Antiplatelets for Recurrent Ischemic Stroke

full update May 2025

The chart below provides dosing, cost, and other information to help you choose among options for recurrent ischemic stroke. **The information in the chart pertains to secondary stroke prevention in general and is not specific to patients who have a stroke while on aspirin.** Below the chart, find tips and clinical pearls about antiplatelet regimens.

Drug	Dose	Comments	Cost/30 days[a]
Preferred options[1,3,10]			
Aspirin	LD: see comments MD: usually 81 mg once daily (see comments)	• **Loading dose**, usually 160 to 300 mg daily, should be started within 24 to 48 hours of an acute ischemic stroke.[11] • **Maintenance dose**: ○ Guidelines recommend 80 to 325 mg (Canada), 75 to 100 mg (ACCP), and 50 to 325 mg (AHA/ASA) once daily.[1,3,10] ○ Limited data for doses <75 mg.[3] ○ Bleeding complications increase at doses >100 mg daily.[3]	US: <$1 Canada: <$2
Clopidogrel (Plavix, generics)	LD: see comments MD: 75 mg once daily[1,10]	• There are very limited data with loading doses of clopidogrel after an acute ischemic stroke (mostly limited to minor strokes or high-risk TIAs). However, loading doses of 300 to 600 mg rapidly inhibit platelets compared to platelet inhibition taking about five days with daily doses of 75 mg.[23] • Maintenance dosing efficacy similar to dipyridamole ER/aspirin (Aggrenox).[6] • May have lower GI bleed risk and stomach upset compared to aspirin.[7]	US: <$5 Canada: <$10
SHORT-TERM aspirin plus clopidogrel, followed by EITHER aspirin or clopidogrel alone	LD: see comments MD: Low-dose aspirin (usually 81 mg) plus clopidogrel 75 mg once daily usually for **21 days** (see comments), then continue EITHER aspirin or clopidogrel.[10,19,20]	• **Loading dose**: of the three major RCTs, POINT used clopidogrel 600 mg x 1 with aspirin 162 mg x 5 days, CHANCE used clopidogrel 300 mg x 1 with aspirin 75 to 300 mg x 1, and INSPIRES used clopidogrel 300 mg x 1 with aspirin 100 to 300 mg x 1.[2,8,22] Canadian guidelines recommend an aspirin LD of 160 to 300 mg.[10] • Start as soon as possible, ideally within 72 hours, or at least within seven days, of:[1,2,8,10,18,22] ○ **High-risk TIA** (e.g., ABCD^2 score[b] ≥4). ○ Minor ischemic stroke (e.g., NIHSS score[c] ≤3; INSPIRES used NIHSS score[c] ≤5). • Prevents stroke within three months better than aspirin alone (NNT ~53) [Evidence level A-1].[8,20] Significant impact on mortality or recurrent TIA has not been shown.[19,20,22] Safety/efficacy with thrombolysis or anticoagulation unknown.[8,20]	US: <$5 Canada: ~$10

Drug	Dose	Comments	Cost/30 days[a]
Preferred options, continued[1,3,10]			
SHORT-TERM aspirin plus clopidogrel, followed by EITHER aspirin or clopidogrel alone, continued		• May cause more major bleeding (e.g., bleeding requiring or prolonging hospital stay, death due to bleeding) or moderate-to-severe GUSTO bleeding compared to aspirin alone (NNH ~ 200) [Evidence Level A-1].[8,22,d] The risk of intracranial hemorrhage was increased (NNH ~ 333) in INSPIRES wherein the window for initiation was 72 hours.[8] • Generally, limit the combination of aspirin plus clopidogrel to **not more than 21 days** to maximize benefits and minimize risks.[10,19,20] o Can consider using **ten days** instead of 21 days for patients at higher bleeding risk (e.g., taking an NSAID or anticoagulant).[19,20] o Can consider combination therapy for **up to 90 days** after stroke or TIA attributable to severe stenosis (70% to 99%) of a major intracranial artery if bleeding risk is low (based on SAMMPRIS study).[1,10] • After 21 days of combination therapy, continue EITHER aspirin or clopidogrel as monotherapy (aspirin 81 mg/day generally preferred).[8,19,20] • Avoid combining aspirin and clopidogrel in patients who have a major stroke, due to increased risk for intracranial bleeding.[19] Also, there are no safety data for short-term aspirin plus clopidogrel in patients who received alteplase.[2,22]	
Dipyridamole ER/aspirin (US)	LD: none[1] MD: Dipyridamole ER 200 mg/aspirin 25 mg BID[1]	• May prevent one more event (vascular death, stroke, MI, major bleed) for every 100 patients treated/year vs aspirin.[4] • Bleeding risk similar to aspirin.[4] • Twice-daily dosing. Expensive. One in four patients discontinue due to headache.[4] • Do not substitute **immediate-release** dipyridamole plus aspirin for the combo ER product; no proof it's as effective.	US: ~$60
Non-preferred options[1,3,10]			
SHORT-TERM aspirin plus ticagrelor (Brilinta) *Continued…*	**LD**: **Aspirin**: 300 to 325 mg; **Ticagrelor**: 180 mg **MD**: **Aspirin**: 75 to 100 mg/day **Ticagrelor**: 90 mg BID for 30 days	• Aspirin plus ticagrelor for 30 days prevents one stroke or death within 30 days compared to aspirin alone, NNT = 91 [Evidence Level A-1].[17] However, there is no significant impact on mortality alone or disability scores.[17] In addition, use for 30 days may cause one episode of severe bleeding (e.g., fatal bleeding, intracranial hemorrhage [most common], or other bleeding that caused hemodynamic compromise requiring intervention) compared to aspirin alone (NNH = 263) [Evidence Level A-1].[17]	US: ~$140 Canada: ~$25

