Antithrombotic Therapy In Post-Acute and Long-Term Care:

What to treat, what to use and when to stop antithrombotic medications

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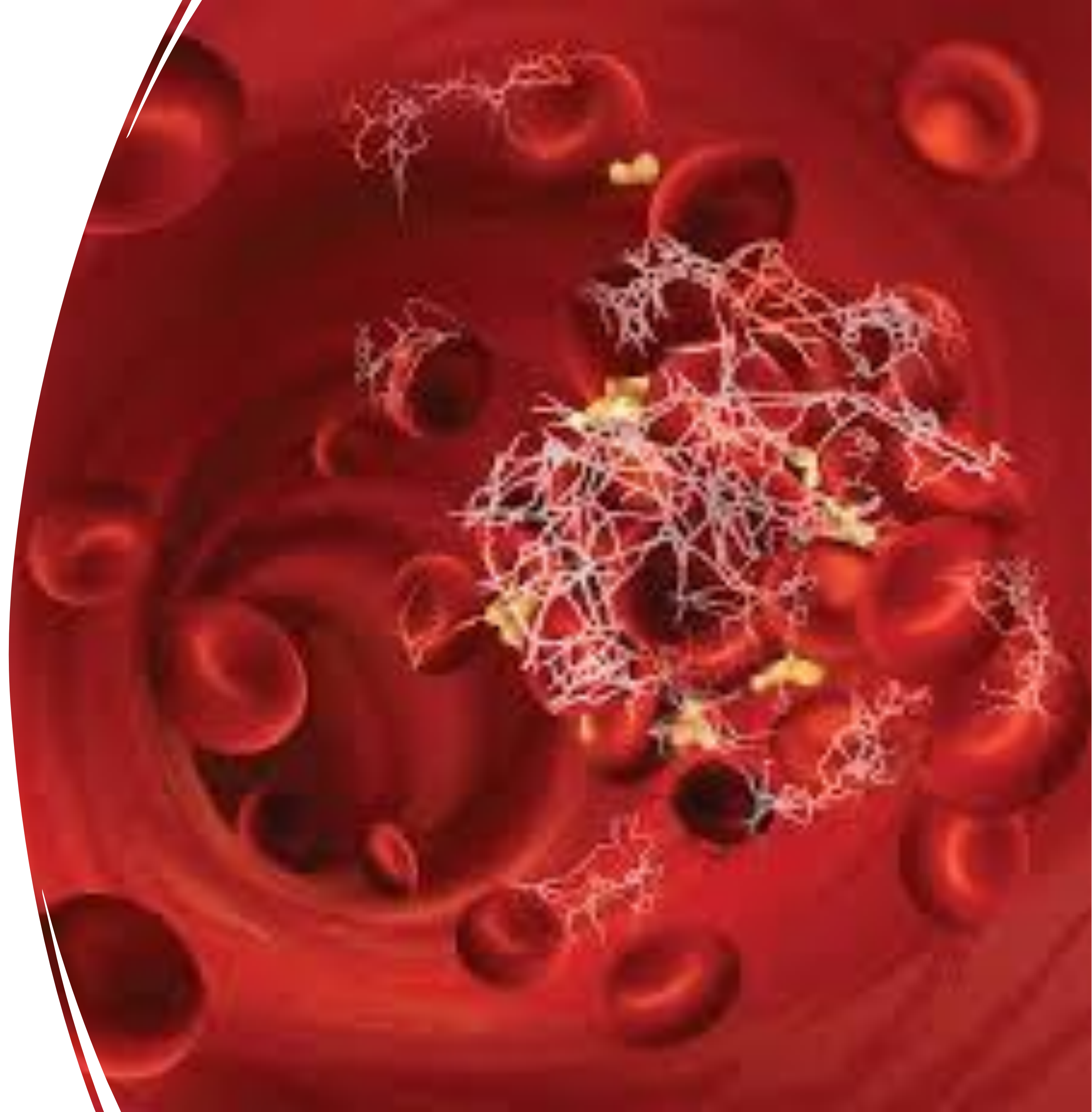
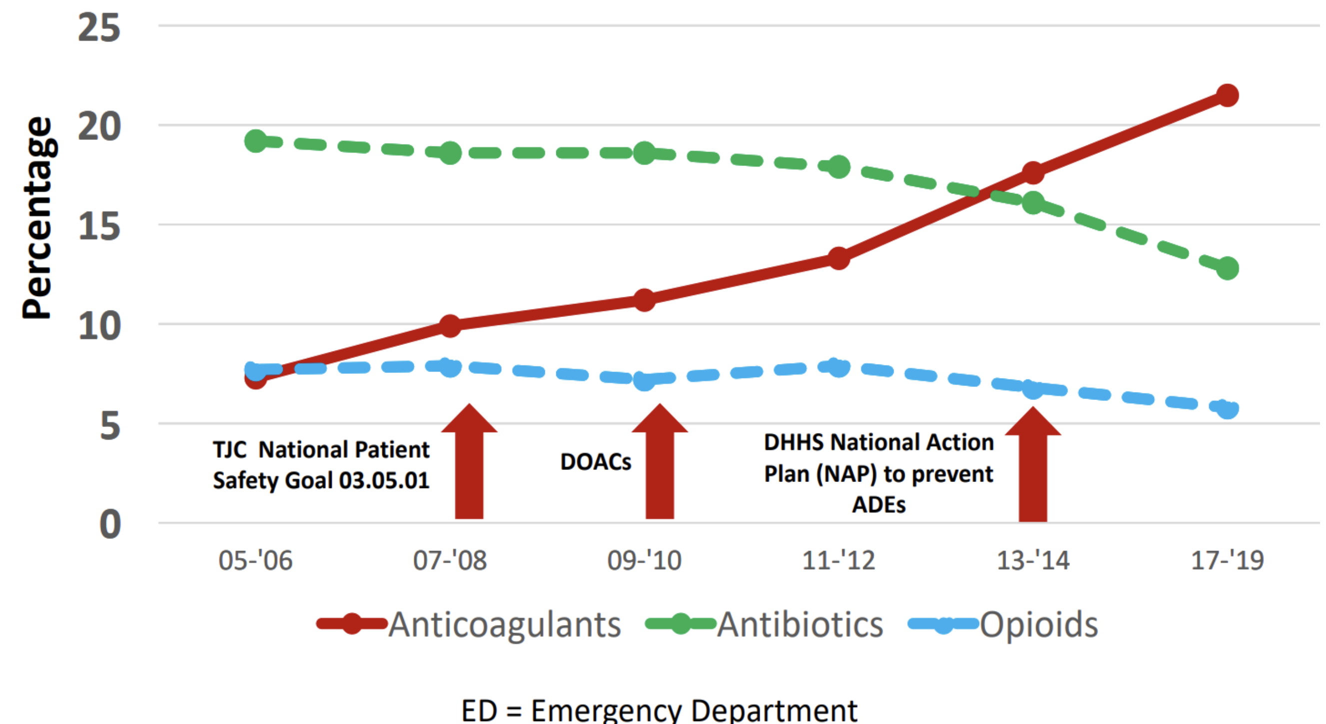


