

Cases from the 2007 SHOT Report

*Please feel free to use these examples in your teaching material
or other presentations.*

*They have been loosely categorised, but some cases may be
appropriate to illustrate more than one type of error*



- Incompatible transfusion Slide 3
- Poor decision making Slide 6
- Failure of checking procedures Slide 25
- Sampling / result errors Slide 33
- Handling / storage errors Slide 42
- Problems with collection Slide 52
- Problems with patient ID Slide 56
- Failure to follow protocol / SOP Slide 60
- Special requirements Slide 70
- Anti-D Slide 77



Incompatible transfusion



- **Patient's mother alerts clinicians to changed ABO group**
- *A 6 year old boy who was A D positive had an ABO mismatched SCT from an O D positive donor. One month later he was transfused with A D positive red cells as no information had been communicated to the hospital transfusion laboratory. When group A D positive red cells were again issued the next month the child's mother informed nursing staff that he should have O D positive blood. There was no adverse reaction.*



- **Two ABO incompatible units transfused resulting in need for red cell exchange transfusion**
- *A man with metastatic prostate cancer presented in A&E with a Hb of 5.3 g/dl and gastrointestinal bleeding. Two units of blood were collected by a registered nurse from the issue fridge and commenced via two cannulae. The patient became pyrexial with rigors, loin pain and hypotension and 1 hour after starting the transfusion the nurse called the doctor who stopped the transfusion: by this time most of both units was transfused. The doctor found that the red cell units were for a different patient, and that the units were incompatible, the patient being O D positive and the two transfused units B D negative. The patient received immediate supportive care and further advice was sought from the haematology consultant. A red cell exchange of 4 units of correct ABO/D group red cells took place. The patient suffered worsening renal impairment, and was later discharged to a hospice.*



Poor decision making /
lack of understanding



- **Worrying lack of comprehension of reasons for standard procedures, and disregard for consequences**
- *A patient receiving a red cell transfusion complained of severe back pain, and then developed rigors. The deputy Sister attended the patient, noticed it was the wrong blood, took it down and bleeped the HO. The ward then phoned Blood Bank requesting a further unit of blood for another patient as the first had been 'wasted'. Only when the BB manager asked for the bag was it revealed that the unit had erroneously been given to the wrong patient. BB Mgr contacted a consultant haematologist who went to see patient immediately. The sticky label from the blood bag tag had been removed from the medical notes, and the name had been crossed out on the blood bag label. The bag of blood had been thrown into the sharps bin, this was retrieved by consultant haematologist. The nurse who put up the blood admitted she had not performed any bedside checks.*



- **Lack of understanding about different component types**
- *4 units of FFP were requested for a 68 year old female patient on warfarin who had a haematoma following access to an AV fistula. An unqualified health care support worker was sent to collect the FFP but she removed a unit of stock platelets from the platelet agitator instead. These had not been issued for a patient and therefore had no patient labels attached. A second agency support worker came to collect the second unit of FFP and instead removed a second unit of stock platelets from the platelet agitator. This unit had expired at midnight the night before. The patient was O D positive and both bags of platelets were A D positive. Both of these units were checked by 2 staff nurses and were transfused before the error was detected. Both nurses noticed that the units bore no patient labels but still proceeded with the transfusion. There was no untoward reaction.*



- **Junior doctor uncertain of implications of G&S or crossmatch**
- *After some instructions from her consultant, a junior doctor requested an urgent '2 unit cross match' on an 85 year old female patient with a suspected bowel perforation admitted at 0500. The Hb was not available. Later the laboratory rang the admitting ward to tell them the blood was ready, and the nurse contacted the doctor to inform her and to remind her that the blood had to be prescribed. The doctor was very busy so the ward sent a Support Carer to meet her to complete the documentation. The nurse commenced the transfusion at 0705. At 0900 the patient's consultant stopped the transfusion as he knew the Hb was 13.9 g/dl. The intention had been to request and urgent G&S to cover a possible bleed but the patient was not to be transfused until further results were available. The junior doctor was confused between a "crossmatch" and "group and save" request.*



- **Disagreement about necessity of prophylactic platelets**
- *A 47 year old man with ALL was booked for insertion of a Hickman line. Platelet cover was on standby and the Consultant Haematologist instructed that platelets were not to be given if the count was $> 50 \times 10^9/l$. The platelet count was $57 \times 10^9/l$, but the radiologist would not insert the Hickman line without platelets being transfused prior to procedure. The patient was returned to ward where the SHO prescribed the platelets against consultants advice and outside of national guidelines. The patient returned to XRay where the line was inserted.*



