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Cardiology Guideline JANUARY 2022

Antiplatelet and Anticoagulant Guidelines for Coronary Stent Placement

This guideline was created by Intermountain's Cardiovascular Clinical Program, based on multiple publications and expert opinion. It outlines recommendations for antiplatelets and anticoagulants before and after stent placement in elective PCI and in acute coronary syndrome treatment.

ANTIPLATELET / ANTICOAGULANT RECOMMENDATIONS

Appropriate medications are based on the treatment situation (elective PCI or acute coronary syndrome), on whether or not the patient is preloaded with a $P2Y_{12}$ inhibitor (clopidogrel/Plavix, prasugrel/Effient, or ticagrelor/Brilinta) and on an elective PCI patient's risk level.

Table 1. Antiplatelets/anticoagulants for stent placement

Situation	$P2Y_{12}$ Status	PRE-STENT	Immediately POST-STENT
Elective PCI	**NO** $P2Y_{12}$ inhibitor effect	• Aspirin 325 mg • Heparin • GP IIB / IIIa antagonist	• Aspirin 81 or 325 mg daily • $P2Y_{12}$ inhibitor (see dosing and function testing guidelines below): – Clopidogrel with loading for lower-risk patients ***OR*** – Prasugrel or ticagrelor with loading for higher-risk patients
	Currently taking $P2Y_{12}$ inhibitor or **effectively LOADED***	• Aspirin 325 mg • Heparin or Bivalirudin • If high risk, consider GP IIB / IIIa antagonist †	• Aspirin 81 or 325 mg daily • $P2Y_{12}$ inhibitor (see dosing and function testing guidelines below): – Clopidogrel, no load, for lower-risk patients ***OR*** – Prasugrel or ticagrelor, no load, for higher-risk patients
Acute Coronary Syndrome (ACS), including STEMI, NSTEMI	**NO** $P2Y_{12}$ inhibitor effect	• Aspirin 325 mg • Heparin and GP IIB / IIIa antagonist †	• Aspirin 81 or 325 mg daily • $P2Y_{12}$ inhibitor (see dosing and function testing guidelines below): – Clopidogrel with loading ***OR*** – Prasugrel with loading ***OR*** – Ticagrelor with loading
	Currently taking $P2Y_{12}$ inhibitor or **effectively LOADED***	• Aspirin 325 mg • Heparin and GP IIB / IIIa antagonist † ***OR*** Bivalirudin	• Aspirin 81 or 325 mg daily • $P2Y_{12}$ inhibitor (see dosing and function testing guidelines below): – Clopidogrel ***OR*** – Prasugrel (no load) ***OR*** – Ticagrelor (no load)

Effective $P2Y_{12}$ loading:** ***Clopidogrel: 600 mg dose given ≥4 hours prior to stent. ***Prasugrel:*** 60 mg dose given ≥2 hours prior to stent. ***Ticagrilor:*** 180 mg dose given ≥2 hours prior to stent.

† GP IIB / IIIa antagonist (eptifibitide/tirafoban): May consider discontinuing 4 hours after clopidogrel load or 2 hours after prasugrel or ticagrilor load. However, consider infusing up to 18 hours for highest risk cases.

$P2Y_{12}$ DOSING GUIDELINES

- **Clopidogrel (Plavix):** 600 mg load, then 75 mg daily
- **Prasugrel (Effient):**
  - **Indications:** Consider using if patient is high risk, STEMI, diabetic, or has a history of stent thrombosis.
  - **Contraindications:** Do NOT use if history of stroke/TIA.
  - **Dose** based on age and weight: Age ≤ 75 and weight ≥ 60 kg: 60 mg load, then 10 mg daily
Age > 75 *or* weight <60 kg: 60 mg load, then 5 mg daily
- **Ticagrilor (Brilinta):**
  - **Indications:** Consider using if high risk, ACS, diabetes, or history of stent thrombosis; preferred over prasugrel if history of stroke.
  - **Dose:** 180 mg load, then 90 mg twice daily
  - **Concurrent aspirin dose:** must use only 81 mg daily maintenance dose after 325 mg load

GENERAL REFERENCES

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$P2Y_{12}$ FUNCTION TESTING

Consider platelet reactivity testing for **all ACS and high-risk elective PCI patients, using the VerifyNow $P2Y_{12}$ assay.**

VerifyNow $P2Y_{12}$ assay timing:

- **Early post-stent:** Can order VerifyNow assay:
  - $P2Y_{12}$ (loading): 4 hours after clopidogrel dose or 2 hours after prasugrel/ticagrilor dose
  - $P2Y_{12}$ (maintenance): 1 to 2 hours after daily $P2Y_{12}$ dose
  - Eptifibitide/tirafoban: at least 12 hours after infusion is discontinued (eptifibitide/tirafoban may shorten PRU up to 48 hours after discontinuing infusion)
  - Abciximab: 4 days after initial dose
- **Ongoing:** Order assay at 2 to 4 weeks on stable home regimen or 2 weeks after any change in dosage. Time the assay for 1 to 2 hours after daily $P2Y_{12}$ dose.

Using assay results, reported as $P2Y_{12}$ Platelet Reactivity Units (PRU):

- If **$P2Y_{12}$ PRU is >200:**
  - If on clopidogrel, switch to prasugrel or ticagrelor (with loading as on previous page), or increase clopidogrel dose (300 mg load, then 150 mg total daily).
  - If on prasugrel, add 5 mg to daily dose.
  - If on ticagrilor, increase dose to 270 mg total daily.
- If **$P2Y_{12}$ PRU is 100 to 200:** Continue current dose.
- If **$P2Y_{12}$ PRU is <100:** Consider decreasing dose by 50%.

These guidelines apply to common clinical circumstances, and may not be appropriate for certain patients and situations. The treating clinician must use judgment in applying guidelines to the care of individual patients.