THROMBOLUX

QUALITY REASSURANCE

Are you putting patients at risk with uncontrolled platelet variability?

Results from a platelet inventory management study at a pediatric hospital.[1]

Nearly 50% of your platelet inventory is already activated[2]

Transfusing the wrong platelets into the wrong patients can have serious, sometimes life-threatening consequences. **As many as 32% of platelet transfusions fail,**[3] leading to febrile reactions and refractoriness, which can result in more frequent, costly, transfusions. By making activation status a standard quality marker, you'll have control over platelet variability caused by the supply chain, saving both lives and money.[2]

STUDY

The ThromboLUX-based inventory management study demonstrated that eliminating platelet variation and providing only resting platelets to cancer patients lead to:

• Reduced number of transfusions • More time between transfusions • Lower costs

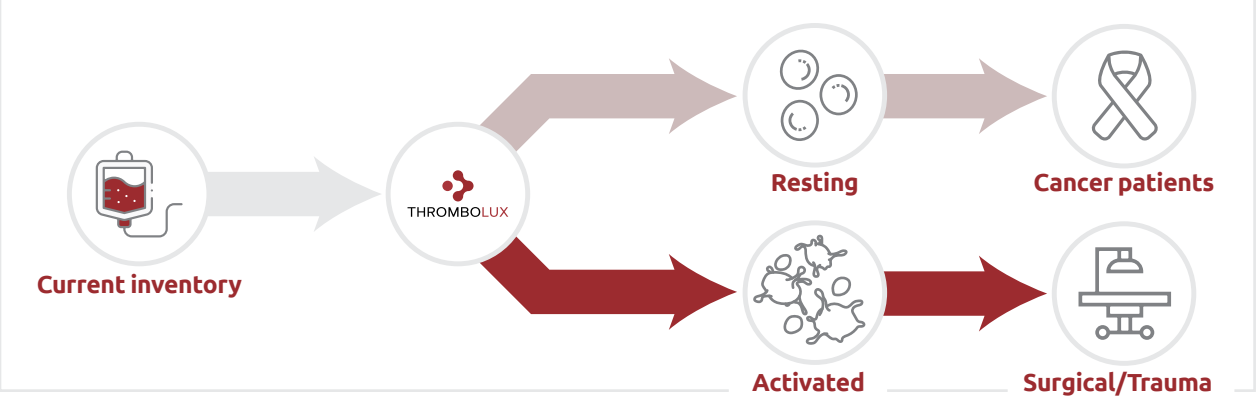
STUDY OBJECTIVE

The objective was to determine if minimizing hematology-oncology patients' exposure to activated platelets would reduce the chance of non-immune refractoriness and result in fewer transfusions.

STUDY DESIGN

Over the 4-month quality improvement initiative, ThromboLUX was used as part of routine practice in the blood bank. ThromboLUX is a 5-minute walk-away test to definitively determine activation status.

- Resting platelets were allocated to hematology-oncology patients requiring prophylactic transfusions.
- Activated platelets were allocated to actively bleeding surgical and trauma patients.



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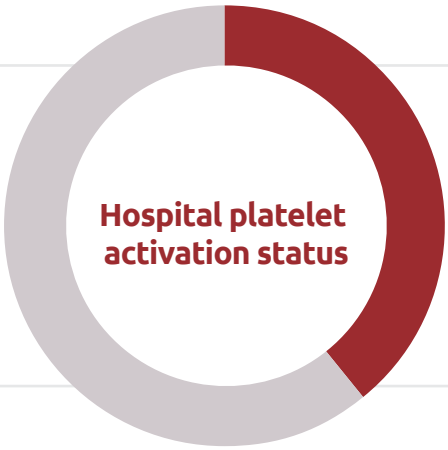
61%
RESTING



39%
ACTIVATED

Count increments are reduced after transfusion of activated platelets.

Prior to transfusion of activated platelets	After transfusion of activated platelets	% Reduction
42.3 *(95% CI: 31.7, 53.0)*	**32.2 Hours**	**24**

Time to next transfusion is decreased after transfusion of activated platelets*.

Prior to transfusion of activated platelets	After transfusion of activated platelets	% Decrease
88.8 Hours *(95% CI: 65.9, 119)*	**66.4 Hours**	**25**

Patients receiving a transfusion with activated platelets typically received 4 subsequent transfusions compared to patients receiving resting platelets[4].

Activated	Resting	Median excess transfusions	95% Confidence interval
5	**1**	**4**	**1 to 7**

As complex cases are reduced so are transfusions and cost.

	Pediatric cost per transfusion	Reduction of transfusions per patient	Transfusions saved	Expected annual savings
Complex cases	**$912**	**71%****	**10****	**$27,360****
Overall transfusions	**$912**	**44%****	**256****	**$700,416****

* In individual cases
** Extrapolated to full compliance with resting platelet allocation

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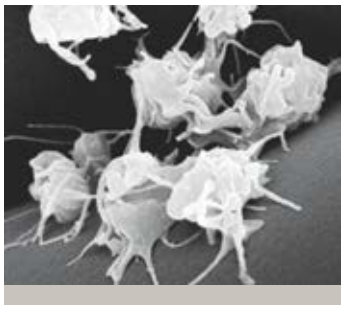
Allocating the right platelets to the right patients helps make the most of a precious commodity

Resting platelets retain their discoid shape and are lifesaving for the most vulnerable patients—those with cancer.

Potential impact of resting platelets on cancer patients

- Significantly reduced number of transfusions
- Reduced chance of immune refractoriness



Activated platelets have changed to an amorphous form through normal processes and are ideal for cold storage and use in trauma patients.

Potential impact of activated platelets on cancer patients

- Reduced platelet count increments, increasing the need for more infusions
- Increased chance of refractoriness due to increased number of infusions
- May interfere with certain immunotherapies, complicating treatment

Identifying and distributing platelet products based on activation status can result in improved patient outcomes and cost savings[2]

The ThromboLUX System lets you assess activation status right when you get the product. Quickly. Safely. Definitively.

It's time to take control over platelet variability with ThromboLUX. For more information or to read the full study, please visit:

THROMBOLUX.COM

References: **1.** Szefere, Thompson D. ThromboLUX Based Inventory Management Results: US Pediatric Hospital. Emmes Canada 2019 (data on file) **2.** Millar D, Murphy L, Labrie A, Maurer-Spurej E. Routine screening method for microparticles in platelet transfusions. J Vis Exp. 2018;(131):e56893. **3.** Goldfinger D, Burner JD. Refractoriness to platelet transfusion therapy. https://www.uptodate.com/contents/refractoriness-to-platelet-transfusion-therapy. Accessed May 2, 2019. **4.** Khalif Halani. Meta-analysis of Difference in Number of Transfusions after Receipt of an Activated Transfusion.Emmes Canada 2019 (data on file).

LightIntegra TECHNOLOGY

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LUX-MRK-001 Rev 3.0