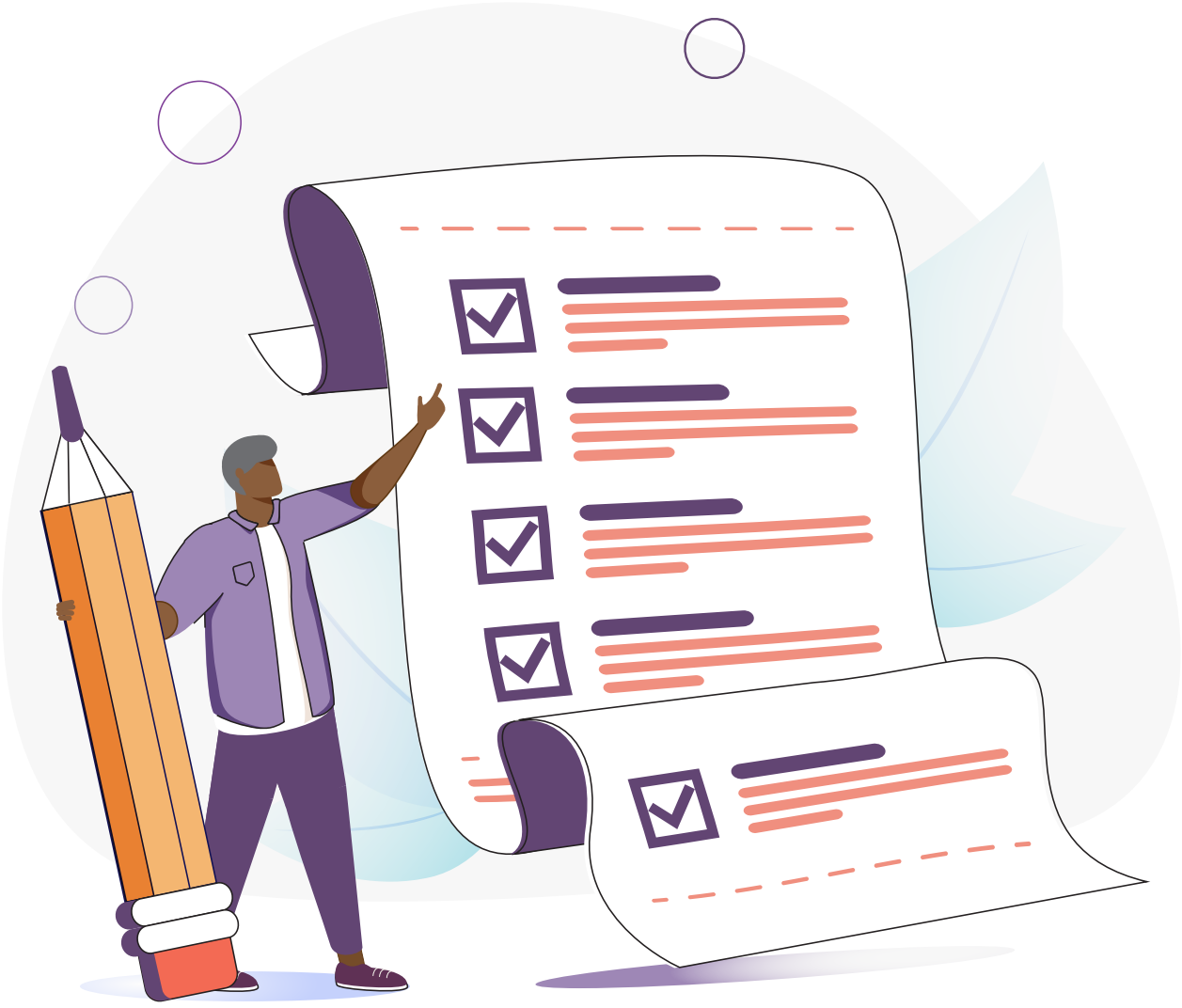
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The Procedure Playbook:

A Guide for Patients Who Take Medicines to Prevent Blood Clots and Need a Procedure or Operation





Introduction

Millions of people take medicine to stop their blood from clotting. These medicines are called **antithrombotics and include anticoagulants and antiplatelets.** If you take one of these medicines and need a medical procedure or surgery, there are some important things you need to know to make sure you stay healthy and avoid problems.

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Section 1: The Fine Print – What to Know Before Reading On

The information in this document is designed for patients but is based on a paper published in August 2022 by the American College of Chest Physicians. Another set of guidelines was released in 2024 by the American Heart Association and American College of Cardiology, developed in collaboration with and endorsed by the American College of Surgeons, American Society of Nuclear Cardiology, Heart Rhythm Society, Society of Cardiovascular Anesthesiologists, Society of Cardiovascular Computed Tomography, Society for Cardiovascular Magnetic Resonance, and the Society for Vascular Medicine.

- **This guide is for general educational purposes only and is not personalized medical advice.**

  Every patient's situation is different, and you will need to work with your healthcare team to manage your care needs.

