Alberta Health Services | Alberta Colorectal Cancer Screening Program

Alberta Colorectal Cancer Screening Program (ACRCSP)
Antithrombotic Management

Assessment Tools and Suggested Management for the Patient on Antithrombotics Undergoing a Screening-Related Colonoscopy

Version 2.0, Revised April 2015

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Background

Management of antithrombotic therapy prior to elective colonoscopy for screening purposes should follow established guidelines and must be clearly documented in the patient record. The referring physician must clearly indicate whether the patient is on antithrombotic therapy and the reason for use. It is recognized this field is expanding with the recent introduction of several new oral anticoagulants (NOACs) as well as new antiplatelet agents. It is expected during the course of clinical care deviations from these guidelines may occur. As part of the informed consent deviation from the guidelines should be discussed and documented with the patient prior to procedure. The guidelines for management of peri-procedural anticoagulants are based on the following:

- The degree of urgency of the procedure: e.g., screening colonoscopies should not be performed within 3 months of a significant thrombotic event or within 12 months of drug eluting stent insertion.
- The risk of bleeding due to the use of antithrombotics and patient-related factors such as liver and kidney disease (See attached HAS-BLED Score).
- The risk of bleeding due to the procedure. Screening-related colonoscopy presents a significant risk of bleeding because of anticipated polypectomies.
- The risk of thromboembolic events if antithrombotics are stopped (See attached Stroke assessment in atrial fibrillation: $CHADS_2$ score, Risk stratification for thromboembolism pre-procedure and Moderate to high risk patients for thromboembolism: Warfarin and heparin instructions for a screening–related colonoscopy)

This document serves as a guideline only. The material presented is supported by evidence-based practice and opinion, relevant literature and research. Annual reviews of the information presented will be conducted to ensure that it remains current and updated to reflect the most accurate and relevant research. Recommendations for the management of antithrombotics prepared by the ACRCSP have been reviewed in collaboration with Dr. Cynthia Wu, Hematologist, January 2015.

Suggested management of anticoagulant agents prior to a screening-related colonoscopy (with possible polypectomy)

Anticoagulant	Risk	Pre colonoscopy management	Post colonoscopy management
Coumadin® (warfarin)	Low risk thromboembolic event	Stop warfarin 5 days prior to colonoscopy to achieve an INR of 1.5 or less	Restart warfarin (usual dose) evening of procedure, unless bleeding or a large polyp was removed*
Patients on warfarin should be managed by their prescribing physician or a Thrombosis Clinic if available	High risk thromboembolic event	Low molecular weight heparin (LMWH) is started once INR is less than 2.0, prior to procedure and continued up to 24 hrs prior to procedure.	Restart warfarin and LMWH (usual dose post procedure) once hemostasis achieved. LMWH continues until INR is therapeutic*
Pradaxa® (dabigatran) ***Note: this drug has predominantly renal excretion. Assessment of renal function is essential.***	If the patient is on drug for a short-term period, defer scope till therapy complete. If patient is unable to hold NOAC for recommended time, not eligible for colonoscopy in clinic setting	**GFR ≥60 mL/min** Hold for 48 hrs from last dose prior to procedure. **Diminished GFR 30-59 mL/min** Hold for 5 days. **GFR <30 mL/min= Not eligible for screening colonoscopy** Liaising with prescribing physician or cardiologist required prior to cessation.	Dabigatran can be resumed 24 hrs post procedure. Use caution in restarting drug if polypectomy was performed. Holding for another 48 hrs may be required*
Xarelto® (rivaroxaban)	If the patient is on drug for a short-term period, defer scope till therapy complete. If patient is unable to hold NOAC for recommended time, not eligible for colonoscopy in clinic setting	Hold drug for 48 hrs prior to procedure. Liaising with prescribing physician or cardiologist required prior to cessation.	Rivaroxaban can be resumed 24 hrs post procedure. Use caution in restarting drug if polypectomy was performed. Holding for another 48 hrs may be required*
Eliquis® (apixaban)	If the patient is on drug for a short-term period, defer scope till therapy complete. If patient is unable to hold NOAC for recommended time, not eligible for colonoscopy in clinic setting	Hold drug for 48 hrs prior to procedure. Liaising with prescribing physician or cardiologist required prior to cessation.	Apixaban can be resumed 24 hrs post procedure. Use caution in restarting drug if polypectomy was performed. Holding for another 48 hrs may be required*

GFR-glomerular filtration rate mL/min. In the absence of kidney damage, a GFR ≥60 mL/min/1.73sq.m is considered normal. Please see http://www.akdn.info/index.php for more information regarding GFR.

