Guidance for preventing errors in administering blood transfusions

**AUTHOR** Terry Hainsworth, BSc, RGN, is clinical editor, *Nursing Times.*


Administering a blood transfusion is a common part of nursing practice and a life-saving intervention. However, new guidance published by the RCN (2004) highlights that this is an area of practice with frequent errors. The guidance gives clear recommendations for good practice in the areas of sample collection, preadministration checking, and monitoring to recognise adverse reactions.

New guidance for the administration of blood transfusions to patients has been published by the RCN (2004). The document, *Right Blood, Right Patient, Right Time*, reveals the findings of an unpublished audit carried out by the National Blood Service and the Royal College of Physicians in 2003, showing that nurses fail to carry out vital monitoring signs in the early stages of nearly 50 per cent of transfusions (Chatterjee, 2004). They highlight common errors in patient identification and make ‘good practice advice’ suggestions to improve practice.

**Blood transfusion**

Administering a blood transfusion is a common part of nursing practice and 3.4 million blood components are transfused in the UK every year (RCN, 2004). Blood transfusion can be an important life-saving intervention or improve quality of life in a range of clinical conditions.

However, there are risks associated with blood transfusion and errors can lead to serious and even fatal consequences, particularly when a haemolytic response occurs due to an incompatible transfusion (Wilkinson and Wilkinson, 2004). Many of these reactions are associated with human error and failure to comply with policies (Wilkinson and Wilkinson, 2004). Every hospital should have its own policy and procedure for the entire blood transfusion process (British Committee for Standards in Haematology, 1999), which should be followed carefully.

Blood components need to be prescribed but much of the remaining transfusion process can be delegated to a nurse or midwife (BCSH, 1999). This includes:

- The completion of the request form;
- The responsibility for taking a sample for pre-transfusion testing;
- The administration and monitoring of the transfusion.

Studies into the transfusion process have provided evidence that errors do occur during these procedures, and that some of these relate to inadequate nursing interventions (Wilkinson and Wilkinson, 2004).

**Patients’ safety concerns**

The safety of blood transfusions has been a concern among patients for some years. These concerns have not, however, been around the risks of administration errors but the hypothetical risks, which capture media attention, such as that posed by new variant Creutzfeldt-Jakob disease. In addition there are some religious groups, such as Jehovah’s Witnesses, who have ethical objections to blood transfusions. The guidance highlights the fact that all patients should be given the opportunity to discuss any concerns they have regarding blood transfusion.

Formal written consent is not a current requirement for transfusion in the UK. However, the guidance highlights the Department of Health’s *Good Practice in Consent Implementation Guide* (2001), which states that every patient has the right to decide what happens to her or his own body. Before blood transfusion, as with any other intervention, patients should be given information about the reasons a transfusion may be needed, the alternatives available, and details of the benefits and risks associated with the transfusion. The RCN guidance recommends the use of patient information leaflets, which are available from local trusts or the Blood Transfusion Service.

**Reducing error**

Studies investigating errors in blood transfusion (Wilkinson and Wilkinson, 2004) show these usually occur at the time of sample collection or during administration. The RCN guidance gives clear recommendations for good practice in these areas.

**BOX 1. PRE-TRANSFUSION CHECK**

**THE BLOOD PACK SHOULD BE INSPECTED FOR:**

- Expiry date;
- Leakage (indicating breakage in the integrity of the package);
- Unusual colour (for example, a purple mass of red cells, or brown or red plasma, indicating haemolysis);
- The patient’s details (including family and given name, date of birth, ABO and Rhesus groups);
- The unique donation number.

**THE PACK DETAILS SHOULD BE CHECKED AGAINST:**

- The doctor’s prescription;
- The compatibility report;
- The patient’s identification (wristband and using an open question – can you tell me your full name?).

**THE RCN GUIDANCE** gives clear recommendations for good practice in these areas.
Sampling
The guidance lists good practice when taking a sample of blood. Much of this seems obvious but, as any practitioner who has taken numerous samples during a busy shift will testify, ensuring every step is accurately undertaken while working under pressure requires strict concentration on this task alone.

The points to consider for good practice are:
- Ensure that the patient’s name is spelt correctly and consistently when labelling the sample tube and completing the request form;
- Bleed only one patient at a time in order to reduce the risk of a patient identification error;
- Do not write the details on the sample label in advance of drawing the blood. Pre-labelling of sample tubes is a major cause of patient identification errors that can lead to fatal transfusion reactions;
- Ensure that a valid reason for transfusion is provided on the request form and that any past relevant transfusion history and special requirements are recorded;
- All unconscious patients should be given a unique patient identification number to aid correct identification;
- Blood samples should not be taken from the arm that is the site of an infusion as this may result in a diluted sample being sent for analysis.

Administration
The guidance highlights the importance of establishing that the correct patient is receiving the correct blood pack. This is extremely important due to the risk of incompatibility reactions. The guidance gives good practice advice regarding this checking process, stating that it should be an uninterrupted procedure and that if an interruption occurs, checking should start from the beginning again. Wilkinson and Wilkinson (2004) give a comprehensive list of what to check prior to administration of blood transfusions (Box 1).

Monitoring
Correct monitoring of patients who are receiving a blood transfusion is essential as severe reactions can occur in the early stages (RCN, 2004). The guidance states:
- Patients should be in a setting where they can be closely observed;
- Patients should be encouraged to notify staff immediately if they begin to feel anxious or if they become aware of any adverse reactions such as shivering, flushing, pain, and shortness of breath;
- The patient’s temperature and pulse should be monitored and recorded 15 minutes after the transfusion of each unit has begun;
- The flow rate should be adjusted so that the correct infusion rate is achieved over the prescribed time period;
- If the patient is unconscious routine observations should be continued throughout the transfusion;
- Start and finish times of each unit must be documented;
- The volume of blood transfused should be recorded on the fluid balance chart.

It is important for all practitioners to be aware of local hospital procedures regarding the blood transfusion process and these should be followed carefully. If at any time a suspect transfusion reaction is suspected, action should be taken immediately (Box 2).

Technical aspects of administration
The technical aspects of blood administration within the RCN guidance are based on evidence from McClelland (2001) and the BSH (1999). They suggest that the size of the cannula is an important aspect of practice. This should depend on the size of the vein and the speed at which the blood is to be transfused.

They also highlight that the giving sets for blood components should have an integral mesh filter, which removes any micro-aggregates that are formed during storage of the blood product.

If infusion pumps and blood warmers are used for blood products, they should be certified as suitable for this purpose by the manufacturer.

The administration set used for transfusion should be changed at least every 12 hours for a continuing transfusion and on completion of the transfusion. All blood components should be transfused within four hours of spiking the pack and within four hours and 30 minutes of removal from the blood fridge. The fridge door should be checked to ensure that it is closed securely after removal of a blood component (Wilkinson and Wilkinson, 2004).

Transfusion practitioners
The guidance outlines recommendations that every trust should employ a hospital transfusion practitioner. This could be a specialist nurse or biomedical scientist. The aim is that the hospital transfusion practitioners, working with lead consultants in blood transfusion and local blood bank managers, would be able to support practitioners in the safe and effective use of blood.

It is also suggested that transfusion practitioners will be able to actively promote good transfusion practice by facilitating transfusion audit and feedback and facilitating incident reporting, following up any errors or near misses.

Transfusion practitioners would also be able to encourage education and training, and facilitate the implementation of new technologies that enhance patient safety.

There is a lack of training and support in blood transfusion practice (Chatterjee, 2004) and this new role has the potential to improve practice in the safe administration of blood transfusions.

**REFERENCES**