- **The advice in this guide is specifically for patients who:**
  - Have been taking medicine to prevent blood clots for at least 3 months
  - Need a surgery or medical procedure that's planned and/or not urgent

- This guide focuses on **oral** blood thinners and antiplatelets (meaning antithrombotic medicines taken by mouth). Guidance on injections **only** applies to patients who take warfarin.

If you need emergency surgery (an unplanned, urgent operation) or a very high-risk surgery (one that can cause a lot of bleeding), this guide does not apply to you. Please speak to your doctor and surgical team for guidance.



Section 2: Learn the Lingo: Key Concepts and Definitions

What is antithrombotic therapy?
An antithrombotic drug helps stop blood clots from forming. Antithrombotic therapy refers to classes of drugs used to prevent or treat blood clots. These medicines include anticoagulants and antiplatelets.

Anticoagulants are sometimes called "blood thinners" because they stop blood from clotting too much and can prevent new clots from forming. You can take them as pills or through an IV or shot.

In this guide, we'll be focusing on the anticoagulants that you take as pills, which include:

Generic Name	Brand Name
Warfarin 	Jantoven®

Direct oral anticoagulants (DOACs)

Generic Name	Brand Name
Apixaban 	Eliquis®
Rivaroxaban 	Xarelto®
Edoxaban 	Savaysa®
Dabigatran 	Pradaxa®

Antiplatelet drugs help stop blood cells [called platelets] from sticking together and making clots. This guide focuses on two types of antiplatelet drugs to prevent or treat blood clots: aspirin and P2Y12 inhibitors.

Generic Name	Brand Name
Aspirin 	N/A
Clopidogrel 	Plavix®
Ticagrelor 	Brilinta®
Prasugrel 	Effient®

Doctors use anticoagulants and antiplatelets to treat patients with certain conditions.

Common uses for anticoagulants include:

Atrial fibrillation (Afib)

Afib is a type of irregular heartbeat that can cause strokes. A stroke is a blood clot in the brain.

Mechanical heart valve(s)

Artificial valves are made from strong materials like carbon or titanium that are put into a heart to replace a valve that isn't working.

Venous thromboembolism (VTE) is a condition that occurs when a blood clot forms in a vein. VTE includes deep vein thrombosis (DVT) and pulmonary embolism (PE).

DVT is a blood clot in the deep veins of the legs, thighs, arms, or elsewhere in the body. PE is a blood clot in the lungs.

Common uses for antiplatelets include:

Coronary artery disease (CAD)

The most common kind of heart disease where cholesterol-rich plaque builds up in the arteries that supply blood to the heart, narrowing them.

Peripheral artery disease (PAD)

When arteries in the body get blocked or narrow and slow down blood flow.

**Sometimes, patients with CAD or PAD may take both an antiplatelet and a blood thinner.

So, you need a procedure...

In this guide, a **procedure** is a medical intervention that does not involve general anesthesia or staying overnight in the hospital.

Surgery is an operation that may require anesthesia (medicine that prevents you from feeling pain, puts you to sleep, or does both). Surgery may or may not require staying overnight in the hospital.

An elective surgery or procedure is not an emergency and doesn't need to be done right away (so it is not urgent).

What is perioperative antithrombotic management?

Perioperative (or "periop" for short) means "around the time of surgery."

In this guide, the term "periop period" includes:

- 1 week before surgery
- On the day of surgery
- 4 weeks after surgery

The chance of problems with blood clots or bleeding is highest during these 5 weeks but is greatest in the 4 weeks after surgery.

Perioperative antithrombotic management – **PAM for short** – is a plan for how to handle your blood thinners or antiplatelet medicines around the time of surgery. The goal is to find a balance between the risk of blood clotting and the risk of bleeding. Having a plan in place is important to make sure that you have a safe and successful surgery.

Be sure to communicate openly and honestly with your healthcare team about the medicines you take and any upcoming surgeries or procedures you have.

Your team may include your main doctor, the clinician doing your surgery, the clinician giving you medicine to sleep during surgery (the anesthesiologist), and nurses or pharmacists. Since many people may be involved in your care, it's important to make sure everyone knows the same plan.

Section 3: Developing a Plan Before and After Surgery

Understanding Risk

Before building a **PAM plan**, you and your healthcare team need to understand your personal risk factors for a blood clot or stroke during the periop period.

A **risk factor** is something that increases the chances of something happening. Smoking is a well-known example of a risk factor for lung cancer. (Smoking affects a person's chances of developing lung cancer.)

Before having a procedure or operation, you will need to talk to your doctor about your personal risk for a blood clot, also known as your thrombotic risk. Your doctor will carefully review your medical history to figure out if you have a low, moderate, or high risk for blood clots.

If you have Afib, your blood clot risk will be based on your risk factors for stroke, which include:

- Having had a stroke before
- Being older than age 65
- Having high blood pressure, congestive heart failure, or diabetes
- Being born female

If you have a mechanical heart valve, your blood clot risk is based on:

- The position of the valve
- Your risk factors for stroke (which are the same risk factors as listed under Afib)
- The type of valve
- How old the valve is

If you have venous thromboembolism (VTE), your blood clot risk depends on:

- If you've had a blood clot before and how long ago your clot occurred
- If you have a genetic clotting disorder
- If you have cancer (or if you've had cancer recently)
- If you have an autoimmune disease called antiphospholipid syndrome

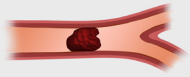
Additionally, your healthcare team will need to know the risk of bleeding associated with your surgery or procedure. This information will help the team manage your antithrombotic medication effectively and lower the chances of complications during and after your surgery. Procedures and surgeries are usually characterized as being either minimal, low-medium, or high bleed risk.

