Guideline Number &Full Title:	***1600 Clinical Guideline for Adult Gastrointestinal Endoscopy- The Management of Anticoagulation and Antiplatelet Therapy***
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Explicit definition of patient group to which it applies ***(e.g. inclusion and exclusion criteria, diagnosis):***	Adult patients taking Anticoagulation & Antiplatelet Therapy requiring gastrointestinal endoscopy procedures (exclusion; Children)
Changes from previous version ***(not applicable if this is a new guideline, enter below if extensive):***	Up-dated references Patients with coronary stents, with need for anticoagulation for other risk factor (for example AF), are at increased risk of stent thrombosis when anticoagulants are paused for endoscopy and they are on no antithrombotic medication at all. BSG (May 2024), recommend that all patients on anticoagulants alone with a history of prior coronary stents must either be switched to aspirin (provided there are no contraindications), or discussed with an interventional cardiology consultant first. Modern drug eluting coronary stents, there is now evidence for safely interrupting DAPT at 3 months (previously 6 months). In high risk procedure/high risk condition any coronary artery intervention in last 12 months-discuss management of anticoagulation/antiplatelets with interventional cardiologist Consent responsibility of referrer, with emphasis on thromboembolic risk vs bleeding risk in pausing anticoagulation and antiplatelet medication.
NICE guidance reference:	
Summary of evidence base this guideline has been created from:	BSG & ESGE Guidelines 2021 Update: Endoscopy in patients on antiplatelet or anticoagulation therapy including direct oral anticoagulants BSG Addendum 3rd June 2024Review of available literature (January/February 2024) Endoscopy in patients on antiplatelet or anticoagulant therapy: British Society of Gastroenterology (BSG) and European Society of Gastrointestinal Endoscopy (ESGE) guideline update (2021) Addendum to BSG/ESGE guidelines; endoscopy in patients on anticoagulation therapy guideline (May 2024).

	NUH Haematology Antiplatelet, Oral Vitamin K Antagonist and DOAC guidelines. Prospective management study. Local gastroenterology, haematology, cardiology, stroke and nephrologist expertise and best practise based on clinical experience.
This guideline has been registered with the trust. However, clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date or outside of the Trust.	

Introduction

This document aims to provide a guiding framework for the management of patients undergoing elective endoscopic procedures who are receiving either anticoagulant or antiplatelet therapy.

Management of anti-platelets and anticoagulants in emergency procedures and bleeding are addressed by other guideline documents found in the Haematology section for clinical guidelines on the hospital intranet.

The main issues are summarized within the documents produced by the European Society of Gastrointestinal Endoscopy[1] (ESGE) and the British Society of Gastroenterology (BSG) 2021 guidelines[1] and Nottingham University Hospital (NUH) guidelines for Antiplatelets, DOACS and Vitamin K Antagonist Therapy[4,5,6,7].

Guidelines encompassed by this document relate to:

1. Elective endoscopic procedures in the anticoagulated patient

2. Elective endoscopic procedures in the patient taking antiplatelet therapy

Anticoagulation refers primarily to warfarin and the direct oral anticoagulants (DOACs), though also low molecular weight heparin (LMWH) such as enoxaparin, and unfractionated heparin (UFH) therapy.

Antiplatelet therapy in this guideline refers to use of aspirin, dipyridamole, clopidogrel, ticagrelor and prasugrel though also includes use of other NSAIDs.

Endoscopy procedures vary in their risks of resultant significant or uncontrolled bleeding. The distinction of procedures between high and low-risk procedures therefore aids in identifying the necessary course of action. Furthermore, the probability of thromboembolic complication related to the interruption of anticoagulation or antiplatelet therapy depends on whether the pre-existing health condition of the patient is a high or low-risk condition.

The process of determining individual procedural or patient risk may not be always as simple as presented here. These are merely guidelines, and if there is clinical uncertainty then discussion with an experienced endoscopist, haematologist, cardiologist renal or stroke physician may be indicated.

