



To: UPHS Physicians and Staff using Hospital of the University of Pennsylvania (HUP) Transfusion Services

From: Department of Pathology and Laboratory Medicine, Division of Transfusion Medicine & Therapeutic Pathology

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Subject: Pathogen-reduced platelets

Effective September 14th, we will be introducing pathogen-reduced, psoralen-treated platelets into our blood product inventory at HUP in order to comply with a recent FDA guidance requiring greater measures be taken to prevent bacterial contamination of platelet products. Pathogen reduction reduces the risk of transfusion-transmitted infection (TTI), including sepsis, in platelet recipients. In addition, like gamma irradiation, the psoralen/UVA light treatment pathogen reduction process reduces the number of viable T cells in platelet products, potentially lowering the risk of transfusion-associated graft-vs-host disease. Platelets that have been pathogen-reduced by psoralen treatment and UVA thus ***do not need to be irradiated***. The FDA considers this method of pathogen reduction equivalent to irradiation. Pathogen-reduced, psoralen-treated platelets were approved by the FDA in December 2014 and are in routine use in many large US academic and children's hospitals. As the production of pathogen-reduced platelets is ramped up over the next 6 months by our blood supplier, we will be providing a mix of psoralen-treated platelets and traditional apheresis platelets tested using bacterial culture.

What is pathogen reduction or pathogen inactivation (PI)?

PI is the process of treating a blood component soon after collection in order to inactivate infectious agents. Although the technology is termed pathogen inactivation, the components themselves are referred to as being pathogen reduced. The Cerus INTERCEPT® method to produce pathogen-reduced platelets uses a chemical agent

(amotosalen) that is activated by ultraviolet A (UVA) light to irreversibly crosslink nucleic acid, thereby inactivating a broad spectrum of viruses, bacteria, and parasites, as well as rendering donor T-cells non-viable. The extent of the inactivation, and thus the effectiveness to prevent transfusion-transmitted infections, varies among different microbes. Mature red cells and platelets do not contain nucleic acid and do not require replication. Lymphocytes do contain nucleic acid; therefore, their proliferation is prevented by PI treatment.

Psoralen-treated Platelet Administration

- Platelet dosing and volume of the new psoralen-treated platelets is the same as conventional platelet products.
- Pre-medication and transfusion time for psoralen-treated platelets are the same as conventional platelet products.
- Patients may receive both conventional platelets and psoralen treated platelets to fill their transfusion requirements.
- Psoralen treated platelets can be administered in the same intravenous line as conventional platelets provided the tubing has not expired.

For any questions please contact us at: 215-662-3427.