Drug	Dose	Comments	Cost/30 days[a]
Non-preferred options, continued[1,3]			
SHORT-TERM aspirin plus ticagrelor, continued		○ Based on subgroup analysis of this study, ticagrelor could be added to aspirin for up to 30 days for patients with minor stroke or high-risk TIA with ≥30% stenosis of a major intracranial artery on the same side as the event.[1,10] ○ Note that ticagrelor ALONE (180 mg LD, followed by MD of 90 mg BID) for 90 days is NOT superior to aspirin (300 mg LD, followed by 100 mg daily) in preventing the combined endpoint of stroke, myocardial infarction (MI), or death within 90 days in minor stroke (NIHSS score[c] ≤5) or high-risk TIA (ABCD[2] score[b] ≥4) [Evidence Level A-1].[16] • There are no safety data for short-term aspirin plus ticagrelor in patients who received alteplase.[17] • If using aspirin plus ticagrelor, don't exceed 30 days and ideally start within 24 hours of:[17] ○ **High-risk TIA** (e.g., ABCD[2] score[b] ≥6). ○ **Minor ischemic stroke** (e.g., NIHSS score[c] ≤5). • May cause dyspnea.[17] • Twice-daily dosing. Expensive.	
Cilostazol (US only)	LD: none[3] MD: 100 mg BID[3]	• Better than no antiplatelet at all if patient cannot take aspirin or clopidogrel.[3]	~$35
Cilostazol plus aspirin or clopidogrel	LD: none MD: cilostazol 100 mg BID added to aspirin or clopidogrel (see comments)[1]	• Can consider adding cilostazol to aspirin or clopidogrel for patients with stroke or TIA due to 50% to 99% stenosis of a major intracranial artery.[1] ○ This recommendation is based on Level B-1 evidence in mostly Asian populations (TOSS-1, TOSS-2, CATHARSIS, CSPS).[1] • The role of cilostazol for secondary prevention after stroke due to small vessel disease needs more study.[1]	~$40

a. Pricing based on wholesale acquisition cost (WAC). US medication pricing by Elsevier, accessed May 2025.
b. See https://www.mdcalc.com/abcd2-score-tia.
c. See https://www.ninds.nih.gov/health-information/stroke/assess-and-treat/nih-stroke-scale.
d. NNH of 200 represents 90 days of aspirin plus clopidogrel. Risk may be lower with only ten to 21 days of dual-antiplatelet therapy.

Abbreviations: ACCP = American College of Chest Physicians; AHA = American Heart Association; ASA = American Stroke Association; BID = twice daily; ER = extended-release; GUSTO = Global Utilization of Streptokinase and Tissue Plasminogen Activator for Occluded Coronary Arteries; LD = loading dose; MD = maintenance dose; NIHSS = National Institutes of Health Stroke Scale; TIA = transient ischemic attack.

Tips and Clinical Pearls about Antiplatelet Regimens

- About 5% of patients who have a minor ischemic stroke or transient ischemic attack will have another stroke within a year.[21] The risk is especially high in the first week.[10]
- The choice among aspirin, clopidogrel, or dipyridamole/aspirin should be individualized.[10]
- Dual antiplatelet therapy can be considered for certain patients, but only short-term.[1]
- If a patient has had a stroke or TIA despite aspirin therapy, switching to another antiplatelet agent can be considered.[10]
  - The risk of a recurrent stroke may be lower if these patients are switched to a different long-term antiplatelet, **especially in the first few days** after a stroke or TIA [Evidence Level B-2].[12] However, there is no proof that any agent is more effective than aspirin in these patients.[1,10]
  - There is no evidence that increasing the aspirin dose improves efficacy.[1]
  - Check adherence, screen for drug interactions that might reduce antiplatelet efficacy, consider atrial fibrillation, and optimize statin dose, blood pressure, and glycemic control.[9]
- For most patients who receive intravenous thrombolysis for stroke (e.g., alteplase), generally delay aspirin therapy for at least 24 hours, but consider comorbidities.[11]
- Prasugrel (Effient) is contraindicated in patients with a history of stroke or TIA due to increased risk of intracranial bleeding.[14,15]
- If a patient has a gastrointestinal (GI) bleed on aspirin, stop the aspirin and add a proton pump inhibitor (PPI).[13,24] Post-endoscopy, once hemostasis is acceptable, restart aspirin within seven days (ideally within three days, and immediately if rebleeding risk is low).[5,13,24]
- Do not use anticoagulants unless the patient has another indication for one (e.g., atrial fibrillation).[10]

Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.

Levels of Evidence

In accordance with our goal of providing Evidence-Based information, we are citing the **LEVEL OF EVIDENCE** for the clinical recommendations we publish.

Level	Definition	Study Quality
A	Good-quality patient-oriented evidence.*	1. High-quality randomized controlled trial (RCT) 2. Systematic review (SR)/Meta-analysis of RCTs with consistent findings 3. All-or-none study
B	Inconsistent or limited-quality patient-oriented evidence.*	1. Lower-quality RCT 2. SR/Meta-analysis with low-quality clinical trials or of studies with inconsistent findings 3. Cohort study 4. Case control study
C	Consensus; usual practice; expert opinion; disease-oriented evidence (e.g., physiologic or surrogate endpoints); case series for studies of diagnosis, treatment, prevention, or screening.	

***Outcomes that matter to patients** (e.g., morbidity, mortality, symptom improvement, quality of life).

[Adapted from Ebell MH, Siwek J, Weiss BD, et al. Strength of Recommendation Taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature. Am Fam Physician 2004;69:548-56. https://www.aafp.org/pubs/afp/issues/2004/0201/p548.html.]

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