

Table 1.**Comparison of UFH and LMWH**

EFFECT	UFH	LMWH	SIGNIFICANCE OF DIFFERENCE ON LMWH
Mean molecular weight	12,000-15,000 Daltons	4000-6500 Daltons	
Mean saccharide units	40-50	13-22	
Anti-Xa:Antithrombin activity	1:1	2-4:1	
Nonspecific protein binding	Much	Minimal	↑ Bioavailability ↑ Antithrombin potency
Neutralization by Platelet factor 4	Yes	Minimal	↑ Antithrombin potency
Inhibition of Fibrin-bound thrombin	No	Yes	↑ Antithrombin potency
Binding to endothelium	Yes	Minimal	↑ Bioavailability ↓ Bleeding ¹
Binding to macrophages	Yes	Minimal	↑ Bioavailability ↑ Half-life ²
Inactivation of platelet-bound Xa	Weak	Strong	↑ Antithrombin potency
Inhibition of platelet function	++++	++	↓ Bleeding
Interaction with platelets	More	Less	↑ Bioavailability
Causes thrombocytopenia	Not rare	Very rare	↓ Bleeding
Dose response	Poor	Fair	↑ Safety and consistency
Bioavailability	~ 30%	> 90%	↑ Safety and consistency

UFH, Unfractionated heparin; LMWH, Low molecular weight heparin; SC, Subcutaneous

¹ = Interaction with endothelial cells causes increased vascular permeability, resulting in potentially increased bleeding.

² = Hepatic macrophage uptake of an agent results in increased hepatic metabolism

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