

Mr Michael Gaunt

FLIGHT INFORMATION: 2019

One of the most common concerns among patients undergoing varicose vein surgery is the risk of flight-related deep vein thrombosis after varicose vein surgery.

At the time of writing the exact risk of flight-induced DVT after minimally invasive varicose vein surgery is unknown. It is likely to remain unknown because of the difficulty in researching in this area but patients are right to be careful, because any type of major surgery is known to be one of the risk factors for flight-related DVT. That said, in the last 16 years since I have been performing endovenous laser surgery for varicose veins I have had no reports from over 5000 patients of any flight-related DVT – so what are the risks and what is the advice?

WHAT ARE THE RISK FACTORS FOR FLIGHT-RELATED DVT?

The following are established risk factors for blood clots associated with long distance travel:

- The length of the travel
- Age over 40 years
- Women who use birth control pills or hormone replacement therapy
- Varicose veins in the legs
- Obesity (body mass index of 30 kg/m² and above).
- Genetic clotting disorder
- Other risk factors, e.g. tall stature, short stature.

Other likely risk factors:

- previous blood clot
- oestrogen patch and ring
- recent major surgery or major trauma (within last 3 months) Most endovenous vein surgery is not considered major surgery because this is day case surgery and the patient is mobile and walking almost immediately.
- recent childbirth (within 3 months)
- leg cast or immobilizer
- acquired clotting disorders (antiphospholipid antibodies).

Overall, the risk of developing a DVT severe enough to cause symptoms and require treatment after a flight longer than 4 hours duration is approximately 1 in 600. However, developing clots in the

deep veins of the legs is more common than many people realise and small clots form and dissolve throughout a person's life without them ever realising. Therefore studies that use more sensitive methods e.g. Duplex ultrasound, find small DVTs in 3-5% of travellers after long-haul flights but these clots seldom cause any problems.

Your risk of developing a flight-related DVT increases the more risk factors you have i.e. someone with 4 risk factors has a higher risk than someone with one. Also, you may have noticed that having varicose veins is one of the risk factors, so by treating varicose veins we remove this risk factor.

WHAT IS A LONG-HAUL FLIGHT?

Any flight over 4 hours is considered to be long-haul but the overall duration of the flight is an important factor in the risk of DVT e.g. a flight longer than 12 hours has twice the risk of causing a DVT than a flight less than 4 hours.

WHEN CAN I FLY AFTER MY ENDOVENOUS VEIN SURGERY?

As I have explained before, there is no direct scientific evidence to answer this question definitively. However, my general advice is to leave four weeks after surgery before a short haul flight (less than 4 hours) and six weeks before a long haul flight (more than 4 hours). However, if you were a high risk patient and had 3-4 other risk factors then this time frame would be extended and we may need to take additional treatment to reduce your risk further.

If you have to fly within this period then we can reduce the risk by prescribing self-administered subcutaneous heparin injections. These are prefilled syringes which are very easy to self-administer and the hospitals where I work are well used to providing these and the nurses can provide instruction. In future, it is possible that newer oral anticoagulants may be approved for this purpose.

WHAT GENERAL MEASURES CAN I TAKE TO REDUCE MY RISK OF TRAVEL RELATED DVT?

It is worth stating that all forms of long-duration travel can be associated with DVT. This includes long coach journeys, car journeys and train journeys, in fact any situation where people sit for prolonged periods without exercising their calf and thigh muscles.

Air travel seems a higher risk form of travel because of various factors associated with flying at high altitude.

One of the main factors is dehydration, which makes the blood thicker and more likely to clot. My view is that this process of dehydration starts long before anyone sets foot on the plane and then continues during and after the flight.

For instance, the journey to a main airport often starts very early in the morning while people are already mildly dehydrated after a night's sleep. It then takes a number of hours to reach the airport and then the check-in and security checks take a further hour; in addition people are now prohibited from taking bottles of water through security. Many people are reluctant to drink much before they get on the plane in case they need to visit the lavatory at an inconvenient time such as a delay in take-off. Once in the air travellers are encouraged to stay in their seats and keep the aisle clear for the staff and passengers may feel embarrassed about going to the lavatory and getting in people's way. Finally, travellers arrive at their destination airport where they face further delays for passports

and luggage reclaim and then their onward journey via bus or taxi to their final destination. If this destination is a hot country then this adds to the dehydration.

Therefore, simple general measures include drinking regularly throughout the process and undertaking calf and thigh exercises as well as standing up every 30-60 minutes and walking around or standing by your seat and doing calf raises – obviously you don't need to do this while sleeping. Also, although appearances are important it is better to wear loose non-restrictive clothing e.g. avoid tight jeans that can cut-in.

Wear compression stockings that provide graduated pressure between 15-30mmHg. Flight socks are a popular option but if they constrict or cut-in below the knee then a full leg stocking that compresses the thigh in addition to the calf is better. For post-operative patients then the full leg compression stockings we supply after your surgery are ideal.

Aspirin is unproven in preventing travel-related DVT and may cause complications and is no longer recommended.

WHAT SPECIFIC MEASURES CAN I TAKE TO REDUCE MY RISK?

Patients who feel they are at increased risk due to the presence of risk factors highlighted above and/or recent surgery, then **please arrange a specific follow-up consultation to discuss this further.** It may be that subcutaneous injections of heparin will be needed but please be aware that these injections can have side effects and the decision to prescribe has to be taken carefully.

FINALLY

Reading this leaflet you will realise that there are multiple factors that affect an individual's risk of DVT and although risk can be reduced it cannot, like many things in life, be eliminated completely.

This is particularly the case if you want to fly within the time periods I have indicated after your operation. Although the risks appear small - and I know that many of my patients have flown shortly after surgery and to my knowledge none of these have reported any problems - **if you take the decision to fly then this is at your own risk.**

Mr M E Gaunt