



Dear Life Blood Reader,

Welcome to this thirtieth edition of Life Blood.

Winter appears to be on time, bringing the long-awaited rain, so we hope you are keeping warm. In this edition we thank nursing staff for their commitment to safe transfusion practice, inform you about advancements to our TTD testing platform, celebrate donors for their selflessness, cover aspects about dealing with an adverse transfusion reaction, enlighten you about patient blood management, negate the need for bedside leucocyte filtration, and inform you about emergency blood fridge training sessions.

If you visited our refreshment station during the Cape Town Cycle Tour, we thank you and hope to see you again at next year's race.

Please feel free to contact us with your comments, queries and suggestions.

Regards,

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International Nurse's Day

Having observed International Nurse's Day on the 12th of May, WPBTS would like to congratulate nursing staff for their commitment and dedication toward upholding best transfusion practice, in particular the safe administration of blood and blood products at the bedside.

Nursing staff are probably best placed to deal with pre-transfusion identification and verification checks, and monitor the patient for possible transfusion reactions. The administration of blood and blood products requires meticulous attention to detail. Healthcare workers should always be aware of the risk of an incorrect blood component being issued to their patient, which can have life-threatening consequences. Out of the total of 158 330 units of blood/blood products (excluding emergency blood) issued by WPBTS Blood Banks in 2016/2017, two cases of incorrect blood components transfused (IBCT) were reported and there were seven near miss events. The relatively low error rate of 0.006 % bears testament to the efforts of nursing staff.

You are truly remarkable!

From all of us at the WPBTS,

Thank You Enkosi Ngiyabonga **Dankie** Ngiyathokoza **Ke A Leboga** Ndi A Livhuha **Ndza Khensa**

WPBTS Upgrade to Transfusion-Transmitted Disease Testing Platform

Following the successful validation of the Roche e801 Analyser during May 2018, WPBTS is proud to be the first blood service in Africa to introduce this latest innovation in transfusion-transmitted disease testing. The main benefits are doubling the throughput capacity, adopting the Elecsys® HIV DUO assay (i.e. a next generation HIV antigen (Ag)/antibody (Ab) screening test which generates separate signals for HIV-Ag and HIV-Ab), and loading reagents on the fly.

The Elecsys® HIV DUO assay enables parallel precise detection of both HIV-1 p24 antigen and antibodies to HIV-1 and HIV-2 in two separate reactions in just eighteen minutes, eliminating the need for second-line HIV antigen/antibody discriminatory testing. The specificity of the Elecsys® HIV DUO assay on the Roche e801 Analyser is superior (99.97% versus 99.94%) compared to the previous HIV assay. The validation also demonstrates that the sensitivity of the HCV antibody assay is superior by detecting the first positive sample two bleeds earlier than competitor assays. Serving as the hub for all routine donation transfusion-transmitted disease testing, having processed 153 591 units during 2016/2017, it remains imperative for WPBTS's Virology Laboratory to stay abreast with the latest testing technologies.

For transfusion-transmitted disease testing queries, please feel free to contact our Virology Laboratory Staff.

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World Blood Donor Day

Be there for someone else. Give blood. Share life.

In commemoration of World Blood Donor Day that is held on the 14th of June, we focus on the significance of the blood donor. Coming from all walks of life, blood donors are an invaluable asset to our communities and the powerhouse that makes it possible for clinicians to perform life-saving blood transfusions for millions of patients.

