

To Bleed or Not To Bleed: A Review of Long-Term Anticoagulation Use

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Disclosures

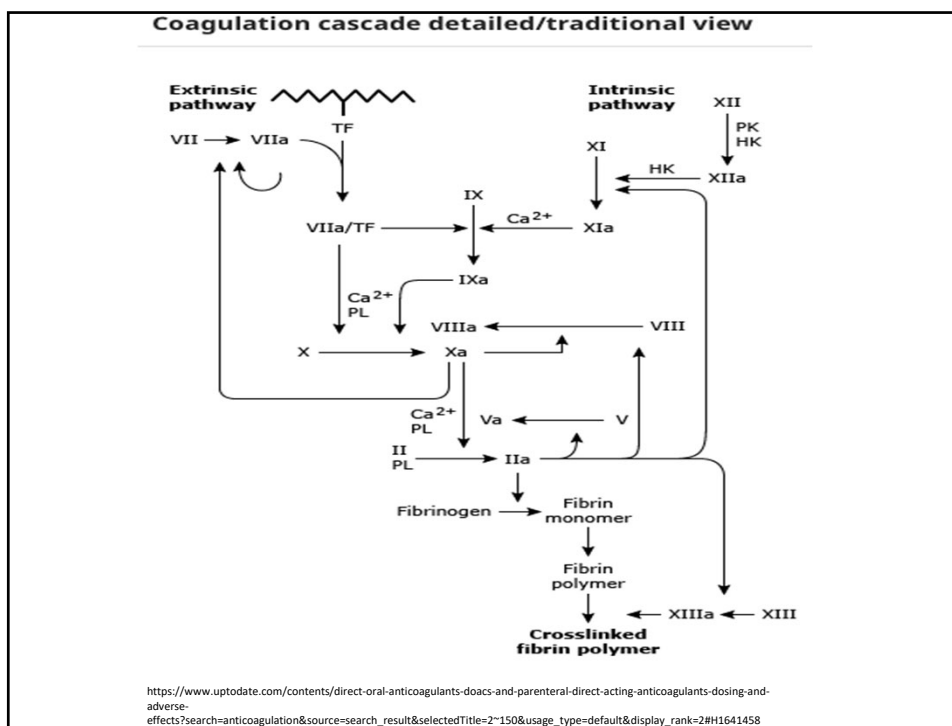
No Disclosures

Objectives

- Understand indications for long term anticoagulation use
- Understand risk/benefits
- Build confidence in proper anticoagulation management as a family physician

Basic Terminology

- Anticoagulant, (all encompassing, i.e. heparin)¹
- Direct thrombin inhibitor, (bivalirudin, argatroban, dabigatran)¹
- Direct factor Xa inhibitor, (rivaroxaban, apixaban, edoxaban)¹
- Vitamin K antagonist, (warfarin)¹

**Table II**

The history of evolution of anticoagulant therapy.

Year	Anticoagulant drug
1940s	Unfractionated heparin
1950s	Warfarin
1980s	Low molecular weight heparins
1990s	Parenteral direct thrombin inhibitors
2002	Fondaparinux
2010	Dabigatran
2011	Rivaroxaban
2012	Apixaban
2014	Edoxaban

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4781787/>

Warfarin

- “What is it good for?
Absolutely nothing!”
- Not true
- Mechanical heart valves, cheap, familiar³
- “Safer”
- Drug interactions, frequent monitoring³



<https://www.cardiovascular.abbott/us/en/hcp/products/structural-heart/surgical-valve-solutions/regent-valve.html>
<https://www.alamy.com/stock-photo-popeye-the-sailor-man-fictional-character-73872668.html?imageid=304CE39E-519C-4497-8A17-219B4AF679478&p=213784&pn=1&searchid=ed7bfbe775eb5732f216e9fa410e458&searchtype=0>

Rivaroxaban

- Once daily dosing¹
- Higher risk of GI bleed¹
- “No monitoring”¹

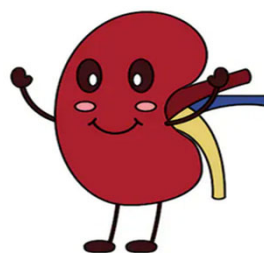


<https://www.goodrx.com/xarelto/what-is>
<https://emojipedia.org/pile-of-poo/>

Apixaban

- Kidney friendly
- Generic version
- “No Monitoring”¹

ur-ine my
thoughts



<https://www.etsy.com/listing/1139995916/happy-kidney-card-ur-ine-my-thoughts>

Who Gets Anticoagulated?

