Flying and Elective Surgery VTE Risk guideline

Key Document code:	WAHT-KD-017	
Key Documents Owner:	Dr Rachael Dolan	Clinical Lead for Pre-Op Assessment
Approved by:	Theatres Governance Committee	
Date of Approval:	19th August 2026	
Date of review: **This is the most current version and should be used until a revised document is in place**	19th August 2029	

Key Amendment

Date	Amendment	Approved by
21st January 2019	Inclusion of advice for edoxaban. Additional information for the management of medicines for diabetes	Medicines Safety Committee
25th June 2020	Document extended for 6 months during COVID-19 period.	QGC
4th January 2021	Pre-operative assessment Key Documents approved for 3 years	Pre-op Directorate Governance Meeting
27th April 2022	Document re-written and approved	Pre-op Assessment Governance, Trust Thrombosis Committee, SCSD Governance
27th December 2023	Extended document for 6 months whilst under review. Updated owner details.	Dr Harsha Mistry
12th November 2024	Document extended for 12 months whilst awaiting National Guidelines to inform if changes are required	Dr Harsha Mistry
25th July 2026	Guidelines reviewed and in keeping with National Guidance	Dr Rachael Dolan

Introduction

Prolonged flights (over 4 hours) are known to slightly increase a patient's risk of developing venous thromboembolism (VTE). When surgery is combined with recent prolonged flying the risk of VTE is further increased. A VTE may be attributable to prolonged flying even up to 8 weeks following the journey. This guideline aims to clarify timing of flights both before and after elective surgery.

This guideline applies to patients who are having elective surgery under general or spinal anaesthetic. Patients undergoing minor procedures under local anaesthetic, who are able to mobilise immediately are excluded from this guideline.

This guideline is for use by the following staff groups:

All qualified healthcare professionals involved in the perioperative care of patients undergoing surgery.

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Lead Clinician(s)

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ELECTIVE SURGERY AND TRAVEL

Introduction

Flights for longer than 4 hours and undergoing surgery are both risk factors for development of VTE. Studies have shown that 0.3% of subjects have developed symptomatic VTE after an 8 hour flight.
The risk is caused by:

- Prolonged immobilisation
- Dehydration
- Low cabin humidity and hypoxia
- Cramped sitting position

This guideline has been produced to help healthcare professionals counsel patients who wish to fly peri-operatively. It is important to follow the guidance below to help minimise the risk of VTE which can have serious consequences.

It must also be remembered that the risk of moderate length flights (4-8 hours) may be increased if there is significant land travel (coach, car or train) before or after the flight leading to a prolonged period of immobility.

Minor operations are unlikely to increase the risk of VTE such that patients with recent or upcoming travel should be not be considered at increased risk, **therefore this guideline is for patients who have elective surgery which meets one of the following criteria:**

- Major / intermediate surgery with anaesthetic and surgical time of 60 minutes or more
- Operations that lead to significant immobility (including upper limb immobility)
- Patients with known active malignancy
- Operations that cause vascular disruption, including the use of tourniquet

Details of the Guideline

1. Scheduling Elective Surgery after Flying.

This guideline advises on elective surgery, i.e. surgery which can be timed to suit the patient and the hospital. For expedited or urgent surgical cases the decision about whether to proceed will be a judgement of the risks and benefits and will require discussion with the clinicans involved.

When scheduling elective surgery, information about prolonged flights should be sought as part of the pre-operative assessment. Where a patient is due to fly for over 4 hours, completely elective surgery (which meets the criteria above) should be scheduled for at least 4 weeks after the journey is completed.

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This is because the risk of travel related VTE is reduced by 4 weeks. In some circumstances (i.e. patients on 2 week wait pathways) it may be felt that the benefits of earlier surgery outweigh the risks and the patients should be counselled and given appropriate VTE prophylaxis. Patients at high risk of VTE can be identified with the assistance of table 2. If a patient is on a 2 week wait then a shorter period could be acceptable, i.e. 2 weeks.

2. Flying after Surgery

The table below gives guidance on how to advise patients who are planning to take a flight of greater than 4 hours following surgery (which fulfils criteria above).