Objectives

- Identify the risks of antithrombotic therapy
- Discuss using an anticoagulant medication verses an antiplatelet medication
- Summarize the current guidelines to use antithrombotic therapy for DVT (deep venous thrombosis), PE (pulmonary embolism), A. Fib (Atrial Fibrillation) and Cardiac disease
- Review antithrombotic stewardship and when to deprescribe antithrombotic medications

The Basics

- Anticoagulant medications are the #1 drug class contributing to emergency department visits in the U.S.
  - 50% of these adverse drug events are preventable
  - Seniors at the highest risk
  - ASA is a major contributor for adverse drug events in seniors
- Antithrombotic medications are very effective in preventing recurrent DVT, PE, stroke with A.Fib, and recurrent CVA/TIA



Burnett AE, Barnes GD. RPTH 2022. PMID: 35865732

Budnitz DS, Shehab N, Lovegrove MC, Geller AI, Lind JN, Pollock DA. US Emergency Department Visits Attributed to Medication Harms, 2017-2019. *JAMA.* 2021;326(13):1299–1309. doi:10.1001/jama.2021.13844

Antiplatelet vs. Anticoagulant Medications

Antiplatelets

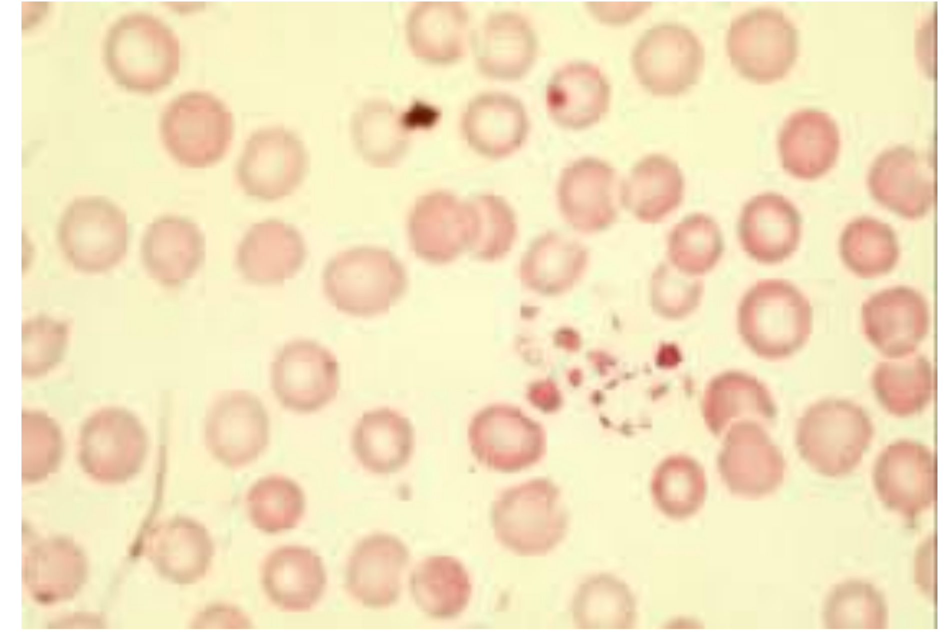
- Management of **ARTERIAL** blood clots (platelets/fibrin)
- Arterial blood clots cause: MI, TIA, ischemic stroke, PVD, stent thrombosis
- ADP inhibitors: Inhibits ADP resulting in decreased platelet activation and aggregation
  - **Aspirin** ***
  - **Clopidogrel**
  - **Prasugrel**
  - **Ticagrelor**

Anticoagulants

- Management of **VENOUS** blood clots (erythrocytes/fibrin)
- Venous blood clots cause: DVT, PE, thrombosis 2* to arrhythmias (low flow conditions)
  - **Apixaban**
  - Betrixaban
  - Dabigatran
  - Edoxaban
  - Rivaroxaban
  - Warfarin

Think of Antiplatelets for Arterial Clots and Anticoagulants for Venous Clots, Pharmacist's Letter, June 2018
M. Ott Presentation, CMDA 29th Annual conference, April 19, 2024

Antiplatelet Therapy Options



- Aspirin
- Clopidogrel
  - Least potent oral P2Y12 inhibitor.
  - Pharmacodynamic variability in response
- Ticagrelor
  - Contraindicated in patients with history of hemorrhagic stroke
  - High risk of conversion of Ischemic to hemorrhagic stroke.
  - Drug interactions, substrate for CYP34A
  - May cause subjective transient dyspnea in approximately 10% to 15% of patients after ACS
- Prasugrel
  - Contraindicated in patients with h/o ischemic/hemorrhagic stroke and TIA
  - Not recommended for age above 75 years, half dose in select patients
  - Reduced dose In those with weight < 60kg.
  - Avoid use in clinical conditions that increase risk of bleeding

When to use Antiplatelet Medications and for How long

* Clopidogrel most preferred ADP-I with a few exceptions.

