Trust Guideline for the Management of Adult Patients on Antiplatelet Therapy who require Elective Surgery or an Invasive Procedure

Document Control:

For Use In:	Norfolk and Norwich University Hospitals NHS Foundation Trust		
	For adult patients ≥16 years old		
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Version History:

Version	Date	Author	Reason/Changes
V1.0	Jan 2014	Dr H Lyall, Dr J Wimperis	To originate document.
V2.0	Oct 2015	Dr H Lyal, Dr J Wimperis	Removal of Plastics exclusions.
V3.0	Sep 2017	Dr H Lyall, Dr A Lipp	Clarification of moderate risk vascular surgery.
V4.0	Aug 2018	Dr H Lyall, Dr A Lipp	Updated endoscopy link. Definition of high risk vascular stents changed from 6/12 to 3/12. Definition of moderate risk changed from 6/12 to 3/12.
V5.0	Sep 2018	Dr H Lyall, Dr A Lipp	Dental guidance updated.
V6.0	Mar 2019	Dr H Lyall, Dr A Lipp	Document reviewed and amended to current practice.
V7.0	Mar 2023	Dr Chris Sharpe	1. Link to Endoscopy guidance

		Dr Ruth de Las Casas	updated. 2. Preoperative tests for Vascular are now in a separate guideline, signpost to this guidance provided and Vascular Surgery references removed from this document. 3. DAPT following DES for 6 months rather than one year as approved by Cardiology via Dr A Ryding. Document transferred to new Trust Procedural Document Template.
V8.0	October 2023	Dr Ruth de Las Casas	Vascular risk factors readded as previously removed in error

Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

This guideline has had developed with input from cardiology, stroke physicians, vascular surgeons, interventional radiologists and anaesthetists. Its contents have been agreed by the NNUH Thrombosis and Thromboprophylaxis Committee.

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to Norfolk & Norwich University Hospitals NHS Foundation Trust. Please refer to local Trust's procedural documents for further guidance, as noted in Section 4.

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Quick reference guideline – Assess Thrombotic Risk

High	Moderate	Standard
• NSTEMI/STEMI ≤1 year • Elective cardiac drug eluting stent ≤ 6 months • Elective cardiac bare metal stent ≤1/12 • Stroke/TIA ≤6/12 • Carotid surgery planned or <6/12 • Infrainguinal arterial stent (superficial femoral, popliteal or distal arteries) <3/12 • Visceral arterial stent (renal, coeliac, SMA, FEVAR) <3/12	• NSTEMI/STEMI >1 year • Elective cardiac drug eluting stent >6 months • Elective cardiac bare metal stent >1/12 • Stroke/TIA>6/12 • Infrainguinal arterial stent (superficial femoral, popliteal or distal arteries) >3/12 • Visceral arterial stent (renal, coeliac, SMA, FEVAR) >3/12 • All other Vascular surgery patients not considered high risk (this includes EVAR, iliac stents, AAA repair, bypass grafts)	• Patients not falling into high or moderate risk group

• Discuss deferral of surgery with surgeon If surgery to proceed: • Continue all anti-platelet medication • Alert anaesthetists in case local anaesthesia planned	**Clopidogrel** Take last dose 8 days before surgery Start aspirin 75 mg Post op stop aspirin and restart clopidogrel. If epidural present delay switching until after removal **Dipyridamole**. Omit day before surgery. Discuss with stroke physician regarding switch to clopidogrel monotherapy on discharge or ask gp to consider switching to clopidogrel monotherapy on discharge in liaison with stroke physicians	**Clopidogrel** Take last dose 8 days before surgery Post op restart clopidogrel. If epidural present delay restarting until after removal **Dipyridamole**. Omit day before surgery surgery. Discuss with stroke physician regarding switch to clopidogrel monotherapy on discharge or ask gp to consider switching to clopidogrel monotherapy on discharge in liaison with stroke physicians

Aspirin alone If patient on aspirin alone this does not appear to add significant risk of bleeding and so may be continued for the majority of surgery *nor* does it appear to represent an added significant risk for the development of spinal hematoma. Aspirin (up to 300mg) can be continued for all patients *unless* surgeon specifically requests cessation	**Aspirin alone** If patient on aspirin alone this does not appear to add significant risk of bleeding and so may be continued for the majority of surgery *nor* does it appear to represent an added significant risk for the development of spinal hematoma. Aspirin (up to 300mg) can be continued for all patients *unless* surgeon specifically requests cessation	**Aspirin alone** If patient on aspirin alone this does not appear to add significant risk of bleeding and so may be continued for the majority of surgery *nor* does it appear to represent an added significant risk for the development of spinal hematoma. Aspirin (up to 300mg) can be continued for all patients *unless* surgeon specifically requests cessation
Prasugrel or ticagrelor If on prasugrel or ticagrelor always discuss with cardiologists/vascular surgeon	**Ticagrelor 60mg bd** Stop Ticagrelor 5 days pre op and continue(or add) aspirin 75mg od while ticagrelor discontinued.	**Ticagrelor 60mg bd** Stop Ticagrelor 5 days pre op and continue(or add) aspirin 75mg od while ticagrelor discontinued

