Who to Treat?
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Venous thromboembolic disease (VTED) is well recognized as a ‘silent killer’ in at-risk orthopaedic surgical patients. Potentially severe complications can follow the formation of DVT, which include proximal extension of the thrombus, pulmonary embolus, death, recurrent DVT, and post-thrombotic syndrome.

Because of the serious and sometimes fatal consequences associated with untreated VTED, clinicians and researchers continue to struggle to define, from a risk-benefit perspective, which subset of foot and ankle patients would benefit from prophylaxis and which methodology is ideal(1,2,3) According to Virchow's triad stasis is one of three general risk factors that predispose to VTED the other two being vascular injury, and a hypercoagulable state. The exact rate of DVT formation following foot and ankle surgery is unclear.

First, patients undergoing foot and ankle surgery should have a basic screening for thrombosis risk to determine if some type of prophylaxis is warranted. High risk factors include a history of previous DVT or PE, a positive family history of a hypercoagulable state, and recent multi-trauma. Other potential risk factors include but are not limited to: advancing age, relative immobility, obesity, and a history of malignancy.

Certain prophylactic options are available for VTED. These include chemoprophylactic agents and mechanical prophylaxis. Chemoprophylactic agents include aspirin, warfarin, and LMWH, such as Fondaparinux and enoxaparin, all which have different efficacy/safety profiles. Presently, aspirin is not recommended as an isolated prophylactic treatment of high risk patients. Mechanical prophylaxis includes Intermittent Compression Pumps (ICP) which works in part by increasing the velocity of venous return and thereby decreasing venous stasis.

The application of prophylaxis to foot and ankle patients by practicing surgeons is currently widely variable, due to a lack of adequate science (few Level I and II studies). No reasonable algorithm exists to effectively guide treatment or avoid unnecessary complications. The routine use of thromboprophylaxis after certain subset population of foot and ankle surgery remains controversial, specifically in area of elective forefoot surgery(4), hindfoot surgery(2), repair of Achilles tendon rupture(5,6), non-operative casting of minor injuries(7,8), and after traumatic event like ankle fracture(9,10,11).

Unfortunately, the use of prophylaxis, even when properly administered, can result in complications such as increased bleeding and higher rates of wound complications, ranging from 1.5 – 5.1 %. A lesser-known but potentially severe or fatal complication is heparin induced thrombocytopenia, which increases the risk of developing paradoxical arterial and venous thromboembolic disease. We plan to review the literature and analyze the subsets of patients who may merit prophylactic VTED treatment.
Bibliography: Introduction

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Trauma Ankle fracture

