## ANTIPLEATELET DRUG COMPARISON CHART

<table>
<thead>
<tr>
<th>Drug</th>
<th>ASA</th>
<th>Clopidogrel (Plavix®)</th>
<th>Prasugrel (Effient®)</th>
<th>Ticagrelor (Brilinta®)</th>
</tr>
</thead>
</table>
| **Indications** | - 1° and 2° prevention of stroke and MI  
- ACS  
- PCI with stent  
- PVD | - ASA intolerance or failure  
- 1° and 2° prevention of stroke and MI (+/- ASA)  
- ACS (+ ASA)  
- PCI (+ ASA)  
- PVD | - With ASA, for treatment of ACS in patients treated with PCI  
**Contraindicated if:**  
age > 75 years; OR  
wt < 60 kg; OR  
history of stroke  
NON-FORMULARY | - With ASA, for treatment of ACS  
See BCHA restrictions below¹ |
| **Dose and Duration** | Load: 160-325 mg  
Maintenance: 80 or 81 mg daily  
Duration: Indefinite | Load: 300-600 mg  
Maintenance: 75 mg daily  
Duration: ACS: up to 1 year  
BMS: minimum 30 days  
DES: minimum 1 year | Load: 60 mg  
Maintenance: 10 mg daily  
Duration: up to 1 year | Load: 180 mg  
Maintenance: 90 mg BID  
Duration: up to 1 year |
| **Class** | Non-Steroidal Anti-Inflammatory Agent | Second generation thienopyridine (Prodrug) | Third-generation thienopyridine (Prodrug) | Cyto-pentyl-triazolo-pyrimidine |
| **Mechanism of Platelet Inhibition** | Irreversible inhibitor of COX-1 causing decrease in thromboxane A₂ | Irreversible inhibitor of P2Y₁₂ component of ADP receptor (preventing ADP binding and activation of platelets) | Irreversible inhibitor of P2Y₁₂ component of ADP receptor (preventing ADP binding and activation of platelets) | Reversibly modifies P2Y₁₂ component of ADP receptor (preventing ADP binding and activation of platelets) |
| **Oral Bioavailability** | 50-75% | > 50% (active metabolite) | > 78% (active metabolite) | 30-42% |
| **Peak Effect** | 1-3 hours | 6 hours (after load) | 4 hours (after load) | 2 hours (after load) |
| **Half-life (active metabolite)** | 3 hrs (salicylate) | 0.5 hrs | 7 hrs (range 2-15 hrs) | 9 hrs (range 6.7-9.1 hrs) |
| **Elimination** | Hydrolyzed by esterases; Hepatic conjugation | Esterases; Metabolism by CYP-450 enzymes | Esterases; Metabolism by CYP-450 enzymes | Metabolism by CYP-450 enzymes |
| **CYP Metabolism** | No | CYP2C19 | CYP3A4, CYP2B6 | CYP3A4/5 |
| **When to Hold Dose Prior to Surgery** | 7 days (optional) | 5-7 days | 7 days | 5 days |

¹ Ticagrelor restricted to patients on prior to admission or those on ASA with ACS i.e. STEMI, non-STEMI, unstable angina (UA) AND one of the following:  
Failure on optimal doses of clopidogrel and ASA therapy or recurrent ACS after revascularization with PCI; OR  
STEMI and undergoing revascularization via PCI; OR  
Non-STEMI or UA and high risk angiographic anatomy and undergoing revascularization via PCI

**Abbreviations:**  
ACS = Acute Coronary Syndrome; PCI = Percutaneous Coronary Intervention; PVD = Peripheral Vascular Disease;  
BMS = Bare Metal stent; DES = Drug-Eluting Stent; ADP = Adenosine Diphosphate