1. Introduction

1.1. Rationale

Optimal perioperative management of patients taking anti-platelet agents must balance the risk of a thrombotic event associated with interruption of therapy and the risk of haemorrhage associated with the procedure. This balance of risks will vary between individual patients. Large, prospective trials do not exist to guide management of perioperative management. This guideline is a consensus document It will be applicable to the majority of patients undergoing elective surgery at NNUHFT.

1.2. Objective

This revised guideline applies to patients taking antiplatelet therapy who require surgery or an invasive procedure. It aims to standardise their management across the Trust to minimise morbidity and mortality from thrombosis or haemorrhage.

1.3. Scope

Adult patients who require surgery or an invasive procedure and are taking antiplatelet therapy.

For patients on anticoagulation

See guideline CA2060 Trustdocs Id 1215 or click below
CA2060 Adults patients on therapeutic anticoagulation who require elective surgery or an invasive procedure

For patients having regional anaesthesia

See guideline CA2031 Trustdocs id 1193 or click below
CA2031 Regional Anaesthesia Patients Venous Thromboprophylaxis with Anticoagulant and Antiplatelet Drugs

For patients undergoing CT guided nerve root injection or image-guided biopsy (soft tissue and bone): See Appendix 1.

Exclusions from this guideline

- Procedures with low bleeding risk which can be performed without interruption of antiplatelet surgery (e.g. biopsy of compressible site, joint aspiration, cataract surgery)
- Endoscopy: The British Society for Gastroenterology has produced national guidelines for the management of warfarin and antiplatelet therapy in patients undergoing endoscopic procedures. This guidance can be accessed at https://www.bsg.org.uk/clinical-resource/updated-endoscopy-in-patients-on-antiplatelet-or-anticoagulant-therapy-including-direct-oral-anticoagulants/
- Dental surgery: Patients on anti-platelet drugs should continue them when having dental procedures unless otherwise instructed by dental surgeon
- Vascular surgery: Please refer to Trust Guideline 5200, *Pre-operative Vascular tests*

1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
Antiplatelet therapy	Aspirin, clopidogrel, dipyridamole, prasugrel, tricagrelor
STEMI	ST segment elevation myocardial infarction
NSTEMI	Non-ST-elevation myocardial infarction
TIA	Transient ischaemic attack
DAPT	Dual Antiplatelet Therapy
DES	Drug-eluting stent

2. Responsibilities

Dr C Sharpe, Consultant Anaesthetist, Ongoing Document Review
Dr R de Las Casas, Consultant Anaesthetist, Ongoing Document Review
Dr N Tate, Consultant Anaesthetist, Ongoing Document Review

3. Policy Principles/ Processes to be followed

3.1. Preoperative assessment

- Establish indication for antiplatelet therapy and which drug(s) patient is taking.
- Assess the haemorrhagic risk of the surgical procedure.

3.2. General comments

Antiplatelet agents

- Increasing numbers of patients are being prescribed antiplatelet agents with an expanding list of types of agent and indication.
- Historical series have shown that continuing aspirin perioperatively is associated with a low rate of bleeding. For most procedures it is safe to continue aspirin continuing perioperatively.
- Clopidogrel is a newer antiplatelet agent with less perioperative experience available for continuing this drug. Perioperative bleeding rates appear to be higher with clopidogrel compared to aspirin. For this reason it is usually advisable to discontinue preoperatively.

3.3. Regional anaesthesia

- **NB. Specific care must be taken if regional/epidural anaesthesia is planned**. The case must be discussed with the anaesthetist performing the anaesthetic and the trust guideline 'CA2031 Regional Anaesthesia Patients Venous Thromboprophylaxis with Anticoagulant and Antiplatelet Drugs Trustdocs ID 1193 should be consulted.