Summary

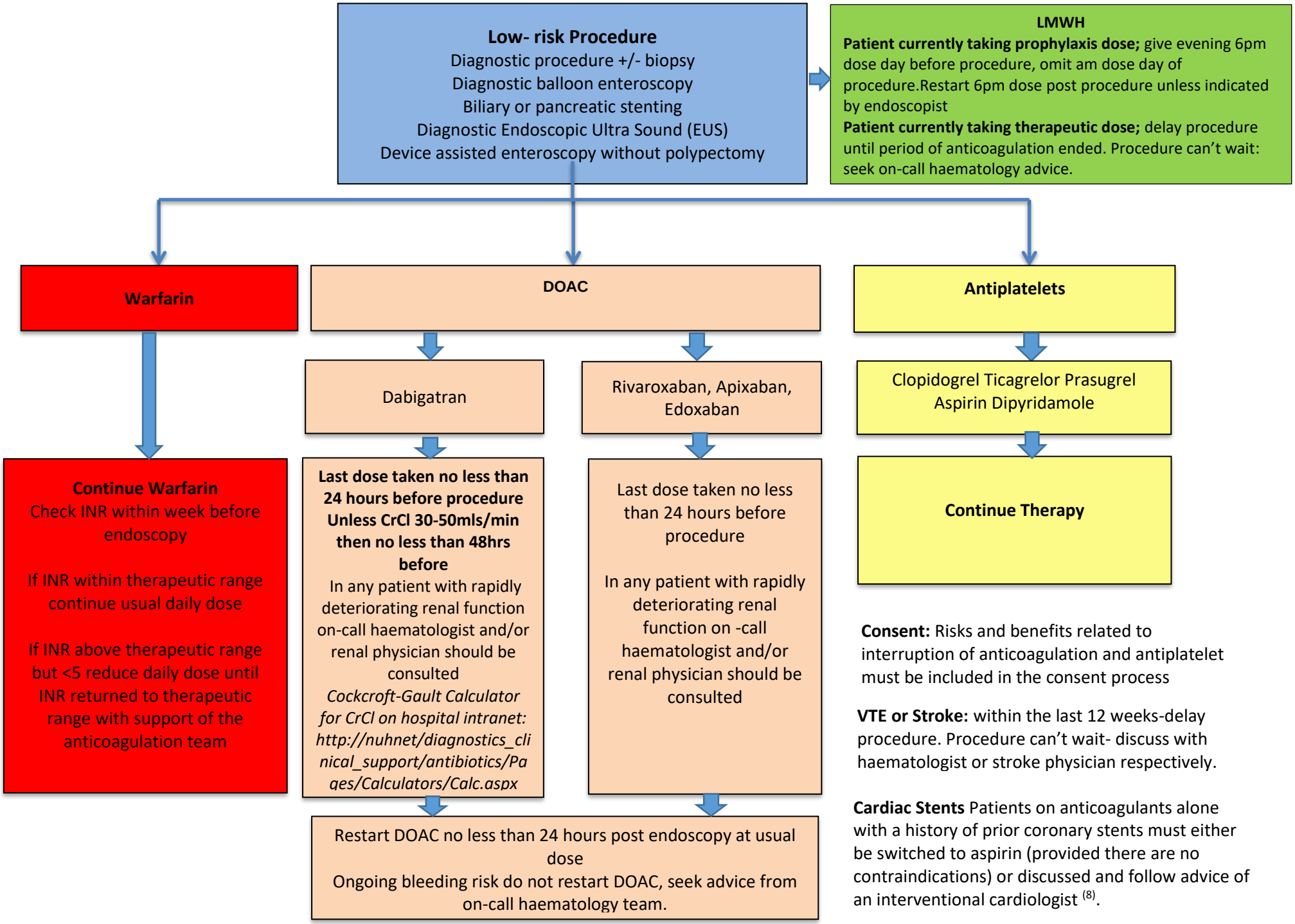
Aspirin, dipyridamole and other non-steroidal therapy can be continued within standard doses for all endoscopic procedures. Anti-platelet agents and warfarin therapy can be continued for all low-risk endoscopic procedures, though the INR should be checked one week prior to the procedure, if the patient takes warfarin. DOACS should be taken no less than 24 hours before diagnostic low risk endoscopy procedures.

The protocol for clopidogrel and other anti-platelet agents, DOACs and warfarin therapy, in high-risk endoscopic bleeding procedures, depends upon the underlying treated medical condition, thrombotic risk and perceived procedure bleeding risk. Pre and post management for interruption and re-introducing antiplatelet and anticoagulant therapy, including Warfarin, DOACs and advice on bridging therapy in such patients, is more complex and subsequently summarized in figures 2a and 2b. More detailed guidelines on the management of antiplatelet therapies, Vitamin K antagonists, bridging therapy and DOACs in elective procedures can be found on NUH intranet [6,7]. Complex or patients with specific thrombosis or bleeding risks should be discussed with a heamatologist.

The importance of risks and benefits related to interruption of anticoagulation or antiplatelet therapy cannot be over emphasized. The probability of thromboembolic events must be discussed by the referring clinician with the patient and included in the consent process, before generating a referral for endoscopy procedures. The discussion should be clearly documented with any specialist advice in the patient record and endoscopy referral.

The guidelines are summarised by Figures 1, 2a and 2b.

Fig 1: Summary of guidelines for the management of anti-coagulant or anti-platelet therapy in low risk endoscopic procedures (adapted from ESG/BSG 2021



Consent: Risks and benefits related to interruption of anticoagulation and antiplatelet must be included in the consent process

VTE or Stroke: within the last 12 weeks-delay procedure. Procedure can't wait- discuss with haematologist or stroke physician respectively.

Cardiac Stents Patients on anticoagulants alone with a history of prior coronary stents must either be switched to aspirin (provided there are no contraindications) or discussed and follow advice of an interventional cardiologist [8].

