



Program Guide

Introduction

This case-based self-learning program has been designed specifically for clinicians working in the emergency department, including emergency physicians, general internal medicine specialists and general physicians.

There are eight short, interactive cases which examine various scenarios involving deep vein thrombosis or pulmonary embolism (PE), broadly known as venous thromboembolism (VTE) as seen in the emergency department:

PE cases

- Uncomplicated PE
- PE and Drug-drug Interactions
- PE in Obese Patients
- Incidental Cancer-associated PE

DVT cases

- DVT and Severe Renal Disease
- Management of Upper Extremity DTV
- Management of DVT in thrombocytopenia
- Management of DVT in patient with gastric cancer

This program has been developed for use with Thrombosis Canada's [Emergency Department Venous Thromboembolism Order Set](#) and the [VTE Management Care Path](#).

Steering Committee

The components of this program were developed and reviewed by a Steering Committee of experts from Thrombosis Canada. The committee consisted of the following medical practitioners:

Kerstin de Wit, MBChB, MSC, MD, MRCP,
FRCEM, FRCPC (Chair)
Thrombosis and Emergency Medicine
Hamilton, ON

Lana Castellucci, MD, MSc, FRCPC
Thrombosis and Internal Medicine
Ottawa, ON

Vinai Bhagirath, MD, MSc, FRCPC
Hematology
Hamilton, ON

Indy Gosh, MD, CCFP (ED)
Emergency Medicine
Toronto, ON



Self-learning Format

Select the case that you wish to review. Each case has been pre-recorded by the author and includes a pre-test at the beginning, a post-test at the end, and interactive questions throughout.

Each case will require about 30 minutes to complete. You may review as many cases as you wish, in whichever order suits your learning needs.

Approximately eight weeks after you complete each case, you will receive the reflective exercise via email. This must be completed and returned in order to receive credit for the case(s) reviewed.

A discussion board is provided for questions or comments. Faculty will respond to these.

Program Learning Objectives

After completing all elements of this program, participants will be better able to:

- Apply evidence-based methodology in deciding which patients with PE may be discharged home safely and treated as an outpatient;
- Describe appropriate anticoagulation (e.g., DOAC, warfarin, LMWH) for VTE in various patient populations (renal disease, obesity, cancer);
- Discuss potential drug-drug interactions when considering the use of DOACs or warfarin to treat VTE.

Case-specific Learning Objectives

Uncomplicated PE; Indy Ghosh

By the end of this case, participants will be able to:

- Describe one potential diagnostic algorithm for hemodynamically stable patients suspected of pulmonary embolism (PE);
- Apply evidence-based methodology in deciding which patients with PE may be discharged home safely and treated as an outpatient.



PE and Drug-drug Interactions; Lana Castellucci

By the end of this case, participants will be able to:

- Describe drug-drug interactions for DOACs;
- Discuss drug-drug interactions for warfarin.

PE in Obese Patients; Vinai Bhagirath

By the end of this case, participants will be able to:

- Understand risk of VTE in very obese patients;
- Choose appropriate initial treatment for VTE in very obese patients;
- Identify and appropriately consider factors that may necessitate a change from usual practice when treating patients with significant obesity and VTE.

Incidental Cancer-associated PE; Kerstin de Wit

By the end of this case, participants will be able to:

- Describe a safe approach to treatment of cancer-associated thrombosis (CAT);
- Review the anticoagulation options for CAT;
- Discuss the treatment of incidentally identified CAT.

DVT and Severe Renal Disease; Lana Castellucci

By the end of this case, participants will be able to:

- Describe use of DOACs in renal disease;
- Describe use of warfarin in renal disease.

Management of Upper Extremity DVT; Indy Ghosh

By the end of this case, participants will be able to:

- Discuss when to suspect upper extremity (UE) deep vein thrombosis (DVT);
- Describe the difference between primary and secondary UEDVT;
- Determine if diagnostic algorithm and treatment for UEDVT are the same as lower extremity (LE) DVT.



Management of DVT in thrombocytopenia; Vinai Bhagirath

By the end of this case, participants will be able to:

- Describe the risk of VTE in patients with cancer;
- Determine appropriate initial treatment for cancer- and chemotherapy-associated VTE in the presence of thrombocytopenia;
- Identify factors that may complicate VTE treatment specific to cancer and chemotherapy.

Management of DVT in patient with gastric cancer; Kerstin de Wit

By the end of this case, participants will be able to:

- Discuss why patients with a GI tumour and VTE should be treated differently to other patients with cancer;
- Describe how patients with an in-situ GI tumour have a higher risk of bleeding from the tumour when anticoagulated;
- Explain why patients with an in-situ GI tumour and acute VTE should be treated with LMWH.

Accreditation

This event is an Accredited Self-Assessment Program (Section 3) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada, and approved by the University of Ottawa's Office of Continuing Professional Development. You may claim a maximum of **12.00 hours** (credits are automatically calculated).

Medical personnel should take into account the individual patient's condition and consult officially approved monographs before making the diagnosis, beginning treatment, or following any procedures based on suggestions made in this document.

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Thrombosis Canada
128 Halls Rd
Whitby, ON L1P1Y8