

# ASGE issues guidelines on management of antithrombotic agents for endoscopic procedures

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According to a new guideline from the American Society for Gastrointestinal Endoscopy (ASGE) regarding the management of antithrombotic agents for endoscopy, aspirin and/or NSAIDs may be continued for all elective endoscopic procedures. When high-risk procedures are planned, clinicians may elect to discontinue aspirin and/or NSAIDs for five to seven days before the procedure, depending on the underlying indication for antiplatelet therapy. For patients on temporary anticoagulation therapy (e.g., warfarin for deep venous thrombosis), it is suggested that elective endoscopic procedures be deferred until antithrombotic therapy is completed. The guideline, "Management of antithrombotic agents for endoscopic procedures," was developed by ASGE's Standards of Practice Committee and appears in the December issue of *GIE: Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the ASGE.

Antithrombotic agents include anticoagulants (e.g., warfarin, heparin, and low molecular weight heparin) and antiplatelet agents (e.g., aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs), thienopyridines (e.g., clopidogrel and ticlopidine), and glycoprotein IIb/IIIa receptor inhibitors). Antithrombotic therapy is used to reduce the risk of thromboembolic events (blocking of a blood vessel by a blood clot dislodged from its site of origin) in patients with certain cardiovascular conditions (e.g., atrial fibrillation and acute coronary syndrome), [deep venous thrombosis](#) (DVT), hypercoagulable states, and endoprostheses. The most common site of significant bleeding in patients receiving oral anticoagulation therapy is the gastrointestinal (GI) tract.

"Before performing endoscopic procedures on patients taking antithrombotic medications, one should consider the risks of stopping these

medications versus the risk of a complication if the medications are continued. But one must also consider the urgency of the procedure," said Jason A. Dominitz, MD, MHS, FASGE, chair of ASGE's Standards of Practice Committee. "Alternative diagnostic studies for patient evaluation, such as video capsule endoscopy or radiologic studies, may be appropriate in some cases."

Potential thromboembolic events that may occur with the withdrawal of medication can be devastating, whereas bleeding after high-risk procedures, although increased in frequency, is often not associated with any significant morbidity or mortality. Discussion with the patient and his or her prescribing physician before the procedure is invaluable to help determine whether antithrombotic agents should be stopped or adjusted in any particular patient. This guideline is an update of two previous ASGE guidelines and addresses the management of patients undergoing endoscopic procedures who are receiving antithrombotic therapy, providing recommendations and management algorithms.

## RECOMMENDATIONS FROM THE ASGE STANDARDS OF PRACTICE COMMITTEE:

### Elective Endoscopic Procedures

1. For patients on temporary anticoagulation therapy (e.g., warfarin for DVT), it is suggested that elective endoscopic procedures be deferred until antithrombotic therapy is completed.
2. It is recommended that aspirin and/or NSAIDs may be continued for all endoscopic procedures. When high-risk procedures are planned, clinicians may elect to discontinue aspirin and/or NSAIDs for five to seven days before the procedure, depending

on the underlying indication for antiplatelet therapy. clips after polypectomy in patients on anticoagulation.