Quick reference table

Time between operation and flight	VTE risk category	Advice
Within 4 weeks of intermediate / major surgery Within 12 weeks of major lower limb orthopaedic surgery	Risk of thromboembolism is likely to be increased by cumulative risks of surgery and flight	Ideally postpone flight if possible. If flight cannot be postponed patient should be given advice on VTE prevention as per NICE. Patient should inform travel insurance company of surgery.
4-8 weeks post-surgery	Risk of thromboembolism is slightly increased	Consider VTE prevention as per NICE guidance.
> 8 weeks post surgery or > 3 months post major orthopaedic surgery	Risk of thromboembolism should have returned to baseline	General Advice (See below) as required

Patients taking flights for longer than 4 hours in the 4 weeks following surgery meeting criteria above have an increased risk of developing VTE. Patients flying from 4-8 weeks following surgery could still have a slightly increased risk of venous thromboembolism. It is therefore recommended that patients do not undertake flights (**of more than 4 hours**) for at least 4 weeks, and preferably 8 weeks following surgery (which meets the criteria given above). If patients do choose to fly in this time they should follow DVT prevention advice as per NICE guideline.

For patients who have undergone moderate – major lower limb surgery (i.e. hip / knee replacement) prolonged flights should be delayed for more than 12 weeks after surgery due to the increased risks of venous thromboembolism.

Patients must be advised to inform their airline, insurance company and GP if they plan to fly within these recommended time periods. They should also be counselled about reducing their risk of VTE in line with the 2013 NICE guidance *DVT Prevention for Travellers* (summarised in section 4).

3. Prolonged travel following surgery

Patients who have undergone major lower limb orthopaedic procedures should also be advised to avoid coach or car journeys lasting longer than 6 hours in the 3 months after their surgery. This is because being in a cramped, immobile position can contribute to the risk of VTE.

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4. Unavoidable surgery in a patient presenting following a prolonged flight

A patient could present for elective or emergency surgery after a flight over 4 hours within the preceding 4 weeks. It may be appropriate for the healthcare team to continue with surgery after evaluating and balancing the risk of VTE and the urgency of the procedure.

The following table can be used to help assess a patient's risk for VTE and help guide the decision to continue or postpone the surgery. It should be noted that this is only a guide and the decision on whether to proceed should be made on a case by case basis.

All patients should be given general VTE advice for the post-operative period including:

- Avoid periods of prolonged immobility
- Maintain a normal fluid intake and avoid excessive alcohol which can lead to dehydration and inertia
- Seek urgent medical advice if they develop swollen painful legs or breathing difficulties
- Wear appropriate compression stockings unless contraindicated

The Trust has patient information leaflets on VTE prevention which should be provided.

FACTOR	**SCORE**
Age 60 or above	1
BMI 30 or above	1
Active cancer or undergoing cancer treatment	2
Thrombophilic disorder	1
Pregnancy or 6 weeks post giving birth	1
Dehydration	1
On HRT or Tamoxifen or oestrogen containing contraceptive pill*	1
Varicose veins with inflammation (phlebitis)	1
Acute infectious disease	1
Health problems (hypertension, diabetes, stroke, heart and lung problems)	1
History of DVT or PE	2
Parents, sibling or offspring has had a DVT/PE in the past	1
Patient is undergoing lower limb surgery lasting longer than 60 minutes	2
Patient is undergoing general surgery lasting longer than 90 minutes	1
Patient has been on flight for over 8 hours	2
TOTAL SCORE	

Flights > 4 hours
Score 0 = Surgery ideally delayed for at least two weeks post flight but if unavoidable consider compressions stockings for 4 weeks post-operatively. If there is going to be considerable immobility at home discuss pharmacological thromboprophylaxis with a Haematologist.

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Score 1 = Consider compressions stockings for up to 6 weeks post-operatively. If there is going to be considerable immobility discuss please pharmacological thromboprophylaxis with a Haematologist.

Score >2 = Consider compressions stockings for 6 weeks post-operatively. Please discuss pharmacological thromboprophylaxis with a Haematologist.

*patients taking oestrogen containing contraceptive pill should be advised to withhold the pill until six weeks after the operation but counselled on alternative contraceptive measures.

Patients who are on long-term anticoagulation should have their bridging anticoagulation discussed with Haematology if they have flown >4 hours in the previous 4 weeks.

5. NICE Guidance

NICE have published guidance on reducing risk of DVT for travellers. A summary is provided below, it is highly recommended to consult the full guideline if managing a patient at risk of DVT.

