FAST FACTS AND CONCEPTS #461
ANTICOAGULATION FOR NON-VALVULAR DISEASES IN PATIENTS WITH A LIMITED PROGNOSIS
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Background
Patients with limited prognosis (expected to die within ~6 months) often have comorbidities requiring the use of anticoagulation (AC), including atrial fibrillation (AF), history of embolic stroke, and venous thromboembolic (VTE) disease (1-3). Several studies have shown that the incidence of thromboembolism in these patients is as high as 50%. At the same time, most of these patients are also at high risk for bleeding complications (2). To date, there are no consensus guidelines regarding when AC should be continued or discontinued in patients with limited prognosis (4-6). This critical decision remains challenging for providers seeking to optimize the quality of life (QoL) of patients since they must weigh the potential catastrophic complications associated with bleeding versus those associated with new thromboembolic events (7). This Fast Fact discusses factors informing the use of AC in these patients.

AC for valvular disease has many unique considerations and is not discussed here.

Considerations
• In patients with a limited prognosis, especially when the focus is on optimizing QoL, the continued use of AC should be reassessed since the risk-benefit ratio of clotting to bleeding has likely changed (4,8,9). Moreover, continued use of AC may lead to unexpected bleeding events, which must be weighed against the risk of impaired QoL from new thromboembolic events, the burden of drug administration, drug cost, ease of monitoring, and the patient’s overall prognosis, values, and preferences (8,10).
• Patients with shorter prognoses often have risk factors for VTEs and strokes, including prolonged immobilization, recent major surgery, cancer, and heart failure. However, the true impact of VTEs and strokes on the morbidity and mortality of patients reaching the end of their lives is not fully understood due to the lack of clinical studies in this population (11,12).
• In addition to these risk factors, patients with limited prognosis are also at high risk of bleeding due to altered anticoagulant pharmacokinetics secondary to malnutrition and poor oral intake (13), extremes of body weight (13), thrombocytopenia (14), renal insufficiency (13), hepatic impairment (15), advanced age (15), and drug-drug and drug-disease interactions (15). Notably, though, studies suggest the benefit of AC largely outweighs the risk of fall-related bleeding; but the risk-benefit ratio is largely unknown in those with limited prognosis (16,17).
• Due to the inability to measure long-term outcomes in patients with a limited prognosis, there are minimal clinical data describing the efficacy of AC in this patient population. However, the usage of risk-scoring tools enables shared decision-making by weighing the risks and benefits of AC in different contexts. There are multiple different risk scoring tools available; examples are included in Table 1. Please also see Table 2 for drug options for anticoagulation.

<table>
<thead>
<tr>
<th>Table 1: Considerations for Continuing or Discontinuing AC at the end of life (18-23)</th>
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</thead>
<tbody>
<tr>
<td>Disease</td>
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<tr>
<td>AF</td>
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<tr>
<td>Cancer</td>
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<tr>
<td>CATSSCORE, PROTECHT (21,22)</td>
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<tr>
<td>Both</td>
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<tr>
<td>Drug Name</td>
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<tr>
<td>-----------------------------------</td>
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<tr>
<td>Warfarin</td>
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<td>Low molecular weight heparin (LMWH)</td>
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<td>Unfractionated heparin (UFH)</td>
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<td>Direct oral anticoagulants (DOAC)</td>
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</table>

**Bottom line**  The decision to continue or discontinue AC should be individualized with shared decisionmaking. Risk calculators can provide data to help clinicians and patients in making decisions.

**Resources:** CHA2DS<sub>2</sub>-VASc Calculator, HAS-BLED Calculator, HEMORR<sub>H</sub>HAGES Calculator, ATRIA Calculator, ORBIT Calculator, Khorana Score Calculator, CATSSCORE Calculator, PROTECHT Score, ACCP VTE Score, EINSTEIN Score, VTE BLEED Score, CAT-BLEED Score

**References**


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