

## HEPARIN-INDUCED THROMBOCYTOPENIA

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### INTRODUCTION

*Heparin-induced thrombocytopenia (HIT)* is an immune-mediated process triggered by exposure to unfractionated heparin (UFH) or low molecular weight heparin (LMWH) that can create the paradox of increased thrombosis risk with concurrent thrombocytopenia. It is important to recognize and promptly initiate appropriate management when present. No gold standard test currently exists; thus, diagnosis typically combines signs and symptoms with laboratory observations. Stopping the heparin agent alone will not prevent the potential risk for thrombosis, limb ischemia (which can lead to amputation), or death.

### Identification of HIT<sup>1</sup>

See **Table 18-1**.

**TABLE 18-1: Characteristics of Heparin-Related Nonimmune- and Immune-Mediated Thrombocytopenia**

Observation	Nonimmune-Mediated Heparin-Associated Thrombocytopenia (HAT)	Immune-Mediated Heparin-Induced Thrombocytopenia (HIT)
Frequency	10–30%	<1–3%
Timing of onset	1–4 days	Typical 5–10 days <i>Acute:</i> Immediate if recent exposure <i>Delayed:</i> Up to 40 days after last exposure to the heparin compound
Decrease in platelets	Slight	Moderate/large
Antibody mediated	No	Yes
Thrombosis	No	30–75%
Hemorrhage	None	Rare
Management	Observe	Discontinue all heparin/LMWH products, flushes, coated lines, and rinses. Start alternate parenteral anticoagulant.

LMWH: low molecular weight heparin

Immune-mediated HIT is transient with the risk for recurrence highest from re-exposure to heparin products lasting approximately 100 days.

## ***HIT Terminology***

See **Table 18-2**.

**TABLE 18-2: HIT Terminology<sup>2</sup>**

<b>Term</b>	<b>Description</b>	<b>Treatment Duration</b>
Acute HIT	Period of thrombocytopenia associated with current or recent exposure to heparin prior to platelet count recovery.	Continue anticoagulation until recovery of platelet counts to a stable plateau if no thrombosis.
Isolated HIT	Presence of HIT without thrombosis related to heparin. Includes pre-existing thrombosis and subsequent HIT.	Continue anticoagulation until recovery of platelet counts to a stable plateau if no thrombosis.
HIT-related thrombosis syndrome (HITTS)	Presence of thrombosis that formed as a result of HIT.	3–6 months unless other factors require longer anticoagulation.
History of HIT	Previous history of HIT, but not acute, or related thrombocytopenia.	NA—may receive anticoagulation for other reasons (i.e., DVT prophylaxis); consider using fondaparinux.

HIT: heparin-induced thrombocytopenia

## ***HIT-Related Disorders (Not Common)<sup>2</sup>***

- Adrenal infarct
- Cardiovascular/anaphylactoid reactions on reexposure
- Skin lesions at heparin injection sites
- Venous limb gangrene (VLG) with excessive initial warfarin exposure
- Warfarin-induced skin necrosis

## ***Phases of HIT***

See **Table 18-3**.