



BLOOD TRACKING



Addenbrooke's Hospital, which is part of Cambridge University hospitals NHS foundation Trust, is implementing a site wide blood audit and release system.

Following the findings of the National SHOT (Serious hazards of transfusion) report Addenbrooke's conducted a number of risk assessments and audits of its transfusion practices and concluded that for patient safety the best way forward was to install a "vein to vein" electronic blood tracking system.

An extensive procurement exercise was performed, which included site visits and evaluation against detailed specifications. Following this process the Trust was pleased to award the contract to the SATO/Fordman Systems solution.

A multidisciplinary project group was established to implement the system Trust wide. To highlight the benefits and impact of the system an extensive publicity campaign was set-up which included mail shots, newsletters and drop in centres in the main staff and patient areas. Everyone that saw the system responded positively.

The full system consists of identity band printers, handheld scanners, sample label printers and blood fridge control units. These elements enable the following steps to be implemented:-

- **Step 1 Patient Identification**

A computer printed identity band is produced from the hospital information system at the point of admission. This gives clear and accurate eye readable information on a professional looking identity band and a 2D barcode.



- **Step 2 Transfusion sample labelling**

Blood samples taken from the patient are labelled at the bedside using a hand held scanner and a small portable sample label printer. This demand printed label contains the exact information held in the 2D barcode of the identity band, which eliminates the mislabelling errors often introduced into the transfusion process at this point. The scanners do not hold data for more than 20secs so no accidental mislabelling can occur from one patient to the next.

- **Step 3 Laboratory Input**

Laboratory receipt of samples labelled in this fashion is a simple process of scanning a linear barcode of the patient's hospital number from the printed label produced at the bedside. Any blood or blood products requested are then prepared and issued in the accepted way by the laboratory. The laboratory computer transfers the details of each unit issued and the full identity of the intended recipient to the Blood Audit and Release System (BARS)

- **Step 4 Blood Audit and Release System (BARS)**

The BARS controls the blood and blood product collection process preventing the removal of incorrect units for the patient identified. The system ensures only authorised staff can access products.



- **Step 5 Bedside administration**

The final step is the use of a hand held scanner to do a final check of the patient's identity against the product to be transfused at the bedside. This confirms the unit about to be connected was issued by the laboratory for that patient and alarms to warn of a mismatch. This portable version of the Blood Audit and Release System (PBARS) not only acts as an alarm system at the point of administration but enables the laboratory to receive real time data into the audit trail as to the date and time of transfusion.



A number of benefits offered by the system are:

1. Avoidance of death, and morbidity, as well as a reduction in the number of near misses due to blood transfusion incidents.
2. Improved, auditable compliance with correct patient ID checking within the transfusion process.
3. Positive identification of patients for many other purposes within the Trust to support already established methodology.
4. Support for clinical staff to proactively manage blood and blood products stocks by providing clear, on going, up to date information of products available for a patient.

Having installed equipment on all wards, the project team is currently involved in the training of all staff that take samples, collect and administers blood products. This amounts to in excess of 3000 staff across the whole Trust.

The project will be completed by May 30, 2007, by which time all seven of the Trusts transfusion fridges will be locked by the system. After this date only those trained will be able to complete the vein to vein process of collecting and administering blood and blood products.

Addenbrooke's Hospital 
Cambridge University Hospitals NHS Foundation Trust

VEIN-TO-VEIN BLOOD TRACEABILITY



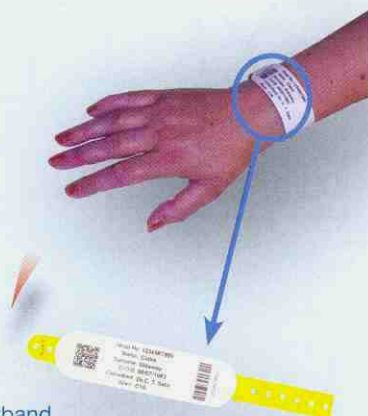
Positive Patient ID - Wristband printing



Data from HIS/ PAS



Patient wristband printing with SATO CT410



Patient wristband

Positive Patient ID - Blood sample tube labelling



Identify patient and take blood sample



Scan patient wristband & transfer patient data to SATO MB200i and print sample label



Labelling the tube

SUR:	Geraldine		
FORE:	Richardson		
D.O.B.	06/07/1983	WARD	S23AB
DATE & TIME	15.30	SIGNED	
HOSP. NO	 682230 314458		

Transfusion collection and administration process



Fridge control unit

Selecting blood



Confirm correct blood unit using BARS



Positively identify patient and commence transfusion

