Apple Store Apps, [Mobile application software] Retrieved from Apple Store. Email: info@thrombosiscanada.ca.

