Regional DOAC Pharmacy Service
Pool Address: P DOAC Pharmacy Service
Phone:

- 1-844-854-9342
- For ROS/SAC/SSC areas
  - Patients: 916-486-5256
  - Providers: 916-486-5215 (8/478)

Hours: Mon-Fri 8:30 AM-4:30 PM (except Holidays)

Key MD Required Actions:

- **Send eConsult:**
  - To Specialty: Anticoagulation Services
  - Problem Reason Code: DVT/PE-VTE (DOAC), AFib (DOAC), Perioperative (DOAC), Miscellaneous (DOAC)
- **Order baseline labs:** CBC, ALT, SCr/GFR if not current (within 3 months)
- **Initiate therapy:** Instruct patient to go to lab and start treatment the same day.

FAQs for providers

1. **What is non-valvular Afib?**
   - ACC/AHC/ARS 2019 defines Nonvalvular atrial fibrillation as atrial fibrillation in the absence of moderate-to-severe mitral stenosis or a mechanical heart valve.
   - All other valve conditions are not considered significant valve disease to make therapeutic decision on anticoagulation therapy.
2. **What risk score to use to decide on anticoag therapy for non-valvular Afib patients**
   - ACC/AHC/ARS 2019 recommends the use of CHA2DS2VASC rather than CHADS score to determine the need for anticoagulation therapy if the score is ≥ 2 in men or ≥ 3 in women.
3. **How should I handle perioperative management needs for patients on a DOAC?**
   - Peri-operative management for procedures done in the OFFICE ONLY: Providers must send eConsult to notify Regional DOAC Pharmacy service.
   - Peri-operative management for procedures done in the OR/ASU: Please select the option in Case Request system under "Anticoagulation Management". Perioperative medicine (POM) physicians will manage the perioperative plan for procedures done in the OR/ASU. If POM needs consultation, they will contact regional DOAC Pharmacy service
4. **Are there reversal agents available for DOACs**?
   - Dabigatran's FDA-approved reversal agent is idarucizumab (Praxbind®).
   - For Rivaroxaban and Apixaban associated bleeding, Kcentra can be used. Andexanet alfa is not currently available at KP. Please refer to "Rapid reversal guidelines for DOAC-associated bleeding" (Search the Clinical Library at CL.kp.org for *Direct Oral anticoagulants (DOACs) – Bleeding Management Guideline*)

Table 1. Quick Guide for Choosing an Anticoagulant

Factors for Consideration	Recommended Agent(s)	Comments
Mechanical Valve	Warfarin	DOAC contraindicated
Cancer-related VTE	LMWH or Rivaroxaban	LMWH preferred over Rivaroxaban if GI or GU cancer with the primary intact or higher bleeding risk situations.
Renal disease: CrCl 30-40 mL/min	Warfarin or DOAC	• NVAF: If CrCl 30-40 mL/min, consider Dabigatran 110 mg BID. Other potential indications of this dose are for age ≥ 80, DDI (not FDA approved) • VTE: normal dosing for all DOAC's (see below) • For fluctuating renal function, warfarin preferred over DOAC
Renal disease: CrCl <30 mL/min	Warfarin preferred over DOAC	If warfarin is not an option, consider rivaroxaban or apixaban, with adjusted dosing if appropriate. See Tables below for more information.
Hepatic Impairment	Mild impairment (Child-Pugh class A): No dosage adjustment necessary for DOACs except for Betrixaban – avoid Betrixiban use. Moderate to severe liver disease: LMWH	Moderate to severe liver disease recommend LMWH Moderate/Severe impairment (Child-Pugh class B and C) and any hepatic disease associated with coagulopathy: May consider DOAC (dabigatran), use with caution due to lack of high-quality data.
VTE with the following: **-Antiphospholipid Ab syndrome** **-Weight >140 kg or <50kg**	Warfarin preferred over DOAC • Strongly prefer warfarin in triple positive APLS. DOAC may be reasonable in single/double positive APLS	DOAC may be considered if warfarin is not an option. Limited data available for use with DOAC. • <50 kg and >140 kg: Use with caution for all DOACs

	• DOACs appear to be safe in extremes of body weight, warfarin still preferred	
NVAF patients with stroke	DOAC >Warfarin	Reduced incidence of ICH in all DOACs
Post Bariatric Surgery	Warfarin is preferred, then LMWH	No clinical data currently available on DOACs efficacy and safety in patients with prior bariatric surgery, gastric bypass, or other procedures or conditions where gastrointestinal absorption could be significantly altered.
G tube, NG tube	Rivaroxaban is preferred, administer with food. Enteral tubes should not be distal to stomach.	Dabigatran capsules cannot be crushed or opened.
LV Thrombus	Warfarin is preferred	

