

Venous thromboembolism risk factors

- [Postoperative Initiation of Thromboprophylaxis in patients with Cushing's Disease \(PIT-CD\): a randomized controlled trial](#)
- [Predictors of pulmonary embolism in adult patients following neurosurgery: a Chinese single-center, retrospective study](#)
- [Symptomatic venous thromboembolism after transsphenoidal surgery in Cushing's disease: incidence and risk factors](#)
- [Association of coagulation-related indicators with postoperative venous thromboembolism occurrence in patients with pituitary tumors](#)
- [Validating Khorana Risk Score in gastric cancer patients on immune checkpoint inhibitors and chemotherapy](#)
- [Intermittent compression devices as antithrombotic strategy in neurosurgical interventions: a prospective randomized controlled trial \(Trial In Prevention of Post-Operative ThromboEmbolic Events\)](#)
- [Khorana risk score in lung cancer patients treated with immune checkpoint inhibitors: a real-world study](#)
- [Deep Venous Thromboembolism Following Ambulatory General Surgery](#)

Risks	Patient stratification
Low	Minor surgery in patients age < 40 y
Moderate	Minor surgery in patients with other risks ^a or surgery in patients aged 40–60 y without other risks
High	Age > 60 y or 40–60 y with other risks
Highest	Multiple risk factors

^aRisks include surgery, trauma, immobility, malignancy, cancer therapy older age, pregnancy, medical illness, cardiac or pulmonary failure, obesity, smoking, coagulopathy, among others.

Deep-Vein Thrombosis

see [Deep-Vein Thrombosis](#).

A risk stratification algorithm has demonstrated its convenience and significant predictive value for determining the risk of [venous thromboembolism](#) among elective neurosurgical patients. In addition, the different incidence of venous [thromboembolism](#) was demonstrated in patients with various neurosurgical diseases ¹⁾.

A [meta-analysis](#) revealed a high [prevalence](#) of [venous thromboembolism](#) in critically ill patients. The risk factors of VTE included [thromboprophylaxis strategy](#), SAPS II, age, malignancy, sex, [spinal cord injury](#), and ISS. Therefore, we need to pay more attention to high-risk populations of VTE in intensive care patients ²⁾.

VTE risk is linked to decreased [mobility](#) and [hypercoagulability](#). Studies are needed to test short-term VTE prophylaxis beyond hospitalization in high-risk patients ³⁾.

Larger RBC transfusion volumes and higher case mix index scores were associated with an increased risk of VTE events. Physicians should be aware of how these dose-response relationships can influence a patient's risk of developing thrombotic complications postoperatively ⁴⁾.

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[Cushing's disease](#) (CD) is associated with an increased risk of [venous thromboembolism](#). The purpose of Rabiei et al was to discuss preventive strategies for [postoperative thrombosis](#) in CD patients and their impact on patient outcomes. A [systematic review](#) under [PRISMA](#) guidelines was conducted within [PubMed](#), [Embase](#), [Web of Science](#), and [Cochrane](#) databases through July 2022. Of the 3207 [papers](#) retrieved, seven [articles](#) were included in a [systematic review](#). Four hundred forty-eight patients were presented in the reviewed studies and the overall reported [mortality](#) was 2.67% (12/448). Three studies utilized [prophylaxis](#) methods including graduated compression stockings (GCS) and early [ambulation](#) (EA) while the remaining four studies only used [anticoagulation](#) medicine. Only 20 patients received pre-operative prophylactic treatment, while 366 patients received post-operative prophylaxis which was delivered either immediately after surgery or at different time intervals within 2 days following the surgery. Thrombotic events mainly occurred within two to 3 months after surgery. Overall, a higher frequency of thromboembolic events and mortality was observed in the control groups in comparison to groups receiving prophylaxis. A combination of anticoagulation, EA, and GCS might reduce thrombotic events and mortality in CD patients after treatment. Although the early commencement of a prophylactic anticoagulation regimen on the same day of surgery and continuing up to 3 months seems beneficial, the application of a prophylactic regimen should be utilized with caution since the number of included studies was insufficient to draw a strong conclusion, as well as neither prospective study nor [randomized controlled trials](#) existed ⁶⁾.

The incidence of VTE in meningioma patients is not negligible. Identified risk factors should be taken into account in the decision-making process for chemoprophylaxis when the risk of bleeding decreases ⁷⁾.

Patients with [osteoporosis](#) have a significantly higher risk of intraoperative [blood volume](#) loss and postoperative [thromboembolic events](#) ⁸⁾.

Retrospective cohort studies

This retrospective cohort study was conducted at a single [center](#), a university-based hospital in [Thailand](#). [Inclusion criteria](#) comprised patients aged 15 years or older admitted for elective or [emergency](#) neurosurgery. Patients with preoperative VTE diagnosed within three months or a history of [anticoagulant](#) use were excluded. Outcomes measured included the 90-day incidences of VTE, any bleeding, major bleeding, and mortality. Between January 2021 and December 2022, 626 patients were included. The mean age was 50.21 ± 17.37 years, and 55.27% were males. [Thromboprophylaxis](#) was administered to 86 patients (13.74%, 95% CI 11.14-16.69). Fourteen patients were confirmed to have symptomatic VTE, resulting in an incidence of 2.24%, with a 95% confidence interval (CI) of 1.23-3.72. Patients aged ≥ 75 years (HR 4.53; 95% CI 1.25-16.38; $p = 0.021$), those with cancer (HR 8.51; 95% CI 2.95-24.60, $p < 0.001$), and those experiencing postoperative paraparesis/paralysis (HR 3.26; 95% CI 1.12-9.45; $p = 0.030$) were associated with an increased risk of postoperative VTE. Fifty-three patients (8.47%, 95% CI 6.41-10.93) experienced any bleeding, with 23 patients (3.67%, 95% CI 2.34-5.46) having major bleeding. The incidence of postoperative mortality was 6.55%, with a 95% CI of 4.74-8.78. This study revealed that [elderly](#) patients, those with cancer, or those experiencing postoperative [paraparesis](#)/paralysis were at higher risk of VTE. These patients were likely to benefit from VTE prophylaxis ⁹⁾.

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