During 2016/2017, a total of 70 140 WPBTS donors donated an average of 2.17 times, amassing 152 447 blood donations and making it possible to meet the demand for 167 958 units of blood/blood products. Blood donors are motivated by fundamental human values such as altruism, respect, empathy and kindness, that cross barriers such as age, gender, language, ethnicity, socio-economic background and level of education. Studies have shown that the safest blood donations come from regular donors. To this end, we aim to recruit long-term donors and go to great effort to retain them. We accept only voluntary donations from healthy individuals who comply with the blood donation acceptance criteria. Donors must complete the self-exclusion questionnaire (SEQ) every time they donate. A voluntary donor exclusion hotline provides opportunity for the withdrawal of their donation, should a donor subsequently realise that their donation may be high-risk. Prior to donating, we check the donor's haemoglobin level, weight, pulse, blood pressure, general appearance and inspect the site of venepuncture for lesions. Should there be areas of concern, the donor is counselled and if necessary, deferred. Deferrals may be due to medical conditions, medication, travel history or physical activities. As a preventative measure against iron-deficiency, we provide iron replacement therapy to female donors who have donated more than once in the preceding year. All donors are observed during the donation for signs of possible adverse reactions, such as fainting or arm discomfort. During 2016/2017, a total of 265 WPBTS blood donors experienced an adverse donation reaction. Donors enjoy drinks and our famous biscuits to recoup after the donation.

For blood donation queries, please feel free to contact our Clinic Staff.

Sr Kim Strutt, WPBTS Clinic Coordinator

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From all of us at the WPBTS,

Thank You Enkosi Ngiyabonga **Dankie** Ngiyathokoza **Ke A Leboga** Ndi A Livhuha **Ndza Khensa**

Dealing with an Adverse Transfusion Reaction

A transfusion reaction is defined as any potentially adverse sign or symptom which occurs after the start of a transfusion of blood or blood products. There are many different types of transfusion reactions that range from mild to severe. The mild reactions, such as febrile non-haemolytic and allergic reactions, occur more frequently. Most reactions are unpredictable and idiosyncratic, but life-threatening acute haemolysis due to transfusion of incompatible blood can be avoided if hospital staff meticulously compare the patient information on the blood product with the details in the patient's folder prior to starting the transfusion, to avoid misidentification.

It is essential to record baseline observations for the patient prior to the transfusion and monitor them at fifteen to thirty minute intervals for the duration of the infusion. The observations should include pulse rate, blood pressure, temperature, respiratory rate, general visual checks, urinary output and colour, and verbal enquiry about the patient's well-being.

The following signs and symptoms can be suggestive of a transfusion reaction and should be addressed quickly:



- Chills/rigours
- Tachycardia/bradycardia
- Hypertension/hypotension
- Chest/flank pain
- Haemoglobinuria
- Agitation
- Fever/sweating
- Dyspnoea/bronchospasm
- Urticaria/pruritus
- Nausea/vomiting
- Oliguria/anuria
- Jaundice

Any abnormal symptoms existing at the start of transfusion should be noted, such as dyspnoea, chills or oliguria. Changes in intensity of these symptoms may be indicative of a transfusion reaction and should be assessed clinically. Extra care must be taken with unconscious patients to monitor and react to changes in their vital signs. Excessive oozing from the operative site or venous access points, haemoglobinuria or unexplained hypotension may indicate that a haemolytic transfusion reaction has occurred.

In the event of a suspected transfusion reaction, proceed as follows:

- Stop the transfusion immediately.
- Maintain venous access with normal saline using a new drip set.
- Check that the patient received the correct unit cross-matched for them by verifying their details on the blood product unit.
- Manage the patient according to their symptoms and contact the Blood Service for advice, if needed.
- Once the patient is stabilised, report the transfusion reaction to the Blood Bank.
- Return all used and unused blood/blood products, giving sets, intravenous solutions, and two post-transfusion EDTA blood samples to the Blood Bank.
- Complete the adverse transfusion reaction form with details about the patient, transfusion and adverse event.
- Complete the crossmatch laboratory request form, if further units are required.

In the event of a patient's death, the following steps are mandatory:

- Report the case to the Blood Bank and submit post-transfusion samples.
- A post-mortem must be conducted to determine the cause of death.
- Send the doctor's report and post-mortem results to the Blood Bank.
- The case will be classified according to the outcome of the investigation and post-mortem results.
- The Blood Service sends the transfusion reaction report to the treating doctor and/or Hospital Manager and the Deputy-Director General from the National Department of Health.
- Mortality directly associated with the transfusion of blood products must be reported to the Department of Health, according to Section 68 of the National Health Act 61 of 2003.

