



## Appendix A: When to Withhold Antiplatelet and Anticoagulants for Medical Imaging Procedures

The following management guidelines are presented with permission from the Interventional Radiology Practice Lead, Vancouver Coastal Health Authority. BC Guidelines does not warrant that this version represents the most current information from the contributing organizations. Individual providers may observe more conservative practices than what is outlined in these guidelines.

### Management Guidelines for **\*NON-URGENT\*** Invasive Procedures in Medical Imaging

HIGH RISK	LOW RISK			
<b>** CAUTION **</b> Patient at risk for <b>THROMBOTIC EVENTS</b> may require consultation for bridging anticoagulation therapy (eg. <b>PROSTHETIC HEART VALVES, VENOUS THROMBOEMBOLISM, ATRIAL FIBRILLATION WITH PRIOR STROKE</b> ) Premature discontinuation of anti-platelet drugs in patients with <b>CORONARY STENTS</b> may precipitate acute stent thrombosis <b>Do not stop anticoagulation in these patients without consultation</b>				
HIGH RISK PROCEDURES				
HIGH RISK	Anticoagulant / Antiplatelet MEDS	Discontinue Yes*/ No	Suggested Timing of <b>LAST</b> dose <b>BEFORE</b> procedure*	Timing of <b>FIRST</b> dose <b>AFTER</b> day of procedure*
INR $\leq$ 1.8 or $\leq$ 2.5 with chronic liver disease Target INR for warfarin reversal: $\leq$ 1.5 Platelets > 50 x 10 <sup>9</sup> /L Testing within 2 weeks for outpatient				
<b>VASCULAR</b> <ul style="list-style-type: none"> <li>TIPS</li> <li>Catheter-directed thrombolysis</li> <li>Arterial interventions &gt;6Fr access</li> </ul>	<ul style="list-style-type: none"> <li>aspirin (ASA), low dose (81 mg)</li> </ul>	Yes	- 5 days	Day + 1
<b>NON-VASCULAR</b> <b>Abdominal Procedures</b> <ul style="list-style-type: none"> <li>Solid organ, lung and deep tissue biopsies</li> <li>Prostate biopsy</li> <li>Deep abscess drainage</li> <li>PCNL/Nephrostomy</li> <li>G and GJ-tube placement</li> <li>Biliary drainage (PTBD)</li> <li>Thermal ablations – liver, kidney, lung, MSK</li> </ul> <b>High Risk Spine &amp; Neurological Procedures</b> <ul style="list-style-type: none"> <li>Vertebroplasty</li> <li>Kyphoplasty</li> <li>Cervical spine facet blocks</li> <li>Epidural injection (lumbar/thoracic/cervical)</li> </ul>	<ul style="list-style-type: none"> <li>clopidogrel (Plavix®)</li> <li>aspirin, non-low dose</li> <li>ticagrelor (Brilinta®)</li> </ul>	Yes	- 5 days†	Day + 1 or + 2
	<ul style="list-style-type: none"> <li>prasugrel (Effient®)</li> </ul>	Yes	- 7 days†	Day + 1 or + 2
	<ul style="list-style-type: none"> <li>NSAIDs</li> </ul>	Yes	NA	NA
	<ul style="list-style-type: none"> <li>warfarin (Coumadin®)</li> </ul>	Yes	- 5 days, <b>CHECK INR, TARGET &lt; 1.5</b> *consider bridging in high thrombosis risk cases	Day + 1
	<ul style="list-style-type: none"> <li>subcutaneous heparin (prophylactic)</li> </ul>	Yes	- 8 hrs prior	Day 0 (evening)
	<ul style="list-style-type: none"> <li>low molecular weight heparin (LMWH)</li> </ul>	Yes	prophylactic: > 12 hrs prior therapeutic: > 24 hrs prior	Day 0 (evening)
	<ul style="list-style-type: none"> <li>(IV) unfractionated heparin</li> </ul>	Yes	infusion to stop 4 hrs prior	8 hrs after
	<ul style="list-style-type: none"> <li>dabigatran (Pradaxa®)</li> </ul>	Yes	GFR >50: - 3 days GFR $\leq$ 50: - 5 days	Day + 2 or + 3
	<ul style="list-style-type: none"> <li>rivaroxaban (Xarelto®)</li> <li>apixaban (Eliquis®)</li> <li>edoxaban (Lixiana®)</li> </ul>	Yes	Withhold 2 doses if CrCl > 50 mL/min Withhold 3 doses if CrCl < 50 mL/min	Day + 2 or + 3
	<ul style="list-style-type: none"> <li>fondaparinux (Arixtra®)</li> </ul>	Yes	-3 days for CrCl > 50 mL/min -5 days for CrCl < 50 mL/min	Day + 1 Day + 2 or + 3

