Ablative Risks Prior and After Flying: What do you tell your patients

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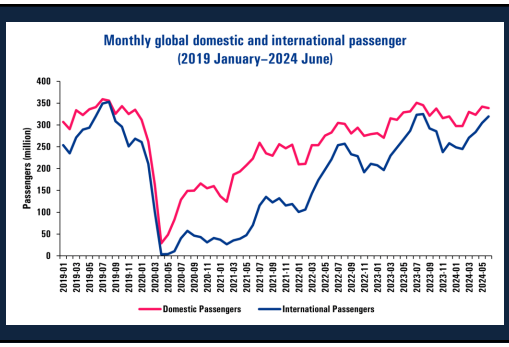
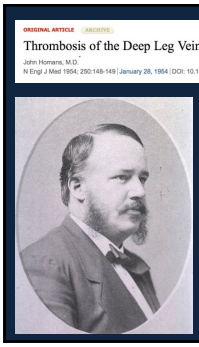
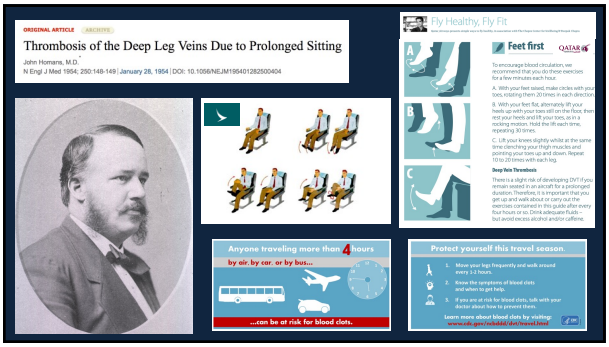
Financial Disclosures

- N/A





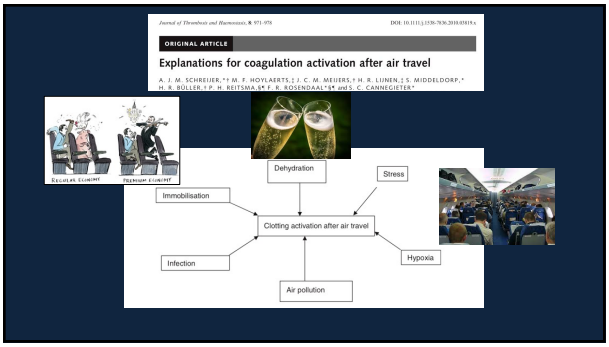


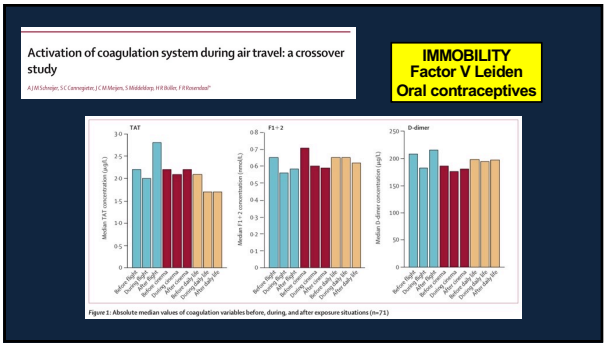
Long haul?