Figure 2a: Summary of guidelines for the management DOACs or anti-platelet therapy in high risk endoscopic procedures

Consent: risks and benefits related to interruption of anticoagulation and antiplatelet must be included in the consent process

VTE or stroke within the last 12 weeks-delay procedure. Procedure can't wait- discuss with haematologist or stroke physician respectively.

Cardiac Stents Patients on anticoagulants alone with a history of prior coronary stents must either be switched to aspirin (provided there are no contraindications) or discussed and follow advice of an interventional cardiologist [8].

High-risk Procedure

Polypectomy
Ampullectomy
Dilation of strictures
PEG
ERCP with sphincterotomy
EMR/ESD
Therapy of varices
EUS with FNA
Oesophageal/enteral/ colonic stenting
Argon plasma coagulation (APC)
Radio frequency ablation (RFA)

DOAC

Dabigatran
Last dose to be taken no less than 48 hours before procedure
Unless CrCl 30-50ml/min then take last dose of drug 96 hours before
In any patient with rapidly deteriorating renal function on - call haematologist and/or renal physician should be consulted
Cockcroft-Gaul Calculator for CrCl on hospital intranet at: http://nuhnet/diagnostics_clinical_support/antibiotics/Pages/Calculators/Calc.aspx

Rivaroxaban, Apixaban, Edoxaban

Take last dose of drug no less than 48 hours before procedure

In any patient with rapidly deteriorating renal function on - call haematologist and/or renal physician should be consulted

Restart DOACS no less than 48 hours post procedure at usual dose.

Ongoing bleeding do not restart DOAC, seek advice from on-call haematology team.

Antiplatelet
Clopidogrel, Ticagrelor, Prasugrel

Low-risk condition
Ischaemic heart disease without coronary stent
Cerebrovascular disease
Peripheral vascular disease

Stop Clopidogrel Ticagrelor, Prasugrel
7 days before endoscopy.
Continue aspirin if already prescribed

High-risk condition
Coronary artery intervention within last 12 months

Liaise with cardiologist
Consider stopping Clopidogrel , Ticagrelor or Prasugrel 7 days before endoscopy if;
>6 months after insertion of drug-eluting coronary stent.
Seek cardiology advice for any patient within 3-12 months of coronary stent insertion if they remain on Dual antiplatelet therapy (DAPT)
Continue aspirin

Restart Clopidogrel Ticagrelor, Prasugrel within 24 hours post endoscopy

*Aspirin & Dipyridamole should be continued in all patients if already prescribed

Figure 2b:Summary of guidelines for the management of Vitamin K antagonists (Warfarin) and LMWH (Enoxaparin) for high risk endoscopy procedure.

High-risk Procedure

Polypectomy	ERCP with sphincterotomy
Ampullectomy	EMR/ESD
Dilation of strictures	Therapy of varices
PEG	EUS with FNA

Oesophageal/enteral/ colonic stenting
Argon plasma coagulation (APC)
Radio frequency ablation (RFA)

Low Risk Condition

Tissue heart valves or repair without AF or other risk factors for stroke
AF without valvular heart disease or other risk factors
> 3months after VTE with no other risk factors

Stop warfarin 5 days before endoscopy
Check INR day before is (<1.5)

Post endoscopy:
Unless risk of ongoing bleeding
Restart warfarin evening of procedure

Check INR within 7 days to ensure adequate

LMWH

Patient currently prescribed prophylaxis dose; give evening 6pm dose day before procedure, omit am dose day of procedure. Restart the following day post procedure, unless indicated by endoscopist

Patient current prescribed therapeutic dose; delay procedure until period of anticoagulation ended. Procedure can't wait: seek on-call haematology advice.

If patient is to remain NBM post procedure continue with LMWH until oral treatment can be resumed. In renal function deterioration Enoxaparin dose should be adjusted accordingly

Consent The importance of risks and benefits related to interruption of anticoagulation and antiplatelet must be included in the consent process

High Risk Condition

Prosthetic metal heart valves
All heart valves + one other risk factor; AF, hx stroke/TIA, HTN >140/90, diabetes, CCF, >75 yr
VTE within last 3 months
Multiple VTE events
VTE + antiphospholipid syndrome
VTE + pulmonary hypertension
VTE + active cancer treated < 6 months or palliative
VTE + Target INR 3-4
AF + mitral stenosis
AF + <3 months after stroke/TIA
AF + previous stroke/TIA plus 3 other risk factors: CCF, HTN, >75 years, diabetes.
Antithrombophillia deficiency or multiple thromophillia abnormalities

Stop warfarin 5 days before endoscopy

Start LMWH 3 days before endoscopy

Stop LMWH no less than 24hours before procedure

Check INR day before procedure (<1.5)

Post endoscopy
Unless risk of ongoing bleeding **restart Warfarin day after procedure** with usual daily dose re-check INR 2 days later

Restart Enoxaparin day after procedure and continue until INR achieves adequate anticoagulation with supervision of anticoag team

Cautions

VTE or stroke within the last 3 months-delay procedure. Procedure can't wait- discuss with haematologist/stroke physician respectively

Discuss with on-call Haematologist if:
VTE + antiphospholipid syndrome.
Antithrombin deficiency
Multiple thrombophilia abnormalities
Unable to receive LMWH or previous heparin induced thrombocytopenia.