- **Emergency blood given in haste by a junior doctor**
- *A 28 year old man required a repair to an arterial laceration in the antecubital fossa. Surgical HO demanded 2 units of O negative emergency blood. In fact the patient's group was known and 4 units had been crossmatched and were already available in the same refrigerator.*



- **Involvement of too many personnel in decision to transfuse**
- *A 20 month old girl on regular dialysis for end stage renal failure attended for routine haemodialysis and her father reported that she had been unwell. A consultant commenced dialysis urgently and as the Hb was 5.0 g/dl requested 2 units of blood to be given during dialysis. The dialysis was completed before the blood was ready so a decision was made by a second consultant to give 250ml of blood slowly over 6 hours. This message was conveyed between the dialysis unit nurse and the ward nurse by the patient's father. The notes were later collected and a third and fourth nurse set up the transfusion. Observations were done by the fourth nurse. No pre-transfusion observations were done. At 5, 20 and 35 minutes into the transfusion the patient was hypertensive, tachypnoeic and irritable; her oxygen saturations were unrecordable. The nurse thought this was normal for the patient. The transfusion was completed in one hour (not 6) and a fifth nurse then realised that the patient's extremities were blue. A sixth nurse administered oxygen whilst an anaesthetist was called who performed emergency intubation. The patient was transferred to paediatric ICU where she underwent sedation, high frequency oscillatory ventilation and haemofiltration. The patient made a full recovery.*



- **Misunderstanding and lack of knowledge leads to excessive pre-operative platelet transfusion**
- *An 81 year old man was pre-operatively transfused with four units of platelets within a four hour period. The patient developed cardiac failure, the operation was cancelled, and medical intervention was necessary. In fact the orthopaedic SpR had written in the notes "Arrange four units of platelets". The SHO assumed this meant to order and transfuse four units of platelets prior to surgery. When ordering, the SHO was advised by a BMS to seek a haematology opinion as the order appeared inappropriate. This advice was not sought.*



- **Repeated transfusions for iron deficiency resulting in Hb of 22 g/dl**
- *4 units were requested for an 85 year old male patient with chronic iron deficiency anaemia. Between 29/01, when his Hb was 6.3 g/dl, and 23/04, 24 units of packed cells were transfused on 8 separate occasions, 2 or 4 at a time, with no Hb check. On 09/05 the Hb was 22g/dL. In addition platelets were $98 \times 10^9/l$, INR 1.5, APTR 1.4 and fibrinogen > 8 g/L. The patient was subsequently venesected and by 24/05 Hb was 15.3g/dL and platelets $307 \times 10^9/l$.*



- **Small anaemic patient over-transfused**
- *A 79 year old female patient with CMV colitis weighing 41.5kg had a Hb of 6.7g/dL. She was given a 4 unit red cell transfusion resulting in a post transfusion Hb of 18.1g/dL.*



- **Junior doctor unfamiliar with paediatric prescribing protocols**
- *A 2 year old girl was admitted with peritonism, possibly due to ruptured appendix (later found to be a ruptured kidney tumour). Hb was 6.7g/dl and the surgical team decided to transfuse, writing a dose of 15ml/kg in the notes. The PRHO wrote up 2 units and she was given 2 adult bags over 6 hours. Hb was 18.6g/dl post transfusion.*



- **Small adult patient with low Hb**
- *An 18 year old male patient weighing 35kg, with a probable chest infection, received a 4 unit red cell transfusion based on an Hb result of 7.3g/dL. Post transfusion the Hb was 18.4g/dL. Both samples were rechecked and correct. Investigation revealed that the initial sample was taken by a junior doctor in A&E using a syringe during a difficult cannulation. The red cells may have settled in the syringe before the sample tubes were filled, giving an inaccurate result. No IV fluids were in progress at the time. This doctor prescribed 2 units of red cells. The patient was referred to a medical team and another junior doctor prescribed a further 2 units of red cells making a total of 4 units. No adverse reaction or ill effects were noted from the transfusion.*



- **A case of TACO after use of FFP to reverse warfarinisation**
- A 61-year-old male patient with an INR of 6.0 required warfarin reversal prior to elective surgery. He was given Vitamin K 5 mg and four bags of FFP over 160 minutes. Without any further INR being performed he then received another three bags over 45 minutes, at which point he became unwell with rigors, chills, wheeze and a temperature of 38.3°C. His oxygen saturation on air was 80%. He was managed with diuretics and oxygen. The planned surgery was performed the following day.