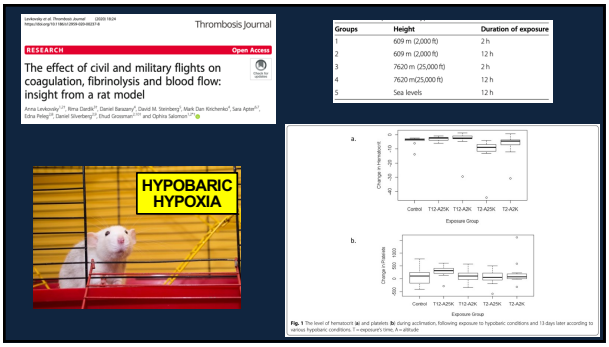
McGinley Group | bjh guideline

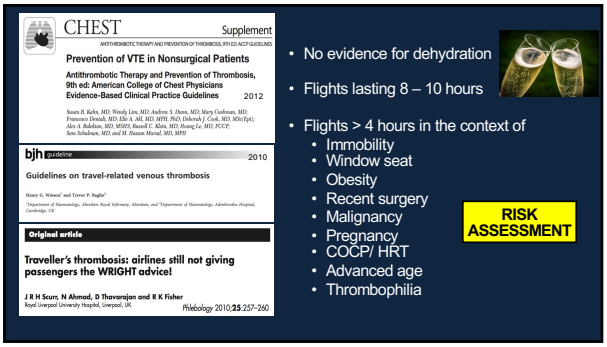
SHORT	< 3 hrs	< 4 hrs	< 600 – 800 mi (1,100 – 1,500 km)
MEDIUM	3 – 6 hrs	4 – 8 hrs	in between
LONG	> 6 hrs	> 8 hrs	> 2,200 – 2,600 mi (4,100 – 4800 km)

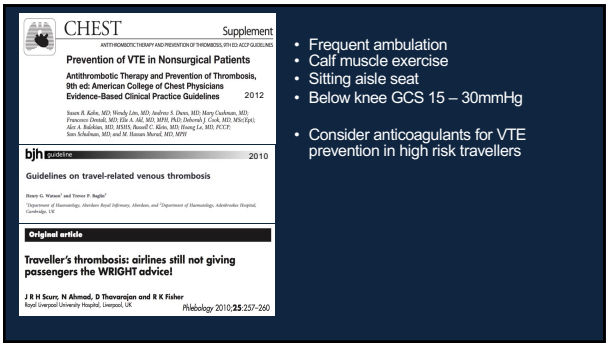
> 4h – 1 : 4656
> 8 h – 0.5%


ORIGINAL ARTICLE
Explanations for coagulation activation after air travel
A. J. M. SCHREIJER, * † M. F. HOYLAERTS, ‡ J. C. M. MEIJERS, † H. R. LIJNEN, ‡ S. MIDDELDORP, *
H. R. BÜLLER, † P. H. REITSMA, ‡ F. R. ROSENDAAL, *† and S. C. CANNEGIETER *
Dehydration
Stress
Immobilisation
Clotting activation after air travel
Infection
Hypoxia
Air pollution


Activation of coagulation system during air travel: a crossover study
A J M Schreijer, S C Cannegieter, J C M Meijers, S Middeldorp, H R Büller, P H Reitsma, F R Rosendaal
IMMOBILITY
Factor V Leiden
Oral contraceptives
TAT
F1 + 2
D-dimer
Figure 1: Absolute median values of coagulation variables before, during, and after exposure situations (n=71)


Thrombosis Journal
RESEARCH
Open Access
The effect of civil and military flights on coagulation, fibrinolysis and blood flow: insight from a rat model
HYPOBARIC HYPOXIA
Groups
Height
Duration of exposure
1 609 m (2,000 ft) 2 h
2 609 m (2,000 ft) 12 h
3 7620 m (25,000 ft) 2 h
4 7620 m(25,000 ft) 12 h
5 Sea levels 12 h
Exposure Group


CHEST
Supplement
Prevention of VTE in Nonsurgical Patients
Antithrombotic Therapy and Prevention of Thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines 2012
bjh guideline 2010
Guidelines on travel-related venous thrombosis
Original article
Traveller's thrombosis: airlines still not giving passengers the WRIGHT advice!
J R H Scurr, N Ahmad, D Thavarajan and R K Fisher
Royal Liverpool University Hospital, Liverpool, UK
Phlebology 2010;25:257–260
• No evidence for dehydration
• Flights lasting 8 – 10 hours
• Flights > 4 hours in the context of
• Immobility
• Window seat
• Obesity
• Recent surgery
• Malignancy
• Pregnancy
• COCP/ HRT
• Advanced age
• Thrombophilia
RISK ASSESSMENT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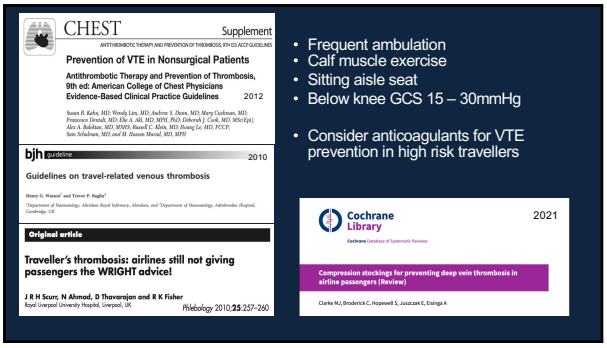
• Frequent ambulation
• Calf muscle exercise
• Sitting aisle seat
• Below knee GCS 15 – 30mmHg
• Consider anticoagulants for VTE prevention in high risk travellers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• Consider anticoagulants for VTE prevention in high risk travellers
Cochrane Library
2021
Compression stockings for preventing deep vein thrombosis in airline passengers (Review)