Since every patient is unique, your PAM plan must be customized for your needs. In section 4 of this guide, you'll find a form you and your healthcare team can use to write down the details of your plan.

Reminder:

Perioperative antithrombotic management – **PAM for short** – is a plan for how to handle your blood thinners or antiplatelet medicines around the time of surgery.

Risk Categories for Blood Clots

	Low	Moderate	High
Venous Thromboembolism  ■ **Venous thromboembolism (VTE) includes deep vein thrombosis (DVT) and pulmonary embolism (PE).** DVT is a blood clot in the deep veins of the legs, thighs, arms, or elsewhere in the body. PE is a blood clot in the lungs.	• **VTE more than 12 months ago**	• **VTE 3-12 months ago** • **Non-severe thrombophilia** • **Active cancer associated with high VTE risk** ■ Thrombophilia is a condition that makes your blood more prone to clotting.	• **VTE less than 3 months ago** • **Severe thrombophilia** • **Recent history of cancer**
Atrial Fibrillation  ■ Atrial fibrillation (Afib) is an irregular heartbeat that can raise your raisk for a stroke.	• **CHA_2DS_2VASc score 1-4** • **$CHADS_2$ score 0-2 (and no prior stroke or TIA)** ■ CHA_2DS_2VASc and $CHADS_2$ scores are used to determine the risk of stroke in people with Afib. The items included in the score are listed in the blue table below. ■ A stroke occurs when something blocks blood supply to part of the brain or when a blood vessel in the brain bursts. ■ TIA, or transient ischemic attack, is a temporary blockage of blood flow to the brain. The clot usually dissolves on its own or gets dislodged, and the symptoms usually last less than five minutes.	• **CHA2DS2VASc score 5-6** • **CHADS2 score 3-4**	• **CHA2DS2VASc score 7 or higher** • **CHADS2 score 5-6** • **Stroke or TIA within the last 3 months**
Mechanical Heart Valve  ■ A mechanical heart valve is used to replace a damaged valve and helps control blood flow to and from the heart.	• **Bileaflet aortic valve replacement *without* major risk factors for stroke** ■ A bileaflet valve is a mechanical heart valve with two tiny flaps to help improve blood flow.	• **Bileaflet aortic valve replacement *with* major risk factors for stroke**	• **Mechanical mitral valve with risk factors for stroke** • **Caged ball or tilting disc valve in mitral/aortic position** *The terms above refer to different types of valves used to treat heart valve disease.* • **Stroke or TIA within the last 3 months**

Score (points)	$CHADS_2$ Risk Criteria
1 pt	Congestive heart failure
1 pt	Hypertension (high blood pressure)
1 pt	Aged 75 years and older
1 pt	Diabetes (type 1 or type 2)
2 pts	Stroke or TIA

Score	CHA_2DS_2-VAS_C Risk Criteria
1 pt	Congestive heart failure
1 pt	Hypertension (high blood pressure)
2 pt	Aged 75 years and older
1 pt	Diabetes (type 1 or type 2)
2 pt	Stroke, TIA, or blood clotting event
1 pt	Vascular disease (for example, peripheral artery disease or a prior heart attack)
1 pt	Aged 65 to 74 years
0-1 pt	0 points for male sex, 1 point for female sex

Glossary of Procedures and Surgeries

Procedures with low-to-medium bleeding risk:

- **Abdominal hernia repair:** An operation to treat a hernia, a condition where part of an organ bulges under the skin in your stomach area.
- **Abdominal hysterectomy:** A procedure where the uterus is removed through a cut in the belly.
- **Arthroscopy:** A procedure where a tool with a camera at the tip, called a scope, is used to look at or treat problems in joints.
- **Biopsy:** A procedure where a small piece of skin or tissue is removed to test in a lab. Sometimes, doctors do a biopsy while doing another procedure, like taking tissue from your colon during a colonoscopy.
- **Bronchoscopy:** A procedure where a scope is used to look at the lungs and airways.
- **Colonoscopy:** A procedure where a scope is used to examine the colon. There's usually a low risk of bleeding – but the risk increases if polyps are removed.
- **Coronary angiography:** A procedure that uses special dye and x-rays to see how blood flows through the arteries in the heart.
- **Endoscopy:** A procedure where a scope is used to look at the digestive tract/stomach.
- **Pacemaker or defibrillator:** A device that helps your heart beat at a normal rate or control abnormal heart rhythm.