Table 2. Direct Oral Anticoagulants: Dosing in NVAF

Non-Valvular Atrial Fibrillation	dabigatran (Pradaxa®) *Formulary* Preferred DOAC for NVAF	rivaroxaban (Xarelto®) *Non-Formulary*	apixaban (Eliquis®) *Non-Formulary*
Dosing	**150 mg BID**	**20 mg once daily with food**	**5 mg BID**
Dose adjustment for renal function **AVOID in CrCl < 15 ml/min**	110 mg BID dose is not FDA approved. it may be considered **if bleed risk is higher than thromboembolic risk in the following:** • Age ≥ 80 years old • Drug-Drug interactions (moderate P-gp inhibitors). • CrCl between 30-40 ml/min Note**:** If a patient with the above criteria is stable and doing well on 150mg BID, continue current dose. **CrCl 15-30 mL/min:** 75mg BID; Use with caution due to limited data	**CrCl 30-50 mL/min**: 15 mg once daily **CrCl 15- 30 mL/min: limited data, but can consider 15mg once daily**	**Reduce to 2.5 mg BID if two of the following**: • Age ≥80 • TBW ≤60 kg • SCr ≥1.5 OR concomitant strong dual P-gp/CYP3A4 inhibitor **CrCl <25 mL/min or Serum Creatinine > 2.5mg/dl:** Use with caution due to limited data **ESRD on hemodialysis:** • Standard dosing of 5 mg BID unless age ≥80 yrs or wt ≤60 kg, then reduce dose to 2.5 mg BID. Use with caution due to limited data
Drug to Drug interactions	**Strong P-gp inhibitor: AVOID**	**Concomitant strong dual P-gp/CYP3A4 inhibitor:** **AVOID**	• 2.5 mg BID available for use with **combined P-gp and strong CYP3A4 inhibitors** • Avoid use with **combined P-gp and strong CYP3A4 inducers**

<table>
<tr><th colspan="3">Table 3: VTE Treatment Guideline. Note: CHEST 2016 Guideline suggest DOAC over warfarin for VTE treatment. Kearon, et al. CHEST 2016; 149(2):315-352</th></tr>
<tr><th>Indication</th><th>Duration</th><th>KPNCAL Anticoagulant Options</th></tr>
<tr><td>Superficial Thrombophlebitis</td><td>High risk – 6 weeks</td><td>• Risk factors for progression to proximal DVT include – malignancy, history of VTE, thrombosis >5cm in size and within 5cm of the saphenofemoral and saphenopopliteal junction.
• If low risk (no risk factors above)– NSAIDs, warm compress, elevation.
• If high risk (1 or more risk factors) – anticoagulation x 6 weeks (Lovenox 40mg sc daily, or Rivaroxaban 10mg po daily)</td></tr>
<tr><td>Acute Isolated Distal DVT</td><td>If on anticoagulation, treat as per proximal DVT</td><td>Recommend serial imaging weekly x 2 weeks over anticoagulation if asymptomatic or low-risk. If symptomatic or high-risk, treat with anticoagulation as below.</td></tr>
<tr><td>Provoked Proximal DVT/PE with transient/reversible risk factor</td><td>3 months</td><td rowspan="3"><u>Primary Preferred: Does NOT require Enoxaparin (LMWH)</u>
• Rivaroxaban 15mg BID x 21 days, then Dabigatran 150mg BID (Primary preferred- nonformulary to avoid LMWH).
o AVOID if CrCl < 30 ml/min
o AVOID with strong drug interactions for Dabigatran. For Rivaroxaban, avoid with combined strong to moderate interactions. Refer to DOAC Management Guidelines for more details.

<u>Other Agents:</u>
• Dabigatran 150 mg BID, start dabigatran after 5 days of enoxaparin (LMWH) lead-in Therapy
o AVOID if CrCl < 30 ml/min or with strong drug interactions.
o Caution: Do not to start dabigatran and enoxaparin simultaneously since onset of action for Dabigatran is almost immediately (2 hours).
o Dabigatran 110 mg BID: Not recommended for VTE treatment
• Warfarin bridged with enoxaparin. Start simultaneously until INR is therapeutic x 2 consecutive days (INR goal 2.0-3.0)
• Acute VTE with cancer, LMWH or Rivaroxaban are options
• Consider Rivaroxaban 10 mg daily for secondary prevention in patients with VTE (single or recurrent) if patients are not on full dose DOAC therapy for extended prophylaxis</td></tr>
<tr><td>1st episode, unprovoked PE/ Proximal DVT</td><td>Indefinite therapy recommended. Consider shorter duration (3 months) in patients with a high bleeding risk.
Risk-benefit ratio of continuing anticoagulation should be assessed by physician at periodic intervals, at least annually</td></tr>
<tr><td>Recurrent, unprovoked DVT or PE</td><td>Indefinite therapy recommended. Consider shorter duration (3 months) in patients with a high bleeding risk.
Risk-benefit ratio of continuing anticoagulation should be assessed by physician at periodic intervals, at least annually</td></tr>
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