Discuss with on-call Cardiac Surgeon if:
Previous metal heart valve thrombosis
Metal heart valve and CrCl <30ml/min
Previous Cardiac Stents

Ensure patient not started on any medication that could interact with Vit K antagonist

High-risk group: referrer to provide patient prescription 10 day Enoxaparin supply (bridging dose assuming normal renal function & platelet count) mechanical heart valves, antiphospholipid syndrome +VTE and antithrombin deficiency+VTE; Enoxaparin 1mg/kg twice daily.
All other indications 1.5mg/kg once daily. Patients with low renal function discuss with renal physician/haematologist before considering bridging therapy.
Endoscopy admin team email: relevant documents to anticoagulation team at: anticoagulationappointments@nuh.nhs.uk or patients GP (team arranging Warfarin dosing) (See pg9 below for admin processes)

1. Elective endoscopic procedures in the warfarin / anticoagulated patient

It is imperative that the **endoscopy request is completed correctly** to ensure that the patient is appropriately and safely managed.

If the patient is receiving short-term anticoagulation, then consideration should be given to whether the procedure can be delayed until the period of anticoagulation has ended. Stopping anticoagulation in the first month after an acute episode of venous thromboembolism (VTE) is associated with the highest risk of further VTE.[1,5]

Concern has been raised that many clinicians increasingly stop all antiplatelets in patients with prior coronary stents when there is a need for long-term anticoagulation for other reasons (e.g. AF), as per the current European Society of Cardiology guidelines. These patients will be at an increased risk of stent thrombosis when anticoagulants are stopped and they are on no antithrombotic medication at all.

BSG ''recommend that all patients on anticoagulants alone with a history of prior coronary stents must either be switched to aspirin (provided there are no contraindications) or discussed and follow advice of an interventional cardiologist. When switching to aspirin patients should be loaded with 300mg the day prior to anticoagulant cessation and prescribed 75mg daily thereafter. Patients should remain on aspirin until they are re-established on anticoagulants and within therapeutic range, after which the aspirin can be stopped''(BSG 2024)[8].

LMWH prophylaxis dose; LMWH is usually prescribed at 6pm, so the patient should have last dose no later than 6pm the night before the procedure. Post procedure continue LMWH from 6pm that evening. Unless high risk procedure; then restart the following day unless otherwise indicated by the endoscopist.

LMWH treatment dose; assessment of the thromboembolic risk vs bleeding risk and urgency of need for the procedure requires careful consideration, ideally the procedure should be delayed until treatment is complete. If the procedure cannot wait and the patient is taking therapeutic LMWH for recent VTE for example, advice should be sort from the haematology team to be able to facilitate endoscopy.

DOAC guidance included within this guideline is consistent with NUH DOAC guidelines and The Pause Trial[4,5.]

Low-risk procedures

i. Warfarin should be continued and the INR checked within a week pre procedure.

ii. DOACs should be omitted in the morning of procedure (last dose no later than 24 hours before the time of the procedure with normal renal function).

iii. For patients on Dabigatran with a creatinine clearance estimated CrCl of <50mL/min, the last dose should be taken no later than 48 hours prior to procedure.

In any patient with rapidly deteriorating renal function on -call haematologist and/or renal physician should be consulted

High-risk procedure

DOACs

Normal renal function:

The patient should stop taking DOACs no later than 48 hours before the procedure.

Abnormal renal function:

For patients on Dabigatran with a creatinine clearance estimated CrCl of <50mL/min, the last dose should be no later than 96 hours prior to procedure

However, for any patient with rapidly deteriorating renal function, a haematologist and/or renal physician should be consulted.

Warfarin

Low risk condition
The endoscopy department will send an identical procedural form with the date of the procedure to the anticoagulation department. The patient will be sent a letter by endoscopy administration team asking the patient to temporarily stop their warfarin 5 days pre procedure. The INR is to be confirmed as <1.5 the day before, or early on the day of the procedure. Warfarin should be restarted on the evening of the procedure at the patient's usual dose unless indicated otherwise by the endoscopist. The anticoagulation teams will arrange for the INR to be re-checked one week later.

High-risk condition
First discuss management with a consultant gastroenterologist or surgeon to ensure that the procedure is essential. The endoscopy department will send an identical procedural form with the date of the procedure to the anticoagulation department.

The patient will temporarily stop their warfarin 5 days pre procedure. A therapeutic daily dose of enoxaparin will be commenced two days after stopping the warfarin. The referring clinician will arrange the enoxaparin prescription, and the endoscopy department will educate the patients on its administration and use.