Procedures with high bleeding risk:

- **Bowel resection:** An operation to remove part of the small intestine or large intestine (aka colon).
- **Cancer surgery:** Any surgery to remove cancerous tumors.
- **Colonic polyp resection:** A polyp is a growth in the colon or rectum. Resection means removing polyps before they become cancerous.
- **Major gastrointestinal surgery:** Operations on the stomach and intestines.
- **Major orthopedic surgery:** Operations to fix bones or joints in your body.
- **Major thoracic surgery:** Operations to fix problems in the chest area; also includes the esophagus (tube between mouth and stomach), the trachea (airway) and chest wall (rib cage and breastbone)
- **Major urologic surgery:** Operations on the bladder, kidneys, or other parts of the urinary tract system, as well as male reproductive organs like the prostate
- **Neuraxial anesthesia or epidural:** Pain-relieving medicine that is placed around the nerves of the central nervous system by injection (a shot). This shot will cause numbness from the stomach to the toes.
- **Reconstructive plastic surgery:** Operations done to correct facial or body abnormalities that are the result of injury or disease

Section 4: General Recommendations if You Need a Surgery or Procedure

Recommendations

The tables ahead include general instructions for starting and stopping blood thinners and antiplatelet medicines if you need a procedure or surgery.

Remember that this information is not personalized and may not apply to your specific situation. This guide also does NOT include instructions for very high-risk surgeries.

Always talk to your doctor and healthcare team if you take an antithrombotic medicine and need a procedure or surgery – and never stop taking your medication without talking to your doctor first.

Reminder:

Millions of people take medicine to stop their blood from clotting. These medicines are called **antithrombotics and include anticoagulants and antiplatelets.**



General Recommendations If You Take Warfarin

Type of Procedures and Their Bleeding Risk (Definitions of these procedures can be found in the **procedure glossary on page 8**)	**Your Risk for a Blood Clot***	**Recommendation**
Minimal or very low bleeding risk: • **Minor dental work** (examples: teeth cleaning, filling, root canal, tooth extraction) • **Minor eye procedure** (example: cataract surgery) • **Minor skin procedure** (example: removing a mole) • **Minor heart (cardiac) procedure** (example: getting a pacemaker)	**Low, moderate, or high clot risk**	■ You do not need to stop taking your warfarin before or after the procedure. * For dental work, talk to your dentist about using a special mouthwash before and after your procedure to reduce bleeding.
Low-to-medium bleeding risk: • Abdominal hernia repair • Abdominal hysterectomy • Arthroscopy • Bronchoscopy • Colonoscopy with or without a biopsy • Coronary angiography • Endoscopy with or without a biopsy • Gallbladder removal with a scope through small cuts in the skin • Hand and foot surgery • Hemorrhoid removal • Skin biopsy	**Low or moderate clot risk**	■ You will likely need to stop your warfarin for 5 or more days before your procedure/surgery. ■ Restart your warfarin within 24 hours after your procedure/surgery at the dose you normally take. ■ Never stop or restart your warfarin without talking to your doctor/prescriber.
High bleeding risk: • Any major surgery longer than 45 minutes • Any procedure or surgery requiring neuraxial anesthesia	**High clot risk**	■ You will likely need to stop your warfarin for 5 or more days before your procedure/surgery. ■ You will need to use an injectable blood thinner called heparin (a practice known as bridging) while you're off your warfarin.* ***See next page*** ■ **Never** stop or restart your warfarin without talking to your doctor/prescriber.

* Definitions of blood clot risk categories can be found in the chart on page 7

Table legend: ■ GREEN **boxes mean"LOW risk"** ■ YELLOW **boxes mean "MODERATE risk"** ■ RED **boxes mean "HIGH risk"**

*What to Know about Bridging:

This ONLY applies to patients who take warfarin

Bridging is a medical strategy used when patients need to temporarily stop taking warfarin before a medical procedure or surgery.

When warfarin is stopped, there's an increased risk for blood clots. To manage this risk, your doctor may use a short-acting injectable blood thinner, such as heparin, as a temporary "bridge" to prevent blood clots while you're off your warfarin.

The bridging process involves careful timing around stopping your warfarin, starting an injectable blood thinner, and then restarting your warfarin after your procedure.

Before your procedure:

- **Stop taking your warfarin about 5 days before** your procedure.
- **Start an injectable blood thinner** (called heparin or enoxaparin) 3 days before your procedure – and have the last dose the day before your procedure.
- **Your doctor may order a blood test** (called an INR test) before your procedure to measure the levels of warfarin in your blood.

After your procedure:

- **Restart your warfarin within 24 hours** at the dose you normally take. (Most patients can restart warfarin the same evening after their surgery.)
- **You need to wait 1 day—or longer—before restarting your injectable blood thinner** while you are restarting warfarin.
  - It takes a few days for warfarin to reach its full effect in your body, so you will take both your warfarin and use the injectable blood thinner for a few days after surgery to prevent blood clots. Your doctor will give you clear instructions about the timeline.
  - For low-to-medium bleed risk procedures, you will usually wait 24 hours before restarting your injectable blood thinner.
  - For high-bleed-risk procedures you will usually wait 48-72 hours (2-3 days) before restarting your injectable blood thinner.
- **You will have a blood test** (again, called an INR test) to measure the level of warfarin in your blood.
- **You will stop taking the injectable blood thinner** once your doctor determines that your blood work is in a normal range.
- **After stopping the injectable blood thinner**, you will continue taking your warfarin as usual.

