

Fly Smart, Avoid DVT!

Singapore is a travel hub for long-haul flights, so it's wise to be informed about deep vein thrombosis. Here, DR TJUN TANG and DR JULIAN WONG tell us all about this condition.



What is deep vein thrombosis (DVT)?

DVT occurs when blood clots form either in the deep muscle leg veins (femoral/popliteal veins), deep pelvic veins (iliac veins), or the main vein in the abdomen (inferior vena cava) that carry blood towards the heart. It can be serious because these blood clots can flow back to the heart and block the veins to the lungs (pulmonary embolism). This causes breathing issues due to lack of oxygen and can be fatal.



What causes DVT on a long-haul flight?

Due to a lack of gravity, low atmospheric pressure and immobility, the blood inside the veins become stagnated, and it's very easy for the blood to clot physiologically. Risk factors include flight times of more than six hours, window seats, multiple legs in a single journey, dehydration, smoking, alcohol, immobility, oral contraceptives and any pre-existing blood clotting conditions. According to the British Medical Journal, there's a six percent risk of DVT on a long-haul flight.

What symptoms should we watch for, and is it important to seek medical help quickly?

A lot of DVTs can be silent. Symptoms always start at the calf which can be a funny sensation or pain at the back of the calf and in worst cases you'll also notice redness, increase in warmth and swelling on the affected leg. In very bad cases, the person can also struggle to walk.

As DVT can progress to pulmonary embolism if left untreated, there can be serious consequences.

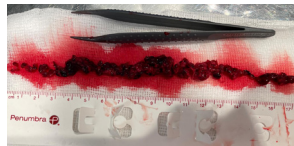
In less severe cases if left untreated, the clots can also destroy the valves inside the veins and cause long-term pain (post-thrombotic syndrome) and chronic leg swelling (deep venous reflux).

What are the non-surgical treatments for DVT?

Anticoagulants, or blood thinners, are vital in DVT treatment. They prevent existing clots from enlarging and reduce the risk of new clots by inhibiting clotting factors. Though they don't dissolve clots directly, they aid the body's natural clot breakdown process. They help manage DVT and prevent complications like pulmonary embolism and post-thrombotic syndrome, which can lead to heavy and swollen limbs.

The main anticoagulants are heparin, which rapidly thins blood and is administered in hospitals; warfarin, an oral medication used long-term with close monitoring; and DOACs like apixaban and rivaroxaban, newer oral options that are as effective as warfarin but with fewer bleeding risks and no need for regular blood tests.

What are the surgical options for removing severe DVTs?



We perform surgery under local anaesthesia to remove large clots, especially if symptoms are severe. The procedure choice depends on clot location, severity, and patient health. Fresh clots are easier to

remove via percutaneous thrombectomy, while older clots may need thrombolysis (clot busters) to aid breakdown before removal. Specialised devices physically remove the clot during this procedure.

At our clinic, we use the advanced Penumbra Lightning Flash device for percutaneous thrombectomy – it enables effective clot removal with minimal vein trauma. This keyhole procedure avoids large incisions, allowing immediate post-operative mobility, symptom relief, restored blood flow, faster recovery and reduced risk of long-term complications. It also improves psychological wellbeing by easing DVT-related anxiety.

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About the doctors

Dr Tang and Dr Wong are experienced endovenous surgeons and vascular specialists in Singapore who offer complete, personalised solutions for all blood vessel conditions at their clinic. [e](#)