Journal of Thrombosis and Haemostasis, 4: 2373–2376

IN FOCUS LETTER

Use of preventive measures for air travel-related venous thrombosis in professionals who attend medical conferences

S. KUIPERS,*† S. C. CANNEGIETER,* S. MIDDELDORP,† F. R. ROSENDAAL*‡ and H. R. BÜLLER†
*Department of Clinical Epidemiology, Leiden University Medical Center, Leiden; †Department of Vascular Medicine, Academic Medical Centre, Amsterdam; and ‡Department of Haematology, Thrombosis and Haemostasis Research Center, Leiden University Medical Centre, Leiden, the Netherlands

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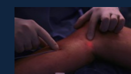
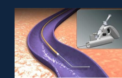
Table 1 Use of preventive measures overall and per conference, occupation, country, risk group and class of travel

	Walking/exercises* (%)	Stockings (%)	Aspirin (%)	LMWH (%)	VKA (%)	Any** (%)
Overall (2089)	74	17	21	5	1	80
Conference (*n*)						
ISTH (1638)	74	17	20	7	1	80
ISDB (170)	68	8	8	0	0	71
Cochrane (281)	79	27	29	0.4	0.4	85
Professional background (*n*)						
Medical doctor (786)	75	20	21	11	1	83
Non-clinical scientist (706)	72	14	19	2	1	77
Research fellows (182)	73	12	9	1	0	74
Other (415)	76	21	28	3	1	82
Country (n)						
USA (405)	77	9	31	3	2	82
Canada (116)	72	10	22	1	4	78
UK (306)	79	35	32	2	0	86
The Netherlands (157)	63	5	3	0	1	64
Germany (156)	63	19	20	16	0	77
France (88)	74	42	22	6	4	89
Italy (79)	73	11	12	8	0	78
Scandinavia (177)	80	38	19	4	1	84
Other Europe (225)	82	12	21	15	1	86
Israel (20)	89	6	6	22	0	94
Asia (259)	66	4	6	0	0	67
Other (101)	77	21	21	15	0	84
Class of travel						
Economy class	75	17	18	5	1	79
Business/first class	71	18	27	7	1	81
Risk groups (*n*)						
History (54)	90	53	35	33	16	96
Thrombophilia (66)	86	31	13	21	0	94
Varicose veins (197)	81	36	27	12	3	88
Recent surgery (16)	93	43	36	21	7	100
Active cancer (4)	100	50	50	25	25	100
Estrogen use (204)	77	32	25	4	1	85
Pregnancy/postpartum (15)	86	64	14	7	0	86
Any risk factor (311)***	83	37	27	19	3	90
No risk factor (1778)	73	14	20	3	1	78





Flying after intervention

British Journal of Haematology, 2002, 116, 653–654
SHORT REPORT

Long-haul flights and deep vein thrombosis: a significant risk only when additional factors are also present

Roopen Arya,[1] Jules A. Barnes,[1] Upal Hossain,[1] Raj K. Patel[1] and Alexander T. Cohen[2] [1]Department of Haematological Medicine and [2]Academic Department of Surgery, King's College Hospital, London, UK

Table I. Risk factors for venous thrombosis in 568 patients with suspected venous thrombosis.