General Recommendations If You Take a Direct Oral Anticoagulant (Aka DOAC) And Need a Procedure That Is Low-To-Moderate Bleed Risk

In general, you do not need to stop taking your DOAC medicine before or after minor dental, skin, or eye procedures.

Reminder: The glossary of procedures that have a low-to-moderate bleeding risk is on page 8.

Name of the DOAC That You Take	Recommendations for LOW-to-MODERATE Bleed Risk Procedures
Apixaban (Eliquis) **Rivaroxaban (Xarelto)** **Edoxaban (Savaysa)**	■ Stop taking this medication the day before your procedure (i.e., take your last dose 2 days before the procedure). ■ Restart your medication about 24 hours following your procedure if you're not bleeding.
Dabigatran (Pradaxa)	This drug leaves the body through the kidneys and urine. For this reason, the periop recommendations are based on how well your kidneys work. ■ **If you have NORMAL kidney function:** • **Stop taking** your dabigatran the day before your procedure (i.e., take your last dose 2 days before the procedure). • **Restart** your dabigatran at about 24 hours following your procedure. ■ **If you have kidney disease:** • **Stop taking** your dabigatran for the 2 days before your procedure (i.e., take your last dose 3 days before the procedure). Your doctor will help you figure out exactly when to stop taking this medication. • **Restart** your dabigatran at approximately 24 hours following your procedure if you are not bleeding.

General Recommendations If You Take a Direct Oral Anticoagulant (Aka DOAC) And Need A Procedure That Has a High Risk of Bleeding

Reminder: The glossary of procedures that have a high risk of bleeding risk is on page 8.

Name of the DOAC That You Take	Recommendations for Procedures with a High Risk of Bleeding
Apixaban (Eliquis) **Rivaroxaban (Xarelto)** **Edoxaban (Savaysa)**	■ Stop taking this medication 2 days before your procedure (i.e., take your last dose 3 days before the procedure). ■ After your procedure, restart your medication within 2-3 days (48-72 hours) if you're not bleeding.
Dabigatran (Pradaxa)	This drug leaves the body through the kidneys and urine. For this reason, the periop recommendations are based on how well your kidneys work. ■ **If you have NORMAL kidney function:** • **Stop taking** your dabigatran 2 days before your procedure (i.e., take your last dose 3 days before the procedure). • **After your procedure, restart your dabigatran within 2-3 days (48-72 hours).** Your doctor will help you figure out exactly when to restart this medication. ■ **If you have kidney disease:** • **Stop taking** your dabigatran for the 4 days before your procedure (i.e., take your last dose 5 days before the procedure). • **Restart** your your dabigatran within 2-3 days (48-72 hour) following your procedure if you are not bleeding. • Your doctor will help you figure out exactly when to stop and restart this medication

General Recommendations If You Take an Antiplatelet Medicine and Need Any Type of Procedure or Surgery

(The recommendations are the same for ALL levels of bleeding risk.)

In general, for minor dental, skin, or eye procedures, you do not need to stop taking your antiplatelet medicine before or after the procedure.

The recommendations in this table apply to:

- Noncardiac procedures, meaning procedures not being done to your heart.
- Patients who have stents. (A stent is a device inserted into an artery to keep it open and improve blood flow.)
- Other low-to-moderate risk procedures that are not minor dental, skin, or eye procedures

Name of the Antiplatelet Medicine That You Take	Recommendations
Aspirin	■ You do not need to stop taking aspirin before or after the procedure.
Clopidogrel (Plavix)	■ **Stop taking** your clopidogrel 5 days before your procedure. ■ **Restart** your clopidogrel within 24 hours following your procedure.
Ticagrelor (Brilinta)	■ **Stop taking** your ticagrelor 3-5 days before your procedure. ■ **Restart** your ticagrelor within 24 hours following your procedure.
Prasugrel (Effient)	■ **Stop taking** your prasugrel 7 days before your procedure. ■ **Restart** your prasugrel within 24 hours following your procedure.

Your doctor will help you figure out exactly when to stop and restart your medication.

Update of note from the 2024 AHA/ACC/ACS/ASNC/ HRS/SCA/SCCT/SCMR/SVM Guideline for Perioperative Cardiovascular Management for Noncardiac Surgery: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines:
Minimum time for platelet function to return after stopping an antiplatelet drug:
Aspirin 4 days
Clopidogrel 5-7 days
Prasugrel 7-10 days
Ticagrelor 3-5 days

The minimum time between stopping antiplatelet drugs and having noncardiac surgery should be guided by:
- Pharmacokinetic data (how the body interacts with a drug)
- How quickly platelet function recovers after stopping the drug
- The prescribing information provided by the FDA for the specific drug

Thompson A, et al. Circulation. 2024;150:e351–e442.
DOI: 10.1161/CIR.0000000000001285Sctt

A Personalized Antithrombotic Medication Management Worksheet

USE THIS SHEET IF YOU TAKE WARFARIN

Background Information

Print For Use With Your Surgeon

Name: _____

Date of birth: _____

Preferred pharmacy (include name, address, and phone number): _____

_____

_____

Emergency contact name and phone number:

_____

_____

_____

Medication Information

Check off which medicines you take in the boxes below.