For transfusion reaction queries, please feel free to contact our Blood Bank Staff.

WPBTS Tygerberg Hospital Blood Bank

T 021 931 0220 | 021 938 4900 | 021 938 4901 | 081 302 7222

WPBTS Groote Schuur Hospital Blood Bank

T 021 404 4091 | 021 404 4092 | 021 447 1443 | 061 416 6176 | 061 418 6732

WPBTS Red Cross War Memorial Children's Hospital Blood Bank

T 021 689 9273 | 061 416 5358 | 061 418 9386

WPBTS Mediclinic Vergelegen Blood Bank

T 021 852 1400 | 061 416 6161 | 061 417 5494

WPBTS George Region Blood Bank

T 044 874 2074

WPBTS Paarl Region Blood Bank

T 021 871 1030

WPBTS Worcester Region Blood Bank

T 023 342 2450

Patient Blood Management

Patient Blood Management (PBM) is an evidence-based multidisciplinary approach that focusses on the individual patient's need for a blood transfusion. It promotes the conservative and restrictive use of blood and blood products, with acknowledgment that these can pose risks to the patient.

The key message is thus **“Focus on Your Patient, Not the Transfusion”**.

Statements to consider before transfusing a patient:

- A restrictive haemoglobin threshold (7,0 to 8,0 g/dl) should be used for stable patients.
- Transfusion decisions should be influenced by clinical symptoms and haemoglobin concentration.
- Single unit red cell transfusions should be the standard for non-bleeding patients.
- Re-assess your patient before ordering any additional units of blood.
- Investigate and treat pre-operative anaemia two to four weeks prior to surgical procedures.
- Do not transfuse red blood cells for iron deficiency without haemodynamic instability.
- Transfusion of red blood cells or platelets should be based on the first laboratory value of the day unless the patient is bleeding or otherwise unstable.
- Avoid unnecessary blood sampling - this leads to unnecessary blood loss and transfusions.

Content based on the American Association of Blood Banks PBM Awareness Week Poster (2016).

[Download the PBM poster.](#)

For Patient Blood Management enquiries, please feel free to contact our Medical Staff.

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Your Questions Answered

Question:

Is bedside filtration necessary if leucocyte filtered blood/blood products are issued from the Blood Bank?

Answer:

No, this is not necessary. The blood services do not advocate the use of bedside filters for blood products, as sterility of the product can be compromised. We offer leucocyte depletion of our blood products in two ways: products can be filtered immediately after processing (these are referred to as pre-storage leucocyte filtered products), or they can be filtered at the Blood Bank prior to issue. The current leucocyte filtration processes employed at WPBTS result in 99% leucocyte removal. We make use of 'fresh' blood (up to 72 hours old) when leucodepleted products are requested. In the event that no pre-storage leucocyte filtered blood is available, the Blood Bank will filter the freshest units in storage.

Leucocyte filtered blood/blood products should be administered through the standard blood administration set that has a 170 to 240 µm mesh filter. It is acceptable to use the standard blood administration set for platelet products when a platelet giving set is not available (these are typically issued with platelet products from the Blood Bank).

The advantages of leucocyte filtered blood/blood products include the following:

- Avoidance of febrile non-haemolytic transfusion reactions.
- Reduction in the incidence of refractoriness when using leucocyte reduced platelet concentrates.
- Significant reduction in the transmission of cytomegalovirus (CMV) via blood products.



More information can be obtained from the Clinical Guidelines for the Use of Blood Products in South Africa (available on our website - www.wpblood.org.za).

Emergency Blood Training Sessions

Due to a change in our organisation's policy, as of mid-March emergency blood fridge training sessions are being performed during normal business hours only (ie. 08h00-16h00 on weekdays). The training deals specifically with the effective functioning of the emergency blood fridge and does not cover clinical aspects about emergency blood transfusion. Training is interactive and includes practical demonstrations for performing the Rh slide test.

For emergency blood training session enquiries, please feel free to contact our Emergency Banks Coordinator.

Ms Nawaal Gamielien, WPBTS Emergency Banks Coordinator.

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