- Deep-vein thrombosis (DVT) has an estimated annual incidence of 67 per 100,000 among the general population.
- Despite adequate therapy, 1% to 8% of patients in whom pulmonary embolism develops will die.
- Others will experience long-term complications such as:
  - Postphlebitic syndrome (40%)
  - Chronic thromboembolic pulmonary hypertension (4%).
- Among patients who die while in the ICU, PE has been reported in 7 to 27% (mean, 13%) of postmortem examinations, and PE was thought to have caused or contributed to death in 0 to 12% (mean, 3%).
- A clinical suspicion of PE was present in only 30% of these before death.
- Among four prospective studies, the DVT rates varied between 13% and 31% in critically ill patients who did not receive prophylaxis. Although the clinical consequences of asymptomatic DVT detected by routine screening are uncertain, a recent study showed that patients documented to have DVT by Doppler ultrasound had a significantly greater frequency of subsequent PE during their hospitalization (11.5% vs 0%, p < 0.01). Furthermore, even small PE may be poorly tolerated by critically ill patients, many of whom have reduced cardiorespiratory reserve.

**DVT prophylaxis in critical illness**

One study compared strategies to improve thromboprophylaxis use among 1,027 patients in three similar critical care units. Strategies to improve compliance with DVT prophylaxis:
- Appropriate prophylaxis was used in 38% of patients in the ICU in which no special compliance intervention was used, in 62% of patients in the unit in which education about DVT prophylaxis was provided to physicians, and in 97% of the patients in the third ICU in which prophylaxis education was combined with mandatory computer order entry (p < 0.01 for all comparisons).

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**Risk factors and epidemiology**

- The vast majority of patients admitted to a critical care unit have a major risk factor for VTE, and most have multiple risk factors.