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# Be Prepared to Manage Direct Oral Anticoagulants Around Surgery

You'll face questions about **how to manage direct oral anticoagulants (DOACs) around procedures or surgery**.

**When should DOACs be stopped and restarted**? Generally hold 1 day before minor procedures, such as colonoscopy or upper endoscopy...since these may involve biopsy or polyp removal.

Typically hold DOACs for 2 days before major procedures, such as abdominal or vascular surgery.

Also consider holding 2 days before regional anesthesia. Recent data suggest this allows DOACs to drop to minimal levels in most patients.

But consider renal function. For example, hold for 3 days prior to major procedures or regional anesthesia if CrCl is below 30 mL/min...or up to 5 days with dabigatran (*Pradaxa*).

Usually restart DOACs 1 day after minor procedures...or 2 to 3 days after major surgeries. If regional anesthesia is used, wait at least 6 hours after catheter removal to restart DOACs.

Keep in mind, it's often okay to continue DOACs for low-bleeding-risk procedures...such as paracentesis or ICD or pacemaker placement.

In these cases, delay DOACs the day of surgery until 4 to 6 hours post-op. This may mean skipping the morning dose of twice-daily DOACs.

**What is the role of DOAC reversal agents before surgery**? Limit these to emergent, life-saving surgeries.

Consider idarucizumab (*Praxbind*) 5 g IV to reverse dabigatran. It corrects coagulation labs prior to emergent surgery...but it's too soon to know its effect on surgical bleeding.

Be aware, there's no evidence for reversing other DOACs prior to surgery...even with the apixaban and rivaroxaban reversal agent, *Andexxa*. Reversal of these DOACs is based on limited data in bleeding patients.

Don't be surprised if *Andexxa* is non-formulary. Consider 4-factor prothrombin complex concentrate (*Kcentra*) to reverse oral Xa inhibitors.

Think about using a fixed *Kcentra* dose of 2,000 units...instead of weight-based dosing. All data are weak...and none compare dosing regimens. But fixed dosing is simpler...and may reduce med waste.

See our chart, *Perioperative Management of Chronic Meds*, for more on bridging anticoagulants...and advice on antiplatelets, BP meds, etc.

**Key References:**

-JAMA Intern Med Published online Aug 5, 2019; doi:10.1001/jamainternmed.2019.2431
-J Am Coll Cardiol 2017;69(7):871-98
-Am J Hematol 2019;94(6):697-709

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