

# Anticoagulation Management: What to Expect When Surgery or Other Medical or Dental Procedures are Planned

Millions of people take medication to prevent dangerous blood clots. These medications are called anticoagulants. Anticoagulant medications are commonly called “blood thinners,” but they do not actually “thin” the blood. Rather, they slow or decrease the body’s ability to form dangerous blood clots. Anticoagulants, however, do not eliminate the body’s clotting process completely, because blood clots are a natural and beneficial part of the body’s healing processes.

## Common Reasons for Anticoagulation Treatment

Some of the most common reasons people are prescribed anticoagulation medication include:

- **Atrial fibrillation.** Atrial fibrillation is an irregular heartbeat that can lead to clot-provoked stroke. People diagnosed with atrial fibrillation may be prescribed anticoagulant medication to prevent clot-provoked stroke.
- **Existing Risk Factors for Blood Clots in the Legs or Lungs.** Some people are at increased risk for dangerous blood clots that can form in their legs and travel to their lungs. Blood clots in the lungs can be life-threatening. People at increased risk for blood clots in their legs and lungs may be prescribed anticoagulation medication. Some of the most common risk factors for blood clots in the legs and lungs include:
  - Surgery, physical trauma, hospitalization or prolonged immobility
  - Cancer and certain cancer treatments
  - A personal or family history of blood clots, or a genetic clotting disorder

## Oral Anticoagulant Medications

There are several different oral anticoagulation options that doctors can prescribe based on the specific needs of individual patients. Some of these medications, like warfarin and aspirin, have been used for many years. More recently, several new direct oral anticoagulants became available. The options a doctor can choose from when selecting an oral anticoagulant include:

**Warfarin** (brand name Coumadin®)

**Apixaban** (brand name Eliquis®)

**Edoxaban** (brand name Savaysa®)

**Rivaroxaban** (brand name Xarelto®)

**Dabigatran** (brand name Pradaxa®)

**Aspirin**



## Length of Anticoagulation Treatment

Some people need to take anticoagulation therapy for a short period of time (i.e., a few weeks or months). Some people may need to take an anticoagulant for a full year or longer. Some people may be prescribed anticoagulation therapy for life. The length of time a person will take an anticoagulant depends upon their risk factors and personal health history, and is determined by their doctor.

## Balance Clotting and Bleeding Risks

Clinical studies show that both the older and newer prescription anticoagulation medications can safely and effectively prevent blood clots. As with all prescription medications, they also can cause side effects. The most common side effect or complication associated with all anticoagulation medications is bleeding.

- **Minor Bleeding.** Bleeding risks with anticoagulation therapy can be minor, such as when you nick yourself while shaving, scrape your knee, or when you have a dental procedure, such as a dental cleaning or tooth extraction.
- **Major Bleeding.** Bleeding risks with anticoagulation therapy can be potentially dangerous or life-threatening, such as internal bleeding that can occur if you have an accident or serious injury, or when you undergo major surgery.



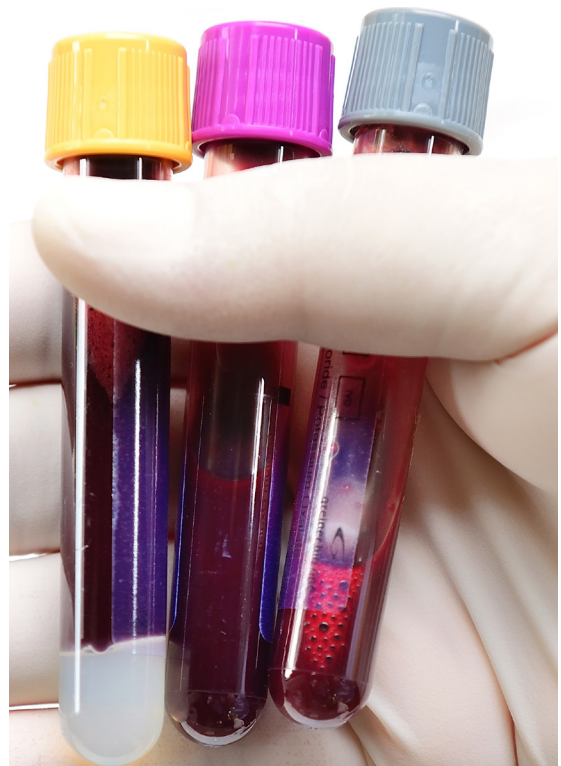
**Effective anticoagulation management requires the successful balance between the prevention of blood clotting or anticoagulation and the potential risk of bleeding that is a complication of all anticoagulation therapies. You should always talk to your healthcare provider about the best ways to manage your anticoagulation medication.**

## Management of Anticoagulation Therapy When Surgery or Other Procedures are Planned

Given the bleeding risks associated with anticoagulants, one important situation that requires very careful management of these medications involves surgery, or any other invasive procedure you might need or plan. Your anticoagulation medication needs to be managed very carefully in the days before, during, and after your surgery or procedure.