Patients will be routinely prescribed a supply of 10 days of Enoxaparin; mechanical heart valve patients, Antiphospholipid syndrome+VTE and Antithrombin deficiency+VTE, will receive 1 mg/kg of enoxaparin twice daily, all other patients will receive 1.5 mg/kg of enoxaparin once daily.

The enoxaparin should be omitted on the day of the procedure. Warfarin can be restarted at the usual daily dose on the day after the procedure, unless indicated by the endoscopy in the event of continued bleeding. Enoxaparin should restart the day after the procedure and continue until the INR is satisfactory. The anticoagulation team will check the INR on day 2 post procedure and arrange further enoxaparin if required. Patients should be advised that there is an increased risk of post-procedure bleeding as compared with non-anticoagulated patients. In order to allow safe monitoring of the INR post-procedure, ideally high-risk procedures in high-risk patients should be given consideration and performed on within normal working hours 8am-6pm. Please note; any patients unable to receive LMWH or previous heparin induced thrombocytopenia require discussion with on-call haematologist before alteration to anticoagulant medications.

2. Elective endoscopic procedures in the patient taking antiplatelet therapy

a. Low-risk procedures

Antiplatelet therapy including Aspirin, Dipyridamole and Clopidogrel/ Ticagrelor/ Prasugrel should be continued as per normal pre and post-endoscopy.

b. High-risk procedure

i. Low-risk condition

Clopidogrel Prasugrel or Ticagrelor to be stopped 7 days pre-procedure. If the patient is on aspirin, this should be continued. If not, then consideration should be given to prescribing aspirin while clopidogrel is stopped.

ii. High-risk condition

First discuss management;

- with consultant gastroenterologist, endoscopist or surgeon to ensure that the procedure is essential
- then discuss management with interventional cardiologists.

Consider stopping the clopidogrel, Prasugrel or Ticagrelor 7 days pre procedure, if more than 3 months after insertion of drug-eluting stent. The cardiology team (preferably the interventionists who performed the percutaneous intervention) can advise accordingly.

For any patient within 3-12 months of coronary stent insertion if they remain of dual antiplatelet therapy (DAPT) follow management advice given by cardiologist

Aspirin and Dipyridamole should be continued in all instances and Clopidogrel/ Ticagrelor/ Prasugrel restarted on the day following the procedure.

3. Consent

In all patients, the risks of procedural bleeding versus probability thromboembolic events when considering continuing or interrupting anticoagulation or antiplatelet therapies, must be carefully discussed with the patient at the point of choosing an endoscopy procedure as route of investigation or therapeutic intervention, before generating a referral. It is important this is clearly documented in the patient record as part of the consent process.

References

1. Endoscopy in patients on antiplatelet or anticoagulant therapy: British Society of Gastroenterology (BSG) and European Society of Gastrointestinal Endoscopy (ESGE) guideline update (2021) found @ www.bsg.org.uk

2. Douketis JD, et al. Perioperative Management of Patients with Atrial Fibrillation Receiving a Direct Oral Anticoagulant. JAMA Intern Med, 2019;179 (11): 1469-1478.

3. Kearon C, Hirsh J. Management of anticoagulation before and after elective surgery. *N Engl J Med* 1997; **336**(21): 1506-11.

4. Sachin J, Subramanian G. Guidelines for patients on antiplatelet agents undergoing elective, non-cardiac surgical intervention (2023) found @ NUH intranet

5.Swallow G; Johnson N.. Guideline for Patients on antiplatelet agents undergoing Elective, Non Cardiac, Surgical Intervention. Nottingham University Hospitals Trust (NUH) (2017) found @ NUH intranet

6. Swallow G et al. Guidelines for the Management of Adult Patients taking Direct Oral Anticoagulants (DOACs) who require elective, non-cardiac, non-neurosurgical procedures. Nottingham University Hospitals Trust (NUH), (2020) ; found @ NUH intranet.

7. Swallow G, Johnstone N, Grimley C, Szafranek A. Guidelines for Adult Patients taking Oral Vitamin K Antagonist Therapy Undergoing planned, Non-cardiac, Non neurosurgical Interventional. Nottingham University Hospitals (NUH) ,June 2018, found @ NUH intranet.

8. Addendum to BSG/ESGE Endoscopy in patients on antiplatelet and anticoagulant therapy guideline 2024 www.bsg.org.uk

Summary of the administration process and responsibilities for arranging adult gastrointestinal endoscopy in patients taking anticoagulants or anti-platelet therapy

Clinician requesting endoscopy procedure:
Read and understands the guidelines

The probability of thromboembolic complication related to the interruption of anticoagulation or antiplatelet therapy vs procedure bleeding risk assessed and discussed with the patient. Discussion documented in the patient record as part of patient consent process and included in endoscopy referral.