*Restarting anticoagulants is dependent on endoscopic intervention performed during procedure. When large polyps (≥1cm) have been removed with electrocautery, use caution if restarting NOACs – therapeutic anticoagulation occurs within a few hours of restarting the drug.

Suggested management of antiplatelet agents prior to a screening-related colonoscopy (with possible polypectomy)

Antiplatelet	Risk	Pre colonoscopy management	Post colonoscopy management
Aspirin® (81 mg or 325 mg)		Continue for all procedures	
Plavix® (clopidogrel)	Alone or combined with Aspirin. Patient must be considered low risk for thromboembolic events*	Hold for 5 days prior to procedure. Continue Aspirin if used concomitantly	Restart 1 day post procedure
Effient® (prasugrel)	Patient must be considered low risk for thromboembolic event*	Hold for 5 days prior to procedure	If polypectomy performed or any bleeding with procedure- resume at discretion of endoscopist**
Brilinta® (ticagrelor)	Patient must be considered low risk for thromboembolic event*	Hold for 5 days prior to procedure	If polypectomy performed or any bleeding with procedure- resume at discretion of endoscopist**
Aggrenox® (dypiridamole/ASA)	Patient must be considered low risk for thromboembolic event *	7 – 10 days (consider starting low dose Aspirin)	Restart 1 day post procedure

*Patients at high risk for a thromboembolic event on antiplatelet agents (i.e., recent bare metallic coronary stent <4 weeks, or within 12 months of a drug-eluting stent placement, patients with a recent MI, recent percutaneous transluminal coronary angioplasty (PTCA) or with unstable angina (<6 weeks) should not undergo a screening colonoscopy.
**Restarting prasugrel and ticagrelor should be approached cautiously after polypectomy; both drugs achieve full antiplatelet effect in 4 hours.

HAS-BLED Score

HAS-BLED score is a validated clinical tool to assess bleeding risk in atrial fibrillation patients. HAS-BLED is an acronym that assigns a 1 point value to each bleeding risk factor identified. Score ranges from 0-9, with a score $\geq$ 3 indicating high risk of bleeding.

Letter	Clinical Characteristic	Points Awarded
H	**H**ypertension	1
A	**A**bnormal renal and liver function (1 point each)	1 or 2
S	**S**troke	1
B	**B**leeding	1
L	**L**abile INRs	1
E	**E**lderly (e.g. age > 65 years)	1
D	**D**rugs or alcohol (1 point each)	1 or 2
		Maximum 9 points

Reference:
Modified after European Heart Rhythm Association (EHRA), Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS), Authors/Task Force Members, A. John Camm, Paulus Kirchhof, Gregory Y.H. Lip, et al. Guidelines for the management of atrial fibrillation: The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC) *Eur Heart J (2010) 31 (19): 2369-2429 first published online August 29, 2010 doi 10.1093/eurheart/ehq278.* Lane DA, Lip GY. Use of the CHA(2)DS(2)-VASc and HAS-BLED scores to aid decision making for thromboprophylaxis in nonvalvular atrial fibrillation. Circulation 2012 Aug 14;126(7):860-5.

Stroke assessment in atrial fibrillation: $CHADS_2$ score

$CHADS_2$ score is a validated tool, developed to estimate the risk of stroke in the atrial fibrillation patient allowing physicians to easier evaluate the appropriate antithrombotic regime. This scheme looks at 5 different risk factors or conditions, each being assigned a point value. $CHADS_2$ is an acronym for the risk factors: **C**ongestive heart failure, **H**ypertension (consistently over 140/90 with or without medication), **A**ge (≥75), **D**iabetes Mellitus, and prior **S**troke or transient ischemic attack (TIA) or thromboembolism. The need for antithrombotic treatment is then determined by tallying the score of each condition present.

This useful and easy tool can be applied to the pre-procedural patient on antithrombotic therapy. The decision to cease or continue therapy for a screening colonoscopy should include the perceived risk of an arterial thromboembolism event for this patient population.