4. Related Documents

For patients on anticoagulation

See guideline CA2060 Trustdocs Id 1215 or click below
CA2060 Adults patients on therapeutic anticoagulation who require elective surgery or an invasive procedure

For patients having regional anaesthesia

See guideline CA2031 Trustdocs id 1193 or click below

CA2031 Regional Anaesthesia Patients Venous Thromboprophylaxis with Anticoagulant and Antiplatelet Drugs

5. References

Perioperative management of antithrombotic therapy: antithrombotic therapy and prevention of thrombosis, 9th ed: American College of Chest Physicians evidence – based Clinical Practice Guidelines. Chest 2012; 141: e326S-320S

6. Audit of the process

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
Compliance with the guidance	Audit of compliance, Datix forms, ORSOS data	Thrombosis and Thromboprohylaxis Committee. Departments: Surgery, Cardiology, Stroke Medicine, Haematology	Thrombosis and Thromboprohylaxis Committee	3 monthly
Cancellations due to non-compliance by patient / late notice to stop	Datix forms, ORSOS data	Thrombosis and Thromboprohylaxis Committee. Departments: Surgery, Cardiology, Stroke Medicine, Haematology	Thrombosis and Thromboprohylaxis Committee	3 monthly
Perioperative haemorrhagic or thrombotic complications in patients on antiplatelets	Datix forms, ORSOS data	Thrombosis and Thromboprohylaxis Committee. Departments: Surgery, Cardiology, Stroke Medicine, Haematology	Thrombosis and Thromboprohylaxis Committee	3 monthly
Late restarting of antiplatelets	Audit of compliance, Datix forms, ORSOS data	Thrombosis and Thromboprohylaxis Committee. Departments: Surgery, Cardiology, Stroke Medicine, Haematology	Thrombosis and Thromboprohylaxis Committee	3 monthly

Any audit should monitor rates of haemorrhagic or thrombotic complications. The audit results are to be discussed at relevant governance to review the results and recommendations for further action. Then sent to Thrombosis & Thromboprophylaxis Committee who will ensure that the actions and recommendations are suitable and sufficient.

Appendix 1: Management of adult patients on therapeutic anticoagulants or antiplatelet therapy undergoing CT guided nerve root injection or image-guided biopsy (soft tissue and bone)

If your patient is a high thrombotic risk (i.e. does not meet the criteria below) the following guidance does not apply and direct discussion with the relevant clinician is advised.

Standard thrombotic risk only* Can stop warfarin - does not need bridging LMWH
• VTE > 3 months previously • Single or recurrent VTE while not on anticoagulation • Atrial fibrillation with no previous stroke or TIA or systemic embolism of cardiac origin • Venous stent > one year

Medication	Day -4	Day -3	Day –2	Day-1	Day of procedure	Day +1	Day +2	Day + 3
Warfarin	Omit	Omit	Omit	Omit	Omit & check INR pre-procedure (<1.5)	Re-start at usual dose	Take usual dose	Arrange to have INR (warfarin check) at GP 3-5 days after re-starting warfarin
Aspirin 75 mg	Continue to take as normal							
Clopidogrel 75mg	Stop 7 days before procedure (including day of procedure); re-start day after procedure.							
DOAC: Dabigatran	Take as usual	Omit only if eGFR <50 ml/min/1.73m^2)	Omit	Omit	Omit	Omit	Omit	Restart DOAC at usual dose and time providing no complication or otherwise instructed.
All other Direct Oral anticoagulan	Take as usual	Take as usual	Omit	Omit	Omit	Omit	Omit	

t								Otherwise continue with dalteparin prophylaxis and delay restarting DOAC**

This protocol does not replace the need for thrombosis risk assessment (TRA). All patients should have a TRA on admission.

* Trust Guideline for the Management of Adult Patients on Therapeutic Anticoagulation who Require Elective Surgery or an Invasive Procedure
**See trust low molecular weight heparin dosing chart for prescribing guidance and dose modifications (ClickforClots intranet site)

7. Equality Impact Assessment (EIA)

Type of function or policy	Existing

Division	Surgical	**Department**	Anaesthetics
Name of person completing form	Authors	**Date**	March 2023

Equality Area	**Potential Negative Impact**	**Impact Positive Impact**	**Which groups are affected**	**Full Impact Assessment Required YES/NO**
Race	None		N/A	No
Pregnancy & Maternity	None		N/A	No
Disability	None		N/A	No
Religion and beliefs	None		N/A	No
Sex	None		N/A	No
Gender reassignment	None		N/A	No
Sexual Orientation	None		N/A	No
Age	None		N/A	No
Marriage & Civil Partnership	None		N/A	No
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?				

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.