DUAL ANTIPLATELET THERAPY

Quick Guide

2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients With Coronary Artery Disease
Decisions about treatment with and duration of DAPT require a thoughtful assessment of the benefit/risk ratio (ischemic and bleeding risk), integration of study data, and consideration of patient preference.

In general, shorter-duration DAPT can be considered for patients at lower ischemic risk with high bleeding risk, whereas longer-duration DAPT may be reasonable for patients at higher ischemic risk with lower bleeding risk.

Prior recommendations for duration of DAPT for patients treated with DES were based on data from “first-generation” DES, which are rarely if ever used in current clinical practice. Compared with first generation stents, second-generation stents have an improved safety profile and lower risk of stent thrombosis. Recommendations in this focused update apply to second generation stents.

Updated recommendations for duration of DAPT are now similar for patients with NSTE-ACS and STEMI, as both are part of the spectrum of acute coronary syndrome.

A Class I recommendation (“should be given”) in most clinical settings is made for at least 6–12 months of DAPT (depending on the setting), and a Class IIb recommendation (“may be reasonable”) is made for prolonged DAPT beyond this initial 6- to 12-month period.

In studies of prolonged DAPT after DES implantation or after MI, duration of therapy was limited to several years (akin to many other studied therapies). Thus, in patients for whom the benefit/risk ratio seemingly favors prolonged therapy, the true optimal duration of therapy is unknown.

Recommendations in the document apply specifically to duration of P2Y12 inhibitor therapy in patients with CAD treated with DAPT. Aspirin therapy should almost always be continued indefinitely in patients with CAD.

Lower daily doses of aspirin, including in patients treated with DAPT, are associated with lower bleeding complications and comparable ischemic protection than are higher doses of aspirin. The recommended daily dose of aspirin in patients treated with DAPT is 81 mg (range, 75 mg to 100 mg).
Treatment Algorithm for Duration of P2Y$_{12}$ Inhibitor Therapy in Patients Treated With PCI

Class I:
- At least 6 mo (clopogrel)

Class IIb:
- Discontinuation after 3 mo may be reasonable

High bleeding risk* or significant overt bleeding

PCI

SIHD

ACS

DES

BMS

Class I:
- At least 12 mo (clopogrel, prasugrel, ticagrelor)

Class IIb:
- >6 mo may be reasonable

No high risk of bleeding and no significant overt bleeding on DAPT

No high risk of bleeding and no significant overt bleeding on DAPT

Class IIb:
- >1 y may be reasonable

Class I:
- At least 1 mo (clopogrel)

Class IIb:
- >1 mo may be reasonable

High bleeding risk* or significant overt bleeding

Class IIb:
- Discontinuation after 6 mo may be reasonable

No high risk of bleeding and no significant overt bleeding on DAPT

Class IIb:
- >1 y may be reasonable

No high risk of bleeding and no significant overt bleeding on DAPT
Treatment Algorithm for Management and Duration of P2Y$_{12}$ Inhibitor Therapy in Patients Undergoing CABG

CABG

- SIHD
  - Class IIb: 12 mo may be reasonable (clopidogrel)

- S/P Recent ACS
  - Class I: Resume P2Y12 inhibitor post-op to complete 12 mo DAPT

- S/P Recent PCI
  - Class I: Resume P2Y12 Inhibitor post-op and continue for Recommended Duration of DAPT Therapy after PCI*

0 mo
6 mo
12 mo
Treatment Algorithm for Duration of P2Y$_{12}$ Inhibitor Therapy in Patients with SIHD (Without ACS Within the Past Several Years)

- **SIHD**
  - **No Hx of MI, PCI or recent (≤ 12 mo) CABG**
    - Class III: No Benefit
  - **Prior MI, currently on DAPT**
    - Class I: At Least 1 mo (clopidogrel)
    - Class IIB: No high risk of bleeding and no significant overt bleeding on DAPT
      - Class IIB: >1 mo may be reasonable
  - **S/P CABG**
    - Class I: At Least 1 mo (clopidogrel)
    - Class IIB: >1 mo may be reasonable
  - **BMS**
    - Class I: At Least 6 mo (clopidogrel)
    - High bleeding risks* or significant overt bleeding
      - Class IIB: Discontinuation
  - **DES**
    - No high risk of bleeding and no significant overt bleeding on DAPT
      - Class IIB: >6 mo may be reasonable
    - Further continuation may be reasonable
**Treatment Algorithm for Duration of P2Y\textsubscript{12} Inhibitor Therapy in Patients with Recent ACS (NSTE-ACS or STEMI)**

