

**Anticoagulant Management for Elective Invasive Procedures in Medical Imaging**

**LOW RISK**

**All patients:**

Labs required according to exam and when on anticoagulants see adjacent chart ----->>>>>>>>>>.

**Dialysis Access, IVC filters, Abscess Drains, Superficial Core Biopsy's, and Breast Biopsy/FNA:**

INR < 2.0 and Platelets > 50 results within 30 days outpatients / 72 hours for Inpatients.

**Thoracentesis:**

INR < 2.0 and Platelets > 50 at least every six months.

**Paracentesis :**

INR < 3.0 and Platelets > 50 at least every six months.

**FNA's, Joint Injection/Asp, Catheter Exchange or Removal:**

No labs required.

**VASCULAR**

- Dialysis access interventions
- IVC filter placement/removal

**NON-VASCULAR**

- Catheter exchange or removal(GU, biliary, abscess)
- Diagnostic or therapeutic thoracentesis or paracentesis
- Superficial abscess drainage
- Superficial core **biopsy (breast-check INR)**
- Joint injection or aspiration

**Superficial Aspiration / Biopsy (FNAB)**

- **Breast (check INR)**
- Extremities
- Lymph nodes
- Thyroid

<b>Anticoagulant / Antiplatelet MEDS</b>	<b>Discontinue Yes* / No</b>	<b>Stop Anticoagulant Recommended Hours / Days off Meds*</b>	<b>Resume MEDS Recommendation when to resume</b>
<ul style="list-style-type: none"> <li>• Aspirin (ASA), any dose</li> <li>• Aggrenox®</li> </ul>	No		
<ul style="list-style-type: none"> <li>• Clopidogrel (Plavix®)</li> <li>• Dipyridamole (Persantine®)</li> <li>• Prasugrel (Effient®)</li> <li>• Ticagrelor (Brilinta®)</li> <li>• Ticlopidine (Ticlid®)</li> </ul>	No		
<ul style="list-style-type: none"> <li>• Warfarin (Coumadin®)</li> <li>➔ <b>RECOMMEND INR ≤ 2.0 (Paracentesis: INR ≤ 3.0)</b></li> </ul>	Yes	3 days <b>*CHECK INR day of procedure.</b>	Evening of procedure
<ul style="list-style-type: none"> <li>• Subcutaneous Heparin</li> </ul>	Yes	Last dose given 4 hrs prior	Evening of procedure
<ul style="list-style-type: none"> <li>• Low Molecular Weight Heparin (LMWH)</li> <li>• Enoxaparin (Lovenox®)</li> <li>• Dalteparin (Fragmin®)</li> <li>• Tinzaparin (Innohep®)</li> </ul>	Yes	Last dose given 12 hrs prior	Evening of procedure
<ul style="list-style-type: none"> <li>• (IV) Unfractionated Heparin</li> </ul>	Yes	Infusion to stop 3-4 hrs prior	2 hrs after procedure
<ul style="list-style-type: none"> <li>• Dabigatran (Pradaxa®)</li> </ul>	Yes	GFR > 50: 24 hours GFR ≤ 50: 48 hours	Day after procedure
<ul style="list-style-type: none"> <li>• Rivaroxaban (Xarelto®)</li> <li>• Apixaban (Eliquis®)</li> </ul>	Yes	Last dose given 24 hrs prior	Day after procedure
<ul style="list-style-type: none"> <li>• Fondaparinux (Arixtra®)</li> </ul>	Yes	Prophylactic: 24 hrs Therapeutic: 48 hrs	Day after procedure
<ul style="list-style-type: none"> <li>• Pletal (Cilostazol): Vasodilator</li> </ul>	Yes	3 days prior	Evening of procedure