- **Excessive transfusion follows misinterpretation of verbal instructions**
- *A 48 year old male patient was in resus with a major GI bleed haemorrhage. Five units of blood arrived and a verbal order for 2 units was given by the doctor, who then wrote them up on a prescription chart. Staff nurse asked the doctor if he wanted the blood given through the rapid transfuser, and he confirmed that 'all the blood can go through this'. Five units were transfused instead of the intended 2 units.*



- **Excess red cells are administered to an infant despite correct dose calculation and prescription**
- *171 ml of red cells were transfused over 7 hours to a 3 month old baby with a rhabdomyosarcoma. The child had only been prescribed 80ml over 3 hours, and her Hb consequently rose from 7.4 to 15.3 g/dl. The error was partly caused by a failure to include the 71 ml given during the night shift to the volume given during the morning. However the day staff still transfused yet another additional 20 ml for which no rationalization could be made.*



- **Helpful nurses and doctor administer platelets to the wrong patient**
- *Platelets arrived in ITU and sister took them a patient's bedside. This was not the bedside of the patient to be administered platelets. However, finding the patient unconscious and without an ID bracelet she went to write a wristband. Two other nurses saw the platelets and checked them by asking other staff if it was the correct patient. Finding the platelets were not written up for that patient, they asked the doctor to prescribe them, which he did. The platelets were then given to this patient who did not require them, but they were for another patient on the unit. There was no adverse reaction.*



- **Confusion regarding components results in unwanted red cell transfusion and delayed surgery**
- *A 77 year old man had prophylactic platelets written up prior to spinal decompression surgery. Night nurses erroneously collected red cells which were also available for the same patient as they were cross matched for the morning list. Two units of red cells were transfused over 30 minutes each, and no platelets. In the nursing notes the transfusions were documented as platelets, and it seemed that the staff were unfamiliar with the different types of blood component. The surgery had to be delayed in the morning when the day staff discovered the error.*



- **Lack of understanding of possible consequences of actions**
- *2 trained nurses checked a unit of blood at the nurse's station and a nurse then walked into a 6 bedded bay and connected it to the wrong patient with no bedside check. The nurse then realised her mistake, disconnected the giving set from the wrong patient and reconnected it directly to the right patient. A senior colleague queries her actions as she had used a fluid giving set, not a blood giving set. The nurse was sent away and the senior nurse changed the giving set as she was unaware of the previous mistake. The rest of the transfusion was then administered (to the right patient). The patient who had received a part unit of wrong blood was not monitored and nothing was documented in the notes.*



- **Size of patient not taken into account when prescribing red cells**
- *An 18 year old male patient weighing 35kg, with a probable TB chest infection, received a 4 unit red cell transfusion based on an Hb result of 7.3g/dL. The doctor prescribed 2 units of red cells. The patient was then referred to a medical team and another junior doctor prescribed a further 2 units of red cells making a total of 4 units. Post transfusion the Hb was 18.4g/dL. Both samples were rechecked and correct. Investigation revealed that the initial sample was taken by a junior doctor in A&E using a syringe during a difficult cannulation. The red cells settled in the syringe before the sample tubes were filled, giving an inaccurate result. No IV fluids were in progress at the time. No adverse reaction or ill effects were noted from the transfusion.*



Failure of Check Procedures



- **Red cell units 'checked' at nurses station**
- *An 84 year old male patient was awaiting top up transfusion for anaemia due to prostate cancer. A unit for another patient had also been collected from the issue fridge. Units were checked at the nurse's station. A nurse then took one unit and commenced the transfusion on one of the patients without performing any bedside checks. This patient who was O D positive thus received a unit of blood intended for another patient which was A D negative. He developed fever, haemoglobinuria, hypotension and loin pain which resolved with full recovery.*



- **Second unit of a routine transfusion administered without checks**
- *A nurse removed a red blood cell unit from a satellite blood fridge without checking the patients ID details or signing the blood register. The 75 year old male patient, group O D positive, was still finishing the first unit of a two unit transfusion for MDS. The nurse left the second unit in the treatment room and subsequently forgot that she had not checked the unit against the prescription form or compatibility label and put it up without checking the patients ID wristband. At approx 2140 after the blood had been running for 15 minutes the patient developed rigors, pyrexia and the transfusion was stopped. The unit was found to be for a different patient with the same first name. Piriton and hydrocortisone were given, and salbutamol as the patient became wheezy. Haemoglobinuria was observed. The patient made a full recovery.*



- **Red cells administered by doctors in theatre without checking**
- *A 69 year old man was in theatre undergoing emergency repair of an abdominal aortic aneurysm. A junior doctor collected an incorrect unit of group A D positive blood from the theatre fridge. The identity of the unconscious patient, who was group O D positive, was not checked against the unit of blood. It was administered by an anaesthetist. The patient developed renal failure post operatively which resolved, and which may in part have been due to the incompatible transfusion*



