



Critical incident report from the IAKH-Fehlerregister

in cooperation with the DIVI and the CIRSmedical Anästhesiologie of BDA/DGAI and ÄZQ

Report via



IAKH Fehlerregister



CIRSmedical AINS

of BDA/DGAI and ÄZQ

Topic/Title	Identification error during the processing of cell salvaged blood
Case -ID	20-2010-N4E7
Case report (approx. as entered)	<p>The postoperative processing of salvaged and stored blood was ordered since the patients hemoglobin level fell below 8 g/dl following hip arthroplasty. The blood reservoir was taken out of the refridgerator and taken to the cell saver machine in the recovery room where the autologous blood unit was produced and send back to the ward. There, the doctor on call checked the identity of the recipient and the name tag on the autologous unit (taken from the reservoir) and recognized the mismatch. That day, in the refridgerator two reservoir had been stored, but the nurse had been new and was not native German. Due to a similar German name on both tags, she did not read the second but took the first as the right one.</p>
Problems (here: questions that arise the possibility of problems- there had been no possibility for follow up queeries)	<ul style="list-style-type: none"> • Obviously, in that institution, cellsaver reservoirs are stored in the refridgerator until needed. Are cost of cell saver sets producing the use of this strategy or is cell salvaged blood transfused as restrictive as allogeneic blood? Should not every reservoir that contains a fair amount of blood suitable to produce a transfusion unit be processed and retransfused – since even after a time period of 6h (the maximal storage time of the salvaged blood) blood loss could continue. • The salvaged blood is separated from the patients bed. This would require a pharmaceutical production permit, since nor the restricted use of the autologous blood to one doctor is given (§13 2b AMG) neither the production and retransfusion of shed wound blood is part of the surgical procedure. Is the collection period ended in those hip surgery cases with skin closure? In the first few hours after a hip arthroplasty the continued collection makes sense

	<p>too.</p> <ul style="list-style-type: none"> • The salvaged blood is stored in the refrigerator: Cool storage of blood from an open collection system will not extend the safety storage- 6h-period due to the risk of bacterial growth. Cell salvaged blood has to be retransfused after a 6h period following start of collection in the reservoir or discarded. In a regular fridge blood is at risk of hemolysis due to the vibration of the generator, by the way. • Obviously, reservoirs are processed in that institution from nurses and tags are changed from reservoir to blood unit bag before ward physicians transfuse. Is there a SOP to assure identity checks? Is the process included in a quality management system? • Similar names in connection with a nurse unfamiliar to German names is a common error in identity checks. How are ID checks during the rest of the process? Is the 4 eye-double check principle used? The change of the name tag from reservoir to bag is unsecure, especially if multiple systems are worked in parallel. Is a bed side test foreseen prior to retransfusion? Is there a processing protocol documented for the individual produced unit? • Has the nurse be instructed in the processing and handling of autologous blood?
Process Step concerned **	3- handling, storage
Circumstances	Night shift
Good elements ("as reported" or <u>criticism of the CIRS Board</u>)	<u>Error was detected</u>
*Risk of reoccurrence/Likelyhood	4 of 5
*Potential risk for patient damage	5 of 5
Board recommendation (Suggestion of a change of process and/or structural quality by introduction /installation/reeducation of the following measures)	<p>Process quality:</p> <ul style="list-style-type: none"> • Quit disconnection and storage of cell saver reservoirs • Process and retransfuse most of the collected reservoir with a fair amount of blood • Respect the 6 h storage limit • Educate personell according a SOP for cell salvage • Install a quality management system for autologous blood therapy • Collect postoperatively • Introduce the 4 eye-double check principle

	Struktural quality: <ul style="list-style-type: none"> Consider electronic control, match and documentation of automated processing of cell salvage blood- bar code scanners would do
--	---

***Risk Grades:**

<u>Frequency, Risk of reoccurrence</u>		<u>Potential risk for patient damage</u>	
1/5	very rare max 1/100 000	1/5	very little acute injury/no permanent damage
2/5	rare max. 1/10 000	2/5	minor acute injury/slight permanent damage
3/5	medium max. 1/1000	3/5	considerable acute injury/ minor permanent damage
4/5	frequent, min. 1/100 damage	4/5	profound acute injury / considerable permanent
5/5	usual/common, min. 1/10	5/5	death/severe permanent damage

****Allocation of errors/near misses in the process of administration of blood or coagulation products**

1. -blood sample withdrawal
2. -blood order
3. -laboratory
4. -handling or storage
5. -blood product release, transportation, or administration
15. -sample/product/patient identification