Next to your medication, fill in your dose, the reason why you take it, and who prescribes it.

✔	Blood Thinner	Dose	Why do you take it?	Who Prescribes it?
❑	Warfarin (Coumadin®)			

✔	Antiplatelet	Dose	Why do you take it?	Who Prescribes it?
❑	Aspirin			
❑	Clopidogrel (Plavix®)			
❑	Ticagrelor (Brilinta®)			
❑	Prasugrel (Effient®)			

Continued on next page

A Personalized Antithrombotic Medication Management Worksheet

USE THIS SHEET IF YOU TAKE WARFARIN

Print For Use With Your Surgeon

Information and Instructions for Your Procedure

Name or type of procedure:_____

Date, time, and location of procedure:_____

BEFORE YOUR PROCEDURE:

Based on discussions with my healthcare team and instructions from my doctor(s), I will…

❑ **Continue taking my**_____ **as usual and will not make any changes to how I take it.**

❑ **Stop taking my** _____ **on** _____ **(DATE).**

ONLY if you are bridging with an injectable heparin:

❑ **Begin using injectable heparin on** _____**(DATE) and stop it on**_____ **(DATE).**

AFTER YOUR PROCEDURE:

❑ **Restart my**_____**on (DATE) and follow these instructions:** _____

(RECORD DOSAGE AND TIME TO RESUME IT, THEN HOW TO CONTINUE GOING FORWARD AND WHEN YOUR NEXT BLOOD TEST IS SCHEDULED.)

ONLY if you are bridging with an injectable heparin:

❑ **Restart my injectable heparin on** _____**(DATE) and follow these instructions:**_____

(RECORD DOSAGE AND TIME TO RESUME IT, THEN HOW TO CONTINUE GOING FORWARD.)

If I have questions, I can contact _____**(NAME) at** _____**(PHONE NUMBER)**

Warfarin

High Bleeding Risk

7 days BEFORE PROCEDURE	6 days BEFORE PROCEDURE	5 days BEFORE PROCEDURE	4 day BEFORE PROCEDURE	3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
				AM  PM 	AM  PM 	AM  PM 
Take warfarin	Take warfarin	Do not take warfarin	Do not take warfarin	Do not take warfarin Start LMWH	Do not take warfarin Continue LMWH	Do not take warfarin Skip evening LMWH

DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE	4 days AFTER PROCEDURE	5 days AFTER PROCEDURE	6 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 
Start warfarin Do not take LMWH	Continue warfarin Do not take LMWH	Continue warfarin Ask your doctor about starting LMWH*	Continue warfarin Ask your doctor about starting LMWH*	Continue warfarin Take LMWH	Continue both	Continue warfarin Ask your doctor about stopping LMWH‡



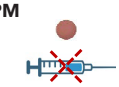
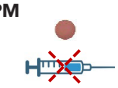
* For high-bleed-risk procedures, LMWH is usually restarted 2-3 days after the procedure
‡LMWH is stopped when the INR is in the therapeutic range (greater than 1.9).
INR is a blood test used to monitor the effectiveness of warfarin.
When the INR is said to be in the therapeutic range, it means that the level of blood clotting is within a safe range.

– DO NOT take **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Low/Moderate Bleeding Risk

7 days BEFORE PROCEDURE	6 days BEFORE PROCEDURE	5 days BEFORE PROCEDURE	4 day BEFORE PROCEDURE	3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
				AM  PM 	AM  PM 	AM  PM 
Take warfarin	Take warfarin	Do not take warfarin	Do not take warfarin	Do not take warfarin Start LMWH	Do not take warfarin Continue LMWH	Do not take warfarin Skip Evening LMWH

DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE	4 days AFTER PROCEDURE	5 days AFTER PROCEDURE	6 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 
Start warfarin Do not take LMWH	Continue warfarin Ask your doctor about starting LMWH†	Continue warfarin Take LMWH	Continue both	Continue both	Continue warfarin Ask your doctor about stopping LMWH‡	Continue warfarin Ask your doctor about stopping LMWH‡



†For low-to-moderate bleed risk, LMWH is usually restarted within 24 hours.
‡LMWH is stopped when the INR is in the therapeutic range (greater than 1.9).
INR is a blood test used to monitor the effectiveness warfarin.
When the INR is said to be in the therapeutic range, it means that the level of blood clotting is within a safe range.

X – DO NOT take **X – do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

A Personalized Antithrombotic Medication Management Worksheet

USE THIS SHEET IF YOU ARE ON A DOAC: APIXABAN, EDOXABAN, RIVAROXABAN, or DABIGATRAN

Background Information

Print For Use With Your Surgeon

Name: _____

Date of birth: _____

Preferred pharmacy (include name, address, and phone number): _____

_____

_____

Emergency contact name and phone number:

_____

_____

_____

Medication Information

Check off which medicines you take in the boxes below.

Next to your medication, fill in your dose, the reason why you take it, and who prescribes it.