If high risk condition +high risk procedure and patient taking Warfarin:
Stop Warfarin 5 days before endoscopy and start Enoxaparin 3 days before endoscopy. Provide the patient with a prescription for 10-day supply of Enoxaparin; mechanical heart valves, antiphospholipid syndrome +VTE and Antithrombin deficiency +VTE Enoxaparin 1mg/kg twice daily, all other indications 1.5mg/kg once daily. Advise the patient that the endoscopy administration team will arrange an appointment date and give directions when to stop Warfarin and start Enoxaparin

Endoscopy vetting, administration and nursing team
Vetting Endoscopist: review referral
Endoscopy administration: arrange appointment date and inserts corresponding instruction patient anticoagulant/antiplatelet letter into patient information pack, after double check with second checker as below

Warfarin
a Low risk procedure; continue with Warfarin, patient to have INR checked within one week prior to the procedure.
b High risk procedure + Low risk condition; Stop Warfarin 5 days before endoscopy. INR to be checked on the day before or early on the day of the procedure
c High risk procedure + High risk condition; Stop Warfarin 5 days before endoscopy and start Enoxaparin 3 days before endoscopy.
Most patients will have self- administered LMWH/Enoxaparin previously, in the event this is not the case patient will need pre assessment and self-administration guidance by endoscopy nursing team. Alternatively a relative can be taught to give the LMWH/Enoxaparin. Check the patient received a prescription for 10 days of Enoxaparin from referring clinician.

Endoscopy administration team: email a copy of the completed endoscopy referral with date of the patients procedure to the anticoagulation team, with a copy of the patient Warfarin instruction letter (b and c high risk procedures) to: anticoagulationappointments@nuh.nhs.uk or GP practice (whichever team usually arrange patients dosing of Warfarin).

DOACs
d Low risk procedure; take last dose no later than 24 hours of the time of the endoscopy, unless directed otherwise
e High risk procedure; take the last dose no later than 48hours before the procedure unless, unless directed otherwise
If the patient is on Dabigatran ask vetting clinician to check patient letter in accordance with guideline

Antiplatelets
***f* Low risk procedure**; continue with Clopidogrel/Ticagrelor/Prasugrel
***g* High risk procedure + Low risk condition**; (no coronary artery stent), stop Clopidogrel/Ticagrelor/Prasugrel 7 days before and consider starting Aspirin.
h High risk procedure + High risk condition; (coronary artery stents), Discuss with Cardiologist before considering stopping 7 days Clopidogrel /Ticagrelor/Prasugrel. Continue with Aspirin

Anticoagulation Team
Patients usually taking Warfarin
b. High risk procedure + Low risk condition; patient has INR checked 1 week post endoscopy. The anticoagulation team contact the patient once INR checked to advise re further dosing of Warfarin.
c High risk procedure + High risk condition; 2 days post endoscopy patient has INR checked. The anticoagulation team contact the patient once INR checked to advise re further dosing of Warfarin and continuation or stopping of Enoxaparin.

Patient Letter/Information

Low Risk patient on Warfarin: Low risk procedure

(Continue with Warfarin; Patient Letter a)

Nottingham University Hospitals NHS
NHS Trust

Patient details

Date

Dear patient

Instructions about your <u>WARFARIN</u> before your endoscopy

You have been booked for an endoscopy procedure whilst you are taking warfarin. Current evidence tells us that the risk of having a bleed following the endoscopy procedure that you are booked for is low.

As a result, **<u>please continue with your Warfarin medication</u>** and have your blood test to check your INR (clotting) 1 week before the date of your endoscopy.

If your INR is above the recommended range, please contact your anticoagulation team for further advice with regards to reducing your warfarin medication.

These instructions have been inserted into your endoscopy information package by the endoscopy staff following directions given by the clinician responsible for your care.

If you have any queries about these instructions do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information package.

Patient Letters/Information

Low risk patient on Warfarin: High risk procedure

(Stop Warfarin 5 days before endoscopy; Patient Letter b)

Nottingham University Hospitals NHS
NHS Trust

Patient details

Date

Dear Patient

Instructions about your <u>WARFARIN</u> before your endoscopy

You have been booked for an endoscopy procedure whilst you are taking warfarin. If you were to continue taking the warfarin prior to the procedure there would be a high risk of bleeding. Current evidence tells us that the risks of you temporarily stopping the warfarin and forming a clot are lower than the risks of you having a bleed from continuing the warfarin around the time of the endoscopy. There does still however remain a small chance that you may develop one of these complications, though the clinician booking the endoscopy will have assessed this risk. They may advise you to take Aspirin whilst your Warfarin is stopped.

If you have **cardiac stents** and taking Warfarin please contact endoscopy for further advice before stopping your Warfarin.

Then:

<u>Please stop your Warfarin medication five days before your procedure and have your blood test to check your INR (clotting) 1 day before the date of your endoscopy.</u>

After your endoscopy procedure you should restart your Warfarin at your usual dose, unless the endoscopy nursing staff indicate otherwise. You should have your INR checked one week later and contact your anticoagulation team to have your Warfarin re dosed.

These instructions have been inserted into your endoscopy information package by the endoscopy staff following directions given by the clinician responsible for your care.

