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Concept to coordinate laboratory ABD: confirmation testing with ABO-identity bedside test

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Background: ABO-identity testing at the patient bedside, intended to improve transfusion safety, is increasing the logistic demands of transfusion and the workload for nurses.
Aim: A concept is presented combining ABD control of the blood bag in the laboratory with ABO-identity testing at the patient bedside.
Concept: A plastic chip containing prefilled reagents is composed of an ABD-confirmation area with four reaction chambers (A–B–D–autocontrol) and an ABO-identity area with two reaction chambers (A–B). The chip can be attached irreversibly to the blood bag. The segments of incoming blood bags are tested in the laboratory utilizing the ABD part. The chip is then attached to the blood bag, which is stored refrigerated, until it is required for transfusion. The nurse performs the bedside test with a patient sample utilizing the second (ABO)-part of the chip.
Discussion: With this concept: (1) the events of transfusion become a coordinated interaction between laboratory technician and nurse; (2) the ABD control done by the laboratory and the labelling of tested blood bags become part of an integral process; (3) the nurse is liberated from the preparation of the materials for bedside testing; (4) the result of patient bedside tests can be compared with the physically present result provided by the laboratory; (5) errors at the patient bedside are minimized due to the physical connection of blood bag and bedside test. The procedure is in conformity with the national guidelines.