Some surgical procedures, such as hip or knee replacement, can cause serious or major bleeding risks. Other procedures, such as having a tooth pulled, or having an invasive diagnostic procedure like a biopsy, usually involve minor bleeding risks.

**You should always talk to your doctor or healthcare team about your anticoagulation management when you have surgery or any other medical or dental procedure planned. It's important to talk to your doctor at least 7 to 10 days prior to your procedure. Your doctor will work with you to manage your anticoagulation therapy and make sure that there is a safe balance between your clotting and bleeding risks.**



Before your surgery or procedure, your doctor will evaluate many factors to determine if you need to stop taking your anticoagulation therapy for a short period of time. Your doctor will evaluate your blood clotting history and any underlying risk factors for blood clots. They also will carefully weigh your risk for bleeding and the specific type of bleeding risk your surgery or procedure may pose.

**Your doctor will give you instructions about how your anticoagulation medication should be managed to make sure that there is a safe and effective balance between your clotting risk and your bleeding risk. It's crucial that you follow these instructions very carefully.**



## What to Expect

Every person is different, and every situation needs to be managed carefully. For example, if you are taking warfarin and you have to stop taking it prior to a procedure, your doctor also may make important decisions about whether or not you will need to use injectable anticoagulants, such as low molecular weight heparin (LMWH), which is referred to as bridge therapy. If you are taking one of the newer oral anticoagulant therapies, your doctor may instruct you to simply stop taking your medication a couple days before the procedure.

While anticoagulation management in this setting will vary from person to person, there are general guidelines your doctor will use when making the decision that is right for you.

The way these guidelines might apply to you **before your procedure** are shown below:

### General Guidelines for Anticoagulant Management Before Surgery or Invasive Procedures

- If you are taking **warfarin**, your doctor will instruct you to stop taking your medication about **five days** before your procedure.
- If you are taking warfarin and are instructed to **bridge with LMWH**, injections usually begin **three days** before your procedure. The last dose of LMWH should be given at least 24 hours before your procedure.
- If you are taking a **new direct oral anticoagulant**, your doctor will instruct you on when to stop your medication after measuring how well your kidneys are working. For people taking **apixaban, edoxaban, or rivaroxaban**, this will be **two to three days** before your procedure. If you are taking **dabigatran**, this will be **3 to 5 days** before your procedure.
- If you are taking **aspirin**, stop its use **7 to 10 days** prior to the procedure.

Your doctor also will tell you when you should resume your routine use of anticoagulation medication **after your procedure**. This will vary based on your clotting and bleeding risks, the type of anticoagulant you are taking, and the type of procedure that was performed.

**Your doctor will provide you with instructions specific to your medical need. Always follow these instructions very carefully before, during, and after your procedure. If you do not follow these instructions carefully, your bleeding and clotting risks may increase or your procedure may need to be postponed.**



## Anticoagulation Management Starts with You

When you are taking anticoagulation medication and your doctor advises a change in how you take that medication before a planned surgery or procedure, there are four steps you need to take:

1. Talk to your doctor about your anticoagulation management needs as you plan for surgery or any other type of medical or dental procedure.
2. Follow all of your doctor's instructions and contact your doctor if you have questions about these instructions. If you do not follow these instructions, your bleeding risk or clotting risk may increase or your procedure may be postponed.
3. Tell your doctor if you experience any new or unusual signs of bruising or if you experience any bleeding.
4. Contact your doctor or seek medical help immediately if you experience any of the symptoms of a stroke or the symptoms of blood clots in the legs, arms, or legs

### SYMPTOMS OF STROKE

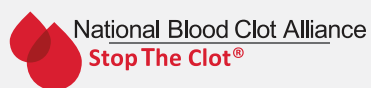
- Sudden numbness or weakness of face, arm, or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding speech
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache with no known cause

### SYMPTOMS OF BLOOD CLOTS IN LEGS AND ARMS

- Swelling
- Pain or tenderness not caused by an injury
- Skin that is warm to the touch, redness or discoloration of the skin

### SYMPTOMS OF BLOOD CLOTS IN LUNGS

- Difficulty breathing
- Chest pain that worsens with a deep breath
- Coughing or coughing up blood
- A faster than normal or irregular heartbeat



This material was prepared through a collaboration of the National Blood Clot Alliance and the Atlantic Quality Innovation Network (AQIN), the Medicare Quality Innovation Network-Quality Improvement Organization for New York State, South Carolina, and the District of Columbia under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The educational content is intended for general information purposes only. You should not rely on the information provided as substitute for actual professional medical advice, care, or treatment. If you believe you have a medical emergency, contact your healthcare provider or call 911 immediately. The contents do not necessarily reflect CMS policy. 11SOW-AQINNY-TskSIP-MAPPP-17-01