- Nonvalvular Afib
- VTE
- “ACS”

Benefits

CHA ₂ DS ₂ -VAsc acronym ^[2]	Score	CHA ₂ DS ₂ -VAsc acronym	Unadjusted ischemic stroke rate (% per year)
Congestive HF	1	0	0.2
Hypertension	1	1	0.6
Age ≥75 years	2	2	2.2
Diabetes mellitus	1	3	3.2
Stroke/TIA/TE	2	4	4.8
Vascular disease (prior MI, PAD, or aortic plaque)	1	5	7.2
Age 65 to 74 years	1	6	9.7
Sex category (ie, female sex)	1	7	11.2
Maximum score	9	8	10.8
		9	12.2

https://www.uptodate.com/contents/atrial-fibrillation-in-adults-selection-of-candidates-for-anticoagulation?sectionName=General%20efficacy&search=doacs&topicRef=1059&anchor=H1875654363&source=see_link#H1875654363

Benefits

VTE risk category	Risk over 1 year	Cumulative risk over 5 years
Low	<3%	<14%
Intermediate	3 to 5%	14 to 30%
High	>5% per year	>30%

https://www.uptodate.com/contents/selecting-adult-patients-with-lower-extremity-deep-venous-thrombosis-and-pulmonary-embolism-for-indefinite-anticoagulation?search=vte&topicRef=95336&source=see_link#H93914916

“Technically, anticoagulants do not cause bleeding; bleeding is caused by a breach in the wall of a blood vessel.”⁵

-UpToDate

Risk

HAS-BLED score (total points)	Bleeds per 100 patient-years [¶]
0	1.13
1	1.02
2	1.88
3	3.74
4	8.70
5 to 9	Insufficient data

https://www.uptodate.com/contents/risks-and-prevention-of-bleeding-with-oral-anticoagulants?search=hasbled&source=search_result&selectedTitle=1~24&usage_type=default&display_rank=1#H2321766347

CLINICAL RESEARCH STUDY


 THE AMERICAN
JOURNAL of
MEDICINE®

Scores to Predict Major Bleeding Risk During Oral Anticoagulation Therapy: A Prospective Validation Study

Jacques Donzé, MD, MSc,^a Nicolas Rodondi, MD, MAS,^b Gérard Waeber, MD,^c Pierre Monney, MD,^d
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Conclusion: Scoring systems were poor and not better than physicians' subjective assessments.⁶

Risk

- Medication related risk
 - Type, time, and titration
 - Warfarin has increased bleeding risk
 - Bleeding risk greatest in first three months
 - Under dosing
- Patient related risk
 - Age, prior bleeding, and comorbid conditions
 - 65 is old
 - GI bleeding
 - Diabetes

Family Physician Involvement

Anticoagulation: Updated Guidelines for Outpatient Management

Patricia Wigle, PharmD; Brad Hein, PharmD; and Christopher R. Bernheisel, MD
University of Cincinnati/The Christ Hospital, Cincinnati, Ohio

Am Fam Physician. 2019;100(7):426-434

Beer's Criteria



<https://www.homemade-gifts-made-easy.com/funny-safety-signs.html>
<https://www.vectorstock.com/royalty-free-vector/caution-elderly-people-vector-1960523>

Medications

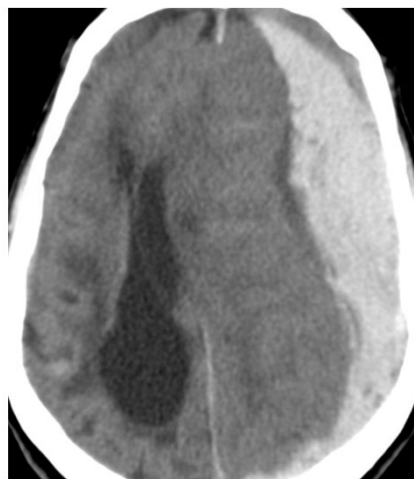
- Warfarin
 - Unable to maintain therapeutic INR with/without compliance
 - Higher bleeding risk
- DOAC
 - Lab monitoring
 - Affordability
 - Compliance

Comorbidities

- HTN
 - Microvascular bleeds
- Diabetes
 - Microvascular damage
- CKD
 - Medication clearance
- CVA/PVD/CAD
 - Antiplatelet therapy
 - 2-5 fold bleeding risk increase in TAPT vs DAPT⁸

Falls

- Avoid DOACs because of falls, right???
- 27% chance of fall in a given year if >65⁹
- Delay in presentation⁹
- Fall 295 times in one year¹⁰



<https://www.neurosurgicalatlas.com/volumes/neuroradiology/cranial-disorders/trauma/primary-traumatic-abnormalities/subdural-hemorrhage-hematoma-sdh>

Falls

- “Elderly patients (ages 60 to 99) with severe head trauma (defined as a Glasgow Coma Scale less than 9) have a greater than 80% chance of death and/or long term disability.”⁹

Case #1

73yo female with a PMH significant for HTN and afib currently rate controlled?

Case #2

- 80yo male with a PMH significant for DM2, HTN, HLD, dementia, hemorrhagic CVA ten years ago from MVC, and recurrent DVTs who resides in a nursing home?

Case #3

- 65yo male with a PMH significant for CAD s/p 4 vessel CABG with 16 post CABG stents, afib, uncontrolled HTN, hx of DVT from venous stasis with overlying cellulitis, PAD with femoral stent, peripheral neuropathy s/p left BKA and right hallux amputation, who ambulates with a rollating walker and has fallen three times in the last month.....

Case #4

- 85yo male with a PMH of HTN and rate controlled afib who has no limitations in his ADLs and lives independently?

References

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