If you have any queries about these instructions do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information package.

Patient Letters/Information

High risk patient on Warfarin: High risk procedure

(Stop Warfarin 5 days before endoscopy for LMMH; Patient Letter c)

Nottingham University Hospitals NHS
NHS Trust

Patients Details (Name, DOB and Hospital Number)

Dear Patient

Instructions about your WARFARIN before your endoscopy test

You have been booked for an endoscopy procedure whilst you are taking warfarin. If you were to continue taking the warfarin prior to the procedure there would be a high risk of bleeding. If the warfarin was stopped and no alternative anticoagulant started then you would be at a high risk of your body forming a clot. Current evidence tells us that stopping the warfarin and starting another anticoagulant called Enoxaparin is the best approach to reduce your chances of bleeding or forming a clot. There still does remain a small chance that you may develop one of these complications. The Enoxaparin is given as injections under the skin. The anticoagulation team are aware of this future change in your warfarin. These changes have been decided by the doctor or nurse booking the endoscopy, and will be explained to you in more detail when you meet the endoscopy nurses.

You will receive full instructions about when to stop your warfarin, when to start Enoxaparin injections and how to give these injections. You may have already received these instructions, if not then you will need an appointment one week before the date of your endoscopy test with our endoscopy nursing staff. They will explain to you about Enoxaparin injections and teach you to give the simple injections yourself. If you feel you are unable to give your own injections you can ask a family member or friend do to this for you. They will however need to meet with the endoscopy nurses for training. You should have been given a prescription by the clinician who has ordered your endoscopy test for the Enoxaparin injections, if you have not received a prescription please make the endoscopy nursing staff aware.

At your appointment with the nurses you will be given a sharps bin to safely dispose of the injection syringes. You will continue with the Enoxaparin injections after the endoscopy procedure until your bloods test results for your clotting (INR) are satisfactory. The anticoagulation team will advise you of this. Once you have stopped your injections you will need to bring the sharps bin and any unused Enoxaparin injections back to the endoscopy centre or your GP practice for disposal. If you have any queries about these instructions, or if you have not yet had an appointment to see the endoscopy nurse, please do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information folder.

5 days before the date of your endoscopy test -Please stop taking your Warfarin.
3 days before your endoscopy test-Please start your Enoxaparin injections.
On the day of your endoscopy test-Do not have your Enoxaparin injection.
After your procedure you should restart your usual daily dose of Warfarin the next day after your procedure.

The day after your endoscopy test-You should continue with your usual dose of Warfarin and your Enoxaparin injections as directed.

3 days after your endoscopy test-You should continue with your usual dose of Warfarin and continue your Enoxaparin injections. You should also have your blood tests checked for INR (clotting) so your Warfarin can be dosed correctly. The anticoagulation team will contact you and advise you on your Warfarin and Enoxaparin. Alternatively you can telephone them between 4pm-6.30pm Monday to Friday on: 0115 9194413.

Dear Anticoagulation Team (admin email letter to: anticoagulationappointments.nuh.nhs.uk) (ext 76005) or identified primary care team managing anticoagulation

Your patient has an appointment for an endoscopy procedure on ……..20.....

He/she has been given 10 days of Enoxaparin s/c injections dosed at:

- **1mg per kg twice daily for prosthetic heart valve patients, Antiphospholipid syndrome+VTE and Antithrombin deficiency+VTE**
- **OR 1.5mg per kg once daily for all other patients**

  The patient's current weight is……kg

Patient Letters/Information
Patients on DOACS: Low risk procedure
(Stop DOACs at least 24 hours before procedure; patient letter d)

Nottingham University Hospitals NHS
NHS Trust

PatientsDetails

(Name, DOB and Hospital Number)

Dear Patient

Instructions about your RIVOROXABAN/ DABIGATRAN/ APIXABAN/EDOXABAN before your endoscopy

You have been booked for an endoscopy procedure whilst you are taking either RIVOROXABAN/ DABIGATRAN/ APIXABAN/ EDOXABAN, an anticoagulant. Current evidence tells us that the risks of you temporarily stopping the RIVOROXABAN/ DABIGATRAN/ APIXABAN/ EDOXABAN and forming a clot are lower than the risks of you having a bleed from continuing this drug around the time of the endoscopy. There does still however remain a small chance that you may develop one of these complications, though the clinician booking the endoscopy will have assessed this risk.

So as a result:

If you have **cardiac stents** and taking **RIVOROXABAN, DABIGATRAN, APIXABAN or EDOXABAN** please contact endoscopy for further advice before stopping any of these medications.

Otherwise;

If you take RIVOROXABAN, APIXABAN, EDOXABAN please take your last dose:
no later than 24hours before the time of your endoscopy test

If you take DABIGATRAN please take your last dose:
no later than 24 hours before the time of your endoscopy test
no later than 48 hours (two days) before the time of your endoscopy test

After your endoscopy, you should restart your usual daily dose of RIVOROXABAN/ DABIGATRAN/ APIXABAN/ EDOXABAN the day after your endoscopy, unless directed otherwise by your endoscopist.

