A NOVEL THREE-SCREEN COMPUTER ALERT TO INCREASE THE RATE OF VENOUS THROMBOEMBOLISM PROPHYLAXIS

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Background: Venous thromboembolism (VTE) prophylaxis in high-risk patients is frequently underutilized. We previously devised a one-screen computer alert that: 1) identified hospitalized patients at high risk for VTE who were not receiving pharmacological or mechanical prophylaxis, and 2) advised their physicians to prescribe prophylaxis. While this strategy improved prophylaxis utilization and reduced the 90-day incidence of symptomatic VTE by 41%, the majority of alerts were ignored. In this study, we sought to increase prophylaxis prescription by creating a novel, more extensive three-screen alert.

Methods: The first screen of the three-screen alert was the same as the original one-screen alert. It stated that the patient was at high risk for VTE but was not ordered to receive prophylaxis and offered the physician the option of prescribing pharmacological or mechanical prophylaxis. The second screen, which was triggered if prophylaxis was not ordered, asked the physician to again consider prescribing pharmacological or mechanical prophylaxis and to provide a reason why prophylaxis had not been ordered. On the third screen, the physician was offered a final opportunity to order mechanical prophylaxis.

Results: Of a total cohort of 880 patients at high risk for VTE, the responsible physicians for 425 patients received a single electronic alert, whereas 455 who declined to order prophylaxis after the first screen received second and third screen alerts. In the one-screen alert program, 216 of the 425 patients’ physicians (50.8%) ordered VTE prophylaxis. By comparison, in the three-screen alert program, VTE prophylaxis orders were generated for 58.4% of the 455 patients whose physicians had initially declined to order prophylaxis (p=0.02). There was no significant difference in symptomatic 90-day VTE rates between the two cohorts (2.8% for the one-screen alert vs. 2.2% for the three-screen alert, p=0.55).

Conclusions: A three-screen computer alert program can markedly increase prophylaxis ordering among physicians who decline an initial single screen alert. However, this strategy did not reduce the rates of symptomatic VTE when compared with the previously validated one-screen alert.