- **Two units of ABO incompatible red cells given despite ‘checks’**
- *Patients A & B were in adjacent beds and both were crossmatched. Patient A (a 84 year old female patient, group A D negative) was prescribed 3 units of red cells for anaemia. Patient B (group AB D negative) was also crossmatched for 2 units of red cells, but the blood had not been prescribed. The registered nurse who went to collect blood for patient A took patient B’s blood in error. The unit was then taken to the ward when it was ‘checked’ by 2 trained nurses prior to being transfused but the error was not detected. The 15 minute observations were performed, but the patient did not display any signs or symptoms of a transfusion reaction. When the 1st unit was completed it was fated via the computer system (EU Directive traceability). The next unit was collected, and the same error was repeated. Again the check by 2 qualified staff on the ward failed to detect the error and the second unit of Patient B’s blood was given to Patient A. For both units it was unclear what documentation was used in the collection process and where the final check occurred. The 15 minute observations were not performed for the second unit. The error was detected when the transfusion was complete.*



- **Well informed patient averts possible catastrophe**
- *No patient identification was taken to the blood fridge, as a result the wrong unit of red cells were removed by a registered nurse and taken to the ward for an 81 year old female patient with CLL. On the ward another nurse administering the transfusion assumed that the checks had been completed, and because of this assumption no bedside checks were performed. Patient received non irradiated group A D positive red cells, instead of irradiated O D positive red cells. The error was noticed when patient asked whether the unit was irradiated. Consequently <50mls was transfused.*



- **Simultaneous transfusion of two patients leads to wrong unit being transfused**
- *Blood for two patients was delivered, in two separate blood transport boxes, to the nursing station by the porter, where the units were “checked”. One unit was taken out of each box and transfused to the appropriate patient. After the first patient, a 19 year old man with chronic renal failure and a post op Hb of 5.2 g/dl, had received the first two units of blood, an unqualified B grade nurse went collected a third unit for him. However, she did not check that she picked up the correct unit from the blood box. She then put the unit up and commenced the transfusion. A few minutes later, a qualified staff nurse responsible for the second patient went to get the second unit from the transport box and found the unit missing. It was then discovered that patient 1, group O D negative, was receiving the unit of blood intended for patient 2, group O D positive.*



- **Unit checked against crossmatch report rather than patient**
- *ITU staff nurse took the incorrect patient's crossmatch report as identification to collect 2 units of red cells from the issue fridge. The units collected matched units on the report, and therefore were wrong for the intended patient. Once back at the ward the units were checked, again using the crossmatch report, and not the patient identification band. Thus 2 units of O D positive red cells were transfused to an O D negative male patient in error.*



Sampling / Results errors



- **Bizarre results from A&E not queried**
- *A 76 year old female patient was admitted with a dislocated knee. FBC processed POCT equipment in A&E, produced a platelet count of $67 \times 10^9/l$. The accompanying Hb was 24 g/dl. The anaesthetic SHO ordered some platelets, and did not discuss the peculiar results with the haematology team. The BMS did not query the request in the light of Trust protocols for platelet transfusion. The SHO prescribed the platelets to run over 2 hours. A normal count was later obtained from the main laboratory.*



- **FFP transfused on basis of erroneous INR even though repeat lab test result was available**
- *An 84 year old man admitted post operatively with a retinal bleed was tested using a point of care coagulation device on the ward. An INR of 6.1 was recorded and a venous sample was sent to the laboratory for confirmation. 4 units of FFP were requested urgently and prescribed, and subsequently a normal INR of 1.1 from the venous sample was recorded in the patient's medical notes. The FFP was nevertheless transfused inappropriately 9 hours later despite normal coagulation screen and no evidence of active bleeding.*



- **White cell count mistaken for Hb resulting in unnecessary transfusion**
- *A 70 year old woman presented in A/E looking very pale and had fainted at home. Full blood count run on a POCT analyser in A&E showed a WBC of 7.9 which was mistaken for the Hb and a two unit transfusion was prescribed. The error was identified when the post transfusion Hb was 16.3g/dl. The patient was informed of the error, but she stated that she was happy as she felt much better.*