3. It is recommended that elective procedures be deferred in patients with a recently placed vascular stent or acute coronary syndrome (ACS) until the patient has received antithrombotic therapy for the minimum recommended duration per current guidelines from relevant professional societies. Once this minimum period has elapsed, it is suggested that clopidogrel or ticlopidine be withheld for approximately seven to ten days before endoscopy and that aspirin be continued. For those patients not taking aspirin, the addition of aspirin during the time that clopidogrel or ticlopidine is withheld may reduce the risk of thromboembolic events. Clopidogrel or ticlopidine may be reinitiated as soon as deemed safe with consideration of the patient's condition and any therapy performed at the time of endoscopy. Consultation with the patient's cardiologist or other relevant provider may help determine the optimal management of these patients.
4. When clopidogrel and ticlopidine are used for other indications, it is suggested that these medications may be continued for low-risk procedures, but should be discontinued for approximately seven to ten days before higher-risk procedures. For those patients not taking aspirin, the addition of aspirin during the periendoscopic period may reduce the risk of thromboembolic events. Clopidogrel or ticlopidine may be reinitiated as soon as deemed safe with consideration of the patient's condition and any therapy performed at the time of endoscopy.
5. It is suggested to discontinue anticoagulation (ie, warfarin) in patients with a low risk of thromboembolic events in whom it is safe to do so. It is suggested to continue the anticoagulation in patients at higher risk of thromboembolic complications, switching to low molecular weight heparin (LMWH) or unfractionated heparin (UFH) (ie, bridging therapy) around the time of endoscopy when indicated for known or expected therapeutic indications.
6. There is insufficient evidence to recommend for or against the prophylactic use of mechanical
7. There is no consensus as to the optimal timing of reinitiation of anticoagulant therapy after endoscopic interventions, and decisions are likely to depend on procedure-specific circumstances as well as the indications for anticoagulation. It is suggested that the benefits of immediate anticoagulant therapy in preventing thromboembolic events be weighed against the risk of hemorrhage and determined in a case-by-case basis. In patients at high risk of thromboembolic events, it is suggested that UFH or LMWH (ie, bridging therapy) be restarted as soon as safely possible and that warfarin be restarted on the day of the procedure unless there is significant concern for bleeding. UFH may be restarted two to six hours after a therapeutic procedure. The optimal time to restart LMWH after endoscopy has not been determined. In patients with a low risk of thromboembolic events, it is suggested that warfarin be restarted on the evening after the endoscopy unless procedural circumstances suggest a high risk of postprocedure bleeding. Bridging therapy in patients with a low thromboembolic risk is not necessary.
8. In pregnant patients with mechanical heart valves needing endoscopic procedures, it is recommended that elective procedures be delayed until after delivery whenever possible, and when delay is not possible, that bridge therapy with LMWH or UFH be considered. Consultation with the patient's cardiologist and/or obstetrician should be obtained.

### **Urgent and Emergent Endoscopic Procedures**

1. It is suggested that patients with acute GI bleeding taking antiplatelet agents should have these medications withheld until hemostasis (stoppage of bleeding) is achieved. Administration of platelets may be appropriate for patients with life-threatening or serious bleeding. In situations of significant bleeding occurring in patients with a recently (less than one year) placed vascular stent and/or ACS, it is suggested that cardiology consultation be obtained before stopping antiplatelet agents.

2. It is recommended that patients with acute bleeding receiving anticoagulation therapy have these agents withheld until hemostasis is achieved. The decision to use fresh frozen plasma (FFP), prothrombin complex concentrate, and/or vitamin K should be individualized. It is suggested that protamine be reserved for patients with life-threatening bleeding on heparin because of the potential risks of anaphylaxis and severe hypotension. In situations of significant bleeding occurring in patients with a recently (less than one year) placed vascular stent and/or ACS, it is recommended that consultation with the prescribing service be obtained before stopping anticoagulants.

3. It is recommended that patients with acute GI bleeding taking warfarin with a supratherapeutic international normalized ratio (INR) undergo correction of anticoagulation, although the target level INR required for endoscopic therapy to be effective has not been determined.

4. The absolute risk of rebleeding after endoscopic hemostasis in patients who must resume anticoagulation is unknown, and the timing for resumption of anticoagulation should be individualized.

It is suggested that in patients with high-risk stigmata for rebleeding (e.g., a visible vessel) intravenously administered UFH be used initially because of its relatively short half-life.

agent for endoscopic procedures.

Source: American Society for Gastrointestinal Endoscopy

### **Endoscopy in the patient with a vascular stent or ACS taking antithrombotic drugs**

Our understanding of the safety of endoscopy in patients with ACS and/or a recently placed vascular stent taking antithrombotic medications, including dual antiplatelet therapy (DAT) and glycoprotein IIb/IIIa inhibitors, is rapidly evolving and is likely to change as knowledge and experience are accumulated. For this reason, strong recommendations regarding the management of particular agents cannot be made at this time and clinicians are encouraged to seek the input of relevant consultants (e.g., cardiology and neurology) before discontinuing any antithrombotic

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