



## SUMMARY



### Customer

University Health Kansas City

### Industry

Wellness/Health Services Provider

### Challenge

Establish protocols to ensure blood bags stay below the required 10°C

### Benefits/Outcomes

Ensuring regulatory compliance while delivering quality, patient-first care

### Solution

Zebra Safe-T-Vue 10  
Irreversible temperature indicators provide an easy-to-read visual cue if blood bags have exceeded the required temperature

# Zebra Safe-T-Vue™ Indicators Helping Medical Centers Deliver Patient-First Healthcare

## Accessible, quality healthcare for the underserved

University Health Kansas City is a mid-sized urban medical center and teaching hospital with two acute care academic hospital locations and a mission to provide accessible, state-of-the-art quality healthcare to the community regardless of the patients' ability to pay. As a safety net hospital, the downtown campus is also one of the busiest Level I trauma centers in the city. It provides care to the underserved and often uninsured, patients who sometimes arrive in situations that might be less critical if they had received earlier care.

### Challenge

#### Establish Protocols to Ensure Blood Bags Stay in the Required Temperature Range

While University Health's transfusion volume may not be considered terribly high—averaging around 3,500 units of red blood cells (RBCs) transfused each year—the majority of its transfusions are related to trauma, which means demand is both critical and unpredictable. Additionally, the medical center supports surgery, labor and delivery, oncology and a sickle cell clinic.

On average, University Health needs about 54 units of RBCs per month for massive transfusions. Its team can have six RBCs, six liquid plasmas, and an apheresis platelet packed and ready to go in 80 seconds. In addition to the MaxQ MTP Coolers® it uses, the medical center needs to make sure any RBCs returned to blood bank storage have stayed below the FDA required temperature of 10°C.

### Solution

#### Irreversible Temperature Indicators Provide an Easy-to-Read Visual Cue

The medical center has been using Zebra's Safe-T-Vue 10 blood indicators, which are manufactured by Temptime, since 2015. These temperature-sensitive indicators are applied directly to blood bags. Each time a team member puts RBCs in a cooler for transport, a Safe-T-Vue indicator is attached to it. If the indicator turns from white to red, the temperature of the blood bag has reached or exceeded 10°C.

The hospital also has BDPyxis™ ES refrigerators containing emergency release RBCs and liquid plasma in its trauma bay and operating room. All remote storage RBCs have Safe-T-Vue 10 indicators attached and activated. The University Health team worked together to develop protocols, which include safety checks where the transfusionist ensures and documents the Safe-T-Vue 10 indicator is white prior to performing a transfusion.

## Result

### Ensuring Regulatory Compliance While Delivering Quality Care

One feature of the Safe-T-Vue 10 is that it's irreversible. It will indicate that a high temperature existed even if it eventually returns to a lower level. This helps minimize the regulatory risk associated with not knowing when a unit exceeds 10°C. It also helps ensure that a RBC unit pulled out for an ER trauma isn't put back into the refrigerator or cooler if it has exceeded the required temperature. The Safe-T-Vue 10 is an effective way to know if the proper temperature range has been maintained.

Some hospitals and blood banks work on the 30-minute rule, but in this medical center's experience, RBCs will exceed 10°C around 15 minutes out of refrigeration. That's why University Health chose Safe-T-Vue 10 over other indicators. The team felt reversible indicators would be less effective in this environment because it's important to know if RBCs have exceeded the required temperature, even briefly. The Safe-T-Vue 10 is also easier to read than others the medical center evaluated. Many indicators were smaller and more difficult for nurses to see in time-sensitive situations.

As a safety net hospital, cost is also a contributing factor. Safe-T-Vue 10 is cost comparable to other indicators, and University Health found this solution best met its needs to provide exceptional patient care. Another factor in its preference for Safe-T-Vue 10 over other blood temperature indicators is the device can remain on the blood bag for the life of the unit and does not go to waste. When unused blood is returned to the blood bank, the Safe-T-Vue 10 stays on the unit to continuously monitor temperature—unlike other temperature indicators.



To learn more about how Safe-T-Vue can help ensure compliance and protect valuable blood supplies, visit [www.zebra.com/temmonitoring](http://www.zebra.com/temmonitoring)



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