✔	Blood Thinner	Dose	Why do you take it?	Who Prescribes it?
❑	Apixaban (Eliquis®)			
❑	Rivaroxaban (Xarelto®)			
❑	Dabigratran (Pradaxa®)			
❑	Edoxaban (Savaysa®)			

✔	Antiplatelet	Dose	Why do you take it?	Who Prescribes it?
❑	Aspirin			
❑	Clopidogrel (Plavix®)			
❑	Ticagrelor (Brilinta®)			
❑	Prasugrel (Effient®)			

Continued on next page

A Personalized Antithrombotic Medication Management Worksheet

USE THIS SHEET IF YOU ARE ON A DOAC: APIXABAN, EDOXABAN, RIVAROXABAN, or DABIGATRAN

Print For Use With Your Surgeon

Information and Instructions for Your Procedure

Name or type of procedure:_____

Date, time, and location of procedure: _____

BEFORE YOUR PROCEDURE:

Based on discussions with my healthcare team and instructions from my doctor(s), I will...

❑ **Continue taking my** _____ **as usual and will not make any changes to how I take it.**

❑ **Stop taking my** _____ **on** _____ **(DATE).**

AFTER YOUR PROCEDURE:

❑ **Restart my** _____ **on (DATE) and follow these instructions:** _____

(RECORD DOSAGE AND TIME TO RESUME IT, THEN HOW TO CONTINUE GOING FORWARD.)

If I have questions, I can contact _____ **(NAME) at** _____ **(PHONE NUMBER)**

High Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
PM 	PM 	PM 	PM 	PM 	PM 	PM 
Take	Do not take	Do not take	Do not take	Do not take	Ask your doctor*	Ask your doctor*

*You will usually restart your abixaban 2-3 days after a high-bleed-risk procedure - if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

 **– DO NOT take**  **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Low/Moderate Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
PM 	PM 	PM 	PM 	PM 	PM 	PM 
Take	Take	Do not take	Do not take	Ask your doctor†	Take	Take

†You will usually restart your apixaban within 24 hours after having a procedure with low/moderate bleed risk if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

 **– DO NOT take**

 **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

High Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**
						
Take	Do not take	Do not take	Do not take	Do not take	Ask your doctor*	Ask your doctor*

*You will usually restart your edoxaban 2-3 days after a high-bleed-risk procedure if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleed

– DO NOT take **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Low/Moderate Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**
						
Take	Take	Do not take	Do not take	Ask your doctor†	Take	Take

†You will usually restart your edoxaban within 24 hours after having a procedure with low/moderate bleed risk if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

 **– DO NOT take**  **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

High Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**
						
Take	Do not take	Do not take	Do not take	Do not take	Ask your doctor*	Ask your doctor*

*You will usually restart your rivaroxaban 2-3 days after a high-bleed-risk procedure if adequate hemostasis is achieved.

Adequate hemostasis def to legend: Adequate hemostasis refers to the successful prevention or stopping of bleeding.

– DO NOT take **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Low/Moderate Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**
						
Take	Take	Do not take	Do not take	Ask your doctor†	Take	Take

†You will usually restart your rivaroxaban within 24 hours after having a procedure with low/moderate bleed risk if adequate hemostasis is achieved.

Adequate hemostasis def to legend: Adequate hemostasis refers to the successful prevention or stopping of bleeding.

 **– DO NOT take**  **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Dabigatran (Pradaxa®) (Normal Kidney Function)

High Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**	**Date:**
AM  **PM** 	**AM**  **PM** 	**AM**  **PM** 	**AM**  **PM** 	**AM**  **PM** 	**AM**  **PM** 	**AM**  **PM** 
Take	Do not take	Do not take	Do not take	Do not take	Ask your doctor*	Ask your doctor*

*You will usually restart your dabigatran 2-3 days after a high-bleed-risk procedure if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

 **– DO NOT take**

 **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Dabigatran (Pradaxa®) (Normal Kidney Function)

Low/Moderate Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 
Take	Take	Do not take	Do not take	Ask your doctor†	Take	Take

†You will usually restart your dabigatran within 24 hours after having a procedure with low/moderate bleed risk if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

 **– DO NOT take**

 **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Dabigatran (Pradaxa®) (Impaired Kidney Function)

High Bleeding Risk

7 days BEFORE PROCEDURE	6 days BEFORE PROCEDURE	5 days BEFORE PROCEDURE	4 days BEFORE PROCEDURE	3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 
Take	Take	Take	Do not take	Do not take	Do not take	Do not take

DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE	4 days AFTER PROCEDURE	5 days AFTER PROCEDURE	6 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 	AM  PM 
Do not take	Do not take	Ask your doctor*	Ask your doctor*	Take	Take	Take

*You will usually restart your dabigatran 2-3 days after a high-bleed-risk procedure if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

– DO NOT take **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Dabigatran (Pradaxa®) (Impaired Kidney Function)

Low/Moderate Bleeding Risk

3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE	DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
PM 	PM 	PM 	PM 	PM 	PM 	PM 
Take	Do not take	Do not take	Do not take	Ask your doctor†	Take	Take

†You will usually restart your dabigatran within 24 hours after having a procedure with low/moderate bleed risk if adequate hemostasis is achieved.