**\*Ordering Physician must give instructions to patient; † Consider minimum of 7 days if concomitant ASA**

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LOW RISK PROCEDURES				
LOW RISK	Anticoagulant / Antiplatelet MEDS	Discontinue Yes*/ No	Suggested Timing of <b>LAST</b> dose <b>BEFORE</b> procedure*	Timing of <b>FIRST</b> dose <b>AFTER</b> day of procedure*
No routine pre-procedural INR/CBC unless bleeding diathesis suspected; then consider INR $\leq$ 3.0 and Platelets $>$ 20 x 10 <sup>9</sup> /L. For chronic liver disease, INR is not required.				
<b>VASCULAR</b> <ul style="list-style-type: none"> <li>Dialysis access and venous interventions including varicocele embolization, venography</li> <li>IVC filter placement/removal</li> <li>PICC insertion</li> <li>Uncomplicated catheter/line exchange/removal</li> <li>Angiography/arterial intervention up to 6 Fr access (eg. UAE)</li> <li>Transjugular liver biopsy</li> <li>Tunneled CVC/Port/Hickman</li> </ul> <b>NON-VASCULAR</b> <ul style="list-style-type: none"> <li>Catheter exchange or removal (GU, biliary, abscess)</li> <li>Superficial abscess drainage</li> <li>Core biopsy – breast, extremity or other superficial location</li> <li>Joint injection or aspiration, including facet joint, nerve root /medial branch, and caudal epidural injections/blocks</li> <li>GI tract stenting (colon, esophagus)</li> <li>Hysterosalpingography, Fallopian Tube Recanalization</li> <li>Non-tunneled chest tube</li> <li>Lumbar puncture</li> </ul> <b>Exception:</b> Thoracentesis or paracentesis can be carried out with any platelet count or INR <b>Superficial Aspiration / Biopsy (FNAB)</b> Breast, Extremities, Lymph nodes, Thyroid <b>NOTE:</b> Most LOW risk procedures do not require the discontinuation of anticoagulation/antiplatelet therapy.	<ul style="list-style-type: none"> <li>aspirin (ASA), any dose</li> </ul>	No		
	<ul style="list-style-type: none"> <li>clopidogrel (Plavix®)</li> <li>ticagrelor (Brilinta®)</li> </ul>	Possible to continue	Do not withhold	
	<ul style="list-style-type: none"> <li>prasugrel (Effient®)</li> </ul>	Possible to continue	Do not withhold	
	<ul style="list-style-type: none"> <li>warfarin (Coumadin®)</li> </ul>	Possible to continue	- 5 days, <b>TARGET INR &lt; 3.0</b> , *consider bridging in high thrombosis risk cases	Day 0 (evening)
	<ul style="list-style-type: none"> <li>subcutaneous heparin</li> <li>low molecular weight heparin (LMWH) – prophylactic</li> </ul>	No		
	<ul style="list-style-type: none"> <li>low molecular weight heparin (LMWH) – therapeutic</li> </ul>	Possible to continue	Do not withhold	
	<ul style="list-style-type: none"> <li>(IV) unfractionated heparin</li> </ul>	Possible to continue	Do not withhold	
	<ul style="list-style-type: none"> <li>dabigatran (Pradaxa®)</li> </ul>	Possible to continue	Do not withhold	
	<ul style="list-style-type: none"> <li>rivaroxaban (Xarelto®)</li> <li>apixaban (Eliquis®)</li> <li>edoxaban (Lixiana®)</li> </ul>	Possible to continue	Do not withhold	
	<ul style="list-style-type: none"> <li>fondaparinux (Arixtra®)</li> </ul>	Possible to continue	Do not withhold	

**\*Ordering Physician must give instructions to patient; † Consider minimum of 7 days if concomitant ASA**

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### Booking Clerk Script:

- “You are booked for a: \_\_\_\_\_ procedure in Medical Imaging. If you are on any blood thinner medication, you **must** ask your Ordering Physician for instructions on discontinuing and resuming your medications”.
- We ask that you contact your doctor for more details on this, as we have faxed this info to them.
- If you don’t discuss this with your doctor, your procedure may be cancelled.

### Please Note:

- Patients on anti-inflammatory medications (NSAIDs) such as the following: (Advil® [ibuprofen], Voltaren®, Celebrex®) may **continue** taking them, except for HIGH RISK procedures.
- Please inform your Ordering Physician if you are taking supplements as these may affect blood test results.

### References

1. SIR Journal of Vascular Radiology 2019; 30:P1168-1184.E1 – Society of Interventional Radiology Consensus Guidelines for the Periprocedural Management of Thrombotic and Bleeding Risk in Patients Undergoing Percutaneous Image-Guided Interventions—Part II: Recommendations. Retrieved from [https://www.jvir.org/article/S1051-0443\(19\)30407-5/fulltext](https://www.jvir.org/article/S1051-0443(19)30407-5/fulltext)
2. Canadian Journal of Cardiology 2011; 27:S1-S59 – The Use of Antiplatelet Therapy in the Outpatient Setting: Canadian Cardiovascular Society Guidelines. Retrieved from [https://www.onlinecjc.ca/article/S0828-282X\(17\)31221-7/fulltext](https://www.onlinecjc.ca/article/S0828-282X(17)31221-7/fulltext)
3. Department of Hematology, VCHA, 27 Jan 2015 – Recommendations for the Interruption of Anticoagulation or Anti-platelet Therapy for Elective Invasive Procedures or Surgery. Retrieved from <http://shop.healthcarebc.ca/MedicalImaging/ABCD-21-07-90001.pdf>

### External links to online version

VCH, PHC & VCH SHOP: <http://shop.healthcarebc.ca/MedicalImaging/ABCD-21-07-90001.pdf>

This above link is used to access the guidelines on the external websites for FH & VCH.

### Intranet links to online version

VCH, PHC & VCH SHOP: <http://shop.healthcarebc.ca/MedicalImaging/ABCD-21-07-90001.pdf>

FH Pulse: <https://pulse/clinical/medical-imaging/Pages/Medical-imaging-nuclear-medicine-regional-guidelines.aspx>

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