

Factfile:

Fitness to fly for passengers with cardiovascular disease

Summary

Patients with cardiovascular disease, and their doctors, are frequently unclear as to if and when they can fly (as a passenger). Advice has often differed between medical professionals and objective evidence on which to base a decision has been hard to come by. In response to the House of Lords Science and Technology Committee report on Air Travel and Health¹ the British Cardiovascular Society established a working group² to provide expert guidance on risks of flying for passengers with cardiovascular disease. The full report which provides guidance for passengers flying in a modern commercial aircraft is published in Heart³. A summary of the key recommendations is provided below:

Condition	Functional status	Lay explanation	Restriction/guidance
Angina	CCS angina I-II	Chest pain on considerable exertion with no recent change in symptoms or medication	No restriction
	CCS angina III	Chest pain on minimal exertion with no recent change of symptoms or medication	Consider airport assistance and possible in flight oxygen
	CCS angina IV	Chest pain at rest or a change in symptoms and/or medication	Defer travel until stable or travel with medical escort and in flight oxygen available
Post STEMI and NSTEMI	Low risk Age <65, first event, successful reperfusion, EF>45%, no complications, no planned investigations or interventions	If you have had a heart attack but you are less than 65yrs, the blocked artery has been opened, the heart pump is not badly damaged and no further tests or treatment are planned	Fly after 3 days
	Medium risk EF >40%, no symptoms of heart failure, no evidence of inducible ischemia or arrhythmia, no planned investigations or interventions	If you have had a heart attack your heart pump is quite good and you have no symptoms of breathlessness or chest pain and no other tests or treatments are planned	Fly after 10 days
	High risk EF <40%, signs and symptoms of heart failure, those pending further investigation, revascularisation or device therapy.	If you have had a heart attack, the heart pump is significantly damaged and you have symptoms of breathlessness or you are waiting for further tests or treatment	Defer travel until condition stable
Elective PCI - uncomplicated		You have had the heart arteries treated with a balloon and stent and there are no complications	Fly after 2 days
Elective CABG uncomplicated	Allow for intrathoracic gas resorption. If complicated or symptomatic see heart failure	You have had heart bypass surgery and time must be allowed for any air in the chest to be absorbed	Fly after 10 days if no complications. If symptomatic follow guidance for specific symptoms
Acute heart failure		You have been in hospital or treated at home because of 'water in the lungs' which made you very breathless	Fly after 6 weeks if stabilised (see chronic heart failure)
Chronic heart failure	NYHA I&II	You get breathless on mild to moderate exercise but no recent (within 6 weeks) change of symptoms or medication	No restriction

References

1. 'Air Travel and Health: an Update' House of Lords Science and Technology Committee report Dec 2007
2. BCS Working Group: Dr LDR Smith (chairman), Dr C Aps, Dr N Boon (ex officio BCS), Mrs E Clark, Dr N Dowling, Dr S Gibbs, Dr D Hackett (ex officio BCS), Prof M Joy, Dr M Anderson Dr W Toff, Dr R Johnston (co-opted) and Prof J Cleland (co-opted)
3. Smith D, Toff, W, Joy M et al. Fitness to Fly for passengers with cardiovascular disease; Heart 2010;96:ii1-ii16.



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Condition	Functional status	Lay explanation	Restriction/guidance
	NYHA III	You get breathless on walking 20-100 yards/metres at your own pace but no recent (within 6 weeks) change of symptoms or medication	May require in flight oxygen
	NYHA IV	You are breathless at rest and mainly bedbound	Advised not to fly without in flight oxygen and medical assistance
Cyanotic congenital heart disease	NYHA I&II	You have congenital heart disease with blue blood and get breathless on mild to moderate exertion but no recent (within 6 weeks) change of symptoms or medication	May require in-flight oxygen*
	NYHA III	You have congenital heart disease with blue blood and get breathless on walking 20-100 yards/metres but no recent (within 6 weeks) change of symptoms or medication	Consider airport assistance and may require in flight oxygen advisable*
	NYHA IV	You have congenital heart disease with blue blood and get breathless at rest and mainly bedbound but no recent (within 6 weeks) change of symptoms or medication	Advised not to fly without in flight oxygen and airport assistance available*
Valve disease (see heart failure)			
Following pacemaker implantation		If you have had a temporary or permanent pacemaker there is a risk of the lung being punctured. If it has not been punctured you can fly after 2 days. If it has then you should wait until 2 weeks after it has fully healed	Fly after 2 days if no pneumothorax. In the event of a pneumothorax flying should be deferred for 2 weeks following complete resolution
Following ICD implantation		If you have had an a defibrillator put in the same advice for pacemakers (above) applies but in addition you should not fly after the ICD has delivered a shock until your condition is considered stable	The same advice as for pacemakers above but in addition rhythm instability should be treated
Arrhythmia	Stable	If you get occasional palpitations that do not cause fainting and have recently become more frequent or you have an irregular pulse which is treated and stable	No restriction
Ablation therapy		If you have had an ablation (burn) procedure to get rid of your palpitations you can fly after 2 days. If flying within one week of the procedure you should consider yourself high risk of forming blood clots and talk to your doctor	Fly after 2 days*

* = consider at high risk of DVT/VTE (Deep vein thrombosis/Venous thromboembolism)

Guidance for the avoidance of deep vein thrombosis and venous thromboembolism

Blood clots - Deep venous thrombosis (DVT) and venous thromboembolism (VTE)	Risk criteria	Risk reduction advice for passengers
Low risk	-no history of DVT / VTE -no recent surgery (four weeks) -no other known risk factor	Keep mobile. Drink plenty of non alcoholic drinks. Do not smoke. Avoid caffeine and sedative drugs.
Moderate risk	-history of DVT/VTE -surgery lasting more than 30 minutes between 4 and 8 weeks ago -known clotting tendency -pregnancy -obesity (BMI.30)	As for 'low risk' with addition of compression stockings
High risk	-previous DVT with known additional risk including known cancer -surgery lasting more than 30 minutes within the last 4 weeks	As for moderate risk but sub cutaneous injections of Enoxoparin 40 mg before the flight and on the following day

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BHF resources

The following resources may be helpful for your patients. They may be viewed or downloaded from our website www.bhf.org.uk/publications or ordered free of charge on 0870 600 6566.

An everyday guide to living with heart failure

Heart information series:

Angina
Heart attack
Heart valve disease
Having heart surgery
Coronary angioplasty
Heart rhythms

For information on travel tips and insurance companies call our Heart HelpLine on 0300 330 3311 Mon-Fri 0900 - 1700.

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