Indication	Treatment & Duration
Cardiac Stent (Bare Metal Stent, Drug Eluting Stent)	BMS: Aspirin + ADP-I X 1 mo., then aspirin indefinitely DES: Aspirin + ADP-I X 6 mos., then aspirin indefinitely
Acute Coronary Syndrome (ACS)	DAPT(dual antiplatelet) x 12 mos., then aspirin indefinitely
Carotid Stent	DAPT(dual antiplatelet) x 1 mo., then aspirin indefinitely
Peripheral arterial stent	DAPT(dual antiplatelet) x 1-3 mos., then aspirin indefinitely
TIA/CVA/cerebrovascular disease	SAPT (single antiplatelet) indefinitely
Stable Ischemic cardiovascular disease	Aspirin indefinitely
Primary Prevention ASCVD (atherosclerotic cardiovascular disease)	New recommendation to individualize decision regarding aspirin

Therapeutic Research Center - February 2022 ~ Resource #380209 - Dual Antiplatelet Therapy for Coronary Artery Disease

2022 Guidelines for ASA for Primary Prevention

USPSTF New recommendations for aspirin use for primary prevention:

Population	Recommendation	Grade
Adults aged 40 to 59 years with a 10% or greater 10-year cardiovascular disease (CVD) risk	Decision to initiate low-dose aspirin use for primary prevention of CVD in adults aged 40 - 59 years who have a 10% or greater 10-year CVD risk should be an individual one. Evidence indicates net benefit of aspirin use in this group is small. Persons who are not at increased risk for bleeding and are willing to take low-dose aspirin daily are more likely to benefit.	C Net benefit is small; may offer based on patient preference
Adults 60 years or older	USPSTF recommends against initiating low-dose aspirin use for primary prevention of CVD in adults 60 years or older.	D Recommends against

Patient with Chronic Coronary Disease 2023 AHA/ACC guidelines

- Aspirin 75-100 mg for all patients with CCAD and no indication for anticoagulant therapy.
- In select patients (s/p acute coronary syndrome, s/p PCI), DAPT (Dual antiplatelet therapy) can be given for 1-3 months followed by monotherapy (high bleeding risk).
- In low bleeding risk patients, DAPT can be extended up to 3 years.
- **Initiation of DAPT in patients with CCAD without recent ACS or PCI-related indication is of no benefit.**

Oral Anticoagulants for DVT/PE
(CHEST guideline summary)

Embolic Event	Suggested Treatment
VTE (venous thromboembolism) without cancer	All DOACs are recommended over warfarin
VTE with cancer	LMWH is recommended over warfarin or DOACs
proximal DVT (provoked or unprovoked)	• **Treat for 3 months** • Provoked – immobility, surgery, trauma
Pulmonary Embolus	• Treat for 3 mos. if high risk of bleeding • **No scheduled stop date if low or moderate risk of bleeding**
For pts w/ unprovoked proximal DVT **or** PE who are stopping anticoagulant therapy	Use *aspirin* to prevent recurrent VTE if there are no contraindications

Stevens SM, Woller SC, Kreuziger LB, et al. Antithrombotic Therapy for VTE Disease: Second Update of the CHEST Guideline and Expert Panel Report. Chest. 2021 Dec;160(6):e545-e608.

Anticoagulation Medication Pearls

- For A fib: OAC (oral anticoagulant) therapy recommended for CHA2DS2-VASc >2 and HAS-BLED score <3,
- For DVT: OAC x3 mos., recurrent DVT or PE: OAC indefinite if low/moderate bleeding risk
- DOACs are generally preferred to warfarin unless mechanical heart valve, previous failure of DOAC therapy, or moderate to severe mitral stenosis, then warfarin is recommended
- Falls alone are not a reason to avoid OAC
- Anticoagulation is individualized decision based on goals of care and risk vs. benefit
- Use of “triple therapy” (DAPT plus anticoagulation) is NOT recommended for most patients due to an increased risk of bleeding.