Moderate Risk Patients (when prolonged flying is unavoidable)

- Offer general DVT prevention advice
    - Avoid periods of prolonged immobility
    - Maintain a normal fluid intake and avoid excessive alcohol which can lead to dehydration and inertia
    - Seek urgent medical advice if they develop: swollen painful legs or breathing difficulties
    - Obtain adequate medical insurance before they travel
- Advise the use of well fitted graduated compression stockings (see full NICE guideline)

High risk patients (when prolonged flying is unavoidable)

- As for Moderate Risk Patients
- Also seek specialist advice from a haematologist regarding whether the use of low molecular weight heparin is indicated.

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Monitoring Tool

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	To identify elective surgical patients that have an increased risk of VTE through recent or planned flight around the time of surgery	Incident reporting monitoring.	Monthly at a minimum. Immediate review and action where appropriate.	Clinical Lead for POA service.	Matron for POA service	12 times a year.
	To identify elective surgical patients that have an increased risk of VTE through recent or planned flight around the time of surgery	Day of surgery cancellations	Monthly	Matron for POA service	Matron for POA service	12 times a year.

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References

NICE Clinical Knowledge Summaries; DVT Prevention for Travellers; Last revised March 2013. Accessed at http://cks.nice.org.uk/dvt-prevention-for-travellers#!scenariorecommendation:6

Watson H G, Baglin T P; Guidelines on travel-related venous thrombosis; British Journal of Haematology 152, 31-34, 2010

WHO Research into Global Hazards of Travel (Wright) Project. Final Report of Phase I. WHO Document Production Services 2007. Accessed at http://www.who.int/cardiovascular_diseases/wright_project/phase1_report/WRIGHT%20REPORT.pdf

Surgery and Travel (Patient information); Wrightington, Wigan and Leigh NHS Foundation Trust January 2014. Accessed at https://www.wwl.nhs.uk/Library/All_New_PI_Docs/Audio_Leaflets/General/surgery_travel/pre001_surgery_travel116v1.pdf Hospitals

Clark C, Dega R; Ankle Arthrodesis (Information for Patients); Heatherwood and Wexham Park NHS Foundation Trust. September 2012. Accessed at http://www.heatherwoodandwexham.nhs.uk/sites/default/files/i4p/N_014.pdf

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Supporting Document 1 – Equality Impact Assessment form

Equality and Health Inequalities Impact Assessment (EHIA) Tool

Herefordshire & Worcestershire STP - Equality and Health Inequalities Impact Assessment (HEIA) Form
Please read HEIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council	
Worcestershire Acute Hospitals NHS Trust		Worcestershire County Council	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust	
Other (please state)			

Name of Lead for Activity	**Dr Rachael Dolan**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Rachael Dolan	**Consultant Anaesthetist**	**r.dolan@nhs.net**
Date assessment completed	**27/08/2026**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title: Flying and Elective Surgery VTE Risk guideline**			
What is the aim, purpose and/or intended outcomes of this Activity?	To identify elective surgical patients that have an increased risk of VTE through recent or planned flight around the time of surgery			
Who will be affected by the development & implementation of this activity?	❑ ❑ ❑ ❑	Service User Patient Carers Visitors	☒ ❑ ❑ ❑	Staff Communities Other _____

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Is this:	☒ Review of an existing activity ❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	NICE guidance British Haematology Society guidance Association of Anaesthesia guidance Getting It Right First Time guidance Centre of Peri-Operative Care guidance
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	Input sought from the anaesthesia and theatres governance body
Summary of relevant findings	Guidance updated in keeping with alterations to the above guidelines Approved at governance review

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		x		
Disability		x		
Gender Reassignment		x		
Marriage & Civil Partnerships		x		

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Pregnancy & Maternity		x		
Race including Traveling Communities		x		
Religion & Belief		x		
Sex		x		
Sexual Orientation		x		
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		x		
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		x		

Section 4

What actions will you take to mitigate any potential negative impacts?	**Risk identified**	**Actions required to reduce / eliminate negative impact**	**Who will lead on the action?**	**Timeframe**
	No negative impacts identified	.		
How will you monitor these actions?	**Incident reporting**			
When will you review this HEIA? (e.g in a service redesign, this HEIA should be	2029			

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revisited regularly throughout the design & implementation)	

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing HEIA	Rachael Dolan
Date signed	27/08/2026
Comments:	
Signature of person the Leader Person for this activity	Electronically signed
Date signed	27/08/2026
Comments:	

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Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval

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