

# Venous Thromboembolism (VTE) Prophylaxis for Hospitalized Adult Patients

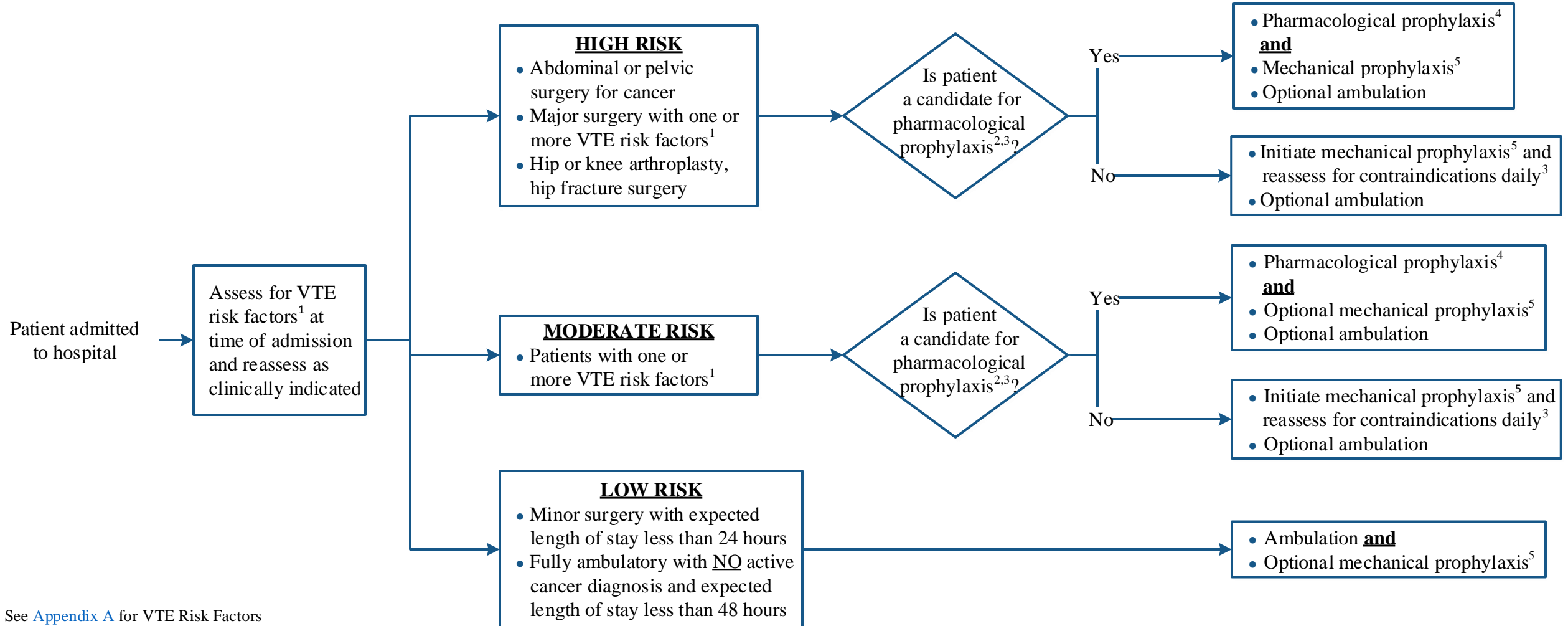
Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

**Note:** Use of Direct Oral Anticoagulants (DOAC) [apixaban, rivaroxaban, edoxaban, dabigartan] is not recommended for prevention of VTE in cancer patients as safety and efficacy data are lacking

## INITIAL EVALUATION

## RISK

## MANAGEMENT



<sup>1</sup> See [Appendix A](#) for VTE Risk Factors

<sup>2</sup> Note: excludes patients already on anticoagulants

<sup>3</sup> See [Appendix B](#) for Relative Contraindications to Pharmacological Options for VTE Prophylaxis

<sup>4</sup> See [Appendix C](#) for Pharmacological Options for VTE Prophylaxis

<sup>5</sup> See [Appendix D](#) for Mechanical Options for VTE Prophylaxis

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## APPENDIX A: VTE Risk Factors

- Active cancer (or suspicion of cancer)
- Age 60 years or older
- Prior VTE
- Advanced stage of cancer
- Medical comorbidities (infection, renal disease, pulmonary disease, congestive heart failure, arterial thromboembolism)
- Familial and/or acquired hypercoagulability
- Major surgery (abdominal, pelvic, orthopedic surgery)
- Central venous catheter/IV catheter
- Chemotherapy (especially bevacizumab, thalidomide/lenalidomide plus high-dose dexamethasone)
- Exogenous estrogen compounds (hormone replacement, contraceptives, tamoxifen/raloxifene, diethylstilbestrol)
- Erythropoietin stimulating agents
- Poor performance status
- Nephrotic syndrome
- Major trauma
- Spinal cord injury
- Smoking
- Obesity (BMI greater than 30 kg/m<sup>2</sup>)
- Pregnancy

## APPENDIX B: Relative Contraindications to Pharmacological Options for VTE Prophylaxis

- Active bleeding (cerebral, GI, GU)
- Thrombocytopenia (platelets less than 50 K/microliter)
- Anticipated thrombocytopenia
- Heparin-induced thrombocytopenia (HIT)
- Recent major surgery at high risk of bleeding
- Recent CNS bleed within 72 hours
- Neurosurgery within 72 hours
- Intracranial or spinal lesion at high risk of bleeding
- Recent GI bleed
- Underlying coagulopathy
- Patient on protocol that prohibits anticoagulation
- End of life care
- Uncontrolled hypertension (greater than 200 mmHg/120 mmHg)

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## APPENDIX C: Pharmacological Options for VTE Prophylaxis

1. Unfractionated heparin (drug of choice in renal failure or dialysis) 5,000 units subcutaneously every 8 hours or 7,500 units subcutaneously every 8 hours for BMI greater than or equal to 40 kg/m<sup>2</sup>
2. Enoxaparin 40 mg subcutaneously every 24 hours or 40 mg subcutaneously every 12 hours for BMI greater than or equal to 40 kg/m<sup>2</sup>
3. Enoxaparin 30 mg subcutaneously every 12 hours
4. Enoxaparin 30 mg subcutaneously every 24 hours (creatinine clearance (CrCl) stable but between 20-30 mL/minute)
  - For CrCl less than 20 mL/minute or on dialysis, unfractionated heparin is preferred
5. Dalteparin 5,000 units subcutaneously every 24 hours
6. For patients intolerant to heparin products or for those who prefer to avoid pork products: fondaparinux 2.5 mg subcutaneously every 24 hours (contraindicated if total body weight less than 50 kg and/or CrCl less than 30 mL/minute)

**Note:** Apixaban 2.5 mg by mouth every 12 hours or rivaroxaban 10 mg by mouth every 24 hours is recommended only for cancer patients with a history of HIT or when a patient prefers to avoid pork-derived products.

## APPENDIX D: Mechanical Options for VTE Prophylaxis

- Sequential compression devices (SCDs)
- Graduated compression stockings (TED hoses)

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## SUGGESTED READINGS

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## DEVELOPMENT CREDITS

This practice consensus algorithm is based on majority expert opinion of the VTE workgroup at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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