- **Hb of 3d/dl not queried by medical staff**
- *A 74 year old male patient was in recovery post hip replacement was drowsy, hypotensive and tachycardic. A haemoglobin estimation from a blood gas analyser was 3 g/dL. A FBC sample was sent to the laboratory, but in the interim 1 unit of flying squad (uncrossmatched group O D negative) blood was commenced. The new Hb result from the laboratory was 11.2g/dL and recovery staff informed of this result advised medical staff to discontinue the transfusion. The patient suffered no apparent ill effects as a result of the over-transfusion or uncrossmatched unit.*



- **Danger of poorly documented telephoned results**
- *Routine blood tests were performed on a 64 year old male patient on ICU following an emergency laparotomy during which 3 units of packed cells had been given. Biochemistry results were phoned to ICU, and an albumin of 6 g/l reported, but a nurse documented this result as a Hb of 6g/dl. Four units of blood were then transfused on the basis of this result. In fact the pre transfusion (pre-operative) Hb had been 10.4 g/dl, and post transfusion it was 17.6g/dl.*



- **Falsely low Hb from a drip arm results in unnecessary transfusion**
- *A patient had a FBC performed at night and was found to have a Hb of 5.5g/dl. 4 units of red cells were ordered and issued and 1 unit was transfused. A further sample was sent later the same morning and found to have a Hb of 11.1g/dl. No further units were transfused, and the original sample was rechecked and the result of 5.5g/dl confirmed. On investigation, it emerged that the original sample was taken from a drip arm and was therefore diluted. The patient suffered no immediate harm.*



- **Rh D incompatible blood given as a result of a phlebotomy error**
- *A 58 yr old male patient was grouped as O D negative and transfused 2 units of O D negative blood. Six weeks later a second sample grouped as O D positive. A third sample was taken to confirm the patient's blood group as O D positive.*



- **Phlebotomy error results in ABO incompatible transfusion**
- *An 83 year old female patient who was a previously unknown to the hospital had a routine sample sent requesting a cross match of two units of red cells. The sample grouped as A D positive and two compatible units were issued and transfused to the patient. The patient suffered no transfusion reaction and was discharged home. She was readmitted 6 weeks later for recurrent anaemia. A sample sent requesting a further two unit cross match grouped as O D positive, confirmed on a repeat sample. It appears that on the initial admission the patient received two units of incompatible (A D positive) blood as a result of a phlebotomy error.*



Handling / storage errors



- **The laboratory must be involved in validation of equipment following a move**
- *A blood fridge was relocated into a small room where the size of the room contributed to a rise in temperature of the surroundings. The fridge could not cope with the ambient rise and the temperature increased to over 6°C. The incident was only noticed when the chart recorder was returned to the blood transfusion laboratory. In addition, when the fridge was relocated the temperature alarm was incorrectly fitted and not tested at the time of fitting. A patient was transfused with blood that had been stored at too high a temperature. No adverse symptoms were reported by the patient or nurse following the transfusion. Staff were retrained on temperature monitoring, the alarm was re-fitted and tested, the room has been given ventilation which has reduced the ambient temperature to acceptable levels.*



- **Tracking system alert overridden**
- *FFP was issued on request, but was not used within 24 hours of thawing. It was taken out of the issue fridge 9 hours later despite warnings from the electronic blood tracking system which were overridden by a BMS. The unit was transfused to the patient. No adverse effects were noticed.*
- *Cryoprecipitate was issued on request, but was not used within 4 hours of thawing. It was taken out of the issue fridge the next day despite warnings from the electronic blood tracking system which were overridden by a BMS). The unit was then given to the patient. No adverse effects were noticed.*



- **Issue fridge not cleared over a weekend**
- *A patient had 3 units of red blood cells crossmatched and one of these units was transfused on day one. The remaining units stayed in the blood fridge ,No main issue fridge which was not cleared as it was a weekend. Over 72hours after the initial transfusion a second unit was taken from the blood fridge and transfused to the patient*



- **Leaking FFP bag fixed with sticky tape**
- *A 43 year old male patient was undergoing emergency laparotomy for internal bleeding. During administration of FFP, an operating department practitioner observed leakage from pack. The cause was unclear, possibly a faulty port or a spiked bag. He applied surgical 'Sleek' tape to the pack to prevent further leakage, and the transfusion continued.*



- **Erroneous use of solution giving set**
- *An experienced agency nurse used a normal solution giving set instead of a blood giving set with an in-line filter for transfusion of packed red cells*



- **Expired red cells transfused**
- *Patient received approx 100 mls of expired red cells. 2 units of blood were issued in response to a request for urgent crossmatch for an anaemic 87 year old female patient. One of the units was due to expire that day at midnight. It was decided to defer transfusion until the following day. The expiry date was not checked either at collection or at the bedside and the patient received over 100mls of expired blood before the error was noticed. The unit had not been removed from the issue fridge by the lab at 0900.*