Thrombotic Risk and Bleeding Risk for Patients

- **CHA2DS2-VASc** score is a tool used to assess **stroke risk** in patients with atrial fibrillation
  - Congestive heart failure, Hypertension, Age ≥75 (doubled), Diabetes, Stroke (doubled), Vascular disease, Age 65-74, and Sex (female).

- **HAS BLED:** Predicts the risk of **major bleeding** in patients with atrial fibrillation

  H: Hypertension (uncontrolled high blood pressure)

  A: Abnormal renal or liver function

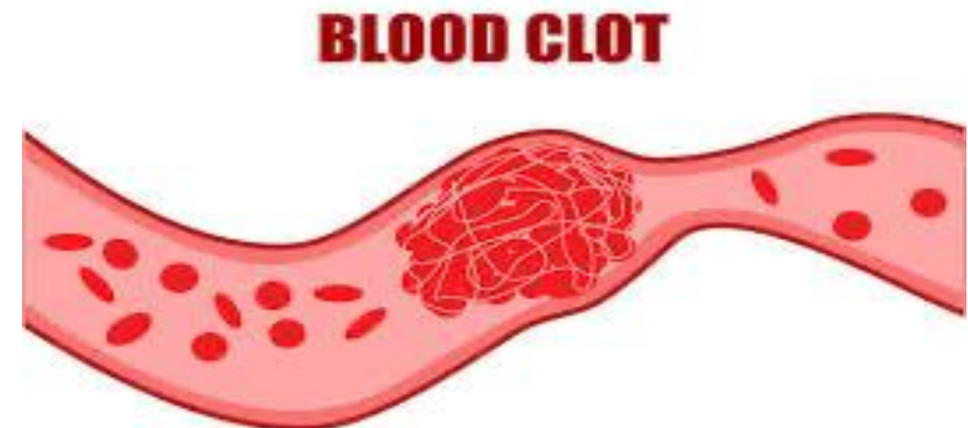
  S: Stroke history

  B: Bleeding history or predisposition to bleeding

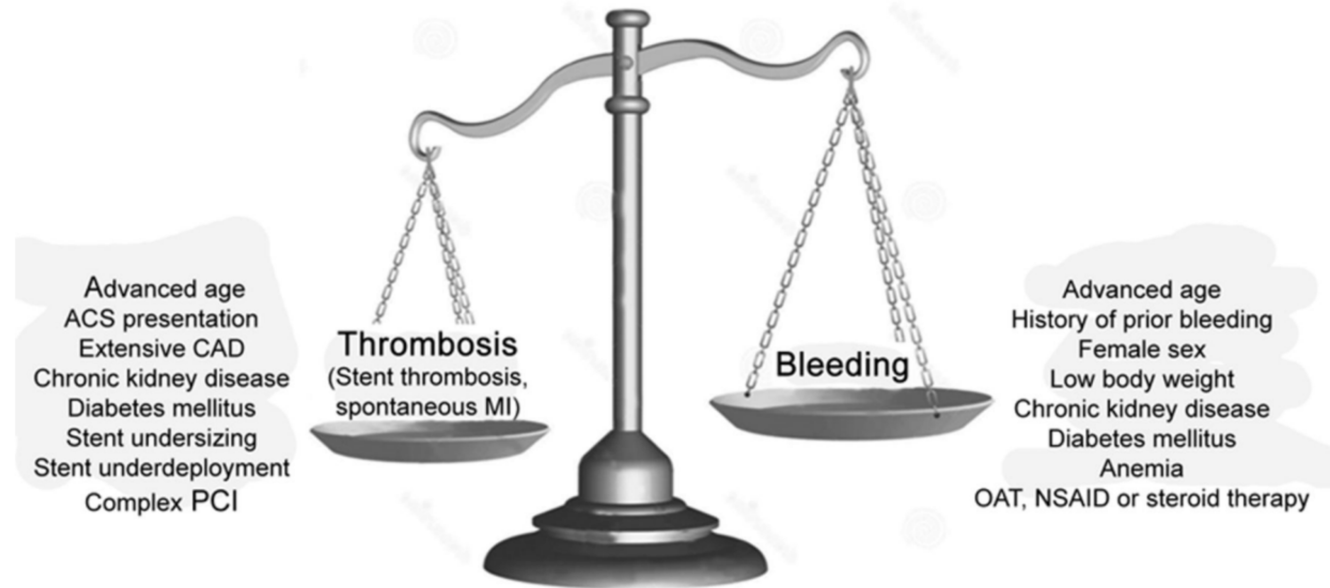
  L: Labile international normalized ratio (INR)