**\*Ordering Provider must consent with medication hold recommendations.**

**For additional questions, Ordering Providers can reach a Radiologist by calling the MRG Call Center at 541-618-5800.**

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**MODERATE RISK**

<p><b>MODERATE RISK</b></p> <p>INR ≤ 1.5      Platelets &gt; 50 x 10<sup>9</sup>/L            Required labs: PT, PTT, INR, platelets            Inpatients      72 hours            Outpatients 30 days</p>	<p><b>Anticoagulant / Antiplatelet MEDS</b></p>	<p><b>Discontinue Yes* / No</b></p>	<p><b>Stop Anticoagulant</b> Recommended Hours / Days off Meds*</p>	<p><b>Resume MEDS</b> Recommendation when to resume</p>
<p><b>VASCULAR</b></p> <ul style="list-style-type: none"> <li>• Angiography/Neuroangiography</li> <li>• Venous interventions (including central venous)</li> <li>• Chemoembolization</li> <li>• Uterine fibroid embolization</li> <li>• Transjugular liver biopsy</li> <li>• Tunneled CVC / Port / Hickman</li> <li>• Varicocele embolization</li> </ul> <p><b>NON-VASCULAR</b></p> <p><b>Abdominal / Thoracic Procedures</b></p> <ul style="list-style-type: none"> <li>• Intraabdominal, chest wall, pleural or retroperitoneal abscess drainage or core biopsy</li> <li>• Gastrostomy/gastrojejunostomy</li> <li>• Percutaneous cholecystostomy</li> <li>• Lung Biopsy</li> <li>• Uncomplicated thermal ablation – liver, kidney, MSK, lung</li> <li>• Transabdominal liver biopsy</li> </ul> <p><b>MSK/Spine Procedures</b></p> <ul style="list-style-type: none"> <li>• Lumbar puncture, epidural injection, facet block, nerve root block</li> <li>• Vertebroplasty/kyphoplasty</li> <li>• Spine biopsy, paraspinal injection</li> <li>• Extremity/MSK core biopsy</li> </ul>	<ul style="list-style-type: none"> <li>• Aspirin (ASA), any dose</li> <li>• Aggrenox®</li> </ul>	<p>No</p>		
	<ul style="list-style-type: none"> <li>• Clopidogrel (Plavix®)</li> <li>• Dipyridamole (Persantine®)</li> <li>• Prasugrel (Effient®)</li> <li>• Ticagrelor (Brilinta®)</li> <li>• Ticlopidine (Ticlid®)</li> </ul>	<p>Yes</p>	<p>5 days (<b>MUST</b> be approved by Cardiologist if medication specific to post cardiac stent placement)</p>	<p>Day after procedure</p>
	<ul style="list-style-type: none"> <li>• Warfarin (Coumadin®)</li> </ul>	<p>Yes</p>	<p>5 days <b>CHECK INR within 24 hrs.</b></p>	<p>Evening of procedure</p>
	<ul style="list-style-type: none"> <li>• Subcutaneous Heparin</li> </ul>	<p>Yes</p>	<p>Last dose given 6 hrs prior</p>	<p>Evening of procedure</p>
	<ul style="list-style-type: none"> <li>• Low Molecular Weight Heparin (LMWH)</li> <li>• Enoxaparin (Lovenox®)</li> <li>• Dalteparin (Fragmin®)</li> <li>• Tinzaparin (Innohep®)</li> </ul>	<p>Yes</p>	<p>Prophylactic: 12 hrs prior Therapeutic: 24 hrs prior</p>	<p>Day after proc</p>
	<ul style="list-style-type: none"> <li>• (IV) Unfractionated Heparin ➔ <b>REQUIRES PTT</b></li> </ul>	<p>Yes</p>	<p>Infusion to stop 4 hrs prior (goal: PTT ≤ 50 s)</p>	<p>6 hrs after procedure</p>
	<ul style="list-style-type: none"> <li>• Dabigatran (Pradaxa®)</li> </ul>	<p>Yes</p>	<p>GFR &gt; 50: 24 hours GFR ≤ 50: 48 hours</p>	<p>Day after procedure</p>
	<ul style="list-style-type: none"> <li>• Rivaroxaban (Xarelto®)</li> <li>• Apixaban (Eliquis®)</li> </ul>	<p>Yes</p>	<p>Last dose given 24 hrs prior</p>	<p>Day after procedure</p>
	<ul style="list-style-type: none"> <li>• Fondaparinux (Arixtra®)</li> </ul>	<p>Yes</p>	<p>Prophylactic: 24 hrs Therapeutic: 48 hrs</p>	<p>Day after procedure</p>
	<ul style="list-style-type: none"> <li>• Pletal (Cilostazol): Vasodilator</li> </ul>	<p>Yes</p>	<p>3 days prior</p>	<p>Evening of Procedure</p>

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**Anticoagulant Management for Elective Invasive Procedures in Medical Imaging**  
**HIGH RISK**