- **No alarm on refrigerator at satellite site**
- *Three units of red cells stored in a satellite site prior to transfusion were transfused over 2 days. Subsequently the temperature data was downloaded for the satellite fridge and showed that the storage temperature was above 6 degrees for 1 hour during the period two of the units which were transfused were in situ. On investigation it was discovered that the satellite fridge does not have an alarm.*



- **Alarms activated by door being left open were ignored**
- *Fresh Frozen Plasma (FFP) that had not been stored in appropriate conditions was administered to a patient. The FFP had been defrosted according to guidelines and placed into the out of hours blood bank fridge for possible use within 24 hours of thawing. During this period the temperature in the blood bank fridge rose to 9°C due to the door not having been closed properly between 0100 and 0600. Temperature alarms were activated and switchboard contacted the BMS in blood bank to report the alarms. However, due to the recent move to a new laboratory building, the member of staff in blood bank was not aware that the alarms were from the blood bank refrigerator, and did not check the cause.*



- **Blood out of CTS for prolonged period, returned to issue fridge and later transfused**
- *A unit of red cells was removed from the fridge and returned twice prior to transfusion. On the first occasion it was out of controlled temperature storage for 20 minutes, on the second occasion for 50 minutes. On each occasion the unit was signed back into the issue fridge but not placed in the quarantine box, nor was the laboratory informed of its return as per the local policy. On the third occasion the blood was removed and transfused to the patient.*



Problems with collection



- **Porter collected platelets instead of FFP**
- *An 8 week old female child with severe metabolic disorder and sepsis required blood component support. Both platelets and FFP were available in blood bank. The porter was asked to collect FFP but took platelets. Nurses performing the bedside check did not notice the error and transfused the platelets resulting in the platelet count rising from 90 to 126 x 10⁹/l.*



- **After 'losing' the flying squad blood, units crossmatched for another patient are taken and transfused**
- *During a massive obstetric haemorrhage emergency O negative blood was collected from a satellite fridge and taken to theatre, but "lost". An anaesthetist went back to the satellite fridge and collected 2 more units red cells which were in fact crossmatched for another patient. These were transfused before it was realised that they were not the emergency O negatives. The patient was B D positive and received O D positive blood with no clinical consequences.*



- **Porter sent for blood with insufficient patient details, and subsequent nursing check against the paperwork rather than the patient**
- *During the night, a unit of blood was collected for top up transfusion of an 85 year old female patient by a porter who was given only the patients name. He collected blood for another patient in error, whose name differed by only one letter. The date of birth and the hospital number were not checked as the porter did not have them. On the ward 2 nurses checked the blood against the compatibility form – which matched the unit. They did not check the patient's wristband or the prescription sheet. The whole unit was transfused and the error only identified when the next unit was put up. The unit transfused was group O D positive and the patient was group A negative. There was no adverse outcome.*



Problems with patient ID



- **Incorrect DOB at admission leads to RBRP incident**
- Two units of red cells were transfused to a patient, despite the date of birth on the bag being incorrect. The error was not picked up until the pre-transfusion check was carried out for the third unit using the correct patient identification procedures.
- The primary error occurred during the admission process.
- On review, this error highlighted the need to check the patient identification details on the addressograph labels prior to any use. The local policy has been amended



- **Classic patient ID error involving two similar patients in adjacent beds: multiple errors**

1/2

- *Two male patients with similar names were in adjacent beds with acute epistaxis. Patient A was awaiting a platelet transfusion, and patient B had had a cross match requested. However he was stable with an Hb of 8.7g/dl and the junior doctor decided not to transfuse overnight. Platelets were written up for patient A. The ward was called to say that blood was available for patient B and healthcare support worker who had never been to the blood issue fridge, was sent to collect a unit, which she left in the treatment room. Nurse 1 (unqualified) set up a saline infusion on patient A, awaiting platelets, and found he had no wrist band, so she made one from the notes and drug chart and attached it to patient A. She then fetched the red cell unit, crossmatched for patient B, and commenced the transfusion without any bedside checks at approximately 1900.*



2/2

- Patient A felt unwell, but observations were apparently stable, although documentation only shows recordings at 1240 and 1955. At 1915 patient A complained of back spasm, palpitations and feeling unwell and had pinpoint pupils. Nurse 1 checked that the blood was running and reassured the patient. She went on a break handing over to nurse 2. At 1945 nurse 2 was called to patient A, who was purple in the face and shaking uncontrollably. She noticed that blood was running instead of platelets and stopped the transfusion. She then noticed that the unit was labelled for patient B in the next bed. She called the SHO who gave a verbal prescription for IV hydrocortisone and piriton and came to see the patient. Observations were satisfactory apart from a pulse of 125bpm. By 2030 patient A was a little better. The SHO was unable to persuade the medical SpR to attend. By 2200 the transfusion co-ordinator had informed the haematology consultant and transfusion BMS of the error and investigations were initiated, as well as IV fluid and frusemide.*