	% cases (*n*) DVT	% controls (*n*) No-DVT	OR (95% CI)	*P*-value
All patients	32·6 (185)	67·4 (383)		
Any travel > 3 h	10·8 (20)	8·1 (31)	1·4 (0·7–2·6)	0·36
Plane travel > 3 h	8·7 (16)	7·6 (29)	1·2 (0·6–2·3)	0·78
Plane travel > 8 h	7·6 (14)	5·7 (22)	1·3 (0·6–2·8)	0·51
Any travel > 3 h and ≥ 1 additional risk factor	8·2 (15)	3·1 (12)	2·7 (1·2–6·4)	0·016
Plane travel > 8 h and ≥ 1 additional risk factor	6·0 (11)	2·1 (8)	3·0 (1·1–8·2)	0·032
Previous venous thrombo-embolism	24·5 (45)	15·7 (60)	1·7 (1·1–2·7)	0·018
Surgery	12·5 (23)	2·1 (8)	6·7 (2·8–16·6)	< 0·000001

bjh research paper

Cumulative flying time and risk of venous thromboembolism

Table IV. Odds ratio for venous thromboembolism derived from multivariate conditional logistic regression model.

	OR for VTE (95% CI)
No risk factors	1·00
One hour increase in total flying hours	1·03 (1·01, 1·06)
Had surgery within the last 28 d	32·21 (16·36, 63·41)
Had previous VTE event	9·23 (5·85, 14·56)
Overweight (BMI 25–30)	1·54 (1·17, 2·05)
Obese (BMI >30)	2·67 (1·94, 3·66)

OR, odds ratio; VTE, venous thromboembolism; 95% CI, 95% confidence interval; BMI, body mass index.

NHS choices Your health, your choices

You are here: Common health questions / When can I fly after surgery?

When can I fly after surgery?

Types of surgery

As a rough guide, the Civil Aviation Authority (CAA) says that before flying, you should allow:

- one day after simple cataract or corneal laser surgery
- one day after a colonoscopy
- one to two days after keyhole surgery
- four to five days after simple abdominal surgery
- seven days after more complicated eye surgery
- 10 days after chest surgery or a coronary artery bypass graft
- 10 days after more complicated abdominal surgery

For other types of surgery, allow:

- one to two days after surgery where a plaster cast is applied – if you have a broken arm or leg, it will affect where you can sit; for example, you won't be allowed to sit in an emergency seat and you may have to purchase an extra seat if you cannot bend your knee to sit normally
- two to six weeks after surgery for retinal detachment that involves having a gas bubble put in your eye

Flying before intervention

OPEN ACCESS Freely available online PLoS MEDICINE

Travel-Related Venous Thrombosis: Results from a Large Population-Based Case Control Study (MEGA Study)

Suzanne C. Cannegieter[1], Carine J. M. Doggen[1], Hans C. van Houwelingen[2], Frits R. Rosendaal[1,3*]
1 Department of Clinical Epidemiology, Leiden University Medical Center, Leiden, Netherlands, 2 Department of Medical Statistics, Leiden University Medical Center, Leiden, Netherlands, 3 Thrombosis and Haemostasis Research Center, Department of Haematology, Leiden University Medical Center, Leiden, Netherlands

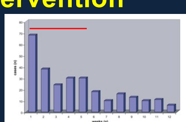
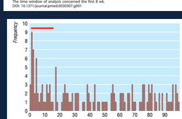


Figure 1. Frequency of the Occurrence of Events within the First 12 wk after Travel
The time window of analysis concerned the first 8 wk.
DOI: 10.1371/journal.pmed.0030307.g001

Papers

Deep vein thrombosis and air travel: record linkage study

C W Kelman, M A Kortt, N G Becker, Z Li, J D Mathews, C S Guest, C D J Holman



Frequency of venous thromboembolism in Australian citizens (n=153) by days after flight arrival for first 100 days. Day 0 was counted as 0.5 days

Doctor, when can I fly?

- No evidence to delay flying in minimally invasive superficial venous intervention
- Avoid intervention for at least 2-4 weeks following a long haul flight
- Individual risk assessment
  - Compression (>3 hours)
  - Anticoagulation (risk ax)
- Sit in an aisle seat
- Mobilise if possible

Alcohol	✗
Dehydration	✗
Economy Class	✗
Immobility	✓
Hypobaric Hypoxia	✗
Surgery	✓ ?
Flight time	✓ ?

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Thank You

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