These instructions have been inserted into your endoscopy information package by the endoscopy staff following directions given by the doctor responsible for your care.

If you have any queries about these instructions do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information package.

Patient Letters/Information
Patients on DOACS: High risk procedure
(**Stop DOACS no less than 48hours before procedure: patient letter e)**

Nottingham University Hospitals NHS
NHS Trust

PatientsDetails

(Name, DOB and Hospital Number)

Dear Patient

Instructions about your RIVOROXABAN/ DABIGATRAN/ APIXABAN/EDOXABAN before your endoscopy

You have been booked for an endoscopy procedure whilst you are taking either RIVOROXABAN/ DABIGATRAN/ APIXABAN/ EDOXABAN, an anticoagulant. Current evidence tells us that the risks of you temporarily stopping the RIVOROXABAN/ DABIGATRAN/ APIXABAN/ EDOXABAN and forming a clot are lower than the risks of you having a bleed from continuing this drug around the time of the endoscopy.

There does still however remain a small chance that you may develop one of these complications, though the clinician booking the endoscopy will have assessed this risk.

So as a result:

If you have **cardiac stents** and taking **RIVOROXABAN, DABIGATRAN, APIXABAN or EDOXABAN** please contact endoscopy for further advice before stopping any of these medications.

Otherwise:

If you take RIVOROXABAN, APIXABAN or EDOXABAN please take your last dose:
no later than 48hours (two days) before the time of your endoscopy test

If you take DABIGATRAN please take your last dose:
no later than 48 hours (two days), before the time of your endoscopy test
no later than 96 hours, (four days), before the time of your endoscopy test

After your endoscopy, you will be given advice by the endoscopist when you should restart your usual daily dose of RIVOROXABAN, DABIGATRAN, APIXABAN or EDOXABAN.

These instructions have been inserted into your endoscopy information package by the endoscopy staff following directions given by the doctor responsible for your care.

If you have any queries about these instructions do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information package.

Patient Letters/Information
Patients on antiplatelets: Low risk procedure
(Continue with antiplatelet; Patient Letter f)

PatientsDetails

Nottingham University Hospitals NHS
NHS Trust

(Name, DOB and Hospital Number)

Dear Patient

Instructions about your CLOPIDOGREL/ TICAGRELOR/ PRASUGREL before your endoscopy

You have been booked for an endoscopy procedure whilst you are taking either Clopidogrel/ Ticagrelor/ Prasugrel, an antiplatelet drug. Current evidence tells us that the risk of having a bleed following the endoscopy procedure that you are booked for is low.

The clinician booking the endoscopy will have assessed this risk. So as a result:

Please continue taking your Clopidogrel/ Ticagrelor/ Prasugrel medication as usual before and after the date of your endoscopy test.

You should continue to take your Aspirin or Dipyridamole if you usually take this.

These instructions have been inserted into your endoscopy information package by the endoscopy staff following directions given by the doctor responsible for your care.

If you have any queries about these instructions do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information package.

Patient Letters/Information
Patients on anti-platelets: High risk procedures
(Stop antiplatelets before endoscopy; Patient Letter g)

Nottingham University Hospitals NHS
NHS Trust

PatientsDetails

(Name, DOB and Hospital Number)

Dear Patient

Instructions about your CLOPIDOGREL/ TICAGRELOR/ PRASUGREL before your endoscopy

You have been booked for an endoscopy procedure whilst you are taking Clopidogrel/ Ticagrelor/ Prasugrel, an antiplatelet drug. If you were to continue taking one of these drugs prior to the procedure there would be a higher risk of bleeding. Current evidence tells us that the risks of you temporarily stopping the Clopidogrel/ Ticagrelor/ Prasugrel and forming a clot are lower than the risks of you having a bleed from continuing the Clopidogrel/ Ticagrelor/ Prasugrel around the time of the endoscopy.

There does still however remain a small chance that you may develop one of these complications, though the clinician booking the endoscopy will have assessed this risk. So as a result:

If you are taking Clopidogrel, Ticagrelor or Prasurgrel: please stop taking this medication no later than 7 days before the date of your endoscopy test.

You should continue to take Aspirin or Dipyridamole if you usually take this.
You maybe have been advised by the referring clinician, to start take Aspirin whilst your Clopidogrel, Ticagrelor or Prasurgrel is stopped.

After your endoscopy, you should restart your usual daily dose of Clopidogrel/ Ticagrelor/ Prasugrel the day after your endoscopy. If you had been advised to start taking Aspirin whilst your Clopidogrel/ Ticagrelor/ Prasugrel was stopped, you need to stop the Aspirin medication.

These instructions have been inserted into your endoscopy information package by the endoscopy staff following directions given by the doctor responsible for your care.

If you have any queries about these instructions do not hesitate to contact the Endoscopy Centre on the telephone number in the front of your endoscopy information package.