Risk factor or condition		Points
C	Congestive heart failure (or left ventricular dysfunction)	1
H	Hypertension: blood pressure consistently over 140/90 mmHg (or treated hypertension on medication)	1
A	Age ≥75 years	1
D	Diabetes Mellitus	1
S_2	Prior Stroke or TIA or thromboembolism	2

Score	Risk	Anticoagulation therapy	Considerations
0	Low	None or Aspirin	Aspirin daily
1	Moderate	Aspirin or warfarin	Aspirin daily or raise INR to 2.0-3.0, depending on patient preference
≥ 2	Moderate or High	warfarin	Raise INR to 2.0-3.0, unless contraindicated

References:
Broderick JP, Bonomo JB, Kissela BM, et al. Withdrawal of antithrombotic agents and its impact on ischemic stroke occurrence. Stroke 2011;42:2509-2514.
Gage BF, Waterman AD, Shannon W, et al. Validation of clinical classification schemes for predicating stroke: Results from a national registry of atrial fibrillation. The Journal of the American Medical Association 2001;285(2):2864-2870.
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Risk stratification for thromboembolism pre-procedure (screening-related colonoscopy)

Risk stratification for discontinuation of anticoagulant therapy		Recommendation
High risk	Recent stroke/TIA within 12 mos from screening colonoscopy Atrial fibrillation with $CHADS_2$ score of 5 or 6 Recent venous thromboembolism (VTE) <3 mos Unstable angina	Not a candidate for a screening-related colonoscopy
High to moderate risk	Nonvalvular atrial fibrillation with $CHADS_2$ score of 3 or 4 or prior stroke Atrial fibrillation with valvulopathy Mitral stenosis Mechanical heart valve in mitral position Mechanical heart valve with prior thromboembolic event Caged-ball or tilting disc-shape aortic mechanical heart valve Deficiency of protein C, protein S, or antithrombin	Bridging with heparin or LMWH* recommended Liaising with prescribing physician or cardiologist recommended
Low risk	Bileaflet mechanical heart valve in aortic position and no major risk factors for stroke Bioprosthetic (tissue) heart valves Atrial fibrillation without valvular disease and no prior thromboembolic event or $CHADS_2$ score of 0-2 VTE >3 mos	May discontinue anticoagulant (warfarin) 5 days prior to colonoscopy, in order to achieve INR <1.5. Liaising with prescribing physician or cardiologist recommended
Risk stratification for discontinuation of antiplatelet therapy		**Recommendation**
High risk	Drug eluting coronary artery stents within 12 mos of placement Bare metal coronary artery stents within 1 mos of placement Recent myocardial infarct Recent percutaneous transluminal coronary angioplasty (PCTA)	Should defer screening until outside of high risk time period
Low risk	Ischemic heart disease without coronary stent Cerebrovascular disease Peripheral vascular disease with no recent stenting	Continue on Aspirin. Hold Plavix and resume post-procedure

*LMWH-Low molecular weight heparin

Moderate to high risk patients for thromboembolism: Warfarin and heparin bridging instructions for a screening-related colonoscopy

Day -5	Day -3	Day -1	Day 0	Day +1 to +3	Day +5 to +6
Stop warfarin (last dose on Day -6)	Start therapeutic Low molecular weight heparin (LMWH) bridging* LMWH is preferred to be a once daily morning dose	INR testing (If INR >1.5 give Vitamin K, 1.0-2.0mg orally) Stop LMWH on morning of procedure**	If post-procedure hemostasis is achieved, resume warfarin on evening of procedure and continue LMWH LMWH is immediately acting therapeutic anticoagulation and should only be restarted when hemostasis is achieved If large polyp (≥ 1cm) or significant bleeding occurred at the time of polypectomy, warfarin resumption should be delayed for up to 3 days	Continue LMWH while awaiting the INR to reach therapeutic levels.	Stop LMWH when INR therapeutic

*if the INR is therapeutic (2.0-3.0) prior to anticoagulant cessation, it is predicted that it will remain therapeutic (INR <2.0) on Day -3

**if LMWH started as an evening dose then omit evening dose with twice daily dosing or reduce total daily dosing by 50 per cent with once-daily dosing.

References: Douketis JD. Preoperative management of patients who are receiving warfarin therapy: An evidence-based approach. Blood 2011;117(10):5044-5049.
Veitch AM, Baglin TP, Gershlick AH, et al. Guidelines for the management of anticoagulant and antiplatelet therapy in patients undergoing endoscopic procedures. Gut 2008; 57:1322-1329.

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