Deep Vein Thrombosis risks & prevention for long distance travelers

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This phenomenon was initially termed the "economy class syndrome" when applied to air travel but it occurs in all air travel classes and is now referred to as “traveler’s thrombosis”
• DVT is blood clot that forms in a vein deep in the body.

• Most DVT occur in the lower leg or thigh. May occur in other parts of the body.

• A DVT can break off & travel thru the bloodstream, lodging in heart, lungs, or brain.

**Deep Vein Thrombosis (DVT)**
Venous thromboembolism (VTE) consists of 2 related conditions:

- deep vein thrombosis (DVT)
- pulmonary embolism (PE).
Which of these men is at highest risk for blood clot formation?

A. Window Seat
B. Middle Seat (Steve Martin)
C. Aisle Seat (John Candy)
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A. Window Seat
B. Middle Seat (Steve Martin)
C. Aisle Seat (John Candy)
<table>
<thead>
<tr>
<th>DVT/VTE Risk Factors</th>
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<tbody>
<tr>
<td>• Obesity (2-24x higher risk)</td>
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<td>• Smoking</td>
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<td>• Female</td>
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<td>• Pregnancy</td>
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<td>• Use of hormones (hormone replacement therapy/birth control pills)</td>
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<td>• Immobility</td>
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<td>• Age &gt;40</td>
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<td>• Previous DVT</td>
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<td>• Varicose Veins</td>
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<tr>
<td>• Major surgery within six weeks of travel (including hip or knee arthroplasty)</td>
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<td>• Inherited or acquired hypercoagulable condition</td>
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• The absolute incidence of symptomatic VTE in the month following a flight of at least four hours has been reported as 1 in 4600 flights.

• Each 2-hour increase in travel duration resulted in an 18% higher risk for VTE

• The risk increases with the duration of the travel and with multiple flights within a short period.

Risk of developing DVT/VTE
• Other forms of travel with prolonged seated immobility such as trains, buses, and cars increase risk for VTE.

• Risks are higher after air travel when compared with other forms of travel.

• Height may increase risk of VTE after prolonged air travel. Taller than 6’3”, or shorter than 5’3”.

• The risk of VTE was highest in the first 2 weeks after a long-haul flight and gradually decreased to baseline after 8 weeks.
DVT/VTE Prevention

- Sit in aisle seat
- Get up every 2 hours
- Avoid sedatives (diphenhydramine / zolpidem)
- Stop hormone therapy (for high risk individuals)
- Fly first class
- Wear knee high compression stocking. 20-30mm Hg.
• For long-distance travelers, in general, suggest against the use of aspirin or anticoagulants to prevent VTE.

• Guidelines suggest there is no definitive evidence to support that dehydration, alcohol intake, or sitting in economy class increases a risk for developing a DVT/VTE in relation to other risk factors.

• Revised ACCP guidelines indicates aspirin is an option—although not typically the agent of choice—for the prevention of DVT/VTE in major orthopedic surgery.
• There is some discussion regarding providing low molecular heparin prior to flights for high risk individuals.

• ACCP grade 2C: modest recommendation, low-quality evidence.

• Travelers who may be considered for blood thinner before flights:
  ▪ Person with previous DVT or PE, particularly if additional risks are present.
  ▪ Person who has never had a DVT or PE, but who has a family history of DVT or PE and who has a strong clotting disorder. (i.e. factor V Leiden).

• One dose 1-2 hours before flights lasting longer than 5-6 hours in a person who is not already on an oral blood thinner.

• Would recommend patient have discussion with PCP, not a decision for travel provider.

Low weight molecular heparin for DVT/VTE Prevention


References


• WHO Research Into Global Hazards of Travel (WRIGHT) Project