  E: Elderly (age 65 or older)

  D: Drugs or alcohol use



Antiplatelet therapy plus Anticoagulant Therapy



Regardless of the underlying indication, the ultimate goal is preserving antithrombotic efficacy while mitigating bleeding risk

What if a patient needs BOTH antiplatelet and anticoagulant medications? Tips for sorting it out…

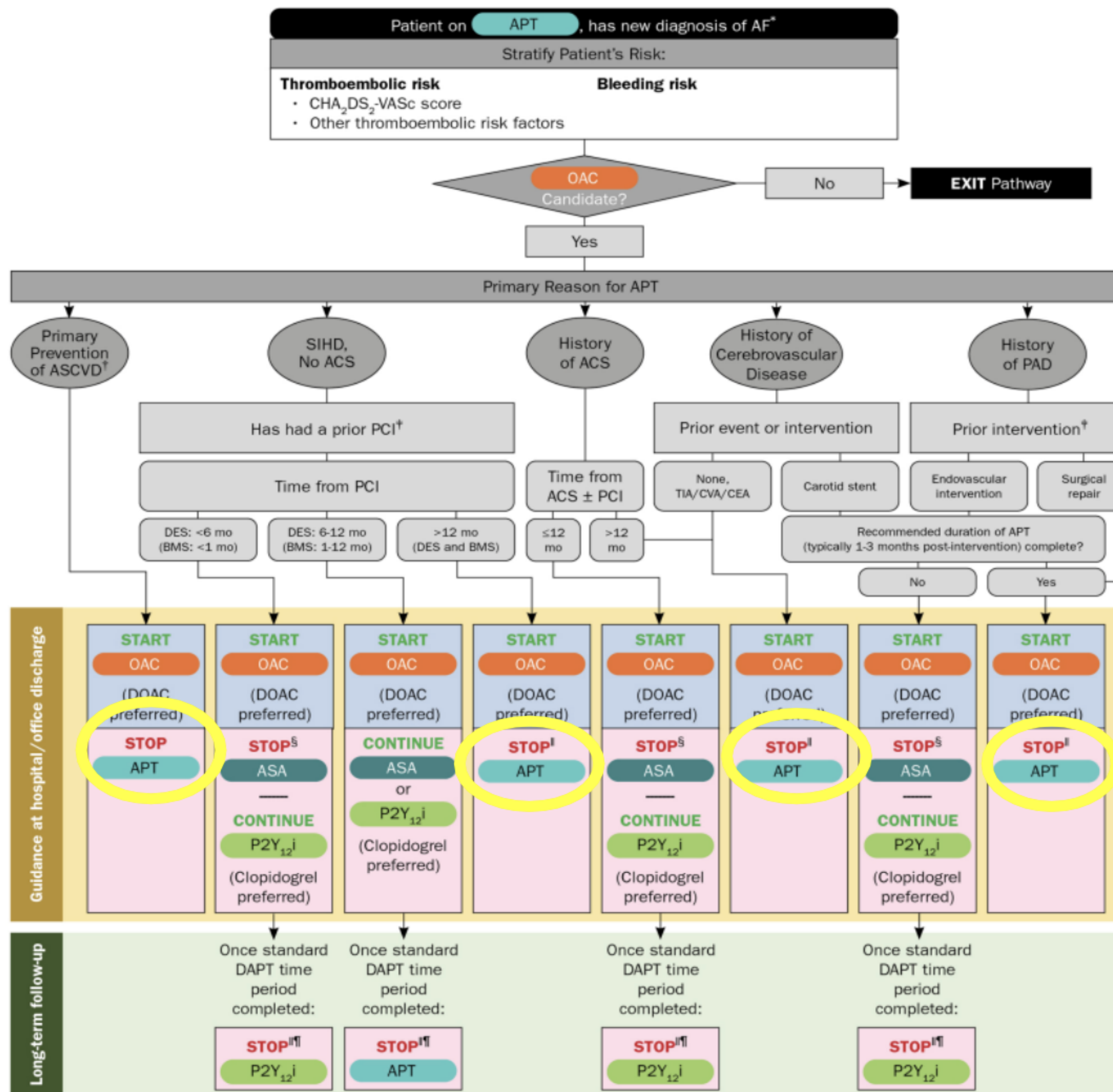
- If patient is on antiplatelet therapy and has new A. Fib:
  - Unless the patient has had a recent PCI, carotid stent or endovascular intervention:

  STOP the antiplatelet medications and start DOAC

- If patient is on antiplatelet therapy and has a new VTE:
  - Unless the patient has had a recent PCI, carotid stent or endovascular intervention:

  STOP the antiplatelet medications and start DOAC

Patient on APT With a New Diagnosis of AF: Discharge and Long-Term Management of Antithrombotic Therapy



Dharam J. Kumbhani et al. *JACC* 2020; 77:629-658.

Antithrombotic Stewardship: How to do it

- Step 1: What is the indication for the antithrombotic?
- Step 2: What is the thrombotic risk and bleeding risk? (CHA2DS2-VASc, HAS-BLED score)
- Step 3: If on dual or triple antithrombotic therapy, what is the indication for each medication? Can one or two medications be stopped?
- Step 4: Confirm the duration of therapy
- Step 5: Communicate with consultants (cardiology, neurology)

Antithrombotic Therapy Stewardship Pearls

- If lifelong OAC needed, antiplatelets can be discontinued after a year, even with prior ACS (Acute Coronary Syndrome). OAC therapy alone could be used long term
- For patients taking 2 or more antithrombotic agents, they should avoid other anti-inflammatory medications and take a PPI to reduce GI bleeding risk
- **In general, “triple therapy” is not recommended due to an increased risk of bleeding.**

When Is Triple Therapy Needed?

- In general, “triple therapy” is not recommended due to an increased risk of bleeding.
  - Patients with high coronary thrombotic risk, i.e., prior ACS, complex lesions, extensive ASCVD, and low bleeding risk, may be considered for triple therapy.
  - If needed, a short duration (e.g., < 30 days) is recommended.
  - If aspirin is being used, limit to < 100 mg

1. Do not use ASA for primary prevention of CAD
   - Double check for the indication
2. Use antiplatelet medications for arterial thrombosis like MI, TIA, ischemic stroke, and PVD
3. Use anticoagulant medications (DOACs) for venous thrombosis like DVT, PE, thrombosis/embolization due to A. Fib
4. For TIA/CVA/cerebrovascular disease: use a single antiplatelet indefinitely (like ASA)
5. If lifelong anticoagulation is needed, antiplatelets can be discontinued after a year and oral anticoagulant therapy alone can be used long term
   - After a year there are very few reasons to use dual or triple antithrombotic therapy
6. For patients taking ≥2 antithrombotic agents, a PPI and avoiding other anti-inflammatory medications should be employed to reduce GI bleeding risk

Thank you!