**Recent ACS (NSTE-ACS or STEMI)**

- **CABG**
  - Class I: After CABG, Resume P2Y\textsubscript{12} Inhibitor to Complete 1 y of DAPT (clopidogrel, prasugrel, ticagrelor)

- **Medical Therapy**
  - Class I: At least 12 mo (clopidogrel, ticagrelor)

- **Lytic (STEMI)**
  - Class I: At least 14 d and up to 12 mo (clopidogrel)

- **PCI (BMS or DES)**
  - Class I: At least 12 mo (clopidogrel, prasugrel, ticagrelor)

- High bleeding risk* or significant overt bleeding
  - Class IIB: Discontinuation
  - After 6 mo may be reasonable

- No high risk of bleeding and no significant overt bleeding on DAPT
  - Class IIB: >12 mo may be reasonable
Treatment Algorithm for the Timing of Elective Noncardiac Surgery in Patients with Coronary Stents

Patients Treated with PCI Undergoing Elective Noncardiac Surgery

- **BMS treated with DAPT**
  - <30 d since BMS implantation: Class III: Harm, Delay surgery
  - ≥30 d since BMS implantation: Class I: Proceed with surgery

- **DES treated with DAPT**
  - <3 mo since DES implantation: Class III: Harm, Delay surgery
  - 3-6 mo since DES implantation: Class Iib: Proceeding with surgery may be considered
  - ≥6 mo since DES implantation: Class I: Proceed with surgery
## Aspirin Dosing in Patients Treated with DAPT

<table>
<thead>
<tr>
<th>COR</th>
<th>LOE</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>B-NR</td>
<td>In patients treated with DAPT, a daily aspirin dose of 81 mg (range, 75 mg to 100 mg) is recommended.</td>
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</tbody>
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### Specific P2Y<sub>12</sub> Inhibitors

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<thead>
<tr>
<th>COR</th>
<th>LOE</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>IIa</td>
<td>B-R</td>
<td>In patients with ACS (NSTE-ACS or STEMI) treated with DAPT after coronary stent implantation and in patients with NSTE-ACS treated with medical therapy alone (without revascularization), it is reasonable to use ticagrelor in preference to clopidogrel for maintenance P2Y12 inhibitor therapy.</td>
</tr>
<tr>
<td>IIa</td>
<td>B-R</td>
<td>In patients with ACS (NSTE-ACS or STEMI) treated with DAPT after coronary stent implantation who are not at high risk for bleeding complications and who do not have a history of stroke or TIA, it is reasonable to choose prasugrel over clopidogrel for maintenance P2Y12 inhibitor therapy.</td>
</tr>
<tr>
<td>III: Harm</td>
<td>B-R</td>
<td>Prasugrel should not be administered to patients with a prior history of stroke or TIA.</td>
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## P2Y12 Medication Dosing

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<thead>
<tr>
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<th>Loading Does</th>
<th>Maintenance Dose</th>
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<tbody>
<tr>
<td>Clopidogrel</td>
<td>300-600 mg</td>
<td>75 mg QD</td>
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<tr>
<td>Prasugrel</td>
<td>60 mg</td>
<td>10 mg QD</td>
</tr>
<tr>
<td>Ticagrelor</td>
<td>180 mg</td>
<td>90 mg BID</td>
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### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACS</td>
<td>Acute Coronary Syndrome</td>
</tr>
<tr>
<td>BMS</td>
<td>Bare Metal Stent</td>
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<tr>
<td>CABG</td>
<td>Coronary Artery Bypass Graft Surgery</td>
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<tr>
<td>DAPT</td>
<td>Dual Antiplatelet Therapy</td>
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<tr>
<td>DES</td>
<td>Drug-eluting Stent</td>
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<tr>
<td>HX</td>
<td>History</td>
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<tr>
<td>LYTIC</td>
<td>Fibrinolytic Therapy</td>
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<tr>
<td>MI</td>
<td>Myocardial Infarction</td>
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<tr>
<td>NSTE-ACS</td>
<td>Non-ST Elevation Acute Coronary Syndrome</td>
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<td>PCI</td>
<td>Percutaneous Coronary Intervention</td>
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<td>SIHD</td>
<td>Stable Ischemic Heart Disease</td>
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<tr>
<td>STEMI</td>
<td>ST-Elevation Myocardial Infarction</td>
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<tr>
<td>TIA</td>
<td>Transient Ischemic Attack</td>
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