

Stop the Clot! The Latest Anticoagulants



1. What are low-molecular-weight heparins (LMWHs)?

LMWHs are fragments made from unfractionated heparins via enzymatic or chemical depolymerization. They exert their anticoagulant effects by binding to antithrombin III.

2. What are the benefits of LMWHs compared to unfractionated heparins?

- Bioavailability
- Longer half-life
- Dose-independent clearance
- Less affinity for proteins and cells
- Do not require constant monitoring
- Less heparin-induced thrombocytopenia
- Less likely to cause osteoporosis, even with long-term use

For an in-depth article on the latest anticoagulant therapies, please go to page 102.

As presented at Memorial University of Newfoundland
by **Kulit S. Grewal**, MD, FRCPC

3. What is hirudin and is it effective?

Hirudin is derived from the salivary gland of the medicinal leech, *Hirudo medicinalis*. Studies have shown it to decrease death and myocardial infarction (MI) in patients with unstable angina and non-ST segment MI; however, it causes bleeding and the long-term effect is unknown.

4. What are factor Xa inhibitors?

Factor Xa inhibitors are synthetic pentasaccharides which bind to antithrombin, selectively inhibiting Xa. Some studies have shown these molecules to decrease the rate of deep venous thrombosis in patients undergoing knee and hip surgery by 50% to 60%, with no excess bleeding. It is uncertain if this equates to real clinical benefit.