Local Guideline

Health
Hunter New England
Local Health District

Document number: JHH_0449

Perioperative management of antiplatelet agents

Sites where Local Guideline applies	John Hunter Hospital
This Local Guideline applies to:	
1. Adults	Yes
2. Children up to 16 years	No
3. Neonates – less than 29 days	No
Target audience	Anaesthetists, doctors, perioperative nurses, cardiologists, neurologists, surgeons
Description	This guideline provides guidance on the management of antiplatelet agents in the perioperative period for patients having elective surgery.

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Keywords	Aspirin, clopidogrel, prasugrel, ticagrelor, ticlopidine, antiplatelet, antithrombotic, perioperative, surgery
Document registration number	
Replaces existing document?	No

Related Legislation, Australian Standard, NSW Ministry of Health Policy Directive or Guideline, National Safety and Quality Health Service Standard (NSQHSS) and/or other, HNE Health Document, Professional Guideline, Code of Practice or Ethics:

- See Reference Section on page 5

Prerequisites (if required)	The patient should be booked for elective surgery at the John Hunter Hospital and be taking an antiplatelet medication.
Local Guideline note	This document reflects what is currently regarded as safe and appropriate practice. This guideline does not replace the need for the application of clinical judgment in respect to each individual patient. If staff believe that the guideline should not apply in a particular clinical situation they must seek advice from a Perioperative Anaesthetist, and/or the patient's antiplatelet prescriber and surgeon, and document the variance in the patient's health record. If this document needs to be utilised outside of the John Hunter Hospital please liaise with the local cardiology, neurology, and surgical services to ensure the appropriateness of the information contained within the Guideline and Procedure.
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Authorised by:	Yes
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PURPOSE AND RISKS

Antiplatelet therapies are used for a variety of indications in the community. The perioperative period poses a risk to the patient of adverse vascular events due to medication changes and the proinflammatory and prothrombotic states that exist at this time. Management in the perioperative period requires consideration of patient, surgical and anaesthetic factors to reduce the risks of:

- Cardiovascular events including myocardial infarction, stroke and acute limb ischaemia.
- Surgical site bleeding

The balance between these competing interests can be complex and consultation may be required with other specialties to formulate a perioperative plan for higher risk patients.[1]

Risk Category*:* Clinical Care & Patient Safety

GLOSSARY

Acronym or Term	Definition
ACS	Acute coronary syndrome
APT	Antiplatelet therapy
DAPT	Dual antiplatelet therapy
ENT	Ear nose and throat
ESWL	External shock wave lithotripsy
LAD	Left anterior descending
PCI	Percutaneous coronary intervention
PCNL	Percutaneous nephrolithotripsy
RFA	Request for admission
TURBT	Transurethral resection of bladder tumour
TURP	Transurethral resection of prostate

GUIDELINE

This Guideline does not replace the need for the application of clinical judgment in respect to each individual patient.