<p align="center"><b>HIGH RISK PROCEDURES</b></p> <p>INR ≤ 1.5      Platelets &gt; 80 x 10<sup>9</sup>/L                      Required labs: PT, PTT, INR, platelets                      Inpatients      72 hours                      Outpatients 14 days</p>	<p align="center"><b>Anticoagulant / Antiplatelet MEDS</b></p>	<p align="center"><b>Discontinue Yes* / No</b></p>	<p align="center"><b>Stop Anticoagulant Recommended Hours / Days off Meds*</b></p>	<p align="center"><b>Resume MEDS Recommendation when to resume</b></p>
<p><b>VASCULAR</b></p> <ul style="list-style-type: none"> <li>TIPS (Transjugular Intrahepatic Portosystemic Shunt)</li> </ul> <p><b>NON-VASCULAR</b></p> <p><b>Abdominal Procedures</b></p> <ul style="list-style-type: none"> <li>Renal core biopsy</li> <li>PCNL/Nephrostomy</li> <li>Biliaryinage (PTBD)</li> </ul>	<ul style="list-style-type: none"> <li>Aspirin (ASA), low dose (81mg)</li> <li>Aggrenox®</li> </ul>	<p align="center">Yes</p>	<p align="center">5 – 7 days</p>	<p align="center">Day after procedure</p>
	<ul style="list-style-type: none"> <li>Clopidogrel (Plavix®)</li> <li>Dipyridamole (Persantine®)</li> <li>Prasugrel (Effient®)</li> <li>Ticagrelor (Brilinta®)</li> <li>Ticlopidine (Ticlid®)</li> <li>Aspirin, Non low dose</li> </ul>	<p align="center">Yes</p>	<p align="center">7 days (<b>MUST</b> be approved by Cardiologist if medication specific to post cardiac stent placement)</p>	<p align="center">Day after procedure</p>
	<ul style="list-style-type: none"> <li>NSAIDs</li> </ul>	<p align="center">Yes</p>	<p align="center">3 days</p>	<p align="center">Day after procedure</p>
	<ul style="list-style-type: none"> <li>Warfarin (Coumadin®)</li> </ul>	<p align="center">Yes</p>	<p align="center">5 days <b>CHECK INR within 24 hrs.</b></p>	<p align="center">Day after procedure</p>
	<ul style="list-style-type: none"> <li>Subcutaneous Heparin</li> </ul>	<p align="center">Yes</p>	<p align="center">Last dose 12 hrs prior</p>	<p align="center">Day after procedure</p>
	<ul style="list-style-type: none"> <li>Low Molecular Weight Heparin (LMWH)</li> <li>Enoxaparin (Lovenox®)</li> <li>Dalteparin (Fragmin®)</li> <li>Tinzaparin (Innohep®)</li> </ul>	<p align="center">Yes</p>	<p>Prophylactic: 12 hrs prior                      Therapeutic: 24 hrs prior</p>	<p align="center">Day after proc                      2<sup>nd</sup> day after proc</p>
	<ul style="list-style-type: none"> <li>(IV) Unfractionated Heparin                      ➔ <b>REQUIRES PTT</b></li> </ul>	<p align="center">Yes</p>	<p align="center">Infusion to stop 6 hrs prior                      (goal: PTT ≤ 43 s)</p>	<p align="center">12 hrs after procedure</p>
	<ul style="list-style-type: none"> <li>Dabigatran (Pradaxa®)</li> </ul>	<p align="center">Yes</p>	<p>GFR &gt; 50: 2 days                      GFR ≤ 50: 4 days</p>	<p align="center">2<sup>nd</sup> day after procedure</p>
	<ul style="list-style-type: none"> <li>Rivaroxaban (Xarelto®)</li> <li>Apixaban (Eliquis®)</li> </ul>	<p align="center">Yes</p>	<p align="center">2 days</p>	<p align="center">2<sup>nd</sup> day after procedure</p>
	<ul style="list-style-type: none"> <li>Fondaparinux (Arixtra®)</li> </ul>	<p align="center">Yes</p>	<p>Prophylactic: 24 hrs prior                      Therapeutic: 48 hrs prior</p>	<p align="center">2<sup>nd</sup> day after Procedure</p>
	<ul style="list-style-type: none"> <li>Pletal (Cilostazol): Vasodilator</li> </ul>	<p align="center">Yes</p>	<p align="center">3 days prior</p>	<p align="center">Evening of procedure</p>

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