

Although evidence-based treatment guidelines recommend low-molecular-weight heparin (LMWH) monotherapy for cancer-associated thrombosis (CAT), adherence to outpatient treatment guidelines for CAT still needs improvement. One of the challenges that clinicians face in treating CAT with LMWH is patient preference for oral anticoagulants over daily LMWH injections. This article aims to provide oncology nurses with practical advice on patient education to increase patient acceptance of and adherence to LMWH treatment for CAT.

#### AT A GLANCE

- CAT is a major complication that affects patients with cancer throughout the course of their illness.
- LMWH is effective and safe, and is the preferred treatment for CAT.
- As patient advocates, oncology nurses can promote treatment acceptance and compliance among patients with CAT.

#### KEYWORDS

cancer-associated thrombosis;  
low-molecular-weight heparin;  
patient adherence

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# Cancer-Associated Thrombosis

## Improving patient adherence to low-molecular-weight heparin therapy

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**C**ancer-associated thrombosis (CAT) refers to all thrombotic events encountered during the cancer journey. The association of cancer and venous thromboembolism, including deep vein thrombosis and pulmonary embolism, has been widely acknowledged since the 19th century and was first described by Armand Trousseau (1865). The risk for venous thromboembolism is four- to sevenfold higher in patients with cancer (Stein et al., 2006), which can be attributed to several factors, including the prothrombotic nature of the malignancy, administration of chemotherapy, suppression of fibrinolytic activity, use of vascular access devices, and surgical interventions used to treat cancer (Grier, 2014). The incidence of CAT has been rising because of greater chemotherapy use and extended survival time related to advances in cancer treatment (Khorana, Francis, Culakova, Kuderer, & Lyman, 2007a). Although CAT is linked to poorer prognoses and is the second leading cause of death in patients with cancer after disease progression, patients, particularly those receiving chemotherapy, usually have little knowledge or warning of their risk for CAT at the time of diagnosis (Noble, Prout, & Nelson, 2015). The support and information they receive on CAT from their medical oncologist or oncology nurse are often inadequate compared to the information they receive on chemotherapy treatment and associated side effects (Noble et al., 2015). The diagnosis of CAT is very physically and emotionally distressing

for patients, particularly in the context of the major life event of a recent cancer diagnosis and ongoing cancer treatment. In addition, the management of CAT seems more complicated in the oncology setting because of the lack of ownership of its management among oncologists, primary care physicians, and hematologists. As patient advocates and educators, oncology nurses should proactively learn about newer developments in the management of CAT and apply that knowledge to daily patient care to ensure the best possible outcomes. This article provides an overview of the most recent standard treatment guidelines for CAT, as well as nursing interventions that may improve patient adherence to and satisfaction with recommended treatment.

### Low-Molecular-Weight Heparin Therapy and Its Challenges

In the early 2000s, venous thromboembolism was treated with low-molecular-weight heparin (LMWH) or unfractionated heparin, as well as long-term oral anticoagulants, such as vitamin K antagonists like warfarin (Coumadin®) (Barbosa, 2014). Since 2006, more evidence has shown support for long-term LMWH as first-line treatment for CAT (Akl et al., 2008). Noble et al. (2008) published a comprehensive review of 19 publications, including a meta-analysis of four randomized, controlled trials, of anticoagulation treatment in patients with cancer. The data revealed a 50% reduction in relative risk in recurrent venous thromboembolism without increased bleeding rates in favor of LMWH over a