Antiplatelet Management in the Perioperative Period

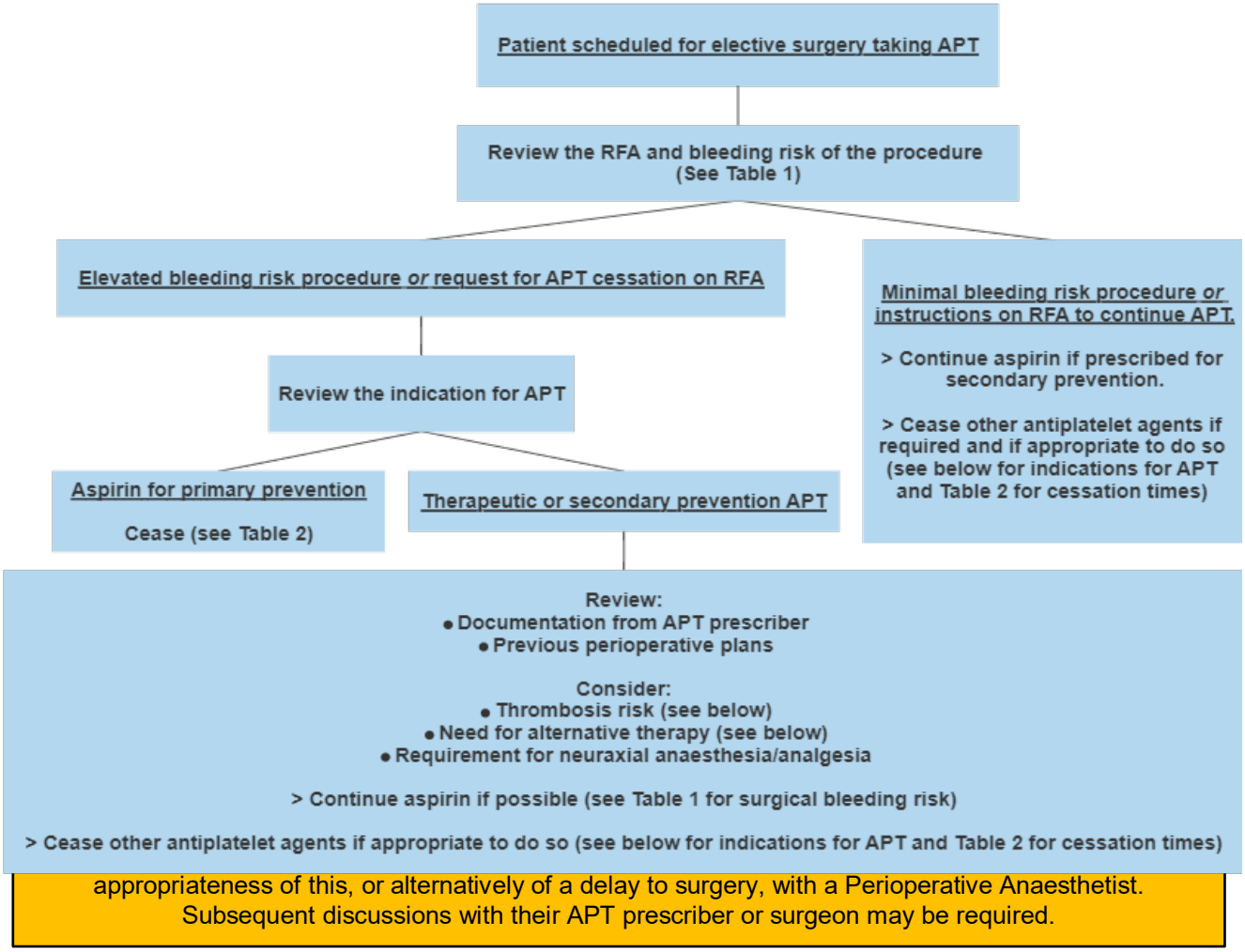

Table 1: Assessment of surgical bleeding risk

	Surgery Type	APT Management
High surgical bleeding risk	• Intracranial surgery • Urology –TURP • Intraocular surgery • Major spinal surgery	Cease all APT agents
Moderate surgical bleeding risk	• Urology – Cystoscopy/ureteroscopy with diathermy, resection of tumour, stone therapy, prostatectomy, ESWL, PCNL, scrotal surgery, TURBT (large tumours), major open surgery • Major ENT including adenotonsillectomy, septorhinoplasty, middle ear surgery. • Major Head and Neck cancer surgery • Spinal surgery • Thyroidectomy and similar • Facio-maxillary surgery • Primary and revision arthroplasty	Consider ceasing aspirin depending on indication for use. Cease clopidogrel (+/- replace with aspirin, if indicated)
Minimal or low bleeding	• All other surgeries *unless requested by*	Continue aspirin.

risk	*the surgeon*.	Cease clopidogrel (+/- replace with aspirin if indicated)

Table 2: Duration of cessation of APT[1]

Antiplatelet agent	When to cease antiplatelet therapy (if required)
aspirin	At least 5 days prior
clopidogrel	At least 7 days prior
prasugrel	At least 7 days prior
ticagrelor	At least 5 days prior
ticlopidine	At least 14 days prior

Assessment of thrombotic risk and consequences

Factors which contribute to the risk associated with stopping antiplatelet therapy:

- Duration of time since coronary or neurovascular event.
- Location (left main or proximal LAD stent), length, number, branching, difficulty of placement, clinical context of insertion (e.g. myocardial infarction v. symptomatic coronary artery disease), calibre and possibly type of stent.[2]
- Multi-vessel or multi-lesion coronary disease or stents[2,3]
- Multiple anatomical sites of vascular disease[3]
- A history of stent thrombosis
- Patient characteristics such as prothrombotic states, smoking, chronic kidney disease, diabetes mellitus, advanced age.[2]

Patients with high thrombotic risk may require longer periods of DAPT after stenting, combinations of antiplatelet and anticoagulant medications, and longer delays to non-urgent surgery after a vascular event. If in doubt, discuss with a Perioperative Anaesthetist. A discussion with the patient's antiplatelet prescriber and their surgeon may be required for complex cases.[2,3]

For patients with coronary artery disease:

- Where possible, aspirin should be continued perioperatively in patients with coronary stents.[4]
- *Urgent* surgery *may* be undertaken 1-3 months after coronary stenting with bare metal stents or drug eluting stents if the risk of surgical delay outweighs the risk of stent thrombosis. This requires discussion with a Perioperative Anaesthetist prior to discussion with the patient's cardiologist and surgeon.[5,6]
- Where possible, non-urgent surgery should be delayed until 6 months after PCI.
- With PCI after ACS, perioperative MI rates remain elevated for 12 months, thus DAPT should continue and non-urgent elective surgery should be delayed until this time.[2,7,8]

For patients with cerebrovascular disease

- Non-urgent surgery should be delayed until 9 months post CVA when the risk of perioperative stroke reaches its nadir (see the local guideline for Elective Surgery after Stroke)
- There is limited evidence regarding best practice regarding antiplatelet therapies in this population.
- In patients with existing cerebrovascular stents, aspirin is usually continued perioperatively where possible.[4,7] Dual antiplatelet therapy, or an antiplatelet agent and an anticoagulant, is often used for 3-6 months after intracranial stenting. Temporary cessation (of agents other than aspirin) after 6 months, when required for surgery, is usually appropriate.

Patients with peripheral vascular disease

- DAPT may be continued in the setting of vascular surgery.[7] Check RFA for surgical instructions.

- For patients with severe PVD or peripheral vascular stents having non-vascular surgery, check for surgical instructions and continue APT where possible.
- For carotid endarterectomy (CEA), DAPT is continued perioperatively.[7]

Alternative therapies

- Note that heparin bridging does not reduce the risk of coronary stent thrombosis.[7]
- Tirofiban and eptifibatide are infrequently used for patients at extremely high thrombotic risk.[3]

Recommencement of APT

- This should occur as soon as thought safe from a surgical bleeding risk and neuraxial anaesthesia/analgesia perspective. See the American Society of Regional Anesthesia (ASRA) guideline for guidance on specific agents.[9]
- A loading dose may be requested by the prescriber for patients at high thrombotic risk.[7]

IMPLEMENTATION, MONITORING COMPLIANCE AND AUDIT

This guideline will be communicated to the Perioperative Department via their continuing medical education meetings.

REFERENCES

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FEEDBACK

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