Adequate hemostasis refers to the successful prevention or stopping of bleeding.

– DO NOT take **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

A Personalized Antithrombotic Medication Management Worksheet

USE THIS SHEET IF YOU ARE ON AN ANTIPLATELET MEDICINE: ASPIRIN, CLOPIDOGREL, TICAGRELOR, OR PRASUGREL

Print For Use With Your Surgeon

Background Information

Name: _____

Date of birth: _____

Preferred pharmacy (include name, address, and phone number): _____

_____

_____

Emergency contact name and phone number:

_____

_____

_____

Medication Information

Check off which medicines you take in the boxes below.

Next to your medication, fill in your dose, the reason why you take it, and who prescribes it.

✔	Antiplatelet	Dose	Why do you take it?	Who Prescribes it?
❑	Aspirin			
❑	Clopidogrel (Plavix®)			
❑	Ticagrelor (Brilinta®)			
❑	Prasugrel (Effient®)			

Continued on next page

A Personalized Antithrombotic Medication Management Worksheet

USE THIS SHEET IF YOU ARE ON AN ANTIPLATELET MEDICINE: ASPIRIN, CLOPIDOGREL, TICAGRELOR, OR PRASUGREL

Print For Use With Your Surgeon

Information and Instructions for Your Procedure

Name or type of procedure:_____

Date, time, and location of procedure:_____

BEFORE YOUR PROCEDURE:

Based on discussions with my healthcare team and instructions from my doctor(s), I will…

❑ **Continue taking my**_____ **as usual and will not make any changes to how I take it.**

❑ **Stop taking my** _____ **on** _____ **(DATE).**

AFTER YOUR PROCEDURE:

❑ **Restart my**_____**on (DATE) and follow these instructions:** _____

(RECORD DOSAGE AND TIME TO RESUME IT, THEN HOW TO CONTINUE GOING FORWARD.)

If I have questions, I can contact

_____**(NAME)**

at _____**(PHONE NUMBER)**

Any Bleeding Risk

7 days BEFORE PROCEDURE	6 days BEFORE PROCEDURE	5 days BEFORE PROCEDURE	4 days BEFORE PROCEDURE	3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
Take	Take	Do not take	Do not take	Do not take	Do not take	Do not take

DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE	4 days AFTER PROCEDURE	5 days AFTER PROCEDURE	6 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
Do not take	Ask your doctor*	Take	Take	Take	Take	Take

*You will usually restart your clopidogrel within 24 hours after a procedure - but check with your doctor before restarting.

✕ – DO NOT take **✕ – do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Any Bleeding Risk

7 days BEFORE PROCEDURE	6 days BEFORE PROCEDURE	5 days BEFORE PROCEDURE	4 days BEFORE PROCEDURE	3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
Take	Take	Ask your doctor*	Ask your doctor*	Do not take	Do not take	Do not take

DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE	4 days AFTER PROCEDURE	5 days AFTER PROCEDURE	6 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
Do not take	Ask your doctor†	Take	Take	Take	Take	Take

*Ask your doctor if you should stop taking this medication 4 or 5 days before your procedure.
†You will usually restart your ticagrelor within 24 hours after a procedure - but check with your doctor before restarting.

– DO NOT take **– do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

Any Bleeding Risk

7 days BEFORE PROCEDURE	6 days BEFORE PROCEDURE	5 days BEFORE PROCEDURE	4 days BEFORE PROCEDURE	3 days BEFORE PROCEDURE	2 days BEFORE PROCEDURE	1 day BEFORE PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
Take	Take	Take	Do not take	Do not take	Do not take	Do not take

DAY OF PROCEDURE	1 day AFTER PROCEDURE	2 days AFTER PROCEDURE	3 days AFTER PROCEDURE	4 days AFTER PROCEDURE	5 days AFTER PROCEDURE	6 days AFTER PROCEDURE
Date:	Date:	Date:	Date:	Date:	Date:	Date:
AM 	AM 	AM 	AM 	AM 	AM 	AM 
Do not take	Ask your doctor*	Take	Take	Take	Take	Take

*You will usually restart your prasugrel within 24 hours after a procedure - but check with your doctor before restarting.

X – DO NOT take **X – do not take based on your doctor's advice**

Based on the dose that you take, the shape or color of your medication may look different than the image in this calendar.

References and Resources

References

The information in this guide has been adapted from medical guidelines written by the American College of Chest Physicians and the American Heart Association and American College of Cardiology, developed in collaboration with and endorsed by the American College of Surgeons, American Society of Nuclear Cardiology, Heart Rhythm Society, Society of Cardiovascular Anesthesiologists, Society of Cardiovascular Computed Tomography, Society for Cardiovascular Magnetic Resonance, and the Society for Vascular Medicine.

Additional resources

MAPPP app or download on iOS or Google Play app stores.

The 2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation also includes a section on perioperative management (only applies to patients with Afib who take blood thinners)

Thrombosis Canada algorithm

Acknowledgements

VLN would like to thank the following individuals for making this important initiative possible.

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