Failure to follow protocol / SOP



- **Testing error in blood bank**

- *A patient had a known anti-K and anti-Co^b. The laboratory issued K negative, crossmatch compatible blood as per NHSBT advice (Co(b-) units are not routinely supplied). At the end of transfusion of the first unit (after 1 hour 25min) patient had rigor, tachycardia and haemoglobinuria (although there was some haemoglobinuria prior to transfusion). The unit was returned to the transfusion laboratory, with fresh samples. The unit was incompatible with both pre and post transfusion samples, presumably due to anti-Co^b as units confirmed O D positive, K negative, DAT negative. The laboratory can only assume that plasma had not been added to the original crossmatch tests as the antibody reaction was strong. The patient was sent home to return the following day for re-assessment.*



- **Selection of incorrect unit for crossmatch**
- *A sample was tested and the antibody screen was positive: the antibody was correctly identified as Anti-Kpa. The BMS issued red cell components which were transfused. The doctor then telephoned two days later to inform Blood Bank the patient had a transfusion reaction. Repeat samples were requested. On re-crossmatching the units using pre and post samples one of the red cells issued was incompatible. The BMS had selected the incorrect unit.*



- **Unnecessary transfusion of incompatible blood**
- *A maternity patient (para 13) was known to have anti-U and was anaemic pre caesarian section. U negative units were ordered from the frozen blood bank, but in the interim the clinicians requested that incompatible units be made available in the labour ward fridge in case of emergency. These incompatible units were recalled when U negative units arrived and were issued but were not returned. The patient was transfused following delivery by CS and an incompatible unit still in labour ward blood fridge was used despite the compatibility form clearly stating that the blood was incompatible. She received < 100ml of red cells and suffered rigors and flushing, and the transfusion was stopped.*



- **High volume of salvaged blood re-infused**
- A 58 year old female patient was underwent bilateral knee replacement and blood was salvaged *bilaterally from drains postoperatively on HDU. The policy from the manufacturer of the device and the hospital policy stated that a maximum of 1000ml could be re-infused. The HDU nurses re-infused 2280mls as they were unfamiliar with the process. There was no adverse reaction.*



- **SOPs are in place for good reasons**
- *A laboratory mix up of two samples resulted in a 33 year old A D negative female patient receiving some A D positive blood. When the error was discovered in the laboratory the ward was contacted and the transfusion was stopped after approx 20mls of blood. Anti D was given. Investigations revealed that pressure due to staff shortages was the main contributory factor for the breach in laboratory policy, which states that samples are to be opened, checked and labelled one at a time.*



- **Incomplete testing carried out in the laboratory**
- *The BMS did not complete pre-transfusion testing of a patient with known atypical antibodies and issued blood. The antibody panel was not done although blood had been transfused since the last identification. The BMS left a note for day staff to ask if a panel should have been performed. It was reported that the BMS was put under pressure by medical staff as patient required blood urgently. The right blood was transfused as no further antibodies were found on investigation.*



- **The power of suggestion**
- *A patient was admitted to hospital B, having been transfused at hospital A, and a verbal message was given to blood bank that the patient was A D positive. The BMS on call obtained mixed field reactions and manipulated the blood group results to reflect an A D positive blood group. The patient was transfused A D positive blood and plasma as a result. The patient was grouped wrongly by blood bank a further eleven times as a result of misleading information on the computer. Finally a senior BMS grouped the patient and recognized that this patient was actually group AB D positive*



- **Question a changed blood group**
- *A patient had been grouped as O D negative by the laboratory on two previous occasions. On the third occasion the sample grouped as O D positive. The BMS repeated the group on that sample, which was correct, and changed the group of the patient on the computer. The BMS had not realised that the sample was from a different patient.*



- **Corrective action taken following a right-blood-right-patient incident**
- Two units were requested and issued for one patient. Following crossmatch, the two compatibility labels were printed and were placed on the two units, but they were transposed so the wrong labels were attached to each unit. One unit of red cells was transfused; the error was not picked up during the final patient / component check at the bedside. The error was detected when the second unit was collected.
- A change was made to the local laboratory SOP to ensure the numbers on the unit and the label are double checked before affixing the label to the bag. Prior to issue the label is initialled to indicate the unit / label numbers match.



