



# Venous Thromboembolism (VTE) Prophylaxis FOR GYNECOLOGIC SURGERY

This care process model (CPM) was created by the GYN Development Team, which is part of Intermountain Healthcare's **Women and Newborns Clinical Program**. Derived primarily from the American College of Obstetricians and Gynecologists Practice Bulletin for Prevention of Deep Vein Thrombosis and Pulmonary Embolism (2007, reaffirmed 2011), the model presents an evidence-based approach that is appropriate for most patients. It should be adapted to meet the needs of individual patients and situations, and should not replace clinical judgment.

## ► Why Focus ON VTE?

- **It's common and costly.** Among over 7 million patients discharged from 944 acute hospitals in the U.S., postoperative VTE was the second most common medical complication, the second most common cause of excess length of stay, and the third most common cause of both excess mortality and excess charges.<sup>1</sup> Among patients undergoing major gynecologic surgery, DVT prevalence ranges from 15% to 40% without prophylaxis.<sup>2</sup>
- **It has a range of adverse consequences.** About ¼ to ⅓ of preventable DVTs involve the proximal deep veins, and are much more likely to produce symptoms and result in pulmonary embolism (PE). Most patients who die from PE do so within 30 minutes of the event, leaving little time for therapeutic intervention.<sup>2</sup> PE accounts for about 10% of hospital deaths (about 200,000 a year), and is the most common cause of preventable hospital death.<sup>3</sup> In addition to PE, DVT results in increased risk of chronic limb pain and swelling (post-thrombotic syndrome), and an increased risk of recurrent VTE.<sup>4</sup>
- **VTE prophylaxis improves clinical outcomes and saves money.** Appropriate thromboprophylaxis has repeatedly been shown to be both efficacious and cost-effective in prevention of DVT, VTE, and fatal PE. It is estimated that appropriate prophylaxis decreases the incidence of venous thromboembolism by 60%.<sup>5</sup> Based on “overwhelming evidence” to this effect several years ago, the Agency for Healthcare Research and Quality recommended VTE prophylaxis as the highest ranked safety practice.<sup>6</sup>

## Key points

- All patients undergoing gynecologic procedures are at increased risk for VTE due to one or more of these three conditions: hypercoagulability, venous stasis, or vessel wall endothelial damage. For this reason, all patients require some degree of prophylaxis (if only early, frequent ambulation).
- Risk classification is important to prescribe the best VTE prophylactic regimen for each patient. This model follows ACOG recommendations in outlining four risk categories — low, medium, high, and highest — based on procedure type, the patient's age, and the presence of other risk factors.
- Prophylaxis includes pharmacologic and mechanical methods. In the highest risk categories, a combination of both types should be considered.
- Patients requiring pelvic surgery for cancer should receive low molecular weight heparin prophylaxis for 4 weeks after discharge.

The goal of this model is to reduce the incidence of preventable VTE by promoting appropriate risk screening and VTE prophylaxis.

The recommendations in this model are consistent with the measures defined in the SCIP (Surgical Care Improvement Project). SCIP requirements are based on surgery type and thus outline the minimum care; this Intermountain model stratifies based on surgery type and individual risk factors and promotes a preferred VTE prophylactic regimen for each patient.

## ► REFERENCES

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6. Shojania KG, Duncan BW, McDonald KM, Wachter RM, Markowitz AJ. Making health care safer: a critical analysis of patient safety practices. *Evid Rep Technol Assess (Summ)*. 2001;(43):1-668.

