

CYBERTRACK^{®1} ELECTRONIC TRANSFUSION MONITORING

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Background

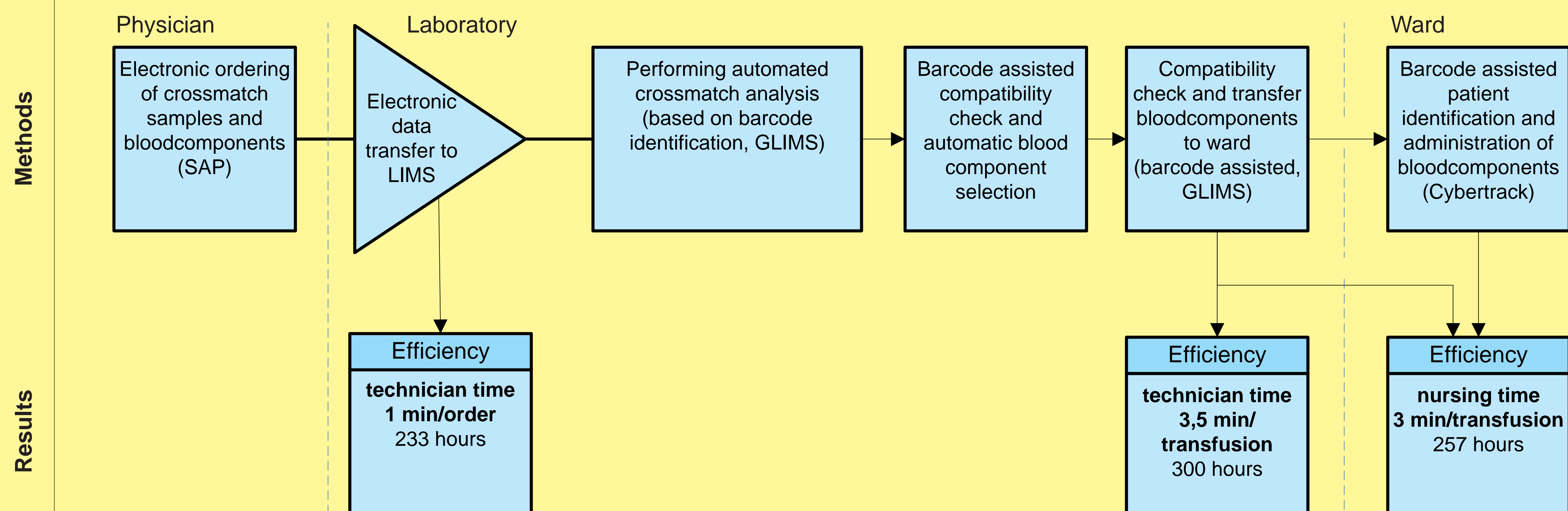
De Dutch guidelines for bloodtransfusion (CBO 2011) advise the use of information technology for improving the safety of blood transfusion to patients. Relevant information and transfusion data must be recorded transparently and easy accessible. In addition, identification errors appear to be the most important cause of adverse events and transfusion reactions as reported by TRIP, the national hemovigilance office.



Aims

The use of information technology with electronic identification and direct transfer of data may reduce transfusion errors. Therefore, the transfusion committee of Orbis Medical Center (OMC) enabled a business case for electronic monitoring of the transfusion chain by Cybertrack. After a successful pilot project, Cybertrack will be implemented in most of the hospital wards.

Since november 2011 electronic ordering of crossmatch samples and blood components is introduced in OMC. In oktober 2012 Cybertrack is introduced, a webbased program connected with Glims and SAP. The electronic compatibility check between patient and blood components is based on barcode identification (at patient wristband and blood component) and according to the transfusion history records in Glims.



Electronic ordering reduces the occurrence of administrative errors in blood transfusion. The introduction of Cybertrack enables blood component administration to the patient at the ward, which is monitored in SAP and Glims. The use of barcode identification for selection, transfer and administration of blood components indeed reduced the patient mismatch errors. In addition, Cybertrack introduced more efficient electronic procedures resulting in reduced time of nurses and technicians for performing transfusion preparations. Regarding the transfusion data of 2012 with 5148 transfusions and 13994 orders, a significant reduction was shown in nursing and technician time. This time now becomes available for better monitoring of the patients during transfusion, which is mandatory during the first 5 minutes.

Experiences/Benefits

- **Patient safety:**
Reduced risk of patient mismatch errors in blood transfusion
- **Traceability:**
Electronic traceability of every step in the transfusion chain according to the guidelines
- **Efficiency:**
 - increased automated procedures resulting in reduced nurse and technician time needed
 - no need for secondary patient identification
 - registration of all transfusion related patientdata in one database (including adverse events)
 - easy access to transfusion history records of patients

All electronic monitoring measures for the nursing staff and technicians resulted in more time for patient care and safety.

Conclusion

The introduction of Cybertrack enabled electronic barcode monitoring of the transfusion chain in Orbis Medical Center, from laboratory testing and blood component matching to safe administration of blood components to the patient. This resulted in significant improvement of patient safety in bloodtransfusion, by safe crossmatching of patient and blood component, by improved accessibility of transfusion data and more efficient procedures at the ward. The total reduction of working hours compensates well for the investments of Cybertrack.