Special requirements



- **Nurses, doctor and patient all omit to inform laboratory of special requirements**
- *A request form for blood components for a patient with CLL on fludarabine was completed by a haematology nurse, and checked and signed by a junior doctor who also prescribed the components. The need for irradiated blood was not indicated on the request form or the prescription. The patient did not present their alert card at the time of sampling or prior to the transfusion. The medical staff are responsible for informing the transfusion lab when a patient is first prescribed fludarabine*



- **Lack of information regarding neonate following IUT**
- *An on-call request for a one unit crossmatch on a 4 week old male infant stated 'Rh incompatibility Anaemia Hb 5.5' as the indication for transfusion. The sample grouped as O D negative the BMS on duty rang the requesting hospital, but no further history was available, though there was a record of the blood group as O D negative, with maternal antibodies. Red cells were crossmatched and issued. The following day the local blood centre called to inform the hospital transfusion laboratory that the child had received IUT for maternal anti D and required irradiated components. The patient's blood group was later confirmed as O D positive by IBGRL. The blood grouped as O D negative due to the previous IUT. No clinical information had been passed onto laboratory at either site therefore special requirements were not met.*



- **Discharge letter from tertiary referral centre omitted vital transfusion information**
- *A 3 year old boy was undergoing treatment for medulloblastoma on a shared care basis between the tertiary referral centre and a local paediatric department. Initial requests made for the patient by doctors at the local hospital did not specify the need for irradiated CMV negative cellular blood components. Later conflicting requests prompted a telephone call to the tertiary centre when the need for irradiated CMV negative components was confirmed. The discharge letter from the tertiary centre did not contain information concerning transfusion support and local medical staff did not seek advice.*



- **‘Hodgkin’s Disease’ is insufficient information to ensure issue of irradiated components**
- *Red cells were requested for a 75 year old man stating “sepsis, low Hb” on the initial request form and “Hodgkin’s Disease” on a subsequent one. A unit of non irradiated cells was transfused initially. No request for irradiated components had been received and the diagnosis of Hodgkin’s was not picked up by the BMS on duty. The laboratory manager noticed the omission by chance the following morning.*



- **Incorrect information from Blood Service**
- *CMV negative platelets were ordered from the Blood Service for a 61 year old female patient with AML. When they arrived there was no label stating the CMV status, so the hospital laboratory telephoned the Blood Centre requesting verbal and written confirmation that the platelets were CMV negative. This was received by fax and the platelets were then issued and transfused. The matter was subsequently investigated by a hospital liaison manager who discovered that in fact the unit had not been CMV tested.*



- **Clinical decision regarding IT implementation impairs accessibility to key data**
- *A 70 year old female patient had been treated with autologous PBSC for breast cancer and had required irradiated products since 1997. The hospital changed IT systems in 2005, and all special requirement flags were transferred. Owing to the complexity of this process the consultant haematologists made a decision only to transfer irradiation flags since 2000 to the new system. When this patient returned for blood, there was no legacy data on the new IT system, so the lab did not issue irradiated blood. The requestor did not ask for irradiated components. The error was noticed by a nurse who knew the patient had had a PBSC and made the connection, but one unit had been transfused*



Anti-D



- **Transcription error leads to inappropriate administration of anti-D**
- *Mother and cord samples were correctly tested, both as D negative. The BMS then incorrectly transcribed the maternal result onto the request card as D positive.*
When the ward telephoned the laboratory to ask for the results, a second BMS assumed that the D positive result belonged to the cord, and issued anti-D on that basis.



- **Inappropriate reporting of positive antibody screen leads to administration of anti-D Ig to a patient who already had immune anti-D**
- *28 week sample had detectable anti-D*
*This result was erroneously reported as 'post-injection' of anti-D where there was **no record** of previous anti-D administration*
Further prophylactic anti-D was administered later in the pregnancy
- *Subsequent testing at six months post-natal indicated that the anti-D was immune*



- **Failure to follow laboratory SOP leads to incorrect D group being reported and anti-D being issued**
- *BMS misread manual cord test as D Pos, but failed to follow the laboratory SOP to carry out confirmatory testing
As a result, anti-D was issued to mother of D negative baby, typing confirmed by routine testing the following day.*



- **Failure to take heed of IT hazard flag on LIMS leads to inappropriate issue of anti-D to a patient with anti-C+D**
- *A Mother & Cord request was received from a patient with known anti-C+D, but the ward did not specify this on the form
The duty BMS ignored the antibody hazard flag on the laboratory IT system and issued anti-D on request.*

