Technology Offer

Blood transfusion safety system Cairos

Reference Number 32-00058

Challenge
Treatment with blood products is driven by information and is highly regulated in medicine worldwide. Severe adverse events (SAE) due to "never events" (process errors supposed to never ever occur), however, indicate that guidelines and written rules do not always meet implementation. "Never events" due to process errors include wrong decision making, flawed pretransfusion sampling and mistransfusion. They occur at frequencies of 1:100, 1:2.000, and 1:10.000, respectively (Dzik et al., BJH 2006, Murphy et al. Tr.Med. 2004). 5 million blood products being used in Germany per year thus translate to an average of at least 50.000 patients affected each year by process errors in hemotherapy.

The Hans-Hirschfeld-Device: Smart indwelling catheter for patient identification and pretransfusion sampling.

Technology
Cairos 4.0 is an eHealth process assistant helping healthcare teams to protect patients from preventable infusion-related harm by smart services that radically simplify workflows. It ensures constant learning on the job and compliance with guidelines. It is a tool to implement both patient blood management and active pharmacovigilance.
Key Functions:

- Augmented redundant independent patient identification.
- Automated pretransfusion sampling (Hans-Hirschfeld-Device).
- Electronic order entry with decision support and semi-automated process monitoring.
- Real time tracking of processes

Key Features:

- Industry 4.0 design: "smart IV access", "smart resource" (blood product, medication), "smart services" that organize, capture and deliver risk-relevant information.
- Cross-sectional multi-user single database resulting in data integration across entire process chain.
- Radiofrequency identification (RFID).
- Smartphone APP and web-based SaaS.
- Comprehensive wireless and paper-free documentation.

Commercial Opportunity
Development partnership and licencing.

Development Status
Prototype in use. Validated for emergency settings.

Patent Situation
Intravenous indwelling catheter: DE102004055989B4, EP1812099B1, US9415185B2
Indwelling transfusion catheter, transfusion cannula kit and method for testing a transfusion system: DE102009018837B4, US9232914B2, EP2424607A1

CHARITÉ
UNIVERSITÄTSMEDIZIN BERLIN

Licensing Contact:
Dr Thilo Förster
Technology Manager
T: +49 89 318814-35
foerster@ascenion.de

Ascenion GmbH
Herzogstraße 64
D-80803 München
T: +49 89 318814-0
info@ascenion.de
www.ascenion.de